



Net4Mobility⁺

Network of the Marie Skłodowska-Curie Actions National Contact Points for the mobile scientific and innovation community

Marie Skłodowska-Curie Innovative Training Networks (ITN) 2018 Evaluation Summary Reports Analysis (ETN-EID-EJD Panels)

Task 3.1: MSCA Evolution Guide – Annex V

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1. Introduction

This document has been prepared by Marie Skłodowska Curie Actions (MSCA) National Contact Points (NCPs) of Turkey, Belarus, Bulgaria and Iceland working together under N4M+ project (which is receiving funding from the European Union's Horizon 2020 research and innovation programme) to show the MSCA Innovative Training Networks (ITN)¹ applicants the crucial points noted by the evaluators on the "Evaluation Summary Reports (ESRs) of the 2018-call".

"Evaluation Summary Reports-ESRs" of the project proposals submitted to the H2020–MSCA–ITN–2018 call have been taken into account during the preparation of this document. For ETN 1414 ESRs; for EID 153 ESRs and for EJD 81 ESRs were available which made 1648 ESRs in total. Among them NCPs had to choose 200 of them by creating a pool with different scores.

For the preparation of this analysis document, NCPs:

- copied and pasted "the strengths" and "the weaknesses" under different titles for each evaluation criteria (without changing the wording) of MSCA-ITN scheme which are:
1) Excellence; 2) Impact; 3) Implementation;
- created sub-sections under each criteria in order to facilitate the reading;
- did not copy a comment if they have already copied a very similar one;
- deleted the very specific names or scientific topics;
- kept most of the field specific notes (such as a specific health, technology, science terms) in order to show the applicants the real comments of the evaluators, so that they might assume the same strengths and weaknesses could be similarly noted in their own research field as well;
- tried to note the most frequent comments of the evaluator; however, very specific ones have also been noted in order to show the applicants how important it is to provide the relevant and "to the point information" under each section;
- have noted in parenthesis as (EJD) or (EID) at the end of each comment if it was taken from EID/EJD panels (the others were certainly taken from ETN panel).

¹ For further information about H2020 MSCA IF calls: <https://ec.europa.eu/research/mariecurieactions/>

Some of the “**strengths and weaknesses**” may have similar meanings but intentionally noted. This does not mean that they are more important than the others. This only means that they are written by different evaluators by using some other words with similar meanings. Also be aware that a comment taken from any panel (ETN, EID or EJD) might serve to all panel applications if the relevant sub-section is needed to be fulfilled for all panels. If a comment has already been mentioned in a very similar way in one of the panel’s ESR, that comment has not been copied again for another panel.

With this document, NCPs wish to underline some hints that cannot be seen in the Evaluation Criteria given under the third title of this document. With those “**strengths and weaknesses**” NCPs aim at showing the applicants what the evaluators are really caring about during the evaluation process, of course according to the instructions given by the European Commission.

2. General Information on Evaluation Procedures

It is well noted in “**Guide for Applicants of H2020 – MSCA – ITN – 2019 call on page 34**”:

The evaluation of proposals is carried out by the Research Executive Agency (REA) with the assistance of independent experts. **REA staff** ensure that the process is fair and in line with the principles contained in the Commission's rules and the relevant sections of the MSCA Work Programme. **Experts** perform evaluations on a personal basis, not as representatives of their employer, their country or any other entity. They are required to be independent, impartial and objective, and to behave throughout in a professional manner. They sign an expert contract, including a declaration of confidentiality and absence of conflict of interest, before beginning their work. Confidentiality rules must be adhered to at all times before, during and after the evaluation.

In each of the eight scientific areas (panels) a **Chairperson** ("Chair"), assisted by several **Vice-Chairs** (depending on the size of the panel) will assist REA staff with the management of the evaluation. Chairs and Vice-Chairs are distinguished members of the scientific community who do not evaluate proposals. Their tasks include the following: finalising the assignment of three experts to each proposal, providing guidance to evaluators, checking the quality and consistency of the experts' reports, drafting the consensus report, attending the panel review meetings to endorse the final ranked lists of proposals for funding.

In addition, an **independent observer** will be appointed by the REA to observe and report on the evaluation process. The observer gives independent advice to the REA on the conduct and fairness of the evaluation sessions, on the way in which the experts apply the evaluation criteria, and on ways in which the procedures could be improved. The observer will not express views on the proposals under examination or on the experts' opinions on the proposals.

Proposals are submitted in a single stage and evaluated in one step by the experts against all evaluation criteria.

Conflicts of interest: under the terms of the expert contract, all experts must declare beforehand any known conflicts of interest, and must immediately inform the responsible REA staff member should one become apparent during the course of the evaluation. The REA will take whatever action is necessary to remove any conflict of interest.

Confidentiality: the expert contract also requires experts to maintain strict confidentiality with respect to the whole evaluation process. They must follow any instruction given by the REA to ensure this. Under no circumstance may an expert attempt to contact an applicant on his/her own account, either during the evaluation or afterwards.

3. Evaluation Criteria for MSCA-ITN-2019 Call

Proposals will be evaluated on the basis of the following **award criteria**:

ITN - Marie Skłodowska-Curie Innovative Training Networks		
Excellence	Impact	Quality and Efficiency of the Implementation
Quality, innovative aspects and credibility of the research programme (including inter/multidisciplinary, inter-sectoral and, where appropriate, gender aspects)	Enhancing the career perspectives and employability of researchers and contribution to their skills development	Coherence and effectiveness of the work plan , including appropriateness of the allocation of tasks and resources (including awarding of the doctoral degrees for <i>EID</i> and <i>EJD</i> projects)
Quality and innovative aspects of the training programme (including transferable skills, inter/multidisciplinary, inter-sectoral and, where appropriate, gender aspects)	Contribution to structuring doctoral / early-stage research training at the European level and to strengthening European innovation capacity , including the potential for: a) meaningful contribution of the non-academic sector to the doctoral/research training, as appropriate to the implementation mode and research field b) developing sustainable joint	Appropriateness of the management structures and procedures , including quality management and risk management (with a mandatory joint governing structure for <i>EID</i> and <i>EJD</i> projects)

	doctoral degree structures (for <i>EJD</i> projects only)	
Quality of the supervision (including mandatory joint supervision for <i>EID</i> and <i>EJD</i> projects)	Quality of the proposed measures to exploit and disseminate the project results	Appropriateness of the infrastructure of the participating organisations
Quality of the proposed interaction between the participating organisations	Quality of the proposed measures to communicate the project activities to different target audiences	Competences, experience and complementarity of the participating organisations and their commitment to the programme
50%	30%	20%
Weighting		
1	2	3
Priority in case of ex aequo		
Please note that an overall threshold of 70% will be applied to the total weighted score.		

4. Contact information of Net4Mobility+ Project

Please do not hesitate to contact us for further information about this document via contact details of Turkey, Belarus, Bulgaria and Iceland Marie Skłodowska Curie Actions (MSCA) National Contact Points which are available on <http://net4mobilityplus.eu>. Any question about the content of this document can also be directed to ncpmobility@tubitak.gov.tr

5. Comments of Evaluators to various proposals submitted to ITN: ETN, EID, EJD Panels:

Please find them below separately under “**strengths**” and “**weaknesses**” titles for each evaluation criterion and sub-criterion:

Criterion 1 – Excellence

Strengths:

Quality, innovative aspects and credibility of the research programme (including inter/multidisciplinary, inter-sectoral and, where appropriate, gender aspects)

- **Introduction, objectives and overview of the research programme**

- **Objectives** are comprehensively described targeting relevant scientific challenges.
- The proposal is timely and relevant. The **objectives** are ambitious and sound.
- The **objectives** of the proposal are adequately identified, in accordance with the necessities of the research area.
- Research **objectives** and questions are clearly specified. Furthermore, the research of each ESR is relevant to at least one overall **objective**.
- The **objectives** of this research program are in general well formulated, describing how to create a new model of mental health care.
- The research uses a wide range of modern tools and techniques in order to support appropriately, and according to the modern needs, the achievement of set **objectives**.
- The project addresses a highly stimulating area of **intersectoral** research with an approach that suggests a new way of understanding relations between business **innovation** processes, socio-economic cohesion and equality at the workplace. As a consequence, this ITN addresses challenges that are of high social importance and salience to the project of promoting Social Europe. (EJD)
- The research **objectives** are sound and comprehensively described/ clearly defined. (EJD)
- The **research programme** addresses some important questions, in particular in the area of Inverse Problems; it is likely to contribute to new understanding and knowledge in this domain. (EJD)
- The **research programme** covers a variety of interesting questions related to, for example, relativistic astrophysics and has some **interdisciplinary** aspects. (EJD)
- The **research programme** is very well described and focusses on a number of interesting topics, in particular, in the field of commutative algebra. (EJD)
- The research program is of good **quality** and timely, aiming at addressing current societal challenges. The **objectives** are clear and pertinent. (EJD)
- The proposed research project titles are well aligned with the overall project aims and **objectives**. (EJD)
- A very comprehensive **research programme** aiming at exploration of advanced functional materials is presented. The overall structure of the project is well introduced and very clear, with 5 research clusters dedicated to 5 different topics related to 5 **innovative** branches of material science and **innovative** materials. (EJD)
- The proposed **research programme** addresses one of the important public health and social policy challenges of today.
- The **research programme** is comprehensive and well articulated.
- A relevant topic of nanostructured metamaterials, e.g. topology-driven materials and applications, is explored with research **objectives** that are extensively outlined and addressed
- The **research programme** addresses a very timely issue since it aims at improving nitrogen use efficiency.
- The proposed research project addresses and aims at combining two topics, bio-based materials and manufacturing via 3D printing, which are both timely and relevant ones. The research **objectives** are clearly described and the idea of such a combination is original.
- The core research proposal has clear novel elements.
- The topic of the program is very timely; it addresses a relevant and clearly identified social problem.
- The **objectives** related to the process and **impact** are well specified, as is their relationship with the ESRs' projects.

- The research planned is original. It focuses on an important topic of contemporary relevance, fills an existing gap regarding the knowledge of the "everyday Islam" and helps to understand the importance of emerging manifestations of Islam in chosen, less known geographical regions.
- The research **objectives** are relevant and address gaps in understanding of lakes and sustainable **management**.
- The aims of the research program could improve clinical care for the ageing European population.
- The **research programme** addresses very topical questions regarding amyloid induced diseases limitations of current treatment and diagnosis tools.
- The project addresses questions of substantial interest concerning ion chemistry under interstellar, circumstellar and atmospheric conditions, with possible new insights into the chemical processes accompanying star and planet formation.
- The **research programme** addresses a highly relevant subject to the society - solid-state batteries, as well as with great technological and scientific interest.
- The proposal deals with a relevant domain of research: the rationale to undertake the research is well articulated and convincing. The specific research **objectives** and **research programme** are well presented.
- The proposal contains a very good description of the main **objectives** of the project, which are presented and tackled in corresponding WPs. The proposed **methodology** is appropriate to these goals. The **multidisciplinary** character is high.
- The general overview is clearly set out: the **research programme** is timely and consistent with European policy priorities in the field. **Interdisciplinary** and **multidisciplinary** aspects, although somewhat briefly explained, are acknowledged and implicitly incorporated into the **training** and the individual projects.
- The **research programme** is very well described, documented, well supported by scientific references and credible. (EID)
- Generic and specific **objectives** of the project are clear. It addresses an emerging topic and it is expected to fulfill the relevant and timely societal challenge related with the use of renewable resources. (EID)
- The **research programme** is well presented. It demonstrates a convincing **intersectoral** approach to automatically collect, combine and analyses 3 types of data (software, user, business) mainly using AI techniques. (EID)

- **State of the art:**

- The **state-of-the-art** is appropriately described and the major challenges are correctly presented.
- Expected scientific achievement beyond the **state of the art** is clearly described and environmental issues are considered.
- The **state-of-the-art** is clearly described in relation with the proposed **research programme, approach** and **Methodology**.
- The proposal has a clear view of the current **state of the art** and the blocking points of the sector as well as how to improve them during the ETN.
- The scientific area of the proposal is exhaustively described and underpinned with relevant literature. The gaps in the state-of-the art are perfectly identified, and the proposal clearly demonstrates its **innovative** and original aspects.
- The research program is **innovative**, and is highly **multidisciplinary** and **inter-sectoral** in its **approach**. Expected advancements beyond **state of the art** are Credibly explained relative to the technologies that will be utilised as starting points in the project.
- The **state of the art** is comprehensively covered and the proposed **methodology** is convincing. ESR projects are novel and designed to expose them to the latest developments and methods. (EJD)
- The **innovative** features are fully justified on the basis of a well elaborated **state of the art**. The originality of the research program is convincingly explained.
- The significance for development of assays and classification systems for variants of unknown significance in clinical genetics and the **state-of-the-art** are explained well.
- The research topics have the potential to offer advances beyond the **state of the art**.
- The **state of the art** related to the research topic is well discussed.
- The **state-of-the-art** and the needs in the field of TiO₂ photocatalysis and AOP water treatment

are clearly outlined.

- The proposed **multidisciplinary** research is comprehensively explained and is of good **quality**. There is a well-detailed presentation of the **state-of-the-art** in the addressed field.
- The **state of the art** is properly described and there are some **innovative** aspects going beyond the current **state of the art**.
- The project covers **innovative** aspects beyond the **state-of-the-art**, such as development of computational algorithms within the ESRs' individual projects.
- There is a clear vision how the project will tackle the scientific challenges and **state-of-the-art** experimental techniques including non-invasive live monitoring of amyloid aggregation will be applied.
- The proposal goes beyond the **state-of-the-art**. It intends to set up a robust technology for the synthesis of high value chemicals and materials by overcoming bottlenecks at technological levels implementing highly **innovative** biotechnological processes. (EID)
- This is a high **quality** research project with well defined scientific **objectives** to target type I diabetes. The consortium is very well suited to address current diabetes treatment bottlenecks and advance diabetes research beyond the **state of the art**. (EID)
- The **state-of-the-art** is very well presented. The current technical limitations are clearly stated along with the **innovative** research directions of the proposed programme. (EID)
- **State-of-the-art** in the field is clearly addressed. The industrial need for investigating the rubber-steel adhesion mechanisms is adequately justified. (EID)

- **Research methodology and approach**

- The **research methodology** is very effective. Materials, techniques and methods are clearly specified.
- The **methodology** and **approaches** are very well described for each workpackage.
- The **research methodology** and **approaches** are cutting-edge and **innovative**.
- The **research methodology** is clear and well structured.
- The **research methodology** is in line with the needs of the proposal.
- The proposed project is very ambitious; it is based on **multidisciplinary** research.
- The **objectives** of the **research programme** are clearly and precisely specified and very relevant to research.
- The problems, examined as part of the individual projects, are well presented and the corresponding project **Methodologies** are sound and coherent.
- The well-suited **research methodology** proposes a **multidisciplinary** and **intersectoral approach**, consistent with the project **objectives** and involving expertise in modelling, design, fabrication and characterization.
- There is an adequate **methodology** and set of methods. (EJD)
- The **methodology** providing a deeper understanding on the fundamental physicochemical processes involved and in the development of novel materials and concepts is credible and leads to feasible implementation of coupled plasma-catalytic technologies. (EJD)
- The **research methodology** and approach include a description of the targeted scientific **objectives**. (EJD)
- The structure of **methodology** is clearly presented. The core concept is very well explained. The **Work packages** are systematically reviewed.
- The **research methodology** is relevant. The databases required for the research are clearly indicated. The relevant analytical techniques are identified.
- Most of the proposed research **approaches** are adequate to address the project's **objectives**.
- The research program is multi-disciplinary and intersectoral and has different interesting **approaches**, because it involves new products, methods for characterization of nutrient availability and fertilizer value, which will advance market knowledge.
- The **research methodology** is clearly described, and the research **objectives** are convincingly formulated. Overall, this demonstrates the **credibility** of the **research programme**.
- The **research methodology** and approach described are coherent and credible.
- The **research methodology** is clearly explained through individual **work packages** which are comprehensive in nature, and the proposed **methodology** is plausible.

- **Quality (research programme):**

- Particular care is taken with respect to **quality** control of the academic value of the work of the ESRs doing their research in industry.
- The overall scientific **quality** of the very well structured **research programme** is convincing. The fact that the key basic technologies were developed and patented at the place of the project leader leaves no doubt about **Credibility** in relation to technological feasibility.
- Very high **quality** of the principal investigators is underlined by their scientific productivity in terms of a number of original contributions to the field.
- The **quality** of the **research programme** is high and the rationale is well explained, with a clear description of research **objectives**.
- The importance of the research topic is clearly demonstrated. The **objectives** are clearly described, ambitious and of high scientific **quality**. The promising technology to be used have been identified, with a strong involvement of the industrial partners, which promotes scalability.
- Pre-existing relationships between academic and industrial partners underpin the **quality** of cooperation and interaction between members of the consortium.
- The proposed research is well outlined against the current **state-of-art** and the scientific **quality** is appropriate, dealing with important issues in biophysics. Considering the majority of the research projects, the Methodological **approach** is explained in detail and it is coherent with the scientific **objectives**.
- The **research programme** is of good **quality** and credible, confirmed by recent achievements of the involved groups.
- The proposed academic research is clearly connected to the needs of the industrial partners.
- The program is timely as it seeks introducing the concept of circular economy, a precious knowledge for young professionals of tomorrow.
- The feasibility of the **research programme** has been successfully addressed by beneficiaries during recent activities.
- The WPs and the IRPs are well defined and give a clear picture of the fact that the ESRs will apply their learning to develop new **approaches** and techniques for the integration of human factors in transport during their individual projects.

- **Innovation (research programme):**

- The proposal devises new techniques for antimony extraction, ultrapurification which leads to the utilization of antimony for new applications, demonstrating a **innovative** character.
- The proposed research plan is well-designed and comprehensive. The scientific **objectives** are precise and well-articulated, with clearly defined and very **innovative** research tasks. The integration between research and **training** is convincing.
- The proposal addresses the limiting problem of charge carrier mobility in a comprehensive and **innovative** way.
- **Innovative** aspects of the tasks in the 3 WP are convincingly described and realistic.
- The originality and **innovative** aspects of the **research programme** are clearly presented in relation to the **state-of-the-art**.
- The originality of the **research programme** is well supported by prospect of an interaction between national statistics and the top scientific institutions in Europe for the exchange of best practices in data generation. The **innovative** aspects are obvious and clearly positioned against the **state of the art**.
- The proposal is scientifically sound and timely. The foreseen advances contain many novel and **innovative** aspects.
- The proposal addressed a variety of **innovative** scientific challenges; the proposal convincingly states that the TRL will be increased.
- The focus is novel and timely. (EJD)
- The research program is very **innovative** in terms of research topic selected (CO2 valorization by plasma catalysis). (EJD)
- Originality and **innovative** aspects of the **research programme** are well demonstrated/ very well presented. (EJD)
- The originality of the research is very well documented by the unprecedented **objectives** comprising fundamental research and technical procedures for scaling up under industrial conditions. (EJD)
- This is an **innovative** programme integrating different modes of knowledge in the field of

digital technologies used in the practice of architecture. (EJD)

- The **innovative** aspects of the programme are related to using behavioural and neurophysiological measures via **innovative** techniques.
- The **research programme** is credible; **innovative** aspects are clearly illustrated.
- The **innovative** aspects of the different research **objectives** are well demonstrated.
- The **innovative** aspects of the research program are very clearly outlined, convincingly presented against the current **state-of-the-art** and supported by relevant literature.
- The proposal is **innovative**. It addresses an important gap in the impending **exploitation** of Arctic energy resources.
- The **innovative** aspects of the project are clearly presented and supported.
- The **research programme** is **innovative**, in particular with regard to the aim pursued by the four research clusters presented.
- The research program is **innovative** (e.g., mix of research, technology and **innovation**, incorporation of art and humanities), and **multidisciplinary** in its approach to address transport related human factors problems.
- The originality and **innovative** aspects of the **research programme** are convincingly discussed.
- The original and **innovative** aspects of the programme are convincing.
- The program is **innovative** in its approach because it seeks to address the slow uptake of emerging technologies by the social enterprises.

- **Credibility (research programme):**

- Given the expertise of the participants the research aims are credible.
- S&T **objectives**, **approaches** are well presented. The **research programme** is satisfactorily elaborated with some integrated crossdisciplinary participation, allowing credible networking.
- The research program is credible as it addresses an under-studied water **management** issue. The program is coherent and well structured around the fusion of laboratory- and field-scale experiments with theoretical analysis and numerical modelling.
- The **objectives** are credible, clearly-defined and well-supported by the comprehensive state-of-the-art.
- The research project is credible and likely to create knowledge to tackle key questions of evaluation and intervention in children with neurodevelopmental disorders by investigating early socio communicative **skills** at the European level, via a better knowledge of their development.
- The proposal is credible and presents an **innovative research programme**, aiming to advance **state-of-the-art** in the field such as predictive measure of strain, and application of deep neural networks for image recognition. The programme's strong **credibility** in each of the fields is evident. (EID)
- The **credibility** of the proposal is substantiated by the highly appropriate and well-defined methodological approach. (EID)

- **Inter/multidisciplinary, inter-sectoral aspects:**

- The research is **interdisciplinary** and **multidisciplinary**; the content has scientific and technological significance by addressing a topic of high economic interest for Europe.
- The research program is **multidisciplinary** with considerable contribution of the **non-academic** sector and addresses an important class of materials.
- **Interdisciplinary** and **intersectoral** aspects of the research are well formulated and justified.
- The proposal presents a well worked up project with clear **objectives** addressed in an original manner through an **interdisciplinary** and **intersectoral** programme that combines fundamental with applied research in a highly relevant field.
- The **research programme** is **innovative** and will not only recognise some specific technological steps, but also the holistic view of the whole process chain.
- The scientific **objectives** are ambitious but credible and will be addressed in a **multidisciplinary** and **intersectoral** way.
- The project is strongly **multidisciplinary** and **intersectoral** involving basic scientists, clinicians and engineers.
- **Research methodology** is appropriate and will enable the achievement of the proposed **objectives**. A very convincing **multidisciplinary** and **intersectoral approach** are assured by the involvement of industrial partners from different branches.
- The timely **research programme** combines in a **multidisciplinary** way a comprehensive range

of topics relevant for the design of new catalysts as well as for deploying improved analytical techniques.

- The research program is based on a **multidisciplinary approach** supported by a relevant involvement of the industrial participants. The **research methodology** and the individual research projects are well-suited, detailed and fully in line with the project goals.
- The proposed **interdisciplinary** and highly **innovative** project is of very good **quality**, combining industry and academia in several sophisticated photonic techniques and their application to in vivo microscopic visualisation of cells and cellular models.
- The **interdisciplinary** aspects of the proposal are well presented, with relevant contribution from the **non-academic** sector.
- The **research programme** is **multidisciplinary**, combining technologies from chemical engineering, psychology and pedagogy.
- The proposal addresses a relevant domain of research with interesting areas to be investigated. **Multidisciplinary** and **inter-sectoral** aspects, in relation to sustainability cooperation between ports and universities, are demonstrated.
- The **interdisciplinary** aspects of the proposed **research programme** are well highlighted.
- There are very good **interdisciplinary** aspects, integrating insights from the human and social sciences, digital technologies and creative disciplines. (EJD)
- The proposed research has **interdisciplinary** applications stemming from the ESR projects, such as improvement of imaging and tomography techniques. (EJD)
- The research program presents **multidisciplinary** and **intersectoral** aspects involving studies in the field of physics, surface science, catalysis and chemical engineering in both academic and industrial environments. (EJD)
- The research program presents **multidisciplinary** (electrochemistry, catalysis, spectroscopy and chemical engineering) and **intersectoral** (academic and **non-academic** organizations) aspects. (EJD)
- The **goals** of the proposed research are ambitious. The research program is **interdisciplinary** with **impact** in security, economy, technology and privacy. **Intersectoral** aspects have been well described. (EJD)
- The **research programme** is ambitious/well-balanced, **innovative** and strongly **interdisciplinary/multidisciplinary** combining experimental and computational **approaches**. (EJD)
- The links between clearly identified disciplines and the value of intersectional activities are well discussed and fully justified.
- The **interdisciplinary** and **intersectoral** aspects of the **research programme** are very clearly demonstrated.
- The proposal is truly **multidisciplinary** and has strong **innovation** potential. It effectively employs an appropriate mix of methods ranging from purely mathematics, applied mathematics to software engineering.
- The proposed programme has strong **intersectoral** collaboration between academic and **non-academic** partners through industry based secondments.
- The **multidisciplinary** approach proposed in this project incorporating physical-environmental and socio-economic aspects will result in a better understanding and **management** of those specific water bodies.
- The programme is **intersectoral** as it includes industrial beneficiaries, and it carries some **multidisciplinary** aspects.
- The project is highly **multidisciplinary**, it involves various topics such as computational, synthetic, medicinal, organic chemistries, nanomaterials, microbiology and engineering.
- The **interdisciplinary** nature of the programme is very well described and fully justified, as it brings together researchers from theoretical, computational and experimental physics and chemistry, materials science and engineering, biomedical sciences and mathematics.
- Multi-disciplinary and cross-sectoral aspects are extremely strong with convincing and fully relevant involvement of both academic and nonacademic participants contributing to research and **training**.
- A broad ranging **interdisciplinary** and **intersectoral** approach underpins the proposal.
- The **research programme** is clearly **multidisciplinary** and **intersectoral** with a relevant participation of the industrial sector.
- The network-wide **training** courses planned are inter- and **multidisciplinary**.
- The program contains **interdisciplinary** and **intersectoral training** involving key human factors

- and technical knowledge spanning over various transport domains (e.g., rail, air, road, sea).
- The research is inter/multi-disciplinary including aspects of climate modelling, palaeolimnology, ecology, remote sensing and social sciences.
- The project is **multidisciplinary** as it combines several applications of MOF and the research activities are well balanced over the academic and industrial partners.
- The project is largely **interdisciplinary** and **intersectoral**, involving astronomers, theoretical and experimental physicists, modelers and space technologists.
- The **multidisciplinary** aspects of research and **training** programme are clearly described, for example the proposal brings in some methods of data science, remote sensing, engineering, agronomy, history, anthropology, and sociology.
- The proposal is **interdisciplinary**. It will make an emphasis on giving to the ESRs the first hand exposure to diverse and unique research environments.
- The **intersectoral** approach is very good with strong involvement of the **non-academic** partners. All fellows are adequately exposed to industrial secondments.
- The **multidisciplinary** and **intersectoral** aspects of the **research programme** are well identified and the proposal provides a description that explains how the ESRs will cover **interdisciplinary** aspects of the project that are integrated into the overall programme of work. (EID)
- The **multidisciplinary training** programme includes well-specified network **training** events in transferable and technical **skills**, including project **management** and entrepreneurship. (EID)
- The **multidisciplinary** and **intersectoral** aspects of the project are very well supported by a consortium including the fields of molecular biology, biocatalysis, biopolymer modification and process engineering of gas fermentation as well as five industrial partners in different sectors. (EID)
- The project is truly **interdisciplinary** as it requires expertise of financial and numerical mathematics, data science and computational finance. (EID)
- The **training** programme has **intersectoral** aspects. The **non-academic** partner will significantly contribute to the **quality** of the **training** programme. (EID)

- **Gender aspects:**

- **Gender** aspects are adequately considered in the research set up.
- **Gender** and other diversity aspects are addressed appropriately.
- **Gender** issues are adequately addressed/ well considered. (EJD)
- **Gender** perspective in research is one of the topics of the **training** programme. (EJD)
- **Gender** aspects are convincingly integrated in the theoretical research approach and the social work **objectives**.
- The **gender** dimension of the research content is appropriately addressed in the proposal.
- The **research programme** considers and promotes **gender** balance.
- The **gender** aspects are explicitly and satisfactorily included in the **research programme**.
- **Gender** aspects are well analysed and thoughtfully considered for research as well as for the **recruitment** of ESRs and the encouragement of female participation in the project. (EID)
- The consortium is led by a strong female team (as **supervisors**) and demonstrates an excellent example of positive **gender** diversity in science, which is a good way to attract more female students to science, in particular mathematics, by prominent and successful female role models. (EID)
- **Gender** aspects are appropriately considered in both **supervisor** selection and the network-wide **training** activities. (EID)

Quality and innovative aspects of the training programme (including transferable skills, inter/multi-disciplinary, inter-sectoral and, where appropriate, gender aspects)

- **Quality (training programme):**

- The secondments are very carefully planned and correspond well to the scientific requirements of the individual research **objectives**.
- The **quality** and **innovative** aspects of the **training** program, complementary and network-deriving activities are of high **quality** and clearly presented. The advantage of the proposed PhD program over existing national or international PhDs is very well demonstrated and convincingly presented in the proposal.
- All ESRs will receive **training** at academic, clinical and industrial level, including appropriate secondments.

- **Transferable skills training** is very extensive, with indication of mandatory modules and teaching in network-wide events.
- There are numerous and well-planned activities aimed at **training** of **transferable skills**.
- **Training** of a new generation of scientists specialized in analytical and clinical validation of Furthermore, a proper amount of **transferable skills training** will be provided to the ESRs.
- A very good set of technical courses in different disciplines and at different partner institutions is proposed. The duration of courses is appropriate and will allow the ESRs to develop a thorough knowledge of the different areas of **training** and a set of **transferable skills**. - The main network-wide **training** events and conferences are well conceived and will cover all necessary aspects for ESR's **training** (quantifiable in ECTS).
- **Training** in **transferable skills** is adequate and includes sufficient level of education on technology transfer and entrepreneurship.
- Complementary **training** is modulated to acquire knowledge based **skills** and **transferable skills**.
- The **training** programme is well structured with a very good balance between local specialist **training** and network wide events **training** and **training** in **transferable skills** which is well integrated in the programme.
- The **training** program covers scientific aspects which are directly relevant to the research activities. The contribution of the **non-academic** sector is substantial, and well integrated in the **training** activities. The program also offers very good **transferable skills training**.
- Proposed **transferable skills** are well identified (leadership **skills**, presentation **skills** and business development **skills**).
- **Training** exposure for ESRs. In particular, all ESRs are enrolled in PhD programs and obtain **intersectoral** experience through their **training** and planned Open Days provided by the **non-academic** partners.
- The proposal provides very well detailed description in all aspects of the **training** programme: network-wide **training** events, **transferable skills** and local **training**, taking into account
- The ESRs will be properly exposed both to **interdisciplinary** environments and will be provided with good **quality transferable skills**.
- The **training** program is well organized and presented with individual plans for ESRs, as well as network-wide actions. These cover a broad **multidisciplinary** range of relevant technical and **transferable skills**. The overarching **training** and research **objectives** are clearly presented.
- The proposed research program addresses a very relevant social topic and its **objectives** are well developed and convincingly presented. There is evidence of good scientific **quality** and its contribution to the overall **training** themes is clearly explained.
- The research program offers a scientific **training** with **multidisciplinary** aspects.
- The **training** programme is well balanced between scientific and **transferable skills**, with a strong **commitment** of all academic and **non-academic** partners. It will expose ESRs to all aspects of electrochemistry research from basic theory to industrial scale up. (EJD)
- The **training** programme is extensive, **interdisciplinary** and highly effective, as evidenced by provided **multidisciplinary** and **intersectoral** (both in industry and academia) research **skills** and transferrable **skills** such as project **management**, marketing and business. (EJD)
- The **quality** of the proposed **training** program is good and offers appropriate levels of courses (core discipline, joint **multidisciplinary** courses and week co-location with key scientific events). (EJD)
- The **training** programme promotes the acquisition of important transferable and complementary **skills**. Several schools are planned, well aligned with the important **training objectives**. (EJD)
- The **training** programme is well suited to the conceptual framework of the proposal. (EJD)
- The **training** program is well structured, including different activities such as **training** schools, regular meetings, and involving students in international conferences related to catalysis, such as Europacat meeting. (EJD)
- The **transferable skills** are well-defined being of high **quality**. (EJD)
- The **training objectives** are clearly outlined. (EJD)
- The **training** program is well structured and **innovative** and includes **training** activities in both technical and soft **skills**, including entrepreneurship and commercialisation aspects of research. (EJD)
- The mandatory two-week common core course is very important and essential for the recruited ESRs at the beginning of the thesis for both knowledge transfer and personal

development. (EJD)

- The aim of the **training** program is clearly formulated. The main **training objectives**, significant elements and **transferable skills** as well as local and network-wide **training** events are very well specified.
- The **training** programme is very well structured and carefully designed to meet the diverse **training** needs of the project.
- **Transferable skills** will be assured by the numerous **non-academic** partners through **training**, relevant secondments and access to data/users.
- A good aspect of the technical **training** program is that it will grant corresponding ECTS credits.
- A broad set of relevant and adequate network wide events on **multidisciplinary** domains, **transferable skills training**, and online short courses, organised both by industry and academic institutes, are proposed. The project has two collaborating institutions beyond the European space that will reinforce the **training** of three ESRs.
- The **training** program is well planned and very convincing; the academic side is very well represented, the choice of **non-academic** partners is of excellent **quality**. **Innovative** aspects of the **training** programme are well introduced.
- The **training** programme is based on four seasonal schools covering the most relevant technical aspects of GS interaction, as well as a number of workshops offering soft **skills**.
- **Training** programme includes a varied and well-rounded combination of conventional methods of **training** (PhD programmes, workshops, summer schools and visits from external experts, short courses, specific external conferences, etc.) which is likely to be effective.
- The **training** in **transferable skills** is well described and meaningful. The respective network-wide activities are organized by groups experienced in the topics.
- The scientific project **training** programme is well prepared; it is in line with the project **research programme**.
- The **training** programme explores a sound **intersectoral** combination of academic studies with industrial experience. There is a credible plan for secondments as well as short-time courses in different participating institutions.
- Overall, the proposed **training** activities are very good with a balanced combination of scientific **training** and **transferable skills** that will equip ESRs with the necessary competencies.
- **Transferable skills** obtained during the **trainings** are described in sufficient detail e.g. **management**, entrepreneurship, problem solving, presentation or scientific **communication**.
- The proposed **training** program is generally well designed and includes network-wide and **training** events such as summer schools and workshops. Plans for generic research and **transferable skills** development are sound.
- The network-wide **training** program foreseen by the consortium is well articulated, properly organized and complete, ranging from basic science to industrial applications of research.
- The **quality** of the **training** program is very good, using multiple **training** means, having a multi-disciplinary and **intersectoral** approach. The **training** program will use a blended e-learning tool.
- The **training** programme offers a good and comprehensive combination of local and network wide scientific and research courses.
- The **training** program comprises of a good mix of personalized on site **training** and network-wide events.
- The **training** programme is well developed and is planned in form of **training** through research and **training** through various local and networkwide **training** activities, like courses offered by academic beneficiaries, different kind of workshops like learning, internal or research and development workshops, career fair etc. Proposed **training** has **interdisciplinary** character including **transferable skills training**.
- Specialized ESR **training** actions towards drug development of orphan drugs is a plus.
- ESRs will play an active role in the organisation of Network Workshops and Schools and will be encouraged to engage in undergraduate **training**.
- The structure of the **training** programme fits with the scope of the project and is sufficiently diverse. The **training** programme accounts for the **interdisciplinary** needs of the ESRs.
- The project is **innovative** and timely, taking advantage of new experimental facilities, and the large body of data provided by space-borne facilities (satellites, future rocket and balloon-based missions) and top-class ground-based facilities (e.g. ALMA and NOEMA).
- A very good variety of selected network-wide **training** events is proposed, in addition to local **training** activities. Activities oriented towards relevant **transferable skills** are properly proposed. The opening of workshops and conferences to external scientists is an added value.

- The **non-academic** sector contributes at a very good level to the **training** program.
 - The **training** programme is very well described and of high **quality**. It includes several **innovative** local and network-wide **training** events that are expected to offer to the ESRs a very credible background in scientific and **transferable skills**. The **non-academic** sector participates actively in the **training** events.
 - The **training** program is well laid out with clear roles for the different participants as well as for the **supervisors**/ESRs. The **training** on **transferable skills** is appropriate. The ECTS scheme to accredit the transfer periods is useful to ensuring that the overall PhDs achieve requisite accreditation.
 - The network wide **training** events, including science schools and workshops on **interdisciplinary** research (materials sciences, biology, catalysis, engineering sciences, economics and social sciences) and **transferable skills** (e.g. Technology transfer, **innovation** and entrepreneurship) are well planned and are described in very good detail. The speakers are already identified. (EID)
 - The program offers a balanced mix of **training** in scientific and **transferable skills**, especially on career development and **innovation** & entrepreneurship, to provide the ESRs with required competences such as creativity, team leadership and project **management**. (EID)
 - The overall **training** program is well structured and organized, consisting of both local and online **training**, network-wide events and courses organized by industrial participants. (EID)
 - The **training** programme is well organized and of high **quality** with a convincing mixture of advanced courses, workshops and modelling weeks/study groups, combining all relevant aspects in mathematics for big data. (EID)
 - The **transferable skills** programme is very well developed and contains a number of useful courses, such as quantitative analysis, critical thinking, **communication**, personal effectiveness **training**, career development, etc.(EID)
 - The **training** in **transferable skills** is well developed and includes entrepreneurship, **impact** optimization, and project **management**. (EID)
- **Innovation (training programme):**
 - Specific **training** for business **innovation** is envisaged, aimed at acquisition of complementary and **transferable skills** and entrepreneurship.
 - The **training** programme is **innovative** and well structured, including individual **training**, networking-wide **training**, secondments and **transferable skills training** activities.
 - The proposal has **innovative training objectives** which are well-aligned with scientific research goals and the nature of planned secondments. A novel aspect concerns the assignment of an **innovation training** Manager including responsibility for cultivating **innovations** throughout the project.
 - A well designed and well rounded **training** programme is proposed, comprised of **innovative** and Credible network-wide as well as local **training** activities involving all partners, as well as excellent visiting scientists. **Innovative** aspects are well defined for all ESR **training** programmes
 - The **training** programme is very high **quality** and brings a unique blend of topics; it will effectively support ESRs in developing good leadership and cooperative attitude.
 - The **interdisciplinary training** programme is a very good mix of local soft skill courses and specific scientific **training** courses of the consortium. The details of the common courses are precisely specified.
 - The proposed **training** program is well-thought and includes **training** from many different technologies, experimental work in animal and computational work. Complementary **training** in leadership in science and industry and professional **interdisciplinary skills** are also included and appropriately organised.
 - The obligation of each ESR to conceive a business plan that will be critically evaluated by the industrial partners is an **innovative** element in the **training** programme.
 - The **training** programme is **intersectoral** and **innovative**. It provides a relevant transfer of knowledge, both on scientific and auxiliary **skills**.
 - The **training** program is of good **quality**, **multidisciplinary** and **intersectoral**, with equal contribution of the academic sector and industrial partners. Hands-on **training** through individual research projects is complemented by local courses, network **training** activities and relevant secondments, providing highly valuable exposure to academic and industrial sectors. The **training** program covers both relevant scientific/technical **training** and

transferable skills, some of which are innovative in content and methods.

- The research programme addresses a timely topic. The programme of research proposed is multidisciplinary, based on combining mainstream approaches to cultural studies with those on migration studies.
- The project provides a multidisciplinary training programme. Secondments are planned and clearly provide inter-sectoral opportunities for training Early Stage Researchers (ESR). The proposal outlines a sound combination of core and supplementary training, through a combination of thematic workshops, annual conferences and scientific meetings.
- The research programme is innovative in that it deals with new approaches.
- The training programme is multidisciplinary and includes innovative aspects, such as the joint study project on open citizens' science. (EJD)
- The specialised training courses offer some more novel and innovative aspects, including Android security, digital currencies, bitcoin, computer forensics, and software hacking. (EJD)
- The proposal attempts to introduce innovative elements to the structure of doctoral training in social work.
- The project innovation is obvious, novel approaches are proposed for transformation of (food)waste in biologically active materials, also biodegradable polymers.
- The training programme provides multiple and coherent mechanisms for network wide collaborative innovation.
- The training program is solid, innovative in many respects, interdisciplinary and inter-sectorial, and with a good level of training in complementary skills.
- There are several innovative and targeted training measures included, such as "learning by teaching" principle.
- Some novel ideas are integrated within the training program, as for example problem-based learning on ESRs own data in network-wide training frame.
- The training programme proposed to the ESRs is innovative, covering a new approach for numerical algorithms and computer modelling of large systems.
- The visiting researcher scheme is innovative. It supports the scientific training of the researchers in a natural way.
- The training program has very interesting innovative elements such as participation of all ESRs in the modelling week and overall strong industrially-oriented aspects of the doctoral training. (EID)
- The training programme is innovative, inter -multidisciplinary, combining training in several designated disciplines and covering various levels of training: from introductory to advanced. It includes a set of very well suited transferable skills, such as presentation techniques, and entrepreneurship, winter schools at pan European level. (EID)

- **Content structure of the training (ETN) or doctoral programme (EID/EJD):**

- There are adequate plans for a training programme which will be recognised by the PhD programmes beneficiaries, combining existing courses, advanced elements and transferrable skills in a multi-disciplinary way, and devised to become permanent after funding ends. (EJD)
- ESRs will assist in organising international scientific events, allowing them to begin to create their professional networks. (EJD)
- Variation in the secondment durations will help ESRs to manage their personal and professional objectives. (EJD)
- The fellows' individual research projects are sufficiently defined and well integrated with the proposed doctoral programme. (EJD)
- The discussion on how the planned network training activities will bring added value to the training programme is sufficiently outlined. (EJD)
- The training programme is clearly structured and is characterized by identifiable milestones, training activities and key events. (EJD)
- Each ESR will be assigned to conduct research at the academic and secondment non-academic institutions that will play a fundamental role in training. (EJD)
- Most ESRs will acquire an advanced understanding of NUE and will build extensive networks in this field.
- For each individual project, relevant participating organisations have been identified to provide secondments, address specific training needs beyond the expertise of the supervisors and provide the ESRs with interdisciplinary skills.
- The team work of 3-4 ESRs to analyse each demonstrator with the help of mentors is a quite

- innovative way of training.
 - The emphasis on training aspects of the research integrity, ethics and plagiarism are well suited in the proposal.
 - The required knowledge related to the individual research projects and complementary skills is very well detailed. The project of each ESR is well defined and clear.
 - Fellow secondments for various periods (few weeks/ months, in total minimum 3 months) with other beneficiaries or partner organisation, as well with industry exposure and trainee internships, are planned. Non-academic partners will contribute to secondments, training and mentoring for ESRs.
 - There is sound evidence that the fellows will be provided with solid training, based on standardized procedures. Enrolment in the doctoral programmes of the hosts for each ESR is foreseen and the proposed network activities present intersectoral and interdisciplinary aspects.
 - ESRs will be enrolled in PhD programmes at very good universities.
 - Workshops, training schools and courses will be organized on relevant topics that will complement research and related skills of the ESRs.
 - The ESRs are well distributed among partners, with clear complementarity in roles and expertise between the participating organisations tightly woven into the research and training programme. (EID)
- **Role of non-academic sector in the training programme:**
 - The non-academic partners considerably contribute to the training program with industry related workshops and secondments.
 - The training programme is of high novelty and new skills will be developed through training. The relevant role of the non-academic sector in the research programme is clearly articulated.
 - The contribution of the non-academic participants is well suited and coherent with the training activities on industrial aspects.
 - The non-academic sector significantly contributes to network-wide training events, research training and transferable skills training .
 - Both academic and non-academic partners are fully supporting the ESRs training program, thus contributing to a high quality and efficient transfer of knowledge.
 - The non-academic beneficiaries have a strong contribution to the training of researchers.
 - The proposal gives a clear overview and content structure of the training and provides an adequate explanation on a range of training initiatives focused on developing skills of the ESRs. The proposed training is trans-disciplinary, and merging theory with practice towards sustainable ports. The role of the non-academic sector is well established through the activities they will be involved in and the through ESRs they will host during secondments.
 - The training program is well organised. It is clearly demonstrated that it has a capacity to prepare ESRs for careers in both academic and non-academic environments. The proposed schools will also be an excellent way how to assist team-building among ESRs.
 - The role of the non-academic sector in the training programme is precisely specified and will bring important added value to the development of the recruited researchers.
 - Transferable skills will be duly fostered through concretely defined training measures.
 - Training combines local core modules with strong network wide activities that cover, in a laudable fashion, intersectoral and exploitation related content with valuable contributions of the private sector and meaningful exposure of each ESR to non-academic environments.
 - The proposal clearly shows that the choice of SME sectors is well conceived and that the project will transfer important skills to the trainees. (EJD)
 - The non-academic partners have been carefully selected to represent both SMEs (the sectors that the project will be studying) and organizations whose concerns center on the effects of SME. (EJD)
 - The non-academic participants from creative industries will host secondments and contribute to the training programme. In that way intersectoral awareness of each ESR's research and career aspirations will be developed. (EJD)
 - The associated industrial and government partners are strongly involved as potential users of the project results. The city council partners will provide their own data in an open and accessible way. (EJD)
 - The role of non-academic sector in the training program is strong/ appropriate and substantial. They provide secondments and training courses for the development of research and

transferrable **skills**. (EJD)

- The proposed **training** has an **interdisciplinary** and **intersectoral** character. The involvement of nonacademic partners in the **training** activities is substantial. (EJD)
- The role of the **non-academic** sector in the **training** programme of this proposal is significant and convinces that ESRs will obtain multifaceted experience in drug discovery processes, industrial development of pharmaceuticals as well as entrepreneurship. All ESRs will obtain industrial experience and sufficient exposure to different research environments.
- The **non-academic** participants have a significant role in the **training** programme. This will facilitate the development of the ESRs **skills**.
- Secondments at **non-academic** partners will provide ESRs with an opportunity to acquire industry **skills** that complement the academic **skills** obtained during the doctoral studies.
- Data-science secondments and in general **non-academic** sector role in **training** looks well planned. The **non-academic** sector from multinationals to entrepreneurship/data science start-ups will play an important role in the **training** activities. Many of the persons at non academic nodes involved in the **training** programme have been researchers in closely related fields and will serve as examples of integration in the industrial sector.
- The involvement of the **non-academic** partners on the **training** program is very well addressed not only via relevant secondments but also through the organisation of courses and events.
- The **training** programme includes the involvement of **non-academic** partners, which will allow creating a network outside of the academic sector. The **non-academic** partners are also involved in all **training** events, which demonstrates the significant **intersectoral** character of the **training** planned.
- The role of the **non-academic** partners in the **training** programme is active and well justified.
- The contribution and secondment hosting of the **non-academic** participants is well suited.
- The contributions of the participating organizations including the private sector are well balanced, and co-publications demonstrate the strong **interdisciplinary** capacities of the network.
- There is a substantial and meaningful contribution of the industrial sector in the **research programme**.
- The proposal convincingly describes the role of the **non-academic** sector in the **training** programme through the complementarity related to science-business cooperation in the project.
- The role of the **non-academic** participants in the **training** program is well defined. The involvement of **non-academic** partners in both hosting and providing secondments for ESRs will let the applicants acquire new important experience and **skills**. ESRs will get joint **supervision**/advisory by the academic and **non-academic** advisors as demonstrated throughout the programme description.
- **Non-academic** partners have well-defined roles in the **training** programme (EID)
- The ESR assignment for scientific tasks are appropriately described for both scientific vision and industrialisation perspective. Industrial academia cooperation is well considered in the proposed **training**. (EID)
- The **non-academic** participants will provide **training** in **skills**, working practices and processes as well as organization of workshop or seminar on a **skills** related topic during each annual school. (EID)

Quality of the supervision

- **Qualifications and supervision experience of supervisors:**

- Highly qualified academic and **non-academic** sector specialists are involved in the **supervision** of ESRs with experience in supervising of doctoral students and EC projects. Doctoral schools are also efficiently used for **supervision**.
- The progress monitoring of the ESRs by appropriately structured **supervision** is devised.
- The **supervision** scheme with academic **supervision**, additional co-supervisors and industrial **supervisors** is well planned. The **communication** plan between **supervisors** and ESR is well suited.
- All academic **supervisors** have the necessary background and experience in supervising PhD students.
- **Supervision** of ESRs by an intersectorial team with co-supervision from the industry is devised, with the **non-academic** participants hosting secondments and actively participating in

every ESR **supervisory** team. It promotes open-mindedness and industry relevance and the entry of the ESRs in the job market, facilitates the exchange of knowledge and builds a bridge between industry and academy.

- **Supervisors** are recognised experts in their respective fields with very good track records and documented experience in ESR **supervision** and mentoring and the **supervisory** teams combining the experience of academic and **non-academic supervisors** are clearly a plus.
- An ESR supervising team with **supervisor** and co-**supervisor** will monitor progress at regular time intervals.
- The proposed **supervisors** have very good publication records and experience in their specific fields.
- Each ESR has two **supervisors**; younger PIs are associated with a senior PI to ensure proper mentoring. Bi-weekly meetings with **supervisors** ensure a good monitoring. The consortium will have external advisors, who will be invited to the annual meetings.
- There is a strong **commitment** of all partners in the **training** programme. The level of time devoted by the **supervisors** is generally appropriate, ranging for 25-45% per university/institution.
- The **supervisory** team is a mix of highly experienced researchers and younger academics. Their expertise and track records as well as mentorship capabilities are clearly demonstrated. The **quality** is adequate for the planned tasks.
- The expertise and experience of **supervisors** are very clearly described. The **supervision** experience in supervising PhDs, Masters and Bachelors of the **supervisors** is of very high **quality**. An extensive interaction between **supervisors** and ESR is discussed in terms of daily **supervision** and bi-weekly.
- The **supervisors** are highly qualified, with good track records in relevant fields and good **training** experience. A mentor from the nonacademic sector will be appointed for each ESR, thus strengthening the **intersectoral** exposure of the young researchers.
- **Supervision** of each ESR is cross-sectoral and shared between a principal **supervisor** and an external adviser. **Supervisions** based on personal career development plans will be efficient. External advisors will be timely updated on the progress of the activity (every 3 months).
- The research/**training** experience of **supervisors** are entirely relevant for the proposed ETN. All ESRs recruited by the **non-academic** beneficiaries will have an additional academic **supervisor** for PhD theses.
- The **supervision** by the host institute and the mentoring by PI from another sector will sustain a high **quality** of **supervision** for all ESRs' projects.
- The interactions among partners regarding both research and **training** activities are convincingly presented.
- Academic organizations demonstrate a good level of expertise in PhD **supervision**. An individual career development plan will be developed and reviewed during the course of the ETN.
- Co-**supervisors** have **skills** which are complementary to the primary **supervisor**, helping to achieve diversity in the perspectives being given to ESRs and encouraging **innovation** with regard to the research approach taken. (EJD)
- Postdocs at each site will support the ESR experience and provide day-to-day advice. (EJD)
- The academic **supervisors** possess adequate expertise to carry out the research activity. (EJD)
- All proposed ESR **supervisors** are active researchers; some are experienced researchers, with expertise in PhD **supervision**/ well-known experts in their fields with international reputation. (EJD)
- The academic **supervisors** involved in this program have a good previous expertise in the research field and have a wide experience in **supervision** and **management** of research activities. (EJD)
- The joint **supervisors** have the right, complementary expertise to guide ESRs. (EJD)
- Considerable experience in PhD **supervision** is demonstrated by the researchers, as well as they having a high number of industrial patents. (EJD)
- The **quality** of the **supervision** is excellent, this proposal assures that **supervisors** have adequate previous experience in **supervision** of PhD students and a relevant track-record of publications.
- The **quality** of **supervisions** is high and intense. (EJD)
- The **supervision** scheme is clearly articulated. The academic **supervision** is of good **quality** in well-recognised institutions; the network combines the proven experience of four academic partners in PhD **training** and accredited doctoral studies (in architecture, digital technology,

- urbanism, urban sociology, environmental psychology and **management**). (EJD)
- Industrial involvement in the **supervision** process will be beneficial for the students. (EJD)
- Each ESR will be guided by a **supervisory** team composed of a **non-academic** and two academic network members, one of the two being the host **supervisor** with high experience.
- There is a coherent **supervisory** plan for ESRs, with well-organised meetings and assessments with the **supervisory** team.
- The involvement of **supervisors** from other sectors broadens the experience of the ESRs.
- The **supervision** scheme is well addressed; each ESR will have at least two **supervisors** from different institutions assigned at the beginning of the project. The interaction plan between each ESR and its **supervisor** is well discussed.
- The planned **supervisors** have documented experience in advising ESRs as well as in advanced research. Each main **supervisor** will be complemented by a mentor from the other sector.
- The experience of the **supervisors** is well explained and appropriate. All academic **supervisors**, some of them with impressive track record, demonstrate excellent level of PhD and post-doc **supervision** experience.
- The qualifications, expertise, achievements and experience of the **supervisory** teams are well above average, and the substantial participation of **non-academic** partners in overseeing ESRs is well justified.
- The **supervisors** demonstrate that they are active and skilled in the fields of research relevant to the ESRs' projects. Most of them have substantial experience with successfully supervising graduate students
- **Supervisors** are highly skilled and internationally renowned professionals from academia and industry with excellent research background and sound experience in **training** ESRs.
- **Supervisory** teams are generally well experienced and contain a mix of academic and **non-academic** individuals which will assist ESRs in translating their research to the commercial world of consultancies.
- The **supervisory quality** is overseen by a **supervisory board** which meets annually and is composed of representatives of all participants.
- The **supervisory** team for each ESR will contain both academic and not academic participants, and all the participants will be involved in the **training** of the ESRs.
- The **supervisors** will offer effective support and overview the progress work. All main **supervisors** have extensive experience with **supervision** of PhD students. The co-**supervisor** institutions will provide a secondment opportunity for the ESRs, but further secondment may also be possible with other partners when relevant.
- The assignment of three academic **supervisors** from different participating nodes and of one mentor from industry is an interesting initiative to ensure the best possible **supervision** of each ESR.
- **Supervisors** and co-**supervisors** have high **quality** scientific qualifications and relevant expertise, both academic and **non-academic** ones.
- The project **supervisors** have the qualifications and experience to train and mentor the professionals required to tackle the societal and economic challenges through Big Knowledge Analytics. ESRs will be supervised by at least two formal **supervisors** including at least one professor.
- The proposal identifies a broad array of expertise among the academic **supervisors**. They cover all the elements of the programme and are leading researchers in their fields and have experience in supervising graduate students.
- Scientists in charge at **academic** beneficiaries' organisations have all successfully supervised multiple PhD students to completion. PhD enrolment is systematic with joint **supervision** (either with an academic or **non-academic** partner).
- Academic main **supervisors** are experienced and well-credentialed scientists, and **supervision** arrangements are suitable with a primary **supervisor** and two co-**supervisors** with complementary **skills**.
- The high **quality** of daily ESR **supervision** and guidance is evident in the proposal. Qualifications and **supervision** experience of PIs are strong, which is very well elaborated in the proposal.
- The beneficiaries have a good demonstrable record of ESR **supervision** and the **supervisors** are internationally established in their respective fields.
- The consortium demonstrates a good record of ESR **supervision** and the academic responsibility for each ESR is clearly presented.
- All ESRs have a **supervisory** team composed of a primary **supervisor**, a co-**supervisor** and a

mentor (from different institutions), all of them internationally recognised in their field. This **supervision** structure ensures a sound coverage of academic and **non-academic** involvement. The **non-academic** member of the supervising team is also the **exploitation** mentor, an interesting and relevant concept.

- All academic **supervisors** are highly experienced and renowned senior scientists. They have a substantial track record of mentoring young researchers, of international collaborations, and of collaborations with the **non-academic** sector.
- Some of the **supervisors** and key persons are leading scientists with very good experience in supervising **early-stage researchers**.
- The **quality** of the **supervision** scheme is convincingly demonstrated. In particular, the joint **supervision** of **early-stage researchers** is appropriate, ensuring access to a PhD programme for all **early-stage researchers**.
- The qualifications of both scientific and industrial **supervisors** are convincingly demonstrated, based on their areas of expertise and experience in mentoring activities.
- The qualifications and **supervision** experience of the **supervisors** are well demonstrated. All the **supervisors** have a relevant track record. Furthermore, adequate attention is paid to highlight the information on the quantity of human resources involved in terms of time.
- **Supervisors** from industry are already identified and have a high scientific **credibility** (they are either founders of SMEs and senior level scientists in the industry). (EID)
- The **supervisors** of the consortium have strong **supervision** expertise and are international leaders of their own fields. Each ESR will have a main **supervisor**, two co-**supervisors** and a mentor. (EID)

• **Quality of the joint supervision arrangements (mandatory for EID and EJD):**

- The collaboration between academia and industry are very well planned, and cover joint **supervisions**, secondments. Synergies between participating organizations are clearly presented.
- The triad of **supervisors** will provide the ESRs with insight into different sectors and sectorial drivers as well as an excellent foundation for input into the research.
- Co-**supervision** of ESRs by at least one member of another beneficiary and a **non-academic** co-**supervisor** is well thought out.
- Each ESR will have one lead **supervisor** and two co-**supervisors** (already appointed), to provide **interdisciplinary supervision** with multisectorial origin: including one co-**supervisor** from the hosting institution, at least one of them from public/private sector and at least one (co)**supervisor** will be female
- ESR joint supervising plan, where an additional mentor from outside the host institution monitors the scientific progress and provides feedback to each ESR, is good.
- The academic **supervisors** are renowned scientists with extensive experience in the mentoring of young researchers. The expertise of the group leaders are complementary. Several of them have already established successful collaborations with the **non-academic** sector. A co**supervisor** will ensure the proper running of the secondments. Arrangements for joint **supervision** (and considering **non-academic** contributions) are a good initiative.
- Very **innovative** structures and mechanisms will be established to enhance the **quality** of **supervision**, e.g. an Academic Board evaluating **training** core courses, Personal Career Development Plans and ESR's progress reports, providing comments and suggestions for improvement the ESR's oral presentations. An excellent and clearly defined **supervision** scheme is proposed. (EJD)
- The proposal convincingly justifies the good **quality** of the EJD mandatory joint **supervision**, reflected in a well presented Joint **Supervision** Committee. (EJD)
- The joint **supervision** of the ESR is well conceived, always foreseeing **supervisors** from the academia and from the industry. This will be greatly beneficial for the ESR. (EJD)
- The efficient joint **supervision** is foreseen for each ESR. All **supervisory** groups are fully **interdisciplinary**, **intersectoral** and international. The **supervisory** group of each ESR consists at least of 1 **supervisor** from home and at least 1 - from host university and 1 - from a creative industry partner. The monitoring procedures are appropriate. (EJD)
- The joint arrangements for the **supervision** and mentoring for each ESRs are adequately justified /adequately planned/ perfectly considered/ coherent and well prepared in the proposal. The composition of the Individual **Supervisory** Committees assigned to each of the ESRs, has been carefully designed to include academic and industrial partners with different

fields of expertise. The **supervisory** committee will offer continuous support, advice and help. (EJD)

- A joint team, with **interdisciplinary** research **skills**, will supervise each ESR. The **supervision** plan is adequate and proper measurements have been proposed for monitoring. (EJD)
- The foreseen arrangements of joint **supervision** are appropriate and clearly described e.g. ESR will be supervised by two experts and to have access to two research environments. (EJD)
- **Non-academic** beneficiaries and partners will be actively involved in the **supervision**. (EJD)
- Joint **supervision** is provided by appointing a **supervisory** team composed of a primary and secondary **supervisors** for the joint degree, an industrial mentor, and two instructors. This **supervisory** structure is **innovative** and effective. (EJD)
- The co-**supervision** arrangements are properly discussed and **non-academic** contribution to the **supervision** is adequately addressed. The prototype of the Joint **Supervision** Plan of an individual ESR is very appropriate.
- The individual supervising scheme for each ESR is clearly identified, the level of the host **supervisor's** experience is high and well aligned with the **training objectives** and it is positive that all ESRs have two co-**supervisors**.
- The co-**supervision** is clear, its structure and instruments for promotion and control are expected to be of high **quality**.
- A co-**supervision** between academic and not-academic is planned and a guide to co-**supervision** will be designed within, based on best practices identified by the partners.
- Joint **supervision** arrangements are foreseen. All **supervisors** are identified in the proposal and demonstrated a good experience in the **supervision** of early stage researchers, whether being from the academic sector or the industrial one.
- The co-**supervision** of each ESR by two/three **supervisors** providing **multidisciplinarity** and/or multisectoral **supervision** is a strong point of the **training** programme.
- Co-**supervision** by non academic beneficiaries is included and multi-institutional **supervision** arrangements are well detailed.
- The joint **supervision** arrangements are credible. The career development plan established by the researcher and two **supervisors** is an effective way to support the **training** of the researcher.
- The thesis board structure guarantees a very good joint **supervision** by the academic and **non-academic** sectors. (EID)
- The **quality** of **supervision** is very high. All the **supervisors** are internationally recognised scientists with a proven record of supervising PhD students. The joint **supervision** is well designed with every ESR having at least three **supervisors** from representing different sectors and disciplines. (EID)
- All academic **supervisors** and most of the industrial ones involved have substantial previous expertise in **supervision** of graduate students. (EID)

Quality of the proposed interaction between the participating organisations

- **Contribution of all participating organisations to the research and training programme**
 - The **supervisors** at the participant organizations show complementary profiles and competences to ensure the progression of the **research training** program.
 - The Joint **supervision** of each ESR by two highly qualified **supervisors** (of academic and industrial partners) is foreseen. The qualification of **supervisors**, their experience in mentoring and supervising academic **training** are of very good **quality**.
 - The **supervision** scheme is clearly articulated and appropriate. Each ESR will be supervised by at least one academic or **non-academic supervisor** and additional mentoring will take place during the secondments. Academic and **non-academic supervisors** have equal responsibilities.
 - High **quality supervision** is ensured through the combination of host **supervisors**, an advisory committee and a tight monitoring programme
 - The ESRs will be supervised by scientists from at least two beneficiary institutions. Further, some ESRs (experimentalists) will receive joint **supervision** from an industrial partner. These arrangements will also guarantee high-**quality intersectoral supervision**.
 - A very high **quality** of **supervision** will be provided by a PhD advisory committee appointed for each ESR and composed of a senior **supervisor** (hosting beneficiary), a co-**supervisor** (at secondments) and one extra network scientist (from another network partner).
 - Each ESR will be co-supervised by a **non-academic** or academic member of the consortium

from an institution different than the hosting one, enhancing the interaction and integration among the various sectors and disciplines involved in the project.

- The beneficiaries are involved in all activities envisioned in the proposal. (EJD)
- The beneficiaries and partner organisations have well-balanced and highly integrated **skills**, areas of expertise, responsibilities and duties and the proposal takes many well-targeted provisions to ensure this integration throughout the project's duration. (EJD)
- The consortium composition provides a stimulating cross-section of key actors in the protected crop/glasshouse production sector; exposure to these will be a good opportunity for the ESRs to appreciate a variety of perspectives around the industry, ranging from waste **management** to crop protection. (EJD)
- The contribution of all participating organisations to the research and **training** programme is sufficient and detailed information is provided for justification. (EJD)
- The members of the consortium have a balanced contribution to the research and **training** programme. (EJD)
- The programme presents a good spread of roles to maximise the engagement of the participating organisations in **training** of the ESRs.
- The host institutions have a history of participating in collaborative activities. Cooperative culture of planned research will benefit the ESRs.
- Participating organisations have a full complementary expertise bridging the specific research topics, **methodologies** and technologies.
- A wide range of important stakeholders are involved, in matter of necessity for the research, that contribute as beneficiaries or partner organizations.
- Many PIs are world leading experts in their respective fields. The team includes theoreticians and observers with an exceptionally good track record both in research and mentoring. Private sector mentors have PhDs in closely related fields and profitable academia experience
- Selection of participating beneficiaries and **non-academic** partner organisations corresponds very well to the aims of proposed project and their interaction in the **training** program is well planned.
- The contribution of all participants to the research and **training** programme and their synergies are well explained.
- The contribution of all participants to the research and **training** programme is suitably addressed as well as synergies between the participants.
- The roles of all participants are well defined, each academic participant has one curriculum subject to be realised and is responsible for it.
- The proposal documents previous collaborations amongst several organisations which will be beneficial to the **research programme**.
- Both the academic and **non-academic** sector are actively involved in the **training** programme, providing courses and secondments, hosting and supervising ESRs, organising **training** events and contributing to the evaluation and increasing **exploitation** potential of results.
- The contribution of participating organisations to the aims and **objectives** of the project is comprehensively demonstrated. The synergies between participating institutions are clearly set. Previous successful collaboration between partners is clearly described and relevant to the proposed research and **training** programme. The proposed interaction between the participating organisations is well presented.
- The beneficiaries' complementarities are sufficiently covered.
- The complementarities between partners have been demonstrated. Both the academic and **non-academic** experts have complementary expertise.
- The beneficiaries and partners' organizations are internationally recognised.
- All beneficiary institutions have experience in research, collaboration and **training**.
- The interaction between universities, transnational institutes, high-tech SMEs and start-up companies is clearly demonstrated in the scientific WP. (EID)
- Efficient interactions and complementary expertise of the partners in drug discovery and development are convincingly demonstrated. Also all project responsibilities are equally shared. (EID)
- Contributions of most participants and synergies between participants are appropriately described. (EID)

- Synergies between participating organisations

- The research driven interactions between the partners, together with the even spread of ESRs among the partners, support a good **quality** interaction between partners, a key factor in ensuring a proper use of synergies and development of the transfer of knowledge.
- Interaction and synergies between participating organisations are clearly presented/ clearly addressed through **supervision** and secondment schemes. (EJD)
- A strong positive interaction between the beneficiaries and partner organizations is expected. The intrinsic **multidisciplinary** character promotes a **synergy** between academic and industrial partners through complementary **skills**, technologies, experiences and working environments. (EJD)
- The **quality** of the proposed interaction between the participating organizations is generally good /is described with good level of detail/ is reasonable and adequate/ is well planned, showing several existing **synergies** between the partners. (EJD)
- Interconnections and beneficial **synergies** between the partners through **supervision** and secondment **schemes** are clearly addressed. The Doctoral Guidance Committee incorporates a clear added value to the **supervision** and **quality** of the **training** in the proposal. (EJD)
- Organizing annual network-wide conferences where **synergies** between partners may expand is very promising. (EJD)
- Previous scientific collaborations among the beneficiaries are relevant and substantial, including joint doctorates. The future interactions are clearly specified, with the ESRs projects designed to lead to new **synergies** between nodes. (EJD)
- The three academic partners have already established successful high-**quality** collaboration in joint research and **doctoral training** in past and present projects. (EJD)
- The participating organisations have a long and impressive history of collaborating through various joint projects, which offers a promising base to build this ITN on. (EJD)
- The interaction between participating organisation is good and some existing collaborations exist already in the consortium. (EJD)
- **Synergies** between participating organisations arising from the previous bilateral and multilateral collaborations are clearly demonstrated and evidenced by joint publications. (EJD)
- The overall strategy of interaction between the participating organizations is very well described.
- The current partnership builds on prior collaborations between partners in other European projects.
- The ESRs' individual research projects are carefully designed to foster collaboration between the participating organisations and between academic and **non-academic** organisations
- There is a history of successful collaboration among some of the participating organisations, which constitutes a valuable basis for further expansion within the proposed programme.
- The interaction between participants is solid and very well established. **Synergies** are clear, exposure of ESRs to different environments is excellent.
- Participants will interact via a number of common workshops and network-wide meetings. ESRs will interact in the four common test sites and through the Joint Field Campaigns.
- The **synergies** between some of the participating organisations already exists and can be expected to benefit to research project
- The scientific experience and complementarity of the consortium are evident.
- A number of partners have worked together in previously funded projects.
- All participating organisations contribute to research/**training** activities, allowing ESRs to experience different R&D environments and generating significant **synergies**.
- The planned interactions between the beneficiary institutions and the partner organisations are well articulated.
- The ESRs will gain valuable **management**, teaching, **communication** and **dissemination skills** through an involvement strategy that integrates them into the day-to-day activities of the project.
- The beneficiaries interact principally through the **work packages** which involve at least two beneficiaries in each, and through the **co-supervision** arrangements. This enables their complementarities to be exploited to the benefit of the project.
- The fact that lectures and hand-on exercises are offered through forums or workshops that are open to participants from outside the network is a bonus.
- The proposal's beneficiaries have experience with international projects and already collaborate together.

- The **synergies** between the partner organisations are adequately demonstrated on the basis of the prior collaborations in the identified research areas.
 - The **quality** of the proposed interaction is fully appropriate considering the diversity of participating organisations (manufacturers, technology providers, operators, regulators, user groups) and the unique research background of each beneficiary and partner.
 - The interaction between the beneficiaries is well presented; all of them contribute to the research and **training** programme with **recruitment**, secondments, workshops and meetings.
 - The proposed research will exploit important **synergies** between the beneficiaries and associated partners. Specifically, the proposal is built on existing collaborations among participants.
 - The **quality** of the interactions between the participants is convincingly argued, based on the fact that the contributions of the participants span all the research and **training** activities, and that collaborations between participants already exist and are on-going.
 - Complementary and **synergies** among academic and **non-academic** partners are presented in a very consistent manner.
 - **Synergies** between participants in performing research and **training** actions is appropriately demonstrated in the proposal. (EID)
 - The plan of interaction between the partners is well designed and appropriate. The consortium is highly experienced and has a record of previous cooperation in EU-funded research projects. (EID)
 - The interaction between the academic organisations is convincing and supported by the previous history of collaboration and the coherent composition of the consortium. (EID)
 - Beneficiaries have been regularly collaborating for several years, which will ensure a quick alignment and minimal effort to keep good collaboration and **communication**. (EID)
- **Exposure of recruited researchers to different (research) environments, and the complementarity thereof**
 - The interactions between the participating organisations are described in exemplary detail and are of good **quality**. Each participant is actively and convincingly involved. The proposed interactions are well supported by already established collaborations within the consortium.
 - All participating organisations contribute in a meaningful way to research and **training**, including the **non-academic** partners.
 - All partners contribute to the research and **training** program and there is a clear interaction demonstrated between the partners. The interaction between the participant organisations will also be ensured by the co-**supervision** and ESR secondments.
 - Most academic/ public sector participants have been collaborating closely for many years ensuring a smooth interaction and **synergy** between institutions including the focus on cooperation of researchers, manufacturers and regulatory organisations
 - The role of partner organisations in the activities, including that of **non-academic** partners, of the **training** program is well defined.
 - The participating institutions form a consortium well suited to implement the proposed research program. The selection of beneficiaries and **non-academic** partner organisations clearly corresponds to its research **objectives** and their interaction in the **training** program is well planned.
 - Planning for ESRs to spend time as secondments at two partner organisations located in different economic sectors is excellent
 - The interactions between the participating organisations to reach the expected project goals is convincingly detailed. It builds on existing collaborations and other professional relations.
 - Thesis Advisory Committee **approach**, where besides the academic **supervisors** the industrial partner representative is also included, confirms the strong involvement of the **non-academic** organisations.
 - The participating organisations have relevant previous experience in managing and communicating similar projects.
 - The **training** programme contains **innovative** aspects such as the problem solving cases provided to the ESRs, working in groups and the preparation and organisation of a joint exhibition.
 - The interaction between the participating organisations is clear. The possible **synergies** between participants, and the principle of exposure of recruited researchers to different (research) environments are evident. The secondments are justified.

- The **quality** of interaction between the organisations is high. The consortium is very well chosen and balanced with complementary expertise and past collaborations between the members. The matrix of activities (research, events, **training**) vs. beneficiaries/partners is dense, which necessarily implies a effective coordination between these organisations.
- The proposal sufficiently describes the ongoing interactions between the different partners and beneficiary organisations. The scientific competence of the academic partners is demonstrated very well. It has been clearly shown in the proposal that the ESRs will benefit from existing collaborations.
- The interaction between the participating organisations is based on **synergies** between participants and on the principle of exposure of recruited researchers to different (research) environments, depending on a thematic complementarity.
- Contribution of participating organisations to the main **training** events and conferences is adequate. **Intersectoral** aspects are convincingly incorporated in the programme.
- The mode of interaction between the participating organisations is clearly defined.
- Events have been organised to provide an environment for ESRs to interact. (EJD)
- The ESRs will be exposed to different professional environments promoting creativity and cultivating technical **skills**. (EJD)
- A sufficient exposure of recruited researchers to different and complementary (research) environments is clearly demonstrated. (EJD)
- The exposure of the ESRs to three complementary environments – academic, industry and public sector- is relevant for the **objectives** of the project.
- The ESRs' exposure to diverse research environments is clearly presented and enough details on its content and significance are provided.
- The ESRs will be adequately exposed to expertise available in the consortium as a result of well-planned secondments at different organisations in different countries.
- The ESRs will get important exposure to an industrial environment through compulsory secondments at **non-academic** host institutions.
- Positive information is provided on the way as to how the ESRs would be exposed to different environments; research fellows will experience a diversity of contexts (academic and industry) during their research.
- The programme participants have different expertise, providing good **synergy**, and exposing ESRs to diverse research environments. The ESRs' projects are set up in a way that requires close interaction between beneficiaries. (EID)
- The programme proposes convincing and carefully prepared secondments and **trainings** for all ESRs. This enables effective exposures to both academic and industrial environments and to cross-European cultures. (EID)

Weaknesses:

Quality, innovative aspects and credibility of the research programme (including inter/multidisciplinary, inter-sectoral and, where appropriate, gender aspects)

• Introduction, objectives and overview of the research programme

- A key concept of the proposal 'trans-disciplinary sustainability transition research' (TSTR), is presented in a way which is counter productive for the **credibility** of the overall project.
- Project **objectives** and research goals are overly general and do not convincingly show high **innovation**.
- Some of the research **objectives** do not appear consistent with the general scope of the project, which makes the overall construction a bit artificial. For instance it is not convincingly explained how the work on the microrobots relates to the overall purpose of the project.
- The research goals of the proposal are described superficially. The proposal does not explicitly describe and define the evolution-by-design Internet of Things architecture, and the overall outcome of the project is not properly defined. The selected application areas are too diverse to be tackled and studied in-depth.
- The scope of the research is very narrow. It addresses only one aspect of genetic testing for Lynch syndrome.
- Although it is clearly mentioned that the proposal aims at developing and adapting new technical

solutions for bio-based fertiliser production, the progress beyond the **state of the art** is not well articulated concerning new technical solutions.

- The track record of the groups and **supervisors** – including those from industry - in **training** and mentoring of post-graduated researchers is only briefly described.
- A comprehensive explanation is not provided about the reason to highlight smart cities as a key area of **training** focus.
- The theoretical grounding of the core research **objectives** is not sufficiently justified.
- The different sub-topics to be addressed are not explained and justified with sufficient clarity. The overall **quality** of the research is significantly reduced by an insufficient justification of its principal scientific assumptions and tasks.
- The overarching goal remains unclear. Besides the laudable intention to develop transport technologies in interaction with human factors theories, the proposal does not make sufficiently clear how a common and integrated approach will unify the various activities and expertise in the project. E.g. the relationship between sensors and Big Data is insufficiently explained.
- The translational claims of this proposal based on the hypothesis that zebrafish phenotypic screening recapitulates the physiology of human pathologies, cannot be fully supported in the absence of validation in other model species.
- Target performance characteristics of the materials in terms of the identified applications are not well detailed and comparator "gold standard" materials for the specific applications are not well described.
- It is not clear how the randomized trial is connected to the project.
- The scientific **objectives** are presented in a very detailed but unfocused way, making it difficult to assess the significance and **impact** of the project, thus decreasing its **credibility**. The **research methodology** is described in a very generic way. Description of the research is not sufficiently supported with references to literature.
- The research **objectives** lack specificity in the context of the proposed programme. **Objectives** are not sufficiently specified to be clearly achievable and accountable.
- Some elements of the **research programme** lack detail, for instance, regarding how the scarcity of actinides is compatible with an efficient use in the treatment of cancer, and how the envisaged laser developments are **state-of-the-art**.
- The relationship to extensive graphene work performed elsewhere as noted is not outlined in sufficient detail.
- The proposed technical **objectives** are just only summarized, without a clear definition and quantification of the technical research targets. (EJD)
- The goals of the programme are too general and lack coherence. (EJD)
- The research is overambitious and covers a wide range of topics. (EJD)
- The presented concept of small-sized collaborative research projects tightly focused on specific scientific topics is against the **multidisciplinary research training**. Furthermore, a clear description on how the ESRs recruited for the same cluster will collaborate together from a research point of view is missing. (EJD)
- The project is a bit overambitious. It is not fully convincing that auto-trophy-driven processes close to industrial implementation or deliver commercial products to the market can be developed within the framework of the proposed PhD projects. (EID)
- The engineering aspects of the programme are not sufficiently defined and not well incorporated. Overall, there is a clear gap between the mathematical and engineering parts, which the **research programme** does not bridge. (EID)
- In the proposal it is not clearly identified how the individual research projects fit the overall scope of the research as well as to targeted involvement of the industrial partners. (EID)
- The overall project **objectives** are not fully credible because the proposal does not offer sufficient information on the overarching hypothesis. (EID)
- The proposal text contains a number of errors and inconsistencies, which makes it difficult to appreciate its **quality**. (EID)
- The novelty of the proposed **training** programme with respect to the previous EID project xxx is only briefly described. (EID)
- The research **objectives** lack measurable, realistic and time-related criteria. (EID)

- **State of the art:**

- The authors have a table indicating how the proposed methods are superior to current methods but the current **State of the art** is not convincingly demonstrated.
- Relevance to the **State-of-the-art** in the field is not fully addressed.

- The **research programme** is described in a generic way and fails to highlight its specific contribution against the current **State of the art** in the field.
- The description of the **State of the art** and progress beyond are not evident, and the envisaged performance indicators of the research outcomes are insufficiently justified.
- The **State-of-the-art** and related advances beyond it, with reference to the many different case studies, is generically described, with lack of details.
- The proposal lacks an adequately developed **State-of-the-art** about the **intersectoral** fields jointly discussed.
- The current **State-of-the-art** is not adequately presented and the originality and **innovative** aspect of the research are not sufficiently explained.
- The presentation of the **state of the art** is not fully up to date with regard to the literature and inadequate for framing the discussion and establishing methodological grounds for choosing the selected sectors for research instead of others. (EJD)
- The discussion of the **state of the art** is not sufficiently comprehensive/ shows some knowledge gaps, and the proposal includes some duplication of research already underway elsewhere globally; it is too Eurocentric and pays insufficient attention to debates in the field from outside Europe. (EJD)
- The architecture and current state of the Open City Toolkit are not made sufficiently clear in the proposal. (EJD)
- The **research programme** is not properly set against the **state-of-the-art**. For instance, the **innovative** aspects of the work on MHD simulations, exploration of neutron star physics or studying black hole shadows are not well explained, especially given the large body of work that already exists. The new observing facilities are shown as motivation, without clear explanation on how the proposed work will connect to them. (EJD)
- The **state-of-the-art** is insufficiently described with clear indication of the shortcomings of the current biosensors. (EJD)
- The description of the **state of the art** does not take sufficient account of research that does not involve the project partners. (EJD)
- The proposal does not offer a sufficiently detailed overview of the **state of the art** of research in the field. As a result, it does not present a compelling case for how the proposed project would build on and/or depart from the existing research.
- **Innovative** aspects are not sufficiently discussed. The state-of-the-art is not complete and does not reference all of the relevant European projects. The proposed work is not referenced to commercial platforms.
- It is not clear how the major goal of the project stated as Transforming Big Data into Actionable Knowledge will be accomplished. There is no proper mention of the gaps in existing **approaches** that this proposal will particularly address. The proposal does not sufficiently specify the added novelty and added value in advancing the **state of the art**.
- Whilst **state-of-the-art** technologies and methodological **approaches** will be used (e.g., in automation, data analytics and sensors), it remains partially unclear which driving theory in human factors will guide the development of these methods and technologies.
- The **state-of-the-art** is incomplete: it does not cover work made in relevant fields, e.g., outlier detection, context, predictive modelling, data mining, complex event/pattern detection (the proposal refers to some surveys but does not explain how they are relevant and how results can be used). In view of this incompleteness, the proposal fails to demonstrate the **innovative** aspects of the **research programme**.
- The **innovative** nature of the project is not clearly demonstrated. The presentation of the **state of the art** with reference to the specific **objective** of the project is not convincing. Specifically, little literature is provided on the topic to demonstrate its **innovativeness**.
- The proposal does not establish sufficiently the theoretical background of the advanced **state of the art** of research questions.
- The progress beyond the **state of the art** is not adequately justified at material and application level.
- The **state of the art** is not convincingly outlined. Specific issues, such as life cycle assessment, safety and recycling of nano-ceramics are not adequately addressed. (EID)

- **Research methodology and approach**

- The **research methodology** and the **approach** are not sufficiently highlighted since there is not enough detail about how certain research and technical questions will be addressed. For instance, deep learning and machine learning require significant datasets for a robust design and not enough details are provided about the expected sample size.
- The **methodology** is not described in sufficient detail and sometimes lacks the **credibility** to fully

support the set **objectives**.

- There is no clear alignment of individual research projects, **methodology** and institutions in which research is planned to be conducted. Foreexample, there is a plan to use QCR methods but the capabilities of the institutions are insufficiently explained.
- **Methodology** is too briefly presented as, for example, the rationale for choice of model microorganisms, use of functional genomics results for up-scaling, and the **approach** to consumer awareness and acceptance.
- The **research methodology** is not sufficiently described. The uncertainty associated to the data collected and the influence on the modelling activities (because those activities strongly depend on local conditions) is not clearly taken into account and lacks a consistent **approach**. Moreover, the methodology is insufficiently justified regarding the working and starting conditions that will be taken into account. It is also unclear which climate forces, water pollutants and eutrophying substances are considered and how such conditions will be implemented in the project.
- The proposal fails to provide enough details on the analytical framework and associated **methodology**. Several methods are identified, but it is unclear how they are integrated.
- The formulated **research methodology** and **approach** are not fully convincing in light of the project goals. Several activities are outlined in relation to the research questions but a clear framework is missing. The presentation of the **methodology** lacks detail and it is not clearly focused on the specific needs of the individual projects.
- The **research methodology** is not sufficiently developed. The strategy for ensuring specific tumor targeting and efficient dose delivery is not well elaborated. The mechanisms for generating in vitro tools suitable for testing nanosystems as potential antitumor and immunotherapeutic agents are not well described. Investigation of the synergistic aspects of the dual modes of action is not sufficiently elaborated.
- Parts of the proposal, e.g. the **methodology**, contain rather general statements, which obscure understanding how the specific **objectives** will be achieved. It is not well explained which specific aspects and systems will be investigated.
- The research **objectives** of the network are not sufficiently elaborated. The **research methodology** is presented in the proposal without clear connection to the **objectives**.
- The “system thinking **methodology**” concept is not satisfactorily explained and addressed.
- The applicants acknowledge that previous efforts to develop nanomedicine products were of limited success but the advantage of the proposed **approach** is not convincingly presented.
- Sufficient proof-of-concept **approach** to confer **credibility** to the research plan is lacking; information on the source and handling of human clinical samples is not provided.
- The **innovative** aspect of the research **approach** presented is not sufficiently explained and not supported by literature.
- Despite policy issues being central, there is no involvement of the discipline of Social Policy, which is a serious weakness since the comparative **methodology** needs a comparative social policy. (EJD)
- The lack of semantic web methods and technologies in the research program decreases the geospatial data **credibility** and increases the probability for negative project outcomes. (EJD)
- The **research methodology** for each research **objective** is not sufficiently and convincingly explained. (EJD)
- The applicants do not provide sufficient information on how the new investigated web tracking techniques will develop more efficient cyber risk methods than the currently existing ones. While data collection methods mapping and empirical methods, and modelling methods are reasonable and important aspects of the proposal, the novelty of each of these is not sufficiently clear. (EJD)
- The **research methodology** is not evident. The proposed methods and techniques (e.g. catalysts, synthesis method, characterization methods, test units) to accomplish the **objectives** are not specified. (EJD)
- The **research methodology** is not sufficiently presented, for example, information about the experimental validation of the technology and the tools used during the research are not clearly explained. (EJD)
- The **research methodology** and approach section does not provide clear evidence of a specific **innovative methodology** that will be applied. Groundwater-Surface water Interaction based on both physical-environmental and socio-economic drivers is not a new and **innovative** approach, it is the basic approach for IWRM (Integrated Water Resources Management), developed for more than 20 years.
- The description of the methods to be used in research program provides insufficient details to assess the progress beyond the **state of the art**.

- The **methodology** and scientific approach is not sufficiently clear – it is unclear how the use cases will be able to address the specific needs of the said architecture. And it is unclear how the evaluation through a simulation environment will be done in such diverse application areas. Platform selection has not been clearly explained. The platform is very specific and limits the research **innovation** range of the ESRs. Critical aspects such as safety considerations are not sufficiently addressed.
 - The **methodology** to be used for the design of specific bio-based resins suitable for 3D printing is not convincing, quantitative indications for the AM improvement are not foreseen.
 - The choice of research methods is not justified in sufficient detail. Validation or harmonization of methods are not adequately discussed. The large variation in applied intervention and evaluation methods complicates the generalization of the findings and makes comparative analyses more difficult.
 - Some important aspects of the research methods and approach are insufficiently described, such as temporal resolution of DNA to demonstrate the effectiveness of palaeoecological reconstructions or how the history and timing of human stressors will be obtained for their interpretation.
 - The proposed **methodology** is not convincing. Although appropriate activities of the project are described, the **methodology** applied to the research is insufficiently discussed. In addition, the proposal claims that the programme would take a holistic approach to aviation, but that approach is not clearly substantiated. The integration of the independent research streams is not sufficiently discussed.
 - The methods to obtain structures of the amyloid protein complexes to be used as the starting point for the theoretical studies are insufficiently described.
 - From technical point of view the proposal is overambitious, trying to cover an excess of technical fields (oxygen sensors, CO2 capture, water treatment, H2 storage and production, including device implementation, demonstration of industrial scalability and **exploitation**) which is not credible.
 - **Methodology** is only very vaguely presented. For example, such aspects as hierarchical modelling, and uncertainty quantification are not properly discussed. (EID)
 - Some aspects of the proposed **methodology** are not fully convincing. The choice of drugs is not well described and their possible secondary effects are not well taken into account. (EID)
 - Several aspects of the **methodology** are insufficiently described, for instance: the method and approach to be used for QTL mapping or the statistical **validity** of the phenotyping analysis used. QTL mapping is very time consuming, so it is not clear if this will be feasible within the framework of PhD theses. (EID)
- **Quality (research programme):**
 - The **quality** and **innovative** aspects of the **training** programme are presented in a general manner and lack specific information (e.g. balancecombination between individual plan and network-wide **training** activities).
 - The **quality** of the **non-academic** private organizations is not demonstrated well enough (in some cases, only a job title is provided).
 - It is not explained in detail, how the foreseen interaction among participants coming from different sectors will be organised to ensure itsufficient **quality**.
 - The **quality** of the **training** programme is not demonstrated.
 - The research program considers unsatisfactorily the characterization of the quantity/**quality** requirements of groundwater dependentecosystems as a key aspect of sustainable groundwater use. Moreover, it is common that experts in this research field possess many of the **skills** that the project indicates as a novelty of the proposal.
 - The proposal does not address in sufficient detail some important issues: **training** in toxicology and biofilm-water **quality** interactions, as wellas field-scale experimental techniques mentioned in the project.
 - The **objectives**, structure, content and timing of **training** modules, including summer school, and meetings are not sufficiently defined.The **training** in IPR **management**, **innovation** and entrepreneurship aspects is not of very high **quality**.
 - The **inter-sectoral** benefits of the project are not sufficiently highlighted and the composition of the consortium limits the level of thisexchange.
 - The **training** programme description is insufficiently described and does not have relevant **quality** and **innovative** aspects.
 - The proposal does not consider GDPR requirements such as data minimisation, proportionality, the right to erasure, consent **management** etc. which are going to have significant **impact** in smart cities applications. (EJD)
 - The focus of the proposed research is not sufficiently clear as multiple aspects remain described in very general terms. The common ground between the ESRs projects is not clear and while the project promises a lot about metrics, financial **impact** etc. few of the ESR research projects actually address

these issues. ESRs consider multi-domain systems such as IoT, but the considerations are not spanning multi-layer nature of IoT which is key to any privacy consideration. (EJD)

- The proposal fails to describe how the **research programmes** of the two clusters are interrelated as they have largely independent directions and workplans. (EJD)
- The proposal foresees that additional, locally funded PhD projects may be added to the clusters, but there is insufficient information on how this will be achieved or what would be their contribution to the stated **objectives**. (EJD)
- The definition of core concepts and their specification for empirical research are not adequately discussed. The theoretical framework is not properly clarified either.
- The proposal fails to describe the materials-driven strategy in each technology. For instance, the main drawback effects at the solid electrolyte/ electrode interfaces are not specified, and it is not described how the TRL of the all solid state batteries will be increased. Furthermore, key performance indicators in terms of energy, power and cyclability are not identified for the different battery technologies.

• **Innovation (research programme):**

- Originality and **innovative** aspects of the **research programme** are not sufficiently supported.
- The **innovative** aspects of the **methodologies** is not developed or outlined in a sufficiently detailed manner.
- The proposal does not address the key issue of which diagnostics are going to be studied to confirm their clinical/analytical claims which is critical to establish the **innovative** aspects of the proposal. The **research programme** does not contain sufficient number of **innovative approaches/methodologies**.
- **Innovative** aspects of the **research programme** are not convincingly presented.
- The proposal does not provide sufficient information about the **supervision** to be delivered by **non-academic** participants particularly in the areas of social **impact**, social **innovation** and social finance.
- The **innovative** aspects of the proposal are not fully clearly presented.
- The proposed activities appear to be limited to improving existing solutions therefore hindering the **innovative** and inter/**multidisciplinary** aspects of the **research programme**.
- The **innovative** aspects of proposed **approaches** are not sufficiently expounded.
- The proposal is not likely to create **innovative** knowledge, as it does not demonstrate convincing inter/**multidisciplinary** or **intersectoral approaches** to tackle the **research programme**.
- Some main **innovation** elements, especially considering specific subjects addressed through individual projects, are insufficiently justified.
- The proposed research work is not well balanced between theory and experiments, and the latter are not well supported by theory and simulations. This reduces the capacity of achieving a deep insight into the phenomena under investigation, thus limiting the **innovative** potential and the **multidisciplinary** aspects of the proposal.
- The **innovative** aspect of the research proposal with respect to European challenges is not convincingly demonstrated.
- The **innovative** aspects of the research activity are not fully evident from the **state-of-the-art**, which is not presented in a clear way. Also, the **innovative** aspects of the **training** programme in terms of use of new teaching tools or **innovative** pedagogical **approaches** are not convincingly presented. (EJD)
- The original aspects of the proposal are only vaguely mentioned. The proposal fails to describe the targeted developments with an appropriate level of quantitative details of the minimum performances. (EJD)
- Progress beyond the **state of the art** is modest. (EJD)
- The **innovative** aspects are only described in a very brief form and lack sufficient details e.g. sophisticated classification systems for Lynch mutations have already been developed.
- The proposal does not specify sufficiently the **innovative** aspects of Big data field.
- The **innovativeness** of the research idea from a scientific point of view is not clearly demonstrated. The consideration of walking and cycling as **innovation** in the transport planning and transport and health monitoring is not adequately justified.
- The **innovation** of the proposed research is limited. It is not convincingly shown how the results obtained from the project will be superior to other drug screening projects in zebrafish.
- **Innovative** aspects of the **research programme** with regard to existing **state-of-the-art** solid-state battery materials are not convincingly demonstrated.
- The **innovation** aspects of the **research programme** are not fully explained in respect to other **state-of-the-art** academic efforts in the field. (EJD)
- The programme overall is not original in terms of possible applications. The proposal does not provide a comprehensive overview of the current **state-of-the-art**, for example with regard to grid generation,

- model reduction and homogenization. (EID)
 - The originality of the proposed **research programme** is not evident given the current state of research, technology and best business practices that incorporate technological solutions into human translation processes, workflows and tools. The previous initiatives, networks and existing programmes addressing similar **objectives** are not sufficiently discussed. (EID)
 - Despite some **innovation** regarding research approach (field testing); the research challenges are limited, being mostly focused on evaluating the performance of existing tomato lines under different growing conditions. (EID)
 - The real challenges of the research topic are not clearly identified and thus the corresponding **innovation** aspects of the research are insufficiently demonstrated. (EID)
- **Credibility (research programme):**
 - The **research programme** is presented in a very generic manner. The proposal does not specify the concrete aims of the programme. Therefore, it lacks **Credibility**.
 - The **Credibility** of the proposed **research programme** is not convincingly demonstrated; relevant information and specific details are insufficiently presented. Specific **objectives** are not adequately argued so as to convincingly support the achievement of the project goal. In addition, **objectives** are not clearly portrayed in relation to the scientific aspect of the programme.
 - Privacy and legal/ethical issues are not addressed adequately in the proposal. (EJD)
 - A quarterly progress update is a relatively infrequent target to meet. (EJD)
 - The project targets too many different societal challenges, which raises some doubt as to its **credibility**. (EJD)
 - The project **objectives** are not sufficiently focused and lack **credibility**.
 - **Credibility** of the research and **training** programme is not entirely convincing, considering the very restricted nature of individual sub-projects addressing different aspects of complex lacustrine systems.
- **Inter/multidisciplinary, inter-sectoral aspects:**
 - The proposed activities appear to be limited to improving existing solutions therefore hindering the **innovative** and inter/**multidisciplinary** aspects of the **research programme**.
 - The proposal is not likely to create **innovative** knowledge, as it does not demonstrate convincing inter/**multidisciplinary** or **intersectoral approaches** to tackle the **research programme**.
 - The **interdisciplinary** aspects of the **research programme** are not sufficiently highlighted.
 - The proposed research work is not well balanced between theory and experiments, and the latter are not well supported by theory and simulations. This reduces the capacity of achieving a deep insight into the phenomena under investigation, thus limiting the **innovative** potential and the **multidisciplinary** aspects of the proposal.
 - The **interdisciplinary** dimension is not properly considered in the proposal.
 - The proposal has limited **intersectorality**; the secondments offer a very limited experience beyond academia, restricting the opportunities for acquiring practical, hands-on **skills**. (EJD)
 - The **interdisciplinary** aspects associated with this project remain below their potential.
 - Intersectoral aspects of the **research programme** are not sufficiently convincing and low levels of industrial representation in the consortium potentially limit project outcomes.
 - The **interdisciplinary** dimension of the project is not persuasively identified.
 - The majority of most of ESR secondments do not sufficiently address intersectoral aspects, and **inter-sectoral** aspects are not convincingly demonstrated.
 - **Interdisciplinary training** is mentioned, however it is not clear whether data scientist, statistician or computer scientist ('big data' analysis) will be involved.
 - The **interdisciplinary** nature of the **training** and especially the advanced **training** content is not sufficiently explicit.
 - The proposal fails to convince about the **multidisciplinary** of the consortium broadly focalised around developmental psychology.
 - The proposal's **multidisciplinary** and **innovation** aspects are not well-formulated.
 - The cross sector character of the proposal is not convincingly presented; all the beneficiaries are academic groups and the **non-academic** sector (industry/SME) contribution to the research part is not evident.
 - The proposal lacks sufficient detail on the **intersectoral** aspects of the research and **training** programmes. For example, the proposal fails to identify the specific **non-academic** contribution towards the aerospace engineering problems to be tackled. (EID)

- Information exchange and data sharing between the ESRs and between the ESRs and the **intersectoral** research teams are not clearly addressed. (EID)
- **Gender aspects:**
 - The proposal does not provide sufficient information with respect to the issue of **gender** balance and how it will be actually put in place.
 - **Gender** aspects are not sufficiently discussed although the research would also deal with societal responses, which may differ between men and women.
 - The **gender** dimension of the **research programme** is not detailed in the proposal.
 - **Gender** issues are insufficiently elaborated relative to the highly sensitive issues involved in workplace relations, competitive **innovation** and question of work-life balance and equality. (EJD)
 - The proposal does not clearly indicate that attention has been given to provision of female **supervisors**, as an element of providing programmatic support for female researchers. (EJD)
 - **Gender** aspects related to the social part of the project are not addressed.
 - **Gender** aspects, relevant for ethnographic research aspects of the proposal, are not adequately considered.
 - The **gender** perspective that is very relevant for the topic of this proposal is not sufficiently taken into consideration.
 - The proposal addresses **gender** issues in one of the network-wide **training** events. However, there are no details on how the partners will try to promote **gender equality**.
 - **Gender** aspects are not sufficiently discussed.

Quality and innovative aspects of the training programme (including transferable skills, inter/multi-disciplinary, inter-sectoral and, where appropriate, gender aspects)

- **Quality (training programme):**
 - The **training** programme does not provide sufficient detail on the content of the courses and the KPI of success.
 - Technical and **transferable skills training** is not sufficiently well described.
 - The proposal does not provide sufficient details about the **training** in the areas fundamental to the **research programme** from a **multidisciplinary** angle.
 - The timing of some **training** activities has not been sufficiently justified. For example, the Online Short Course 7 module appears late, as it represents important knowledge and tools to start the research. On the other hand, **training** events like patent **training** and standardisation are very early.
 - Although local courses relevant for a large number of ESRs are available, it is not clear that all of these can be accessed other than by the ESRs based at the institution concerned.
 - Specific components of the **training** that will advance the current know-how of the ESRs in the research domain are not described. The description is too generic and methods to measure the outcomes are not described.
 - The proposal fails to carefully identify the **training** needs of researchers in order to motivate the **training** plan. The core and advanced research **skills** that will be the focus of **training** activities are not adequately specified.
 - The contents of **training** activities are not transparent. For instance, activities and initiatives of the **non-academic** sector are not convincingly described and justified.
 - Plans for **training** in **transferable skills** are insufficiently detailed.
 - The network-wide **training** events do not convincingly focus on the specific current research challenges of the research topic.
 - The **training** events are mainly global and focused on lectures; specialized **training** events are insufficiently considered and field actions on different types of lakes are not sufficiently considered.
 - The **training** program for this network lacks adequate description. The courses listed in different parts of the proposal differ and by whom they will be delivered.
 - The **training** program is not precise enough. The authors of the project assume the possibility of changing the places of internship and the time of its realization. The subjects of the courses available to the ESRs are not clear.
 - The module concerning the education of students in the field of transferrable **skills**, research reproducibility or enterprise are not sufficiently covered in the proposal. **Intersectoral** aspects of the **training** are limited, only just one ESR is recruited by a **non-academic** beneficiary.
 - Not all the elements of the **training** programme are clearly presented, specifically the distinction between the courses and their content. The organisation of the **training** in soft **skills** is not presented in

sufficient detail.

- At the doctoral schools, ESRs will be educated on a variety of topics. It is unclear which courses will be part of the **training** program and which have to be attended by ESRs.
- The notably diverse modes of work at various participant laboratories may be challenging for ESRs to fully take advantage of the **training** available during the secondments.
- Some of the scientific **trainings** at network wide events are planned very late in the programme (Month 24 and after)
- The main concerns and bottlenecks of the **training** programme are described but are not fully substantiated. OI industry needs/gaps are not fully considered, and the links of the **training** programme to market needs are not sufficiently clearly drawn.
- The specific **training** to be received by each fellow is not sufficiently outlined.
- **Transferable skills** (soft **skills**) **training** is not well addressed; in addition to general statements only few activities are clearly included.
- The proposed **training** programme does not convincingly demonstrate how it will meet its declared inter/multi-disciplinary goal. (EJD)
- There is a considerable lack of clarity regarding the timing and extent of some of the planned **training** activities. (EJD)
- **Transferable skills** have not been identified and **training** events are far too generic. (EJD)
- Kick-off **training** week is programmed to be hold during month 10 of the project. 8 of the 15 ESRs will be recruited during month 6, and the rest during month 9, so there is a wide gap between their enrolment. The kick-off **training** is a common course designed to give the basics to start the project, so there is a mismatch in its programming for the 8 first recruited ESRs. (EJD)
- Scientific content of the **training** programme is not sufficiently ambitious, especially concerning the acquisition of research competences. (EJD)
- It is not clear if the E-learning platform will be available to all the ESR's and how it complements the local courses. (EJD)
- The nature of the **transferable skills** and their acquisition by the ESRs are not discussed in depth. **Intersectoral** aspects are not convincingly addressed either. For instance, there are very few details on the planned visits to industry or on the actual exposure of the ESRs to different research environments
- ECTS system and **transferable skills** are not clearly addressed. (EJD)
- The emphasis on cohort-building across the ESR community is inadequate and there is not enough detail on how the ESRs will be supported in this as well as their research. (EJD)
- Local **training** and their link with the network **training** is not fully explored in the proposal: name of courses offered by each doctoral school, length, planned months, mandatory courses for each ESR are not clearly enough described. (EID)
- The **training** programme lacks a common scientific concept and essential background, even for the overall better developed mathematical part. The engineering **training** is not specific to the general research goals. Overall, it is seen as four separate doctoral degrees rather than an integrated programme. The **training** programme is not sufficiently original. (EID)
- **Training** in presentation techniques is too extensive, also the visit of two conferences in early stage of **doctoral programme** is not effective. (EID)
- The content of the **training** programme is not described in sufficient detail and the **training objectives** within the **work packages** are not convincingly focussed on the scientific problems, the proposed solution and the **impact** to be expected from the results. (EID)
- **Credibility** and feasibility of the proposed **training** programme are not convincing, taking into account the limited personal resources available for **training**. For example, the capacity of the private-sector beneficiary to organise the planned international symposium is not well demonstrated. (EID)

- **Innovation (training programme):**

- The **training** for **transferable skills** in areas such as digital competences/**skills**, knowledge exchange, **innovation** and entrepreneurship, is insufficiently detailed in the proposal.
- The **innovative** aspects of the research and **training** programme are insufficiently detailed.
- The **innovative** aspects of the **training** program are not adequately substantiated.
- The **interdisciplinary** aspects of the **research programme** are not sufficiently highlighted.
- **Innovative** aspects of the **training** programme are not precisely demonstrated, particularly in reference to the content of **training** courses on non-linear systems
- The proposal does not convincingly demonstrate the **innovative** elements of the **training** program.
- The effectiveness and **innovation** of the **training** programme are not convincingly presented. For instance, it is not clear what are the **training** goals and content of the schools and how they will be

- organised. (EJD)
 - The scientific **training objectives** are not sufficiently detailed; the **innovative** aspects of the **training** are not sufficiently demonstrated with respect to previous ITN projects on the same topic.
 - The proposal lacks of justification about **innovative** and original aspects of the proposed research and **training** programme.
 - The truly **innovative** dimension of the proposed **training** programme is inadequately demonstrated, as similar programmes already exist in various European universities.
 - The **innovative** aspects of the **training** program are not clearly described.
- **Content structure of the training (ETN) or doctoral programme (EID/EJD):**
 - The extent of secondments is not specified in a sufficient detail; the network-wide **training** events are rather limited and do not reflect the spread of the consortium across Europe.
 - Local courses are poorly detailed in the proposal and not sufficient significant in time, both for scientific and **transferable skills**. The competence that each ESR needs to acquire along the individual research plan are insufficiently described.
 - The themes for the ESRs individual projects are not adequately specified. The description of the themes is limited to the lists of the area of studies.
 - Very little information is provided regarding the content and format of scientific **training** workshops, beyond their titles.
 - The rationales for the individual research projects of ESR4 and ESR5 are inadequately explained. Regarding ESR4, it is unclear how the approach of evaluating nitrogen fixation by non-legumes will differ from previous **approaches**. Regarding ESR5, it is insufficiently specified which additives will be used or by what mechanism(s) these would improve NUE.
 - Some topics of the courses within the post graduate program are not clearly specified. (EID)
 - **Multidisciplinarity** is not sufficiently well developed within all of the individual ESR projects. (EID)
 - The enrolment of ESRs to doctoral schools and the award of PhDs is not well planned. There are conflicting statements in the proposal on which University will take charge of the issue. (EID)
 - The description of the individual PhD plan is unclear in terms of independent novelty and the research contribution each one will make. (EID)
 - There is a big heterogeneity in the **training** received by ESRs who in some cases concerns just one WP (ESR 1, 7, 13 and 14) and in other cases are involved in six WPs like ESR 2. (EJD)
- **Role of non-academic sector in the training programme:**
 - The consortium brings together academic and industrial institution, with relevant and complementary expertise and experience of previous collaboration. The contribution
 - and the added value of each team, and potential **synergies** are well-documented and fully in line with the project **objectives**.
 - The contribution of the **non-academic** partners during the organization of **training** activities, apart from secondments, is not clearly established.
 - The interaction between academic and **non-academic** organizations in the network-wide events is not precisely defined.
 - The **quality** of the **non-academic** private organizations is not demonstrated well enough (in some cases, only a job title is provided).
 - The **training** to be provided by **non-academic** participants lacks sufficient details.
 - The involvement of **non-academic** partners in secondments is rather limited. Specifically, it is foreseen that only 3 ESRs will be seconded to **non-academic** partners.
 - The project is not sufficiently **inter-sectoral** since the involvement of the **non-academic** sector (business and clinical hospitals) is rather limited. The exposure of ESRs to different research environments is therefore not appropriately addressed.
 - ESRs exposure to the **non-academic** sector through secondments is not clearly demonstrated in the proposal.
 - The local **training** programmes are not described in sufficient details. The complementarity between network-wide and local **training** programmes is not clearly addressed in the proposal.
 - Exposure to **non-academic** sectors, with particular emphasis on industrial and product-oriented sectors, is not clearly demonstrated. The possibility of **intersectoral** mentoring is not adequately exploited.
 - The proposal does not provide sufficient information about the **supervision** to be delivered by **non-academic** participants particularly in the areas of social **impact**, social **innovation** and social finance.
 - For such industrially-focused research, the **intersectoral** aspects of the proposal are limited, with

notable absence of meaningful contribution from the **non-academic** organisations. The proposed interactions between the organisations belonging to different clusters and their value are not well defined. (EJD)

- The consortium is top-heavy in anthropology and elements of business **management**, **innovation** studies, legal issues and entrepreneurship are only partly included.
- The role and involvement of the industrial partners in the **supervision** of the ESRs is not adequately defined. (EJD)
- The role of the **non-academic** participants and their specific contribution to the **training** programme is not clear.
- The relevance of the participation of the **non-academic** sector to the research activity is not convincingly demonstrated.
- The proposal fails to provide a balanced involvement of the **non-academic** sector and contribution for the researchers' secondments in the **training** programme. The minimum duration for some secondments is too low and inadequate.
- The contribution of the **non-academic** participants to the organisation of structured **training** activities and courses is not adequately identified.
- The involvement of the **non-academic** partners in the ESRs **training** activities is not convincingly demonstrated.
- The exact role of the **non-academic** sector in the research activities is insufficiently elaborated.
- Intersectoriality towards the **non-academic** participants is achieved through secondment and **training** in drug screening, but is limited because these participants are not beneficiaries.
- The activities of **non-academic** organizations with respect to final applications of the MOF are not sufficiently detailed.
- The industrial beneficiaries and partner organizations from the **non-academic** sector are insufficiently involved in the secondments.
- The participation of the **non-academic** partners is vaguely explained including hosting of the ESRs.
- The involvement of the **non-academic** partners in the **training** programme is not clearly detailed with well stated and measurable actions or **commitments**. (EID)

Quality of the supervision

- **Qualifications and supervision experience of supervisors:**

- The principal **supervisors** of ESR 1 and 10 have little recorded expertise with PhD **supervision** (0 and 1, respectively). This is partially mediated by a more experienced co-supervisor.
- The proposal does not adequately describe the level of experience of some of the **supervisors**, as a documented track record of work and specific **training** achievements in the field of the research, number of PhD supervised, etc.
- The appointment of co-supervisors from industrial organizations as a way to guarantee the **intersectoral** nature of the programme is not fully convincing, since the contribution of such industrial organizations appears too limited to become really effective.
- The frequency of meetings of the **Supervisory** Triad Committee is not adequate to the proper monitoring of the programme.
- The selection of **supervisors**, limited to personnel from academic institutions, is not adequately justified.
- Not all **supervisors** have demonstrated the necessary supervising experience.
- The **supervision** plans are overall too briefly presented.
- Extensive experience in PhD **supervision** is not clearly demonstrated for some of the beneficiaries
- The **supervisory** arrangements have not been developed in sufficient detail. The proposal is quite vague about the ways in which the **supervision** will be tailored to individual ESR's needs.
- The appropriateness of the allocated time for **supervision** is not adequately evidenced.
- The **supervision** of activities related to clinical translation is not appropriately described.
- The frequency of meetings between **supervisor** and fellows is not sufficiently described.
- The **supervision** scheme is not clearly defined.
- The **commitment** and amount of time dedicated by each **supervisor** to the **supervision** of students is not adequately indicated.
- The **quality** of the **supervision** is argued in general terms and not specifically linked to the proposed research and **training** program, e.g., in terms of concrete project-relevant profiles of the **supervisors**.
- The proposal presents limited information on the proposed **supervisors'** previous experience in PhD **supervision**

- The description of the **quality** of the **supervision** is very generic. There are no clear descriptions concerning joint **supervision** through appointments from academia and industry.
- Some of the co-**supervisors** are not clearly identified and so their capacity for **supervision** cannot be evaluated. (EJD)
- The proposal does not clearly detail the role and experience of **supervisors** and does not nominate the ESRs' **supervisors**. (EJD)
- The time devoted to project is not explicitly specified for the project coordinator and **supervisors** involved in the **training**. (EJD)
- Some important elements of the **supervisory** arrangements are not clearly stated/ insufficiently specified, e.g. regarding the frequency of meetings and how they will be organised. (EJD)
- The proposal does not clearly demonstrate that some beneficiaries have appropriate previous expertise to supervise graduate students.
- The information on the number of currently supervised PhD students or post-docs is missing for some **supervisors**, rendering the **quality** of the local **supervision** unclear.
- The interactions between **supervisors** and expert staff of the different institutions are not sufficiently defined and scheduled. The complementary mentors are not specified adequately.
- The expertise in PhD guidance of some academic partners has not been sufficiently addressed and **supervisors** and co-**supervisors** of the 'ESRs are limited to the local organisation. Not all ESRs have a **supervisor** and co-**supervisor** assigned.
- There are several unclear aspects with regard to **supervision** and **supervisors'** responsibilities which are not adequately described.
- The previous experience of partner institutions in **training** early stage researchers is not documented clearly enough. The experience level of the **supervisors** and their qualifications are insufficiently articulated in the proposal. The proposal fails to provide sufficient evidence for the **quality** of the **supervision**
- There are wide variations in the allocation of the **supervisors'** time to ESR **supervision**.
- Some **supervisors** are at an early stage of their career and have little experience in ESR **supervision**.
- It is not clear how **supervision** will be organized from institutional and sectoral points of view.
- Time **commitment** of the proposed **supervisors** and co-**supervisors** is not justified enough and only in few cases, **supervisors** of particular ESRs are indicated.
- For a number of **supervisors** insufficient information is provided about previous experience in **supervision** and it is not clear which ESRs will be supervised by which **supervisors**.
- The **supervision** expertise of some **supervisors** is not presented in sufficient detail.
- **Supervision** arrangements are insufficiently argued. Little information is provided on how the **supervisors** will interact for the benefit of the **training** network. Co-**supervision** is not adequately addressed.
- Some of the proposed **supervisors** appear to have only limited **supervision** experience.
- It is not convincingly demonstrated that all PIs have the necessary experience in supervising PhD students.
- There is no clear information on the **supervision** related to medical research, whilst the main ambition of the programme is to build **training** encompassing data science and medical research domains.
- The **supervisors'** experience in **supervision** and mentoring of researchers is not always evident (generally statements in B2).
- Some of the **supervisors** have limited experience in PhD **supervision**. (EID)
- The experience of the **non-academic supervisors** is not fully demonstrated. (EID)
- Not enough information is provided on industry **supervisors** related to their experience on supervising and the time they will commit. (EID)
- The proposal is unconvincing in conveying the industry participant's experience in supervising doctoral research candidates. (EID)

• **Quality of the joint supervision arrangements (mandatory for EID and EJD):**

- ESRs will be (co)-supervised by **non-academic** consortium members. However, it is not clear, how this tandem will cooperate in practice.
- The co-**supervision** mechanism is only briefly described and lack of sufficient detail especially in relation to the interaction with ESRs.
- The proposal does not specify which data science experts will be the co-**supervisors** for the **multidisciplinary** collaborations.
- The continuous co-**supervision**/mentoring to enhance the ESRs direct cross-sector (Industry) research exposure is limited to only the secondment period if in **non-academic** sector. Several of the ESRs will

- also not benefit of cross sector secondments.
- The roles of **non-academic** mentors and the coordination of their activities with academic **supervisors** are insufficiently detailed. (EID)
- The joint **supervision** arrangements are not clearly detailed. The availability of appropriate **supervision** for each ESR is also insufficiently presented. (EID)
- It is not enough clear if the interaction is only by Joint **Supervision** or if it will be a joint governance also at scientific and research level. (EID)
- The proposal does not clarify the role of the "non-**supervisory** mentor," who will be part of the **Supervisory** Committee, neither does it suggest indicators/benchmarks as to how interaction will contribute to strengthening the research process. (EJD)
- Some aspects of the structure of joint **supervision** are not evident. For example, the co-**supervisor** is not properly identified. (EJD)
- Very limited information is provided with respect to how the obligatory joint **supervision** of the ESRs will be organised, and the time **commitment** of some **supervisors** is not made sufficiently clear. (EJD)
- The **supervisory** experience of the named **supervisors** is not properly elaborated on/ information is insufficient; there is also little indication of whether these individuals who will act as joint **supervisors** already know each other or have collaborated in the past. (EJD)
- There is also some ambiguity on how co-**supervision** will work if a university is not conferring a joint doctoral degree; this aspect is not well described. (EJD)

Quality of the proposed interaction between the participating organisations

- **Contribution of all participating organisations to the research and training programme**

- It is not explained in detail, how the foreseen interaction among participants coming from different sectors will be organised to ensure its sufficient **quality**.
- The interaction between partners is not clearly demonstrated with, for example, insufficient details on how data will be shared between participants.
- The proposal does not address in sufficient detail some important issues: **training** in toxicology and biofilm-water **quality** interactions, as well as field-scale experimental techniques mentioned in the project.
- The originality of the project is largely described in terms of **Synergies** between microbiologists, geoscientists and chemists; the **Synergies** do not adequately demonstrate that the proposed research will have the potential of leading to breakthroughs in the field of Astrobiology.
- The proposed interaction among participants in the **research programme** is not convincingly presented.
- The **research methodology** is not sufficiently developed. The strategy for ensuring specific tumor targeting and efficient dose delivery is not well elaborated. The mechanisms for generating in vitro tools suitable for testing nanosystems as potential antitumor and immunotherapeutic agents are not well described. Investigation of the Synergistic aspects of the dual modes of action is not sufficiently elaborated.
- The presentation of the **training** organisation is not sufficiently elaborated
- Interactions and **Synergies** between the participating organizations are in some cases not convincingly explained.
- The specific **objectives** of the research lines are defined in a way that the interaction between participating organisation is not clear.
- The interactions between the academic partners and the industrial partner for **training** and research are not adequately outlined. (EJD)
- The role of the partner organizations is limited to contributing to the **training** events.
- The degree of **commitment** and the involvement of different researchers in the programme are not described in sufficient detail. (EJD)
- It is not clearly demonstrated in the proposal that CIHEAM-IAMB has the potential to be Lead Institution for all Main Network-Wide Training Events, Conferences etc. (EJD)
- The proposal lacks depth and detail on how the interactions between the participating organisations will lead to excellence in the proposed area of research. (EJD)
- There is not sufficient information on the need to include such a big number of partners to execute the project.
- The contributions of some partner organisations and their interaction with other participating organisations is not clearly specified.
- Given the relatively large number of participants, and in light of their research and **innovation objectives**, the knowledge sharing among them lacks some detail.

- **Synergies between participating organisations**

- New and synergistic effects to be achieved beyond those that resulted from previous joint programmes between the same participating institutions are not highlighted adequately. The cooperation between industrial and academic partners is not appropriately described.
- The use of available **synergies** between participating organizations is limited, and described in a very generic way.
- It is unclear how the participating organisations will interact with sufficient **synergy** in relation to the planned research and **training** activities.
- The interaction with other staff of the beneficiary such as other PhDs, technicians and experienced researchers (post docs) is not sufficiently documented.
- The proposal does not provide specific description or examples to justify the **synergies** between participants.
- Insufficient information is provided to judge the interactions and **synergies** between all participating organizations, i.e. beneficiaries and partners and to estimate how it will lead to excellence.
- Two of the partner companies have a PI of one of the beneficiaries among their key persons. The relations between these participants are insufficiently clarified.
- The joint interaction, although present and well planned, is somewhat limited: every participant contributes with his own methods to the **training** program but there is little **synergy** between the participating organisations.
- The interaction between the participating organisations is not adequately presented, e.g. insufficient information is provided on exchange process for software code, models, non-sensitive data, protocols, whitepapers.
- The proposal is unconvincing in describing the interaction between university and industry for one ESR. (EID)
- The practical aspects of the contacts between participating organisations are not well discussed. This also applies to links with the **non-academic** institutions. (EJD)
- **Synergies** between participating organisations are insufficiently identified in terms of previous collaborations/research contacts or mutual publications. (EJD)
- The **synergies** and interest of the collaborations are insufficiently justified and there is an important overlap in competences (all partners are proficient in biosensors development). (EJD)
- The large number of institutions and/or companies is a clear challenge to be overcome in relation to their interaction that it is not well solved in the proposal.(EJD)

- **Exposure of recruited researchers to different (research) environments, and the complementarity thereof**

- Exposure of recruited researchers to different environments and access to complementary facilities are listed, but insufficiently specified, not specifically related to the research **approaches**. (EJD)
- Exposure of recruited researchers to different research environments is not adequately described. The proposal does not sufficiently argue how the work of the different ESRs will be integrated into the programme.
- The proposal is unconvincing on the exposure of the ESRs' to diverse research environments. (EID)
- The proposal lacks sufficient detail on the network-wide interactions that enable the ESR's to gain exposure to all aspects of the programme. (EID)

Criterion 2 – Impact

Strengths:

Enhancing the career perspectives and employability of researchers and contribution to their skills development

- **Impact of the research and training**

- The proposed research and **training** programme will clearly enhance the **career perspectives** and **employability** of researchers with its **interdisciplinary** profile, variety set of **skills** and broad industrial experience.
- The proposal clearly demonstrates the potential to develop new **career perspectives** and **employability** of researchers.
- ESRs will receive **interdisciplinary research training** with a strong appreciation of requirements of sustainability and covering all the phases of the materials life cycle, which is in high demand in the labor market for experts in this area. Detailed explanation of the **impact** of the research and **training** on ESR's career is given. High **employability** of former students trained by members of consortium envisages good **career perspectives**.
- In addition to specific technical **training** relevant to the scientific goals of the project, **training** also convincingly includes ways to enhance **employability** through **transferable skills** such as creativity, entrepreneurship, funding opportunities and **career perspectives**.
- The **training** in top level European research institutions will foster the **career perspectives** in academia.
- The ESRs will be exposed to a strong and competitive, inter/**multidisciplinary training** programme that includes hands-on experience on **state-of-the-art** equipment and computer modelling, which are very relevant in terms of enhancing **career perspectives** and **employability** in the academic sector.
- The proposed ETN will significantly enhance the **career perspectives** of the ESRs through close contact to a highly qualified international network and through the development of **interdisciplinary skills** and **intersectoral** competences.
- The fellows will get a strong **transferable skills** set, enhancing their **employability**.
- The exposure of the ESRs to a broad range of techniques and instrumentation, and to the **non-academic** sector, will contribute substantially to the enhancement of their **employability** both in the academic and **non-academic** sector.
- **Multidisciplinary** research and **training** with the emphasis on advanced instrumental techniques will provide ESRs a good set of unique **skills** and knowledge and facilitate their future employment in different sectors, like healthcare, governmental, industrial and academic.
- The proposal convincingly demonstrates how research expertise will be developed through research and **training**: the ESRs will gain a mix of knowledge that will put them in demand for employment in a variety of sectors from the EU through municipalities to trade unions and independent consultancies. Hence, the proposal justifies well that their career prospects will be multiple and good. (EJD)
- The ESRs will have received enhanced know-how in key **innovation** competences (technology intelligence, industrial awareness, entrepreneurship, **intellectual property**, project and **risk management**) including soft **skills** (public **communication**, team work). (EJD)
- ESRs' career prospects will be enhanced through their **training** in conducting **multidisciplinary** and **intersectoral** research that qualifies for a successful contemporary architectural practice. (EJD)
- During the project ESRs will develop their high level competencies and **skills** which are universally needed within academia to develop the appropriate research and in practice to continuously innovate the processes in architectural offices. (EJD)
- Career opportunities in the Geographic Information sector is excellent due to a rapidly-growing GI-related economy and a lack of qualified personnel. The ESRs will have excellent

- career perspectives in academia, industry, and government. (EJD)
- The training programme will give the fellows a complementary training in different scientific skills. The ESRs will be trained in either experimental or theoretical aspects of electrochemical processes and their application or theoretical interpretation, which will open employment opportunities to the ESRs. (EJD)
- The broad educational scope of the research training and the industrial links will enhance employability of researchers ensuring attractive positions in fields ranging from plasma physics, to engineering, technology, green chemistry and catalysis. (EJD)
- By gaining new skills, increasing self-confidence and experience the ESRs will be able to provide efficient solutions to the challenges of climate change, and be able to create new start-up companies on rising technologies in the field of CO2 recycling. (EJD)
- ESR will be exposed to a range of disciplinary backgrounds, research excellence, intersectoral experience, entrepreneurship and international networking, which will likely create a strong impact on career development of ESRs. (EJD)
- The EJD will improve the ESRs's competitive prospects by offering opportunities to build personal networks. (EJD)
- The program provides an intense research training in Cyber Risk Data Science so that the researchers will be able to continue a full research career within a department of specialists. There is a good aiming at ESRs soft skills development with specific measures to achieve this goal. (EJD)
- Most of the ESRs will acquire important theoretical and computational skills, which should prove useful in the future. (EJD)
- This ITN will benefit from good connections to third countries established through ICRANet, clearly strengthening the European position in that respect. (EJD)
- A structured approach will be adopted to assess impact, using a four-step process which lends focus to the impact agenda and also enabled comparisons and benchmarking between ESRs across the entire programme to be conducted. (EJD)
- The consortium will organise a joint catalyst event for career development at the end of the project. (EJD)
- The research and training program provides an opportunity to ESRs for developing their careers in energy storage, sustainable energy generation and decarbonisation, which are emerging fields promoted by EU. (EJD)
- In addition to scientific and industrial expertise in these emerging fields, international, interdisciplinary and intersectoral environment and a specific formation on creativity and entrepreneurship will definitely enhance career perspectives and employability of ESRs. (EJD)
- The global market in the field of the project is substantial and is expected to grow significantly in the next years. The ESRs will obtain the required expertise to be immediately employed in companies operating in the field.(EJD)
- The proposal has the potential for a meaningful contribution to structural early-stage research training in Europe in the area of indoor positioning. (EJD)
- The overall impact of the proposed program is well explained and is in line with objectives of the scheme. The impact on several levels (i.e. international, inter-sectoral and interdisciplinary) is adequately identified.
- The expected benefits in enhancing the career perspectives and employability of ESRs are convincingly explained.
- The expected contribution to strengthening the European innovation capacity is well specified and in line with relevant objectives of the scheme.
- The proposal makes a convincing case for how the programme would significantly enhance the researchers' career prospects and employability.
- There is compelling evidence that the proposed programme could contribute to society through the development of technologies in the service of people affected by dementia and could strengthen European innovation capacity in an important and relevant area.
- Career perspectives and employability of researchers are well accounted. Presented contribution to researchers skills development is complete and convincing.
- The anticipated contribution to structuring doctoral/early-stage research training at the European level is well discussed.
- The ESRs will be educated in physical-environmental and socio-economic aspects of GSI, which is expected to provide them with the right skills for water management and water policy.
- The framework of the project promotes harmonized European doctoral course.
- The previous experience of the participating individuals in advancing the doctoral training in

- the chosen field adds **credibility** to the programme implementation.
- The proposal is immersed in an EU flagship of regulatory change.
- The expected developments of topology- and geometry-driven phenomena in nanostructures makes a very relevant contribution to strengthening European **innovation** capacity and competitiveness in a completely new application area for quantum technologies.
- Most ESRs will be equipped with a combination of advanced research and complementary **skills** that will improve their generic **employability**.
- The PROJECT will contribute to the European industrial competitiveness in areas related to the **management** of the nitrogen cycle.
- The academic applicants aim at defining a long-lasting international programme like Erasmus Mundus. The consortium also expresses its willingness to establish a joint programme and joint master degrees would be established after the project.
- The ESRs will receive good **training** in high class institutions. Some parts of the **training** will have broad applicability e.g. basic **skills** and knowledge of genomics, biomedical model systems or iPSC
- The **training** programme is oriented towards the identified scientific and technological needs and will serve the **career perspectives** of the ESRs. The additional exposure to industrial needs will improve the **employability** of the ESRs.
- The proposal convincingly demonstrates how the proposed research will enhance the **employability** of ESRs in the fields of environmental engineering, advanced measurement technologies, automotive and railway engineering and environmental legislation providing them with comprehensive competence.
- The experience gained from working in both an academic and consultancy-related environment will make the ESRs aware of how intermediaries function and this will enhance their **employability**. In particular, the **training** will provide them with a wider context and focus than a traditional entrant to the consultancy profession. A capacity to think beyond classical **approaches** to energy futures will be beneficial to their **career perspectives** as wider considerations emerge in the **exploitation** of Arctic resources.
- The proposal promotes improving resource efficiency, sustainability and new business models. The proposed links with other H2020 projects are convincing.
- The research subject of the proposal on how to produce high **quality** fertilizers from organic waste up-cycling is an issue that interests both the European, but also global industry and policy makers. Thus results of the project will reach countries outside the European borders like China and America, where involved beneficiaries have strong connections, and the ESRs will conduct short visits.
- The production of high **quality** researchers is ensured by the highly-developed **training** activity of the environment surrounding HEP activities.
- The new credit system proposed will broaden the **training impact** and ensure the coherence and the recognition of the **training** program.
- The project will provide relevant scientific **skills** to the early stage researchers that will help them for their future professional development and **career perspectives**.
- The intensive cooperation of the ESRs with industry is highly suited to help them understand the need of the industrial world, establish **communication** channels and contacts.
- The ESRs will acquire an extensive set of scientific, cultural and **communication skills** which will make them attractive for the advanced materials industry and benefits to the applicant's **career perspectives** are clearly demonstrated.
- The beneficiaries are already partly linked in many projects and networks, thus making likely and credible that the **training** structures developed will be sustained after the project completion. The proposal establishes a good contribution to employment and career prospects in a yet underdeveloped sector
- The proposal provides a plan and key personnel that will promote the future **training** through the development of a PhD Program for Social Entrepreneurship, and a number of potential funding options that are clearly stated.
- The proposal has potential to enhance the **career perspectives** and **employability** of the ESRs by means of a well-developed **training** programme in data science and machine learning, working in different international academic and **non-academic** environments, providing trained ESRs to research/academia, commercial companies etc.
- An effective **impact** strategy on the **skills** is based on both general knowledge of the referential field of studies and knowledge on specific regional problems.
- Exposed to a multi-faceted understanding of the transport industry, the ESRs will be capable of

- developing **innovations** across disciplines, academia and industry putting themselves in an appropriate position for employment.
- The **intersectoral** and international connections developed during **training** will also help ESRs to be more successful in their research activities.
 - The contribution of the **research training** programme to strengthening European **innovation** capacity is convincingly presented.
 - ESR scientific **training** is robust and will contribute to the future **employability**. Case examples of career paths for graduates with a PhD from groups in the ITN-network have been given.
 - The ESRs will receive some **training** on business development, which is not normally in their domain, and some will receive secondments in the industrial partner.
 - The **interdisciplinary** and **intersectoral** composition of the programme will enhance career prospects and **employability** of the ESRs.
 - The exchange with different sites and sectors will give the ESRs a broad **interdisciplinary** background with a knowledge of several biochemical and/or biophysical methods.
 - Measures are in place to evaluate the structure of the ESR **training** against the current state of European university education, especially with respect to **interdisciplinary** education at different levels.
 - The ETN will help to forge teams of researchers and technologists at the European level, and contribute to the strengthening of contacts with international space research and funding agencies. Hence, the project has the potential to enhance European capacity for **training** and **innovation**. In addition, all ESRs are expected to receive a European PhD upon successful completion of their doctorate, an added value.
 - The **early-stage researchers** will have high **employability** prospects, both in academia and industry, based on the topic and **multidisciplinary** content of the research and **training** programme, and also based on the high scientific **impact** of the consortium members. The network of partners outside Europe enhances the **employability** through international exposure.
 - The set of scientific **skills** acquired by the ESRs within batteries and functional materials, as well as of **transferable skills** and including IP protection issues, are expected to have a great **impact** on the career prospects and **employability** of ESRs. Moreover, the exposure of all ESRs to the **non-academic** sector will offer an important industrial experience highly relevant for their future careers. In particular, the planned visit and **training** in the Chinese large manufacturing plant is an extremely relevant activity towards such goal.
 - The ESRs will acquire scientific and technical knowledge in soft matter nanoscience based solutions and develop soft **skills** in an **intersectoral** environment, thus enhancing their **career perspectives** in fields such as pharmaceuticals, food, and healthcare.
 - The positive **impact** of the proposed research and **training** program on the **career perspectives** and the **employability** of the ESRs is well discussed.
 - The program's international and multi sectorial character will contribute in structuring a European **doctoral training** with the aim to reinforce the European **innovation** capacity by combining experimental, modelling and several applications on energy conversion and storage.
 - The **intersectoral** and **interdisciplinary training** programme aims to create a highly skilled work force in Europe. The proposed **multidisciplinary** high-level education, **training** and experience will form independent, **innovation-minded**, flexible ESRs and enhance their **career perspectives** and **employability**.
 - The proposal's main emphasis is on the professional development of ESRs for the new job trends in the educational robotic sector, ensures they will acquire key **skills** that will be useful both in the public and private sectors. The proposal will therefore enhance their future **employability**. (EID)
 - The ESRs will receive a strong, **interdisciplinary research training** in **transferable skills**, expert knowledge and advanced problem-solving **skills** that will particularly qualify them for leadership positions in the European Biotech Sector. It will give them a clear competitive advantage over other professionals increasing their **employability**. (EID)
 - The program promotes up-to-date research between universities, transnational institutes, high-tech SMEs and start-ups at European level. (EID)
 - The ESRs will receive strong **intersectoral** and international **training** with convincing **impact** on their future career development and understanding of scientific challenges in both academia and industry. (EID)
 - The **research training** provided by the network will enhance the research and **innovation-**

- related **skills** of the ESRs. By developing a strong set of **interdisciplinary** and **intersectoral** technical **skills** and essential transferrable **skills**, the program will make the ESRs very attractive for employment both in industry and academia. (EID)
- The **research programme**, based on a strong combination of theory and practice will enhance the ESR's **career perspectives** and their **employability** in the **non-academic** sector, specifically software development. (EID)
- The proposal will enhance the **career perspectives** and **employability** of the ESRs who will get their scientific **training** in leading labs. (EID)
- The programme shows how it will endow ESRs with professional and technical **skills** that are highly demanded in the emerging market for consumer neuro products. (EID)
- The individual ESR projects originate from the industrial needs and the ESRs closely interact with the industrial sector, thus enabling the young researchers to develop **skills** essential in the banking industry, specifically in the financial **risk management**, as well as in academia. (EID)
- The consortium members are active and collaborative at the European level, which enhances and augments the ESR's visibility and **career perspectives**. (EID)
- Personal career development plans, including customized **training** programs, will be prepared for each ESR. The rubber technology research domain provides the researchers with significant expertise for career opportunities. (EID)
- The project will provide the ESRs with a comprehensive planned **training** that will enhance their career prospects and **employability** and will significantly increase their flexibility and open-mindedness, independent thinking and leadership potentials. (EID)

Contribution to structuring doctoral/early-stage research training at the European level and to strengthening European innovation capacity, including the potential for:

- **Meaningful contribution of the non-academic sector to the doctoral / research training**
 - The **non-academic** sector has direct involvement in technical and **training** activities as well as in the co-supervision of ESRs, thus contributing to Strengthening European **innovation** capacity.
 - The program provides **multidisciplinary training** in a cutting-edge research field, and a strong exposure to the industrial sector, with opportunities for the ESRs to present their results to potential recruiters; this will enhance their employment opportunities in a very competitive market, both in the academic and **non-academic** sector.
 - The project clearly demonstrates its capacity in enhancing the **career perspectives** and **employability** prospects of ESRs, providing them with a **multidisciplinary** and cross-sectoral **training** capable to open doors for pursuing a research career in the academic or **non-academic** sector.
 - The **impact** of the proposal in structuring a novel and attractive PhD program is clearly demonstrated, with the contributions of academic partners and **non-academic** participants.
 - High-level **training** content is proposed and both academic and **non-academic** specialists will participate in the teaching. Secondments and **training** courses for ESRs are well planned.
 - The programme guarantees a good contribution to structuring **early-stage research training** due to planned secondments at **non-academic** institutions.
 - Several **non-academic** participants are included in the consortium. Their participation is essential to the programme as they will provide applied/translational **training** aspects and contribute to the **training** in **transferable skills**.
 - The contribution and involvement of the **non-academic** sector is well demonstrated. There is one large industry beneficiary and several other industrial partners that provide valuable and meaningful contributions in mentoring, **training** events and through secondments.
 - The program aims to establish EU-wide multisectoral and international **training** environment at the Doctoral level which incorporates issues related specifically to the global **impact** of critical **infrastructures** on the subsurface environment appropriately involving the **non-academic** sector
 - The **training** program has potential for a truly meaningful contribution of the **non-academic** sector via joint **training** activities, by developing entrepreneurial **skills** and increasing **intersectoral** mobility possibilities. Such aspects are built into the core of the program.
 - The ESRs will carry out original research in academic institutes and related SMEs that will expose them to a broad range of **training** environments and give exposure to **innovation** and

- development **approaches** from both academic and industry perspectives.
- The significant contribution of the private sector in **training** is deemed to contribute exemplary content to **training** modules in this segment of ESR formation.
- The contribution to structuring doctoral/ESR **training** at the European level is well demonstrated. A joint **doctoral programme** is in place with a **commitment** to extend it to other academic organisations.
- The proposal provides some indications regarding the inclusion of **non-academic** organisations in doctoral and early **research training**. They will play a mix of relevant roles in the project: contributing to **training**, facilitating access and **dissemination** of findings. (EJD)
- The potential for meaningful **non-academic** contributions is backed by a well-identified array of stakeholders, which provides the needed depth and span for market/society/academic links. (EJD)
- The **non-academic** sector represented by eight research-active partners provides a meaningful contribution through secondments, an active participation in the **training** programme holding network events, lecturing on **transferable skills** and on scientific topics. (EJD)
- The proposed **doctoral programme** strongly contributes to structuring doctoral / **early-stage research training** at the European level by gathering the best research teams in the field and a wide range of industrial leaders located throughout Europe in a **training** network. (EJD)
- The involved creative industries have a significant role, being fully integrated in the **training** and **supervisory** tasks as well as hosting research/ ESRs and hosting secondments and workshops. (EJD)
- Addressing some of today's challenges for society and environment (energy production, **management**, storage, smart use in information technology) the project will contribute to strengthen European **innovation** capacity. (EJD)
- The project will have an **impact** on the European doctoral structuring, education and **training** of young researchers enhancing their competitiveness and the career prospects, and thus contributes to a new educational programme. (EJD)
- The **non-academic** partners will provide the ESRs with 1-month internships. (EJD)
- The **non-academic** partners will provide key input to the **research programme** as potential users of the Open City Toolkit, and will then support **innovation** capacity development within Europe. (EJD)
- There is an effort to implement plasma technologies as a real alternative for CO2 reduction in an industrial scale, by involving a number of academic and industrial organizations in the project. In fact, the **non-academic** sector makes a meaningful contribution to the development of entrepreneurship concepts, **innovative** ideas, products and services. (EJD)
- The establishment of a strong connection between the academic and industrial world and contribution of **non-academic** participants is high and well demonstrated. (EJD)
- Industrial partners provide valuable contribution to the **training** program by hosting secondments and providing **training** on industrial research and **transferable skills**. (EJD)
- Each ESR will have 3 months of industrial secondment which will give them cross-sectorial knowledge, leading to increased **employability**. (EJD)
- The ESRs will be in a very dynamic and international context and will benefit from exchanges with the other ESRs, with high-level researchers and also with **non-academics** during the seasonal schools, joint field campaigns and the workshops.
- The **non-academic** sector contributes significantly to the **training** programs, by **training** in the **skills** workshops, and mentoring ESRs with appropriate secondments.
- The **training** in **transferable skills** supports ESRs development and enhancing their **career perspectives** in the private sector.
- The contribution of industrial participants is meaningful. Most of the industrial participants are involved in **training** activities through hosting secondments and preparation of network-wide **training** activities.
- **Non-academic** beneficiaries and partners contribute strongly to the research and **training** programmes.
- The contribution by the **non-academic** sector to the **training** has been adequately described. In particular, the proposed joint post-graduate **interdisciplinary training** programmes will be an added value as they offer the opportunity to students to get access to well-equipped laboratories of the industrial partners.
- The proposed involvement of **non-academic** partners, which will be involved in **training** via secondments, **training** courses and **supervision**, is convincing.
- It is claimed that the project will stimulate the **non-academic** partners to investigate

- fundamental aspects of their specific research and technological **objectives** and problems, thus making possible the development of solutions to produce fertilizers.
- The contribution of the **non-academic** sector at the research level is very credible with effective collaborations.
 - The specific expertise contributed by the **non-academic** sector to the **doctoral training** is very clearly demonstrated.
 - The contribution of the **non-academic** sector is thoroughly described and provides a very high-added value to the project, since the ESRs will benefit from their competence in metal substrates and electronic devices through their active contribution in form of **supervision** of PhDs and organisation of network courses among others.
 - The contribution of **non-academic** partners' networks in enhancing future career opportunities of ESRs is credibly presented. The potential institutions which can be interested to employ the trained ESRs are identified.
 - The potential for a meaningful contribution of the **non-academic** sector is explained in detail. It promises to be substantial and wide-ranging.
 - The clear **commitment** to **training** and secondments for each ESR, of the 14 **non-academic** partners (across beneficiaries and partner organisations) reinforces intersectorial exchanges and potential opportunities of the trainees in various transport industrial sectors.
 - The **non-academic** sector contributes appropriately to the **training** program and to the mentoring of fellows who want to move to the industrial sector after their **research training**.
 - The contribution to **training** by the non academic participating organisations will be of high scientific **quality**. The project will help tightening the connections between the academic and **non-academic** sectors. This is an essential component in sustaining the competitive role of Europe in science and industry.
 - **Non-academic** partners will be actively involved in **training** by hosting secondments to allow ESRs to evaluate algorithms with real data, which will increase the applicability of research results in industry, thus meaningfully contributing to doctoral and early stage **research training**.
 - The consortium includes a number of strong participants from **non-academic** sector that will significantly contribute to the **objectives** of the proposal.
 - The positive contribution of the programme to **early-stage research training** through synergic academic-industrial collaboration is credibly described.
 - It is well explained how the **interdisciplinary** extensive **training** scheme, where **transferable skills** and compulsory **non-academic** secondments have a significant role, enhances the **career perspectives** also outside the research field and academia.
 - The contribution of the **research training** program to strengthening European **innovation** capacity is sufficiently elaborated with a meaningful contribution of the non academic sector.
 - The **non-academic** sector contribution is vital to achieve the proposed goals.
 - The contribution of the **non-academic** sector to the doctoral/**research training** is important.
 - The research and **training** programme will Strengthen European **innovation** capacity to have the necessary tools to rival the strong competition from the World. It offers an opportunity for the development of sustainable, resource-efficient and low carbon economy.
 - The Strengthening of the European **innovation** capacity is convincingly demonstrated. The project with its broad geographical and **intersectoral** mix will significantly contribute to increase the level of highly qualified researchers in a relevant field for European (and global) societies.
 - The joint efforts of the participants, with a wide geographical distribution, to create a **training** program in a frontier research field will contribute to structuring **research training** at the European level; the project will Strengthen the European **innovative** capacity in the field, and lead to lasting collaborations among universities, research centers and the private sector. The **non-academic** participants will provide relevant exposure to the industrial environment in several complementary domains.
 - The potential of the proposed **training** network to strengthen the European **innovation** capacity is documented convincingly. The project will have a positive **impact** on Europe competitiveness in nanomaterial research on both the academic and **non-academic** sector.
 - By creation a unique consortium able to address efficiently the science of QD surfaces, the project gives credible arguments on its positive **impact** on structuring **doctoral training** and contributing to the Europe 2020 Growth Strategy.
 - **Training** ESRs in cutting edge technologies for personalised regenerative medicine will

- enhance European **innovation** capacity. (EID)
 - The overall consortium structure will help the ESRs to integrate in a truly pan-European network to start, and progress, their careers within academic and industrial (SME) environments. (EID)
 - Besides the planned **training** through research, the network wide **training** events will foster the ESRs research and **transferable skills**. The strong contribution from **non-academic** sector helps ensure that the ESRs will receive **inter-sectoral trainings**.
 - The strong **synergies** between the partners will help to establish formal **training** links and further exchange of young researchers. This is a fundamental step for initiating long-term partnerships and collaboration mechanisms for a sustainable structural **doctoral training** on the European level. (EID)
 - The project has the potential to strengthen research and **innovation** capacity at the European level through harmonized PhD programmes. (EID)
 - By creating structural **doctoral training** in financial mathematics and specifically addressing such components as partial differential equations simulation and optimization, the network will significantly strengthen European **innovation** capacity. (EID)
 - The industrial sector contributes significantly to the research and **training** program, preparing the ESRs for international careers. (EID)
 - The strengthening of EU **innovation** capacity is very likely, particularly given that the forefront of this nanobiotech field is currently outside Europe. This will be supported by planned ESR research and the meaningful contribution of the **non-academic** sector to **training** programmes, that will help build high competences and **skills** in the field. (EID)
- **Developing sustainable joint doctoral degree structures (for EJD only)**
 - The proposal, involving three of Europe leading universities in geoinformatics, describes a sustainable joint common structured **doctoral programme** including a modular course programme. (EJD)
 - There are very convincing and appropriate concrete measures to further establish a permanent and sustainable **doctoral programme** delivering joint degrees in the field, with inclusive potential for additional institutions to join. (EJD)
 - The consortium provides a convincing sustainable joint doctoral degree structure. (EJD)
 - The programme properly maps onto the strategic **objectives** of the EU and will therefore strengthen European **innovation** capacity in an appropriate field/ convincingly demonstrated by the **intersectoral**, international and **multidisciplinary** components of the research and **training** programs. (EJD)
 - The program will add to EU **innovation** capacity by generating knowledge for the development of efficient plasma-catalysis CO₂ valorization and by providing skilled researchers which are exposed to **multidisciplinary** and **intersectoral** research environments. (EJD)
 - The relevance of the proposed action to the ESRs doctoral studies is evident and the proposal plausibly guarantees the sustainability of the RISEplus double PhD degree programme. (EJD)
 - Most of the partners have previous experiences in joint degrees doctorates and this project has solid basis from this point of view. The partners, indeed, show a strong **commitment** on the idea and on the importance of producing real working joint degrees and make them stable also for the future. (EJD)

Quality of the proposed measures to exploit and disseminate the results

- **Dissemination of the research results**
 - The **dissemination** plan by other channels is sufficiently covered with website, newsletters, schools, e-learning and social media activities.
 - The **dissemination** plans take into consideration leading scientific journals and international conferences, as well as other channels to spread the scientific results of the project.
 - The **dissemination** strategy for the project results is highly appropriate. The proposed measures are fully elaborated including the use of social media and well defined **target audiences**. The strong track record of the participating academic organisations in publication of results, lends a high degree of **credibility** to the proposed measures.
 - The proposal properly describes a wide range of **dissemination** activities supported by a committee in charge of the **dissemination** strategy
 - An excellent set of **dissemination** activities is properly described. ESRs will also be trained to

- produce short videos to disseminate the results of their research within their community and to the general public.
- The idea to involve an independent freelance science journalist to support ESRs in broadening the range of **dissemination** and outreach activities is excellent.
 - Diverse and very good **dissemination** measures are addressed to reach scientific community, industry, policy makers and the general public.
 - The ESRs' plan for creating the project related educational freely accessible videos (YouTube) is an excellent route to gain attention from wider audience.
 - The **dissemination** of scientific results to the scientific community and pharma are clearly and convincingly presented. In addition to standard **dissemination** in scientific journals and symposia, a web-based knowledge database will be generated as a repository for expertise created in the network, to serve global research communities.
 - The proposal description provides a detailed plan for **dissemination** of the research results that is very credible. All ESRs are involved in PhD programmes. All ESRs will have oral and poster presentations at international meetings. The proposal clearly presents adequate measures for **dissemination** to different stakeholders.
 - The proposal puts forward a wide variety of measures to exploit and disseminate the project's results. A number of these are quite standard (tested and proven) but the consortium has thought of a number of **innovative** ways (including social media) to make the **dissemination** effective. Very good feature here is that the ESRs will play a key role in the **dissemination** via modern media. **Dissemination** of the research results is planned in top journals and major international conferences which again is very positive since it will ensure visibility of ESRs in the scientific community.
 - A wide range of scientific, policy and media-level **dissemination** activity is foreseen.
 - The **dissemination** plan addresses different target groups and channels of delivery. (EJD)
 - There is a clear set of diversified, achievable and appropriate measures and **deliverables** planned to disseminate the results to different **target audiences** through different channels, addressing academia and industry. (EJD)
 - A variety of channels will be used to disseminate the project results including publications with **open access**, **open access** to data via OpenAIRE+, international scientific conferences, websites, social media, internal magazines and newsletters. (EJD)
 - The project **dissemination** plan includes appropriate activities/is convincing as it considers possible publications in peer-reviewed journals but also other measures, like conferences, seminars and web-based promotion. It is in line with the type of **dissemination** carried out in the research field. (EJD)
 - The **dissemination** strategy (publications, website, conferences) is clearly described/ follows regular channels regarding scientific **dissemination**, scientific community building.
 - A dedicated **work package** has been described around **dissemination**, **exploitation** and capitalisation of results. (EJD)
 - The usual routes for scientific **dissemination** are used effectively, including **open access** and arXiv to increase the benefit for the broader community. (EJD)
 - The measures proposed to disseminate the project results including international conferences, publication in peer-review journals, **open access** journals are efficient. (EJD)
 - The proposed measures to disseminate the project results are good, with 3 publications planned per ESR during his/her PhD program. All major stakeholders are involved in the **dissemination**. (EJD)
 - Available institutional repositories offering free online access to scientific journal articles and reports will be used, which will increase the visibility and availability of the network's output. (EJD)
 - The **dissemination** strategy is very well described and **quality** of the proposed measures is demonstrated. The **dissemination** plan for research results is comprehensive and detailed.
 - The main target groups, the corresponding content and measures of **dissemination** have been carefully identified in a comprehensive table and include indicators to measure the success of **dissemination**.
 - The strategy for **dissemination** to academic audiences is well addressed and includes specific reference to appropriate journals and conferences.
 - The envisaged **dissemination** measures are sound and pertinent, items are well identified, publication journals and events are used effectively.
 - The internal **dissemination** strategy is clearly defined based on the seasonal schools and

workshops.

- There is some provision for meetings, an EGU session, and **open access** journal publications to disseminate results at scientific level.
- The **dissemination** of scientific results will be guaranteed through publications and participation in international conferences.
- Measures to disseminate publishable results to the scientific community and other relevant stakeholders are very effective; appropriate attention is given to **dissemination** through the Agriculture & Food Development Authority of Ireland given its capacity to reach a large number of farmers.
- A sound plan to disseminate the research results is in place with well identified **dissemination** channels such as publications in highly reputable scientific journals, participation in scientific conferences and participation in exhibition.
- Activities for the **dissemination** of the results to the potential users and to a wider community have also been taken into account. Of particular interest the involvement of high schools as breeding ground for future ESRs.
- The proposed website is very effective in **dissemination** of the project results to the stakeholders.
- **Dissemination** of scientific results through scientific publications in peer-reviewed journals is well planned. Workshops, summer schools and conferences are also foreseen.
- The **dissemination approach** is suitable and the project will disseminate the results via a number of forums.
- The planned activities for **dissemination** of the project results are of good **quality** with a clear involvement and contribution of each early stage researcher. Specific efforts are also intended to make the project outcomes publicly available.
- The plans for the **dissemination** of the project results are clearly described and are reasonable, including an appropriate number of journal contributions.
- Quantitative measurable **approaches** with qualitative goals for the **dissemination** of the project results are well considered.
- The proposal clearly defines the main **objectives** of its **dissemination** strategy.
- A comprehensive plan for **dissemination** through a number of relevant channels is proposed. The main **dissemination** activities are well addressed and summarized in a comprehensive table. Also, the scientific periodicals, related networks etc., are identified.
- The proposal includes well-formulated and very different **dissemination** activities towards scientific and industrial communities as well as general audiences. It also lists a set of formats that will be used in these activities. By releasing open-source packages that implement their anomaly detection methods, the academic beneficiaries will create a long-term sustainable platform that can be used in further research.
- The **dissemination** strategy is coherently elaborated through scientific publication in ranked journals as well as through presentations at conferences, seminars, etc. The plan for publications is realistic, with high-**impact** journals detailed.
- In general, the **dissemination** of the research results is adequately outlined and supported with planned publications in top ranking scientific journals.
- The proposal targets good selection of publications in applied fields for **dissemination** purposes.
- A range of traditional measures are proposed which suit the **dissemination** to the **target audiences** identified.
- The **dissemination** strategy is globally well formulated by addressing different targets : scientific community (papers, textbook), potential customers (open **innovation**, newsletter, Think Tank), and society. A **Dissemination** and **exploitation** Board will be formed to set up general principles for IPR, review publications, consult the industry partners and decide on potential patents. (EID)
- The **dissemination** plan is appropriately detailed for scientific experts, in the extended network of beneficiaries and partner organisations, with publications in high **impact** journals. (EID)
- The **dissemination** strategy is balanced and described in detail. It is focussed at both academic and industrial communities. The **dissemination** plan is realistic and contains both standard and modern aspects. (EID)

- **Exploitation of results and intellectual property**

- By the proposed step-by-step **dissemination** procedure, the project demonstrates a professional **approach** for its research valorization and IPR strategy in order to facilitate the protection of results and to avoid interference with the publishing needs.
- The measures for **exploitation** are well detailed, and comprise effective procedures for IPR protection.
- **Exploitation** strategies are carefully prepared and very effective. IPR rights are carefully **considered**.
- The potential for **exploitation** and commercialisation of the project results is sufficiently explained and IPR regulations outlined.
- Plans to negotiate **exploitation** and IPR issues are covered convincingly and involving a highly qualified patenting company is considered a forte of this proposal
- The commercial **exploitation** is given appropriate consideration, especially due to the nature of the project.
- The **exploitation** of the project results is well discussed. The **exploitation** plan is adequately described through the creation of a start-up.-
- Clear identification of potential IP rights of the project that will be evaluated by an IP Team which ensures the right protection and **exploitation** of the results.
- **Dissemination** plans, including **open access** policy, are well articulated and individualised according to each ESR's program. The plans also include **dissemination** to enhance the reach and take-up of results in other fields beyond the direct scope of the project. The proposed ETN has a strong focus towards **innovation** & IP **exploitation**, with support from academic experts, complemented by valuable and meaningful mentoring from industrial leaders in the sector. Policies on protecting and Exploiting foreground IP will be agreed at the start of the project, and defined in a Consortium Agreement signed by all participants.
- **exploitation** aspects are well outlined, for example different software updates for computer-based fire modelling/simulation applications will be Exploited through spin-offs if the results are owned by an academic participant, or directly Exploited in case of an industrial participant. IPR is appropriately considered.
- The aspects of IP protection and **exploitation** for potential commercialization by **non-academic** partners have been considered in detail.
- The **exploitation** measures foresee changes and improvements in teaching curricula (university **management**, policy actors and wider academic debate).
- There is a very good strategy for results **exploitation** and IPR, setting clear rules for the ownership of the potential results.
- Commercially Exploitable results are foreseen to lead to license agreements for direct **exploitation** by the industrial partners, as well as the possibility to create spin-out companies where ESRs will be involved.
- The proposal is exploring new electrodes and photoelectrodes what is expected to have a positive **impact** on the European **innovation** capacity. (EJD)
- A detailed IPR regulation to protect the industrial partners will be discussed and regulated in the Consortium and Project contracts.(EJD)
- Several important measures for **exploitation** of project results (publication and commercial application through industrial partners, licensing if applicable, generation of IP, new projects with industry) are indicated. (EJD)
- The issues of **intellectual property** rights and confidentiality will be appropriately handled. (EJD)
- **Intellectual property** policies have been agreed between the different participants, and possible patent-protected results are expected. (EJD)
- The proposal addresses well the IPR procedures The regulations on IP will be laid down in the consortium agreement and continuously reviewed by the **Intellectual property** and **exploitation** Committee and IP offices of beneficiaries. (EJD)
- The plans for the **exploitation** of the research results are also clearly described.
- The discussion about results **exploitation** as well as vision on IPRs **management** are clear and sound.
- ESRs will be encouraged to participate in webinar courses organized by the European Patent Office.
- The relevant means of the project outcomes' **exploitation** are identified. The research outputs will be exploited by academic participants and by a wide range of practitioners and regulators.

- The project may produce fertilizer products that will have strong potential for market **exploitation**, strengthening the European competitiveness.
- Members of the consortium have a very solid record in **dissemination** and **exploitation** of scientific results, in terms of publications, conference organisations, access to scientific data, and IP **management**.
- The provisions to manage **Intellectual property** Rights issues are adequate.
- IPR issues are well covered. A list of expected IPs is provided and the industrial partners will have a key role in the results **exploitation**. The proposed commercial **impact** is realistic.
- Storage of the project results after the end of the project is carefully planned for long time preservation of the data.
- The **exploitation** of the results and the handling of the **intellectual property** rights are convincingly addressed.
- The procedures for **intellectual property** rights protection and **exploitation** of results are accounted to a sufficient extent.
- A plan for **exploitation** of project results is explained, encouraging their commercialisation within or outside the network.
- The proposal clearly explains the way the results will be exploited while also properly taking into account the IPR issues.
- Several research outputs of this industrially oriented proposal are likely to be industrialised and commercialised. The proposed measures to exploit the project results are effective and realistic. (EID)
- A significant portion of the project outcomes will be available as open source, which will boost the **impact** of the project. (EID)

Quality of the proposed measures to communicate the activities to different target audiences

- **Communication and public engagement strategy**

- **Communication** and **public engagement** measures are well developed and committed to Communicate the project activities to a large scale audience and involve awareness of different segments of the public towards sustainability, in particular teachers, school children and policymakers.
- All ESRs will participate in a number of specific public science events on both the local and the European level, and are explicitly expected to undertake a **public engagement** project. The proposed, well established public outreach activities are sufficiently described and convincing.
- The **public engagement** strategy is in general well described and **Communication** measures are meaningful.
- Proposed measures to Communicate the research results to different **target audience** are well defined, and Exploit publishing in the general press, public talks, etc. All ESRs will have an active role in outreach activities, as for example, they will have to write one non-specialist article devoted to the public.
- The proposal describes a good plan of **Communication** of the project results to the scientific community, not only including specialised journals, but also national and international congresses and meetings. It includes the participation of local IP specialists and network-wide **supervisory** bodies.
- The **Communication** plans to the wide public are very promising and ambitious, taking advantage of several channels to reach different types of audiences. Partnering with a company whose main profile is the popularisation of science is a good premise for the effective **Communication** of project activities outside the consortium.
- A comprehensive strategy for **Communication** and **public engagement** is included in a dedicated WP. Multiple media will be used for **Communication**, which will improve visibility of the project and outreach to **target audiences**.
- A comprehensive and detailed **Communication** plan is presented. The plan highlights the various actions which are envisaged for reaching to the different target groups. The plan will engage both the ESRs and their **supervisors**.
- Outreach activities addressing the general public, some of which are original, are given proper attention; the activities are appropriate and their **impact** on several **target audiences** is meaningful. A variety of **Communication** channels will be used (web-based and direct interaction), broadening the range of audiences. The **commitment** to have researchers

systematically participate in the local outreach activities is an important contribution to Communicating science.

- A concise plan for **Communication** of project activities to **target audiences** is provided. The proposal adequately maps and targets all relevant audiences. The **quality** of proposed measures to Communicate the project activities to general public is high.
- The **Communication** and **public engagement** strategy has been well thought out at the local level. It is clear that an important aspect of outreach activities is to attract young people to Science, Technology, Engineering and Mathematics.
- The **Communication** and **public engagement** strategy is described in detail.
- The organization in **public engagement** events (e.g. interactions with students at schools, participation in open days, etc. has been foreseen with the active involvement of the ESRs, e.g. as Marie-Curie ambassadors in info days and the researchers night.)
- Contacts are envisaged with respect to EU policy makers and relevant EU institutions (i.e. JRC Unit Sustainable Production and Consumption).
- The proposed measures to communicate the project activities to professionals are appropriate. Special attention is paid to DIGIdays, dedicated promotional events at each beneficiary that offer expertise and information to professionals. (EJD)
- The subject focus of this research lends itself to encouraging **communication** with the general public. Outreach days are planned in **non-academic** venues. (EJD)
- All **work packages** include tasks involving public partners, citizens and local authorities/ a good set of **communication** activities is proposed. (EJD)
- The active involvement of the recruited ESRs in the planning and implementation of the proposed outreach activities is clearly demonstrated. (EJD)
- The Joint Outreach Activities plan to deliver project activities to different **target audience** is carefully prepared and presented. Different activities are planned to make the main conclusions of the project accessible to different audiences. Amongst them, activities such as Open Lab days can help to make much more accessible the research to a general audience. (EJD)
- The ESRs will be encouraged to actively engage in the local outreach activities, acquiring some useful experience in science **communication**. (EJD)
- Some of the participants have good track record in communicating to different **target audiences**; some interesting initiatives are proposed, e.g. bi-monthly newsletter and pedagogical lecture notes by the ESRs. (EJD)
- There are opportunities to capture stakeholder input and views through engagement activities, rather than it being simply a uni-directional flow of information from the research base. (EJD)
- There is a very good plan to communicate to the general public the main results of the EJD, by using different divulgative environments for general audience, such as Semaine de la Science, Café des Sciences, European Researcher Night, etc. (EJD)
- The **communication** of the results to wide audiences is very good and includes a wide range of channels. In particular, the **dissemination** measures to include non-specialised journals and general media and different audiences have been adequately discussed with examples, ie. French Science festival. (EJD)
- A wide breadth of **target audiences** is appropriately identified for their **communication** plans.
- The use of the ESRs to edit content on the website and also to manage social media platforms and blogs will further enhance the **dissemination** plan to be developed during the action.
- A range of useful public and educational outreach activities is proposed involving Science Slams, Science Days and TED talks.
- Convincing measures will be implemented to communicate the project activities to different target media, including public media (internet, webpage), conferences to high school students, etc.
- **Communication** and **public engagement** strategy are well elaborated. Proposed measures to communicate are appropriately designed covering EU, national, and local level. Target groups are defined and the timetable provided is realistic.
- Presentations of ESRs at EU-wide scientific events and especially at the Researchers Nights is expected to help increase European networking.
- The proposed **communication** strategy shows **innovative** aspects, such as MSC Ambassadors, visits to schools, or using LinkedIn, which are likely to be effective
- Outreach activities for different **target audiences** are well prepared, they will be realized by social media, websites, newsletters, magazines, promotion in high school, lectures during

"university of the Third Age".

- The proposed **communication** activity plans to spread the information about the project and EU research policies to high-school students, The use of Facebook, Twitter, YouTube and other social profiles is likely to reach a broad group of young Europeans.
- A dedicated website will be developed to integrate all data, code, technical results and **deliverables** of the project.
- The quantitative targets for **communication** to broad audiences (MSC Ambassadors, website hits, social media, school visits etc) have been well thought-through and give confidence that **public engagement** is a major priority of this network.
- A broad range of outreach activities involving all ESRs will further support a wide exchange of information with the general public.
- Plans for **public engagement** have been included in the proposal. Standard **communication** tools (e.g. website, Youtube channel) will be used.
- Convincing measures to communicate the project activities to different target media will be put in place taking advantage of a variety of **communication** channels.
- Divulgarion of the results to various technical groups and economical associations, diffusion of information to media and publication of papers and in popular journals are well worked out. The list of activities proposed for **communication** of results to **target audiences** is presented.
- The **communication** strategy is detailed, includes different target groups (academy, industry, policy makers) and channels and some clearly identified key performance indicators.
- The measures planned to communicate the project activities are presented in the form of an impressive, well thought out strategy that adequately takes into account not only what to communicate, but also how to ensure a proper information flow. A well prepared and informed use of social media is demonstrated.
- For the three targeted audiences (industrial stakeholders interested in the methods developed, scientific community interested in the results, national and European authorities) appropriate means of **communication** are developed. Moreover, a distinctive and **innovative** feature for **public engagement** is the "Open research night" with the theme "Re-imagining transport" during by-annual meetings.
- The planned outreach activities are entirely appropriate. They are supported also by the participation of a museum active in science outreach. Specially notable is the organization of the exhibition "Chemistry and Evolution of the Universe", the text of which will be translated in many languages to make the event accessible in many countries.
- The consortium will take an advantage of the existing outreach initiatives developed during the recent years through dedicated social media channels.
- The **communication** plan is presented clearly and the frequency of **communication** activities is sufficient to address the proposal **objectives**.
- The opportunities mentioned in various Workshops and Technology Fairs are appropriate.
- The public outreach plan is extensive and specific examples where the results can be shared with different **target audiences** at school and open day events in the member nations' home areas are provided.
- The **communication** activities are well covered including relevant media, Wikipedia, social media activities, e-learning and Science Night events. Direct contribution from the ESRs is convincingly included.
- The **communication** and **public engagement** strategy of the project, such as workshop days, project open days, public discussion, public talks, are suitably planned. (EID)
- A wide range of **communication** and outreach activities (eg videos, podcasts, blogs & multimedia, e-newsletter, web site) are proposed. (EID)
- The proposed measures to communicate the project activities to the general audience are modern, diverse and effective. For example, ESRs will organize events at schools and communicate the project results by using social media. (EID)
- **Communication** activities towards wider professional community are justified and well planned. (EID)
- The consortium has proposed credible and generally well identified **approaches** for **communication** of the project activities to different **target audiences**; for example, through science festivals, European researchers' night and engagement with schools and relevant stakeholders. (EID)

Weaknesses:

Enhancing the career perspectives and employability of researchers and contribution to their skills development

- **Impact of the research and training**

- The research proposed is a highly specialised niche area that will limit opportunities for employment especially since the ESRs are not trained for the clinical setting.
- Specific measures that would enhance the **employability** of researchers after the end of the program are not clearly foreseen.
- Despite the fact that ESR exposure to big industry is likely to enhance their **employability** horizon, other **career perspectives** of ESRs have been too vaguely considered.
- The proposal does not address in sufficiently convincing terms how the researchers' **career perspectives** and **employability** would be enhanced through the proposed project.
- Description of how the proposal enhances the **career perspectives** and **employability** of researchers is short and very generic.
- The proposal fails to provide convincing evidence of enhancing **career perspectives** and **employability** of researchers which goes beyond the proposed **training** programme.
- The proposal does not convincingly address how the **career perspectives** and the **employability** of the researchers would be increased.
- Prospects of employment in **non-academic** fields are not enough substantiated.
- A comprehensive analysis regarding the future **employability** aspects of the recruited ESRs is not provided. (EJD)
- The **career perspectives** are very superficially covered. The proposal does not adequately discuss the **employability** of the ESRs, especially in the **non-academic** sectors. (EJD)
- The career opportunities enhanced by this ITN, particularly in the academic sphere, are not explained in a concrete fashion, but largely through generic statements. (EJD)
- Specific activities or outputs which will increase **employability** (including the development of non-scientific **skills**, career-readiness and **employability** of the ESRs) have not been explicitly described; the statements are too generic and are not linked to the programme **objectives**/there is a lack of detail on concrete measures. (EJD)
- The lack of involvement of the industrial sector or secondments on industry takes the possibility away of practical education in this area, which reduces the **employability** of the ESRs. (EJD)
- The proposal described the overall **impact** on ESRs career prospects in a too general manner and insufficiently justifies the ESRs **career perspectives** with a clear correlation between the exact job opportunities/needs and the provided **training**. (EJD)
- Available institutional repositories offering free online access to scientific journal articles and reports will be used, which will increase the visibility and availability of the network's output. (EJD)
- The targeted area has already been strengthened by previous EU projects in this area including ITNs which compromises the added value of the project. (EJD)
- The potential success of the proposed novel structure of early stage **training** in the area is not properly substantiated.
- **Impacts** of the research and **training** programme on the academic and **non-academic skills** and working conditions of the ESRs are explained in a very generic way.
- Envisaged strengthening of European **innovation** capacity is not convincingly presented.
- The proposal does not adequately describe how the programme will enhance the ESRs **career perspectives**.
- The contribution of the research and **training** activities to structuring **doctoral/early-stage research training** at the EU level is not persuasively demonstrated. The **impact** of the programme on **doctoral training** at the European level is only briefly addressed. The contribution of the programme to strengthening European **innovation** capacity is insufficiently demonstrated.
- Specific **employability** perspectives for the ESRs are insufficiently described. Furthermore, the proposal presents a foreseen need of professionals on GS interaction that is not founded on a real demand analysis apart from the needs of the academic world to unveil a relevant physical - chemical set of processes that are not completely known.

- The **innovation** capacity at European level is insufficiently described, and it is unclear how all the ambitious goals set are going to be achieved.
- It is not sufficiently demonstrated in the proposal how the scientific **training** will improve **career perspectives** in the academic sector.
- It is not clearly demonstrated in the proposal that the project will contribute to structuring early stage **training** - in addition to the **training** already existing in this field.
- Little specific detail is presented how this project contributes to strengthening the European **innovation** capacity.
- The proposal does not elaborate enough on the value, content and transformative effects of the secondments programme.
- A contribution of new **skills** to **career perspectives** and future employment of ESRs i.e. in the commercial sector is not discussed in sufficient detail.
- The lack of specialised scientific and quantitative analytical **skills** in the programme could limit **career perspectives** beyond the consulting industry.
- The proposal is not entirely convincing in its argumentation that the demand for consultants with such a specific expertise is high enough to enhance the **employability** of the ESRs.
- The narrow study area restricts the applicability of results to other European energy areas where very different geopolitical factors may operate and the role of intermediaries may reflect very different geopolitical and national considerations.
- The contribution of the proposed **early-stage research training** at the European level and to strengthening European **innovation** capacity is insufficiently justified.
- While some of fellow's individual projects are well suited to result in a sizeable number of peer reviewed papers, some others seem not so ambitious in this respect, reducing the **impact** of the project.
- The proposal does not sufficiently demonstrate how the **non-academic** sector participants contribute to the non-experimental **research training** and the maximization of the project **impact**.
- It is not convincingly demonstrated how the proposal will contribute to strengthening European **innovation** capacity in fields of energy storage and CO2 capture and conversion systems.
- The measures for structuring a doctoral **research training** at the European level as well as for strengthening European **innovation** capacity in the project field are insufficiently described.
- The lack of specificity and depth, as well as the vagueness in the novelty of the proposed research, raise serious doubts on the potential **impact** of this project on the European **innovation** capacity and skill development of the ESRs.
- The contribution to structuring **early-stage research training** at the European level is insufficiently credible (e.g. postgraduate **training** programmes).
- It is not convincingly demonstrated that the project will significantly enhance the **career perspectives** of the ESRs.
- The very focused technological and research approach on testing natural products using a single model (zebrafish), limits the **employability** of the researchers in a wider range of disciplines.
- Enhancement of ESR careers and **employability** has not been convincingly demonstrated.
- The relation of the proposed research and **training** programme with other existing ones at European level is not considered; this weakens the contribution to strengthening European **innovation** capacity.
- The proposal lacks of convincing information to address the **impact** of the **multidisciplinary** nature of the **training**.
- Contribution to structuring doctoral **research training** is vaguely described with no relation to strengths of the presented group of partners.
- The **impact** of the programme on the career prospects and **employability** of the researchers is not well explained. Specific new **skills** that will give fellows advantage in the job market are not well identified. (EID)
- Despite employment opportunities at the industrial partners, the case for the added value of the skill sets for the employment market provided by the programme to the Early Stage Researchers is insufficiently demonstrated. (EID)

Contribution to structuring doctoral/early-stage research training at the European level and to strengthening European innovation capacity, including the potential for:

- **Meaningful contribution of the non-academic sector to the doctoral / research training**
 - The proposal does not convincingly describe its contribution to structure doctoral/early-stage **training** at the European level.
 - The expected contribution of the project to structure the scientific **training** in Europe in the long-term is not convincingly explained.
 - Specific measures to contribute to structuring doctoral **research training** in Europe is insufficiently covered in the proposal.
 - It is not clearly explained how the proposal will meaningfully contribute to any further progress in the social investment **training**.
 - Contribution of **non-academic** sector to the overall **training** is not adequately explained in the proposal.
 - The **skills** development during the research and **training** programme is mainly focused on Input-Output models, therefore may limit the nonacademic career opportunities only to company segments where such models are important.
 - Apart from the importance of the topic, the contribution to structuring doctoral/**early-stage research training** at European level is not adequately underpinned and its argumentation remains vague. The proposal does not concretely describe how the **innovation** capacity / potential at European level would be increased through this project; the **impact** remains unclear.
 - The explanation on how the research project contributes to European **innovation** capacity is very generic. (EJD)
 - The proposal does not sufficiently address the potential contribution of **non-academic** sector to the **doctoral training**/ is too modest to provide the ESRs with adequate exposure to industrial environment, its priorities and challenges. (EJD)
 - While there are strong industry players in the partnership, their role is not very clear. Overall, collaboration with industry is very generically described and industry related **communication** activities have not been sufficiently identified. (EJD)
 - The outcomes of the research program will boost European **innovation** capacity by enhancing the competitiveness of the participating research teams in emerging sectors. (EJD)
 - The description of the contribution of the **non-academic** sector to the **training** lacks detail. (EJD)
 - Specific details are missing on how to address specific stakeholders from the industrial sector outside the consortium.
 - The **impact** of the **non-academic** sector at the **training** level is insufficiently demonstrated.
 - The opportunities presented by **non-academic** sector to obtain the practical **training** required to enhance the ESRs **employability** prospects are not sufficiently elaborated.
 - The specific needs of the social enterprises are not fully detailed.
 - The **skills** gaps in the sector are not clearly evidenced or linked to the ESR's **training** and **research programme**.
 - The potential benefits of the uptake of digital **innovation** by social enterprises are not sufficiently presented
 - The contribution of the **non-academic** sector to the **research training** is limited to hosting few secondments per partner and vaguely defined participation in **training** events.
 - The sustained contribution of the **non-academic** sector to structuring the **training** of researchers is not sufficiently specified.
 - The specifications of benefits and expectations of the **non-academic** partners are insufficiently articulated, and potential **employability** of the ESRs in the academic sector is not sufficiently considered.
 - The contribution of this network to structuring doctoral and **early-stage research training** at the broader, European, level is not convincingly shown in the proposal.
 - The required **Commitment** Letter of the **non-academic** participant is not included in the proposal. Therefore, the **non-academic** participation is limited to only one beneficiary.
 - The proposal fails to explain in sufficient detail the foreseen interactions between ESRs at **non-academic** host institutions with respect to career-perspectives.
 - The contribution of some **non-academic** sector organisations is not sufficiently specified. The existing explanation is narrowed down to a few of the partner organisations.

- The proposal does not contribute in the best way to structuring **research training** in Europe and the proposal only generically describes how this will enhance European **innovation** capacity. (EID)
- Meaningful contribution of the **non-academic** sector to the **doctoral programme** is not convincing, due to the lack of details demonstrating the unique role of the industrial organisation in structuring the doctoral school. (EID)
- Actions to contribute to structuring the **doctoral training** at the European level are not presented in detail. (EID)
- The proposal does not provide substantial arguments for the EID positively influencing European **doctoral training**. (EID)
- The contribution of the project to structuring PhD **training** at European level is not convincing. Moreover, the sustainability of the collaboration of the participating organisations beyond the lifetime of the project is unclear raising doubt on the sustainability of the proposed programme in the long term. (EID)
- The strengthening of European **innovation** capacity in the project area is not appropriately described. (EID)
- **Developing sustainable joint doctoral degree structures (for EJD only)**
 - The proposal does not pay enough attention to the EJD sustainability and thus the presented elaboration is not totally convincing/ Development of sustainable joint doctoral degree structures is not clearly demonstrated. (EJD)
 - The sustainability of the Joint Doctorate is not convincingly described as financial sustainability is minimally addressed and the role of the industrial partners in the sustainability of the program is not fully explored. (EJD)
 - Due to the low **innovation** content of the proposal its contribution in strengthening European **innovation** capacity is rather weak/ is not explored at depth. (EJD)
 - The motivations for extending the previous IRAP European Erasmus Mundus Joint Doctorate programme are not convincingly presented: the new aspects envisioned for this ITN are insufficiently highlighted. (EJD)
 - The contribution of the proposed EJD project to structuring doctoral/ **early-stage research training** at the European level, developing sustainable joint doctoral degree structures, and strengthening European **innovation** capacity is not sufficiently demonstrated, being limited mainly to future bilateral agreements between EJD project beneficiaries. (EJD)

Quality of the proposed measures to exploit and disseminate the results

- **Dissemination of the research results**
 - Strategies for creation and approval of new content for **dissemination** to the general public are not clearly defined.
 - There are not enough details on the scientific forums (journals, conferences, societies etc) to be targeted via **dissemination**.
 - The proposal lacks detailed discussion on how the results would be disseminated to the public and private policy makers. It is unclear how **dissemination** activities would be conducted by 'personal contacts', and how the results would be disseminated to the academic audience.
 - The proposal does not provide sufficient information on the **dissemination** activities planned outside the academic society.
 - The **exploitation** and **dissemination** plans are insufficiently detailed in order to clarify the measures for involving stakeholders and local administrators and to provide **open access** to the data.
 - The scientific **dissemination** through high **impact** publications and conferences is insufficiently detailed.
 - The strategy for **dissemination** of results to other EU/International networks and professional bodies is not fully elaborated.
 - The measures to verify **dissemination** of the project results are not very clearly presented, for example, the intended number of papers in top indexed journal or conference papers is not mentioned.
 - The contribution to **research training** at the European level and how it Strengths the

- European **innovation** capacity is not described.
- The justification for exploiting and disseminating the project results lacks detail, especially given the rich array of market/social stakeholders and real-life research settings involved. (EJD)
 - There is no clear reference to Key Performance Indicators to evaluate the project **dissemination**, **exploitation** and **communication** activities. In particular, the proposal does not set specific publications goals for ESRs, which would also help assess the targeted excellence and success of the individual projects/ usual minimum requirements for internationally reviewed publications in conference proceedings or journals is not met in all dissertation projects / no detailed academic **dissemination** strategy: the proposed measures are too generic. (EJD)
 - The focus is very strongly on **dissemination** of results to non-specialists; little information is given about the plans to disseminate the results to peer groups or the wider international scientific community. (EJD)
 - Involvement of the beneficiaries and associated partners in the **dissemination** is not convincingly addressed (i.e Activities of the industrial partners in fairs and exhibitions are not well-identified). (EJD)
 - Targeted conferences and publications for the proposed **dissemination** are not identified.(EJD)
 - The external **dissemination** strategy is described in an unconvincing manner and is insufficiently detailed.
 - Non-scientific stakeholders (apart from policy-makers at European level) are insufficiently considered. **Dissemination** to practitioners is limited to local events in regions where an academic partner is present.
 - Quantitative **dissemination** benchmarks like the number of submissions to targeted peer-reviewed media are not specified clearly enough in the proposal.
 - There are insufficient concrete **objectives** identified for the **dissemination** activities and the timing for them is also insufficiently addressed.
 - The description of scientific **dissemination** plan lacks details, neither journals and conferences are listed, nor other **innovative** ways of **dissemination** discussed.
 - Workshops that can create an opportunity to exchange information between the researchers are not adequately elaborated in the proposal.
 - There is an insufficient description of plans to leverage key stakeholders and agencies to help disseminate the results across industry.
 - The roles and responsibilities of consortium members regarding **dissemination** activities are not sufficiently well discussed.
 - The involvement of the ESRs in the various **dissemination** activities is not explained in detail.
 - **Dissemination** to other EU/International Research Networks/programmes is not well considered. Furthermore the web site will be launched several months after the project has started.
 - It is not specified in how many **dissemination** activities each ESRs will participate. The particular activities are not presented in sufficient detail, only as general consortium activities.
 - Planning is insufficiently described. Although in the proposal quite a number of **dissemination** methods are proposed, including scientific publications, website, seminars to public office holders, tweets etc, **dissemination** activities described are limited in scope and mostly one **dissemination** event is planned for month 11.
 - The **dissemination** strategy is not compellingly presented. Whilst different measures are put in place to realise **dissemination**, the proposal does not explain in sufficient detail how the effectiveness of such measures would be determined. **exploitation** of results and **intellectual property** issues are unsatisfactorily tackled.
 - The **dissemination** strategy and activities of the project outcomes are not sufficiently detailed.
 - The transformation of outcomes into teaching materials, seminars, relevant conferences, the academic journals is not adequately described.
 - The **dissemination** strategy is not adequately presented and the participants roles/responsibilities are not clearly divided.
 - The proposal insufficiently describes the **dissemination** strategy. Furthermore, **dissemination** towards the industrial sector, policy makers, etc. is not well addressed.
 - Whilst a range of **dissemination** measures is provided, how the effectiveness of such measures will be determined is not explained at a sufficient level of detail.
 - The planned scheduling for the **dissemination** strategy is too late to exploit the full potential of the planned outreach activities. (EID)

- The proposal focuses on the **dissemination** to scientific and industrial audiences for high level specialists. There is insufficient detail about the public at large, including engagement with patients. (EID)
- The proposal provides only general **dissemination** actions for the academic and industrial environment with no clear measurable plan. (EID)
- The plan for **dissemination** of the research results is insufficiently described. It is not enough specific, for instance publications targeted per ESR are not clearly defined. (EID)
- The **dissemination** strategy is insufficiently elaborated. The specific audience to target for the **dissemination** of the project results is insufficiently considered and the active contribution of the Early Stage Researchers is limited. (EID)
- **Exploitation of results and intellectual property**
 - The commercial **exploitation** of the results of the research on the specific pathways under investigation in the project is not presented in a convincing manner.
 - The strategy for **exploitation** of project results is not adequately detailed. Also, the role of the large industrial partner organisations in the consortium is not sufficiently detailed regarding its potential to become immediate end users. Although many of the findings of the proposed research may have industrial applications, marketable product development is not properly addressed. Furthermore, ESRs will not be directly involved in such activities.
 - The project does not provide sufficient details regarding the measures for the **exploitation** and recognition of project results (e.g. commercial **exploitation**, knowledge transfer).
 - The **exploitation** strategy is not comprehensively developed and it is not sufficiently differentiated from the **dissemination** plan.
 - Though plans for **exploitation** have been addressed, details of how IP will be handled are unclear.
 - IPR **exploitation** rules between partners are not addressed, and convincing measures for effective **exploitation** of results are not provided.
 - The **exploitation** strategy is not sufficiently elaborated, and specific initiatives to involve more partners in the **exploitation** of project results is not convincingly integrated.
 - The measures for commercial **exploitation** of the results, managing IPR and exploiting the final exhibition are not sufficiently addressed. (EJD)
 - The team aims to produce "reproducible papers" but do not explain how the developed techniques and datasets will be compatible across different environments. (EJD)
 - The strategy for patenting results is not properly addressed. (EJD)
 - The **commitment** of handle **intellectual property** between project partners is not given. (EJD)
 - The proposal does not state clearly what will be exploited, by whom and how. (EJD)
 - Statements are made about the need to identify and manage **intellectual property**. However, no processes have been described as to how this will be monitored or achieved. (EJD)
 - A clear **commitment** on the **exploitation** of the results by the **non-academic** sector is not properly addressed. (EJD)
 - Commercial **exploitation** of project outputs by the industrial partners is not adequately explained and there is no description available on how the research will be translated into sustainable value creation. (EJD)
 - Actions for **exploitation** of the project's results are not sufficiently addressed.
 - The proposal describes **exploitation** routes for academic and **non-academic** beneficiaries. Even though the **training** programme covers entrepreneurial topics, the **exploitation** does not mention or elaborate on this possibility.
 - The proposal does not include any indication of IPR, which is postponed for the consortium agreement. It is not clear whether the ESRs will have any rights over the developed IP.
 - It is unclear how the **exploitation** of results will be planned as well as how IP issues are sorted. There is neither general strategy nor specific measures.
 - There is insufficient emphasis on activities to disseminate and exploit the results in relation to policy and policy makers, which is identified as a significant target of the project (ESR5).
 - The IP provisions are not fully clear, with partner organizations solely responsible for identification of the cases needing IP protection.
 - The **exploitation** of the project results is not sufficiently discussed, **impact** on the European **innovation** capacity is not clear.
 - Key performance indicators for the planned **exploitation** activities are not introduced appropriately. Market figures to illustrate the **exploitation** plan are not presented clearly

- enough.
- Access conditions to background knowledge of the participants are not addressed in the proposal. The allowed flexibility to confirm the ownership of foreground only at the end of the project creates a danger of jeopardising effective protection of **intellectual property** rights during the project.
- A successful **exploitation** would require **dissemination** specifically to global energy/consultancy concerns which is not sufficiently developed in the proposal.
- The measures proposed for the **exploitation** of the project results are too generic and demanded to a future **exploitation** plan yet to be prepared.
- There are only very preliminary and general ideas concerning **exploitation** of the project outcomes. Commercial **exploitation** of project outputs by the industrial partners is not adequately explained and there is no evidence available on how the research will be translated to sustainable value creation.
- The xxx project **exploitation** plan remains generic and should be delineated.
- The activities/plan for exploiting results and addressing IP considerations are not fully detailed.
- There is a lack of information regarding the planned routes to commercially exploit the project results. Moreover, potential exploitable results have not been identified.
- The possibilities and measures of exploiting the project results are not detailed enough and references to the commercialization of the results as well as IPR protection policy are not presented in sufficient detail.
- The measures to exploit the project results are not clearly described.
- The **exploitation** and **Intellectual property** strategy is not sufficiently covered.
- The **exploitation** plan is only generic and shortly presented. It is unclear how the publication of the research results will be compatible with IP **management** for the ESRs working closely with **non-academic** partners.
- The **exploitation** plan is not adequately considered, i.e. it does not include examples of functionality and architecture elements for open source and for commercialization.
- The applicants are considering main **exploitation** of the results done by one single beneficiary. (EID)
- The **exploitation** plan of the project outcomes lack sufficient details. Only initial guidelines for **exploitation** are provided and it is not clear if the Early Stage Researchers will have ownership in the **Intellectual property** rights they help create. (EID)

Quality of the proposed measures to communicate the activities to different target audiences

- **Communication and public engagement strategy**

- The efficiency of the public outreach strategy is not adequately demonstrated, different **target audiences** are not sufficiently identified, needs of various target groups are not recognized.
- The proposal does not describe how the project activities will be Communicated to the industrial sector outside of the project.
- The role of ESRs in carrying out **Communication** actions towards the general public is not sufficiently specified.
- The **Communication** strategy does not sufficiently consider policy makers, who represent a very relevant target group given the topic addressed.
- The **Communication** plan is very short and remains cursory, with generic references to the press and the European Researchers' Night. The plan for media outreach is inadequately described in the proposal. Specific **target audiences**, such as the migrant groups being studied, are not well integrated into the **Communication** plans.
- **Communication** towards decision makers or regulatory bodies is not adequately considered.
- The proposed measures to Communicate the project activities to the general public are not well balanced within the partners.
- The **Communication** and **public engagement** strategy is insufficiently explained in the proposal and lacks clear means to realize such a strategy towards wider outreach. Target groups and the **Communication** tools for each of them are not sufficiently explicated. Furthermore, foreseen outreach activities remain on a general level without providing adequate information on their efficacy to reach a wider audience.
- The specific role of each partner in carrying out the **Communication** actions with different

- **target audiences** is not sufficiently specified in the proposal.
- The proposal does not sufficiently discuss the expected and effective **impact** of **Communication** on the various target groups in question through clear measurable indicators.
- The **communication** measures and plan for outreach to the general public are generic and lack clarity and sufficient elaboration (e.g., it is not clear what the means will be of exciting the interest of the news media, both local and national/ measures for sustained and engaged **communication** with the wider general public and especially younger people). (EJD)
- The proposal does not make it clear how it will be ensured that ESRs have the appropriate **skills** for communicating with the general public. (EJD)
- The role of the industrial partners in the **communication** and **public engagement** is not fully clear. (EJD)
- It is not clear if the proposed outreach activities involve all the beneficiaries and nodes in a fair and balanced way. (EJD)
- There is a lack of creativity in the **communication** tools and **methodology** being used; social media will be used but it is not clear which ones and if there will be dedicated accounts for the programme or individuals outlets. (EJD)
- The different **target audiences** have not been segmented or identified with different **approaches** for each target group - the **communication** messages and **approach** appear to be generic and homogeneous, regardless of the audience. (EJD)
- **Communication** activities do not take into consideration policy makers and financial bodies. (EJD)
- The proposal lacks KPIs for measuring success in **communication** to different **target audiences** and gives insufficient detail concerning the specific channels to be used, how frequently they will be updated, by whom, and how the general public will be encouraged to engage with them. (EJD)
- The proposal does not sufficiently describe the individual contribution of each participating organisation to the **communication** actions, and their expected **impact**. (EJD)
- The **communication** strategy is inadequately addressed in the proposal. For example, public participation is not clearly described and no definite strategy towards public involvement is outlined.
- The **communication** towards general public does not take sufficiently into account the specificities of this research field. Other stakeholders are not specifically targeted.
- There is not enough information about the organisation and **management** (who and how) of the planned events. The ESRs participation in these events is not sufficiently explained.
- Targets for the outcome of the **communication** activities have not been addressed. In addition, the time allocated to **communication** activities has not been sufficiently justified.
- **Target audiences** for **communication** are not well defined, and a concrete strategy to involve Lynch syndrome community and patient groups in dialogue is missing. No clear roles for ESRs in this kind of activity is specified.
- The **communication** strategy of the project activities does not sufficiently detail the involvement of public audiences, which is a shortcoming.
- Although the programme aims to work with local/ indigenous communities, there is no clear indication if and how the expected results will be communicated back to them. This includes the issue of local languages, which is not sufficiently considered in the proposal.
- **Public engagement** strategy aimed at society at large (non-specialized audience) is not addressed in sufficient detail.
- The ESR participation in **communication** activities is not sufficiently demonstrated, and it is unclear how the ESRs will obtain experience and strengthen **communication skills**.
- The actual **commitment** of individual consortium members to different **communication** activities is insufficiently specified.
- The involvement of the participants in **communication** to different **target audiences** and the use of social networks are not described in sufficient detail.
- The **communication** and **public engagement** strategy to different **target audiences** is weakly presented. Specifically, outreach activities and measures for the different target stakeholders involved are not properly addressed.
- The project fails to detail how the ESRs will in practice be involved in the **communication** activities to different **target audiences**.
- The efforts and number of potential publications and conference attendance for each ESR is not specified in detail.
- The proposal insufficiently details the **communication** strategy in terms of wider **public**

- **engagement** and outreach: its **quality** and potential **impact** are not clearly demonstrated.
- Although the proposal covers a rather large spectrum of topics and applications, the proposed measures to target different audiences are insufficiently addressed and vaguely described.
- The audiences for the **communication** of the action's results are only generically defined.
- Targeted conferences for the proposed **dissemination** are not identified.
- Some important audiences have not been clearly identified (i.e. policy makers, national research institutions, financial bodies, etc.).
- **Communication** and Outreach activities are generic and not described in sufficient detail. They are not tailored for specific audiences and not aligned with the **work plan**.
- **Communication** measures are too generally described. The specific targeted audiences are not sufficiently explained. **Communications** toward high school students are not sufficiently foreseen. (EID)
- The programme does not propose clear outreach **communication** actions targeting the general public. Two public events proposed will address the professional community rather than general public. (EID)
- The **communication** strategy is less focused on other EU countries through popular social networks. (EID)
- The proposed measures for **communication** are largely generic and do not convincingly demonstrate their connection to the core research activities on team coordination. (EID)
- Most of the scientific **deliverables** will be confidential, which appears to severely limit the potential success of **dissemination** and **communication** activities. (EID)
- According to the **Gantt chart**, the **public engagement** activities will be very limited in time, which will significantly reduce their effectiveness. (EID)
- The **communication** plan does not give sufficient attention to key parties such as patients (at the secondment host in particular) and relevant patient/research foundations. (EID)
- The **communication** strategy of the consortium is not presented in convincing detail. Specific groups of interest are not fully identified (industry sector) and thus dedicated **communication** channels lack specificity. (EID)

Criterion 3 – Implementation

Strengths:

Coherence and effectiveness of the work plan (including appropriateness of the allocation of tasks and resources) (including awarding of the doctoral degrees for EID and EJD)

- **Work packages:**

- The **work plan** is coherent; it includes a good description of the research and **management work packages**.
- The **work plan** is appropriately organized. The **work packages**, tasks, and scientific parts of individual projects are well defined and coherently integrated with the **work plan** structure. Its execution is credible.
- The description of each **work package** and ESR individual projects is clear, and can be considered likely to reach **objectives** in generating new knowledge in the respective areas of research. The overall **quality** and effectiveness of the **work plan** is clear, including the planning and relevance of secondments and their expected **impact** on ESRs' skill set. The allocation of tasks is well balanced between ESRs and between the **work packages**, giving exposure to a variety of research areas.
- The overall structure of the **work plan** is satisfactorily described in the proposal, and is coherent and sufficient for the aims of the ITN. Responsibilities are suitably allocated across the **work packages** to the range of participants in the network. The workload borne by each institution is reasonable and matches its role in the programme and respective budgetary allocation.
- The **work plan** is suitably divided in three scientific, highly interrelated **work packages** that provide an effective **approach** to enable the research proposed.
- The **work plan** is well structured thematically and interconnections among the different partners in research are made sufficiently clear. The planned **work packages** are consistent with project **objectives**.
- The **work plan** is clearly described with coherence between the overall research targets and the subjects of the individual ESR projects. Tasks are well-distributed between the different consortium member based on specific expertise and complementary facilities.
- Allocation of tasks in **supervision** and **training** is very well described and appropriate for the project (Section 5).
- The tasks and resources are appropriately allocated and the roles of the involved partners are clear.
- The distribution of tasks and available resources for each partner is adequate and well balanced.
- The coordinator will play an important role in managing everyday tasks.
- The **work plan** is overall coherent and effective. Flow of information between the packages is logical and strongly binds the project components into an effective **work plan**.
- The **work plan** provides clear information on tasks and roles of partner organisations.
- Good detail on the roles of all the partners as well as planned secondments demonstrates an effective and appropriate allocation of tasks and resources.
- The **work plan** proposed is coherent and effective for the materialization of the aims envisaged, with the designated WPs well aggregating the various individual research exercises.
- There are appropriate descriptions of each of the four **work packages**. **Objectives**, the role of beneficiaries and tasks are clearly specified. (EJD)
- The proposed **work plan** is in line with the proposed research and **training objectives** of the proposed research topics. (EJD)
- Allocation of tasks and resources are appropriate. The contribution of each beneficiary or partner organization to the different tasks well described/ tasks, resources and degree awarding is well-balanced across the consortium. (EJD)

- The planned secondments are relevant to the individual research goals and very well integrated into the overall project plans. (EJD)
- Distribution of tasks properly matches partners expertise and matches aims and **objectives**. (EJD)
- The **work packages** provide an in-depth breakdown of the work which is allocated to partners based on their expertise and strengths. (EJD)
- The **work plan** is properly structured and is reflective of the organisational and performance needs of the programme. Allocation of tasks and resources is appropriate.
- The proposed individual research projects are well elaborated. The **objectives** and tasks of the **work packages** are coherent, realistic and clearly presented. **Objectives**, expected results and planned secondment of ESRs are clearly articulated
- The **work plan** and the allocation of tasks and resources are coherent and very clearly presented.
- The structure of the **work plan** is coherent with the **objectives** and the allocation of tasks and **deliverables** is good for WP1 and WP4.
- The involvement of each ESR in the WPs and the relationship among them is very carefully addressed.
- The different tasks are in general allocated to groups with a large experience in that particular field and the resources are allocated appropriately.
- The **work plan** is coherent with the goals of the project. The **work packages** are well in line with the project **objectives** and the **deliverables** are planned in detail.
- The **work plan** is well-defined and coherent. The proposed research is appropriately structured in nine **work packages** reflecting on four key working areas.
- The proposal provides a very clear, very detailed and fully relevant description of WPs. **Work plan** is coherently and effectively elaborated with clear connections between WPs and ESRs' individual projects. **Deliverables** and **milestones** are well described and tasks and resources are appropriately set.
- The **work package** responsibilities are well distributed among the beneficiaries and the allocation of resources is commensurate with them in the **work plan**.
- The **work plan** is coherent and well detailed. The allocation of tasks and resources are appropriate.
- The **work plan** is very detailed, well-structured and is highly suitable to achieve the desired results of the research guiding the researchers and setting specific targets to be fulfilled.
- The **work plan** is coherent and effective with clear **work packages** breaking down in detailed tasks and proper identification of beneficiaries' responsibilities.
- The proposed **work plan** is clear, good and coherently elaborated. The individual tasks and **objectives** are described in very good detail and the feasibility of the project is well demonstrated.
- The **work plan** has clearly defined **work packages**, **deliverables**, and **milestones**. The individual ESR projects have clear **objectives** and expected results, are well integrated into the **work packages** and secondments of ESRs to the **non-academic** partners are relevant.
- The **work plan** is well formulated and is presented in a logical and structured way which increases the **credibility** of the programme.
- The proposed **work plan** is properly elaborated and it includes **work packages**, **deliverables**, and **milestones**. ESRs individual research projects are concisely described and explicitly related to corresponding **Work packages**. Enrolment of the ESRs to the Ph.D. programmes offered by the beneficiaries is clearly addressed
- The **work plan** is well prepared, comprehensive, properly structured and consistent. The **work packages** logically complement each other.
- Tasks and resources are appropriately allocated, and the leading organisations are clearly identified for each task.
- The description of **work packages**, **deliverables** and **milestones** is comprehensive and well in line with the proposed research strategy.
- The WPs are well aligned and sufficiently described in relation to their content, expected **objectives** and outputs.
- The proposal is well organised in the **work packages** that are consistent with **objectives** and **deliverables**.
- The overall **work plan** is coherent and very professionally elaborated. The interconnections between **work packages** are well evidenced. Tasks and resources are appropriately allocated.
- Allocation of tasks and resources are appropriate and in line with the research work-plan.

- The **work plan** is coherent and effective for the project **objectives**. The **work packages** are clearly defined and a detailed description is provided for each of them.
- The **work plan** structure broken down in two scientific WPs is coherent with the overall **objectives**. The individual ESRs projects are clearly described with a good level of detail. (EID)
- The **work plan** is well structured and the description of each WP is clear and linked to ESRs. (EID)
- The detailed description of the WPs is provided, as well as the list of **deliverables** and major **milestones**. The proposal brings the detailed description of ESRs individual projects. (EID)
- **Deliverables and milestones:**
 - The tasks allocation is clearly defined and related to major **deliverables** and **milestones**. The allocation is well balanced.
 - The **work plan** is detailed, listing clear **objectives**, tasks, resource allocation and the role of the participants. There is a comprehensive **deliverable** list which covers both research and **management** activities.
 - The description of ESRs' individual projects is adequate. They are coherent, with clear **objectives** and **deliverables**. Each ESR work provides a meaningful **milestone** to the project **objective**. Secondments are relevant and well integrated into the overall project plans.
 - There is a clear list of **deliverables** and **milestones** covering all areas of the project and integrating well with the ESR **training objectives**.
 - The list of **deliverables** and **milestones** is comprehensive and well suited for an effective progress monitoring.
 - The **work plan** is clearly detailed with a coherent description of key tasks and a realistic timeline. **Deliverables** for each **work package** are properly described and are relevant to the research **objectives**.
 - The **deliverables** and **milestones** are consistent with the research proposed, and allow proper project monitoring and critical decision making.
 - Potentially patentable results have been identified as **deliverables**.
 - The proposal includes a credible list of **Management, Training, Recruitment** and **Dissemination deliverables**. (EJD)
 - The list of major **deliverables** and due dates is clearly described. (EJD)
 - Clear and appropriate **milestones** and **deliverables** have been presented. (EJD)
 - The **deliverables** and **milestones** are well defined and convincingly structured. (EJD)
 - Planned **deliverables** are sound, the **milestones** are well linked with the **work plan**. The individual ESRs projects are sound and described in detail.
 - **Deliverables** and **milestones** are aligned and suitably picked in order to keep the research and practice of ESRs on track.
 - **Milestones, deliverables** and their due dates are adequately listed.
 - The proposal presents a comprehensive list of **deliverables, milestones** and the individual achievements of ESRs.
 - The proposed **deliverables** and **milestones** are clearly described and are adequate for the **research programme**.
 - The list of scientific **deliverables** is adequately explained along with **management, training** and **recruitment deliverables**.
 - Listed **milestones** and **deliverables** are realistic and consistent with the overall goals and WPs. (EID)
 - **Milestones, deliverables** and resources are well defined and well allocated to tasks. They are fully consistent with **objectives**. (EID)
 - The list of **deliverables, milestones** and due dates are mostly appropriate. Tasks and resources are appropriately allocated. Several **deliverables** are scheduled by the mid-time of the project which allows for a very good monitoring of the work progress. (EID)
 - **Deliverables** are in line with the programme **objectives** and exhibit an appropriate timing. (EID)
 - The indicated **milestones** are achievable and their verification means are appropriate.
 - It is positive that resources are distributed among the beneficiaries rather equally given the uniform level of capacity and **commitment**.
 - Major **milestones** and **deliverables** are credibly presented.
 - **Milestones** are well outlined and ambitious and the list of **deliverables** and due dates are well appropriate.

- A list of well-balanced **deliverables** and **milestones** to facilitate progress monitoring is provided. (EID)
- The timing of individual **deliverables** and **milestones** in connection with research aims is clear. (EID)
- **Fellow's individual projects:**
 - The described **work packages** are comprehensive and the research scheduling is well-structured. All the **work packages** as well as ESRs individual projects are meaningful, complementary, interconnected and promote the proposal **objectives**. The interaction between the different **work packages** and ESRs is clearly explained.
 - Individual ESR projects have clear **objectives** and are described in sufficient detail to justify the allocation of tasks and resources.
 - The ESR projects are described in great detail, the tasks are well specified and their allocation among the beneficiaries is in line with their expertise. The specific researcher topics fit well with the scientific WPs.
 - Fellow's individual projects are carefully prepared and secondments of all ESR to industrial partner are fully in line.
 - The **work plan** is coherent with concise description of the individual ESR projects.
 - The individual research projects are adequately explained within their expected results and planned secondments.
 - The tasks are appropriately distributed and precise description of each partner role and ESR involvement is provided.
 - Individual PhD projects are clustered in contextual (academic and market/social) complementarity. (EJD)
 - The proposal appropriately details each of the Individual Research Projects, specifying the related **objectives**, expected results and secondments as well as the responsibility for their **supervision**. (EJD)
 - Individual research projects are very well-formulated; they are well partitioned and all the **objectives** are coherent and achievable. (EJD)
 - Individual research projects are clearly specified/ properly planned and explicitly related to corresponding **Work packages**. (EJD)
 - The individual ESR projects have clear **objectives** and expected results. Secondments are aligned with individual research goals.
 - The individual research projects are well developed and clearly described in terms of **objectives**, expected results and planned secondments.
 - The individual ESRs projects are sound and relevant for the network research **objectives**.
 - The selection of the individual research projects and their interrelationships are satisfactorily demonstrated. The projects are appropriately allocated to the partners presenting the corresponding relevant research expertise.
 - ESR individual projects are of high precision and **quality**, with appropriate **objectives**, expected results and planned secondments.
 - The individual research projects of ESRs, including the secondments, fit well within the overall **research programme**.
 - The individual ESR projects have clear **objectives** and expected results. Secondments are specified and aligned with the research aims.
 - The individual research projects are well conceived. In particular, the list of secondments matches the needs of the individual projects.
 - The individual ESR projects are clearly described, with a good identification of expected results.
 - The individual research projects are clearly described and in line with proposal **objectives**. The progression and procedures for monitoring of the ESR's progress are specifically outlined. The secondments are precisely planned. There is a clear plan for supervising and supporting the progress of the ESRs.
 - The individual ESRs' research programs are well interconnected and described with sufficient details related to the research activities. (EID)
 - Individual ESRs projects are described in good detail, including **supervisors** and co-**supervisors**, **objectives** and expected results. (EID)
 - Individual ESR projects are well integrated and this enhances the coherence of the project. (EID)

- **Gantt chart:**

- The planning of the main events is coherent and their timing is appropriate. (EJD)
- Relevant **milestones** and **deliverables** are outlined and summarized in a **Gantt chart**.
- The proposed **Gantt chart** will support the monitoring of the programme implementation.

Appropriateness of the management structures and procedures, including quality management and risk management (with a mandatory joint governing structure for EID and EJD)

- **Network organisation and management structure, including financial management strategy, strategy for dealing with scientific misconduct**

- The **management** structure and procedures are appropriate, with a simple and clear decision making system established.
- The **management** structure is appropriate with clear allocation of tasks. **Recruitment** procedures are well considered and IPR **management** is well addressed.
- The overall **management** plan is detailed and appropriate, responsibilities are clear and respective persons are named. Decision making structures are clearly described. Moreover, an external scientific council with experts in the field will give support in scientific project **management**.
- An efficient **management** structure is proposed with a clear division of responsibilities between different teams, boards and committees.
- The implementation of a high profile advisory committee is a particularly effective element of the **quality management**.
- The **management** concept and connections between the organs (the corresponding committees, boards, and coordinators) is well thought and clear. The roles of individual **management** organs is well described. A half-time project manager will be hired.
- The **management** structure is well suited for a research program of this size. The role and composition of the **management** committees (**supervisory board**, editorial board, selection committee, progress monitoring teams) and responsibilities allocated among participants are clearly described.
- A detailed risk assessment, divided in managerial, technical and **training** risks, is properly discussed, and mitigation measures are clearly outlined; a **quality Assurance Plan** (to be developed at the beginning of the project) will allow for a proper **management** of the project.
- **Risk management** is very well presented, with appropriate mitigation strategies against the identified scientific risks that are very likely to be effective.
- The coordinator demonstrates previous expertise in international/national collaboration and project **management**.
- **Training** events, **management** activities and **dissemination** and **communication** activities are well presented in **Gantt chart**.
- The proposed governance structure for the project **management**, including its financial **management**, as well as the issues related to IPR and **gender** balance are realistic and well formulated.
- Suitable **management** structure with defined roles and responsibilities is proposed. The scientists in charge are experienced with large-scale educational, scientific and financial project **management**. **Management** bodies include academic and **non-academic** beneficiaries and ESR representatives.
- Appropriate organization and **management** of the network is presented, with decision making mechanisms and **communication** strategies.
- The overall **management** plan is detailed and appropriate; responsibilities are clear, and respective persons are named. An additional strength is the nomination of three experts as an external advisory board.
- Measures and structures for the participation of ESRs in **management** both in academic and organizational terms are detailed and this contributes to the fine-tuning of the project. (EJD)
- There is a detailed and appropriate description of the network **management** structure, including a **Supervisory board**, Doctoral Committee, Advisory Board, Executive Board, Coordinator and project administrator. (EJD)
- There is a credible financial **management** strategy to re-balance the distribution of the budget in relation to effective tasks/ has been carefully thought out. (EJD)
- The overall **management** structure is clearly outlined, balanced, with good representation of

the ESRs and is likely to be effective. (EJD)

- **Quality management** and **risk management** are sufficiently identified. (EJD)
- The **management** structure is clear, appropriate and effective with clearly defined roles and responsibilities, and includes an external advisory board to strength feedback from other stakeholders. (EJD)
- **Management** structure is well structured with clear descriptions of responsibilities of **management** bodies. (EJD)
- The **management** structures and procedures are appropriate. Joint admission and assessment committees will oversee the progression of the researchers. (EJD)
- The overall **management** structure is very well organized. The main bodies of the **management** are properly specified and explained and feature proper representation of the participants and ESRs.
- The proposed financial **management** strategy and as well as the strategy for dealing with scientific misconduct are appropriate and very well described.
- The **management** structure and progress-monitoring activities are well described, and the responsibilities of each committee are sufficiently detailed. There is a balanced representation of all participants in the **Supervisory board**.
- The **management** structure and procedures involves a joint governing structure, which ensures participation of all stakeholders.
- The **management** procedures for **recruitment** are overall good. Procedures to be applied do consider both the needs of the project and those of the candidates.
- A well-organized **management** structure has been prepared to ensure a good **recruitment** process and monitoring of the overall progress of research and **training** activities.
- The strategies for dealing with scientific misconduct are clearly explained.
- The mechanisms for conflict resolution, consensus building and corrective actions are clearly described.
- A clear **management** structure is in place, and the network is organized in appropriate manner. Different levels of responsibilities are very well suited to ensure smooth running of the project.
- There is a good emphasis on ESR engagement in managing their projects.
- The consortium's **management** structure and joint governance are clearly described. The foreseen progress monitoring is adequate.
- The main **management** structures, roles and procedures to guarantee **quality management** have been appropriately described and are effective.
- Good **management** structures are in place, also monitoring responsible research practice and prevention of scientific misconduct. A number of **management** risks and corresponding contingency plans are listed.
- The **management** procedures and organizational patterns are basically adequate (e.g. allocation of responsibilities, decision making procedures, meeting frequencies, **recruitment** strategy, progress monitoring, etc.).
- The proposed **management** structure is clearly described and is properly fitting the proposed action.
- **Quality management**, progress monitoring and procedures for the evaluation of individual projects are properly considered.
- The **management** structure and procedures, including the decision mechanisms, are well constructed and effective.
- The **management** structure is properly designed with a good description of different **management** bodies, their structure and responsibilities.
- The structure of the **management** bodies, the responsibilities, the decision making mechanisms, the meetings frequency are clearly described and appropriate. The proposed **recruitment** strategy is reasonable.
- The financial strategy is very good and IP issues are taken into serious consideration.
- The **management** structure and procedures planned are specified in detail and convincingly explained. **Quality management** measures for monitoring the progress and evaluation of the projects are included. The representation of the ESRs' group is duly taken into account within the monitoring.
- The issues of financial **management**, **recruitment** strategy as well as the handling of the **intellectual property** rights and **gender** aspects in relation to the **recruitment** are tackled adequately in the proposal.
- The **management** structures and procedures are appropriate, and rely on previous project and research **management** experience. The responsibilities are properly delineated. The

introduction of an Industrial Liaison Officer is a commendable initiative. The monitoring and evaluation of the individual ESR projects is appropriate; ESRs are allocated a mentor independent from the **supervisor** for potential conflict issues. **Gender** balance issues are well considered, e.g. female ESRs are offered the choice of a female mentor. An interesting antidiscriminatory policy is in place. A proper **recruitment** strategy is proposed.

- The different boards and committees are clearly defined with assigned tasks and responsibilities. Managerial and administrative procedures for **quality** control are well elaborated.
 - All **management** procedures, including **gender** aspects, **recruitment** strategy, monitoring, risk and **data management** are very well suited to the project.
 - The **management** structures and procedures are good and appropriate for both the academic as well as for the **non-academic** units.
 - The **management** structure is adequate: a **supervisory board** representing all team members, an external animal welfare and ethical advisory board as well as a specific **training** committee will be established. (EID)
 - The **management** structures are clear and appropriate, and follow a simple but efficient scheme, with the **supervisory board**, the consultation panel, the doctoral committee, and the ESR committee having clear and complementary roles. (EID)
- **Joint governing structure (mandatory for EID and EJD actions)**
 - The joint governance is ensured by two governing bodies of the **management** structure: **supervisory board** and steering committee which involve representatives of all partners. (EJD)
 - The joint **management** structure is efficient and appropriate. There will be an external and independent Advisory Board which supervises the **quality** and progress of the program, providing feedback and a recommendation report to the **Supervisory board**. (EJD)
 - The **supervision** agreement includes well-identified contacts for the ESRs in case of problems.
 - The joint governing structure is well-addressed and convincingly developed. (EJD)
 - The overall joint governing strategy does fulfil the requirements for EJD actions and include Committees inside **Supervisory board**, which will accelerate more efficient development of cooperation between project partners and ESRs. (EJD)
 - The co-governing structure is convincing.
 - An External Advisory Board composed of identified experts from academia is foreseen which is a guaranty for scientific oversight. (EID)
 - The joint governing structure, including several boards shared between consortium partners as well as the **management** rules are appropriate. (EID)
 - **For EJD, joint admission, selection, supervision, monitoring and assessment procedures**
 - Joint admission, selection, **supervision**, monitoring and assessment procedures are clearly demonstrated. (EJD)
 - **Supervisory board**
 - The proposed **management** structures and procedures are well defined and propose a well-structured **supervisory board**.
 - The **management** structure and procedures are generally well appropriated, where the **supervisors** (student advisory panel) will lead the coordination reporting to steering and **supervisory** bodies.
 - The **Supervisory board** includes participation of all participating organisations and also two ESRs.
 - The **Supervisory board** composition and responsibilities are clearly defined.
 - ESR representatives are properly involved in both the **dissemination** and **supervisory boards**.
 - The network organization and **management** structure described in the proposal are well planned and different responsibilities of **management** bodies are clear, not overlapping, and cover sufficiently all relevant aspects; the role of the **supervisory board** is clearly elaborated.
 - **Supervision** of ESR **training** by several boards is well explained and very promising.
 - The **training** program will initially be evaluated and commented on by the external Advisory Board, and progress will be continuously monitored by the **Supervisory board**. The administration is experienced and can fully provide the needed support to the ESRs and the participant institutions.

- There is a clear decision making process described, and the roles and responsibilities of the **supervisory board** are clearly outlined.
- The **Supervisory board** includes both a scientific and an industrial Advisory Board which is relevant to strengthen the role of the **non-academic** partners in the decision making process.
- The **supervisory board** with one ESR representative and external advisory board composed of external consultants are well defined in the proposal and well suited to the successful implementation of the programme. Risks and mitigation measures are well detailed.
- The **supervisory board** will oversight the decision-making process. The **supervision** plan is appropriate and well-described.
- The description of the responsibilities of the **Supervisory board** is very clear and its decision-making rules are robust. Its composition (including a high level of participation devoted to ESR representatives) is very convincing. (EID)

- **Recruitment strategy**

- The **recruitment** strategy is sound and it includes adequate selection procedure as well as selection criteria.
- The consideration of **gender** aspects at **recruitment** and decision making is appropriate.
- A very clear and convincing description of **recruitment** process, properly addressing **gender** aspects, is provided. Quantitative general performance indicators are given for individual ESR projects.
- The **recruitment** plan takes into account several advertising channels and an **objective** selection scheme.
- ESRs **recruitment** strategy is very well addressed and the consortium is committed to achieve a 50% of female **recruitment**.
- The **recruitment** of the ESRs will be equal, open, transparent, international and non-discriminatory. **Gender** aspects are appropriately considered in the selection/appointment of ESRs and in the decision-making strategy of the project.
- The strategies proposed for **recruitment**, progress monitoring, evaluation of individual projects, and securing **Intellectual property** rights are adequate
- The **recruitment** strategy is appropriate. Issues such as conflict resolution and misconducts are carefully addressed, and effective **management** procedures are planned. The potential risks arising from the research activities are correctly identified.
- The **recruitment** strategy and the progress monitoring ESRs are carefully planned and fully in line with the code of conduct for researchers.
- A clearly-defined and thorough process is executed in the selection of PhD candidates. (EJD)
- There is a convincing description of the **recruitment** strategy to be applied for the ESRs. (EJD)
- **Recruitment** strategy is adequately designed/ well described/ it will promote principles such as transparency and non-discrimination/ includes appropriately considered **Equality** Board. **Gender** aspects are well addressed. The **risk management** plan is detailed. (EJD)
- The ESRs **recruitment** strategy is carefully described. The proposed selection practices are appropriate.
- The **recruitment** strategy is well formulated, and it takes appropriate account of concerns for **gender equality** and diversity.
- The **recruitment** procedure is well elaborated, including **gender** balance. The decision-making process is clear and robust. Monitoring and reporting processes are well detailed.
- The **recruitment** strategy is very well planned and **gender equality** is also sufficiently considered.
- The **recruitment** strategy is very good, involving the local **supervisors** as well as members of the **training** committee to ensure scientific objectivity and fairness.
- A coordinated **recruitment** strategy is clearly stated, and **gender** aspect is properly considered both at **recruitment** and in decision making.
- The **recruitment** process is well described and will take into account sensitive and important questions (e.g. the minority rights).
- The **recruitment** strategy for ESRs is adequately described. The proposed selection practices are appropriate.
- The advertising and selection procedures are well designed and transparent, and the **recruitment** strategy is appropriate and in line with the requirements of the Call, including measures for reaching a good **gender** balance.
- A detailed **recruitment** strategy is given as well as procedures to progress monitoring and

- evaluation of individual projects.
 - The **recruitment** strategy is sound and the progress monitoring steps through reports and participation in **training** events are good. The **gender** aspects in the **recruitment** process are well addressed.
 - The ESR **recruitment** strategy is appropriate and **gender** aspects are considered in **recruitment**. (EID)
 - The **recruitment** strategy proposed is professionally prepared. (EID)
 - The proposal **recruitment** strategy guarantees transparent and competitive selection of young researchers and is in line with the European Charter for Researchers and the Code of Conduct for the **Recruitment** of Researchers. (EID)
 - The **recruitment** process is very convincing, transparent and ensures fair treatment of the applicants.(EID)
 - The **recruitment** strategy, joint admission and selection procedures as well as **gender** balance are appropriately addressed. (EID)
 - The **recruitment** strategy as well as the practical and administrative arrangements in support of the hosting of the ESRs are appropriate. (EID)
 - The **recruitment** procedure is well elaborated, encompassing project-wide (through a single cohort) as well as local dimensions.(EID)
- **Progress monitoring and evaluation of individual projects**
 - The proposal includes credible **quality** monitoring, **recruitment**, ethics **management**, **gender** balance, and **data management** procedures and **objectives**. (EJD)
 - Progress monitoring and evaluation of individual projects are very good. (EJD)
 - The progress monitoring mechanisms are functional.
 - Monitoring of progress of scientific results and **training objectives** is well considered, and it is planned to be enforced in a seemingly effective manner.
 - The monitoring and assessment of ESRs individual projects' progress are clearly indicated.
 - Progress monitoring procedures are appropriate. The multi-level progress monitoring of individual projects is well designed and trustworthy.
 - Monitoring of the progress of scientific and **training** activities is well organized, IPR aspects are well considered and the **Data management** plan is appropriate.
 - Progress monitoring and evaluation aspects of individual ESRs' projects are well presented and key performance indicators are well selected. (EID)
- **Risk management at consortium level**
 - The **Risk management** adequately identifies possible risks with their likelihood, **impact** and the corresponding mitigation actions.
 - **Risk management** and contingency plans are professionally prepared. Technical and managerial risks are well considered, including crisis in the Consortium, and need for financial support for the fourth year of ESRs **training** .
 - **Risk management** is well addressed and the proposed good **quality** mitigation measures are convincingly presented. An additional short riskassessment is provided for each individual ESR project.
 - **Risk management** is adequately addressed with an extensive list of relevant risks.
 - Scientific and general risks are comprehensively identified and appropriate mitigation measures are well addressed.
 - The risk analysis is very well-performed/ adequate. (EJD)
 - There is an exhaustive list of possible risks, with well-adequate mitigation actuation plans. Important issues such as scientific misconduct are also correctly addressed. (EJD)
 - The **risk management** plan identifies some main risks and the proposed mitigation measures are convincing. (EJD)
 - The **risk management** strategy is carefully elaborated. The implementation risks are identified and related mitigation measures are well specified.
 - **Risk management** is described in detail and contingencies are sufficiently addressed considering high-risk/high-gain of the very challenging tasks.
 - **Risk management** (including the risk of scientific misconduct) is satisfactorily addressed at the consortium level.
 - Risk at the consortium **management** level is correctly addressed with appropriate mitigation measures proposed.

- The **risk management** plan is well elaborated and addresses all major risks. The mitigation plans are effective.
- Potential implementation risks and proposed measures for the mitigation of these risks are sufficiently presented. Adequate consideration is given to the **gender equality** dimension in the **management** of the project.
- Potential risks are well identified and the proposed mitigation measures are feasible.
- Most of the potential administrative risks have been identified, and the proposed mitigation measures are efficient.
- The project implementation risks are identified along with mitigation strategies.
- The risk identification and the contingency plans are convincingly addressed.
- **Risk management** at the consortium level is well elaborated. Several implementation risks have been identified and corresponding mitigation measures are provided. (EID)
- Risks that may endanger at consortium level and scientific misconduct are very well identified and a detailed mitigation plan is provided. (EID)
- **Intellectual Property Rights (IPR)**
 - **Data management** and IPR issues are appropriately addressed.
 - In view of the ESRs predominant work in industry, the institution of a separate Transfer Panel and a Thesis Monitoring Committee are of valuable help for PhD attainment. **Intellectual property** and **gender** issues are well addressed, and internal progress evaluation processes are appropriately defined.
 - The IPR **management** is well considered.
 - The participation of ESRs and their contribution to the **management** is adequately outlined. In particular, the anticipated active engagement of ESRs in the IPR processes is well suited and convincing.
 - IPR main aspects are already agreed by partners.
 - IPR **management** is well discussed and follows the standard procedures of the DESCAs model, as will be laid down in the consortium agreement.
 - There is detailed provision for **intellectual property** rights.
 - Arrangements for IPR **management**, **gender** considerations and **data management** are generally satisfactory.
 - The **intellectual property** rights strategy is clearly described.
 - **Management** of **Intellectual property** Rights is convincingly discussed in the proposal, and IP protection is ensured by the proposed collaboration of partner technology transfer offices.
 - The strategy for the **management** of IPR issues is carefully discussed.
 - The issue of **Intellectual property** Rights is well taken into account and consistent with the major measures of **dissemination** planned; priority is given to the publication rights of the fellows. (EID)
 - The strategy for **Intellectual property** Rights is very well planned and will be regulated at Consortium Agreement and accepted by all consortium members. (EID)
 - IPR issues are correctly addressed and a **data management** plan is carefully prepared. (EID)
- **Gender aspects (both at the level of recruitment and that of decision-making within the action)**
 - The **gender** balance issues are clearly discussed and justified in relation to the structure of the consortium, decision-making bodies and ESRs **recruitment**
 - **Gender** issues are considered well, both for ESR **recruitment** and composition of the committees of the network.
 - **Gender** aspects of the project are adequately considered.
 - **Gender** issues in terms of employment and project **management** are well addressed.
 - The early stage researchers **recruitment** process is clearly described and is fair from a **gender** balance point of view.
 - **Gender** balance issues are adequately considered in all structures.
 - **Gender** aspects are well considered, particularly in **recruitment** procedures and through installing an equal opportunities representative for all **gender** issues.
 - Careful attention is paid to **gender** aspects in the **recruitment** procedures. (EJD)
 - Good procedures are provided to deal with **gender** balance in **recruitment** and leadership positions. (EJD)

- **Data management plan (Open access and Open data)**

- A **data management** plan is in place to protect data and to ensure accessibility to the public. The consortium will continuously monitor the IPR issues related to the project during its duration.
- Effective **data management** plan is envisaged. (EJD)
- Requirements for **open access** and the sharing of data are clearly addressed.
- The proposal adequately considers **data management** planning.
- **Data management** plans are suitably taken into consideration
- The establishment of a **data management** plan with plans for data archival and accessibility is a plus.
- **Data management** plan is carefully prepared. (EID)

Appropriateness of the infrastructure of the participating organisations

- Key **infrastructures** and equipment available at academic and **non-academic** participants is adequate to the project development, guaranteeing a high level of complementarity.
- The **infrastructure** at the participating organizations is appropriate for the execution of the research and **training** programme.
- All participants have the **infrastructure** and human resources to carry out the proposed tasks and have ample experience in PhD **supervision** and career development of young researchers. Their suitability for the successful implementation of the project is convincingly described
- The consortium consists of highly qualified and well equipped partners and as a network provides all necessary **infrastructure**, support and expertise to conduct the proposed research.
- **Infrastructure** of the participating organisations is of high **quality** and appropriate for the execution of the project including laboratories, equipment, clinical facilities, supporting facilities and administrative personnel.
- The human capacities and the **infrastructure** at the participating organisations are of excellent **quality**, and are appropriate for meeting the needs of the **research programme**.
- The **infrastructure** of the academic and **non-academic** participating organisations is presented in a clear way, illustrating their appropriateness for the assigned tasks.
- Complementarity of the participants in terms of **infrastructure**, knowledge and competences is well demonstrated.
- All academic and **non-academic** beneficiaries' **infrastructures** are appropriate for **training** and research activities.
- Cutting-edge relevant **infrastructure**/equipment is available within the network to guarantee the successful development of all ESR individual projects and the overall **research programme**.
- The **infrastructures** of the participating organisations, including the secondment partners is described in sufficient terms and are of good **quality**. All beneficiaries have the appropriate **infrastructure** to fulfil the role outlined in the proposal. A sound plan has been made for ensuring that the secondments are administrated effectively.
- **Infrastructures** made available to ESRs by beneficiaries and partner organisations are appropriate for the proposed research activities.
- The participating organisations have a highly complementary set of competences that is well aligned with the diverse aspects of the research programme proposed.
- The consortium includes recognised competences for PhDs and research as well as **non-academic** partners with top **quality infrastructure** needed for the development of the proposed research and **training** programmes.
- The **infrastructures** of all the participating organizations, both academic and industrial partners, are appropriate for the execution of the project.
- The ESRs will find appropriate **infrastructure** at the participating organisations, including suitable workplaces with technical equipment, facilities, software and data access.
- There is a good balance of academic and industrial partners, having complementary capabilities in design, fabrication, characterization and industrial implementation. The role and contribution of each partner is well-justified by their expertise and **infrastructure**.
- The **infrastructure** of the participating organisations is appropriate for the proposed work. The research groups participating in the project have carried out similar projects before. (EJD)
- The proposal convincingly argues that the **infrastructures** offered by the participating (beneficiaries and partner) organisations are excellent and adequate for the research and **training** within the project. (EJD)

- The participating organisations all offer appropriate **infrastructure**, both in terms of service and support provided to international ESRs, and in terms of working space, access to facilities and equipment/to all facilities required for hosting, accommodating and administering doctoral researchers. (EJD)
- Some participating organisations offer specific **infrastructure** (FabLabs, robotic architecture, VR stations) which are very much related to the proposal's core focus area. (EJD)
- The beneficiaries have the necessary **infrastructure**, both in terms of datasets and computing **infrastructure**. The partners have good experience in security engineering research and their laboratories are well equipped. (EJD)
- The **infrastructure** at the participating organizations is appropriate for the execution of the research and **training** program. (EJD)
- The expertise and **infrastructure** available at the participating organisations are very well described and very relevant for the effective implementation of the proposed programme.
- The **infrastructure** at the main participating organisations is appropriate for the execution of the research and **training** programs.
- The **infrastructure** for most of participating organisations is appropriate.
- All the beneficiaries demonstrate sound **infrastructure** in the research field of the project. The use of the partners' **infrastructures** is planned to complement those of the beneficiaries.
- The majority of participating organisations offer a very good environment in terms of **infrastructure** and resources for the proposed project.
- All participating organisations have excellent facilities and access to appropriate **infrastructure** for the project. Some have unique facilities, which provide a particular strong point by exposing ESRs to **state of the art** opportunities.
- Xxx project's institutional **infrastructure** is appropriate to support the research and **training** programme.
- The **infrastructure** at the participating organisations is appropriate for the execution of the research and **training** programs and facilities, as well as technical and analytical equipment, are of very high **quality**.
- The academic partners possess appropriate research facilities, including office space, workstations and IT **infrastructure**.
- The **infrastructures** proposed by the consortium members are adequate for the implementation of the proposed project.
- The **infrastructure** of the participating organisations, especially concerning the required supercomputer facilities are very appropriate.
- Relevant and good **quality** research **infrastructures** are available at the respective participating organisations.
- The **infrastructure** and facilities of the participating organisations are well presented both regarding their general capabilities and concerning the support of the particular research and **training** needs to realise the project.
- The **infrastructure** at the participating organisations is appropriate for the execution of the research and **training** programs.
- The **infrastructure** presented by the academic and **non-academic** beneficiaries/partners is appropriate for project execution.
- The appropriateness of **infrastructure** of participating organisations is well-justified. All partners offer appropriate know-how and **infrastructure** to implement the proposed research.
- The **infrastructure** of all the participating organisations is of good **quality** for the proposed programme. The complementarity in both research and **training** is well demonstrated and all the participating organizations are committed to the programme.
- The **infrastructures** of the participating institutions are suitably demonstrated and in line with the needs of the proposed project and for the secondments of ESRs.
- The beneficiaries' **infrastructure** are of high **quality** and aligned to the proposed activities.
- All beneficiaries and partners have very good **infrastructure** to host the ESRs, appropriate to reach the scientific and **training** goals of the action.
- The participating organisations have the necessary **infrastructure** to support the ESR's and carry out their project activities.
- The **infrastructure** and the equipment provided by all the beneficiaries are of excellent **quality** and are very appropriate for the research and **training** scope of the project. (EID)
- All beneficiaries, academic and **non-academic**, credibly demonstrate that they have the adequate **infrastructure** for the project. (EID)

Competences, experience and complementarity of the participating organisations and their commitment to the programme

- **Consortium composition and exploitation of participating organisations' complementarities:**
 - Participating organizations of the consortium complement each other and have excellent reputation in their respective fields, from fundamental to applied research, pilot-scale operations and industrial production. Their **commitment** is convincing.
 - The organisations provide a very good complementarity in terms of the goals of the project and exhibit a clear **commitment** for the proposed research and **training** programme. Several beneficiaries have on-going collaborations, and experience in European projects.
 - The experience, competence and **commitment** of the consortium members are convincingly demonstrated. The consortium gathers **multidisciplinary** high-level experts from the different aspects of technologies, originating both from academia and industry organizations; there is a good complementary experience among the participants.
 - The competences and experience of the participating organizations are strong and their **commitment** to the program is adequately substantiated. Overall, the complementarity of the participating organizations are well suited for reaching the planned scientific and **training objectives**.
 - The consortium has balanced representation from research organisations, industry and academic institutions, and a diverse but complementary skill base to carry out the proposed work. (EJD)
 - The experience and the qualifications of the participating organisations are excellent and entirely sufficient for the realization of the project. (EJD)
 - Complementary competences and parallel experience of the academic partners are clearly articulated and justified. (EJD)
 - The beneficiaries come from a mix of countries across Europe that include a wide range of policy environments and varied settings for **innovation**. (EJD)
 - The competences, experience and complementarity of the participating organisations and their **commitment** to the programme are all well demonstrated: all consortium members are actively involved in the research, **supervision**, **training**, **dissemination** and **management** of the proposal. (EJD)
 - The consortium is well balanced e.g the academic beneficiaries have experienced and young **supervisors** in multiple research fields and the **non-academic** partners include organizations of different scales, from a large corporation to SMEs. (EJD)
 - Competences, previous experience and complementarity of expertise of the participating organisations are convincingly presented. (EJD)
 - The participating organisations have complementary and strong competences to carry out the programme. (EJD)
 - ESRs will benefit from a very favourable environment, including relevant doctoral courses, research facilities, conferences and workshops. (EJD)
 - The project beneficiaries and partners have sufficient competences, experience, complementarity and **commitment** to the proposed EJD project. (EJD)
 - The participating organisations have complementary research interests and experience and provide a solid basis for academic research. (EJD)
 - The complementarity of the participating institutions and their specific roles and responsibilities within the proposed project are well defined.
 - The expertise and the previous experience of the participating beneficiaries has significant **interdisciplinary** and **intersectoral** complementarity and participating organisations have demonstrated capacity for the proposed research and **training** activities.
 - Consortium members provide access to **state-of-the-art** research facilities, including chemical compound libraries, large analytical facilities, and tailored animal models. The **infrastructure** is appropriate for the execution of the research and **training** programs.
 - The complementarity in the research experiences of the beneficiaries is demonstrated. Large and well-recognised players within the field are partners in this project. Some partners share previous collaboration experience
 - The overall high competence and broad experience of the consortium are very well demonstrated, and the role of the participating organisations in the project is well substantiated.
 - The complementarity of the participating organizations is convincing. The consortium as a

whole has all the competences required for the correct development of the action and is well balanced.

- The academic institutions are among the leading ones in Europe especially in the field of the research conducted in this proposal, having an outstanding track record of **training** young researchers in environmental and agricultural science. Consortium partners have the required competence to supervise the ESRs. There is good complementary in regard to **skills** and experiences.
- A significant number of key persons at non academic partners nodes have a solid competence in the research field of the project, hence enhancing complementarity with the academic nodes.
- Academic and industrial beneficiaries as well as partner organization show a high level of institutional and individual **commitment** to the proposed project.
- The competencies, experience and complementarity of the participating organisations are adequately demonstrated in the proposal. All are leading institutions in their respective fields.
- The consortium of the project is **interdisciplinary** and **intersectoral**, including researchers from different fields of politics and sociology.
- The competences and previous experience of the participating beneficiaries is **interdisciplinary** and complementary. The partner organizations bring their experience in all fields covered by the program.
- All participating organisations possess the necessary **infrastructure** and appropriate facilities for the implementation of the work proposed.
- Participants are complementary in disciplines, sectors and location to deliver the **training** to the ESRs and produce valuable research and transferable outcome.
- The consortium demonstrates strong collaboration between its members and a high degree of complementarity, covering multiple disciplines and different **approaches** to research.
- The proposal adequately demonstrates the competences, experience and complementarity strengths of the participating organisations as well as their **commitment** to the programme.
- The beneficiaries and partner organisations possess the appropriate **infrastructure** for the execution of the **training** programmes.
- The research team includes a large number of participants with adequate competences and broad experiences from a wide range of fields.
- The participants have the competence and experience to implement the proposed research and **training** programme. There is a very good level of complementarity between the participants, leading to **training** opportunities beyond what could be offered by each participant individually.
- The participating organisations combined have the required competences, experience and complementary that are required to execute the proposed project. Their **commitment** to the programme is also clearly demonstrated.
- The competences of each organization as well as their **synergy** and complementarity are well justified; the network consolidates previous collaborative research expertise and knowledge.
- The beneficiaries have high experience in ITN programme and demonstrated complementarity in the field of material sciences.
- The competences of the participating organisations are appropriate to reach the scientific and **training** goals of the action.
- The overall consortium structure, gathering together highly-specialized SME's and/or spin-offs, with key European Universities, is very promising and **innovative**. Competence, experience and complementarity of the consortium are convincingly demonstrated. All partners are committed to participate in the research and **training** activities. (EID)
- **Synergies** within the consortium are convincing because of prior successful scientific collaborations and exchanges of students. (EID)
- Both beneficiaries are experts in their field and need the competencies of each other to successfully complete the programme. (EID)
- The proposal describes well the competences, experience and complementarity of the two beneficiary organizations. (EID)

- **Commitment of beneficiaries and partner organisations to the programme**

- Full **commitment** of all partners to the planned research and **training** programme is declared and clearly demonstrated. The strong **commitment** of the industrial enterprises is a strong point of the ITN.

- The network has very good task distribution among the partners. The network members are experienced researchers of excellent scientific level, and express strong **commitment** to the programme. The detailed time **commitments** and full track record information given for all partners demonstrates the outstanding competence and facilities present in the Network.
- Partners have the necessary skill sets for the program. Participating organisations have provided convincing letters of **commitment**. The competences and previous experience of the beneficiaries are complementary.
- The fact that the **non-academic** partners will each support at least one ESR for a secondment, and up to two ESRs for an internship after graduation, demonstrates their **commitment** to the project. (EJD)
- Most of the beneficiaries, as well as the partner organisations, show strong **commitment** to carry out the programme. (EJD)
- The **commitment** to the programme has been evidenced by collaboration around the existing **training** course(s). (EJD)
- The competences and the experience of the participating members are solid and very wide. The complementarity between the participating institutions is excellent. The **commitment** of partner organisations to the programme is sound.
- All partners are strongly committed to the project activities. Beneficiaries will host ESRs and lead **training** activities, while partner organisations will host secondments and will also be involved in **supervision**. The proposed program brings together top researchers and organisations with highly complementary and relevant expertise, and the **synergies** that this creates guarantees **quality** research.
- The **commitment** of the participating organisations to the project is convincingly demonstrated.
- All participants commit ample time for the successful completion of the research and **training** programme. Consortium members have relevant experience and complementarity in their **skills**.
- The **non-academic** partners are established, and some of them have a strong R&D experience and reputation, thus are able to support the program and strengthen their **commitment** to bringing apt, and marketable results. They are pivotal for demonstrating how science meets problems, demands, policies, and windows of opportunities in real life
- The **commitment** of all participating organisations is very well proven.
- The **commitment** of all partner organizations from the academic as well as **non-academic** sector is made very apparent by the strong support letters
- The institutional **commitment** of all partner organisations to the program is clearly demonstrated and documented.
- A clear explanation of each partner's **commitment** is provided in the proposal and confirmed by the submission of the required, duly signed and stamped letters of **commitment**
- All participating organisations are committed to the project towards research tasks and **deliverables**, ESR **supervision**, secondments, **training** activities.
- The **commitment** of the beneficiaries and the partner organisations is sufficiently established through their task allocations and with the **commitment** letters.
- **Commitment** of organisations is evidenced by the high level of interaction of partners to the activities of the project, and especially to their involvement in the individual ESRs' **training** projects. (EID)
- The **commitment** of the partners to the programme is adequately described. The partners are also committed to internally fund the ESRs if due to national regulations their PhD program takes longer than the 36 months foreseen in this project. (EID)
- All partners are strongly committed to the network program. The substantial involvement of the industrial partners is clearly documented, ensuring their active role in the delivery of the **training** program. (EID)

• Letters of Commitment

- The **commitment** of **non-academic** participants is documented by appropriate **commitment** letters.
- The institutional **commitment** to the program is supported by duly submitted documents
- The letters of **commitments** included in PART B2 (from both academic and **non-academic** sectors) are clearly including the expected activities.

Weaknesses:

Coherence and effectiveness of the work plan (including appropriateness of the allocation of tasks and resources) (including awarding of the doctoral degrees for EID and EJD)

- **Work packages:**

- Descriptions of activities in **work packages** are not fully elaborated.
- There is inadequate description of quantitative targets in both the general **work package** descriptions and the individual ESR projects, which makes performance and progress evaluation of the whole network activities difficult.
- The potential interrelations between the different scientific **work packages** are unclear.
- The three scientific **work packages** are insufficiently presented.
- The timing of the **work packages** that encompass the ESRs' research work is not adequately balanced.
- The description of the individual projects provides insufficient information on their respective tasks. A very large number of different decision-making groups and boards is devised whose tasks and responsibilities are partly overlapping.
- The allocation of tasks is relatively focused towards the coordinator instead of logically balanced among the partners.
- The specific **training** in **Work package 4** is not well-aligned to research **Work packages 1-3**. The research work will not benefit from the **training** activity and vice versa. In particular, the late timing of the **training** on cloud and fog computing does not allow this knowledge to be effectively exploited during the project. (EJD)
- There is a lack of clarity about a number of aspects of the **work plan** and **Gantt chart**, including complex task responsibilities. (EJD)
- The **work plan** does not include a well-defined technology for dataset collection, storage, manipulation and publication. (EJD)
- The individual ESR projects are not well integrated in the proposed **work packages** and in the timeline of the overall **research programme**. (EJD)
- The allocation of tasks and resources is not outlined properly. (EJD)
- **Work package 1** is described in high level terms which leads to very generic **deliverables**. (EJD)
- The **work plan** is not quite balanced, with only some WPs dealing with important scientific **objectives**. (EJD)
- The **work plan** is not well balanced, because the scientific part is underestimated in the list of workpackages. Moreover, WPs are not sufficiently detailed. (EJD)
- There is no WP dedicated only to educational/**training** issues. Although it is stated (p.17) that educational/**training** issues are included in WP1 (devoted to organisational issues and Project **management**), there are no clear description activities related to **training** in WP1. (EJD)
- The level of effort of the different WPs is not well-balanced (7 ESRs working on WP3, 6 ESRs working on WP5 and only 3 ESRs working on WP4). (EJD)
- The particular division of the research in specific **work packages** is not convincingly argued; the overall coherence of the programme is not fully supported by the planned tasks or their independencies. (EJD)
- Quantitative measures and proposed methods to achieve targets are not specified. For example, expected properties of ligands and precatalyst, targets for activity and selectivity are missing in the proposal. (EJD)
- The overview and linkage of the WPs are not convincingly articulated in the proposal, which raises concerns as to the effectiveness of the **work plan**. For instance, the various starting and ending dates of particular tasks by WP are not sufficiently clear.
- The scientific WPs interconnections are not clearly discussed. As a consequence, the derived resource allocation is not clearly presented.
- Despite the **objective** of developing new tracer techniques in WP2, the proposal provides insufficient evidence that this can be achieved.
- The separation of research on crop production and animal production systems in two separate **work packages** is not convincingly justified, being a significant structural weakness of the **work plan**, given that these two production systems are often closely interconnected.
- The description of the **work packages** is not entirely clear and coherent; and the **Gantt chart** is incomplete and does not show the scientific **deliverables** from WPs1-4.

- Schedule planning is not clear and with poor details in the proposal (e.g. WP1 delivers the novel bio-based resins at 0M+24M; WP2 can consequently start the Additive Manufacturing testing at 0M+24M, while from the **work plan** is supposed to start its activities at 0M+7M).
- Representation at the general assembly level is not fully balanced.
- The intercorrelation between the high number of **work packages** is not described convincingly.
- The degree to which the overall **work plan** is coherent with the **objectives** of the project is not sufficiently clear.
- The **work plan** is not convincing as it includes in three WP's a big number of different technological fields, and technical details of tasks are poorly explained.
- **Work plans** are not provided with a consistent level of detail for all ESR projects, and it is not sufficiently clear how these projects contribute to the overall **work plan**.
- The description of the activities and role of partners within the **work packages** is not sufficiently detailed.
- It is detrimental to the inter-sectorial optimization that the industrial applications in WP6 are detached from the rest of the network activities.
- Environmental and economic aspects of the advanced films developed within the project are not sufficiently considered in the **work plan** and none of the partners have clearly demonstrated expertise in these aspects.
- The description of WP3 activities is unclear in the description of transfer of software engineering **approach**.
- WP2 and WP3 both include diverse individual projects which are not clearly integrated.
- Timely start and progress of ESR projects related to WP3, WP4, and WP5 are dependent on appropriate progress of ESR projects related to WP1 and WP2. However, the potential time issues and alternatives at the consortium level are not sufficiently described in the implementation risk.
- Several flaws in the **work plan** exist: The work of ESRs in charge of WP2 depends on WP1 results, however both WP1 and WP2 ESRs start at the same time; **recruitment** of ESRs and their integration in research and local and network **training** is completed late (after M9); Monitoring of the PhD project progress of ESRs at the consortium level will occur rather infrequently (every 6 months).
- The route towards reaching Scientific **Objective 4** is not clearly supported by the **work plan**.
- There are duplications on **work package** descriptions; for example, WP2 and WP3 overlap and the individual projects ESR9 and ESR10 are essentially the same.
- The roles of the involved beneficiaries are not clearly specified in the **work package** descriptions.
- How the research WPs are connected to the individual projects is not sufficiently clear. In addition, the presentation of the **objectives** in individual projects lacks required focus.
- Several of the **work package objectives** are too broad to realistically fit within the timeline of an ESR project.
- The resources allocation is not clearly justified in relation to the activities proposed in some of the **work packages**.
- It is unclear how the tasks in the **work package** "medical and societal applications" will lead to the realization of the **objectives** defined in this **work package**.
- The WP3 description does not describe investigation of materials developed in WPs 1 and 2.
- The synthesis and characterization efforts for each specific material to be developed is mainly addressed in specific individual projects without an effective cross-cutting task/WP.
- Some **work packages** lack depth of detail: this is regarded as a minor short coming.
- ESR4 and ESR5 spend more than 30% of the total duration of their fellowship to a partner organization during secondments, which is a shortcoming for an EID project. (EID)
- There are several inconsistencies in the non-scientific **work packages**, **deliverables** and the **Gantt chart**. Outreach activities are not fully included in the **Communication work package**. (EID)

- **Deliverables and milestones:**

- Research papers are not mentioned as **deliverables**.
- The contextual aspects of specified **deliverables** are not sufficiently detailed, especially with regard to **deliverables** stemming from the proposed research (e.g. the manuscripts, **training** events and other **deliverables**).
- The allocation of resources to planned **deliverables** is not appropriately analysed and is poorly

- presented. For example, certain ESRs are assigned to **deliverables** with schedules which lie beyond the apparent end of their contract.
- Scientific **deliverables** are concentrated towards the end of the third year and beyond to allow a satisfactory monitoring of the scientific progress.
 - Scientific **deliverables** remain entirely at the individual level, no network-wide **deliverables** are foreseen.
 - Some of the **deliverables** have not been introduced in section 2 on **dissemination**, such as videos. It is unclear if sufficient resources will be reserved.
 - There is inconsistency between the list of **deliverables** in the individual **Work packages** and those presented in Table 3.1b 'Deliverable list'. (EJD)
 - **Deliverables** and expected outcome is not clearly specified. In general, **deliverables** are very generic. Their number needs to be increased and to be described in more quantitative or clear way. For example, the targeted CO2 conversion or energy efficiency improvement needs to be specified. (EJD)
 - The proposal does not sufficiently describe how progress towards achieving the research aims and **objectives** will be measured. The gap between the **deliverables** reporting the **state of the art** and **deliverables** reporting technical achievements of the project makes it difficult to monitor the correct development of the project's activities. (EJD)
 - The description of **deliverables** is inconsistent and lacks clarity. This concerns, for example, the nature of reports and planned publications. (EJD)
 - Measures to support the **quality** of the research and **training** according to the ambitious performance indicators listed in the proposal are not sufficiently described. (EJD)
 - There is insufficient information about how the **deliverables** D1.4, D2.4, and D3.4 will be reached. (EJD)
 - The **deliverable** and **milestone** lists are not well organised and are confusing.
 - The **deliverables** and **milestones** are not convincingly presented.
 - The planned schedule of **deliverables** and **milestones** is weakly justified to monitor and steer the course of the project appropriate. In particular there are no technical **deliverables** scheduled before M24. The due date for structural characterization reports (D5.1 and D5.2) are considered to take place before the due date for the selection of optimal photocatalysts (D3.5 and D4.3). The **milestones** concerning synthesis of photocatalysts are not mentioned).
 - The month of delivery for D2.1, D2.2, and D2.3 is not demonstrated to be realistic; e.g. D2.2 is planned the same month ESR3 to start the work.
 - The schedule of **deliverables** and **milestones** is not adequately justified, with the **deliverables** and **milestones** concentrated near the beginning and the end of the project.
 - Major **deliverables** and **milestones** are too generic and are not defined in sufficient number or detail. It is not clear if **milestones** for key project goals related to **communication**, implementation of tasks or **training** have been planned.
 - The non-scientific **deliverables** are insufficiently elaborated.
 - The **deliverables** of the research WPs are not sufficiently developed e.g. only five scientific **deliverables** are listed, while 15 ESR projects are planned.
 - The list of **deliverables** is not complete; for example, the mandatory research-**training deliverable** "Data management Plan" is not included.
 - Most of the scientific **deliverables** are planned for the second half of the project, which does not ensure a proper progress monitoring.
 - The timing and number of **deliverables** per **work package** is not sufficient to allow for tight progress monitoring, especially given the size of the consortium and the complexity of the project. (EID)
 - It is not clear why the first scientific **deliverable** is at M13 as the scientific activities start at M3, well before the hiring of the ESR fellows; this delay may limit an efficient **management** and tracking of the scientific progress. (EID)
 - The **milestones** and **deliverables** relating to several projects are not developed in a sufficiently clear and detailed manner compromising proper monitoring of project progress and identification of potential bottle necks.
 - **Milestones** regarding scientific **work packages** are not properly identified and not evenly distributed across beneficiaries.
 - The schedule of several **training** events overlaps with the secondments of a number of ESRs. Also the **milestones** do not align well with some of the **communication** activities planned, e.g. there is a mismatch between Sections.
 - The timing of major **milestones** is unbalanced and concentrated towards the end of the project,

which raises concerns as to their successful completion in the limited timeframe. For instance, following the kick-off meeting the next **milestone** is the mid-term paper while most of the **milestones** are foreseen in the last year only.

- The list of **milestones** reflects only the progress of separate ESRs and not the progress of the **research programme** as a whole. (EJD)
- **Milestones** are vague and not sufficient for the number of ESRs allocated and three years research. (EJD)
- No **milestones** are listed.
- The list of **milestones** is weak because it includes mainly the conferences and workshops.
- The scientific **milestones** pertaining to the identification of at least one promising anode for Li and Na, and Mg or Ca anions, are not well specified, thus not allowing to monitor adequately the progress during the project.
- The technical and scientific **milestones** are not convincingly addressed.
- The **milestones** and **deliverables** proposed are not sufficient to ensure progress monitoring of such a complex project. (EID)
- Workshop 8 occurs quite late given its relevance for the ESRs. (EID)

- **Fellow's individual projects:**

- The **objectives** of some ESR projects remain too general and their importance has not been clearly highlighted. (EJD)
- Within the individual ESRs' projects, **deliverables** are not indicated. (EJD)
- The aims and scope of the ESR secondments are not uniformly well covered for each case. (EJD)
- The connection between some ESR topics and the **research programme** (e.g. ESR 14 and 15) is not obvious. (EJD)
- The rationale why some ESRs are expected to publish more papers than others and the potential correlation with their topics is not well explained. (EJD)
- There are clear weaknesses in the plans for the Individual Research Projects. ESRs will not get a comprehensive, **multidisciplinary** experience.
- ESRs projects are too closely overlapping. Scopes are too narrow for PhD projects.
- It is unclear how the preferences and career goals of ESRs will be taken into consideration in the design of their individual projects.
- The envisaged results of individual research projects are presented in very technological terms and do not match with what can be expected from a **doctoral programme**.
- Individuals' research projects are not sufficiently elaborated.
- Some of the individual projects have secondments for evaluation quite early. There is a serious danger that the algorithms will lack sufficient maturity for evaluation at the secondment. In general, it is not clear either what the implications of the individual tasks on the final result will be if some are not completed successfully, in view of the fact that all tasks contribute directly to it.
- The Individual Research Project are not sufficiently aligned with the **deliverables** of the WPs. Details of scientific activities during the planned secondments are not properly specified.
- There are inconsistencies in the duration of ESRs Individual projects. Some discrepancies are noted also with the **Gantt chart**.
- The **work plan** lacks a clear structure and balance. For example, all ESRs contribute to WP1, whereas its concept does not scientifically match the individual research topics of all ESRs; specific topics (i.e. model hierarchies) are not sufficiently elaborated. (EID)
- The start dates for individual ESR projects are not clear, as different dates are given in different parts of the proposal. (EID)
- The individual ESR projects lack sufficient detail on the anticipated scientific contributions. (EID)

- **Gantt chart:**

- The plan of secondments raises concerns, there are major inconsistencies, for instance between the **Gantt chart** and the tables.
- there is some inconsistency between the description of secondments and the **Gantt chart**.
- The **Gantt chart** is not fully consistent with the general **work plan**.
- The **Gantt chart** is poorly organised, unclear and incomplete. There appears to be some confusion in the proposal between **deliverables** and **milestones**. (EJD)
- The secondment of few ESRs is unreasonably planned at the end of the doctorate studies/ not

well planned - they have a tight schedule and require frequent relocation for extended periods. Such arrangement has not been clearly justified. (EJD)

- The time span for developing certain **objectives**, such as **training** courses or meetings, is not adequately defined. For example, the WP3.1- WP3.3 related to **training** cover all the time of the project, from month 1 to 48. It is not possible to start the **training** of the ESRs before they have been recruited, or continue **training** after they have finished their enrolment. (EJD)
- The **Gantt chart** is not clear in some respects (e.g. duration of secondments) and the number of “industrial applications” is unclear. (EJD)
- The **Gantt chart** lacks appropriate detail.
- The **Gantt chart** is less describing the activity during the last months of the project execution. (EID)
- Information about some of the ESRs secondments is not clearly mentioned in the **Gantt chart**. (EID)
- The total secondment duration of ESR2 to the partner organization exceeds the 30% limit of fellowship duration while there is no planned mobility of ESR2 to the **non-academic** beneficiary, as also indicated in the **Gantt chart**. Thereby the minimum 50% **intersectoral** mobility rule during the fellowship is not fulfilled. (EID)

Appropriateness of the management structures and procedures, including quality management and risk management (with a mandatory joint governing structure for EID and EJD)

- **Network organisation and management structure, including financial management strategy, strategy for dealing with scientific misconduct**
 - The organization and **management** chart is not provided.
 - The financial **management** has not been sufficiently detailed.
 - The contribution of the private sector PIs to project **management** is rather limited.
 - The **management** structure presented is not appropriate as the composition and the role of the Governing Board is not defined. The **Supervisory board**, with 30 members, will be in charge of the continuous evaluation of the PhD candidates and other important parts of the **training** Programme; this is not operative. (EJD)
 - The proposal does not address important issues related to **management**, particularly with regard to responsibility for core activities and decision-making. (EJD)
 - The administrative structure is disproportionate to the size of the project with the delegation of tasks, responsibilities and the rules for decision-making being not defined clearly enough.
 - There is no lead beneficiary appointed to oversee the overall **training** programme.
 - The proposed overall **management** structure is inappropriate. Responsibilities of the **Management** Support Team are unfocused and structurally confusing.
 - Mechanisms for ESR feedback to the **management** are not well elaborated and it is not clear how the representatives of ESRs are selected.
 - **Management** meetings are not sufficiently frequent and occur quite late in the project timeline.
 - While the **management** structure does not omit any crucial activity, it remains complex with overlapping missions (for instance between the **Supervisory board**, the **supervisory board** for **training**, and the scientific steering committee), and multiple participation of key participants to various committees.
 - Conflict **management** between partners/research leaders is not sufficiently addressed in the proposal.
 - It's not clear in the proposal whether ESRs participate in the **management** structure of the project. The functions of the **Supervisory** and **training** Boards are not clearly detailed.
 - Contingency plans for individual research projects are not sufficiently described. **Risk management** and risk mitigation are too generic. No risk is foreseen for development of the app or development of a new organizational model.
 - Overall **management** structure and procedures are not convincing. Even though procedures are described, they are not sufficiently detailed to demonstrate effectiveness. For example, the **recruitment** strategy and the guide for the **quality** plan are mentioned in overly general terms and the financial **management** structure is not adequately explained. Progress monitoring measures are insufficient.
 - **Quality management** and monitoring processes lack sufficient detail especially for individual ESR projects.
 - The integration and responsibilities of the young researchers within the network **management**

- are not described with sufficient clarity.
 - The specific **management** issues related to the interaction between **supervisors** for the purpose of establishing the PCDP are not clearly highlighted.
 - The **management** structure is composed by a **Supervisory board**, an Executive Board and a **Training & Recruitment** Board, with some of the responsibilities of the first two boards in overlap.
 - The proposal does not clearly show any organizational plan for the interaction of the organizations except hosting the ESRs.
 - The **management** structure appears complicated in terms of flow **communication** with a voting system, decision making mechanisms and conflict resolution which are not sufficiently explained. (EID)
 - With such a high number of institutions representing several European countries, the consortium coordination vision is weak, to properly synchronise logistics and action items. (EID)
 - The **management** structure is not enough precise in specifying the interactions between WPs leaders, PhD **supervisors**, and **Supervisory board**. (EID)
- **Joint governing structure (mandatory for EID and EJD actions)**
 - The joint governing structure is not well designed as elaborated in the proposal. (EJD)
 - The description of interaction within the joint governing structure is unclear. (EJD)
 - The majority of ESRs will be led by **supervisors** from one institution. This is rather imbalanced, especially considering the fact that the institution does not appear to have a **doctoral training** programme. (EID)
 - The implementation of the **supervision** plan, guidelines and rules, and the corresponding monitoring and control measures to assure the **quality** of implementation, are unclear and insufficient. (EID)
 - The joint governing structure, the **management** structures and procedures are not detailed enough. Various boards are identified but the relationship between them is not clearly defined. (EID)
- **For EJD, joint admission, selection, supervision, monitoring and assessment procedures**
 - Lack of clarity about the crucial shortlisting phase of ESR selection. (EJD)
 - The practical aspects of awarding joint diplomas are not addressed in sufficient detail; it is not convincingly stated how many ESRs will get joint/double/multiple doctoral degree or if all are due to be enrolled in **doctoral programmes**. The capacity of certain institutions to award doctoral degrees and the interaction with the degree-granting institutions are also unclear. (EJD)
 - For EJD implementation mode, all ESRs are required to be enrolled in a joint / double / multiple doctoral degree, but according to the proposal this is not the case for ESR12 and ESR15. (EJD)
- **Supervisory board**
 - The monitoring/supporting role of the **Supervisory board** and information exchange with other network members have not been described in a detailed manner. The board meeting frequency does not ensure proper feedback **quality**.
 - It is not convincingly demonstrated that the large number of persons sitting on the **Supervisory board** can effectively oversee the **quality** of the program.
 - The envisioned **Supervisory board** (SB) is presented as the sole planning and decision-making body. (EJD)
 - Some aspects of the committee structure are not described in sufficient detail. (EJD)
 - The description of **Supervisory board** with respect to the voting mechanism is weak and the conflict resolution mechanism is not sufficiently presented. (EJD)
 - It is not sufficiently clear which person will be part of either the technical **management** committee or the **supervisory board**, or both.
 - The frequency of the **supervisory board** meetings is not clear.
 - The proposal does not provide sufficient information on how the **Supervisory board** liaises with WP leaders, which is a strong weakness.
 - The proposal does not justify sufficiently the underlying reasons for establishing both a **Supervisory board** and a **Management** Board that duplicate responsibilities
 - The Advisory Board composition limited to physicists from the participating nodes might lead

- to conflicting interests.
 - The description of the **supervision** is not clear enough
 - The **Supervisory board** composition is not clearly presented. For example the ESRs representative is mentioned in the Research Council description but not included clearly in the SB composition, and there is no mention of its vote possibility.
 - The roles of **Management** Committee and **Supervisor** Board are not clearly indicated, some responsibilities being identical. (EID)
 - The proposal does not sufficiently explain why the **Supervisory board** does not involve a representative of ESRs.(EID)
 - Representatives of the ESRs as well as external members in **supervisory board** are not enough considered.
- **Recruitment strategy**
 - Reaching the **milestone** on **recruitment** of ESRs in month 3 is unrealistic, especially given the fact that some ESRs will only start at month 6.
 - The organization of the first **training** meeting in the first month of the ESRs' employment does not take into account an adaptation period for the ESRs. In addition, this does not take into consideration a possible **recruitment** delay, which is identified as a possible risk.
 - The **recruitment** strategy is insufficiently detailed: its effectiveness is not fully demonstrated.
 - The proposal does not sufficiently address the interactions between the WP leaders and the other
 - Some aspects of the **recruitment** strategy are not properly considered e.g. decision-making chain for employment of ESRs.
 - Although the **recruitment** strategy is interesting, it is time consuming to implement. The proposal does not include sufficient details on the duration of each phase.
 - The short period allocated to the ESR position announcements and **recruitment** will not guarantee a fully transparent and efficient **recruitment** process. (EID)
- **Progress monitoring and evaluation of individual projects**
 - Plans for day-to-day **supervision** are not described in sufficient detail. Progress monitoring and feedback mechanisms from **supervisors** to ESRs are not specified.
 - Some **supervisors** (called coordinators) are heading further small boards which may result in complex **management** of the ESRs.
 - There is insufficient information on the **management** of **Intellectual property** rights that may arise from the individual ESR research projects.
 - The progress monitoring mechanisms are not clearly formulated.
 - Procedures for monitoring the ESR progress are not clearly defined. (EID)
- **Risk management at consortium level**
 - The **Risk management** are presented both for **management** issues and for research issues however the presentation is superficial and contingency plans are not convincing.
 - The **Risk management** is not fully convincing, and relevant scientific, technical and **management** risks are not properly considered.
 - The **Risk management** Plan is not fully detailed concerning risks related to scientific activities. The severity of risks is not convincingly analysed.
 - **Risk management** and mitigation measures are not sufficiently addressed, and important issues like specific research issues and compliance **training** are not addressed.
 - The risk analysis is not sufficiently elaborated for this very ambitious and dense work program. Very few technical risks are listed and these are not clearly described.
 - The fact that the project coordinator needs to be hired represents a risk for the timely start of the network.
 - Risk analysis has not covered the whole spectrum of risks associated with the project (e.g. the turnover of human resources creating capacity issues for the **non-academic** partners).
 - The **risk management** strategy does not sufficiently address a number of issues, including technology-associated and **management**-related risks/ more serious risks which may occur during the programme execution. (EJD)
 - Scientific and technical risks associated to the overall programme are not discussed in sufficient detail. Mitigation solutions are vague and generally described. (EJD)
 - The **risk management** and the associated mitigation measures do not cover some important

- aspects, such as scientific risks related to the **methodology**, delay in **recruitment** or conflict resolution. (EJD)
- The risk register does not take adequate account of all research risks, e.g. risks relating to ESR **recruitment** or underperformance, or risks arising from a disagreement between the ESR and **supervisors**. (EJD)
 - **Risk management** is not well-addressed. There is not sufficient information on the resolution of conflicts. The risk table does not cover the scientific risks in an adequate manner, i.e. many of the scientific risks associated to production of biosensors are not included. (EJD)
 - A minor shortcoming in the **risk management** plan is that it does not take sufficient account of the implementation risks specific to the proposed project.
 - The proposed **risk management** does not address technical and scientific risks of the research project. It is unclear why the **impact** of risk 12 (R12) and risk 32 (R32) in Table 3.2a are not assessed. Also, it is not clear why mitigation measures are not proposed for risk 12 (R12).
 - Risk analysis is mainly focused on **risk management** at consortium level. **Risk management** specifically for each individual research project is not provided. Risks are also not foreseen in the possibility of a lack of interest of stakeholders, potentially reducing the **impact** of the action.
 - As the overlap between the groups (especially in techniques) is rather small, there is a risk that real **synergies** for the fellows also will be rather small.
 - Although a **risk management** and contingency plan are proposed, there is insufficient information on the risk involved and how this is addressed with regards to collecting data from the participants with atypical **communication** and possibly associated behavioural and social interaction challenges.
 - The **quality** monitoring of the research activities is described with insufficient details and does not account for the high number of **milestones**.
 - Estimates of the severity of the scientific, technological and operational risks are not identified appropriately.
 - The proposal lacks clear presentation of **management** of secondments, the value of multiple secondments and plans for assessing the outcomes of secondments.
 - Technical risks have been insufficiently considered.
 - Scientific risk assessment is minimal and mitigation procedures are not convincingly described. In particular among the identified risks and mitigation measures, risk R3 is too cursorily presented. It is not convincingly demonstrated that a delay in a WP task concerning a given black hole evolutionary stage does not **impact** the research in a WP focussing on a subsequent stage.
 - **Risk management** at consortium level is not sufficiently well developed and the assessment of risks at the research level is not sufficiently specific
 - The risks linked to the **research programme** and their respective mitigation are insufficiently presented.
 - Some technical risks are discussed in a rather general way. For instance the risks related to photocatalyst efficiency and scaling-up are very important and the proposed mitigation measures, consisting in the change of strategy, are difficult to be applied.
 - The **risk management** plan does not clarify some points. It does not address any potential problem with ESRs and does not address the potential unavailability of the applications and data to evaluate the project results.
 - **Risk management** at the consortium level is not discussed in sufficient detail and descriptions of risk and proposed mitigation measures are too generally defined in the proposal.
 - The scientific risks have not been taken into account in a comprehensive way. In addition, the risks related to the large number of networkwide events, especially the consequences on the research needed to be performed at the home institutions, have not been sufficiently considered.
 - The **Risk management** Plan does not sufficiently take into account risks related to research activities. (EID)
 - The presented **risk management** does not clearly address the risks of scientific misconduct, human difficulties, financial problems and scientific data integrity. (EID)
 - The applicants listed possible risks without the probabilities of occurrence and without any indication of how strongly a given risk can disturb the proper execution of the work. (EID)
 - The most relevant risks regarding **management** at the consortium level are underestimated. Some of the proposed mitigation measures are not fully convincing. (EID)
 - The consideration and **management** of risk is incomplete; for example, there is limited information on risks associated with conflict or **quality** aspects, on the scheduling of ESR

- **recruitment** and on research interdependencies. (EID)
- The proposed **risk management** plan is not proactive enough and insufficiently considered. Possible delays in individual Early Stage Researchers project as well as their **impact** on the overall implementation of the research and its outcomes are insufficiently considered. (EID)
- **Intellectual Property Rights (IPR)**
 - Aspects concerning **Risk management** as well as procedures and measures of securing **Intellectual property** rights are insufficiently discussed in the proposal.
 - IPR **management** is not fully addressed, as a deeper analysis for supporting a clear action plan how for handling new IP (when applicable) is missing.
 - **Intersectoral** aspects in some key committees are not properly considered. The academic participation in the **Intellectual property** Committee is not appropriately considered, and the private sector is not sufficiently included in the **Dissemination** and **Communication** Committee.
 - **Management** of IP is not convincingly presented, and the plans to avoid losing patentability due to early publication of research results is not sufficiently elaborated.
 - Obligations and rights of the project partners will be documented in the consortium agreement, but IPR is not clearly presented. (EJD)
 - IPR **management** and the resolution of potential conflicts related to that is unclear. (EJD)
 - The IPR strategy is addressed in a generic way and its **impact** on publishing results obtained is not fully specified. (EID)
 - **Intellectual property** Rights (IPR) consideration is inappropriately integrated in the implementation plan. (EID)
- **Gender aspects (both at the level of recruitment and that of decision-making within the action)**
 - Although the proposal stresses the particular importance of **gender** regarding the particular project, the **gender** aspects of the **management** of the project are not sufficiently elaborated.
 - Insufficient consideration of diversity and **gender** parity. (EJD)
 - **Gender** balance is not well addressed among the scientists in charge.
 - **Gender** balance among **supervisors** is not sufficiently considered, which is a shortcoming.
 - **Gender** aspects at the level of decision-making are not credibly described.
- **Data management plan (Open access and Open data)**
 - The content and the monitoring of the proposed **Data management** Plan are not enough justified.
 - The use of **open data** and **open access** is excellent, as this will significantly increase the **impact** of the programme beyond the consortium, potentially **training** many more researchers.
 - Proposed plans for **dissemination** at international conferences and in **open access** scientific publications are specified adequately.
 - The **dissemination** strategy to the scientific community is relevant and appropriate, notably with conference attendance and publication by the ESRs of **open access** articles in peer reviewed journals.
 - It is not clear how the access to data will be ensured even though it is presented as the primary focus of the network.
 - Data and network/cyber security, as well as imaging and image analysis expertise are not sufficiently represented among the partners. (EID)

Appropriateness of the infrastructure of the participating organisations

- The proposal does not clearly provide details with respect to whether the necessary **infrastructure** is available at the partners for some aspects, such as deep learning.
- The specific **infrastructure**, which will be available at the host institutions to ESRs during their secondments, is not specified in sufficient detail.
- There is some variability in the **quality** of information provided around **infrastructure** so the proposal presents inconsistency of appropriateness of **infrastructure** across the consortium. (EJD)
- The overview of basic **infrastructure** needed for the implementation of the proposed research program is not adequately discussed. The **infrastructure** and facilities that will be made available to recruited ESRs for the execution of their projects are not clearly spelled out.
- The proposal does not describe adequately the **non-academic** participants' **infrastructures**.

- It is not sufficiently clear that the consortium has appropriate facilities, experience and competence for prototype device development in the targeted fields of application.
- Although most of the organisations have appropriate capacities and **infrastructure**, some are not well described, e.g. no description for one of the participants is provided.
- The **infrastructure** of some partner universities is not described in sufficient detail, and thus does makes it difficult to **objectively** evaluate the appropriateness of the overall **infrastructure** to host and implement the project.
- The proposal does not provide sufficient explanations about the appropriateness of the **infrastructure** of the participating organisations.
- The appropriateness of the **infrastructure** of the **non-academic** beneficiary is not clearly described. (EID)

Competences, experience and complementarity of the participating organisations and their commitment to the programme

• **Consortium composition and exploitation of participating organisations' complementarities:**

- The competences and experience of some of the partners are not clearly described. (EJD)
- Although overall, the partnership shows relevant expertise, complementarity of the participating organisations is not clearly mapped. Also the available levels of human computer interaction and ethnographic expertise are insufficient. (EJD)
- Complementarity of the participating organisations is insufficiently demonstrated in terms of research expertise and scientific experience required for the project fulfilment. (EJD)
- Complementary aspects between partners are not described with sufficient clarity.
- The consortium does not present adequate competence in legal and environmental areas.
- Description of partner organizations and their role within the consortium is partially unclear and not adequately elucidated.
- The full composition of the boards with actual names of members is not spelt out.
- The specific complementarity of participating organisations is not fully detailed.
- The facilities to be made available to ESRs during placements in **non-academic** participants are not explained in sufficient detail.
- The arrangements and links between the beneficiaries which do not award doctoral degrees and two universities foreseen for granting doctoral degrees to ESRs are not fully detailed in the proposal.
- Information about consortium composition and **exploitation** of partner's complementarities as well as **commitment** of beneficiaries and partners organizations is not sufficiently substantiated within the given page limit. (EID)

• **Commitment of beneficiaries and partner organisations to the programme**

- The role and **commitment** of some of the associated partners and beneficiaries are not convincingly demonstrated.
- The **commitment** of one of the participating organisations is not demonstrated in a good level of detail.
- The complementarities of the participating organisations are not properly discussed.
- The proposal does not convincingly exploit complementarity of the research expertise in the consortium, in particular regarding **work packages** one and two.
- The fact that the **non-academic** sector is not represented among the beneficiaries (but only among partners) may have a negative **impact** in the **commitment** of that sector to the program.
- Very limited information is provided about non-beneficiary partners. Very little information is given on the current effort of the partners in this particular research area.
- The **commitment** of the industry participants to provide the required resources is not sufficiently addressed.
- It is not convincingly argued why decisions on valorization by the involved researchers need to be complemented by the establishment of a valorization board.
- **Commitments** of the partner organizations are not convincingly presented, for example with respect to hosting ESRs for secondments. (EID)

• **Letters of Commitment**

- A **commitment** letter from xxx University is missing.