

COMPTE-RENDU DE REUNION



Le Point de contact TIC vous propose ci-dessous le compte-rendu de la réunion d'information et de réseautage ROBOTIQUE

Thématique : **Robotique - Appels 2017**

Date : **5 décembre 2016**

Lieu : Bruxelles

Lien internet : [Site de l'évènement](#)

Membres PCN TIC :

Rédacteur : **Farzam Ranjbaran**, Université de Limoges,
représentant CPU

Relectrice, mise en forme : Claire Ferté, Business
France

Farzam s'est rendu à la journée d'information et de
réseautage Robotique à Bruxelles et a préparé le
compte-rendu suivant. Nous vous en souhaitant bonne
lecture.

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L'équipe du PCN TIC



Organisateurs : DG CONNECT et SPARC (euRobotics)
Objectifs couverts : ICT-25-2017, ICT-27-2017 et ICT-28-2017
Dates de l'appel : ouverture 08/12/2016 et clôture 25/04/2017
Structure de l'évènement : journée d'information et possibilité de présentation flash

Main observations and conclusions:

The meeting (agenda is provided in Annex 1) was well organised, and provided a good platform to hear the perspectives and interpretation of the calls made by the responsible staff of the European Commission as well as the SPARC, euRobotics. Particularly, I found the general information about the calls very useful as well as the advice provided to the proposers in the form of "What works" and "What doesn't work" which are summarised on Page 5, Section "Horizon2020: Tips for proposers - Cécile Huet".

I was somewhat disappointed at the level of participation from the European research communities, i.e., universities and research performing organisations. This was sharply noticed at least during the teaser session in which I participated (for Calls 27 and 28) where the majority of the presentations were made by companies looking for partners. It could be useful to conduct a critical assessment of how to further open up already made networks and groups of partners and to reach out to new possibilities such that more value added can be expected from the *brokerage part* of these events.

Please read: « What works » and « What doesn't work » on page 5

Morning sessions

Presentation of robotics opportunities for funding in H2020 - Juha Heikkilä, Head of Unit, Robotics & Artificial Intelligence, DG Connect, European Commission*

Representing the European Commission as the Public side of the SPARC partnership, **Dr Juha Heikkilä** the head of the Robotics & Artificial Intelligence unit of the DG-Connect, European Commission, described the **overall goals of the partnership**, and the way the partnership has been used to prepare the **Strategic Research Agenda** (SRA) and the **multi-annual road maps** (MAR) the two main drivers of the scope and scale of the call for proposals related to robotics.

This presentation was the same as the one which was presented at the ICT Proposers Day of 26.09.2016 in Bratislava. The link to the presentations is [here](#) (a video is also available).

It was described how SRA/MAR should help in preparing the proposals:

- Based on SRA → Show how proposals address the high level goals and strategic objectives of the SRA.
- Based on MAR → Demonstrate which "step changes" will be accomplished by the proposed activities as related to Ability and Technology descriptors of MAR.
- Based on MAR → which impact on the Domains defined by MAR.
- Based on MAR → Which TRL increase will be accomplished?

Multi-Annual Roadmap: The MAR is the result of community input, mostly from Topic Groups, and a transparent process to identify priorities. The MAR is updated at each Horizon 2020 Call. Readers are encouraged to engage with this process and to contribute their knowledge to the content of this document. It will then reflect and sustain a live discourse on the current state of robotics technology. This can be done by joining euRobotics and by contributing to the associated Topic Groups.

The Multi Annual Roadmap for Robotics can be accessed [here](#),
The Strategic Research Agenda for Robotics can be accessed [here](#).

[Please read carefully the 2 documents above](#)

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The 3rd Call on **Robotics and Autonomous Systems** with 72 M€ and the **4th Call** with 85 M€ are within the Leadership in Enabling and Industrial Technologies (LEIT) priority (with 13,5 B €) under the 3rd Pillar of H2020: Industrial Leadership priority (with 17 B €).

The fourth Call (with deadline of April 25) is detailed in the table below (including information taken from the first presentation of the European Commission on the calls). For quick reference brief definition of the four types of calls, namely Research and Innovation Action (RIA), Innovation Action (IA), Coordination and Support Action (CSA) and Pre-Commercial Procurement (PcP) are given in Annex 2.

Link to the Call: ICT-25-2017: Advanced robot capabilities research and take-up			
Type of Action	Overall Budget M€	Topics	budget per Project
RIA	15	a) Open, Generic -> All topics and disciplines: Open, generic forward-looking research into novel technical advances in robotics – open to all robotics-related research topics and disciplines. Proposals to address technical topics which cut across application domains and which can be developed further with a view to achieving high future impact on markets or societal sectors in Europe.	2-4 M€ <i>(indicative)</i>
		b) Step Changes in Technical capabilities Technology research and development to achieve step changes in the capabilities of the following high priority RAS technologies: systems development, human-robot interaction, mechatronics, perception, navigation and cognition. <i>Proposals are to use their “centre of gravity” between a and b</i>	2-4 M€ <i>(indicative)</i>
IA	19	c) End User driven application development: Improving the deployment prospects of RAS through end-user-driven application developments in domains and application areas with significant market potential: <ul style="list-style-type: none"> • To address system development beyond TRL 5. • The outputs will not be purely technological; actions will generate economic and operational data that will provide a valuable basis for setting operating parameters and for reducing commercial risks for future investors 	2-4 M€ <i>(indicative)</i>
		d) End-user driven - Filling tech./ regulatory gaps through end-user-driven innovation actions, where the gap represents a challenging market entry barrier: <ul style="list-style-type: none"> • Proposals to address a gap in either technical capability or system ability. • The targeted gap and the required steps to tackle the gap must be clearly identified in the proposal. 	2-4 M€ <i>(indicative)</i>

Link to the Call: [ICT-27-2017: System abilities, SME & benchmarking actions, safety certification:](#)

Type of Action	Overall Budget	Topics	budget per Project
RIA	28 M€	<p>a) Advancing the state of the art in the level of smart robotics system abilities:</p> <ul style="list-style-type: none"> Focus on technical challenges; research actions will address cross cutting technology issues to make significant contribution to applications and domains with the highest impact on markets. Proposals to address at least one or a combination of the following abilities: perception ability which is immune to natural variation (e.g. changing weather conditions); decisional autonomy; increasing dependability to graceful degradation; self-verification & correction behaviour in safety critical tasks. 	2-4 M€ <i>(indicative)</i>
		<p>b) SME-based research and benchmarks: Stimulate SMEs to develop novel and challenging technology and systems applicable to new markets.</p> <ul style="list-style-type: none"> Provide SMEs with access to technical and non-technical support services and technology relevant to the new market addressed. Provide to SMEs, not necessarily in the original consortium, with facilities to carry out their research more efficiently and may include access to specialised facilities or technology. Proposals should also identify how they will enable SMEs to access stakeholders in new markets. Proposals addressing extended clinical validation for healthcare are specifically excluded. NOTE: Financial Support to Third Parties (FSTP) possible: <ul style="list-style-type: none"> Min. 50% of EU funding to FSTP (in SME-based Research) ~ [50k€ – 200k€] per TP (in SME-based Research) Min. 60% of the EU funding (in SME-based Benchmark) ~ [50k€ – 100k€] per TP (in SME-based Benchmark) Selection process of TP should be wide and transparent 	5-8 M€ <i>(indicative)</i>
IA	11 M€	<p>c) Shared facilities for safety certification:</p> <ul style="list-style-type: none"> Development of testing protocols for shared space cooperative and collaborative systems leading to viable safety certification standards Proposals must cover a range of domains and applications where safety certification is a market barrier May involve financial support to third parties (FSTP) 	6-11 M€ <i>(indicative)</i>
PcP	7 M€	<p>d) Pre-commercial procurement: on smart cities:</p> <ul style="list-style-type: none"> Actions to aim at but not be limited to one or several of: Waste management; Transport (focus on smart mobility); Provision of city-wide utilities and Services; Provision of healthcare, Social care and education (including social innovation) Actions will be expected to show how the PCP instrument and procurers will be mobilised to develop new robotics related solutions in a smart cities context 	5-7 M€ <i>(indicative)</i>

Link to the Call: ICT 28-2017: Robotics competition, coordination and support			
Type of Action	Overall Budget	Topics	budget per Project
CSA	5 M€	a) Non-technical barriers: <ul style="list-style-type: none"> Promotion of entrepreneurial skills specific to robotics and provision of non-technical early-stage support for SMEs and spinouts Addressing non-technical market barriers (e.g. ethical, legal and socio-economic issues affecting take-up) Promotion of responsible research and innovation in robotics and assessment of societal readiness for robotics products Strategies to anticipate new skills requirements, to reduce skills shortage and to provide responses to economic change through training, skills development and education 	3 M€ <i>(indicative)</i>
		b) Standards & regulation: Coordination of standards harmonisation and regulation <ul style="list-style-type: none"> Dialogue with regulatory bodies 	
		c) Community support and outreach: <ul style="list-style-type: none"> To improve information exchange, to provide open access resources, to communicate outcomes of EC-funded projects, to improve the public level of understanding and societal uptake of robotics 	
		d) Competitions: <ul style="list-style-type: none"> Robotic competitions to speed up advance towards smarter robots, demonstrating progress and raising public awareness 	2 M€ <i>(indicative)</i>

Horizon2020: Tips for proposers - Cécile Huet, Deputy Head of Unit, Robotics & Artificial Intelligence, DG Connect, European Commission

The next presenter was **Dr Cécile Huet**, Deputy Head of Unit, Robotics & AI, for the European Commission. During her presentation, advices were given to the proposers in the form of “*What works*” and “*what doesn’t work*”. Some of these are summarised below while the full list can be found in the presentation [here](#).

- Have ambitious objectives but ensure they are realistic and feasible to achieve
- Avoid having diverse set of objectives which are not tied together coherently
- Target the scope of the call but avoid using/repeating keywords without going further into the details of what is really intended
- If previously rejected proposal is being reused, ensure the comments of the past evaluation summary report (ESR) are taken into consideration and addressed
- Ensure to give a clear picture as to what the State-of-the-Art is and where your proposed activities stand with respect it (both literature and past funded projects)
- Avoid dedicating large efforts in your proposal for doing literature surveys
- Try to exploit, capitalise, synergise with other ongoing funded programmes, but avoid situations where “*double funding*” can occur or can be perceived.

On Methodology:

- Describe clearly what the proposal wants to achieve but it is important to also illustrate how it will go about achieving these.
- Be honest with describing the level of difficulties and clarity of your methodologies and plans; evaluators can also see the lack of clarity and ambiguity.

On Management:

- Define clear milestones with clear criteria for their successful achievement.
- Provide contingency plans for both management and technological risks.
- Importance of cost-efficiency and value for money in case consultants are used.
- Avoid including artificial partners (only to look good): for example industrial partners.

On the role and inclusion of industrial partners:

- The inclusion of partners from industries follows one or more of the following genuine motivations: Involvement of their R&D staff on the research tasks; providing platforms (e.g., for development, testing, calibration etc.); enabling validation scenarios.
- Industry has a far greater role to play in R&I than before. Involvement of industry as manufacturers, system suppliers, integrators or users is welcome, as appropriate, depending on the needs of the project and on the technology readiness level being addressed.

On Expected Impact: Elaborate clearly

- On S&T.
- On business & society.
- And avoid vague and unclear generic descriptions.

Dissemination/exploitation

- If industrial dimensions -> not necessary to make all deliverables public. In that case, justify why and describe the plans to protect and exploit such results.
- H2020 rules on IPR assure that "Ownership of background is not affected by participation in a H2020 project", and "Results are owned by the beneficiary that generates them."
- BUT DISSEMINATION -> DEMONSTRATE IMPACT OF THE FUNDING.

Measures to maximise impact – dissemination of results

- Concrete dissemination plan, scientific and non-scientific, with a coherent vision, not just a 'shopping list'.
- Targeting all types of media channels and audiences (website, press releases, publications, exhibits at fairs, social media), as relevant.

Idealist: Network of National Contact Points - Edina Nemeth

The final presentation of the morning session was **IDEAL-IST Network** of ICT National Contact Points made by **Németh Edina**, the NCP for ICT & FET from Hungary. The network funded under H2020 has members from 72 countries worldwide and provides the following services:

- Partner match/search
- Brokerage / face2face
- Toolbox for proposers
- Pre-proposal and proposal check

Afternoon sessions

Much more details on some of the calls were given in the afternoon session and prior to the flash-presentations of the participants.

First the following two thematic were elaborated in a [presentation](#) by **Anne Bajart**, Programme Officer, Robotics & Artificial Intelligence, DG Connect, European Commission:

- ICT-27-2017 Benchmarking actions (RIA)
- ICT-28-2017 Robotics competition, coordination and support (CSA)

She also provided more elaboration on the Coordination and Support Actions (CSA) some of which can be found in the summary in Annex 2.

Then **Cécile Huet** explained the Action C, Shared facilities for safety certification under the Call ICT 25-2017: Advanced robot capabilities research and take-up, Action C) Shared facilities for safety certification.

She also described the main features of Innovation Actions in general; as well as the means of Financial Support to Third Parties (FSTP). Her presentation can be found [here](#).

The third [presentation](#) by the Commission representatives was on ICT-27-2017: Pre-commercial Procurement Actions given by Michel Brochard, Programme Officer, Robotics & Artificial Intelligence, DG Connect, European Commission. Annex 2 provides the main features taken from this presentation on the PcPs.

The last part of the Afternoon Session was devoted to the flash-presentations made by the potential proposers who had attended the day while looking for partners to collaborate with on some of the specific calls. All of these presentations are now uploaded on the SPARC dedicated web-pages and under the "Project Ideas" Tab and can be [accessed here](#) after making a very short registration.

Flash presentation are available online: registration is needed.

Additional information

The 2017 **European Robotics Forum** will be held in Edinburgh, Scotland, UK, during **22-24 March**. This 3-day event which also marks the annual meeting of euRobotics, is expected to attract over 800 researchers, engineers, managers, entrepreneurs, and public and private sector investors in robotics R&D.

The main theme of the forum is on "*Living and Working with Robots*" with the objectives to:

- Identify the potential of robotics applications for business, the creation of jobs, and meeting societal needs
- Discuss the state of the art and most recent breakthroughs in applications
- Learn about new robotic business opportunities, including those arising through establishment of spin-offs, and ongoing initiatives in robotics within Europe
- Influence decision makers and strengthen collaboration between stakeholders in the robotics community

For more information and registration visit: www.erf2017.eu

Annex 1

Agenda:

09:30-10:30 Welcome coffee and informal networking

10:30-12:00 H2020 Robotics and Autonomous Systems Work Programme 2016-2017

- Presentation of robotics opportunities for funding in H2020
- Rules for participation
- Q&A session

12:00-12:30 SPARC

- Presentation of the SPARC Public-Private Partnership
- Status of the work programme generation process for 2018-2020
- Q&A session

12:30-13:30 Lunch

13:30- 16:30 Parallel sessions with project proposal teaser presentations and individual meetings for all call topics, ICT-25, ICT-27, ICT-28, SFS-05-2017.

At the beginning of the respective sessions, more detailed presentations by the EU (max 15 min) will be given on:

- ICT-28-2017: Robotics Competition, coordination and support
- ICT-27-2017: Benchmarks and metrics
- ICT-27-2017: Shared facilities for safety certification
- ICT-27-2017: Pre-commercial Procurement Actions

Annex 2

Brief review of the four types of Actions:

Excerpt from presentation of Dr J. Heikkilä of the European Commission,

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What is Research and Innovation Actions (RIA):

- Actions primarily consisting of activities aiming to establish **new knowledge** and/or to **explore** the **feasibility** of a **new or improved** technology, product, process, service or solution
- Basic and applied **research**, technology **development** and **integration**, **testing** and **validation** on a small-scale prototype in a laboratory environment (in robotics necessary but not sufficient!)
- Limited **demonstration** or **pilot** activities aiming to show **technical feasibility** in a **near to operational environment** (Important in Robotics → not only simulation! testing in "realistic" environment!)
- Funding rate: 100%

What is an Innovation action (IA)

- Actions primarily consisting of activities directly aiming at producing plans and arrangements or designs for **new, altered or improved products, processes or services**
- May include prototyping, testing, demonstrating, piloting, large scale product validation and market replication
- May include **limited research** and development activities (but the main focus is on technology transfer)
- All application domains provided that they are taken from the real-world
- Technology Readiness Levels envisaged:
 - 5: Technology validated in relevant environment
 - 6: Technology demonstrated in relevant environment
 - 7: System prototype demonstration in operational environment
 - 8: System complete and qualified
 - 9: Actual system proven in operational environment

What are Coordination and Support Actions (CSA)

- Actions consisting primarily of accompanying measures such as:
 - standardisation,
 - dissemination,
 - awareness-raising and communication,
 - networking, coordination or support services,
 - policy dialogues and mutual learning exercises and studies, including design studies for new infrastructure
 - and may also include complementary activities of strategic planning, networking and coordination between programmes in different countries
- May have one or several beneficiaries
- Specific challenges CSA:
 - Market take-up of research results

- Coordinated European efforts (standardisation – regulation)
- Developing trends and issues
- Ethical-Legal-Societal-Economical
- Dissemination
- Public perception

Description of Pre-Commercial Procurement (PCP) Actions:

(for the Call ICT-27-2017: System abilities, SME & benchmarking actions, safety certification, Topic d. Pre-commercial procurement: on smart cities):

- PCPs are to steer the development of **solutions** towards **concrete public sector needs**, whilst comparing/validating alternative solution approaches from **various vendors**;
- Minimum 3 independent participants from 3 different MS or AC, of which minimum 2 public procurers (buyers group) from 2 different MS or AC;
- PCP Actions Provide EU co-financing of **90% of the funding rate**:
 - For an actual PCP procurement (1 joint PcP procurement/PcP action), and
 - For related coordination and networking activities, e.g. to prepare, manage and follow-up the PCP procurement
- Various Phases included in PCP (Phase 0 of Curiosity-driven research is not included)
 - Phase 1. Solution Design:
 - ~10-15% PCP budget
 - ~100-250K/supplier
 - ~4-10 suppliers
 - Phase 2. Prototyping:
 - ~30-40% PCP budget
 - ~500-750K/supplier
 - ~3-6 suppliers
 - Phase 3. Original development, Operational testing:
 - ~50-60% PCP budget
 - ~800K-2,3M/supplier
 - ~2-4 suppliers

Examples of PCP Projects:

1- SMART@FIRE <http://www.smartatfire.eu>

“To reduce the risks associated with firefighting, innovative ICT-solutions need to be developed and integrated in the smart Personal Protective System....”

2- SILVER <http://www.silverpcp.eu>

“The SILVER project searches for new technologies to assist elderly people in their everyday lives. By the use of robotics or other related technologies, the elderly can continue independent living at home even if they have physical or cognitive disabilities....”

More useful details can be found in the presentation of Mr **Michel Brochard**, Programme Officer - EU policies, Unit A1 - Robotics and Artificial Intelligence, DG Communications Networks, Content and Technology, European Commission, linke [here](#).