

INSA Lyon

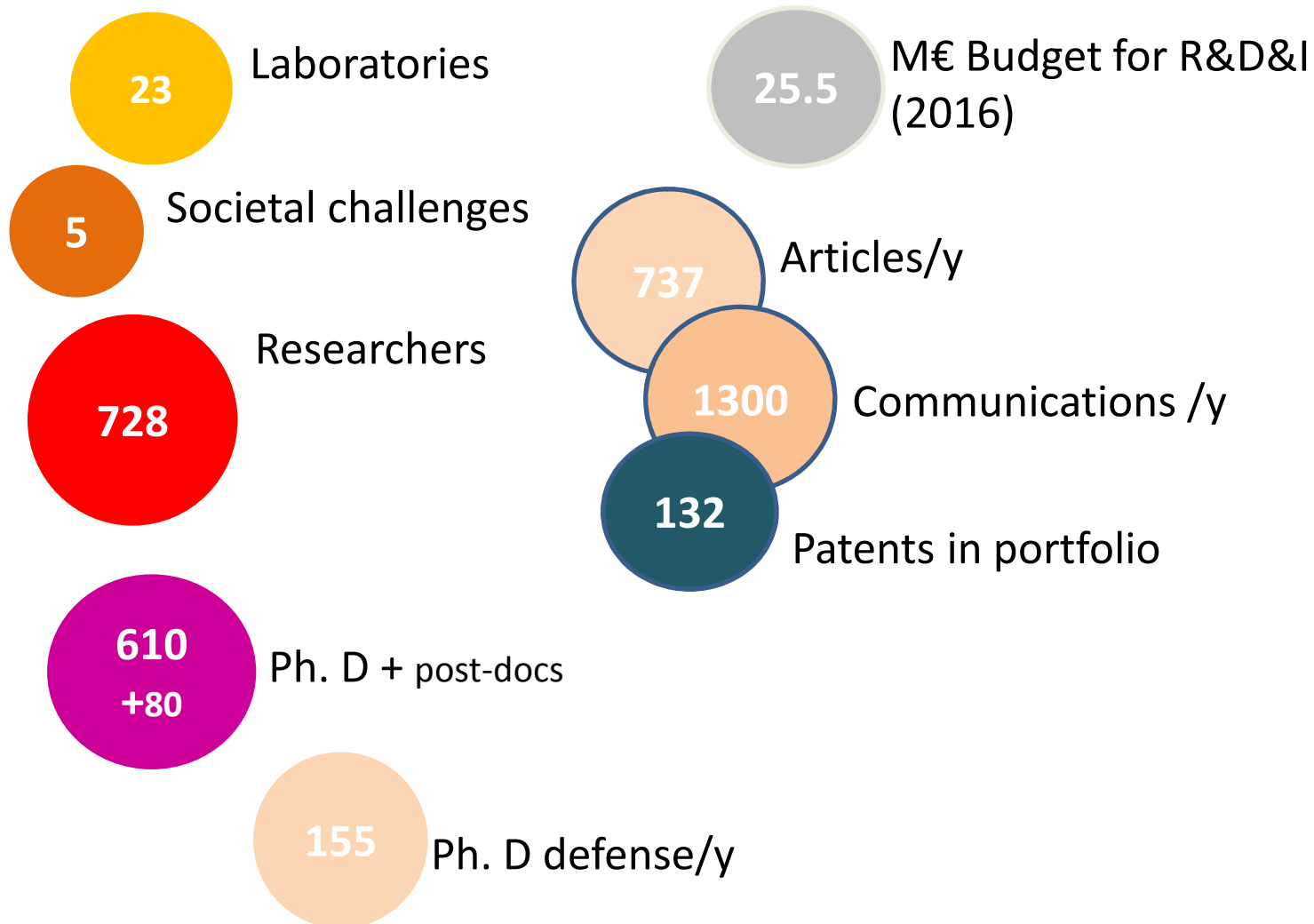
Thematic **Buildings -EE & EEB Industry & services –
EE & SPIRE**

brokerage workshops

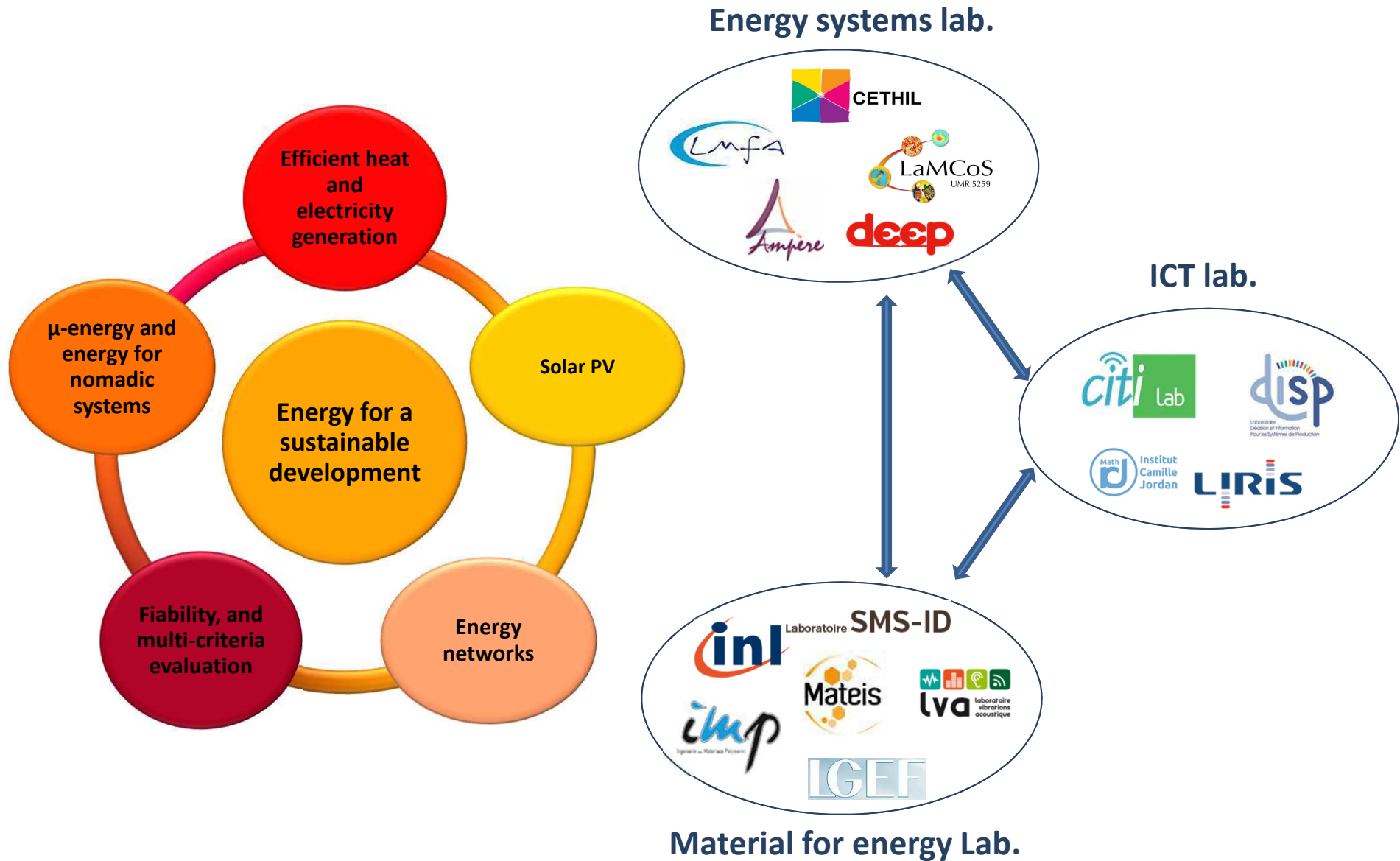
EU Brokerage Event on Energy Efficiency in Horizon 2020

Paris, 21st June 2018

R&D&I @ INSA LYON



R&D&I @ INSA LYON



INSA LYON – SKILLS FOR LISTED CALLS

INDUSTRY & SERVICES

- **CE-SPIRE-05-2019 Efficient integrated downstream processes**
 - Systems lifecycle modeling and optimization
 - Operation management for goods and services production systems
- **LC-SC3-EE-6-2018-2019-2020 Business case for industrial waste heat/cold recovery**
 - Energy integration & Energy network optimization combining energy and cost approaches
 - Design, characterization and optimization of thermodynamic systems for waste heat conversion (upgrade, electricity generation, etc.)

BUILDINGS

- **LC-EeB-05-2019-20 Integrated storage systems for residential buildings**
 - Thermochemical heat storage, material design and characterization
 - Thermal energy storage integration & management tool
- **LC-SC3-EE-4-2019-2020, LC-SC3-EE-5-2018-2019-2020, LC-SC3-EE-8-2018-2019, LC-EeB-01-2019, LC-EeB-03-2019**
 - Building/district/city energy modelling
 - Building monitoring (real scale plateforme)
- **LC-SC3-EE-5-2018-2019-2020**
 - « Smart building » : development and implementation of sensors network architectures and protocols; problems related to reliability, energy savings and autonomy
- **LC-EeB-01-2019**
 - sensors and actuators (energy harvesting, self-powered sensors, Structural Health Monitoring, vibration control).

Contact details

Contact person	Marc CLAUSSE (Research VP, Energy for Sustainable Development)
Organisation	INSA LYON
Adress	Laboratoire CETHIL UMR5008 Campus de la Doua, INSA-LYON Bât. Carnot, 9 rue de la Physique, 69621 Villeurbanne Cedex, France
Phone number	+33 (0)4 72 43 83 45
E-mail	marc.clause@insa-lyon.fr

DOWEL MANAGEMENT



Expertise in H2020 projects, coordination of application phase, dissemination, exploitation, techno-economic studies

Industry and services (EE & SPIRE)

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DOWEL MANAGEMENT (formerly TECHNOFI)

- **Located in France, SME created in 1985**
- **Innovation management consulting with strong focus on sustainable development issues:** energy system transition, sustainable buildings, smart cities, resource efficiency, corporate societal responsibility,...
- **Strong experience as partner in EU-funded projects:**
 - **STUNNING** (CSA, coordinator) <https://www.stunning-project.eu>
 - **SINFONIA** (IA) <http://www.sinfonia-smartcities.eu>
 - **BRESAER** (RIA) <http://www.bresaer.eu/>
 - **MEMAN** (RIA) <http://meman.eu/>
 - And many others - mainly in the energy sector...
- **Coordination of H2020 applications** for major stakeholders of the energy sector: **RTE, ENEDIS, ENEL, ...**

We propose :

- **Services to project coordinators** to support the application phase for Innovation Actions (**EE-6, SPIRE-04, SPIRE-06**), including:
 - Writing of sections 1, 2 and 3 of the proposal
 - Budget preparation
 - Administrative support
 - Subcontracting for specific tasks
- **Partnering with consortiums** preparing a CSA proposal (**EE-8**), including:
 - Support to project coordination
 - Dissemination and exploitation leader
 - Working group facilitation
 - Set up and monitoring of KPIs
 - ...

Consortium EE-8

<u>Known partners / Competence offer</u>			
Name	Type	Country	Role in the project
Dowel Management	SME	France	Dissemination and communication
CETIM	Tech.	France	Energy efficiency recommendations for industry
Politecnico di Milano	Univ.	Italy	

<u>Partner search</u>			
Profile	Type	Country	Role in the project
Technical center, university, SME, etc.		Europe wide, Spain, Germany, or Eastern Europe	Expertise in behavioural change, Analyse behaviours, acceptability, barriers
Technical center, Chamber of Commerce		Europe wide, Spain, Germany, or Eastern Europe	Networks ensuring access to enterprises

Contact details

Contact person	Daniel Tawil-Jamault
Organisation	DOWEL MANAGEMENT
Address	25 allée Pierre Ziller – NAXOS – 06901 Sophia Antipolis - France
Phone number	00 33 6 45 02 47 06
E-mail	daniel.tawil@dowel.eu

WELLNESS TELECOM

Thematic

LC-SC3-EE-6-2018-2019-2020: Business case for industrial waste
heat/cold recovery

LC-SC3-EE-13-2018-2019-2020: Enabling next-generation of
smart energy services valorising energy efficiency and flexibility at
demand-side as energy resource

brokerage workshops

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WELLNESS TELECOM

- Some institutional information on your organisation
- Your skills and expertise
- Past experience in EU-funded projects (if any)

Wellness Telecom Overview



OUR TECHNOLOGY IS
PRESENT IN +230 CITIES



PROJECTS IN
+60 COUNTRIES



+ 100 PRIVATE
COMPANIES
TRUST US



EMPLOYEES

+100

6 OFFICES

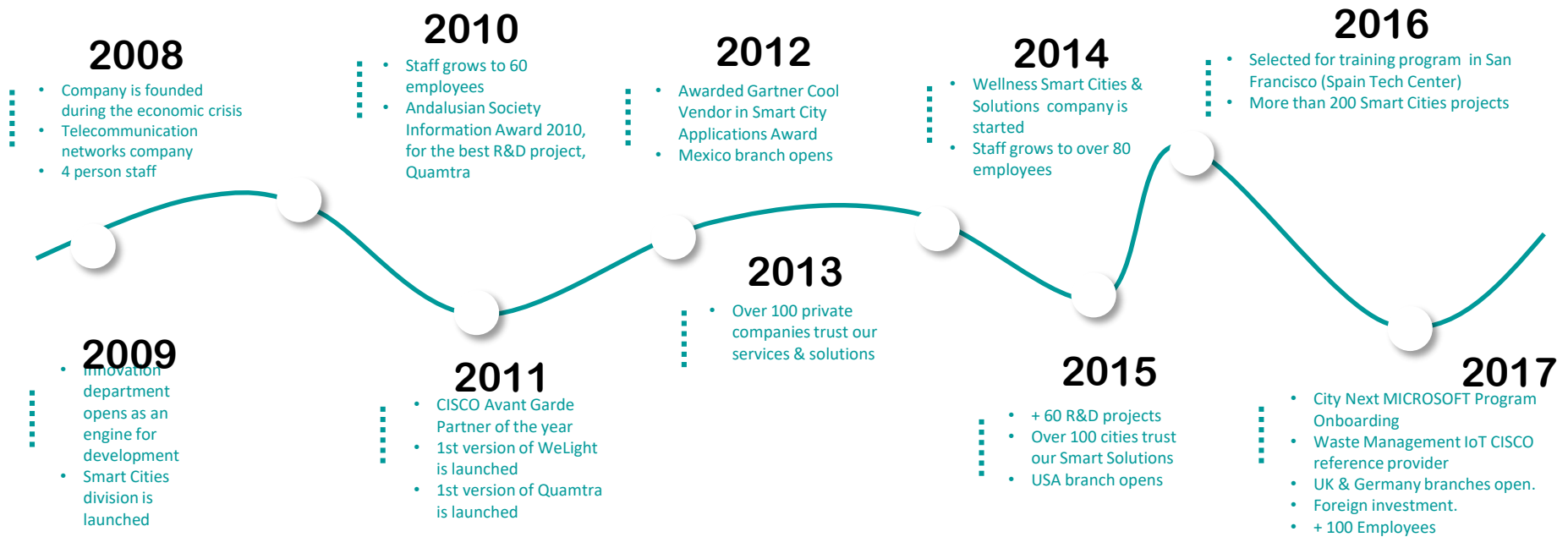
Spain (Sevilla & Malaga),
Mexico, Germany,
Sweden & USA



PIONEERS IN
SMART CITY IoT
Vertical Applications



Wellness Telecom History



About Wellness Telecom



“

From sensors to predictive analytics, our company has the know-how the IoT world demands. We developed the only horizontal IoT architecture with our knowledge of specific verticals.

Our excellent engineering capabilities allow us to tackle IoT projects in all stages ”

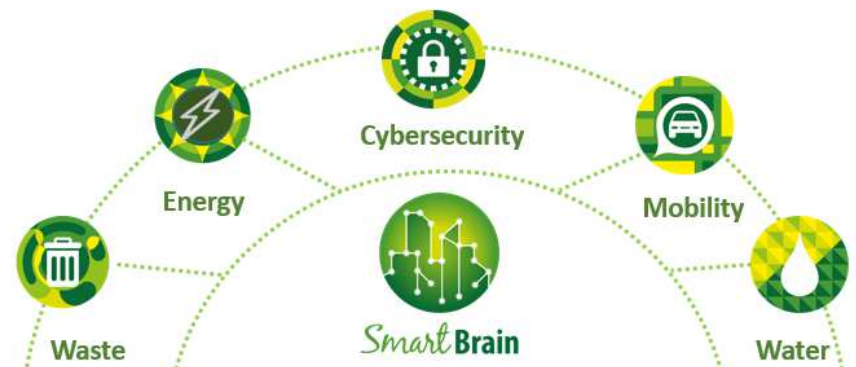
Communications & Cloud

Smart sensors



Big Data & Predictive Analytics

Cybersecurity

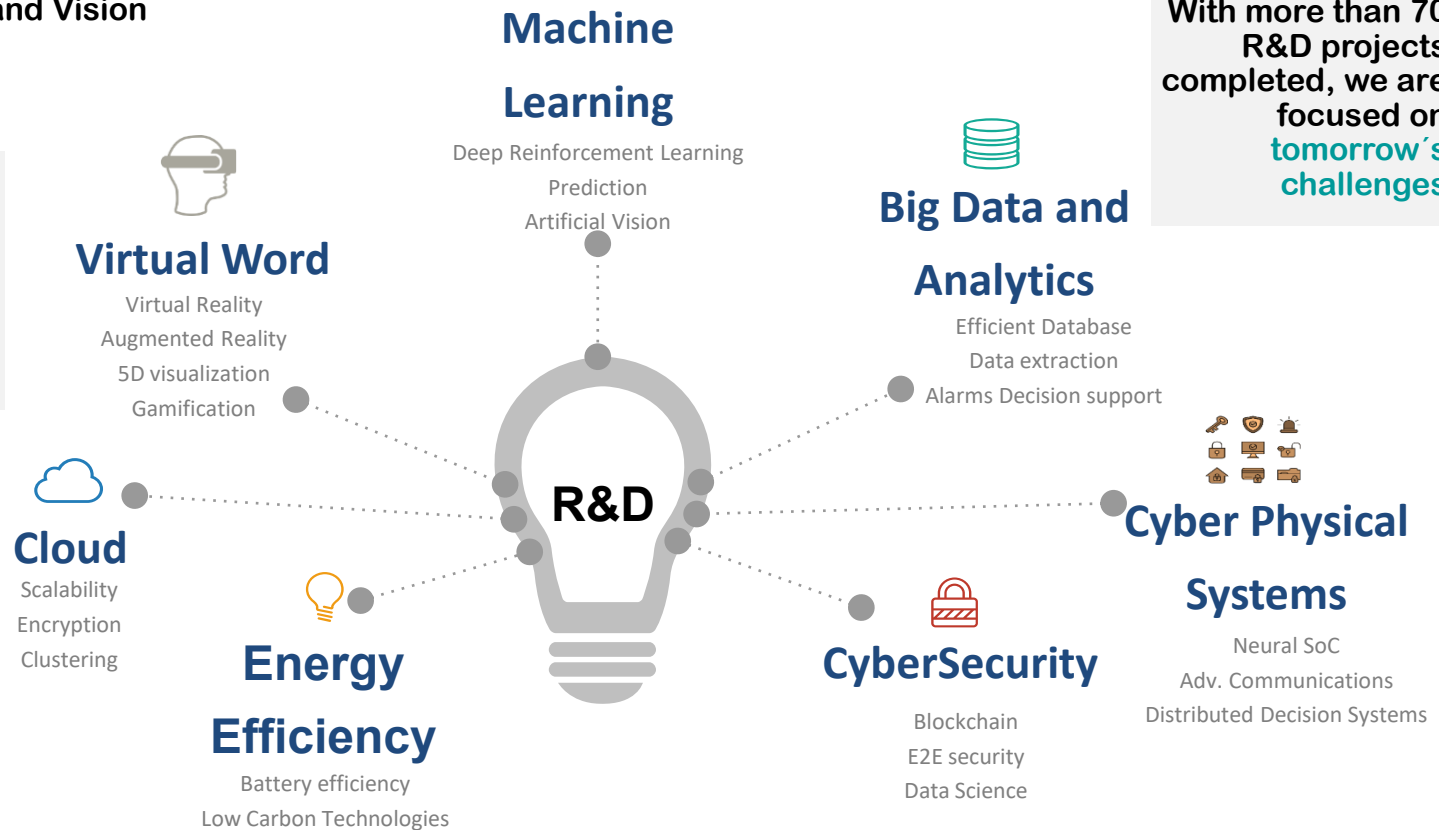


R&D



Knowledge and Vision

Wellness
Telecom
moves
towards
**Artificial
Intelligence**



With more than 70
R&D projects
completed, we are
focused on
**tomorrow's
challenges**

- Professionals with extensive experience and knowledge in different projects Regional, National, European and International Research, Development and Innovation funding programs: FP7, CIP, EUREKA, EUROSTARS, IBEROEKA, AVANZA, TORRES QUEVEDO, INNTERCONECTA, INNFACTO, CTA, IDEA, CDTI, MINECO, MINETUR, MINETAD, H2020, etc. and with the ability to search and manage new programs.
- Multisectorial projects: Health, Energy Efficiency, Transport, Environment, Software and Services
- Lifecycle Management for the completeness of Innovation: analysis of capabilities, needs and ideas, preparation of proposal and request, periodic and monitoring reports.

LC-SC3-EE-6-2018-2019-2020: Business case for industrial waste heat/cold recovery

- Project idea
 - Smart Grid / micro Grid
 - New business models with active customers
 - With the main objective to contribute to the development of an integrated cost-benefit simulation tool
- WT's contribution
 - Sensor for the monitoring
 - UMD as smart trader
 - Use case : New business model for EE
 - Shared Use of energy storage

Consortium

Known partners / Competence offer

Name	Type	Country	Role in the project
Ikerlan	Applied Research center	ES	Data processing
Beia	SME	RO	Pilot
Nurogames/nu media	SME	DE	AR/XR, simulation tool, visualization technologies (3D games)
WT	SME	ES	Monitoring sensor / Pilot

Partner search

Research University Not ES Reseach and coordination

LC-SC3-EE-13-2018-2019-2020: Enabling next-generation of smart energy services valorising energy efficiency and flexibility at demand-side as energy resource

- **Project idea**
 - New business models for energy efficiency
 - Use of big data from ICT tools for better and dynamic measurements and to develop business opportunities.
- **WT's contribution**
 - Sensor for the monitoring and platform for data visualization and analysis
 - Use cases
 - Link with potential end-users

Consortium

Known partners / Competence offer

Name	Type	Country	Role in the project
European Dynamics	Enterprise	BE	Coordinator/Business Models
WT	SME	ES	Platform/Monitoring sensor/Use cases

Partner search (European Dynamics working on it)

Contact details

Contact person	
Organisation	Wellness Telecom
Adress	C/ Charles Darwin S/N, Sevilla, Spain
Phone number	+34 954151706
E-mail	idi@wtelecom.es



**Maximizing the impact of your energy efficiency projects
through adequate dissemination, exploitation and
communication of your results**

Topic - INDUSTRY & SERVICES

Brokerage Workshop

EU Brokerage Event on Energy Efficiency in Horizon 2020

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Who we are

Euronovia, a French consulting company, can be a partner of your EU energy efficiency projects and provide support for these actions

- To reduce the breach between science and society
- Via the development of a dissemination and exploitation plan for your project
- Management of your communication activities (websites, events, social networks, videos, press, ...)
- Advice and support for your strategy on exploitation

Dissemination & exploitation of results



- Assistance throughout the life of your project
- From the organization of meetings, to the day-to-day administrative & financial management
- Production of the scientific and financial reports
- Innovation management and data management plan

Project management





Our H2020 Experience

Examples of our running H2020 Energy Projects

- An innovative Thermal Energy Storage system for Concentrated Solar power plants

ORC-PLUS



- Harnessing the sun to clean up high-temperature industrial processes

SOLPART



- Improving the reliability and performance of Concentrated Solar Power

Next-CSP



Examples of current collaborations



DLR

Deutsches Zentrum für Luft- und Raumfahrt

KU LEUVEN



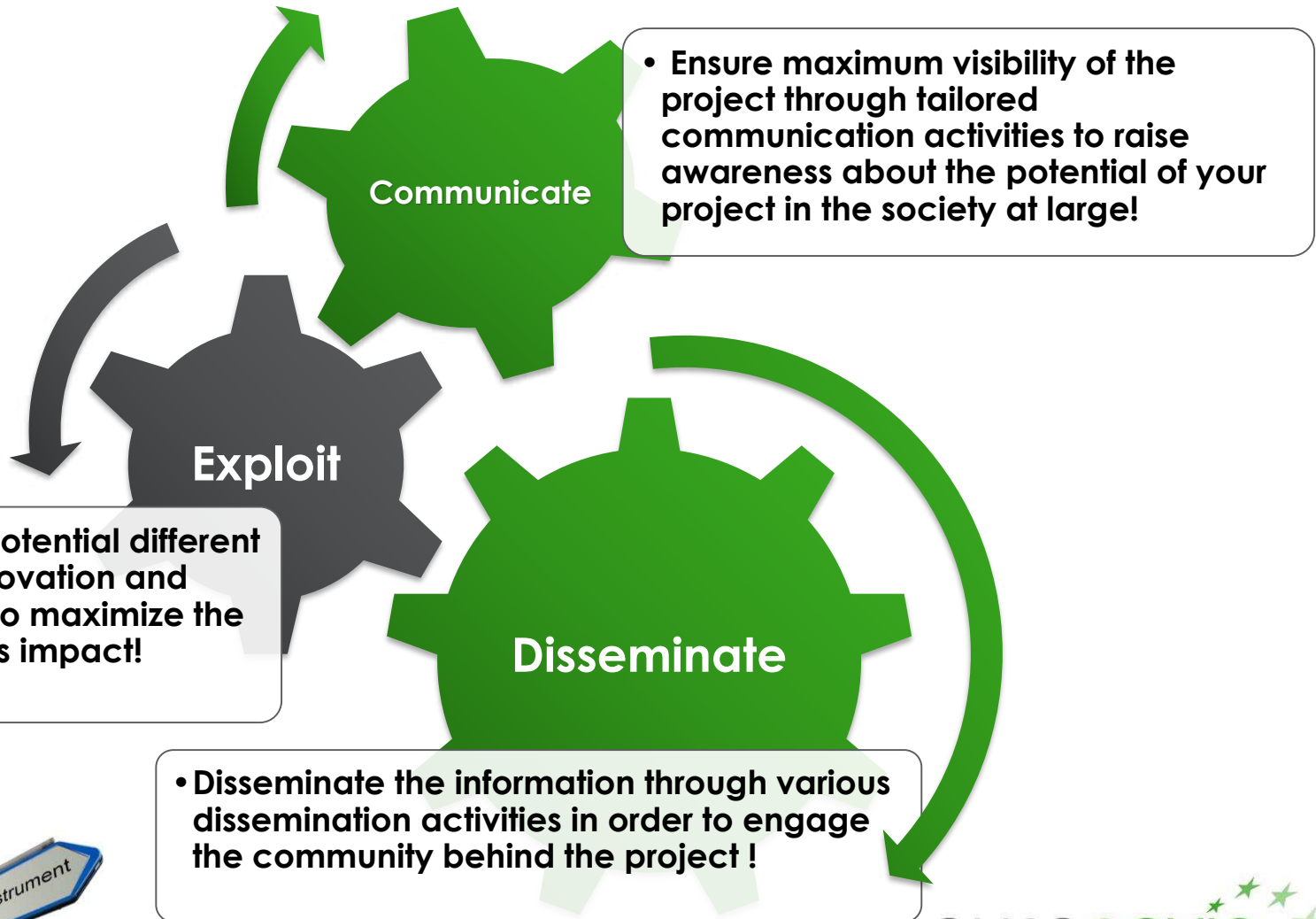
Fraunhofer

FHR

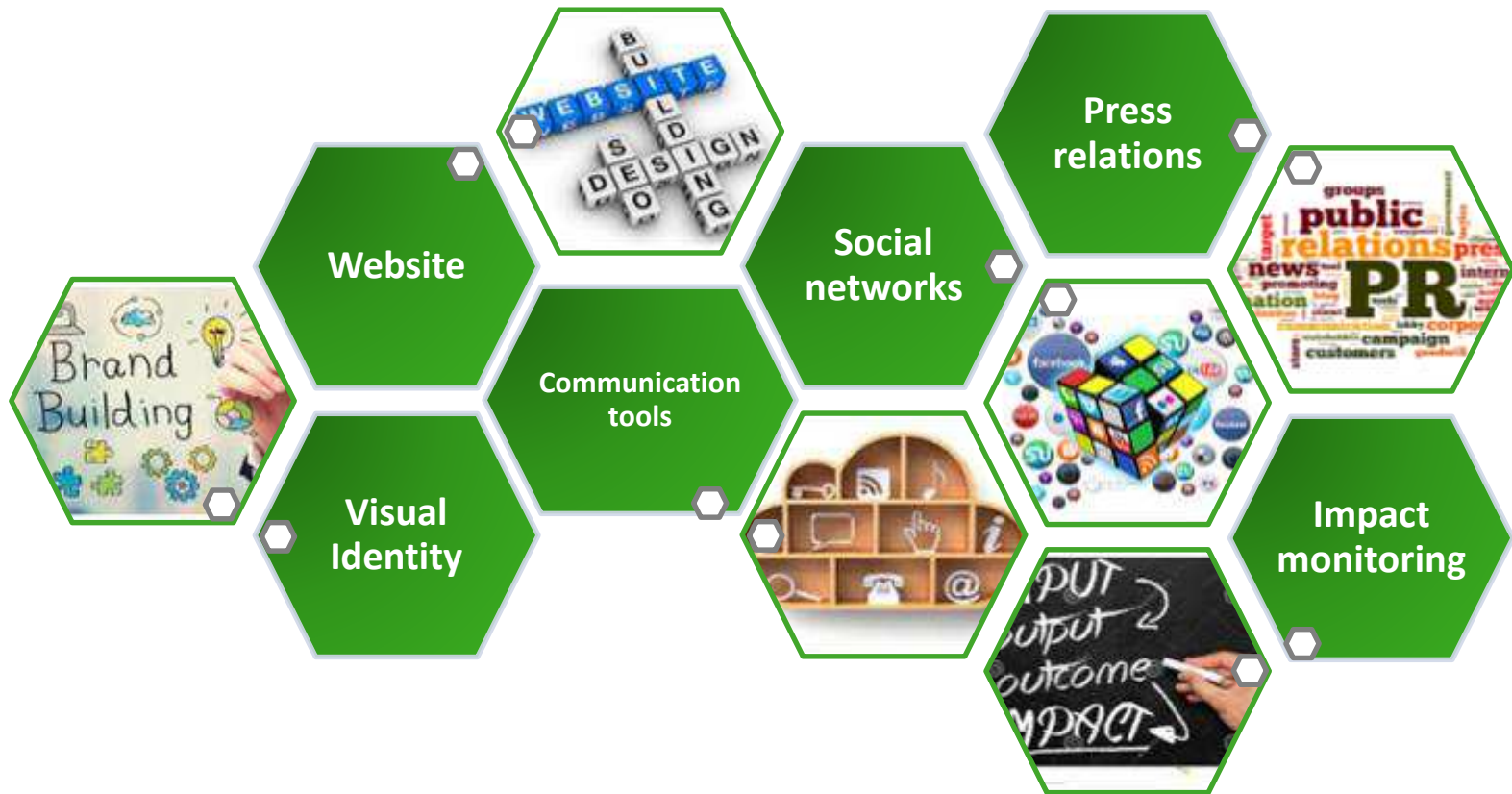


euronovia
Pour la réussite de vos projets

Our offer as a partner



Our communication tasks in EU projects





www.euronovia-conseil.eu

Name / Email

- Virginie Robin
- v.robin@euronovia-conseil.eu

Phone

- +33 6 70 02 93 30

LinkedIn

- <https://www.linkedin.com/company/euronovia>

Twitter

- <https://twitter.com/euronovia>

**Supraconducting Electrical cable network for
transmitting energy
A World without losses
For more efficient industries**

NEWS | 24 May 2018 | Brussels | Energy

Study on the quality of electricity market data, supply disruptions and their impact on the European electricity markets

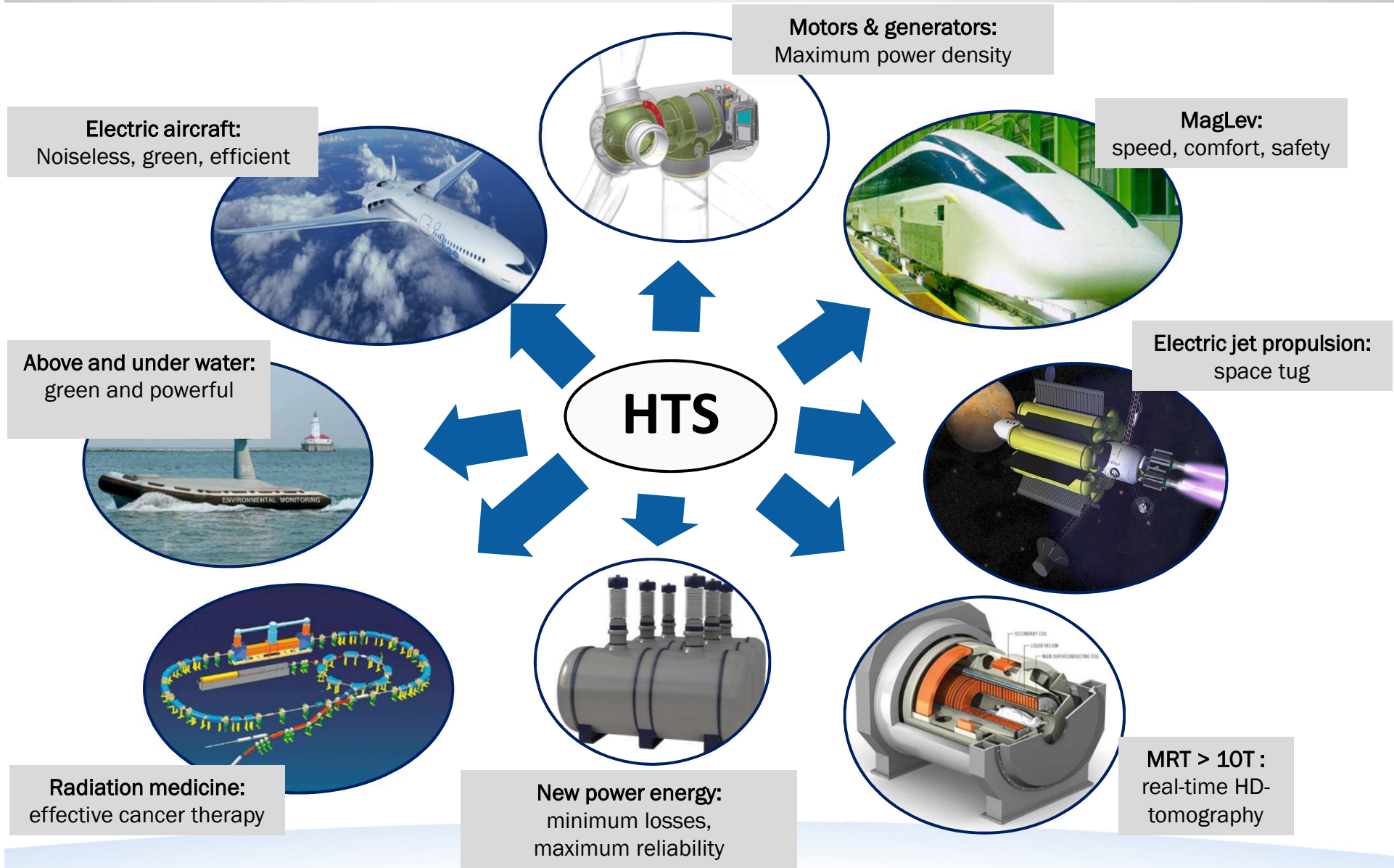


The study, covering all of the 28 EU Member states, is focussed on the quality of electricity market data, supply disruptions and their impact on the European electricity markets and the everyday life of citizens and business in the EU. Concern for security of supply is quite widespread across Member states. Therefore the study aimed at providing knowledge about the extent of disruptions across the EU Member states and the overall loss to society from such disruptions.

The main findings can be summarised in the following points:

- In 2016 an estimated amount of 13 TWh electricity was not produced due to generation outages
- It is estimated that in the EU in total approximately 600-850 GWh of electricity is not supplied to consumers in each year
- In the EU as a whole, disruptions were estimated to result in a loss to consumers of approximately 10 to 25 billion EUR annually in the

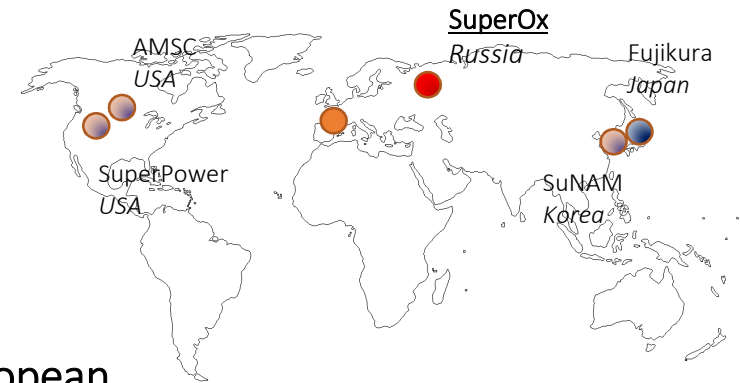
Breakthrough HTS solutions



About SuperOx



- ❑ 100% private company with the long-term strategy
- ❑ The only commercial 2G HTS wire producer in Europe
- ❑ >100 orders fulfilled
- ❑ 80 employees
- ❑ Operations in Russia (2006) and France (2017)
- ❑ SuperOx Europe created and designed for French and European Projects – Integration French player in cryo & academics



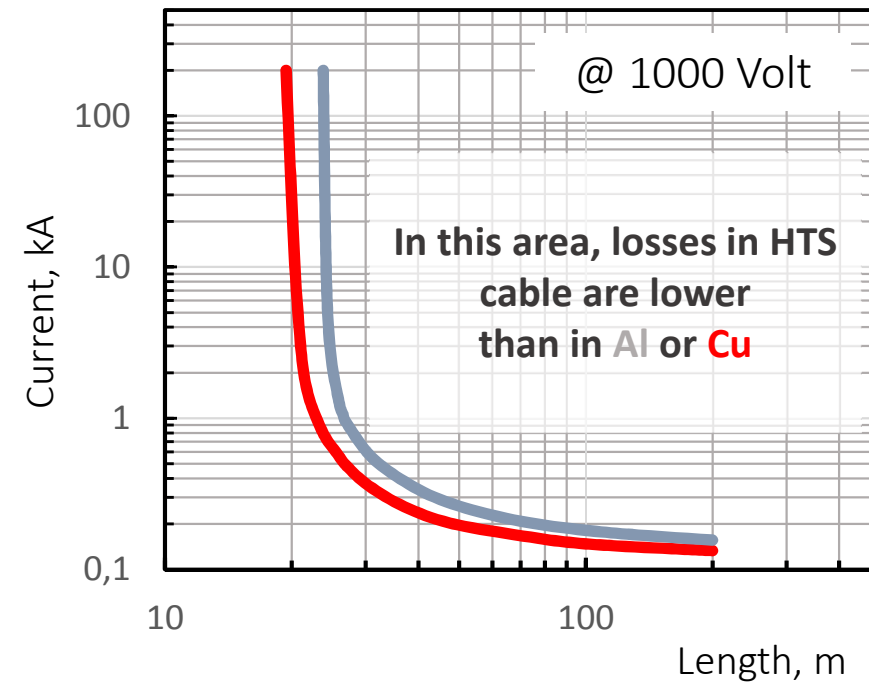
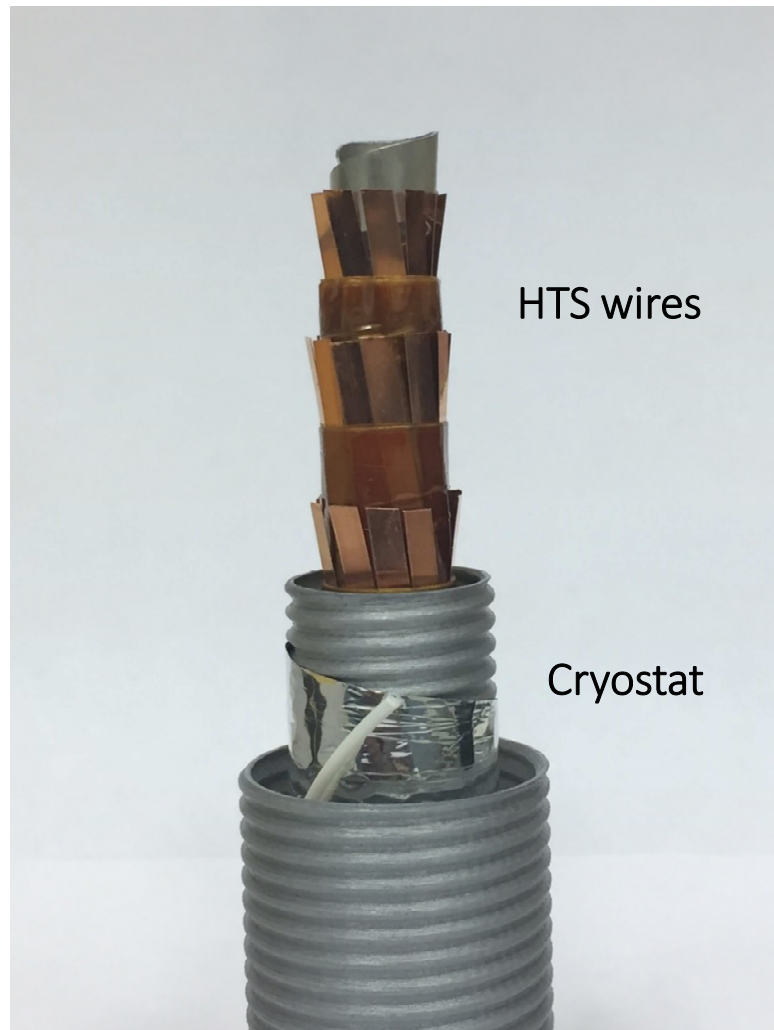
Moscow

Sales geography:

Germany	Slovakia
France	Italy
UK	Spain
Switzerland	Brazil
Romania	Portugal
USA	Taiwan
Japan	Korea
New Zealand	Russia



Tokyo



HTS cables help :

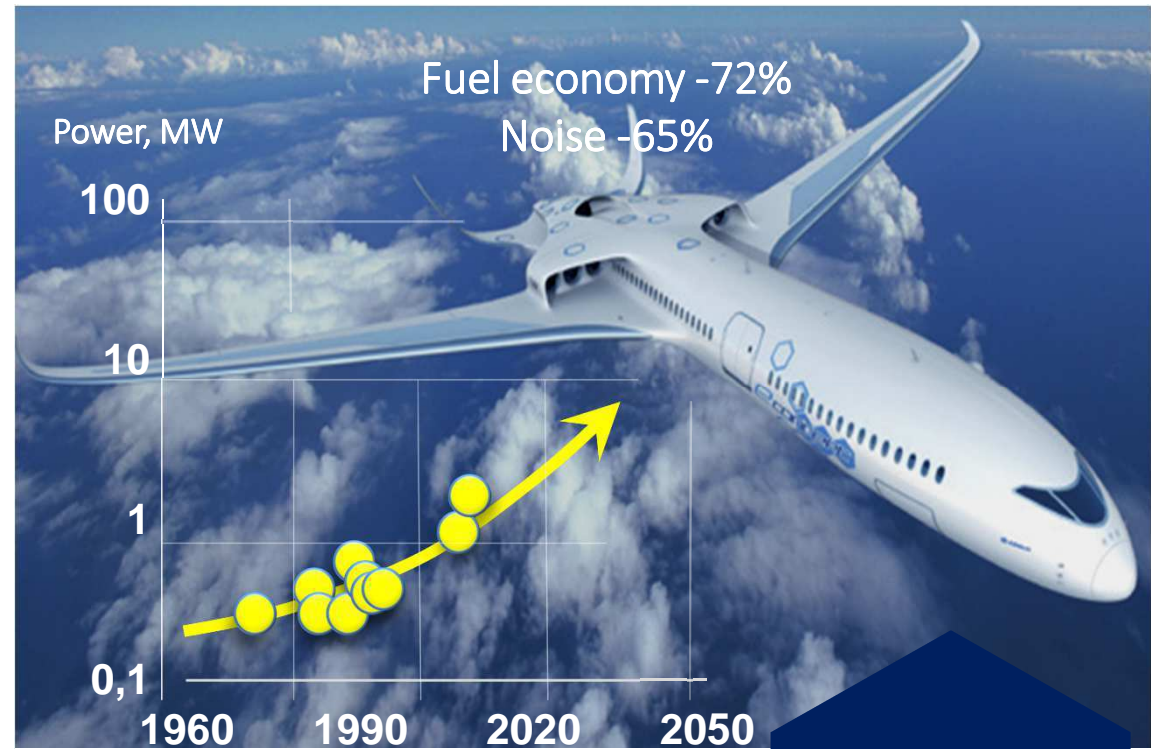
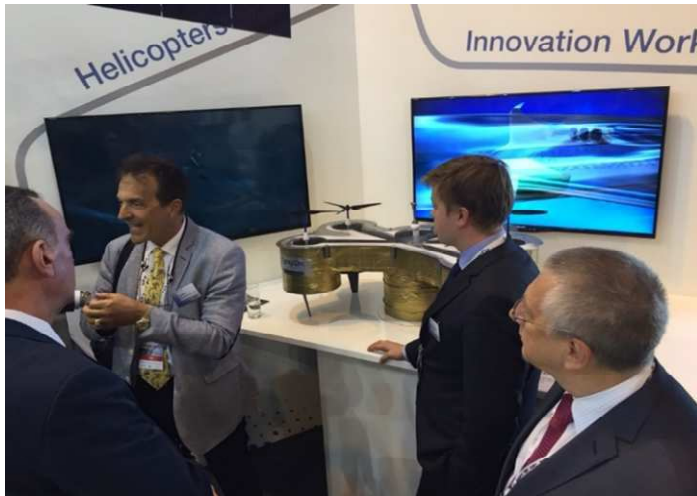
- transmitting high power
- in small cross section
- with low losses

HTS cable system for Airbus



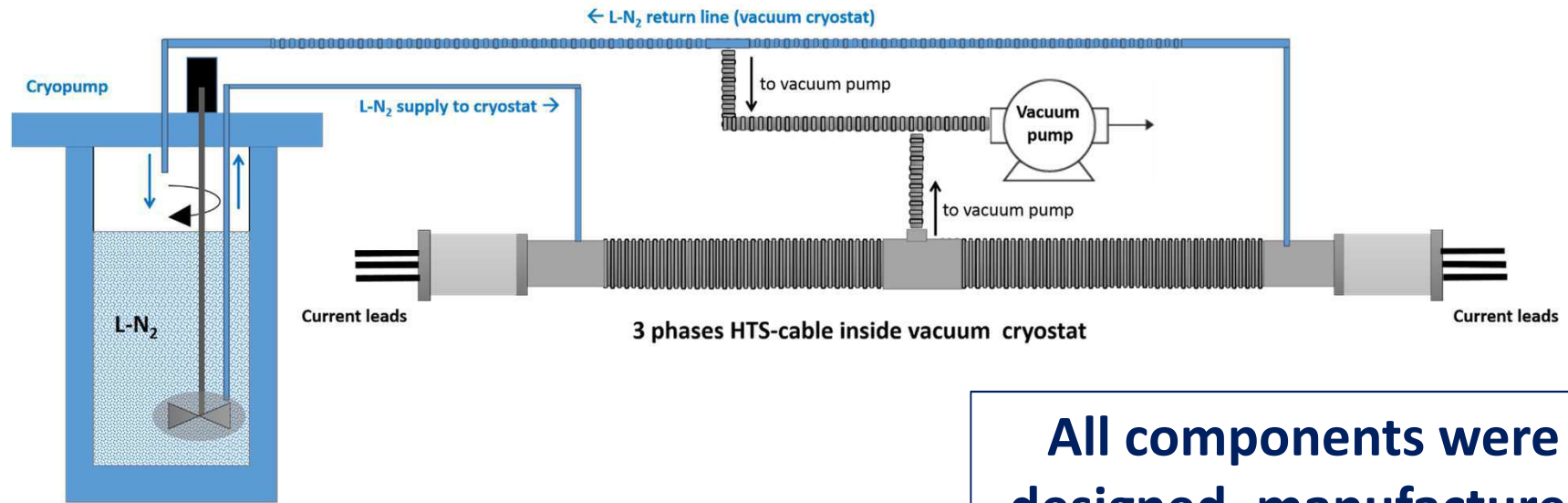
Airbus Group & SuperOx project
HTS AC cable for **aircraft** system

MAKS2015: SuperOx co-exhibiting on Airbus booth



*Real only with HTS
technology for
electric propulsion*

2015: Airbus Corporate Technical Officer Jean Botti and SuperOx' Chairman of the Board Andrey Vavilov signed the organizations' extended partnership agreement <http://www.airbusgroup.com/int/en/corporate-social-responsibility/latest-news/superconductivity-for-electric-planes.html>



Key components:

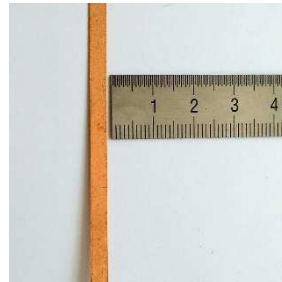
- HTS phases
- Current leads
- Vacuum cryostat
- Cryopump-
Cryocooler

All components were
designed, manufactured
and tested by SuperOx
in 2018



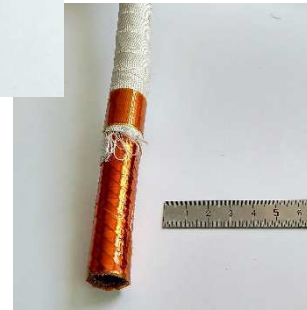


TRL 9 HTS tape



TRL 7

Cabling technology



TRL 6

Cryostat



TRL 5



Current leads



Current TRL for 2G HTS SFCL for Industry



TRL 9 HTS tape



TRL 7

SFCL Europe
Customized

TRL 6

TRL 5



Integration to
The grid with
Supra Cable





CORDIS

Community Research and Development Information Service

European Commission > CORDIS > Projects and Results > Final Report Summary - ECCOFLOW (Development and field test of an efficient YBCO Coated Conductor based Fault Current Limiter for Operation in Electricity Networks)

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NEWS & EVENTS PROJECTS & RESULTS RESEARCH*EU MAGAZINES

ECCOFLOW Report Summary

Project ID: [241285](#)
 Funded under: [FP7-ENERGY](#)
 Country: France

Final Report Summary - ECCOFLOW (Development and field test of an efficient YBCO Coated Conductor based Fault Current Limiter for Operation in Electricity Networks)

Executive Summary:

The objective of the FP7-funded project "Development and Field Test of an Efficient YBCO Coated Conductor based Fault Current Limiter for Operation in Electricity Networks" (ECCOFLOW) is to develop a superconducting fault current limiter (SFCL) based on coated conductor YBCO tape (cc-tape) and test it in the medium voltage (MV) power grid (distribution level).

Home > Project

Project

The EU-funded EcoSwing project aims at demonstrating world's first superconducting low-cost and lightweight wind turbine drivetrain—demonstrated on a large-scale wind turbine.

During the 4 year project the EcoSwing ambitions are high, the consortium aims at nothing less than the following objectives:

- Design, develop and manufacture a full scale multi-megawatt direct-drive superconducting (HTS) wind generator including a dedicated power converter suitable for current mass mainstream markets.
- Install this superconducting drive train on an existing modern wind turbine in Denmark.
- Operate the superconducting drive train for at least one year, giving the community confidence in superconducting wind generators.
- Prove that the new HTS drive train is cost competitive to state-of-the-art direct-drive permanent magnet generators of world class suppliers.
- Prove that the new HTS drive train can be cost competitive to state-of-the-art geared drive trains in series production.
- Develop and manufacture a cost-efficient cryogenics package that can be maintained atop a wind turbine by regular service people.
- Develop and manufacture a low-cost and maintenance-friendly HTS coil package based on second generation (2G) wire. This will contribute to maturing and stabilizing the European Superconductor industry.



**HIGH TEMPERATURE SUPERCONDUCTIVITY NEWS
 PRODUCED BY
 THE INTERNATIONAL ENERGY AGENCY'S (IEA)
 TECHNOLOGY COLLABORATIVE PROGRAM (TCP) ON HTS¹**

FEBRUARY 2017

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Institute Néel (CNRS) FRANCE

CNRS: Institute Néel, Grenoble France. The CNRS Superconductor's group has 16 researchers and has experience in materials processing, conductor design and characterization techniques. Including...

EUROTAPES: superconductors to improve energy efficiency in Europe

Research on superconducting materials could allow the distribution of electricity throughout Europe with minimal losses. In the future, electric highways could be built using lower voltages than current DC-based ones. The challenge now is to reduce the production costs of these materials.

EUROTAPES, one of the most important projects in Europe about superconductivity, today presented its findings in Barcelona, after 4 years of research. The project has obtained excellent results to develop industrial applications, such as the manufacture of superconducting tape. These applications are useful for multiple areas of science such as the manufacture of magnets for elevated magnetic fields, wind generators or electrical systems for aeronautics.

This project has received funding from the European Union's Seventh Programme for research, technological development and demonstration under grant agreement No 280432.

Thank you for your attention!

www.superox.eu
info@superox.eu

Multi-energies utilities in Industry

Adressed topic in working programme

Thematic **Industry & services –EE & SPIRE-**
brokerage workshops

EU Brokerage Event on Energy Efficiency in Horizon 2020

Paris, 21st June 2018

Energy efficiency service – Veolia

- Leader in optimized resource management
- 169 000 employees
- Designs and provides water, waste and energy management solutions
- Expertise in study & operate energy solutions (electricity, steam, hot & cold water, compressed air, biomass, biogas, water ...)
- Recent EU projects: EPOS, ReUseHeat, E2District

...

Our project idea / expertise

- Ideas :
 - Support industry growth for low carbon energies
 - Energy projection guide : integration of technologies, economy (energy & technology costs) & risks (business & politics) – support for investment choices
- Our offer :
 - in each country find the local eco-system
 - ensure solution to be deployed
 - expertise multi-technologies independent from manufacturer
 - multi-energies management & circular economy

Consortium (if any)

Known partners / Competence offer

Name	Type	Country	Role in the project
------	------	---------	---------------------

Partner search

Profile	Type	Country	Role in the project
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Contact details

Contact person	BERTONE Yves
Organisation	Veolia Research & Innovation
Adress	291 avenue Dreyfous-Ducas, 78520 LIMAY, FRANCE
Phone number	+33 6 20 73 08 84
E-mail	yves.bertone@veolia.com

Electrical Metrology

Metrology support for energy transition

Industry & services – Energy Source
brokerage workshops

EU Brokerage Event on Energy Efficiency in Horizon 2020

Paris, 21st June 2018

Laboratoire National de Métrologie et d'Essais French National Laboratory of Metrology and Testing



National References of SI (International System of Units)

Electricity, Magnetism, Time & Frequency, Dimensional, Radiometry, Photometry, Mass, Temperature, Chemistry

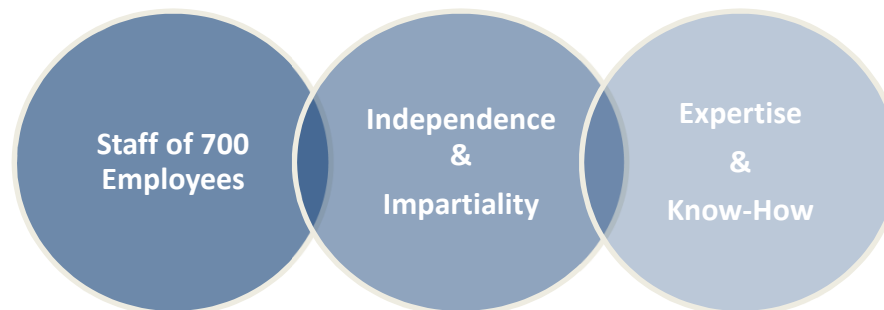


Metrological measures, characterisation, services

European and international projects



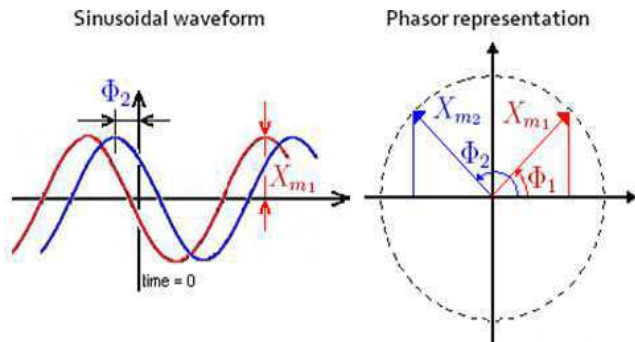
Legal metrology



The Smart Electrical Grids depend on reliable test & measurements
The metrology is a precious added value for all the actors

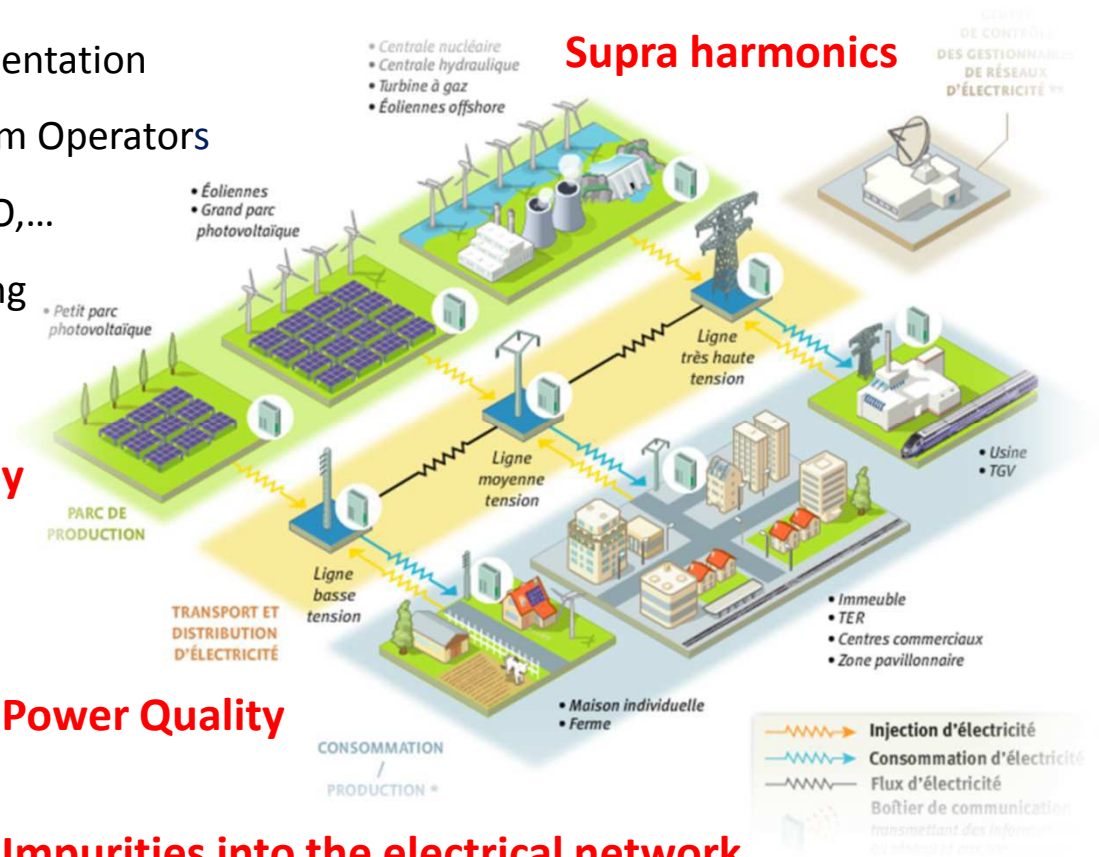
- Manufacturers:** Grid components, instrumentation
- Utilities:** Transmission & distribution System Operators
- Standardisation bodies:** CEN, CENELEC, ISO,...
- Service providers:** Test institutes, consulting
- Governments:** National, EU

Smart Grid stability



Power Quality

Impurities into the electrical network



The Electrical Metrology Division

50 colleagues

50 % Research Engineers

2500 m² laboratories

5 PhD students

19 current R&D projects EURAMET/H2020/National

Recognition CIPM MRA – BIPM



Metrology activities related to measurement support of electricity grids = 11 FTE efforts

Synchrophasor technology

New sensors for grid monitoring

Metrological basis for industrial testing of grid components

Power quality measurements

Smart meters

Measurement of losses in grid components to advance design

High Voltage AC DC

Contact details

Contact person	Pierre-Jean Janin
Organisation	LNE - Head of the Low Frequency Electrical Metrology Department
Adress	29 avenue Roger Hennequin 78197 Trappes France
Phone number	+33 (0)1 30 69 11 26 - Mob. : +33 (0)7 78 34 80 27
E-mail	Pierre-jean.janin@lne.fr

Thanks for your attention