



Edito

Happy Spring !

We had our **second period review** just before the beginning of Spring (see p.3) As expected the change of coordination has brought some questions but also some very interesting opportunities! We are proud to announce that **Autonomous Micro Energy Sources** are ready to be tested and validated, soon enough the AMES will be the new power system for smart objects. To achieve this goal, it's always better together. We are presenting here **our collaborations with other projects** with whom we expect a fruitful collaboration (see below). We are also very happy to announce **our workshop** which will be held at the IoT week on the **7th of June in Bilbao** (see p.2). We will also bring with us several demonstrators, among which the **Indoor location system** which is presented in this newsletter (see p.3). Come join us ! Last but not least, you will also get a glance at who is our **new coordinator** (see p.4) !



Enjoy the reading,

Raphaël Salot

It's better together

Collaboration between European Projects is strongly advised by the European Commission and enables wider and larger dissemination actions. Here we present two projects related to EnSO with which dissemination actions are ongoing;

VICINITY. The first confirmed collaboration has been with the project VICINITY ("Open Virtual Neighborhood Network to Connect Intelligent buildings and Smart Objects") based on an initial definition of common points of interest and potential synergies. The VICINITY project aims to build and demonstrate a bottom-up ecosystem of decentralized interoperability of IoT infrastructures called virtual neighborhood, where users can share the access to their smart objects without losing the control over them. Initial collaboration was started in the second half of 2017, when dissemination and exploitation leaders met to determine potential synergies and collaborative actions.

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IN THIS ISSUE

- [Edito by Raphaël Salot \(p.1\)](#)
- [It's better together - Collaboration with other European Projects \(p.1\)](#)
- [Join the EnSO workshop at the IoT week in Bilbao \(p.2\)](#)
- [Upcoming Events \(p.2\)](#)
- [EnSO Review meeting \(p.3\)](#)
- [Use case: Indoor Localization \(p.3\)](#)
- [Interview of R. Salot, coordinator \(p.4\)](#)
- [Feedback from LOPE-C \(p.4\)](#)

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KEEP IN MIND

CDB

- The Commission proposes a Common Dissemination Booster. Next call expected second half of 2018.

EnSO network

- EnSO has extended its network by contacting other European Projects in connected fields. EnSO is organizing a workshop at the IoT week in Bilbao on the 7th of June 2018, and has invited several projects to participate.



Sharing communication through Newsletters and website, joint participation at certain events and associations and partners invitation to the Open Call are some of the activities that will be initiated in 2018.

More about VICINITY: www.vicinity2020.eu/vicinity/.

InSCOPE. Corne Rentrop, WP4 Leader of the EnSO project, is also the coordinator of the InSCOPE project. The purpose of the EU-funded InSCOPE project, which kicked-off in January 2017, is to set up an open-access pilot line that boosts commercial adoption of hybrid printed electronics.



The pilot line will be operated by leading European research and technological development centres and allows partners to make printed electronics demonstrators on a "development scale" (>1000 pieces). Details of the pilot line are described in a public design handbook (available from the project website at <http://inscope-project.eu/handbook/>). In parallel the book provides guidelines and product possibilities. The collaboration with InSCOPE will be maintained through newsletter, common workshop & communication actions. **More about InSCOPE** (www.inscope-project.eu).

EnSO workshop at the IoT week

Come & join us ! IoT week will be held in Bilbao from the 4th to the 7th of June 2018. On the 7th of June, EnSO is organizing a workshop on «Harvesting: a new challenge for powering IoT nodes».

In parallel of a great conference, the IoT week is offering the opportunity of organizing thematic workshops. Thus, EnSO has invited well-known experts to talk about harvesting technologies, a booming response to the need of power of autonomous smart objects. Please join us on the 7th of June (see agenda below) ! All week the EnSO project will also show some great demonstration from numerous partners and end-users. **Please come and visit us!**

USE CASES, SMART OBJECTS & PRODUCT EXHIBITION - 4th to 7th of June

EDITAG,
Frédéric PITHOUD



Energiot,
Gonzalo MURILLO



MAHLE,
Janina PARIS



AED Engineering
Leonardo GOVONI

Maastricht Instruments
Freek BOESTEN

INTRODUCTION & KEYNOTE

9h00 - 9h05

Welcome greetings *R. Jane, Workshop Chairman*

9h05 - 9h30

Keynote on IOT hot topic, invitation representative of IoT Association/Cluster as

9h30 - 9h45

AIOTI or ECS Scope and Outcomes for EnSO Project, *R. Salot, Project Leader*

PORTFOLIO OF HARVESTING TECHNOLOGIES – Chairman: Peter Spies – FRAUNHOFER IIS

9h45-10h

Thermoelectric, *J. Paris, MAHLE Thermolektronik*

10h-10h15

Solar, *A. Labouret, SOLEMS*

10h15-10h30

Mechanical, *J. Delamare, ENERBEE*

10h30-10h45

Vibrational, *G. Murillo, Energiot,*

10h45-11h15

Coffee Break

USE CASES IN DIFFERENT DOMAINS – Chairman: Jordi Sala – RICOH SPAIN IT SERVICES

11h15-12h15

Smart Society: Smart Lock, *J. Boullie, OJMAR*

Smart Mobility/Industry: *F. Pithoud, EDITAG & L. Goboni, AED Engineering*

Smart Health: *F. Boesten Maastricht Instruments*

ROLE OF EU PROJECTS IN MARKET ROLL OUT - ROUND TABLE - Chairwoman: Emma RICHEL - AYMING

12h15-13h

Introduction of projects & Round Table (3 projects+EnSO)

Project VICINITY, *C. Perea, ATOS*

Project INSCOPE, *C. Rentrop, TNO*

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UPCOMING EVENTS

ECS The Electrochemical Society
Advancing solid state & electrochemical science & technology

Seattle, USA May 13-17

EnerHarv 2018

Cork, Ireland, May 29-30

IoT Week Bilbao 2018
4-7 JUNE 2018, BILBAO (SPAIN)
EUSKALDUNA CONFERENCE CENTRE

Bilbao, Spain, June 4-7

EnSO year 2 review meeting

The Second Year Review meeting for EnSO project was held on March 15-16th in Grenoble. Hosted by CEA, the event gathered more than 40 people, a great number of participants that was acknowledged by the project officer who appreciated the involvement of partners. Although marked by the change of coordination, the meeting was a good occasion to wish a farewell to STMicroelectronics Tours and to welcome the new coordinator, Raphaël Salot, from CEA (Interview in page 4). Many end-users also presented their demonstrations, forecasting a very interesting outcomes for EnSO partners. With the first complete AMES ready to be sent to end-users, the 3rd year of EnSO will focus on



exploitation plans for AMES, with a strong emphasis on end-users inputs and expectations for the IoT market. Indeed, EnSO benefits from the participation of numerous partners, covering the whole value chain.

EnSO use case: Indoor Localization

Accurate indoor tracking with AED Engineering GmbH solution

Indoor localization is a key emerging topic thanks to the recent development of new technologies, such as Ultra-Wide-Band (UWB) wireless data transfer. Possible usages include asset tracking in industry 4.0 and warehouses, patient monitoring in hospitals or simply navigation support in complex buildings such as airports. However, indoor environments still lack a satisfactory solution for precise 2D and 3D positioning.

AED Engineering GmbH indoor Localization system is based on UWB technology, which allows a more accurate localization than indoor systems based on WLAN or Bluetooth. At the same time, communication and localization are more robust against typical pitfalls such as reflections and occlusion caused by obstacles in challenging indoor environments.

Positioning can be used in any facilities that are equipped with our reference nodes.



These are easy to setup as they are powered over existing ethernet infrastructure. Any object or person can be precisely tracked by the system by means of a tiny mobile node (tag). Through the reduction of communication overhead and optimization of power usage, we achieved a very low power consumption of the mobile node. The EnSO AMES Energy platform empowers the tag with long-lasting power source and reduces the device maintenance due to battery charging or substitution.

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KEEP IN TOUCH

Our next newsletter will be released in July 2018!

Please contact us at enso.ecsel@gmail.com if you want to receive it automatically



PROJECT NEWS
ISSUE 2 / JANUARY 2018



Interview with Raphaël SALOT, CEA



Dr. Raphaël Salot is Head of the CEA-LETI Embedded Micro battery Laboratory. Previously WP2 Leader of EnSO, he is now the coordinator of the project.

Tell me about yourself and your place of work.

Raphaël Salot: I live in a small town, in the Vercors mountains surrounding Grenoble. It's 1000 meters high, so you can picture a lot of snow and people doing cross-country skiing. I love the Grenoble area for its way of life and cosmopolitan population. With many Engineering schools, Universities and R&D centers, Grenoble is full of students and highly-skilled people. It's clearly a New Technologies-focused city, with RTOs, big companies, and SMEs working together towards innovative solutions. Also since you have such beautiful mountains nearby, Grenoble is perfect for outdoor activities.

Seems a good combination, science and sport! Lets get to the project. Youve recently changed position in the [EnSO project](#). Could you tell us more about that ?

R.S.: For the first 2 years, I was the WP2 leader, focused on rechargeable microbatteries, more related to the energy storage part of the EnSO project. Since the beginning of the year, I'm in charge of the coordination of the whole project. In consequence, the WP2 will be led by Steve Martin, from CEA, and Prayon. The WP5 leadership will be picked up by TNO.

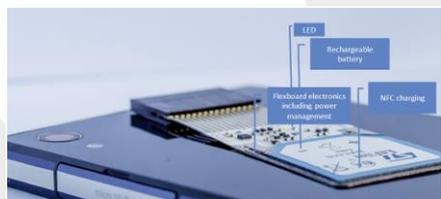
I guess it's not easy to change position in the middle of the project.

R.S.: I did coordinate projects before, although smaller ones. The coordination position in EnSO is a challenging yet thrilling position for me, because EnSO is a multidisciplinary project, which includes numerous Industrial partners with high expectations.

Tell us more about EnSO. How did you come up with the idea?

R.S.: The project is dedicated to find new power and energy solutions for smart object. Basically the aim is to develop energy storage, energy harvesting and power management solutions along with their integration into flexible material (See the Interview of Corne Rentrop, EnSO Newsletter #2). The ultimate goal is to build autonomous smart systems. I've been working for many years on batteries, with numerous collaborations and partnerships. [Read the full story on EnSO website.](#)

Feedback from The LOPE-C conference



The rechargeable AMES prototype was presented on LOPE-C at various places. At the Holst Centre, Smartees, and InSCOPE booth, the AMES module and its manufacturing steps were shown.

Next to that we took part of the competition for European funded projects. Although we did not win the EnSO demonstrator will be shown in other upcoming events from the Oe-A.

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PROJECT



32 Partners and 5 third parties
8 countries
Start: 1-1-2016
Duration: 48 months
Total investment: €M 82

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