



Nano and micro
technologies

NEWSLETTER n° 9

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EDITORIAL

Over the last 8 months I got involved in an initiative concerning smart services. That means using data sciences or Artificial Intelligence to generate added value from Big Data. Big data, you must have heard about it, is generated every single second of the day, 24 hours a day, 7 days a week. Not only by your tablet or smartphone. But also by almost all things running on electricity or other means of energy. Your car? Yep, it generates piles of data! The security system of your company? For sure! Your refrigerator or toaster? Well maybe not yet, but it won't take long! And all this data is stored to be processed. Processed to generate some very interesting information and even create knowledge. From just plain stored data. Data that we thought of as not very interesting or with zero to none value. That gives food for thought. Especially since people like Stephen Hawking warns us for the danger of Artificial Intelligence: "It could spell the end of the human race".

Big data is like matter. It's everywhere. All around us! Omnipresent! Matter as in materials in all kinds of shapes, colors, conditions and appearances. Nanotechnology is kind of similar to Artificial Intelligence. Is what Artificial Intelligence can do to data in a way not the same as what Nanotechnology can do to materials? It can change materials beyond recognition. It can allow materials that we already know for thousands of years to gain properties that are completely new to us. If only we could have a secret peek into the future, to better understand the unknown aspects of fascinating technologies like nanotechnology and artificial intelligence...

Rim H.M. Stroeks

Chairman

Point 2. EuroNanoForum, Malta, June 21-23,

Just like some of the previous editions our SG decided to support the 2017 edition of the EuroNanoForum which was held in Malta just before summer. We joint forces with our colleagues from the SG Materials and together with our host organisation Malta Enterprise we were able to attract the attention of our international network. In the matchmaking event that the Enterprise Europe Network organised during the conference, participated 165 companies and institutes from 36 different countries. Participants came from all over the world, from Canada and South Korea, Argentina and India.



Bringing our clients to Malta not only gave us the opportunity to let them network at the conference and at our brokerage event but we could also discuss with them what they think of our network. In an interactive client session we asked our clients these three questions:

- What are your experiences with the network so far?
- What do you think is the best asset of our network?
- What could be improved or added to our services?

It was an excellent way to interact with our clients.

Some quotes from the client session :

David Heriban, Percipio Robotics (France):
“For me the best asset of the Network is....YOU!!! The people! It was you who made me think differently and opened my mind. Thank you for that!”

Nico Meyer, Coatema GmbH (Germany):
“Your support for joint cooperation proposals fits perfectly to my focus on finding cooperation partners and additional funding.”

Marco Monti, Proplast (Italy): “The profile database is of less use to us, but the B2B events with face-to-face meetings are definitely of high added value. Together with the cluster support activities and your matchmaking tools we certainly experience a multiplier effect when dealing with the network.”

Ana Palanca Roig, Aimplas (Spain): “The B2B support is particularly useful to us. We discovered that finding the right person in the Network is crucial”.

Below some impressions of the interactive client sessions.



Point 2. DUAL USE TECHNOLOGIES

You have certainly heard about “Dual Use”. But what are the business opportunities hidden behind? Dual use is the name given by the European Commission for civil technologies that can find new applications in the defence/military sector. And vice-versa. Many companies and research centers with a high level of innovation could probably help Ministries of Defence to improve the way they work. It’s obvious that soldiers could be much better trained if they could have VR (virtual reality) trainings on the battleground before effectively reaching it. How safe can our cyber defence be in the EU member states collaborate with our best cybersecurity companies? To take the most of these opportunities the European Commission launched early June the “European Defence Fund”. Several calls are and will be launched

to invest in dual-use technologies. More information on :

http://europa.eu/rapid/press-release_IP-17-1508_en.htm

Enterprise Europe Network can play an active role in this game. We signed a partnership with the European Defence Agency (EDA) to allow our clients to access the hard-to-reach CapTech groups. They gather Ministries of Defence, Primes and experts on 12 topics. Thanks to EEN SME’s have the opportunity to pitch their civil technologies and to raise awareness for potential future defence developments.

If you think your technology could be “dual use”, take this opportunity to develop a new market and contact your local EEN partner.

Point 3. BUSINESS PLANET IN SICILY TO EXPLORE TRENDS AND OPPORTUNITIES IN DUAL USE

Don’t miss the interview of Francesco Cappello explaining the opportunities offered by Dual Use to SMEs. and the history of SIGNO MOTUS, one of the most innovative SMEs in Italy, that could, thanks to the local Enterprise Europe Network, get fundings through the SME Instrument.



The company works with fluids that are intelligent nanomaterials. When subjected to an electric field, the liquid passes from the liquid to the quasi-solid state. It took six years to develop this technology which was originally

designed to improve the efficiency of shock absorbers on military vehicles. Initially developed for defense purposes but given its many possibilities, the company decided to move to civilian applications. "These two sectors are characterized by a very high growth rate and we intend to penetrate the market within two years and in five years to achieve a turnover twenty times bigger than today" Sandro Scattereggia Marchese, Managing Director, Signo Motus.



Discover the video here:

<http://www.euronews.com/2017/03/24/business-opportunities-with-the-dual-use-trend>

Point 5. EU funding opportunities for Dual use

Three kind of funding tools are existing at the European level :

- **ESIF** can support technology transfers, prototyping, innovation uptake etc. – i.e. many of the steps that help a business diversify or migrate from one sector to another.
- **Horizon 2020** offers opportunities to fund the civil application of projects with dual-use potential particularly through the strands relating to key enabling technologies, secure societies and ICT.
- **COSME** offers opportunities to access funding for cooperation between clusters and for companies to build partnerships.

The European Commission has published a brochure showcasing SMEs that have successfully taken advantage of EU funding to develop dual use projects and thus their

business. It helps SMEs to understand how the different EU funding tools work. The production of dual-use items can open new markets and business opportunities to EU companies, especially SMEs. To download the brochure :

http://ec.europa.eu/growth/tools-databases/newsroom/cf/itemdetail.cfm?item_id=9255&lang=en



Point 6. NANOTECH MISSION FOR CLUSTERS & SMEs 14-16 February 2018

Interested in establishing closer links with Japanese Nanotech clusters and companies ?

The mission is targeting the nanotechnology sectors and is organised on the fringes of the "Nanotechnology Exhibition and Conference" that will take place in Tokyo Big Sight. The 3 day mission of B2B meetings, networking event and EU delegation booth to maximize partnering opportunities. Prior to the mission an online pre-departure briefing will be organised to better prepare the mission and during which experts will present an overview of the sector and how to communicate with future Japanese potential partners.

Participant profile: EU manager from EU SME or clusters working in sectors covered by the "nano tech 2018" expo such as:

- Nano Materials: fullerene, carbon nanotube, photonics material,

composite material, excellent magnetic material, highly pure material, nano coating, nano ink, nano composite material, nano particle, biocompatible material, graphene

- Nano Evaluation & Measurement: SPM / AFM, ultra-precision measuring instrument, electron microscope (SEM / TEM), high efficiency / high sensitive sensor, molecular imaging, evaluation measurement and designing tool, simulation, molecular design software, piezo stage, near-field optical, micro TAS
- Nano Fabrication Technology: nano particle mixture / dispersion, next-generation lithography, nano imprint, laser processing, electron beam / ion beam processing, fusion / bonding technology, etching, priming charge processing, thin film manufacturing technology, ultra-precision surface processing technology, nano transistor technology, precision pattern printing technology

For clusters and SMEs, the EU-Japan Centre covers all mission-related costs such as speakers' fees, room rental, trade-fair registration, booth rental & arrangements, access to the partnering system. In addition, participants from clusters and SMEs receive a grant of € 600.

The mission is funded by the European Commission and managed by the EU-Japan Centre.



More information:

<http://www.eu-japan.eu/events/nanotech-cluster-sme-mission>

Point 7. PARTNERSHIP OPPORTUNITIES

TODE20160928001

Novel ion implantation technology based on a specific energy filter for the production of semiconductor microchips for devices and wafers made of silicon carbide (SiC)

A Young German high-tech SME with focus on micro-engineering tools for processing semiconductors developed a novel high-energy ion implantation technology, based on energy filter for ion implantation (EFII), enabling highly-precise, depth-distributed doping of any desired semiconductor material (e.g. SiC). Seeking companies from semiconductor sector and foundries using ion implantation or producing ion beam accelerators, for technical cooperation and commercial agreements with technical assistance.

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TOFR20170711002

Development and manufacturing of electrospun advanced materials for medical

devices, drug delivery systems, coating and filtration

A French company, more than 35 years old, provides R&D and manufacturing services in the biomedical field and microtechnologies. Electrospinning allows manufacturing of materials made of nano- or microfibers that can be used for regenerative medicine, tissue engineering, drug delivery systems, combined medical devices, filtration and coating of metallic parts. Already involved in EU projects, it's looking for research and manufacturing partnerships where electrospinning lead to new advanced materials.

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TOFR20170405001

Nanofactory to generate next generation of sensors or tools with very high precision in the field of micro and nano-electronics, micro or nano-sensors, micro or nano-surgery

A French research Institute renowned in the robotics field has implemented a station to produce next generation of sensors or tools by functionalizing, patterning, assembling materials with very high precision. The Institute is seeking research and technical cooperation with industry or academic partners to explore new ways for manufacturing and to push the limit of miniaturization.

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TODE20150821001

New electro luminescent coating system for flexible substrates

A German SME offers a patented electro luminescent system that can be coated to flexible substrates (film, textile, paper). For this unique and environmentally technology there are numerous potential applications in

industry, ranging from textile to security and in decoration. They seek partners from industry and research to implement this technology or research cooperation agreement will be considered.

Benno Weißner

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TOIT20170829002

Novel technology for the characterization of micro and nanoparticles in biological, industrial and environmental complex fluids

Italian company based in Milan developed a novel technology for the characterization of micro and nanoparticles for a cheaper, faster, more reliable and informative characterization in biological, industrial and environmental complex fluids. This will result in boosting R&D and QC (quality control) processes during lab scale or industrial production. The company is looking for technical partnerships for further improvement or commercial agreement with technical assistance.

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