

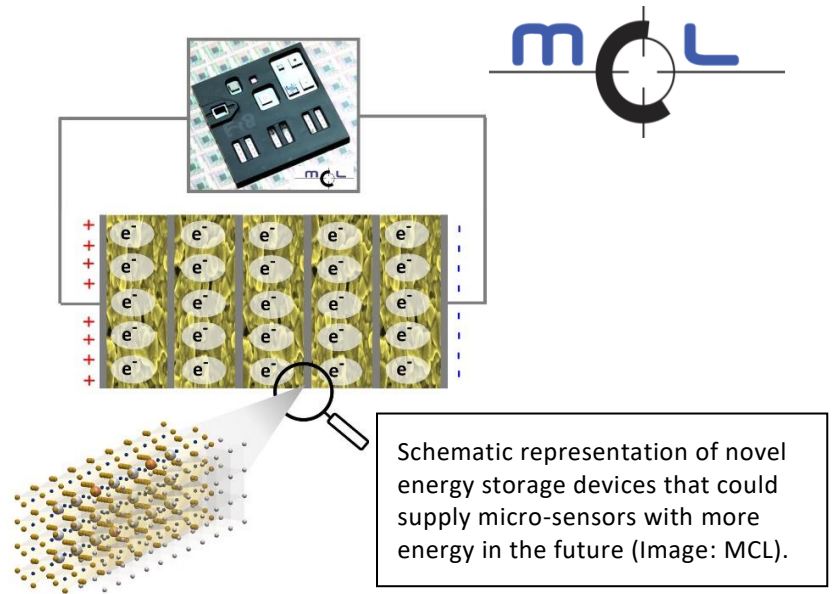
IC-MPPE

P1.1 Atomic-Nano-Micro & EU project CITRES

Programme: COMET – Competence Centers for Excellent Technologies

Programme line: COMET-Centre (K2)

Type of project: Strategic project (2018-2024)



MCL RESEARCHER RECEIVES HIGHLY ENDOWED EU RESEARCH AWARD

2 MILLION EURO ERC CONSOLIDATOR GRANT FOR MARCO DELUCA TO RESEARCH THE "ENERGY STORAGE OF THE FUTURE"

Consolidator Grants of the European Research Council (ERC) support excellent young researchers at the stage of their career where they often still need to consolidate their own research direction and/or their own research group. Eligible for funding are researchers whose doctorates date back at least seven and at most twelve years at the time of the reference date set by the ERC. ERC Grant winners are required to spend at least 40% of their working time at a European institution working on the ERC project.

In December 2018, Priv.-Doz. Dr. Marco Deluca, who has been researching at the Materials Center Leoben

(MCL) for 10 years, received an ERC Consolidator Grant endowed with € 2 million for the research of novel energy storage devices with highest efficiency in the framework of the project "CITRES - Chemistry and interface tailored lead-free relaxor thin films for energy storage capacitors".

Within the framework of CITRES, special material combinations based on thin layers of new ceramic materials will be investigated during the next five years. With these new materials, considerably more energy can be stored per volume than with all previously known ceramic materials, i.e. batteries of

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the same size can store considerably more energy and batteries with the same storage capacity can become considerably smaller.

These energy storage devices will be used primarily in autonomous sensor systems, such as energy-autonomous gas sensors that measure the concentration of toxic gases such as carbon monoxide in ambient air and sound an alarm if necessary.

For the "CITRES" project, the laboratories of the MCL department "Materials of Microelectronics" will be expanded in order to be able to produce and process these special materials. Within the project an intensive cooperation with chairs of the University of Leoben and the Erich Schmid Institute of the Austrian Academy of Sciences in Leoben is planned.

Personal details of the award winner

Priv.-Doz. Dr. Marco Deluca, born in Trieste, completed his diploma thesis at the University of Trieste in 2004. He moved to Japan for five years for his dissertation at the renowned Kyoto Institute of Technology. Marco Deluca joined the Materials Center Leoben in 2009. In close cooperation with the Institute for Structural and Functional Ceramics at the University of Leoben, he works on the properties of functional materials. In 2016, he received his

habilitation in materials science at the University of Leoben. Since then he has concentrated on material questions concerning sensors and energy storage devices in microelectronic applications.



Marco Deluca (Image: MCL)

Marco Deluca has published more than 60 papers in international scientific journals, was the most cited author of the Austrian Ceramic Society in 2015, and was awarded "Young Scientist of the Year" of the Austrian Ceramic Society in 2016. Marco Deluca is active in several national and international research committees and was co-chair of the conference "Eurosensors 2018" in Graz with more than 550 mainly international participants.

Project coordination (Story)

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Project partner

- Montanuniversität Leoben, Austria
- Austrian Academy of Sciences

This success story was provided by the consortium leader/centre management and by the mentioned project partners for the purpose of being published on the FFG website. Further information on COMET: www.ffg.at/comet