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Introduction of the Christian Doppler Laboratory for Interfaces in Metal-supported Electrochemical Energy Converters

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1 CD-Laboratory for Interfaces in Metal-Supported Electrochemical Energy Converters
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In 2008 Plansee SE started to develop a metal-supported solid oxide fuel cell (MSC) concept based on sintering and thin-film technology. The introduction of the metal substrate improves the robustness of the fuel cell, has a potential for cost effective production and eases the thermal management of SOFC stacks in the case of accelerated thermal cycling. Therefore, this concept is particularly attractive for mobile fuel cell generators like auxiliary power units (APUs) for utility vehicles or range extender of battery electric vehicles, which belongs to the portfolio of AVL List GmbH. To intensify the fundamental research on MSC technology reflecting the major challenges of this technology, Austrian companies Plansee SE and AVL List GmbH initiated the “Christian Doppler Laboratory for Interfaces in Metal-supported Electrochemical Energy Converters” in 2013/2014, which is a joint project between Forschungszentrum Jülich GmbH (JÜLICH), TU Wien (TUW) and the companies Plansee SE and AVL List GmbH. The laboratory started its activities on September 1, 2014. Due to the successful progress of the project, Nissan – world leading company in developing SOFC based range extender for battery electric vehicles – and Kyushu University in Fukuoka, Japan became associate partners of the Christian Doppler Laboratory in 2016/2017. As a consequence of the recent decision of Plansee SE to discontinue its MSC activities, the project will end in August 2019. In the presentation, a short overview of the motivation and the history of the Christian Doppler Laboratory will be given.