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University of Ljubljana

**New momentum for the EU PV research and industry - Towards high efficiency cost effective PV cells  
Double-side contacted solar cells with Innovative carrier-Selective Contacts (DISC)  
Successful mid-term results**

The DISC project is able to demonstrate successful results after 18 months of collaboration between major industrial actors and renowned institutes of the EU PV research and industry and the R&D field of carrier selective contacts.

Launched on October 1<sup>st</sup> 2016 and co-financed by the European Union Horizon2020 Research and Innovation Programme, the DISC project aims to develop key technologies for the next generation of high-performance photovoltaic (PV) solar cells and modules, allowing ultra-low solar electricity costs with minimum environmental impact.

Coordinated by the Institute for Solar Energy Research (ISFH), supported by Ayming, this strong consortium of industrial actors (MeyerBurger, Meco, VON ARDENNE, Total, EcoSolifer) and institutes (ISFH, Fraunhofer ISE, CEA-INES, CSEM, EPFL, University of Ljubljana) met in April 2018 in Chambéry, in France for the mid-term meeting.

Project-wide round robin of Transparent Conductive Oxides (TCO)/Carrier selective junctions (CSJ) samples generated crucial data for the project. The effect of TCO deposition on passivation led to the conclusion of the necessity to develop low-damage TCO processes. The complete and advanced characterization of all tested TCOs helped to better understand conduction mechanisms.

The next generation smart wire interconnection technology lead to 2.63% relative increase in module efficiency and 2% lower performance loss after double IEC 612015 damp heat thermal cycling.

In addition, a life cycle thinking approach led by Environmental Resources Management Limited (ERM) started with site visits and with a questionnaire to improve overall sustainability performance.

The challenge of the next 18 months is to succeed the integration phase by combining the best components

from all partners on highly-efficient cells and modules. Therefore, DISC is well on its way to achieving ambitious target of efficiencies >25.5% on large area cell and >22% at module level while demonstrating pilot manufacturing readiness at competitive costs.

DISC is close to have positive impacts with respect to climate change and energy access and this project has the ability to help place Europe back at the forefront of solar cell science, technology and manufacturing.



DISC Consortium – M18 Meeting – 11-12<sup>th</sup> April 2018 – Chambéry, France (CEA-Ines)



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