

CoolSkin

DI Tim Selke

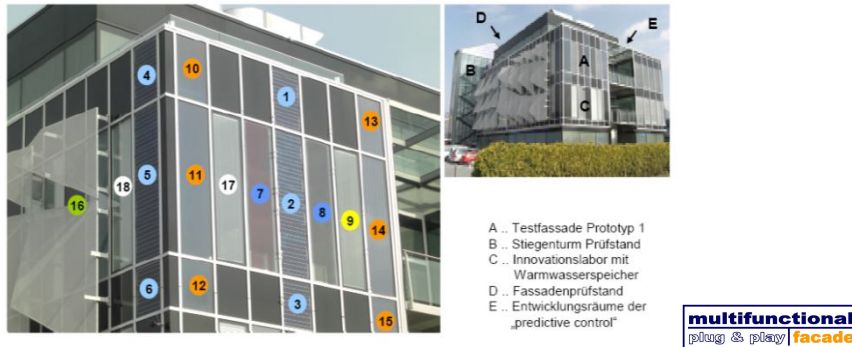
IEA SHC TASK53

1st Experts Meeting

07. / 08. October 2014

Västerås at University of Mälardalen, Sweden

COOLSKIN – Quo Vadis?



Challenge

- Development of a functioning affordable, secure, reliable façade integrated PV electric driven cooling system
- Stand alone PV driven compression motor

Deliverables

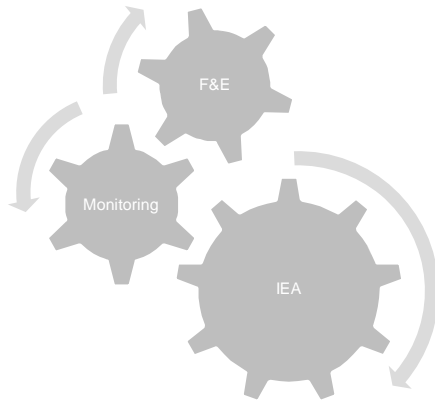
- functional model of a photovoltaic façade-integrated cooling system will be available, that has been optimized by means of simulations and experimental work and that has been tested under real conditions in a test façade.

Max Liebermann

Berlin, 20. Juli 1847 - 1935, Berlin

COOLSKIN

Facts



Partner

- Institut für Wärmetechnik – Technische Universität Graz
- AIT Austrian Institute of Technology GmbH (AIT-Energy)
- Hans Höllwart-Forschungszentrum f. integrales Bauwesen AG
- qpunkt GMBH
- Architekturbüro Reinberg ZT GesmbH

Project duration

- Start Sept 2015
- End March 2018

Project Budget

- approx. total 700 TEURO

Funding

- Austrian Funding Agency FFG
- Call Energieforschungsprogramm – 1. Ausschreibung

IEA SHC TASK 53

Austrian Project COOLskin

SYNOPSIS

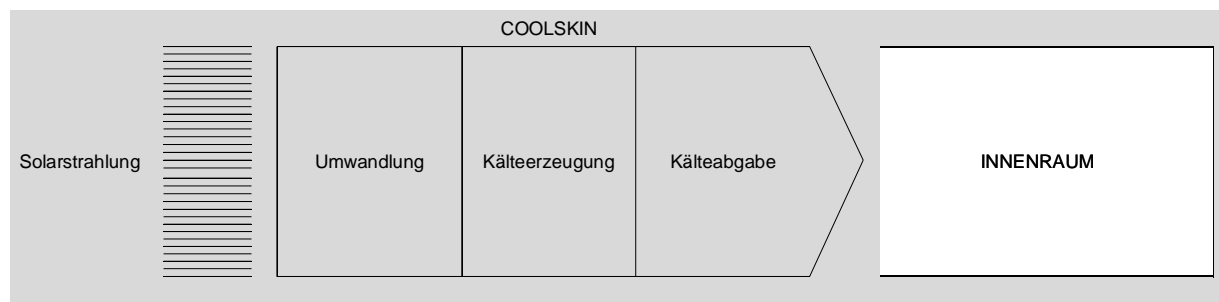
- The objective of the research project COOLSKIN is the investigation of façade-integrated systems for space-cooling. The solar irradiation onto the façade is converted directly or time-delayed to electrical energy, which is used to cool the adjacent room. Energy supply is energetically autonomous and is not dependent on energy from external sources. The project is based on elaborated system simulations and experimental work with a functional model of the system as well as field tests under real operating conditions.

IEA SHC TASK 53

Austrian Project COOLskin

Work packages

- 1 Documentation and analysis of technical possible system configuration
- 2 Experimental characterization of promising system configuration
- 3 Adaptation of system configuration for facade integration



IEA SHC TASK 53 Kick-Off

CoolSkin

Expected Contribution for SHC TAS53 Subtask A

- Experience with decentral PV cooling systems (façade integrated and small scale ..)
- Direct use of PV electricity (increased self consumption, ..)
- Requirements of technical adaption of the electrical drive of the cooling unit (critical electrical power ..)
- Operational system observation (monitoring data for energy assessmanet ..)



AIT Austrian Institute of Technology

your ingenious partner

Tim Selke

tim.selke@ait.ac.at

Submitted project proposal

City Quarters with optimised solarhybrid
heating and cooling systems

DI Tim Selke

IEA SHC TASK53

1st Experts Meeting

07. / 08. October 2014

Västerås at University of Mälardalen, Sweden

IEA SHC TASK 53 Kick-Off

SHAPE PV

Partners AIT, ATB-Becker EU, Arch. Reinberg ..

Submitted Exploration - September 19th

Call Energieforschung

Concept study for a project chain dealing with the use of building-integrated photovoltaic (BIPV); in view of an overall, systematic analysis for implementing innovative BIPV in Austria the project (I) defines the requirements and future targets for BIPV firstly for the Austrian market and its stakeholders (with the perspective of the European market) (II) develops together with a group of key-players a necessary research and implementation roadmap and (III) drafts a concept for a first implementation phase. Existing know-how, current initiatives, obstacles and chances are analyzed systematically, the activities of potential stakeholders are submitted to a screening and all relevant partners are integrated. Based on these findings a chain of R&D follow-up projects will be defined which will have to be elaborated synergetically.

.