SWISS PHOTONICS

From Daylight to Lighting 4.0

csem

Empa
Materials Science and Technology

EPIC
European Photonics Industry Consortium

In cooperation with the CTI
KTT-Support
National thematic networks
Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
Confederaziun svizra
Swiss Confederation
Commission for Technology and Innovation CTI

EMPA Dübendorf, November 6th, 2017

Rolando Ferrini

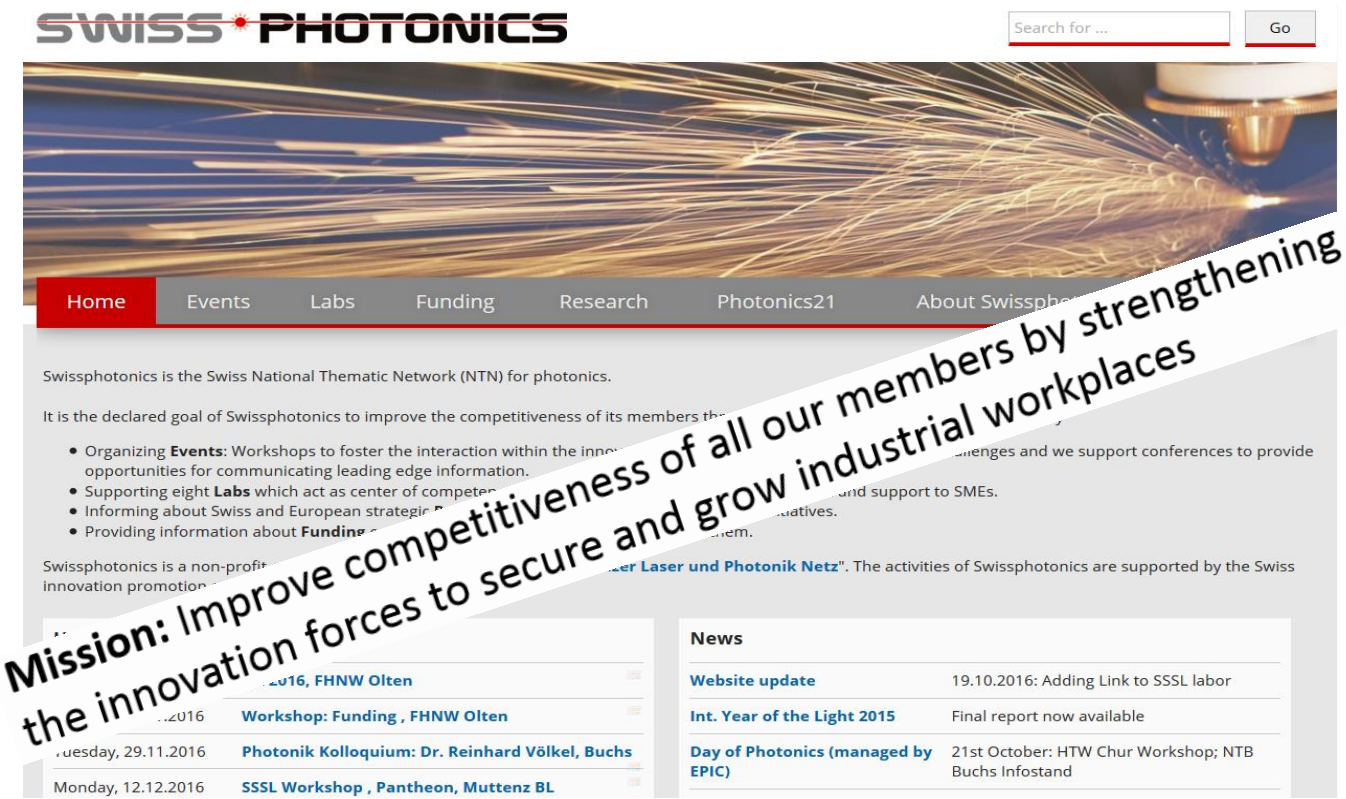
Section Head Micro-Nano Optics & Photonics, CSEM

Coordinator Swissphotonics Laboratory for Solid-State Lighting (SSSL)

«Amuse-bouche»

- Swissphotonics … for SSL
- CSEM … for SSL
- «Menu» of the day

Swissphotonics



Swissphotonics in 2017

- **> 20 workshops and conferences**
  - Workshops for CTI project partner matching
  - Roundtables between research organisations and industry
  - 7700 active e-mail addresses
- **28 new projects**
  - Support: Market research reports + Technical & content review
  - Seed money checks and project coaching
- **Membership**
  - 154 members
  - http://www.swissphotonics.net/about-swissphotonics/list-of-members

Swissphotonics National Photonics Labs Initiative

SWISS PHOTONICS

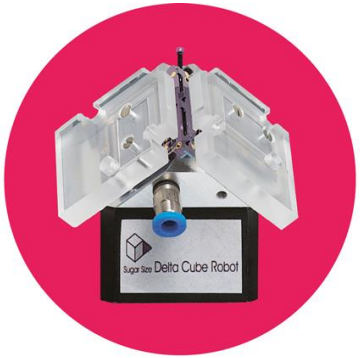
Patrik Hoffmann		**Laser Beam Production**	Carsten Ziolek		**Optics platform**
Valerio Romano		**Fiber Lab**	Christophe Moser		**Photonics Education**
Rolando Ferrini		**Solid State Lighting**	Frank Nüesch		**Photovoltaics**
Stefan Mohrdiek		**Packaging**	Lukas Novotny		**Optical Sensors**

Swiss National Laboratory for Solid State Lighting (SSSL)

- The **Swiss National Laboratory for Solid State Lighting (SSSL)** serves as a one-stop entrance point for requests of companies active in SSL.
- *Mission*:
  - Consulting and contract R&D services with focus on Swiss SMEs (but not only):
    - Feasibility and case studies
    - Supply of test components, characterization and metrology
    - Access to standard know-how and equipment in SSL
  - Building a national SSL cluster
  - Seminal talks and Workshops

csem EMPA Materials Science & Technology EPFL ÉCOLE POLYTECHNIQUE FÉDÉRALE DE LAUSANNE Lucerne University of Applied Sciences and Arts HOCHSCHULE LUZERN Zürcher Hochschule für Angewandte Wissenschaften zhaw HTW Chur Hochschule für Technik und Wirtschaft University of Applied Sciences

CSEM: Mission



Development and transfer of microtechnologies to the industrial sector – in Switzerland, as a priority – in order to reinforce its competitive advantage.

- Cooperation agreements with established companies
- Encouraging the creation of start-ups

CSEM at a glance

79.3
Turnover (mio CHF)

40
Nationalities

437
Persons

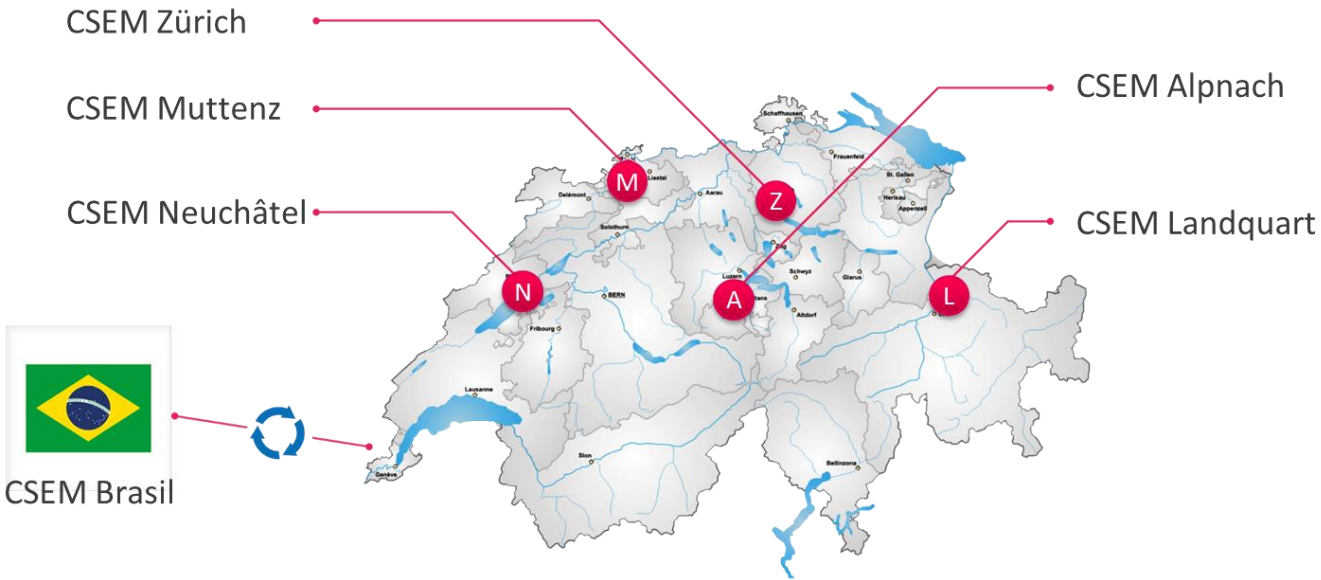
43
New ventures

190
Industrial clients

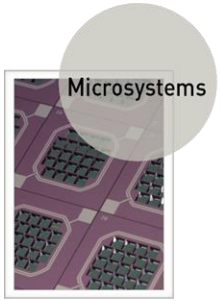
196
Patent families

62
European projects

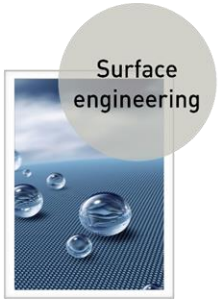
CSEM: Close to industry, leveraging Swiss academic research



CSEM: Technology platforms to foster innovation

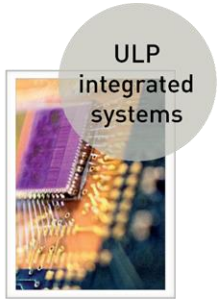


- MEMS
- Functional packaging
- Advanced micro-manufacturing



- Printable electronics
- Nano-surface engineering
- Bio-surface engineering

- Automation
- Scientific instrumentation
- Medical technologies

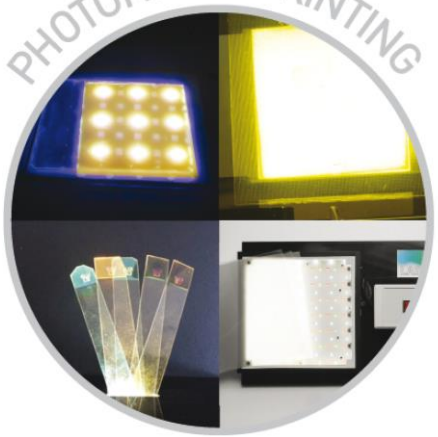


- Vision systems
- System-on-chip
- Wireless

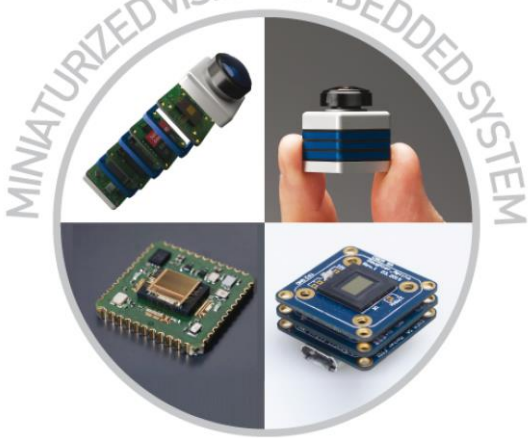
- PV cells & modules
- Energy systems
- Emerging & thin-film PV

Industry 4.0 | Advanced manufacturing | IoT | e-health | e-energy

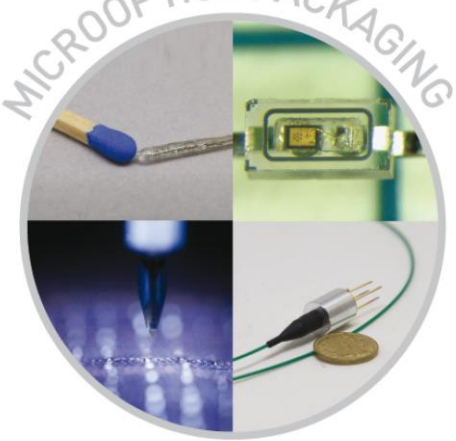
CSEM for Lighting



From design to prototyping of customized solutions for light management



From embedded machine learning to home automation and face recognition



From design to production


The
MENU

Topics

- Daylighting and the combination of daylight with SSL
- Smart lighting
- Lighting & IoT
- Reliability of SSL systems

Program

14:00	Prof. Dr. Jean-Louis Scartezzini	EPFL	Empowering the Built Environment with Human Centric Lighting
14:20	Wilfried Pohl	Bartenbach GmbH	Smart SSL and Daylighting – a harmonization ?
14:40	Dr. Guido Giuliani	University of Pavia	Smart lighting with luminous tiles in the H2020 LUMENTILE Project
15:00	Dr. Engin Türetken	CSEM SA	Low-Cost Intelligent Vision Systems for Smart Lighting Applications
15:20	Alessandro Pasquali	Slux Sagl	New Horizons of the Visible Light
15:40	**Break**	Sponsoring Swissphotonics	
16:10	Dr. Benoit Bataillou	Pi Lighting Sàrl	Paradigm changes in Lighting : What 2017 changed
16:30	Patrik Deuss Florian Gärtner	LEDCity AG	From Startup to Light
16:50	Prof. Dr. Ulrich Hauser-Ehninger	IKT, HTW	Directional illuminates, comparative measurements
17:10	Dipl.-Phys. Max Wagner	TU Darmstadt	LED degradation - recent data & internationally discussed methods for LED lifetime calculation
17:30	Dr. Derek Peden	Design LED Products Ltd.	Flexible Large Area LED Modules: Total Customisation & Smart Lighting Potential
18:00	**Apéro Riche**	Sponsoring Swissphotonics	

Thanks …

- Beni Müller & his team

- Patrik Hoffmann & the EMPA team

Thank you for your attention!

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