

# Photonics Industry

Christophe Moser/Christoph Harder

«Verein Schweizer Laser und Photonik Netz», Sihleggstrasse 23, CH8832  
Wollerau

[harder@swissphotonics.net](mailto:harder@swissphotonics.net) [www.swissphotonics.net](http://www.swissphotonics.net)

+41 79 219 9051    October 13, 2016

**SWISS PHOTONICS**

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



Swissphotonics is the Swiss National Thematic Network (NTN) for photonics.

It is the declared goal of Swissphotonics to improve the competitiveness of its members through the support of the innovation forces, by

- Organizing **Events**: Workshops to foster the interaction within the innovation community, roundtables to address challenges and we support conferences to provide opportunities for communicating leading edge information.
- Supporting eight **Labs** which act as center of competence and provide single point of contact service and support to SMEs.
- Informing about Swiss and European strategic **Research** agendas, research platforms and initiatives.
- Providing information about **Funding** opportunities as well as supporting to access them.

Swissphotonics is a non-profit association, registered under "**Verein Schweizer Laser und Photonik Netz**". The activities of Swissphotonics are supported by the Swiss Innovation promotion agency **CTI** under the **NTN** initiative.

### Upcoming events

Tuesday, 11.10.2016	<a href="#">micro photonics international Congress Expo, Berlin</a>
Thursday, 13.10.2016	<a href="#">Forum EPFL - Photonics Industry Day, Lausanne</a>
Tuesday, 25.10.2016	<a href="#">Photonik Kolloquium: Dr. Heinz Seyringer, Buchs</a>
Wednesday, 26.10.2016	<a href="#">Rheintal Photonic Round Table II - 2016, Buchs SG</a>
Thursday, 10.11.2016	<a href="#">IWF Kolloquium, Laser bearbeitung, Zurich</a>
Monday, 28.11.2016	<a href="#">GA 2016, FHNW Olten</a>
Monday, 28.11.2016	<a href="#">Workshop: Funding , FHNW Olten</a>
Monday, 12.12.2016	<a href="#">SSSL Workshop , Pantheon, MuttENZ BL</a>
Wednesday, 25.01.2017	<a href="#">LED-Forum 2017, Lausanne</a>

More:

- » [upcoming events](#)
- » [past events](#)

### News

<a href="#">Int. Year of the Light 2015</a>	Final report now available
<a href="#">European Photonics Sart-up Challenge</a>	Prizes offered with a total value of 10,000 Euros! The final will take place on 13 October 2016 at the micro photonics in Berlin
<a href="#">SSOM 3D-Symposium</a>	October 18-21 in Les Diablerets
<a href="#">Day of Photonics (managed by EPIC)</a>	21st October, HTW Chur Workshop
<a href="#">Annual Meeting of the Biomedical Photonics Network</a>	Save the date: November 28,2016
<a href="#">LED-Theorie-Symposium</a>	12.01.2017, Luzern, Campus Horw
<a href="#">Photonics21 / EU - Updates</a>	Latest update: 29.09.2016 New subfolder about EU projects, ...

### Open job positions

Update 20.09.2016: 2 job positions open at Rhysearch

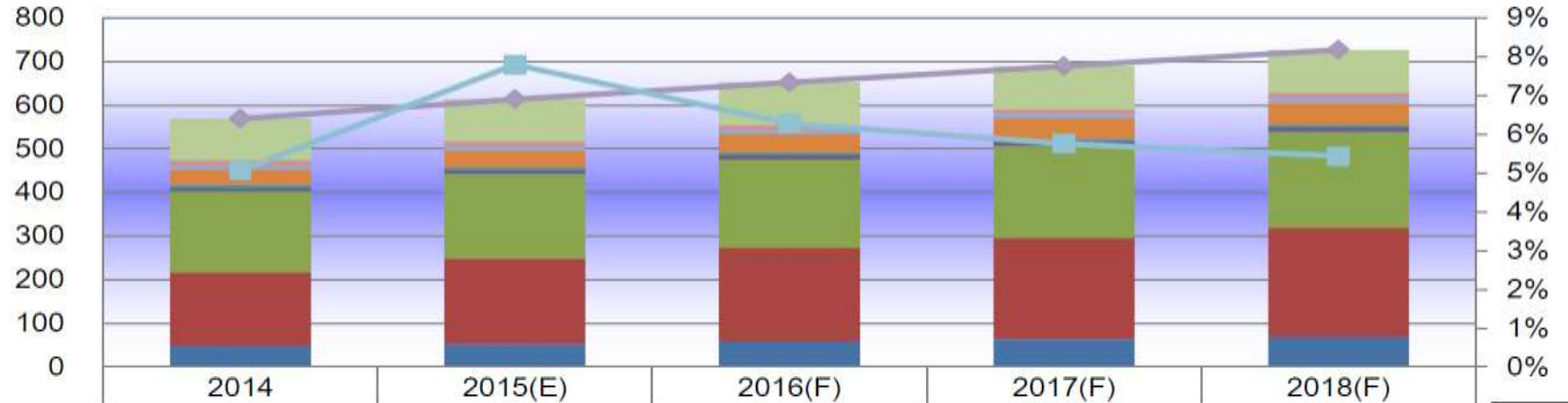
More:

- » [current news](#)

# Worldwide photonics industry scale will reach 652B USD

## The Scale of Worldwide Photonics Production Value 2014~2018

Unit: \$ Billion USD



Biophotonics	94.8	95.8	96.8	97.9	98.7	1%
Precision Optical Lens & Module	12.8	12.1	11.5	11.5	11.5	-3%
Laser Light Sources	9.4	9.9	10.6	11.3	12.2	7%
Optical Fiber Communication	34.9	37.9	41.8	46.0	49.2	9%
Optical Storage	7.3	6.9	6.6	6.3	6.0	-5%
Image Sensor	7.5	8.2	9.1	10.0	10.9	10%
Flat Panel Display	185.4	194.9	203.0	211.3	219.8	4%
Photovoltaic	168.7	195.4	214.2	231.5	249.7	10%
LED & Lighting Application	48.4	52.5	58.6	64.0	69.2	9%
Total Value	569	614	652	690	727	6%
Growth Rate	5%	8%	6%	6%	5%	CAGR

\* The CAGR is 6% during year 2014~2018 lower than the rate 10% of year 2010s.

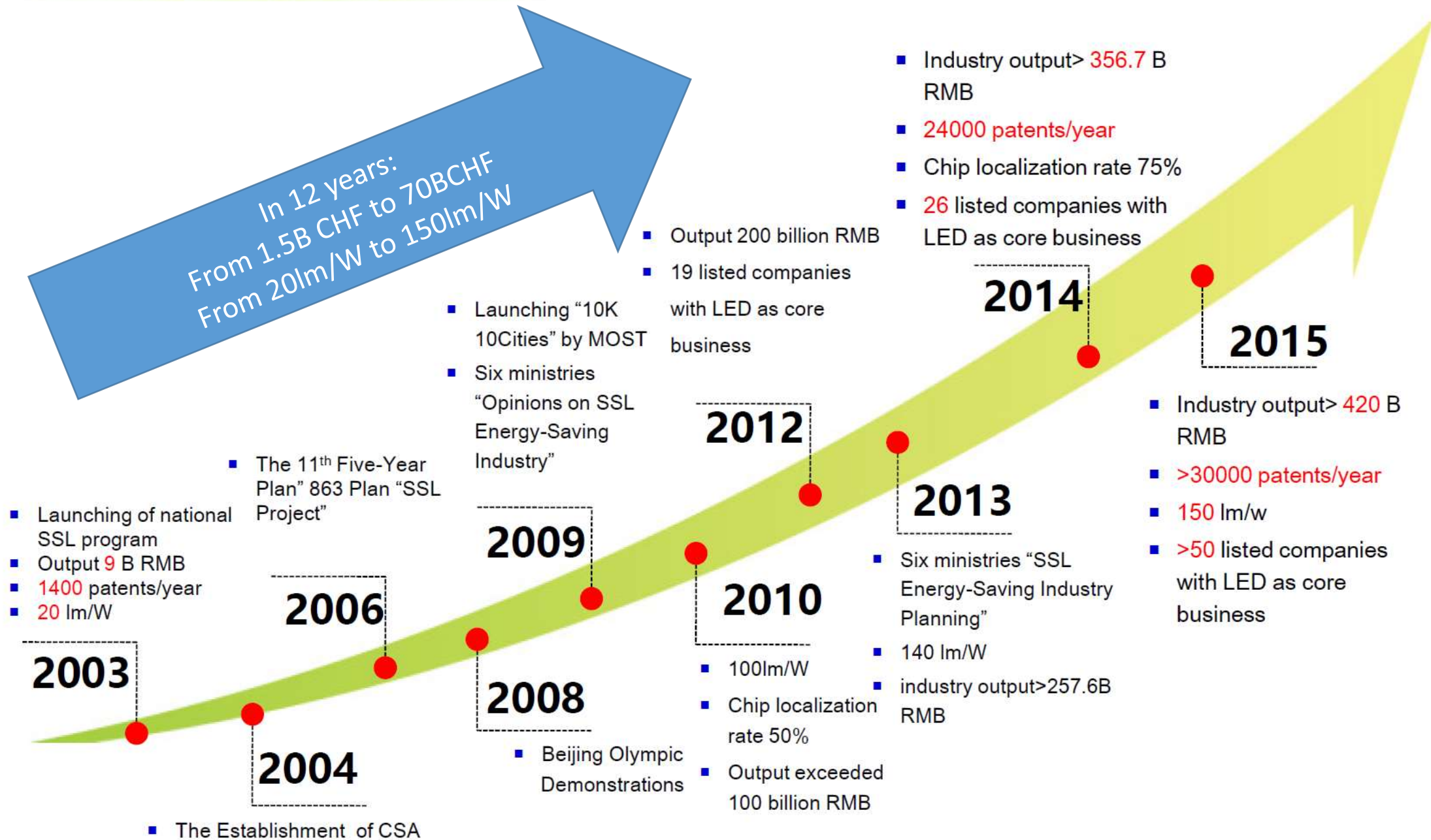
Source: PIDA, 2016



Swiss Opportunities

Mass products

# Milestones of China SSL



Swiss need specialize: Niche markets, chips, high precision and designed in

**Global**



**Swiss strengths**



**Niches**



**Designed in ...**



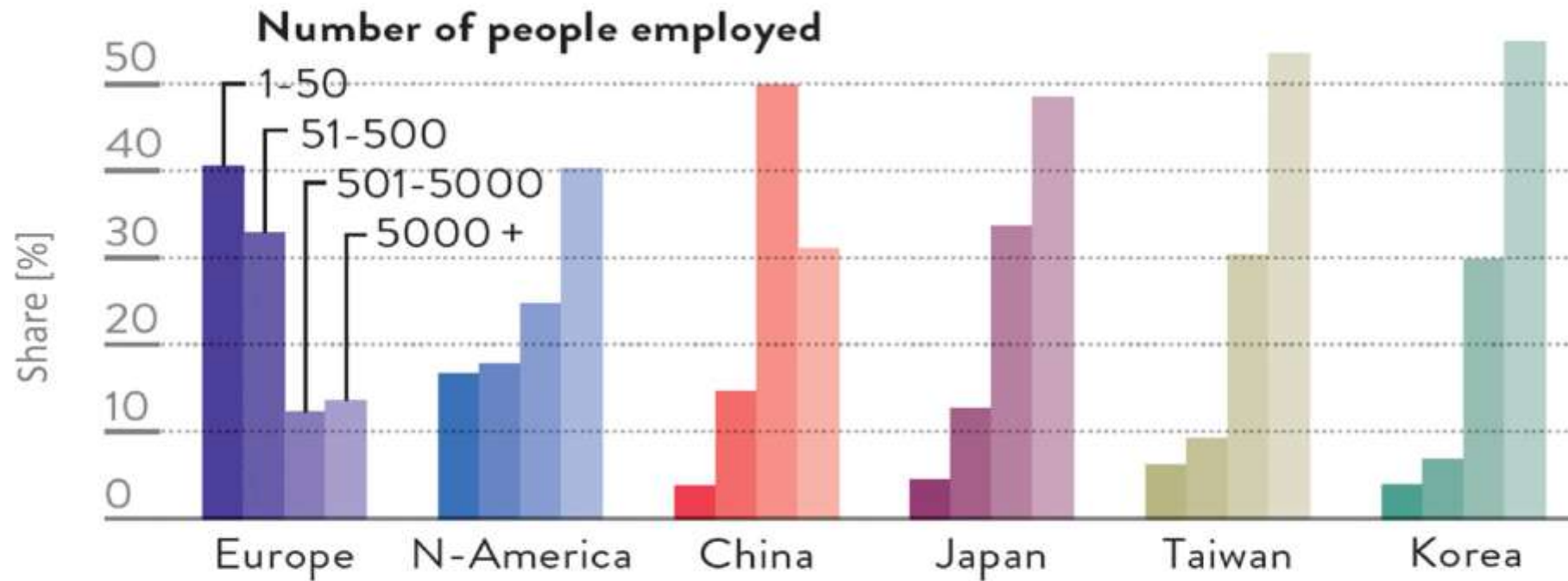
**Precision**



**Chips**

# Photonics in Europe: Small companies

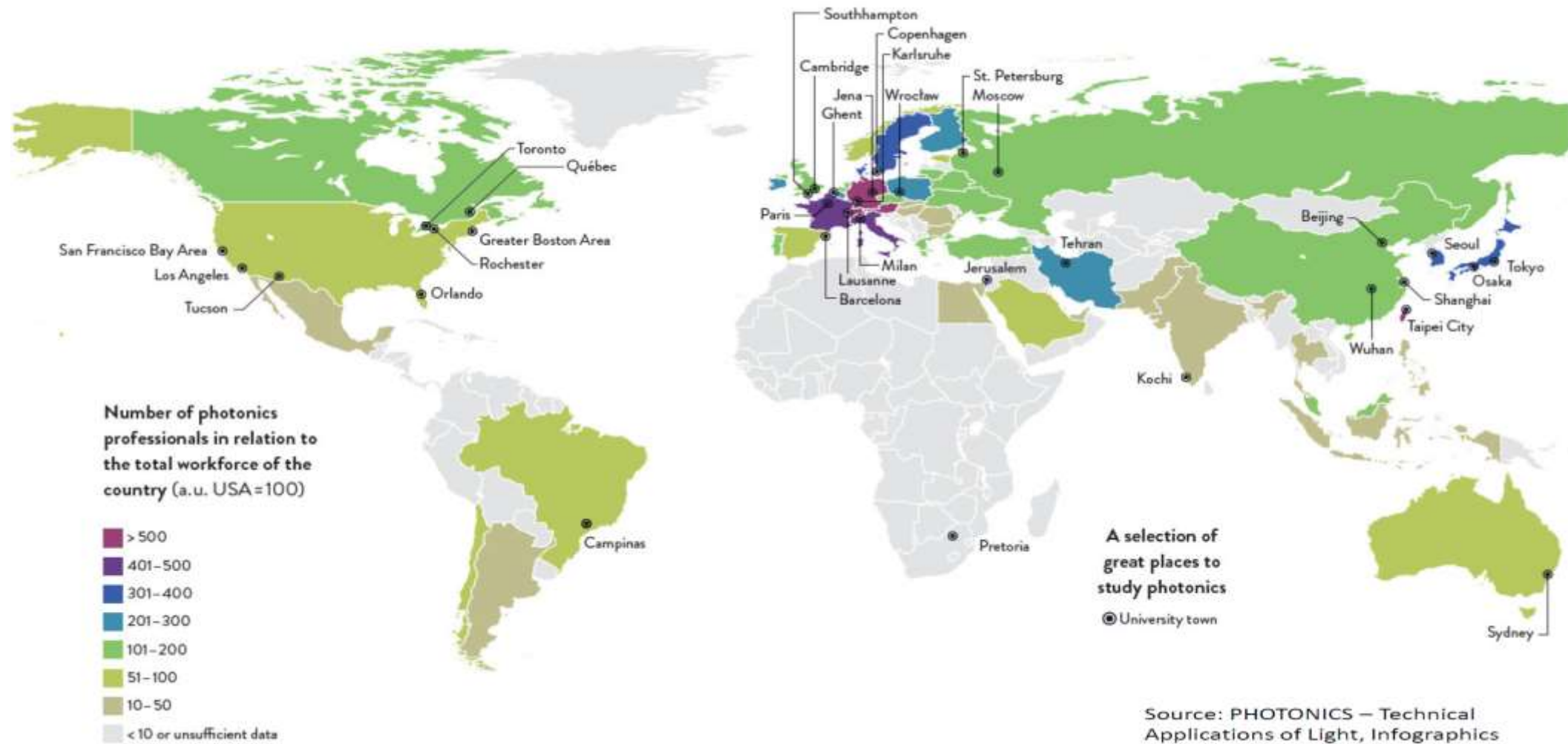
## Photonics Companies by size



Source: LinkedIn, SPECTARIS

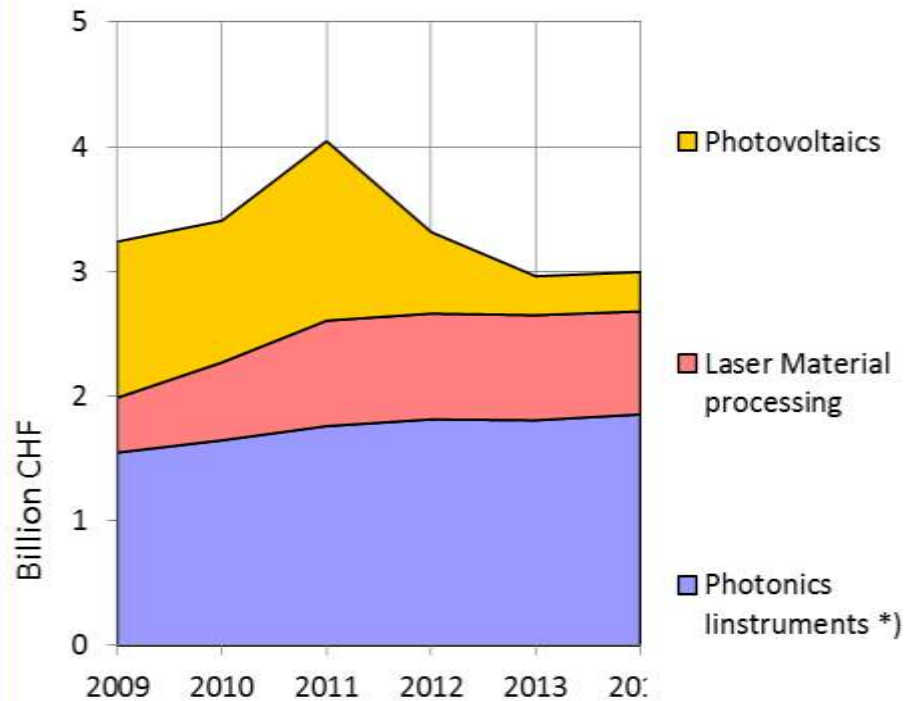
# Photonics: Europe and Japan are hotspots

## Lausanne is great place to study Photonics



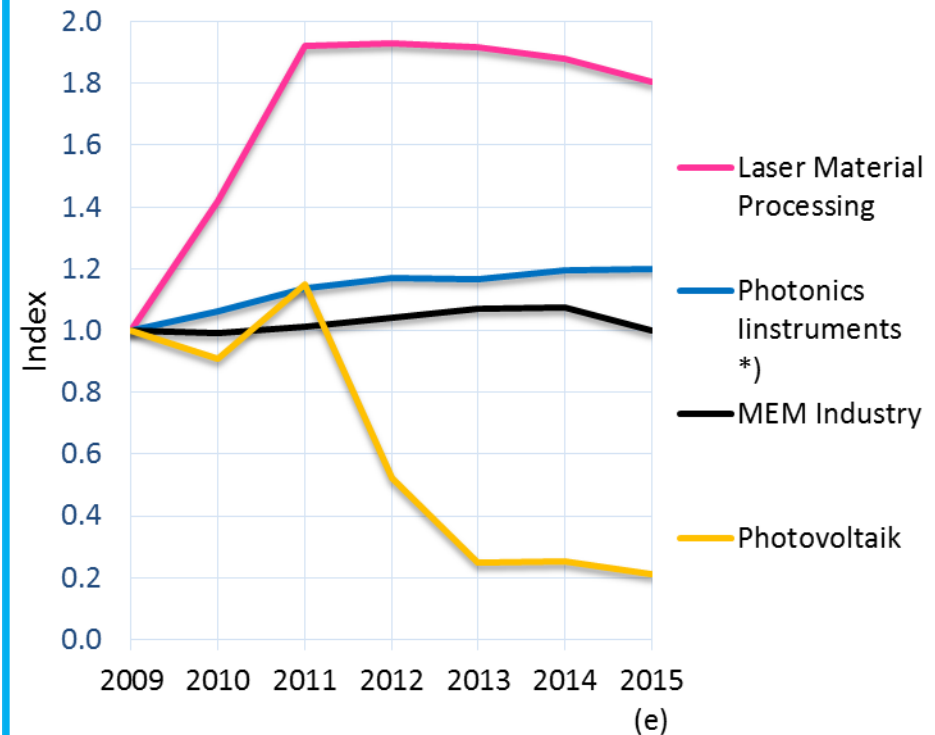
# Photonics is a Growth Industry

## Photonics production in Switzerland



\*) Measuring&Image processing, life science, optical components and systems, lenses

## Photonics grows faster than MEM production in Switzerland

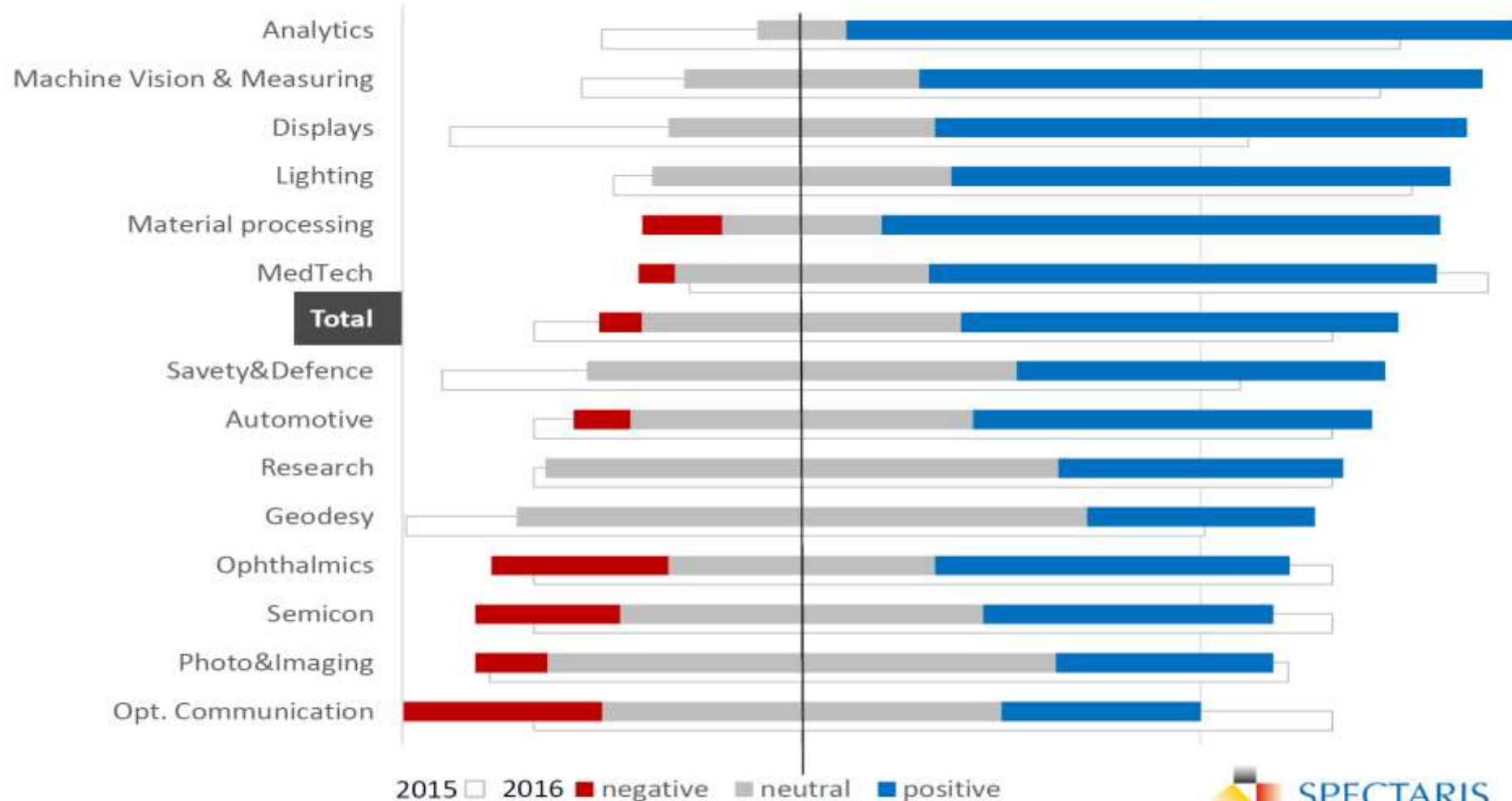


(e)



# Where is growth in 2016?

## Market expectations for the year ahead



# Swiss are toolmakers

**Our toolset**



**Other toolset**



# Light is a sharp and precise tool

- Material processing
  - Cutting, welding, brazing, .... of “any” material
- PV manufacturing line
  - Material processing of a photonic device (PV cell) with a photonic tool (Laser direct write&cut, lithography)
- 3 d printers



# Light needs precision tools

- Lenses
  - Objective on Philae on the Rosetta
  - Handheld computers

- 3 d measurements
  - 3d cameras
  - OCT

- Microscopes

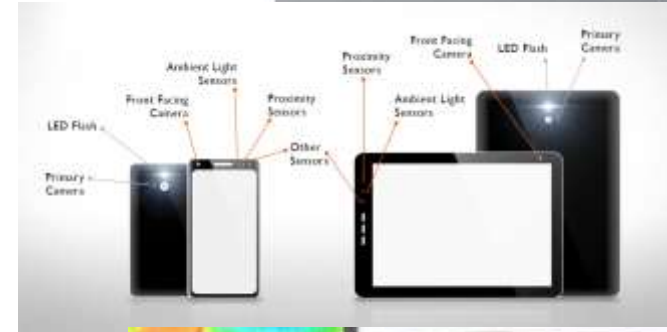
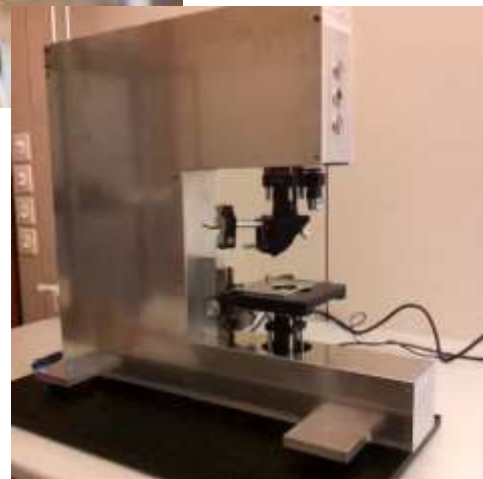


Bild: CIVA-Philae Consortium-ESA  
the der Mars-Oberfläche.



# Some impact stories:



Start-ups growing up

Intel rachète la start-up lausannoise Composit Light Labs



3D printed jewellery



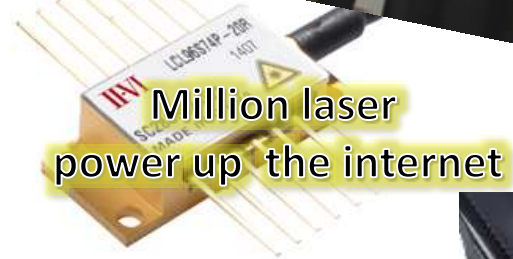
International network



Talk with Tajani: EU commissioner/VP



Lasers for gaming



Million laser power up the internet

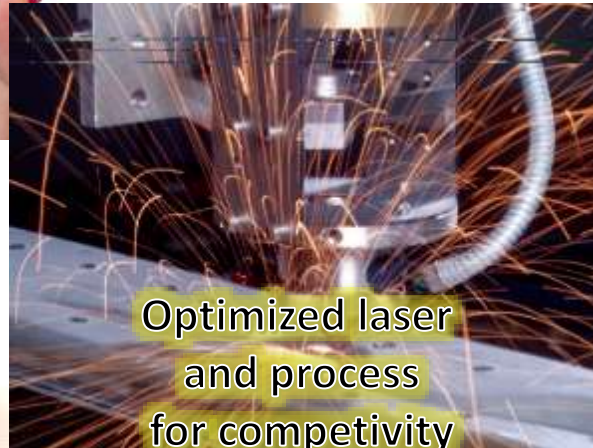
The world's smallest TOF camera



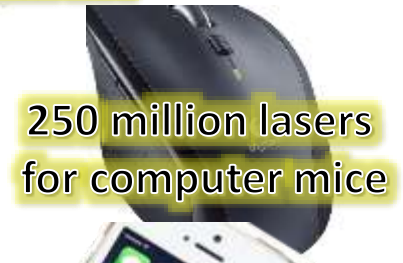
Chipfab in the mountain



Endoscope camera



Optimized laser and process for competitiveness

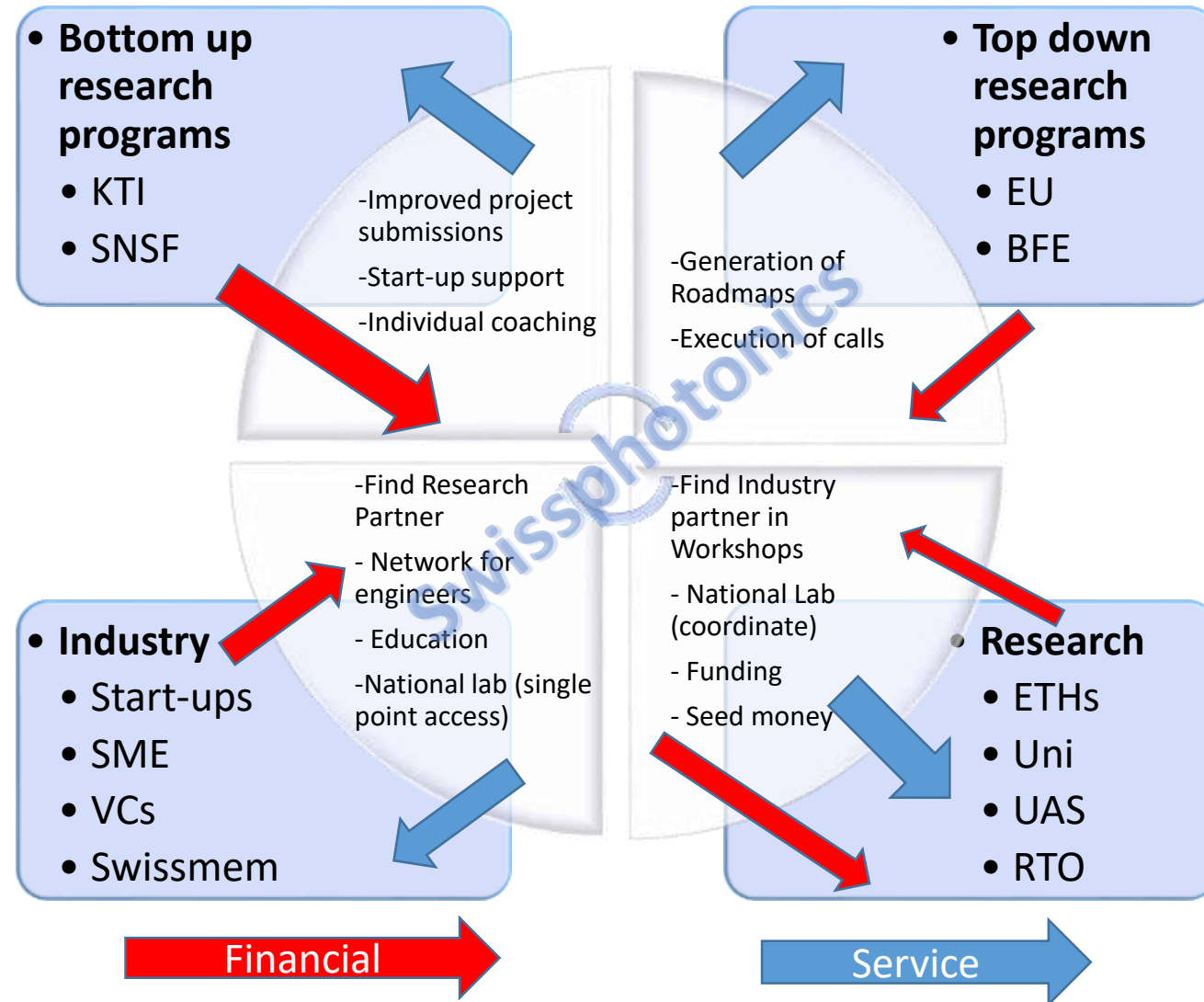


250 million lasers for computer mice



Billion of lenses for smartphones

# Swissphotonics Network



## Jobs

### Current job postings offered by Swissphotronics Members:

20. September 2016 bei Rhysearch, [Leiter Bereich Optische Beschichtung 062016](#) 100% Working in 9471 Buchs, SG  
20. September 2016 bei Rhysearch, [Projektleiter Präzisionsfertigung 16sep2016](#) 100% Working in 9471 Buchs, SG  
27. July 2016 [Applikationsingenieur Rofin Lasag 2016 July](#) bei ROFIN - LASAG AG, 100%, Working in 3123 Belp  
21. March, 2016 [Laser Process Engineer at Asulab](#) (Swatch group) 100% Working in CH-2074 Marin

### Swiss Photonics Companies:

If you are looking for a list of Swiss Companies active in the Photonics fields you can browse through the attached file to find link lists to companies and public presentations given by them in the frame of Swissphotronics workshops [Overviewphotonicscompanieswitzerland 20160918](#)

### Photonics Jobs and Internships within Europe:

Open positions advertized on [Photonics21 positions](#) website .

### Employment agency:

Unser Partner für die Personalrekrutierung/Personalberatung:

#### Swiss Professional Recruiting AG

Tanzgässlein 3

CH-4051 Basel

[www.spr-ag.ch](http://www.spr-ag.ch)

Telefon: + 41 61 226 60 90

Partner für Ihre anspruchsvollen Stellenbesetzungen in Unternehmen und Einrichtungen aus den Bereichen Optik & Optoelektronik, Halbleiter- und Elektronik, Photonik, Laser, Biotechnologie, Maschinenbau und Automotive, IT und e-commerce, Luft- und Raumfahrt sowie Medizin und dem Gesundheitswesen.

[Company presentation](#)

### (Past) job postings of/for Swissphotronics Members:

16. June, 2015 [Asulab](#) (Swatch group) 100% Working in CH-2074 Marin

4 Jobs listed

Specialized headhunter

Link for job info