Workshop for aligning education with innovation

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The overall Concept

RespiceSME CONSORTIUM

R&D and Universities Technology Transfer (EEN) Photonics21 stakeholders
Photonics Clusters National Platforms

Main Target Group

High-tech Photonics SMEs
Photonics Start-ups
Photonics Innovation Clusters
National Platforms
Other Innovation Clusters

RespiceSME PROJECT

EVENTS
- Photonics Cluster & National Platform Meetings
- Cross-sectoral Cluster Meetings
- Brokerage Events
- Education & Training Workshops

TOOLS
- Internal/External Coaching Methodology
- Innovation Audit Tool
- Benchmark of high-tech Photonics SMEs
- Technology Transfer Instruments
- RTO Infrastructure Methodology
- Regional Policies, RIS3 Analysis
- Photonics Value Chain Map
  - Access to Finance Methodology

Achievements

- New collaborations with:
  ➢ Photonics Industry
  ➢ Companies from other sectors
  ➢ RTO Infrastructures
  ➢ PhDs, Universities
  ➢ Policy Makers
- New market penetrations
- New applications and application sectors
The Toolbox

Enabling innovation potential of high-tech photonics SMEs

Benchmark of high-tech Photonics SMEs

Innovation Audit

Technology Transfer

Internal/External Coaching Methodology

Building innovation capacities for value creation in SMEs

RTO Infrastructure Methodology

Education & Training Workshops

Regional Policies RIS3 Analysis

Access to Finance

Stimulating business collaborations in & beyond photonics

Photonics Value Chain Map

Photonics Cluster & national Platform Meetings

Brokerage Events

Cross-sectorial Cluster Meetings

The Toolbox

Innovation Clusters

Photonics SMEs

Cross-sectorial Cluster Meetings

The Toolbox

Innovation Clusters

Photonics SMEs

Cross-sectorial Cluster Meetings
The Toolbox

Enabling innovation potential of high-tech photonics SMEs

- Benchmark of high-tech Photonics SMEs
- Innovation Audit
- Technology Transfer
- Internal/External Coaching Methodology

Photonics SMEs

Innovation Clusters

RESPICE SME
Modular Composition of the support service for Photonics SMEs

- Focussing on Innovation potential
- Deviation of needs
- Presentation of results
- Deviation of recommendations
- Identification of actions (activity plan)

Innovation potential – Self-evaluation
1st Strategy Workshop

Analysis, Reporting, Suggestions for Actions

Discussion of results at SME’s premises
Recommendations (2nd workshop)

Final action plan
Final report
Tools for enabling innovation potential of high-tech photonics SMEs

**Innovation audit questionnaire** aims at evaluating the innovation potential of high-tech photonics SMEs. The RespiceSME consortium analyses 7 main areas for innovation practice which have been adopted for the purpose of the project and identified as the most suitable to capture the innovation potential of high-tech photonics SMEs.

The 7 main areas are:

1) Ideas creation and creativity, 2) Design and new product development, 3) Competence management, 4) Competitive technology intelligence, 5) Project Management, 6) Knowledge Management, 7) Value Chain analysis.

http://www.respice-sme.eu/the-respicesme-toolbox/tools/
## AGENDA – Strategy workshop (1/2 day)

| (15’) | • Welcome of the participants  
• Presentation of the workshop structure |
<table>
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<td>(15’)</td>
<td>Introduction to the concept of Innovation Management</td>
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| (15’) | • Organisation Life Cycle  
• Vision |
| (60’) | **Part 1: Self-Assessment Tool: Potential Innovation Index (PII)**  
• Discussion about the results of the assessment  
• Analysis of Strengths & Weaknesses (SWOT) – 1st inputs to Opportunities & Risks |
| (120’) | **Part 2:**  
• Analysis of trends, markets, products, services & technologies  
• Positioning of products/services along the product life cycle  
• Positioning of products/services on the market  
• Identification of new activity fields  
• Analysis of Opportunities & Risks |
| (15’) | Summary of results and next steps |
|       | End of workshop |
Opportunities for Technology Transfer

BUSINESS & TECHNOLOGY PROFILES

- Are you looking for Business or Technology partners for collaborative projects?
- Are you looking for external expertise? Would you like to offer your Expertise to potential partners?
- Are you looking for new customers, end-users, Distributors or Integrators?
- Are you looking for partners to apply for a H2020 call for proposals?

This is how to proceed, if you are interested in publishing a cooperation offer or request through the RespiceSME's channels:

1. First, fill out a Business & Technology Profile with your company Information. Please select between:
   - Business/Technology Request
   - Business/Technology Offer
   - Cooperation for Research & Development (H2020 call for proposals)

2. Then, please send the template to Samantha Michaux (michaux@steinbeis-europa.de) for further dissemination.

http://www.respice-sme.eu/the-respicesme-toolbox/tools/
The Toolbox

Stimulating business collaborations in & beyond photonics

Photonics SMEs
Innovation Clusters
Photonics Value Chain Map
Photonics Cluster & national Platform Meetings
Brokerage Events
Cross-sectorial Cluster Meetings
Tools for stimulating business collaborations in & beyond photonics

Value Chain Analysis Tool

1. Define the Product
2. Identify Stakeholders
3. Assess Technology Readiness Levels
4. Assess Innovation Potential
5. Progress Using System Model

What is the future product?

Start here!
The Toolbox

Building innovation capacities for value creation in SMEs

- RTO Infrastructure Methodology
- Education & Training Workshops
- Regional Policies
- RIS3 Analysis
- Access to Finance

Photonics SMEs
Innovation Clusters

RESPIE SME
Tools for building innovation capacities for value creation in SMEs

- Support the Interaction of SMEs with Research and Technology Organizations (RTOs)
- SMEs often lack critical recourses to succeed in innovation activities
- RTOs struggle to bridge the gap between lab research and industrial application
- RespiceSME aims to provide Photonics clusters and SMEs with a tailored methodology for accessing RTOs


Currently over 450 entries across 9 countries
Tools for building innovation capacities for value creation in SMEs

- **Access to education**: list of courses and trainings in photonics

  [PHOTONICS TRAINING COURSES OFFERED IN EUROPE](http://www.respice-sme.eu/the-respicesme-toolbox/tools/)

- **Access to finance**: mapping of European, national and regional funding and financing instruments (private & public)
Tools for building innovation capacities for value creation in SMEs

Smart Specialisation – RIS3

Report on RIS3 process in regions outlining how SMEs can positively impact the development of Smart Specialisation Strategy from the bottom up in regions with different priorities for photonics.

Outcomes:
- what regional structures are relevant in RIS3 process?
- what kind of regional organisations exist to support SMEs?
- what kind of funding programs do exist?
- special programs for photonics SMEs and clusters
- what activities can serve as best practices?
- Outline how SMEs (and clusters) can influence the RIS3-Strategy

Evaluation of the expectations of the industry regarding the knowledge and skills of students in the field of photonics
1. Which type of education have the employees in your company/is needed in your company?

- Engineers (Degree in engineering sciences, Degree in electrical engineering, Degree in computer engineering)
- Research (Degree in physics)
- Technical
- Skilled operator

Response rate 100% \(1.0=19\) Replies

Average 1=Low Importance to 5=High Importance
2. Which kind of knowledge do you think is important?

- Product development
- Fundamentals in Photonics/Atomic Physics
- Optical metrology
- Optical waveguides and fiber optics
- Diffractive and Fourier optics
- Spectroscopy
- Laser technology
- Electro optics
- Laser-metrology
- Ultra-fast photonics (laser and metrology)
- Fundamentals in higher mathematics
- Material sciences
- Non-linear optics
- Lens design
- Legislative/regulatory knowledge (safety/...)
- Thin-film technology
- Biomedical optics

(response rate: 100%
1 = Low Importance to 5 = High Importance)
3. What skills do you think are important?

- Handling of instrumentation / lab equipment
- Self-management (organizational skills, planning time, management)
- Language skills in English
- Inventiveness, creativity
- Social skills (Team working, Communication, Networking)
- Entrepreneurial skills (Business understanding)
- Local language skills
- Writing scientific paper

Response rate: 100% (1,0) = 19 Replies
Average: 1=Low Importance to 5= High Importance
THANK YOU FOR YOUR ATTENTION

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