



OMNI-NET

Dissemination Workshop

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Nadia BABAALI - Opticsvalley

Opticsvalley



**THE LEADING NETWORK IN
OPTICS,
ELECTRONICS AND
SOFTWARE ENGINEERING
IN THE PARIS REGION**

The role of clusters in Europe

Role of clusters in Europe (1/2)

Definition of a cluster:

"Geographic concentrations of interconnected companies, specialised suppliers, service providers, firms in related industries, and associated institutions (for example, universities, standards agencies, and trade associations) in particular fields that compete but also co-operate"

Michael Porter (1998)

The importance of clusters for European innovation and global competitiveness is only now becoming fully recognized.

Role of clusters in Europe (2/2)

Why do we need stronger clusters in Europe ?

- global competition
- innovation challenge
- regional ecosystems
- specialized capabilities
- investment attraction

Regions with a high concentration of clusters are more prosperous than other regions.

Clusters cooperation in Europe (1/2)

Why is cluster cooperation important in Europe ?

- benchmarking
- roadmapping
- R & D cooperation
- business opportunities
- mobility of people

Clusters cooperation in Europe (2/2)

Cooperation between clusters can take various forms:

- ▶ sharing of information
- ▶ coordination
- ▶ integration

Presentation of the OMNI-NET project

Opto-Micro Nano Innovative Network Exploiting Transversality



What is OMNI-NET ?

A 30 months European project co-financed by the European Commission (FP 6, Coordination Action), gathering 15 partners focusing on the fields of optics and micro-nano electronics.



OMNI-NET partners

 = 6 clusters

GERMAN PARTNERS

 knowledge competence cooperation

 Kompetenznetz Optische Technologien

 Kompetenznetz Optische Technologien Hessen / Rheinland-Pfalz

 STEINBEIS-EUROPA-ZENTRUM

 HÄ Hessen Agentur GmbH

 THÜRINGEN innovativ

FINNISH PARTNER

 Technopolis Ventures Ltd.

SCOTTISH PARTNER

 Scottish Enterprise Edinburgh and Lothian

POLISH PARTNERS

 Mazowiecka

 ITM

 POLISH CONSORTIUM OPTOELECTRONICS

FRENCH PARTNERS

 Opticsvalley

 nno

 ile de France

 Université Paris-Sud

ROMANIAN PARTNER

 ARIES



Key objectives

- Analyse the 6 OMNI-NET clusters and regional economic systems
- Share / formulate / disseminate best “cluster” practices
- Make policy recommendations
- Pave the grounds for technological and business cooperation between our players

OMNI-NET expected impact

- **Cluster players / SMEs:** new partnership opportunities
- **Regions:** improvement of relation between innovation clusters and regional agencies/authorities
- **New and Candidate Member States:** new cluster creation + best practice implementation
- **European Commission:** policy recommendations

Presentation and comparison OMNI-NET clusters

- **Opticsvalley**
- Photonics BW
- Optence
- OptoNet
- Scottish Enterprise (Scottish Micro and Optics Cluster)
- Technopolis Ventures (Centre of Expertise for Micro and Nanosystems)

Geographical data

	Opticsvalley	Photonics BW	Optence	OptoNet	Scottish Enterprise	Technopolis Ventures
Area	Paris Region	Baden- Wurtttemberg	Hessen and Rhineland- Palatine	Thuringia	South and Central Scotland	Finland (72% in Helsinki region)
Km²	12.072	357	20.000	16.170	n.c.	338.000
Population (millions)	11	10,7	6,6	2	4	5,26
Number of firms in the cluster	800	26	200	150	270	144

Industrial data

	Opticsvalley	Photonics BW	Optence	OptoNet	Scottish Enterprise	Technopolis Ventures
Focus	Optics Microelectronics Nanotechnologies Software engineering	Optics	Optics	Optics	Opto-electronics Microelectronics	Micro-electronics Microphotonics Microfluidics and nanotechnologies
Potential	Software Image processing Wireless technologies Telecom technologies	Laser technology Material processing Optical measuring	Automation Chemical engineering Automotive	Optical surfaces Plastics Micro-optics Machine vision	Microsystems design and support services Image analysis	Carbon nanotube Mems sensors Nanomaterials
Markets						
Automotive	X	X	X	X	X	X
ICT	X	X	X	X	X	X
Security defense	X			X	X	
Health and bio medical	X	X	X	X	X	X
Space industry	X			X		
Leading cpies	Alcatel, Thales, Dassault, Bull, EADS, Quantel...	Agilent Technologies, Carl Zeiss, Daimier Chrysler...	ABB, Honeywell, IBM, Siemens, Sanofi aventis...	Carl Zeiss, Jenoptik laser, Automotive Lighting, FER...	Wolfson Microelectronis, Point 35 Microstructures, Oligon, Agilent Technologies...	Perlos, VTI Technologies, Vaisala, Okmetic...

SWOT of OMNI-NET clusters

SWOT analysis of the cluster composition, the innovation performance, the cluster policies and financial support, and the cluster governance and organizations.

Main conclusions:

Strengths and opportunities	Weaknesses and threats
Presence and interaction of innovative companies and labs of all sizes	The capacity to fulfil the various needs of SME's
Presence of market leaders	Dependency on public funding
Quality of services offered	Growth of clusters
Visibility	Training programmes
Existence of national / regional cluster policies	Financing

SWOT Convergence versus Focus

OV SE TEVE / OptoNet, Optence, PBW

STRENGTHS		WEAKNESSES	
Convergence	<p>Clusters: More opportunities for new applications and markets within the cluster itself</p> <p>Clusters & organisations: Visibility because of size</p>	Convergence	<p>Clusters and organisations: Message is blurred with many technology</p>
Focus	<p>Organisations: High level of cooperation easier to manage</p> <p>Organisations: More focused services, matrix of competences</p> <p>Organisations: Clear focus for communication</p>	Focus	<p>Organisations: No weight to carry message on international and national levels</p> <p>Organisations are less attractive for companies outside the optics/photonics industry</p>
OPPORTUNITIES		THREATS	
Convergence	<p>Organisations: Seize the opportunities of convergence within the cluster (e.g. optics and nanotechnologies)</p>	Convergence	<p>Organisations: Lack of competition between cluster organisations when there is only one for several technological fields</p>
Focus	<p>Organisations: Easier to organise Expert forums, cooperation in EU projects for a smaller number of members</p>	Focus	<p>Org: Loosing sight of opportunities brought by convergence</p> <p>Org: technologies' overlapping leads to competition between regional cluster organisations</p> <p>Org: Insufficient number of members</p>



OMNI-NET cluster organizations best practices

Synthesis of the best practices analysed based on 6 clusters visits, mapping of cluster's technologies and players, and individual SWOT analysis.

Main results:

Common type of activities	Specific activities
Seminars, conferences, workshops and meetings	"Members visit Members"
National and international exhibitions	Mutualization of research laboratories competencies
Websites and newsletters	Business meetings to connect the technological demand with the technological offer
Technology and market watches and information diffusion	Investment in key elements of infrastructure
Participation in director boards in national, regional and international projects	Training for employees of member companies and company missions to other European optics regions
Participation to boards of associations and programmes, regional lobbying	Support of the training sector