

“Photonic Research in the Heart of Germany”

PhotonicNet

Competence Network Optical Technologies in Lower-Saxony



GEFÖRDERT VOM



Light ~~~~~ our Future

Photonic-Net

The growing market of optical technologies

the enabling technology



Start: 2001

- In Germany Optical Technologies account to approx. **25 Billion Euro** in sales in 2006 with expected CAGRs of 10% in the next ten years.
(Quelle: Branchenschätzung SPECTARIS)
- Around **110.000 people** work in this **technology sector in Germany** (SME: 36.000)
(Quelle: Branchenschätzung VDI Technologiezentrum GmbH / isw Institut)
- **15 % of the workforce** in the manufacturing industry in Germany depend on optical technologies to create value added products
(Quelle: Fraunhofer ISI)

Supra-regional Networking



9 Networks → 420 Members

Shared
Exhibition
participation:

- Photonics West (USA)
- Laser Messe (München)
- Optatec (Frankfurt)

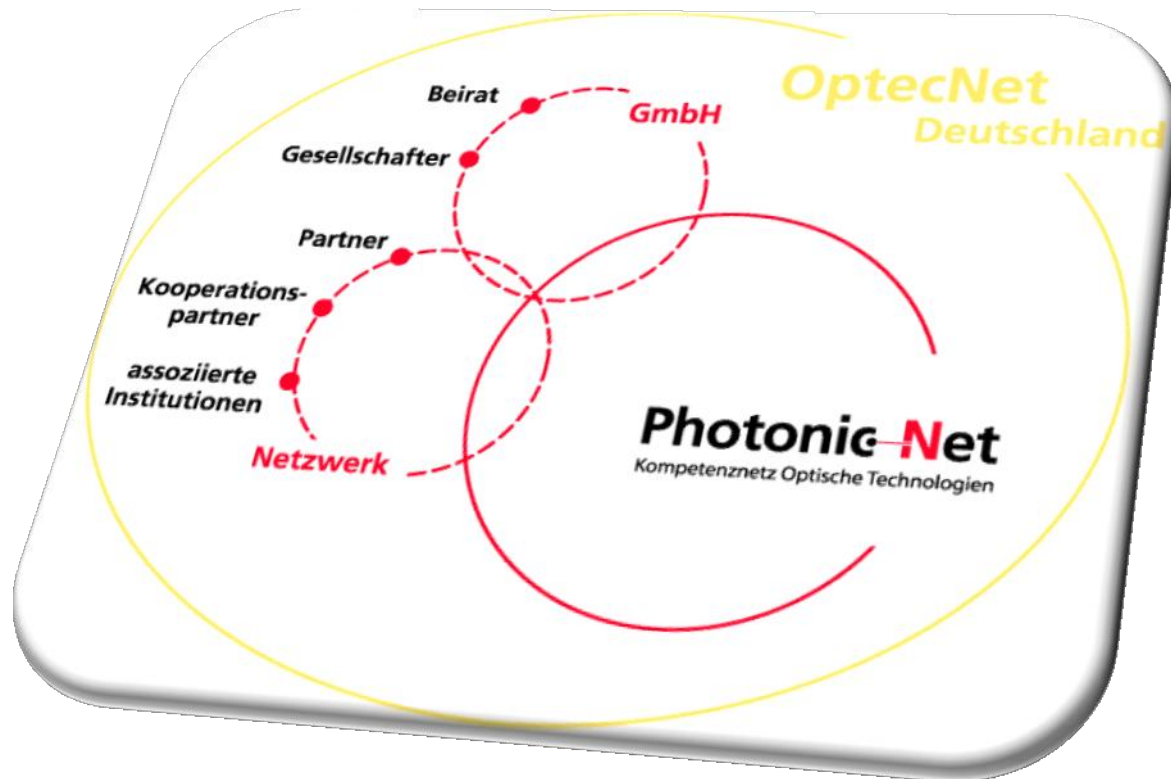


Competence Networks Optical Technologies

- The who-is-who companies in Optical Technologies are member of one or more of the 9 networks
 - Industry, Research and Universities
- 50% of all member are SMEs
- 50 relevant companies of the Private Equity, Training- and Innovation sector are members
- Very high member acceptance and a steady growing member number
- OptecNet Deutschland is gaining more and more importance and international acknowledgement as the service organisation for the networks

PhotonicNet in a Nutshell

- **Legal form**
GmbH (~ Ltd.)
- **Location:**
Hannover
- **Date of incorporation:**
December, 17th 2000
- **Institutions:**
General meeting,
Advisory board
- **Members**
Partner and associates
institutions



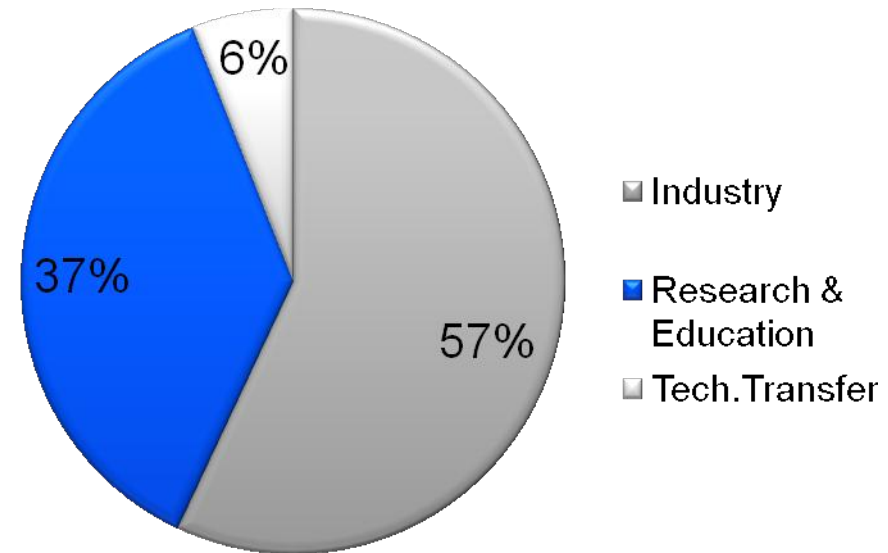
Structure of the Partnership

PhotonicNet – a Partnership of

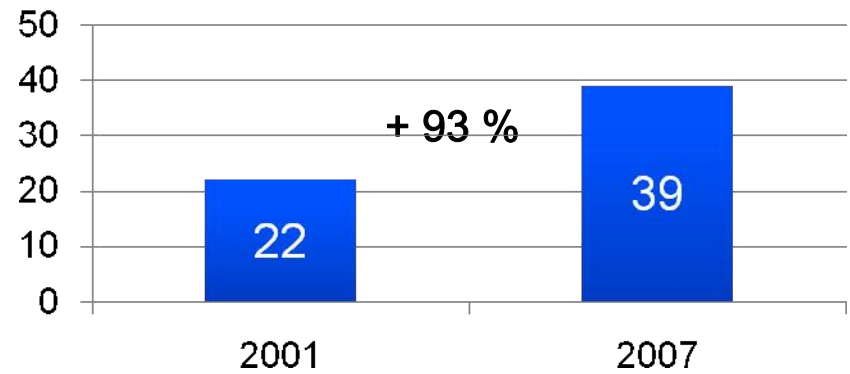
- Manufacturer and User of Optical Technologies and Products
- Research and Education Institutions
- Institutions in the field of technology transfer and local economic promotion agencies

Cooperation partner

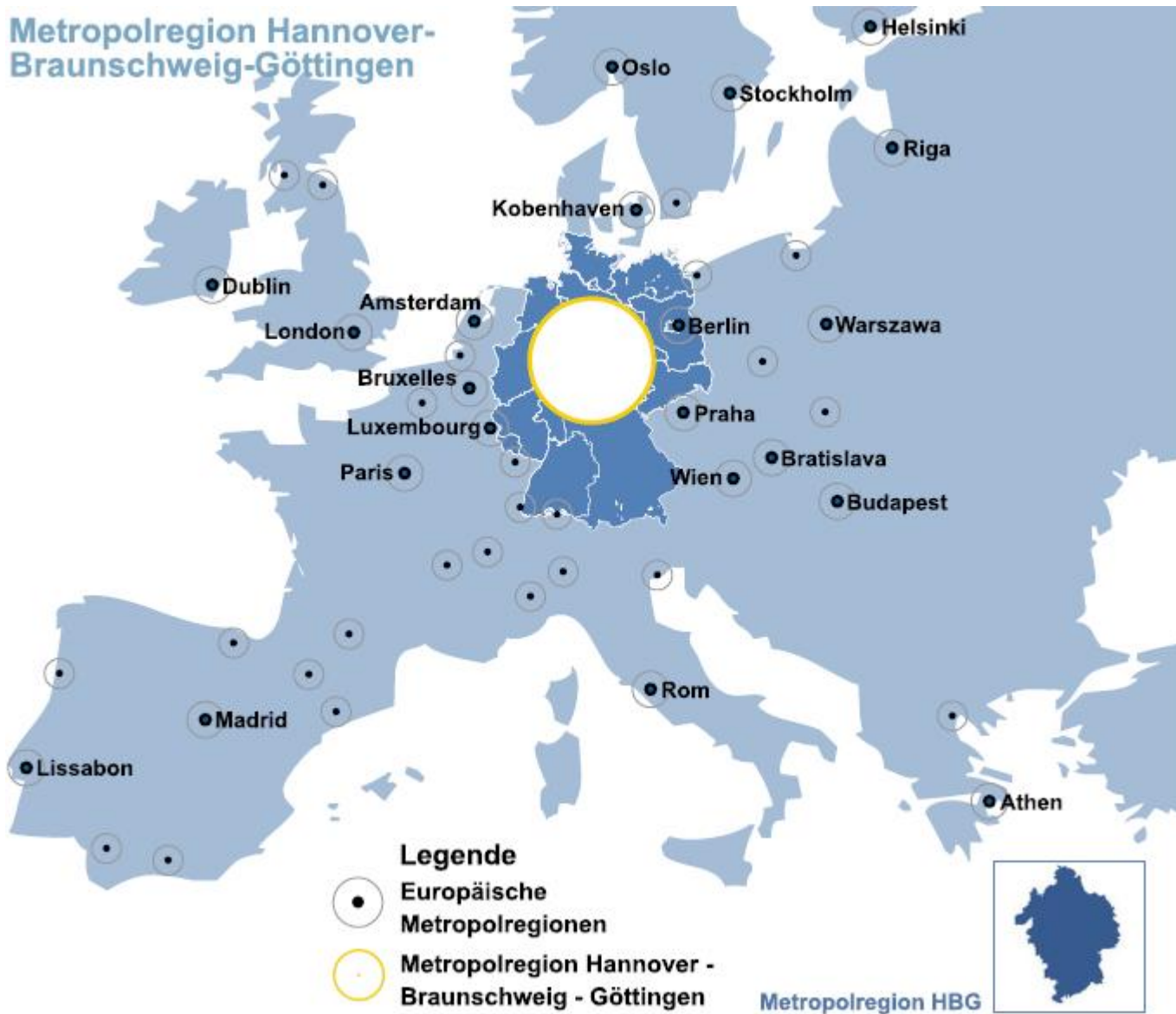
- Private Equity: Commerzbank
- Consulting / Innovationstransfer:
 - Wolfsburg AG (InnovationsCampus), dh Consult, Innovationszentrum Nds.



Development of Partner



Metropolregion Hannover-Braunschweig-Göttingen





Metropolregion Hannover-Braunschweig-Göttingen



Metropolregion Hannover
Braunschweig-Göttingen

Legende

-  Metropolregion Hannover-Braunschweig-Göttingen
-  Andere deutsche Metropolregionen



Europakarte

Metropolregion Hannover-Braunschweig-Göttingen



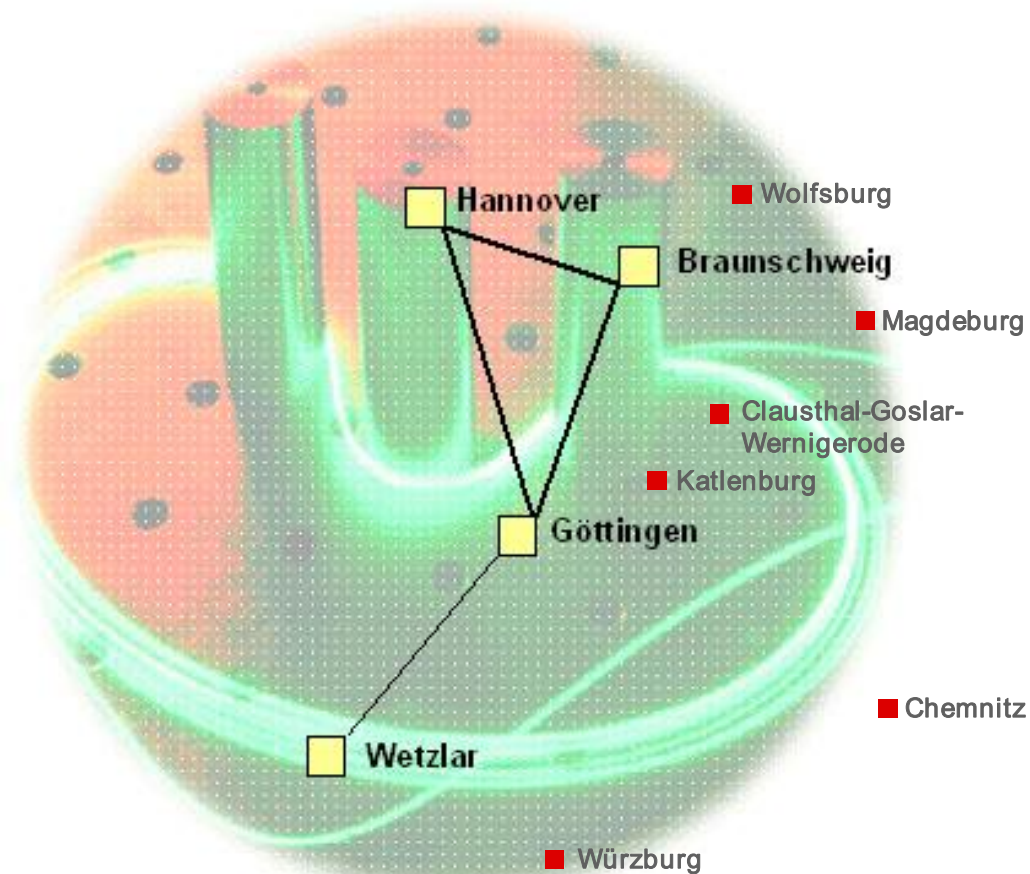
Kommunale Mitglieder der Metropolregion

- Städte
- Landkreise
- Region Hannover
- Regionalverband Südniedersachsen
- Zweckverband Großraum Braunschweig
- Gemeinden und Samtgemeinden



Deutschland

Netzwerk – Locations



iq Universität Hannover
Institut für Quantenoptik

 TU Clausthal

MHH

 **IME** Institut für
Hochfrequenztechnik
Technische Universität Braunschweig

HAWK
HAWK HOCHSCHULE
FÜR ANGEWANDTE
WISSENSCHAFT UND KUNST

Fachhochschule
Hildesheim/Holzminde/
Göttingen

University of Applied
Sciences and Arts

Fakultät Naturwissenschaften
und Technik

**HOCHSCHULE
harz**
Hochschule für angewandte
Wissenschaften (FH)
University of Applied
Studies and Research

Partner



CODIXX

LINOS

Mahr

ZEISS



VISION
GMBH

EXACTLY
COHERENT

Leica
MICROSYSTEMS

INNOWEP GmbH
MESS- & PRÜFTECHNIK

LUMANNOVA
the art of solid-state lasers



LASEROPTIK

INNOLIGHT
WHEN STABILITY MATTERS



ROWIAK
photons at work



ISCO
PRECISION OPTICS

CINOGY
TECHNOLOGIES

microliquids

PTB

Laser-
Laboratorium
Göttingen e.V.

IST

Institut
Schicht- und
Oberflächentechnik

Laser
AKADEMIE

Micreon GmbH
Ultrafast Laser Processing
...The Next Dimension

3DMICROMAC

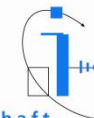
EuropTec
Glass and Polymer
Technologies

ISFH



MPI für biophysikalische
Chemie

VCT AG



innovationsgesellschaft
Universität Hannover mbH

hannoverimpuls

LZH LASER ZENTRUM HANNOVER e.V.

Light our Future

Photonic-Net

Associated Institutions

- TCH GmbH



- BioRegion GmbH



BioRegion GmbH

- Commerzbank AG Hannover



- VDI/VDE-IT GmbH



- dh Consult



- Innovationszentrum Nds. GmbH



- Lasernetz



- Kompetenzzentrum
Ultrapräzise Oberflächenbearbeitung e.V.



- Autovision Wolfsburg



- Scottish Optoelectronics ASSOCIATION



Core Competences of the PhotonicNet-Partner

Optical precision technology



Light sources and systems



Information and communication technologies



Optical and precision mechanical components and systems



Life Science, biomedical engineering



Coatings, micro-optics



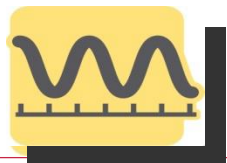
Microscopy



Micro- & Macromaterial processing



Training and further education

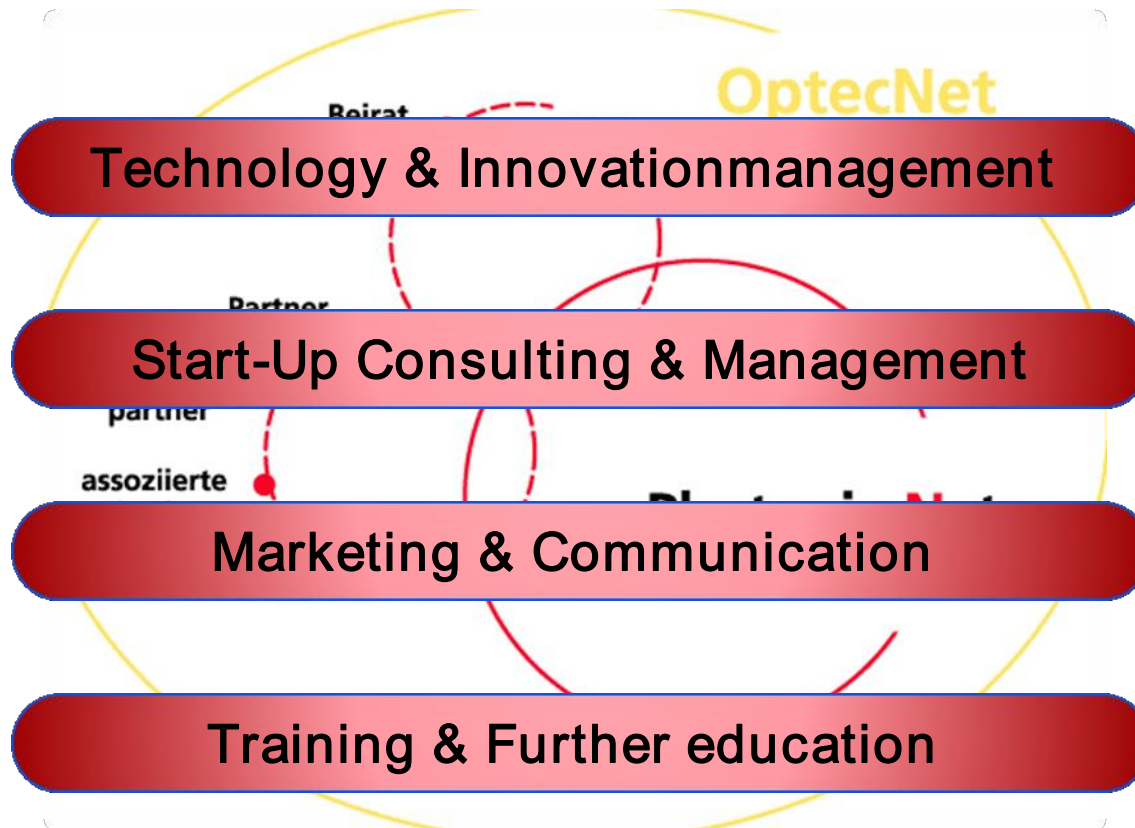


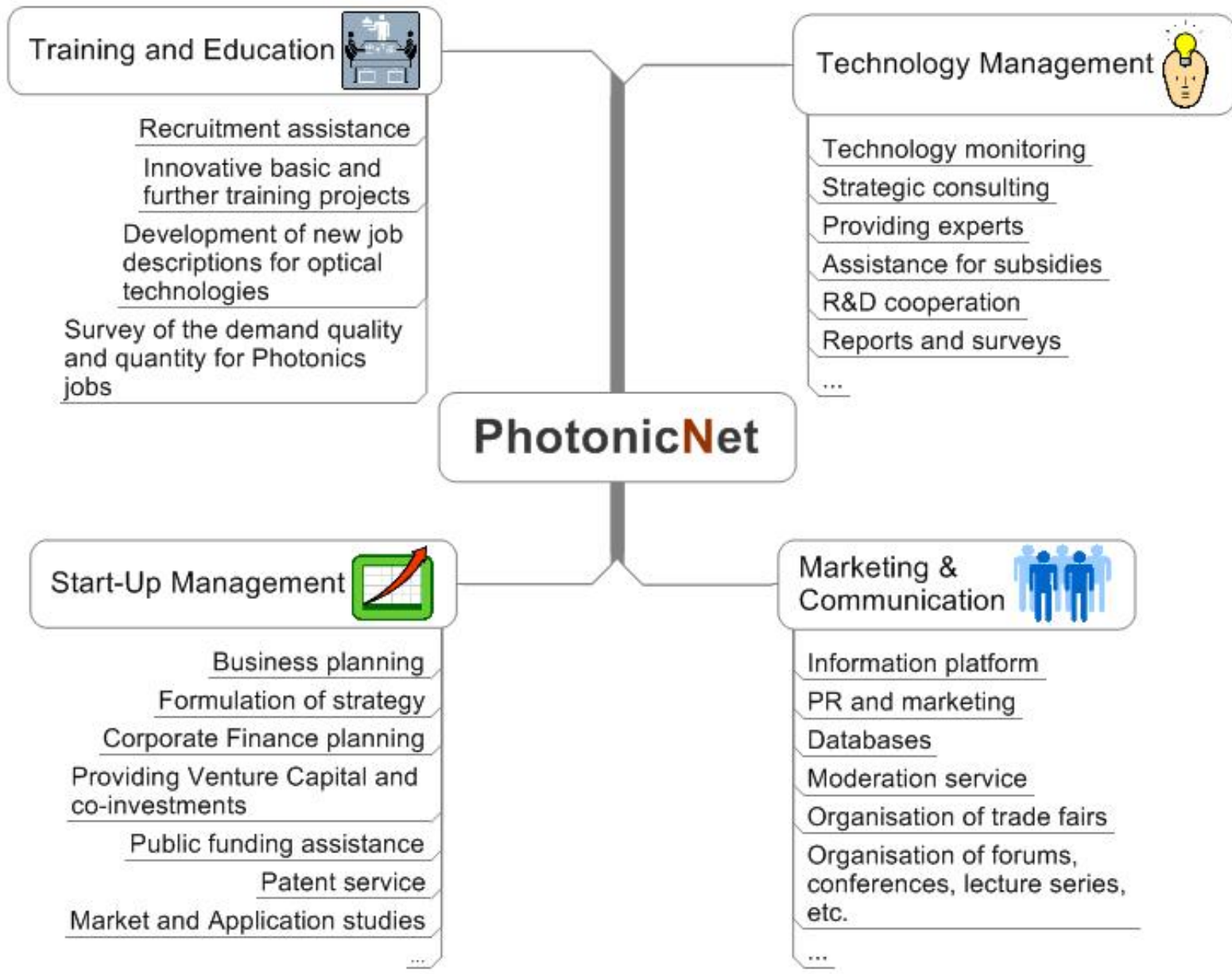
Metrology, sensor technology



Innovation Transfer / Startup Management

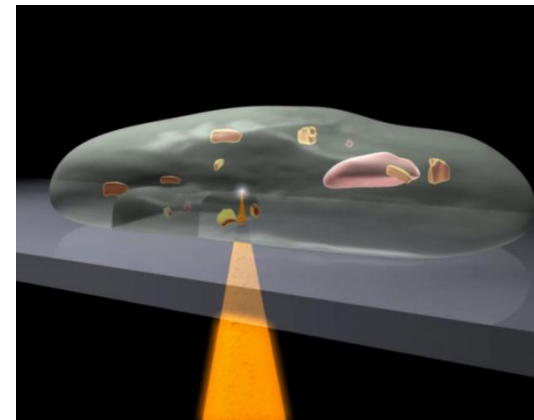
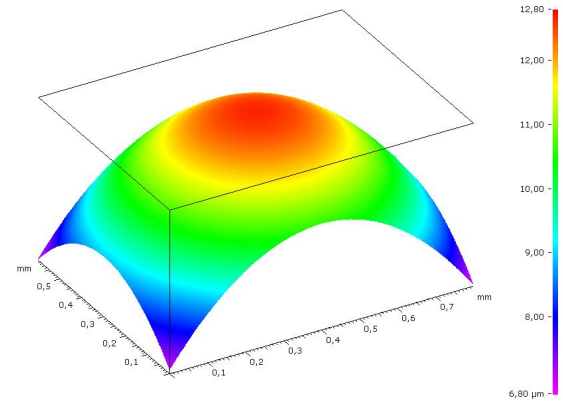
Business units





Successful R&D cooperations

- White light interferometer
 - MarSurf WS1
 - *Mahr GmbH* ⇔ *Leica Microsystems*
- Laser Mikrotom
 - LMT F14 - A laser microtome for precise, non-contact sectioning
 - *Linus Photonics GmbH* ⇔
Rowiak GmbH ⇔ *Vision GmbH*
⇔ *Micreon GmbH*



Cooperation between the networks

- Workshop „Mikrooptical Systems“
OptoNet ⇔ PhotonicNet, bayern photonics
- Working Group “DUV/VUV”
PhotonicNet ⇔ Optence
- UV – Workshop
Optence ⇔ PhotonicNet
- Workshop „Optical coatings“
OptoNet ⇔ PhotonicNet
- Working Group „Surface Treatment“
PhotonicNet ⇔ bayern photonics, OptoNet



Technology driven network cooperation

- Workshop “OT in microsystem technology”
Landesinitiative MST Niedersachsen
- Workshop „Biotec meets Optics“ I - III
BioRegionN
- Nanoworkshop 2005
NMN, MST, BioRegionN, UPOB



BioRegion GmbH



Neue Materialien Niedersachsen e. V.



Start-Up Management and Consulting

Consultingservices for Spin-off companies

- VCT AG



- Lumanova GmbH



- Micreon GmbH



- H2B Photonics GmbH



- Rowiak GmbH



- Cinogy GmbH



Training and further education

- Feinoptiker-Studie
- Studienkompass
- Angebotsanalyse Weiterbildung (VDI-TZ Auftrag)

=>

KURS

- T.O.P. Seminar „Technische Optik in der Praxis“

- Unterstützung der





Impressum



Deutscher Zukunftspreis 2006

3 von 4 Nominierungen aus dem
Themenbereich Optischen Technologien!

- Fokussiertes Laserlicht zur Berührungsfreien Gewinnung biologischer Proben
- Infrarot-Technik für mehr Fahrsicherheit bei Dunkelheit

And the Winner is....

→ **Lichtmikroskopie in ungekannter Schärfe**

Prof. Hell, MPI für biophysikalische Chemie, Göttingen

Thank you very much for attention!

For further information.:

www.photonicnet.de