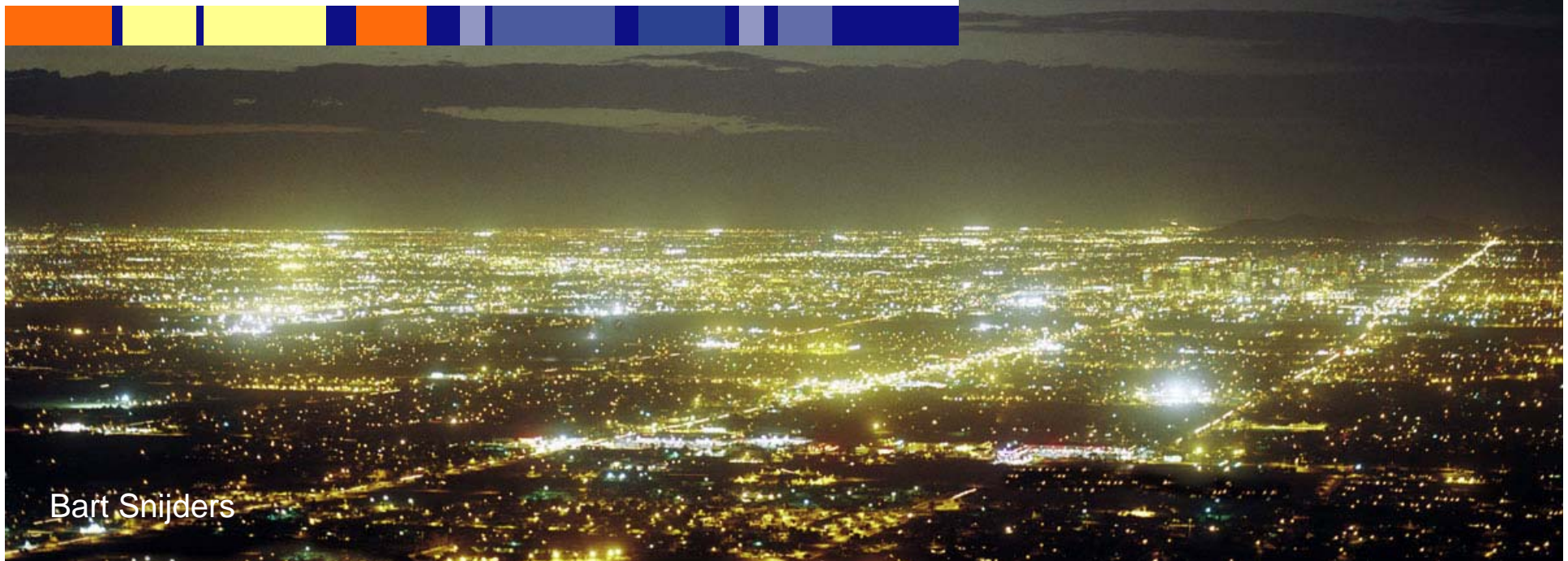


European Photonics Industry Landscape

TNO | Knowledge for business



Bart Shijders

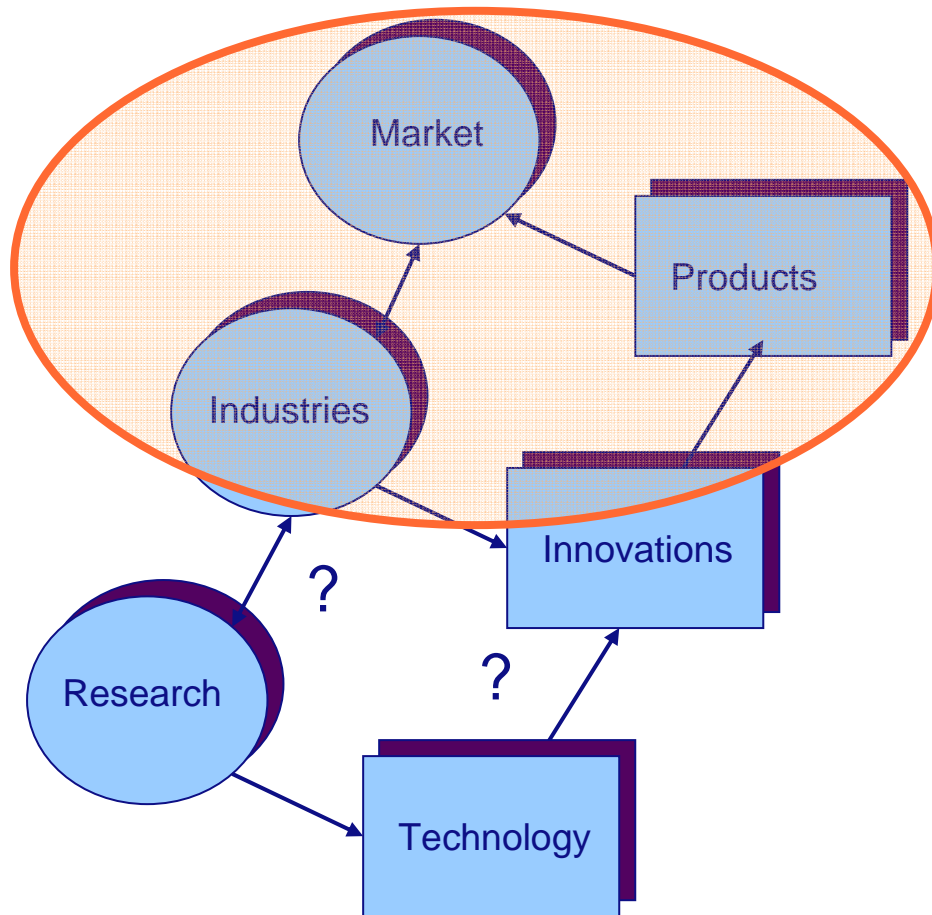


Contents

- Introduction
- Inventory & results
- Analysis results
- Conclusions & Future Work



Introduction



Objectives

- Elaborate an information base with special focus on the Optics and Photonics industrial landscape in Europe
- Input for the implementation of an Optics and Photonics European Strategic Research Agenda

Methodology (1)

Sources of information for identification of companies:

- Internet search
- Consulting professional experts & national agencies
- Databases of (inter)national Research programs & Networks, e.g.:
 - EU FP6 & EUREKA
 - National research programs
 - European Networks & Clusters
- Company databases
- Conferences
- Magazines

Selection criteria and classification of companies

- General criterion for selection is that the company must have a significant activity in the optics / photonics field. A broad spectrum of companies is collected in the database. Companies / shops which sell consumer products such as spectacles and video equipment are excluded.

Methodology (2)

Information parameters:

- contact information:
 - address, website, email
- optical market information:
 - product groups
 - market fields
 - geographical market scope
- company size

Company size:

1-24 employees
 25-249 employees
 250-499 employees
 500+ employees

Market fields:

Agriculture
 Manufacturing
 Energy
 Construction
 Transport
 Defense
 Education
 Health
 Science
 ICT

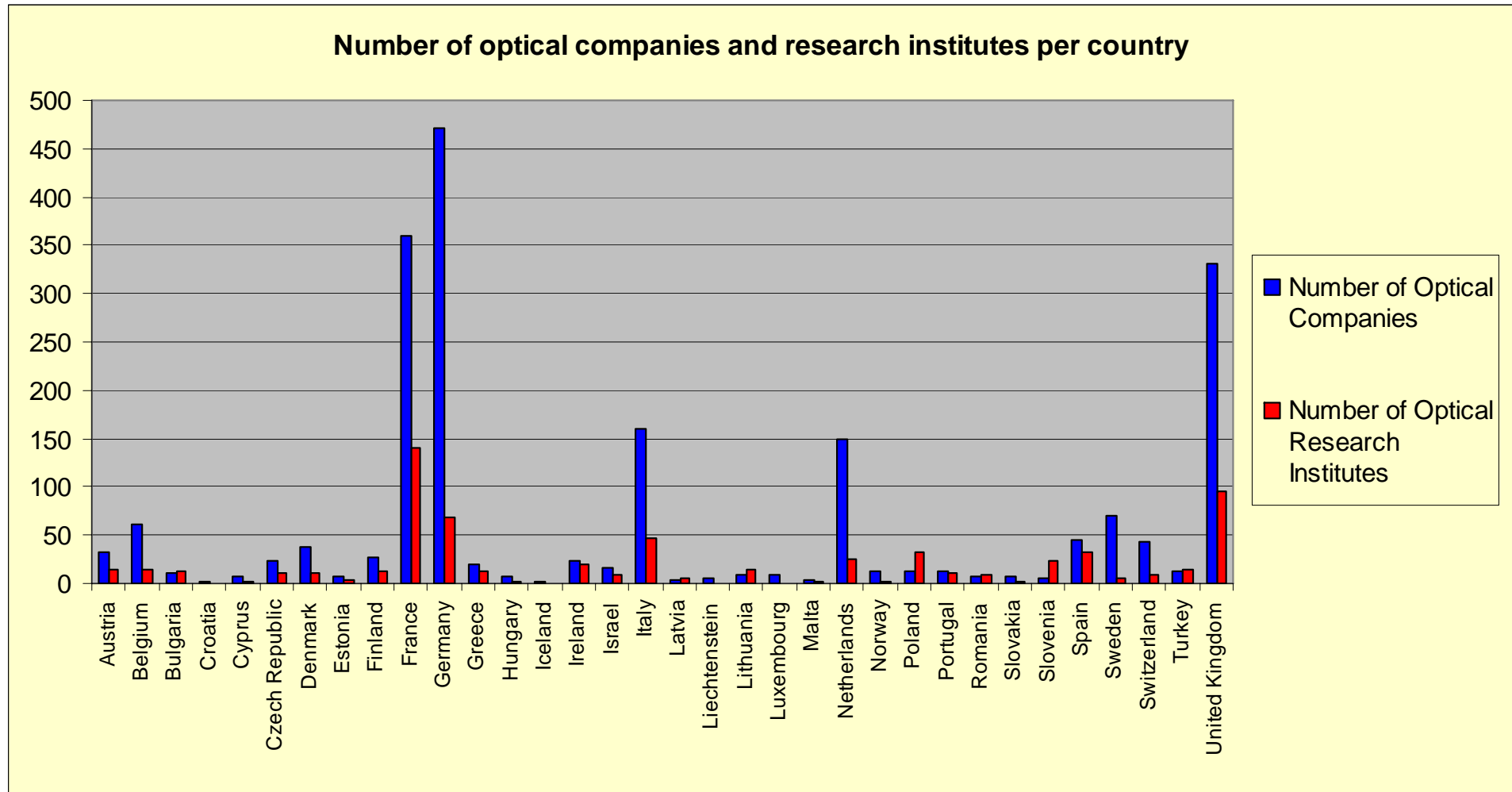
Product groups:

Active Optical Devices
 Cameras
 Coatings
 Detectors
 Displays
 Fiber Optics
 Glass & Other Optical Materials
 Information Storage
 Lasers
 Light Sources
 Lighting
 Micro Optics
 Nano Photonics
 Optical Components
 Optical Manufacturing Equipment
 Spectacles
 Test & Measurement Systems

Market scope :

National
 Europe
 Worldwide

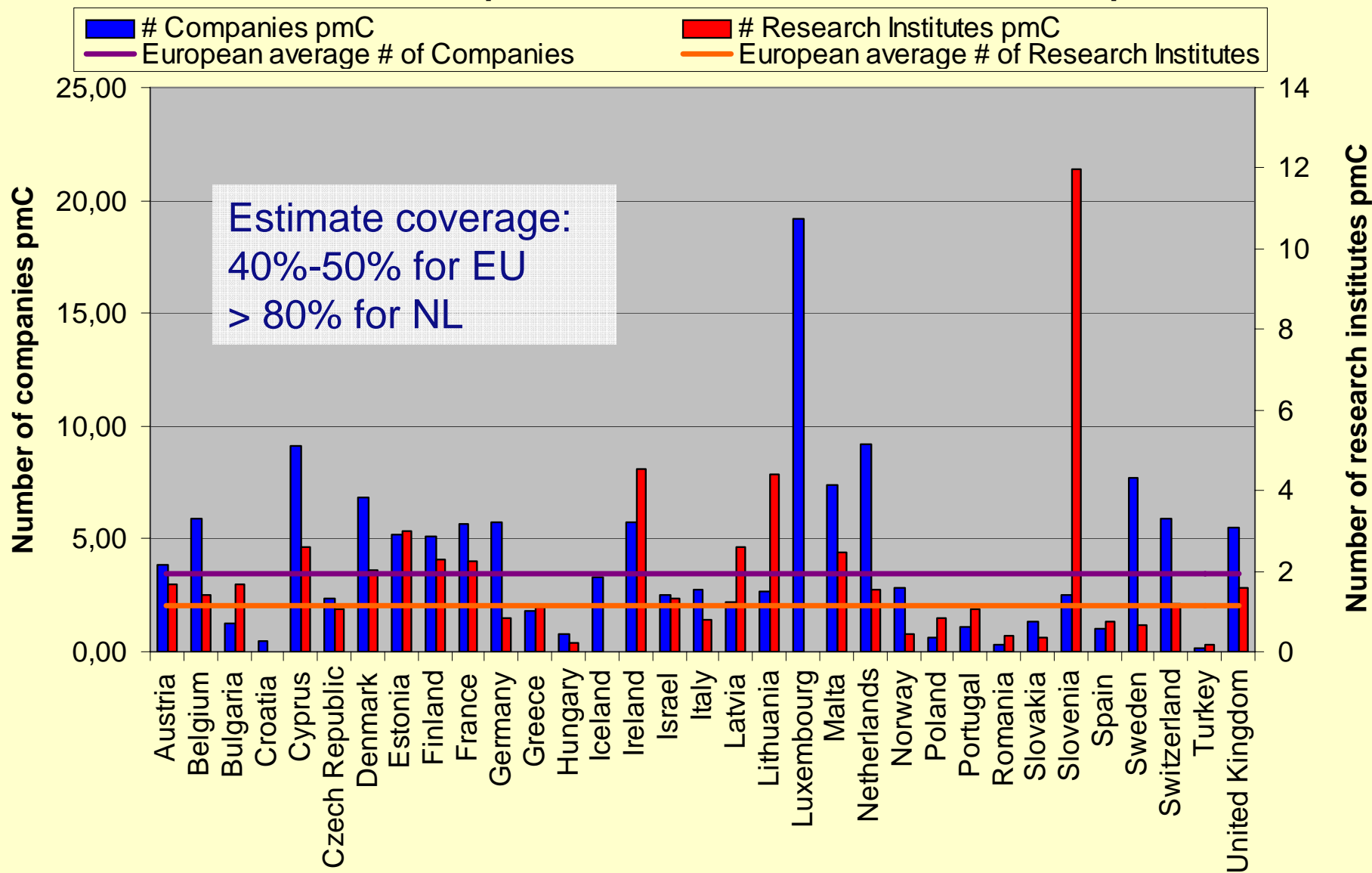
Results



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Number of companies and research institutes in Europe



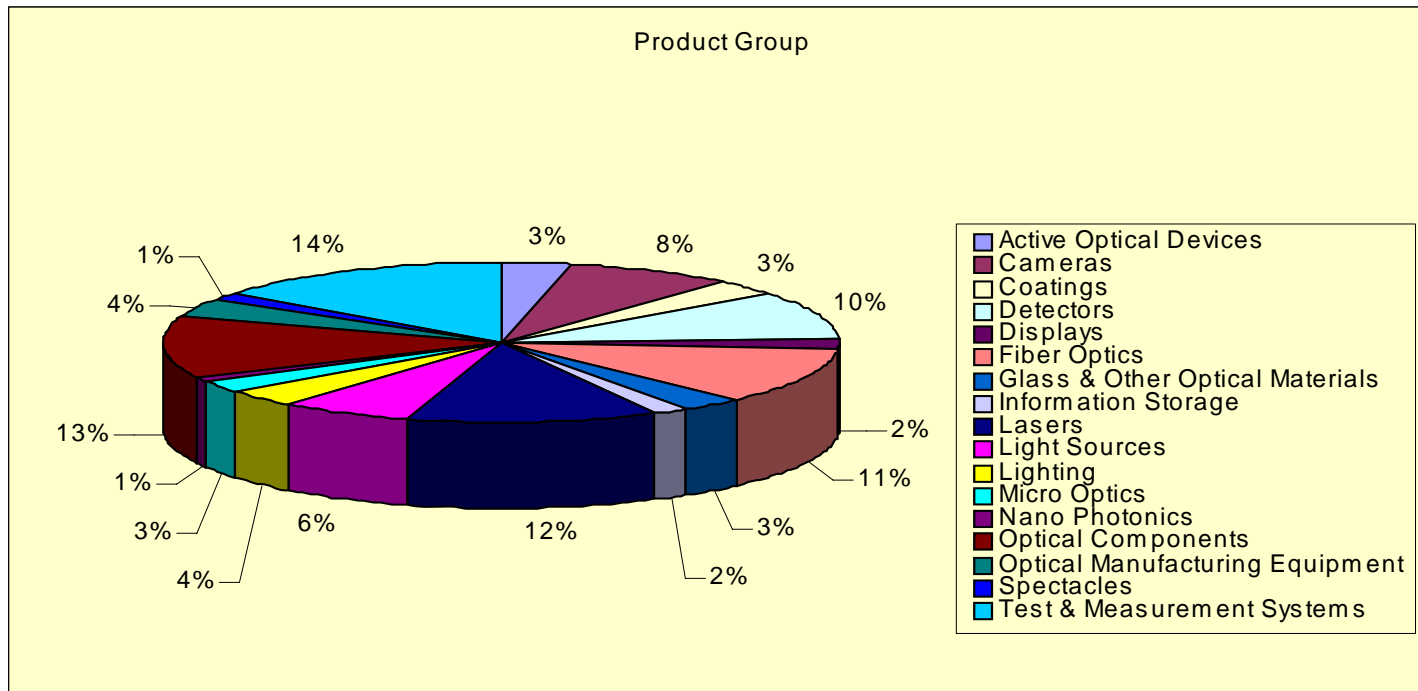
Europe

Number of optical companies: 2019
Number of optical research institutes: 663



Fact sheet Europe

Optical Companies: Product Groups



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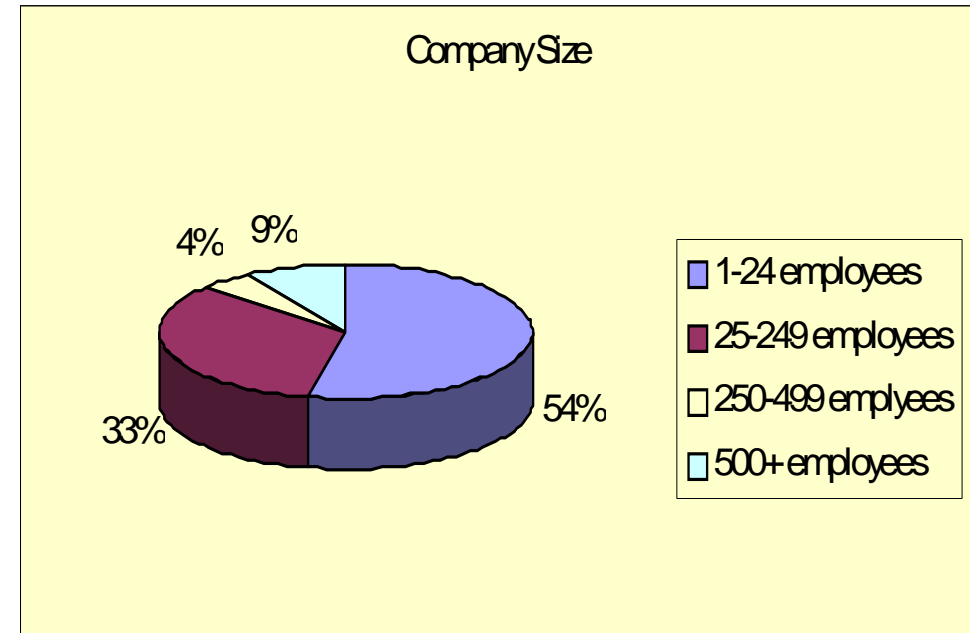
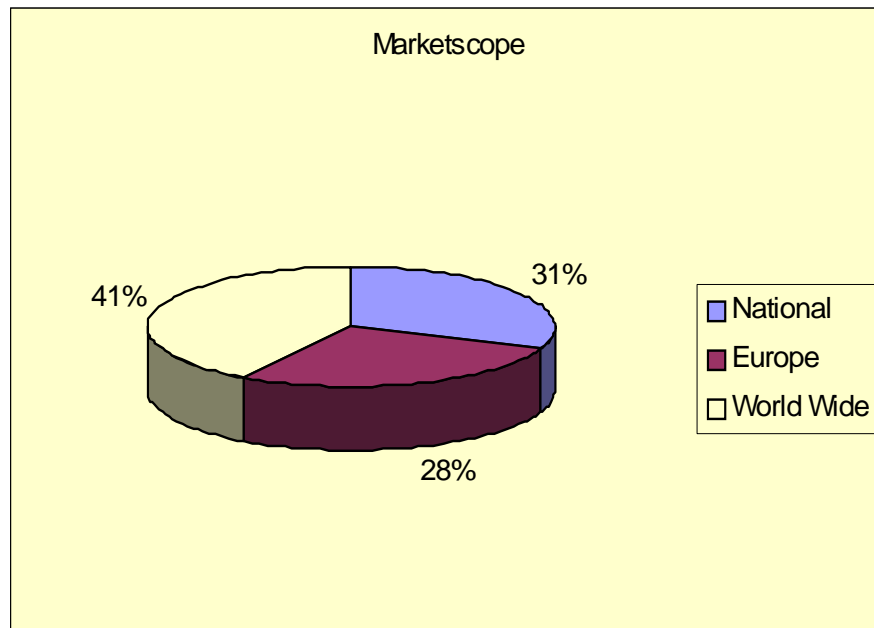
Europe

Number of optical companies: 2019
Number of optical research institutes: 663



Fact sheet Europe

Optical Companies: Market scope & Company Size



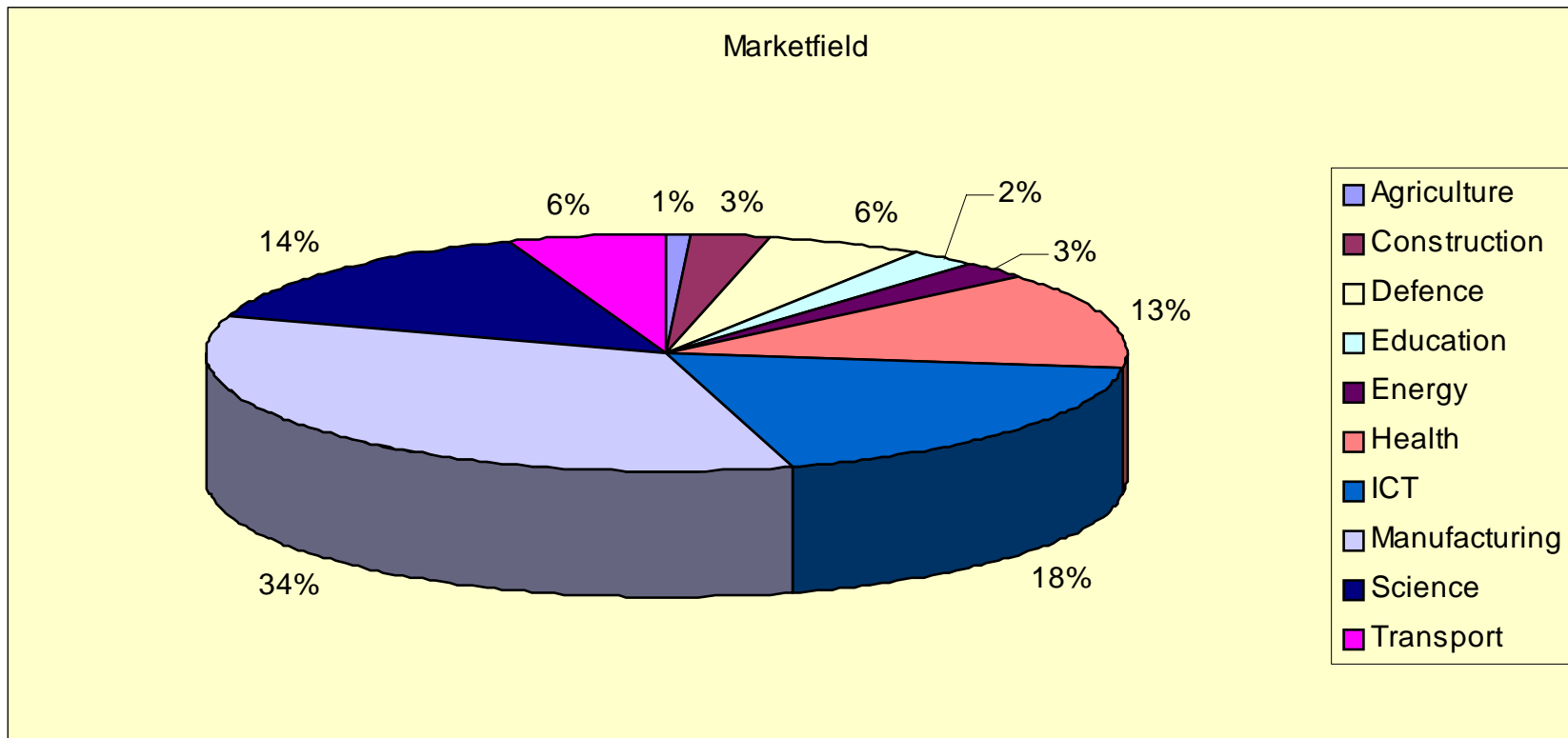
Europe

Number of optical companies: 2019
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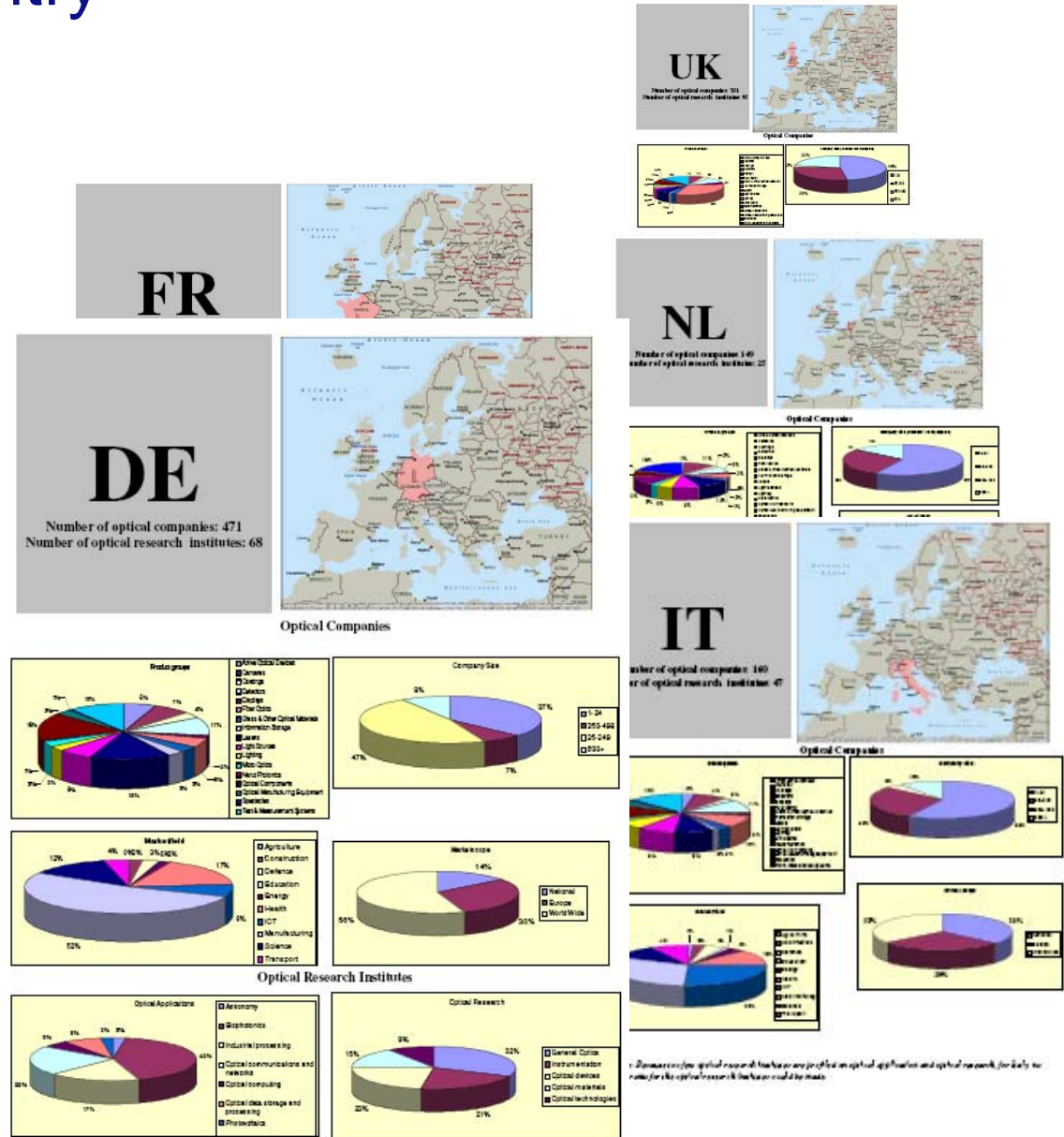
Fact sheet Europe

Optical Companies: Market fields

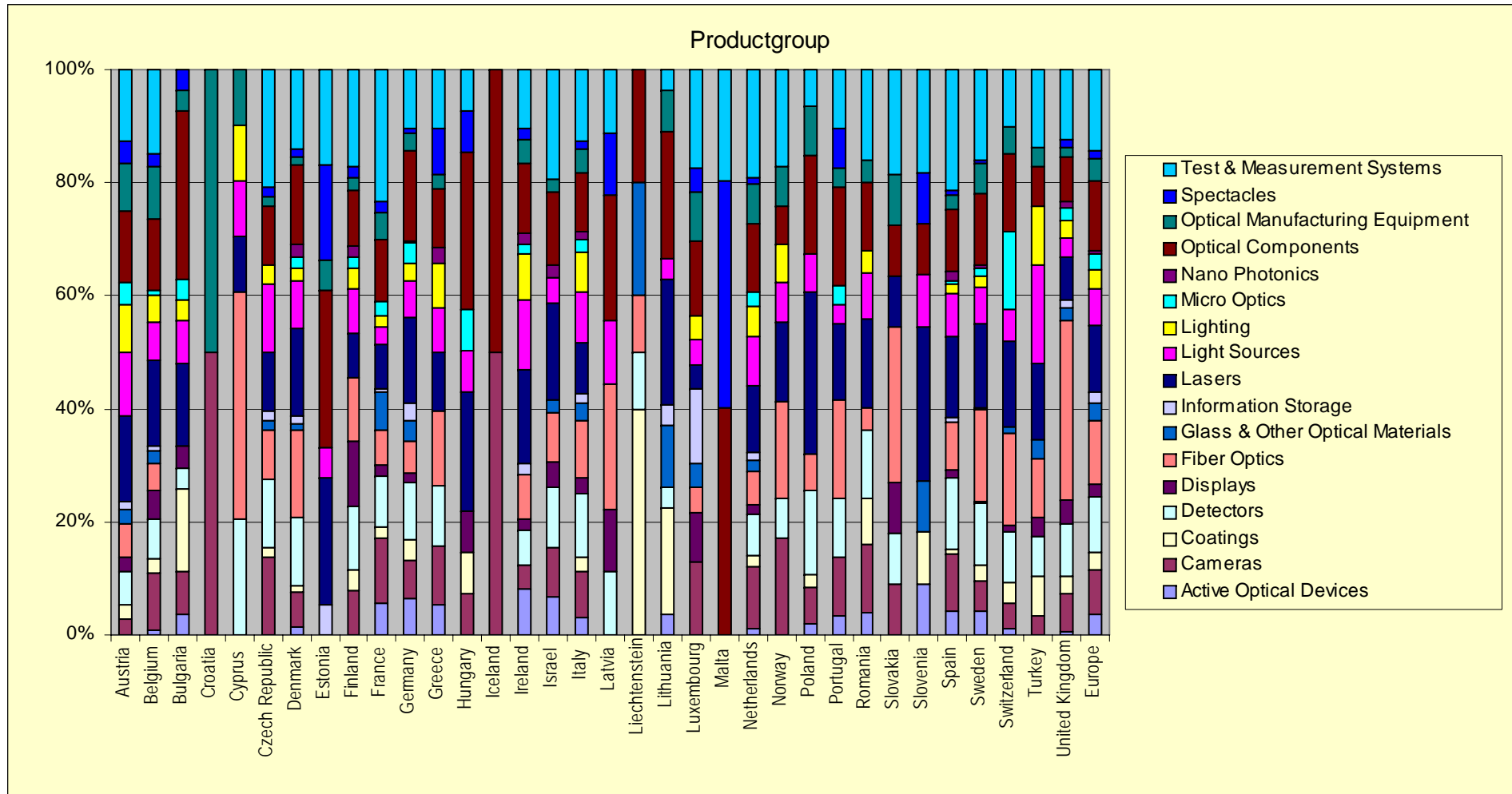


Fact sheet per country

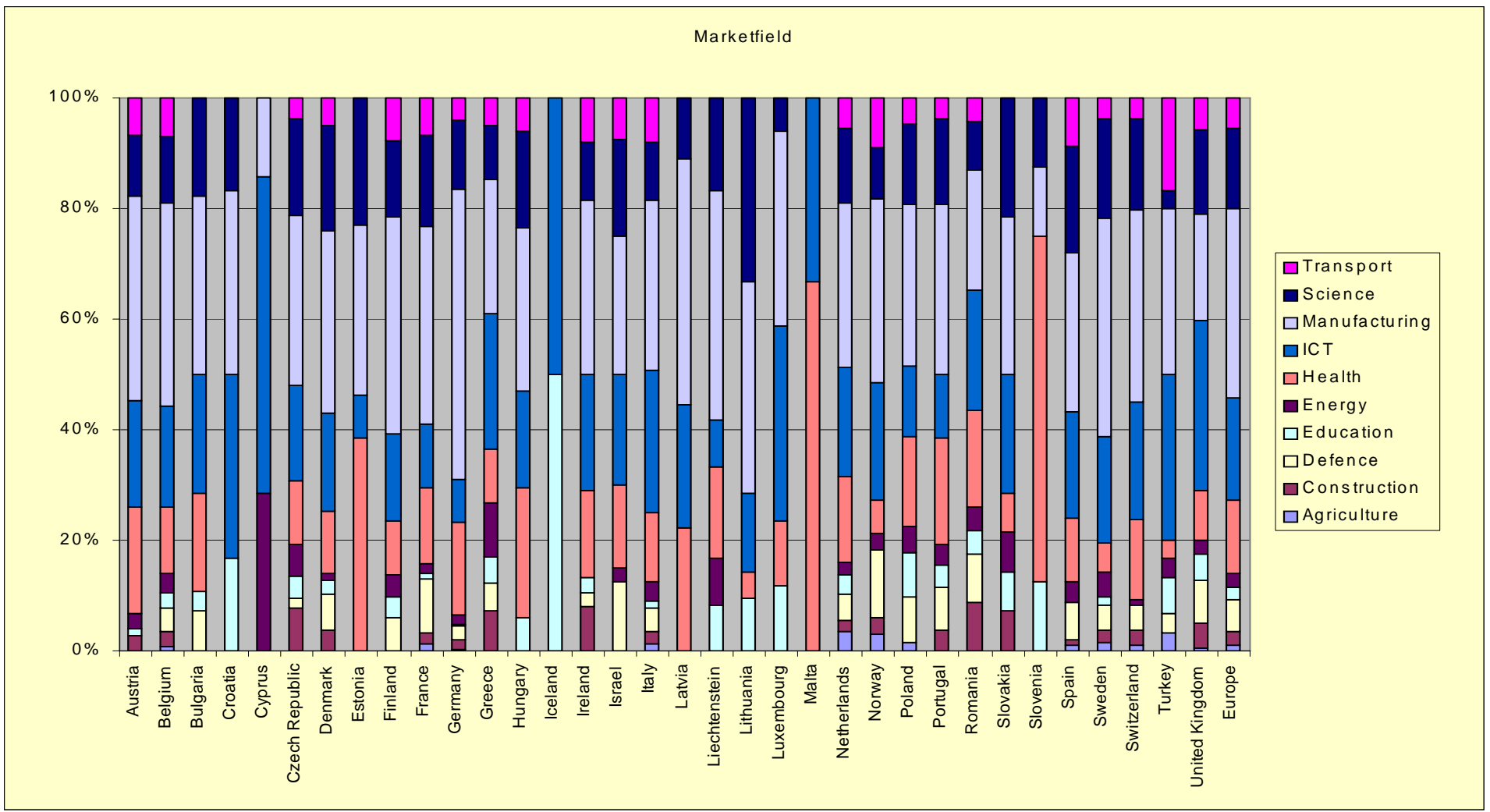
- Based on available info
- For countries with > 20 companies or > 20 research groups (small country effect: statistical relevance)
- > 1 product group per company is possible



Product groups



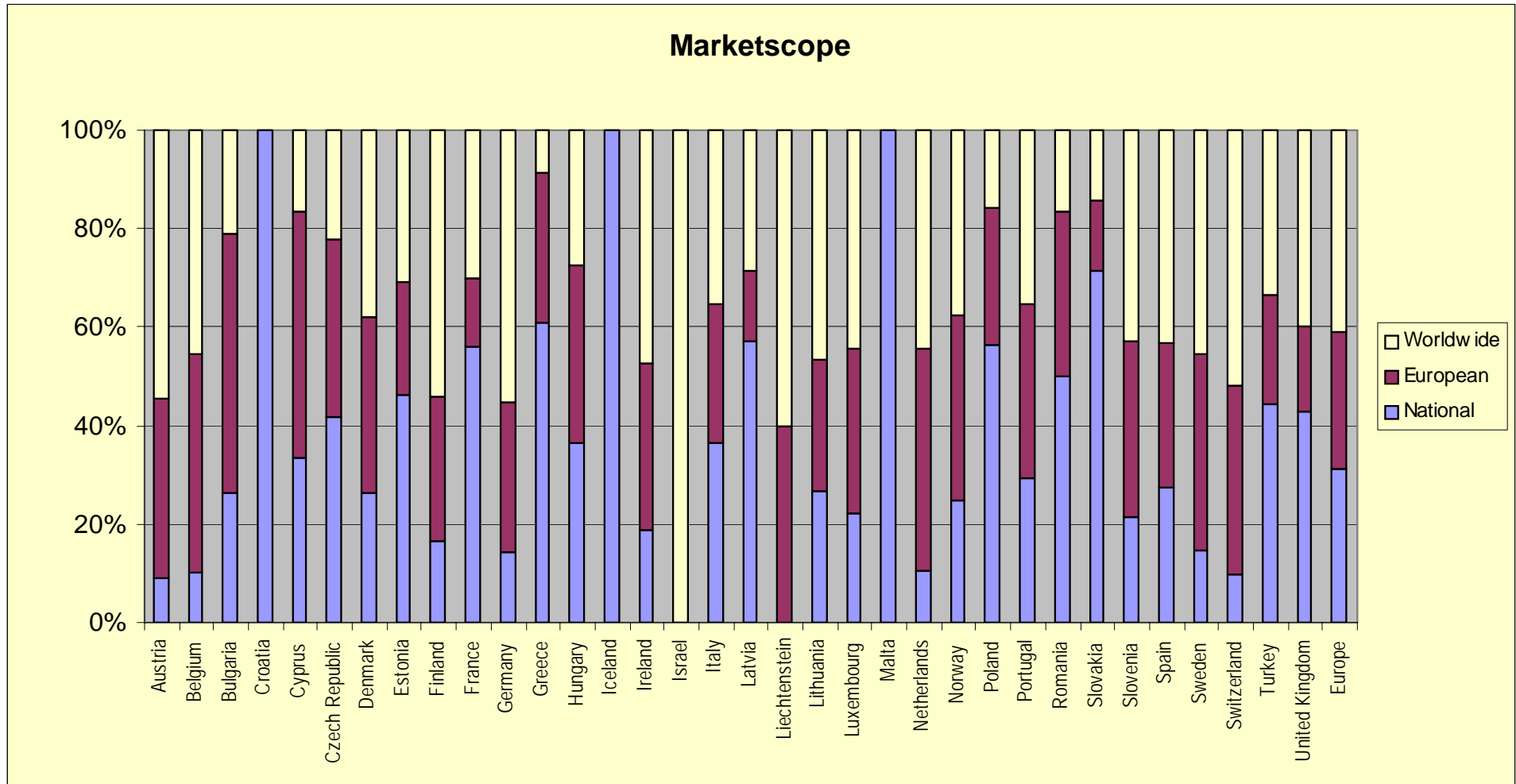
Market fields



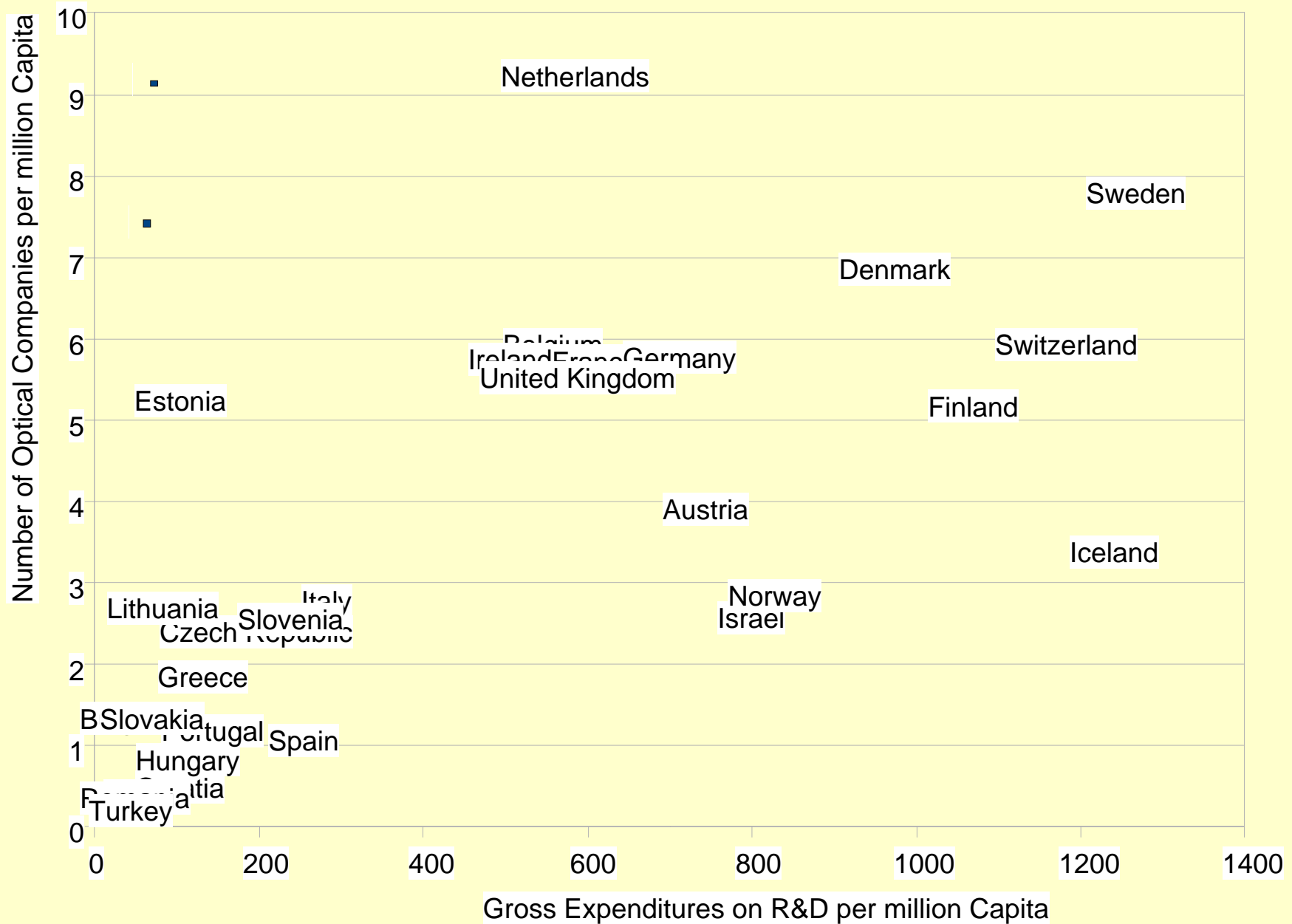
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Market scope



Relation between number of optical companies and R&D investments



Conclusions

- So far information on 2019 companies compiled
- This information is currently available online via www.OPERA2015.org and will become available via www.photonics21.org soon
- Information about size distribution of Optics & Photonics companies for every European country is available
- Specializations of countries in terms of product groups, and market fields have been determined

What's next:

- A questionnaire will be sent to European Photonics companies

Further Work

- More detailed information
 - Financial: turnover
 - Strategic: innovation product groups, and innovation strategy
 - R&D capabilities and budgets
- Increase coverage
- Keep information up to date
- Analysis:
 - Links between R&D – Innovations – Products – Markets
 - Feed SRA update with relevant data