
WELCOME AT THE FRAUNHOFER IOF JENA



Dr. Stefan Riehemann

Fraunhofer Institute for
Applied Optics and Precision
Engineering IOF

Director

Prof. Dr. Andreas Tünnermann

www.iof.fraunhofer.de

Fraunhofer-Gesellschaft

Locations in Germany

Data 2013

- 67 institutes and independent research units
- more than 23,000 staff
- annual research budget 2,0 billion Euro
 - ~ 1/3 industry contracts
 - ~ 1/3 publicly funded research projects
 - ~ 1/3 base funding

- institute or independent research unit
- other research unit



Fraunhofer-Gesellschaft

Joseph von Fraunhofer (1787 - 1826)



Researcher

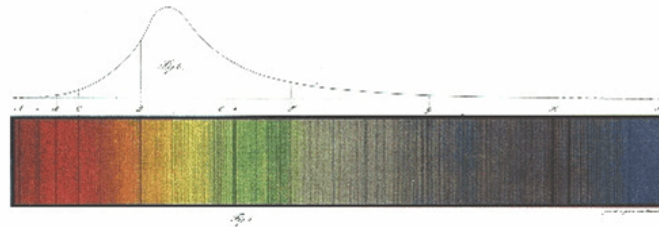
Discovery of the “Fraunhofer lines” in the solar spectrum

Inventor

New methods for processing lenses

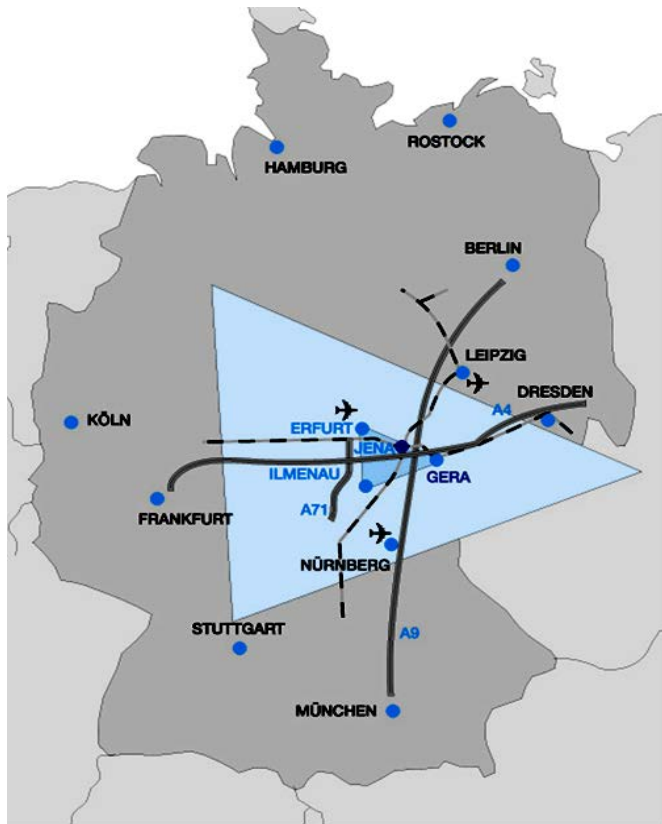
Entrepreneur

Director and partner in a glassworks



Optics Region - Thuringia

Economic data in the field of optical technologies

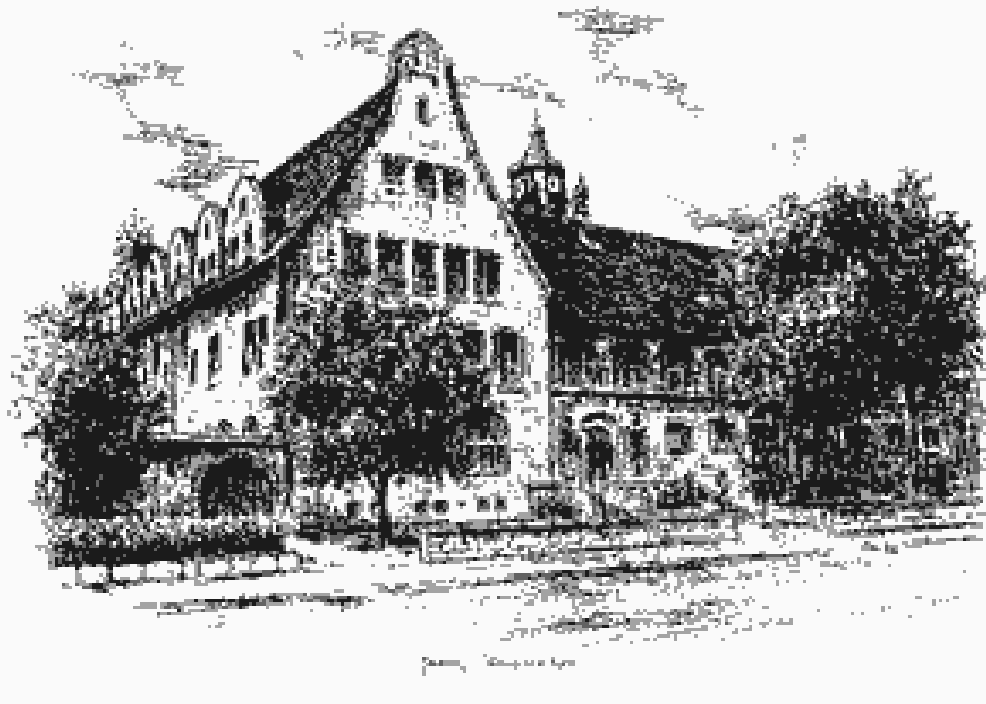


Enterprises	188
Turnover	2,8 Mrd. €
R&D rate	10 %
Export rate	66 %
Employees	15.350
of which in research institutes	1.200
Turnover development since 2010	+ 4 % p.a.

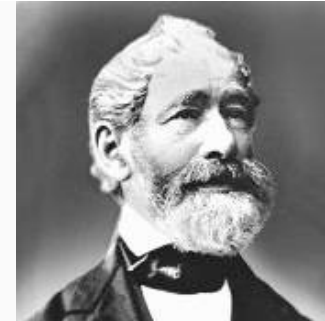
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Jena – the city of Optics + Photonics

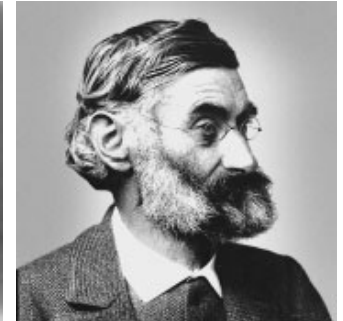
Example for collaboration of industry and university



Friedrich-Schiller-University (1558)



Carl Zeiss



Ernst Abbe



Otto Schott

Jena – the city of Optics + Photonics



Jena – the city of Optics + Photonics

inhabitants	~ 105.100
students	~ 25.000
companies	~ 6.000
academics	~ 25 % (national average 8%)

Friedrich Schiller University Jena



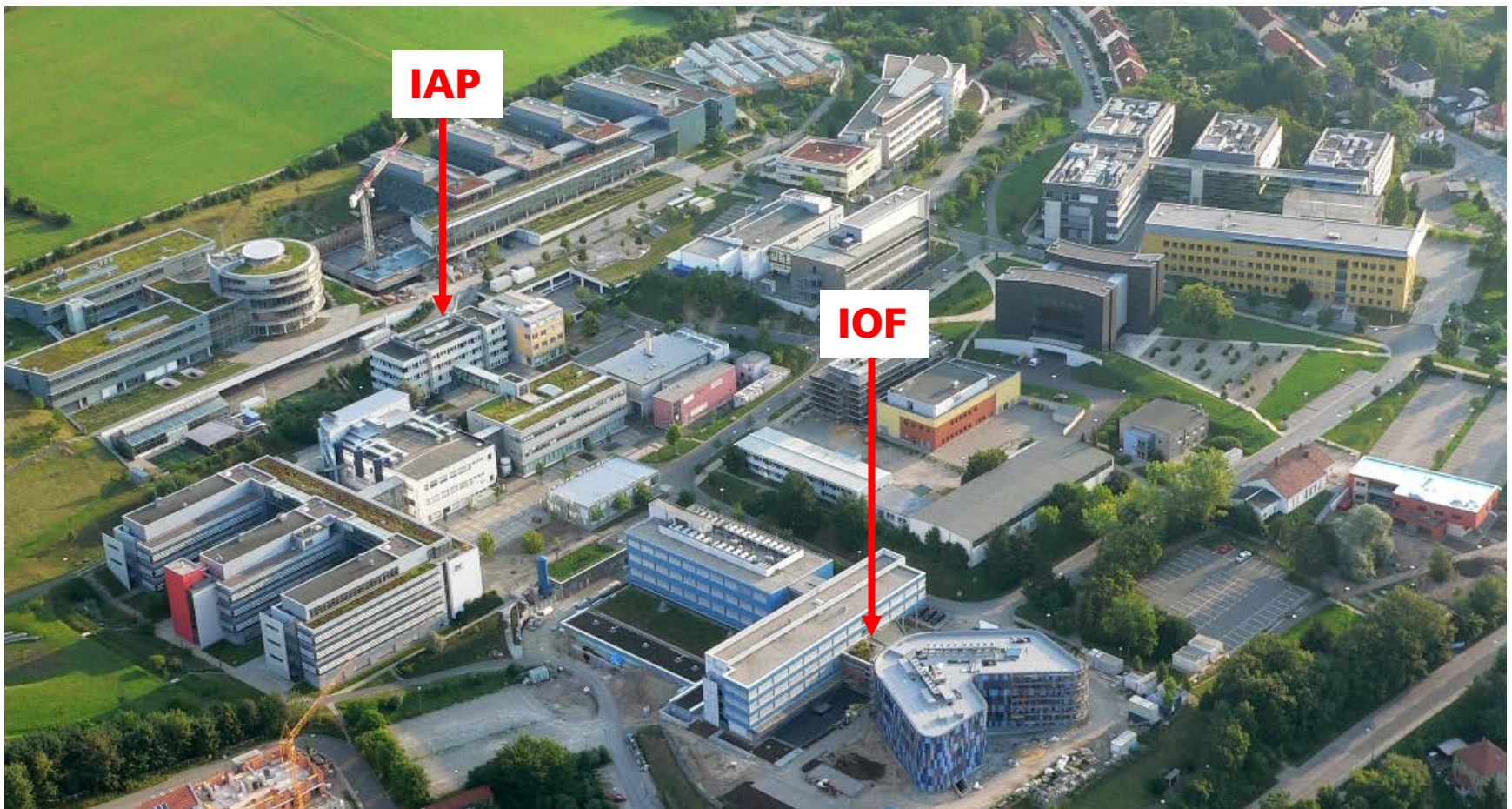
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**University of Applied Sciences Jena
(Ernst-Abbe-Fachhochschule Jena)**



Jena – the city of Optics + Photonics

Beutenberg Campus



Fraunhofer IOF

Data and facts

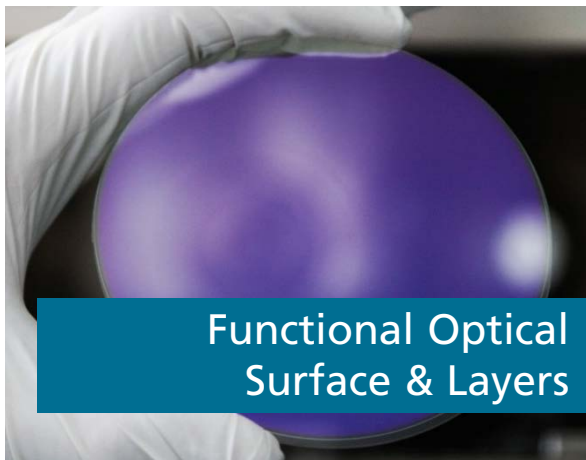
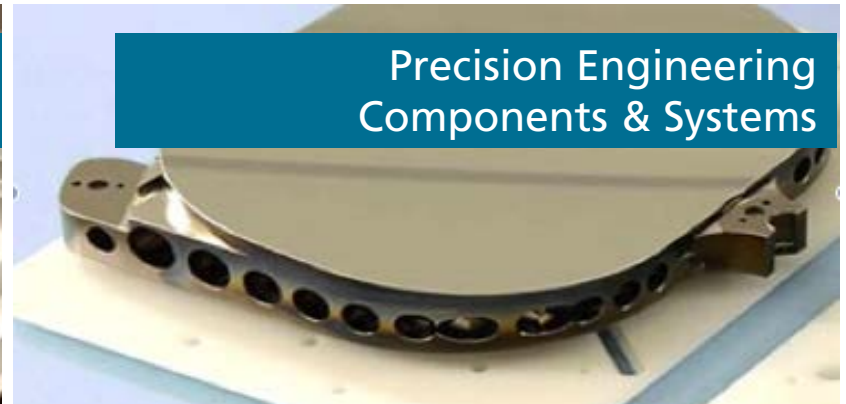


- Founded in 1992
- New building in 2002
- 2009-2011 Extension
- ca. 7000 m² floor space

- 206 Employees
+ 41 Students

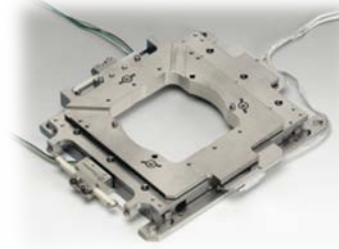
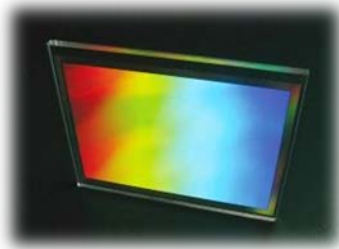
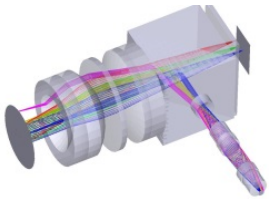
- Budget 2013: 23,9 mill. €
(48 % industry projects)
 - invest. 2013: 6,3 mill. €

Fraunhofer IOF Business Fields



Fraunhofer IOF

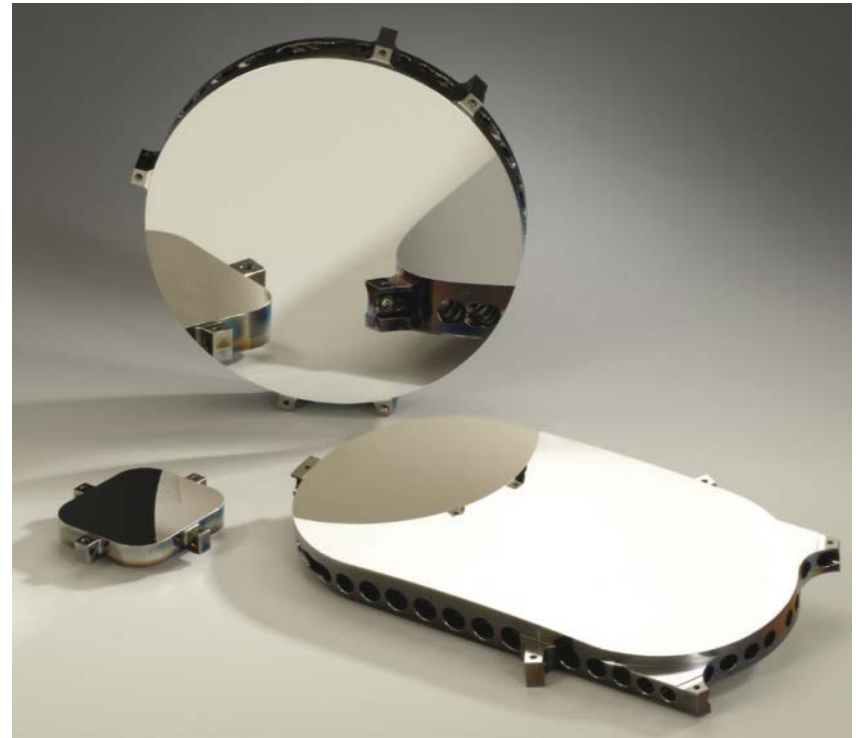
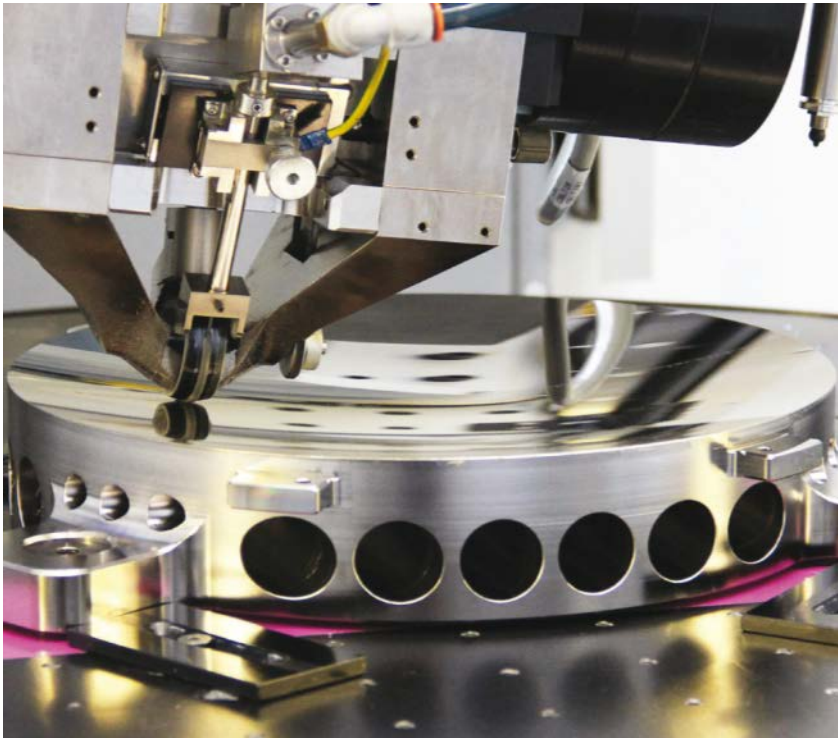
Photonic Process Chain



The Fraunhofer IOF charts the entire process chain, from the system design to the manufacture of prototype systems.

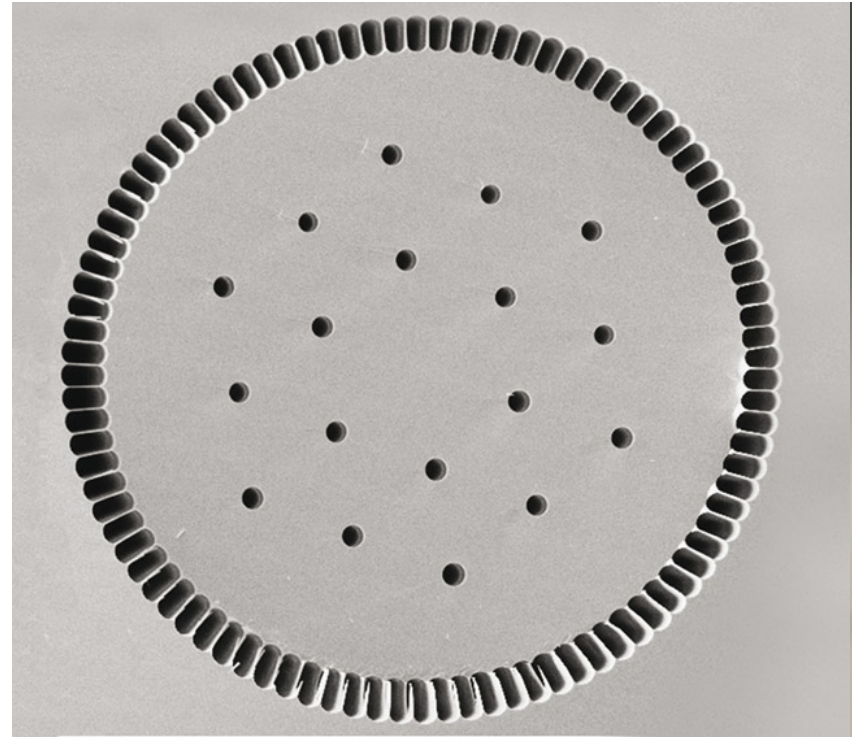
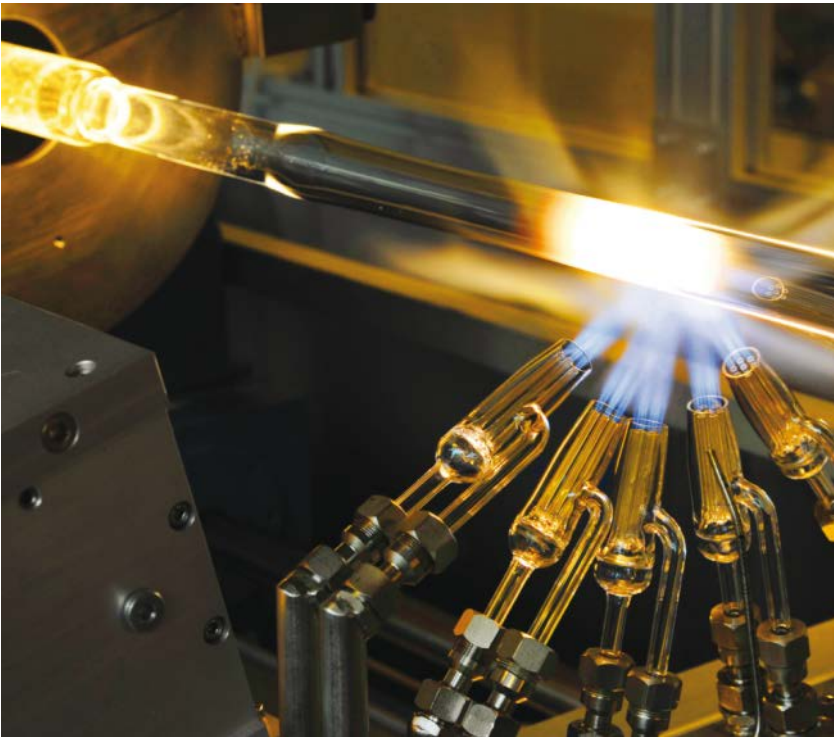
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Research Focus – Freeform Technology



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Research Focus – Fiber Laser



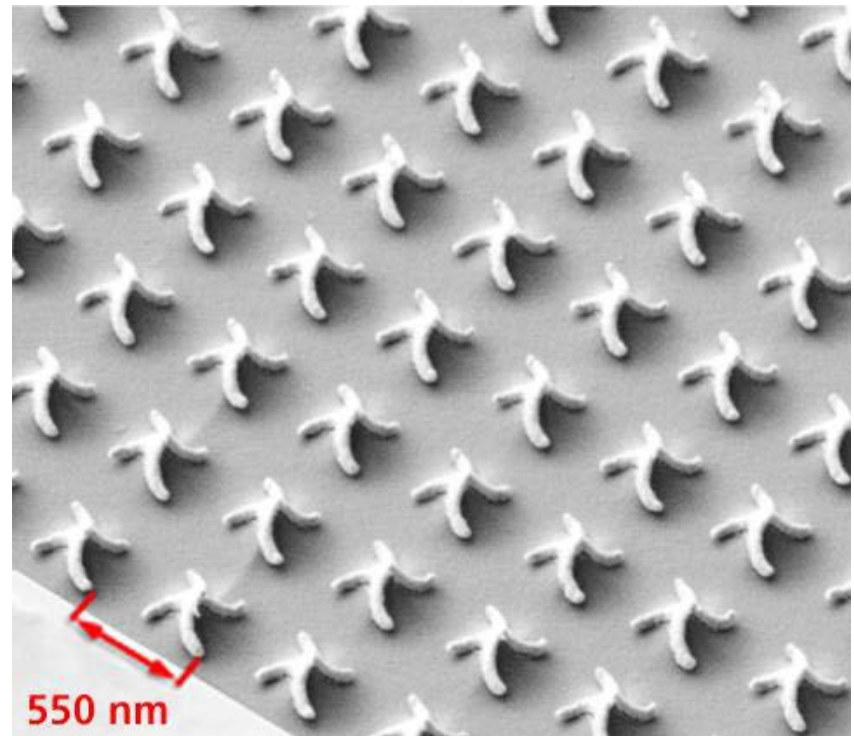
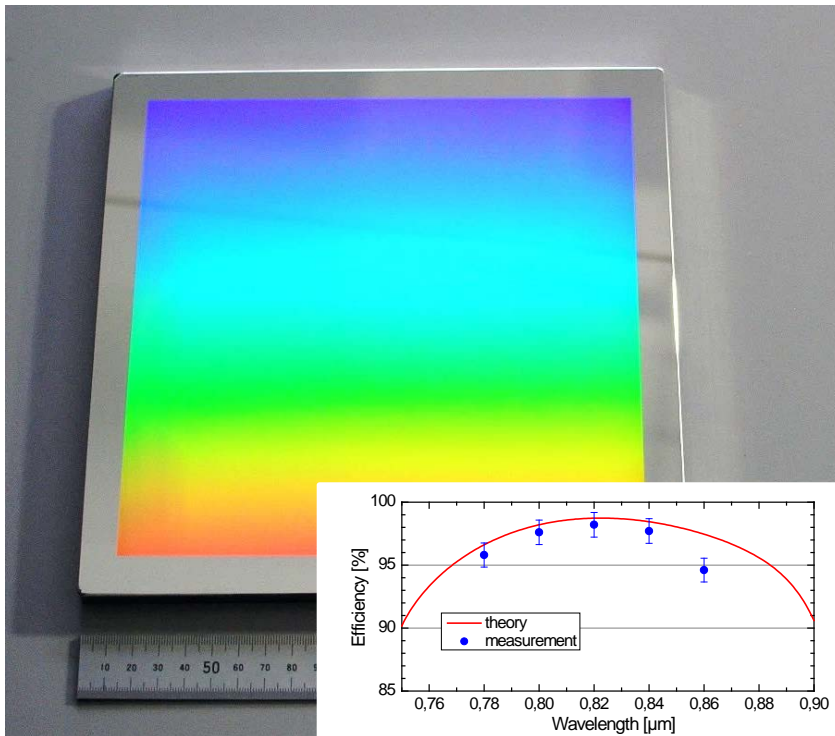
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Research Focus – Technologies for Human-Machine-Interaction

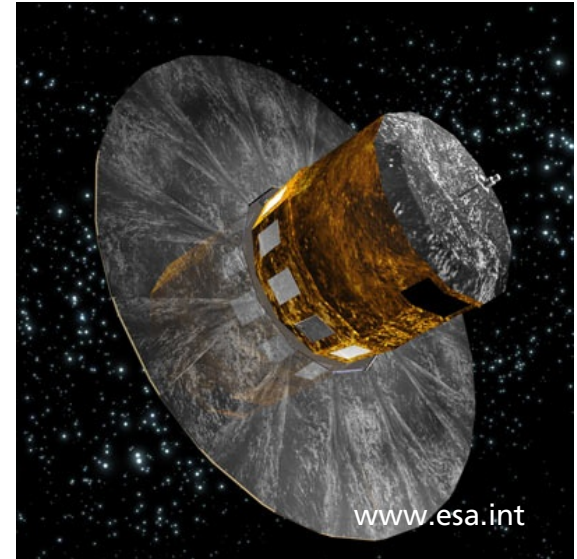
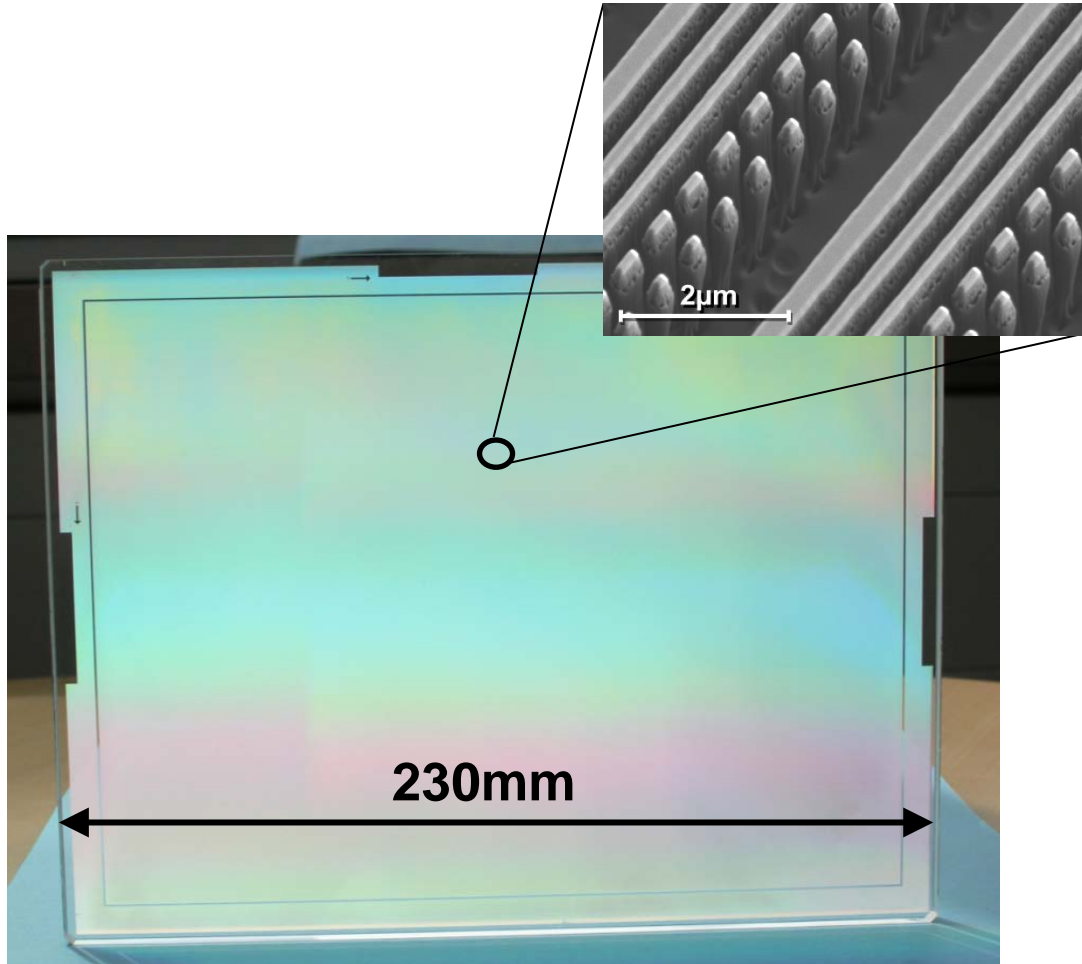


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Research Focus – Micro- and Nanotechnology



Highlights Aerospace



GAIA effektive media grating

Highlights

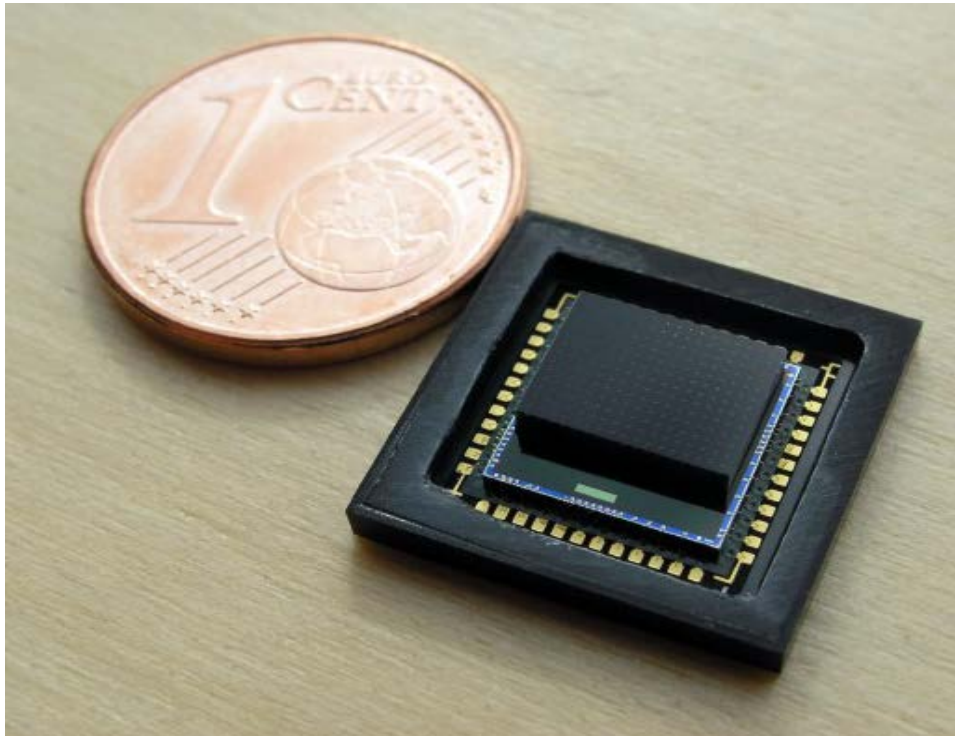
Security, Defence, Aerospace



Climate stable and environmentally-resistant optics and coatings for the use in space applications



Highlights Information



Multiaperture camera based on the cluster eye principle, VGA resolution, 2.2 mm TTL



Ausgezeichnete Orte
im Land der Ideen



Nationaler Förderer
Deutsche Bank

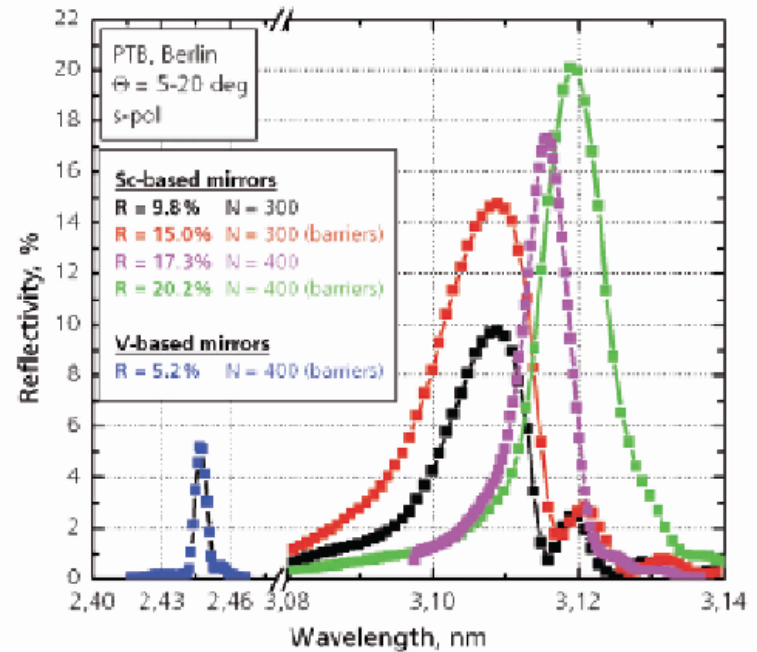


Highlights Production



Collector mirror for EUV lithography

CYMER®



Reflection data of collector mirrors
in the wavelength range
2.4 to 3.14 nm

Highlights Production



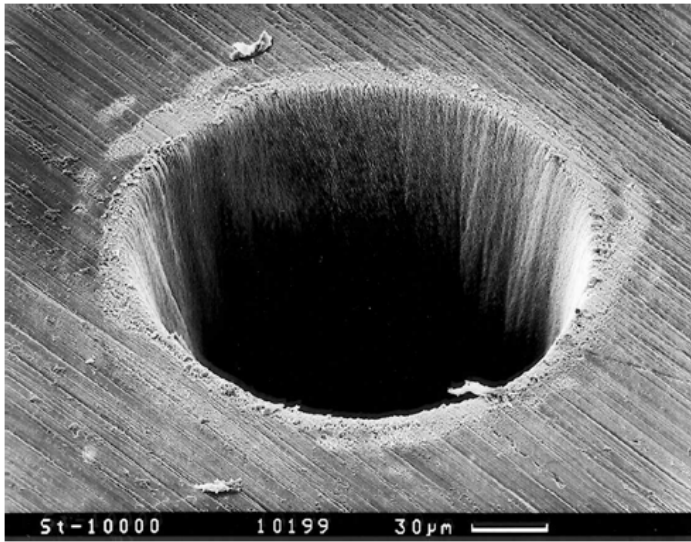
3D measurement
system with
integrated array
projector



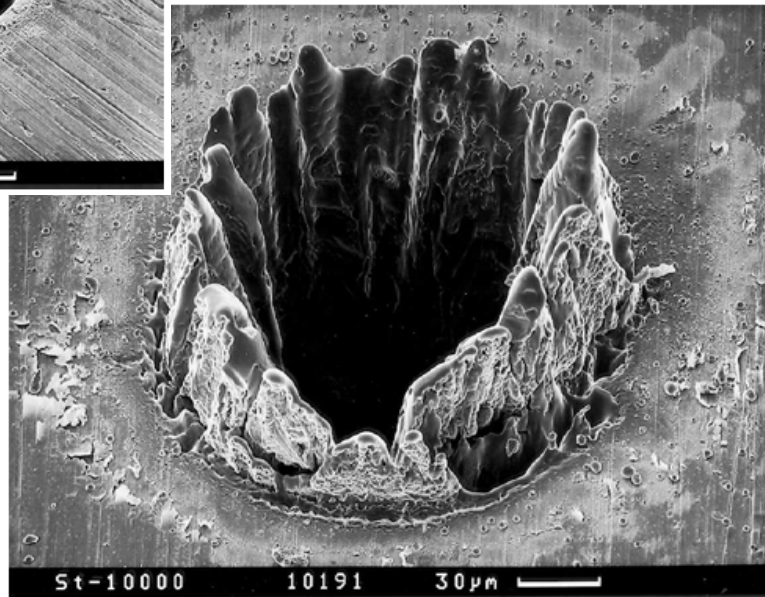
In-line 3D measurement system with up to 300 3D-frames/s



Highlights Production



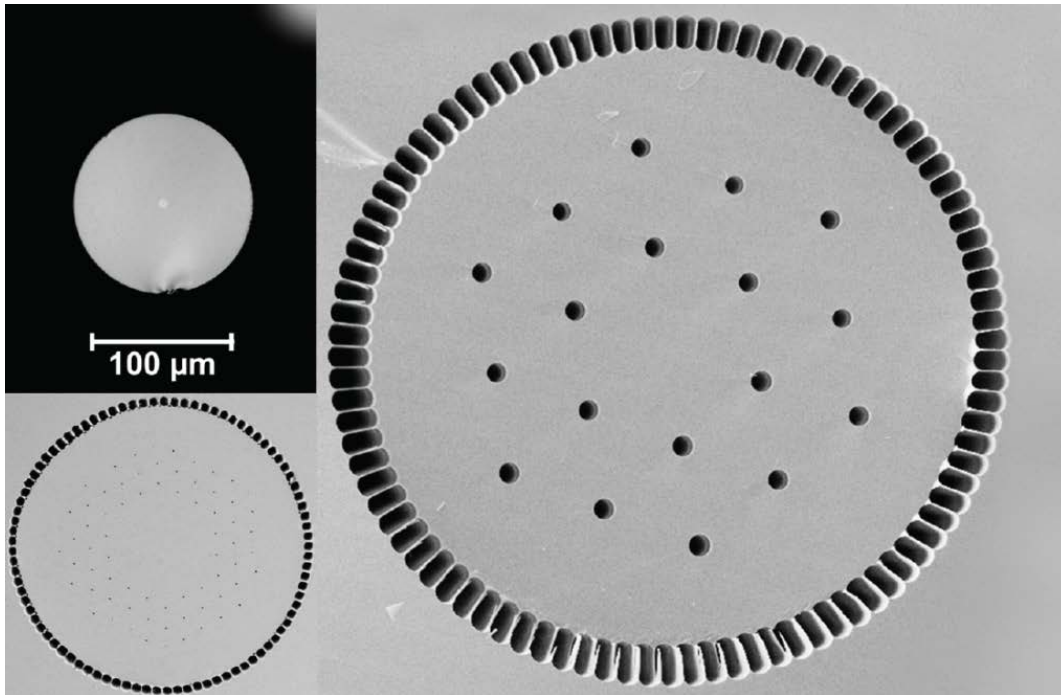
Damage free ultra-precise laser
material processing



DEUTSCHER ZUKUNFTSPREIS
Preis des Bundespräsidenten
für Technik und Innovation

Highlights

Research, Science, Production



Generation of isolated attosecond laserpulses with repetition rates up to 1MHz



European Research Council

Established by the European Commission

Fraunhofer IOF - Research for the future

