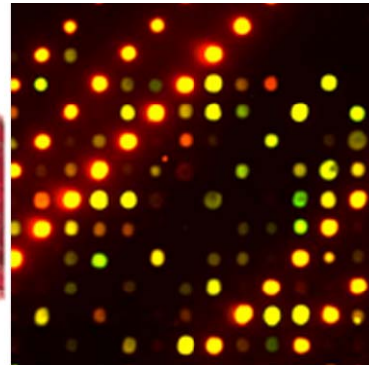
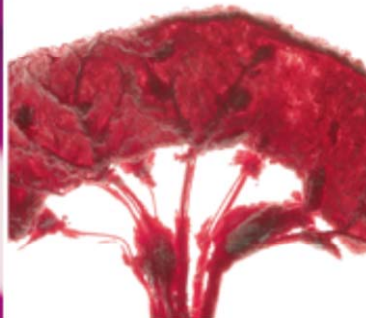
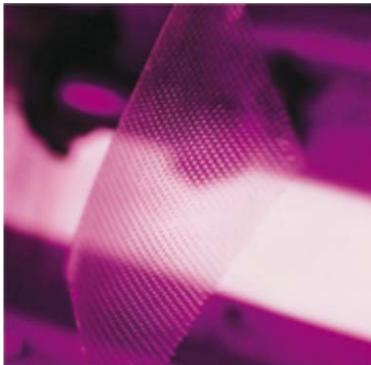

Fraunhofer Alliance SysWater

Dr. Dieter Bryniok
Fraunhofer Institut für Grenzflächen- und
Bioverfahrenstechnik

Water Workshop WATER QUALITY

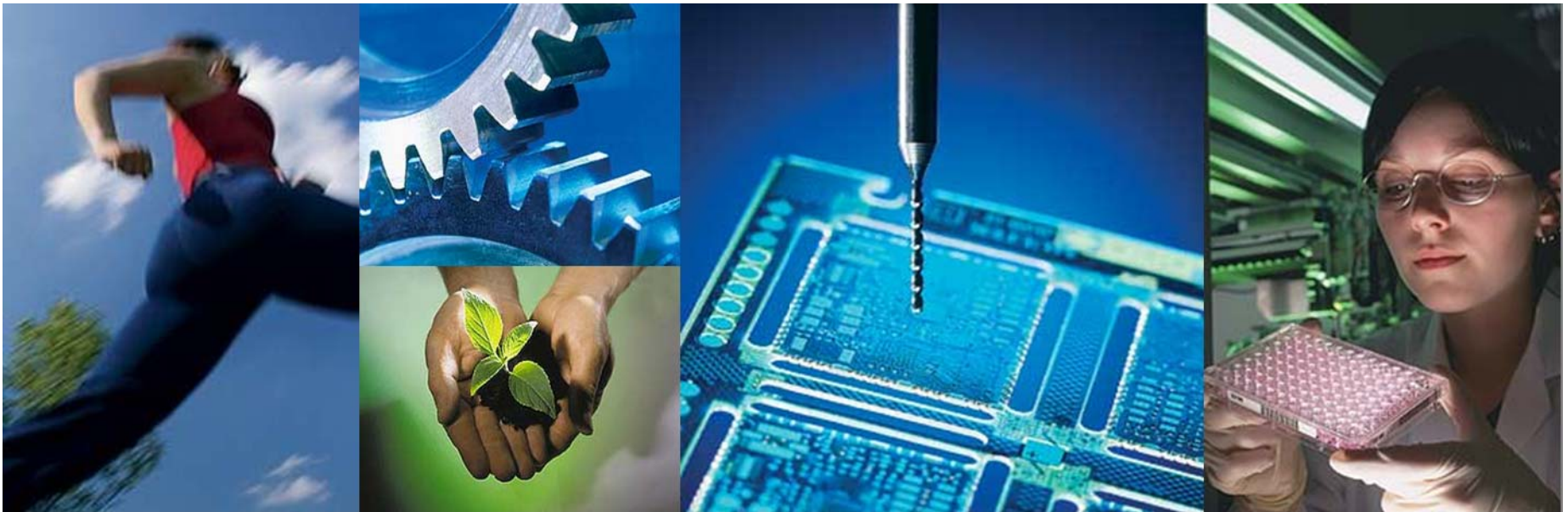
Novi Sad, Serbia, 4th September 2008

Archivierungsangaben



Fraunhofer-Gesellschaft

Partner for Innovation

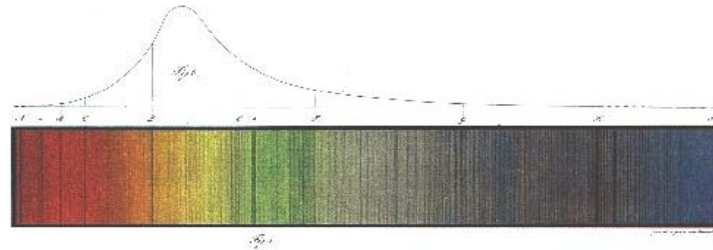


Archivierungsangaben

Joseph von Fraunhofer (1787 - 1826)



- Researcher**
discovery of "Fraunhofer Lines"
in the sun spectrum
- Inventor**
new methods of lens processing
- Entrepreneur**
head of royal glass factory



Fraunhofer Profile in 2008

56 Institutes

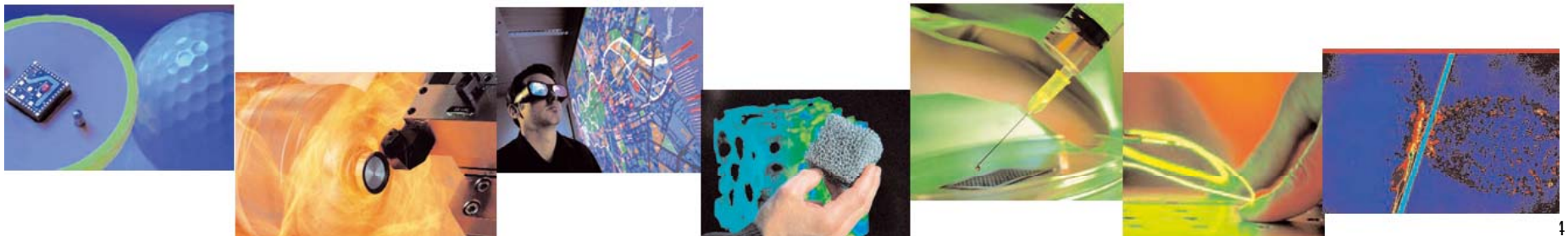
12 770 employees

about €1.2 billion
research budget

7 Alliances

- Information and Communication Technology
- Life Sciences
- Materials and Components
- Microelectronics
- Production
- Surface Technology and Photonics
- E f g f o t f l b o e ! T f d v s j z !

Archivierungsangaben

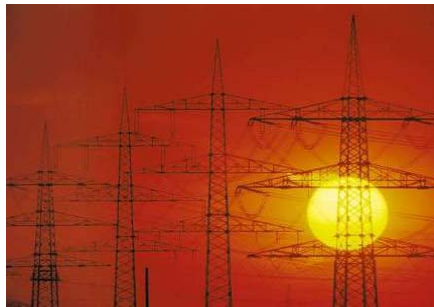


ZV-P2/Jan 07

What will the future bring?

Which topics are people really concerned about?

Energy



Health

Mobility



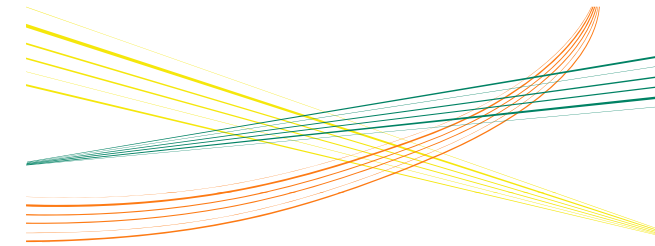
Communication



Environment



Security



Frontline themes – Tomorrow's opportunities



Health

Personal health assistant
The electronic guardian angel



Environment

Decentralized integrated water management
Saving precious water



Health

Bio-functional surfaces
High tech with a sensitive skin



Energy

Energy-efficient modernization
More than just a facade



Health

Food chain management
Always fresh on the table

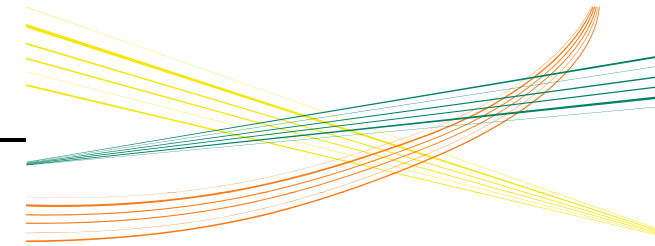


Energy

Solid-state light sources
Bright and efficient illumination

Frontline theme

Decentralized integrated water management – Saving precious water



The struggle for clean water is a distinctive challenge of the 21st century.

Fraunhofer researchers are developing ways of reducing our water consumption, and are working on sustainable wastewater concepts.



Fraunhofer Alliance SysWater - Motivation



Fraunhofer
Allianz
Syswasser

Contributions to solve global water problems of the 21st century

- climate change
- demographic change and migration
- socio-economic development

und for the Millennium Development Goals (to half the share of population without access to safe water supply and sanitation by 2015)

Chairman:

Prof. Dr. Walter Trösch

General Manager:

Dr. Dieter Bryniok

The Fraunhofer Alliance SysWater

14 institutes at 12 locations

- Interfacial Engineering and Biotechnology **IGB**
- Information and Data Processing **IITB**
- Systems and Innovation Research **ISI**
- Surface Engineering and Thin Films **IST**
- Technology Development Group **TEG**
- Environmental, Safety and Energy Technology **UMSICHT**
- Ceramic Technologies and Systems **IKTS**
- Solar Energy Systems **ISE**
- Production Systems and Design Technology **IPK**
- Material Flow and Logistics **IML**
- Industrial Mathematics **ITWM**
- Transport and Infrastructure Systems **IVI**
- Process Engineering and Packaging **IVV**
- Non-Destructive Testing **IZFP**



Objectives



Research, development, and application in practice of sustainable system solutions for

- water supply,
- infrastructure, and
- wastewater treatment

considering

- social,
- economic, and
- ecologic

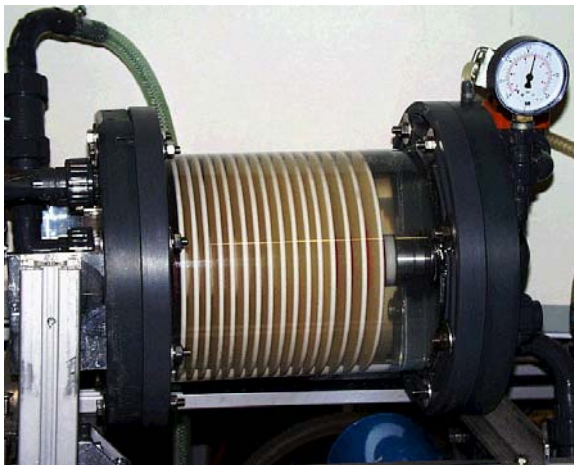
consequences and applying newest technologies.

Technology Portfolio



- membrane technology
- electrochemical technologies
- desalination
- disinfection
- chemical processes
- bio-processes
- mechanical technologies
- sensor technology
- measurement and control technology
- design and installation engineering

Main Fields of Activity



Archivierungsangaben

- analysis and assessment of water management systems
- demands for water infrastructure systems to meet climatic and demographic changes
- security and safety
- technology preview and safeguarding for the future
- **development of new water technologies**
- pilot applications in industrialized and developing countries
- conception and design of sustainable water infrastructure systems
- conception and design of integrated urban infrastructures (water, energy, waste, transportation, communication)
- development of integrated management and decision support systems
- market analyses and market development

Seite 12

Services



- research and development
- pilot applications
- strategy development, conceptual design and scheduling
- analyses and consulting

- in the fields of
 - water supply
 - infra structure
 - wastewater treatment

Projects

DEUS 21 »De-zentralized urban infrastructure systems«
semi-decentralized, sustainable water infrastructure system in Knittlingen and Heidelberg-Neurott

- rainwater treatment to generate service water in potable water quality
- vacuum sewer system
- anaerobic wastewater treatment and biogas production in high-load bio-reactors with micro filtration
- phosphorus and nitrogen recycling

Updating and adaptation of the water infrastructure in

- Altensaltz
- Streitfeld
- Mutzschen

3 additional projects in preparation