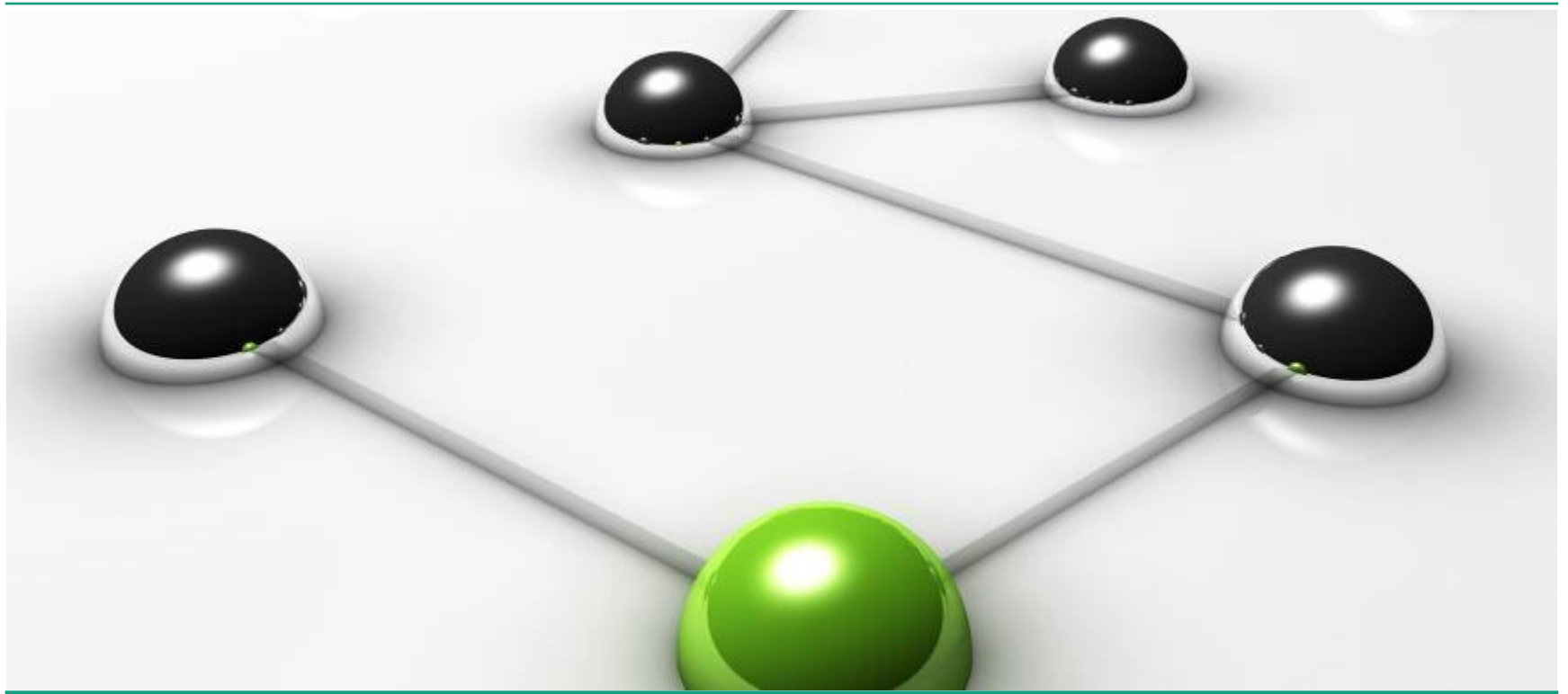

FRAUNHOFER UMSICHT

Kick-Off-Meeting ECLIPSE, May 10th-11th 2012, San Sebastian



Fraunhofer Society

- Research and Development

- Leading Organization for applied research in Europe

- Inventions

- Ranks 14 among German patent applicants¹

- Entrepreneurship

- Institutes work as Profit Centers

1/3 industrial contract research

1/3 publicly financed research

1/3 of federal states/national funding



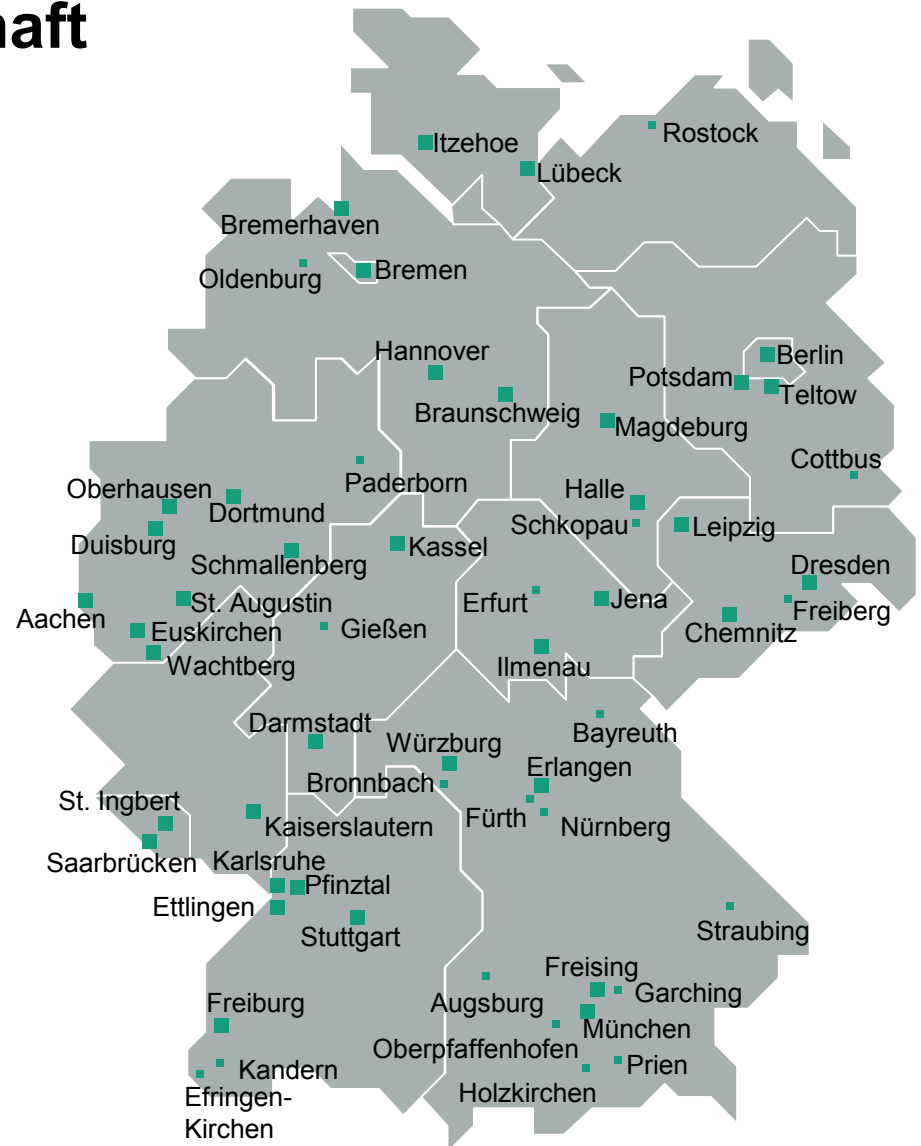
¹ Quelle: Deutsches Patent- und Markenamt, Stand 2007

The Fraunhofer Gesellschaft

- 60 institutes
- 1.65 billion € research volume
- 18 000 staff (m/f)¹
- representative offices in Europe, the US, Asia and the Middle East

- Institutions
- other offices

¹ as of January 2011



Facts & Data on Fraunhofer UMSICHT

■ Foundation	1990
■ Budget 2010	22.9 million € (9 million € industry)
■ Staff	318 (187 permanent staff)
■ Diploma/Master stud.	14
■ Student/research assistants	79
■ Interns, civil servants	21
■ Apprentices	17
■ Spin-Offs	13
■ Projects	ca. 300 p.a.
■ Laboratories/Pilot plants	4 500 m ²

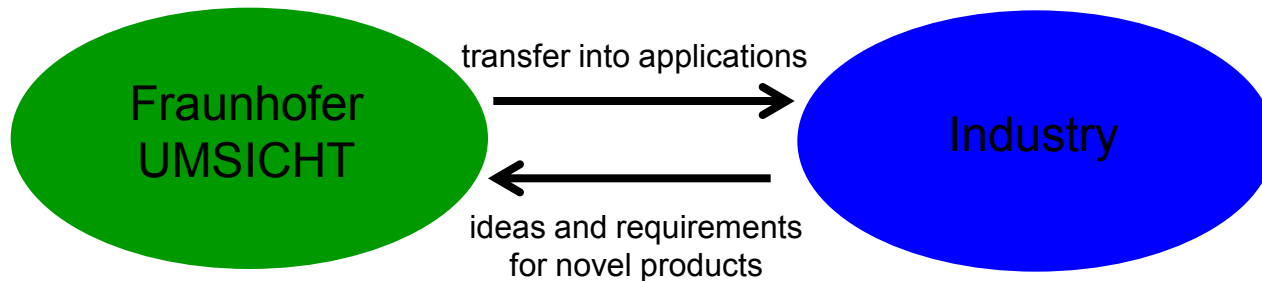


Fraunhofer UMSICHT

Type of Projects

- Basic applied orientated R&D with internal budgets from Fraunhofer
- European collaborative projects with R&D-institutes and industry
 - 7th EU Frame Work Programme
- National collaborative projects with R&D-institutes and industry
- Co-operative R&D-projects with industry

We aim on novel solutions, processes and products and to transfer them into industry within the next 1 to 5 years.



Directorate and Business Units

DIRECTORATE

Director: **Prof. Dr.-Ing. Eckhard Weidner**

Deputy Director: **Prof. Dr.-Ing. Görgе Deerberg**

BUSINESS UNITS

Renewable Resources

Dr.-Ing. Stephan Kabasci

Deputy:
Dipl.-Ing. Thomas Wodke

- Bio-based Plastics and Materials
- Bio-based Monomers and Polymers
- Biogas Production and Utilization

Process Technology

Prof. Dr.-Ing. Görgе Deerberg

Deputy: Dipl.-Ing. Josef Robert /
Dr. rer. nat. Stefano Bruzzano

- Downstream Processing
- Water- and Wastewater Technology
- Multiphase Reaction Technology

Biofuels

Dr.-Ing. Axel Kraft

Deputy:
N. N.

- Catalytic Processes
- Refinery Concepts
- Biofuel Processes

Materials and Interaction

Dipl.-Ing. Jürgen Bertling

Deputy: Dr. rer. nat. Holger Wack /
Dipl.-Ing. Marcus Rechberger

- Material and Product Design
- Processing Technology
- Biomimetics and Haptics

Information Technology in Process Engineering

Dipl.-Phys. Thorsten Wack

Deputy:
Dipl.-Ing. Andreas Schröder

- Information and Knowledge Management
- Environmental and Safety Law
- Server Based Computing

Energy and Recycling Materials

Dr. rer. nat. Thomas Marzi

Deputy:
Dr.-Ing. Barbara Zeidler-Fandrich

- Biogenous and Chemical Energy Media
- Recycling Technologies
- Thermochemical Storage

Energy Efficiency Technologies

Dr.-Ing. Christian Dötsch

Deputy: Dr.-Ing. Wilhelm Althaus /
Dipl.-Ing. Carsten Beier

- Electrical Energy Storage
- Polygeneration, Thermal Chiller
- Optimization of Energy Systems

Resources Management

Dr.-Ing. Hartmut Pflaum

Deputy:
Dr.-Ing. Markus Hiebel (MSc)

- Material Flow Management, Eco-Assessment
- Sustainability Management
- Innovation Processes

Business Unit »Renewable Resources«

- **Bio-based plastics and materials**
 - Material and product development
 - Polymer analytic and material testing
 - Pilot- and small scale production
- **Bio-based monomers und polymers**
 - Biotechnology for monomer production
 - Development of novel bio-based polymers
- **Biogas production and utilization**
 - Optimization of biogas production
 - Biogas treatment, cleaning, and supply
- **Staff**
 - 30 scientists
 - 12 other (laboratory, technicians, administration)



Business Unit »Resources Management«

Main Topics

- Material Flow Management, Eco-Assessment
- Sustainability Management
- Innovation Processes

Core Competencies

- Strategic studies with focus on biorefinery, energy supply, waste management, wastewater treatment and innovation in production
- Eco Assessment, Life Cycle Management, Sustainability Management
- Studies for public authorities and private customers
- Coordination of (international) joint research projects
- Optimisation of processes, management and infrastructure



Key Personnel at Fraunhofer UMSICHT

Business Unit Renewable Resources



Dipl.-Ing.
Thomas Wodke



M.Eng.
Nushin Behzadifar

Business Unit Resources Management



Dipl.-Lök.
Daniel Maga



Dr.-Ing.
Markus Hiebel

Fraunhofer's contribution to project

- Compounding of PSN and IFF into commercial PLA (1st generation composites) (Task 5.2)
 - Fulfil the specific application's requirements
- Compounding of PSN and IFF into commercial PLA (2nd generation composites) (Task 5.3)
 - Fulfil the specific application's requirements
- Validation of new waste derived packaging concepts (WP 6)
 - Using pilot and small scale film production facilities

- Sustainability Assessment (lead WP 7)
 - Presentation of WP 7 in separate session

Questions and Discussion

Thank you for your attention!