A network of

**16 research centres** in 9 countries focusing on research in polysaccharide science

**27 companies** from SMEs to multinational corporations

A common Research, Education and Communication organisation.

An organisation for promoting R&D contracts with companies.
Why Polysaccharides?

They show **great potential for replacing oil-based plastics** and inventing new materials.

They are **natural polymers**, made of sugar molecules.

They are by far the **largest amount** of all polymers produced in the world:

- Polysaccharides: more than 150,000M tons per year
- Synthetic polymers: about 140M tons per year

The use of **renewable** and **biodegradable** polysaccharides fully meets the concept of **sustainability**.
Missions of EPNOE

To provide its Members with an area of mutual trust and collaboration

Research
- Performing the best world-class, multidisciplinary research on polysaccharides

Education
- Promoting the education of young scientists
- Disseminating polysaccharide knowledge at all levels of society

Relations with industry
- Focus on innovation, building collaborative projects, sharing expertise and knowledge
- Applied research in the Materials, Food and Health sectors.
Organisation

Two types of members:
- **REGULAR MEMBERS** = the 16 academic and research partners
- **ASSOCIATE MEMBERS** = the 27 companies (Business and Industry Club)

Four bodies:
- **General Assembly** (all members, votes the annual account of previous year and the activity plan of the year)
- **Governing Board** (one person per regular members), decides all the details of activity plan voted by the General Assembly
- **Executive Board** (five persons among the Governing Board): management body
- **Finance Supervisory Board** (three persons among the Governing Board): check finances
EPNOE academic and research partners

ARMINES Cemef– Mines ParisTech/CNRS, Coordinator, France
University of Natural Resources and Applied Life Sciences (BOKU), Austria
University of Jena, Germany
Fraunhofer-Institute for Applied Polymer Research, Germany
VTT Technical Research Centre, Finland
Federal Research Institute for Rural Areas, Forestry and Fisheries (vTI), Germany
Åbo Akademi University, Finland
“Petru Poni” Institute of Macromolecular Chemistry, Romania
University of Maribor, Slovenia
Food and Biobased research, University of Wageningen (WUR), The Netherlands
Thuringian Institute of Textile and Plastics Research (TITK), Germany
Institute of Biopolymers and Chemical Fibres (IBWCh), Poland
University of Nottingham, UK
University of Innsbruck, Austria
University of Utrecht, The Netherlands
University of Graz, Austria
27 companies are members of EPNOE (BIC)

Ahlstrom  
Biobasic Environment  
Biority  
Danone  
Kiram  
Novamont  
Predilnica Litija  
SE Tylose  
Schneider Electric  
Spontex  
Total  
UPM Kymmene  
PepsiCo  
Ashland

Akzo Nobel  
Biopolymer Solution  
Cargill  
Dow Wolff Cellulosics  
Lenzing  
PerkinElmer  
Sappi  
Sika Technology  
Smartfiber AG  
Tembec  
Unilever  
Viskase  
Innovia Films
Management

**President**: ARMINES (France)
Representative: Dr Pierre Avenas
President Governing Board: P. Navard

**Vice-President Research**: University of Maribor (Slovenia)
Representative: Prof Karin Stana Kleinschek

**Vice-President Education**: Abo Akademi (Finland)
Representative: Prof Pedro FARDIM
Organisation chart: activities

EPNOE

Management
• Coordination
• Administration
• Communication

Business and Industry Club
• Services

Research
• Materials
• Food
• Health

Education
• Programs
• e-learning
• Mobility

EPNOE Conference

Related EC projects

Surfuncell
STEP ITN
Afore
Stream

Abo 2009
Wageningen 2011
Nice 2013
Organisation chart: responsibilities

EPNOE

Management
- Coordination
- Administration
- Communication

Business and Industry Club
- Services

Research
- Materials
- Food
- Health

Education
- Programs
- e-learning
- Mobility

EPNOE Conference

President

Vice-President Research

Member in charge

Vice-President Education
**Change of structure**

**Initial structure:**

- **EPNOE European project**
  - 6th Framework Programme
  - From May 2005 till October 2009

**Current legal structure:**

- **EPNOE Association**
  - Non-profit, legal institution under French law
  - Created on December 14, 2007
Important aspects of EPNOE Association

- No staff in EPNOE Association. EPNOE staff is employed by academic/research members, reimbursed by EPNOE Association.

- EPNOE Association is not engaged into research contract. Its mission is to facilitate contacts and provide networking support and organisation.

- It is organised by two documents (Statute and Association Rules) and four bodies.

- EPNOE is designed for having a lasting character.
Difficulties

2-year negotiation for the European project
- Difficulty to have an acceptable project both for EPNOE partners and for the European Commission
- Difficulty to make every partner agree on legal aspects

Building the association
- European network BUT French association under French law: uncomfortable for the 15 partners (out of 16) that are not coming from France (legal texts need to be written in French…)

Economic structure
- Budget essentially based on the industrial membership fees, but the membership has to be renewed every year and can fluctuate according to the world economic situation: brings uncertainty on income
Creation of an active network with 100 scientists, more than 70 PhD students, regular phone or face-to-face meetings, exchange of ideas for building research and education collaborations.

**Research**
- Materials, Food and Health
- Top-level scientific research
- More than 40 common papers per year
- More than 40 on-going common research projects
- About 20 PhD shared by two partners
- Tool box (set of 200 instruments available within the network)

**Education**
- Participation to a European university programme “Renewable Bioresources and Biorefineries“
Achievements 2007 - 2011

Academy-industry relations
- Business and Industry Club (two meetings per year)
- In 2009, more than 270 research projects were active between EPNOE academic members and companies for research budgets in excess of 26 M€.

Legal structure
- Establishment of a legal entity “EPNOE Association” and a structure able to ensure a durable networking over the next years.

Dissemination
- Publication of the Research and Education Road Map 2010-2020
- Creation of a set of video-lectures available freely on the website
- Publication of market studies:
  - Market study on main polysaccharides. Freely available.
  - Description and market study on less common polysaccharides. Only for EPNOE members.
Technological watch

- Literature survey on cellulose, hemicelluloses, chitin, chitosan, starch and pectin using the ISI Web of Science and SCOPUS databases, posted on the private website.
- Translations of national language conference talks and poster titles into English: more than 800 translations from about 150 conferences, in 13 different languages, posted on the private web site.

Conference

- Creation of the **EPNOE International Polysaccharide Conference**:
  - **EPNOE 2009**:
    - Organised at Åbo Akademi University in Åbo/Turku, Finland
    - More than 250 participants from 31 countries
  - **EPNOE 2011**:
    - Organised at Wageningen University, the Netherlands
    - About 240 participants from 30 countries, 4 continents
Collaborations 2000 – 2004 (before the EPNOE Project): 10

Abo Akademi  
VTT  
yTI Hamburg  
IBWCh  
German Federal initiative  
Fraunhofer  
BOKU  
Armines/Cemef  
Graz  
Maribor  
Wageningen  
Utrecht  
Nottingham  
BOKU  
INN  
Jena  
Petru Poni  
Innsbruck
Collaborations inter-EPNOE labs in 2011: 60

Including European projects:  
- STEP  
- AFORE  
- SURFUNCELL  
- STREAM

- Abo Akademi
- VTT
- vTI Hamburg
- Wageningen
- IBWCh
- Nottingham
- Fraunhofer
- Utrecht
- TITK
- Armines/Cemef
- Jena
- BOKU
- Graz
- Innsbruck
- Petru Poni
- Maribor

- Including European projects:
Forthcoming activities

EPNOE Book
A book on polysaccharides is being written by the EPNOE partners and will be published by Springer in 2012.

EPNOE Industrial meeting
An industrial meeting will be co-organised with Erfurt Messe every two years in Erfurt, Germany. First meeting on 5-6 September 2012.

EPNOE 2013 Conference
- 23-27 September 2013 in Nice, France
- 600 participants expected
- A session dedicated to European and American policy makers
- Co-organised with the biggest scientific society worldwide (American Chemical Society)

New European project: EPNOE CSA
Three objectives:

- Expand activities towards health and food areas
- Extend industry participation
- Use social networks
Future organisation

EPNOE Association

EPNOE CSA

Surfuncell
STEP ITN
Afore
STREAM

Related EC projects
Thank you for your attention

Any questions?

www.epnoe.eu