



Association des Amidonniers et Féculiers

# The role of the EU starch industry in the development of a starch-based chemistry sector in Europe

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Representation of the Free State of Bavaria to the EU - 19 June 2006



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## The European starch industry : key figures in EU-25

- 24 companies and 72 plants
- +/- 20.000 direct employees
- In 2004, the industry used 19.6 mio tons of raw materials (potatoes, maize and wheat) for a production of 8.5 mio tons of starch products (in starch equivalent).
- Annual R&D investments : +/-100 mio €

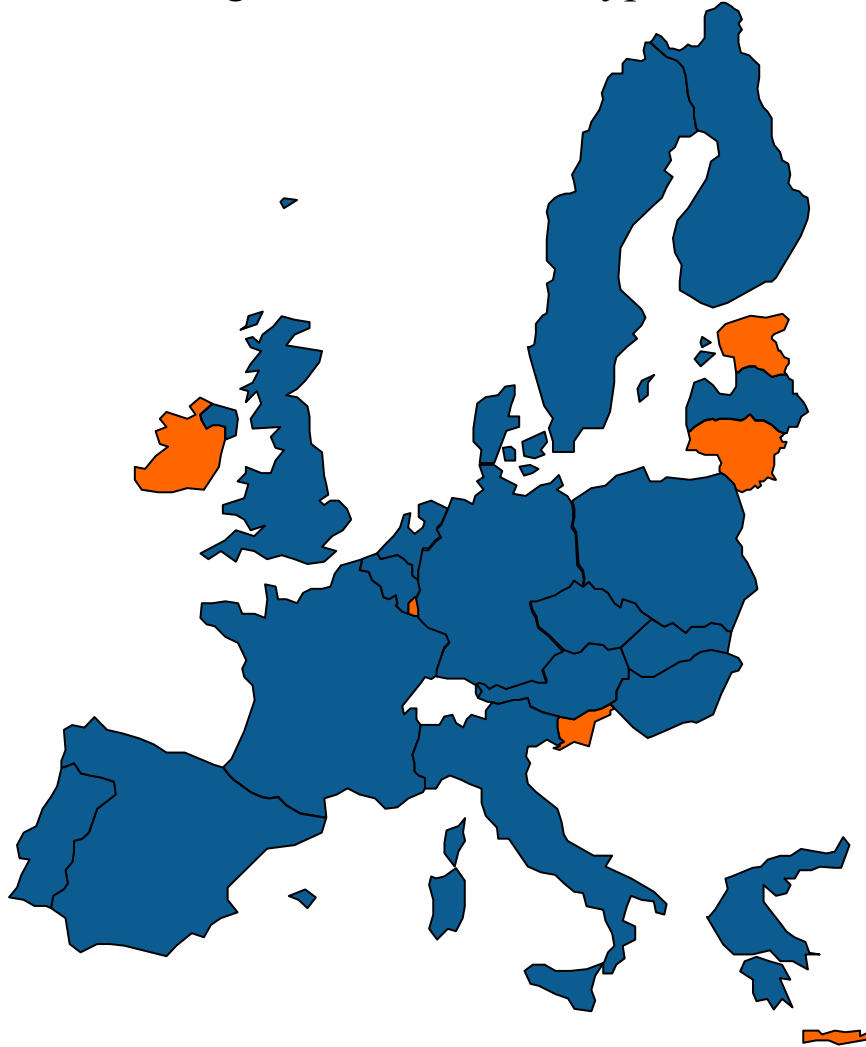
The starch industry is very innovative in both food and non-food applications (about 600 applications). It has an enormous potential for the development of “green chemistry” in the EU.



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# AAF facts and figures

AAF Members are located in 18 out of the 25 European countries (except in Luxembourg, Ireland, Malta, Cyprus, Estonia, Lithuania and Slovenia).





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# AAf membership

- The founding Members and Associate Members of the AAF are the following :

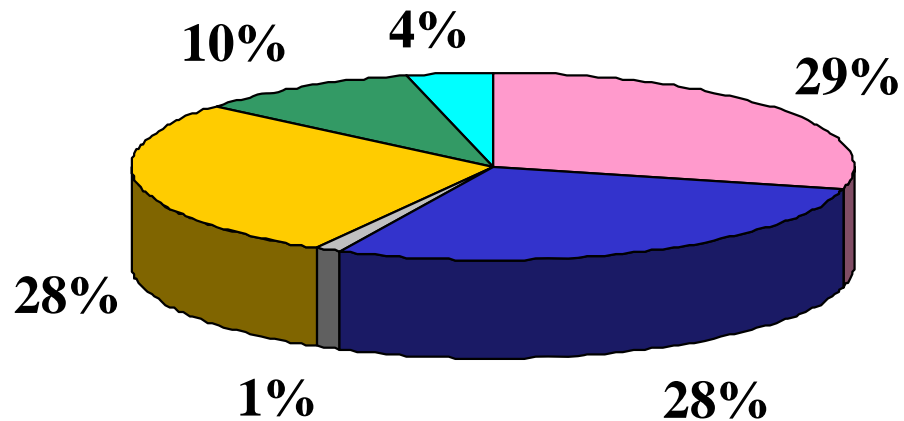
- **Agrana Stärke**
  - **AKV Langholt**
  - **Altia Corporation**
  - **Avebe Group**
  - **Cargill/Cerestar**
  - **Copam**
  - **Crespel & Deiters**
  - **Emsland Stärke**
  - **Finnamyl**
  - **Finnsugar**
  - **Hermann Kröner**
  - **Hungrana**
  - **Jäckering**
  - **Kartoffelmelcentralen (KMC)**
  - **National Starch & Chemical**
  - **Pfeifer & langen/Chamtor**
  - **Remy Industries**
  - **Roquette Frères**
  - **Skrobarny Pelhrimov**
  - **Südstärke**
  - **Sveriges Stärkelseproducenter Förening - Lyckeby Stärkelsen**
  - **Syral**
  - **Tate & Lyle**
  - **Wielkopolskie Przedsiębiorstwo Przemysłu Ziemniaczanego (WPPZ)**
- Associate Members
- **BSIA**
  - **Fachverband der Stärke Industries**
  - **Finnish Starch Manufacturers Association**
  - **Humaiz**
  - **Usipa**
  - **VNFG**



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## Starch & starch derivatives \* EU Market by Sector - 2004

- Confectionery & Drinks
- Processed Food
- Feed
- Corrugating & Paper Making
- Pharma. & Chemicals
- Other non-food



Total Market : 8.5 mio tons

In 2004, 42% of the EU starch production was already used in non-food applications and this trend is increasing.

\* Excluding co-products



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## The potential of starch

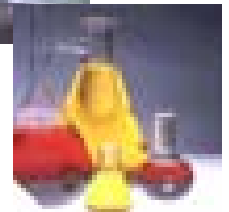
- Starch is renewable and biodegradable.
- It is therefore an excellent raw material for the production of "green" products.
- The starch industry already manufactures starch-based chemistry bio-products, where the fossil-fuel components are replaced with starch-based "green" ingredients.
- While relatively little of these bio-products are produced in the EU, they are widely produced in third countries such as the US, Brazil, China and India.



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# Today's starch and derivatives applications in the fermentation sector

- Organic acids (such as citric and lactic acids)
- Amino acids
- Antibiotics
- Vitamins
- Polysaccharides
- Enzymes
- Yeast
- Ethanol





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# Today's starch and derivatives applications in the chemical sector

- Biodegradable plastics (polylactic acid) for the packaging and textile industries
- Fine chemicals and pharmaceuticals
- Surfactants
- Polyurethane
- Resins





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# Today's starch and derivatives applications in other sectors

- Biodegradable, non-toxic and skin-friendly detergents
- Binders
- Solvents
- Bio-pesticides
- Lubricants
- Bio-colorants
- Flavours





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# Today's innovations for tomorrow's market needs

- **PET Hot Fill Containers**

The use of isosorbide, a new bio-based monomer, enables to enhance the properties and value of polymers and gives it higher temperature performances for use in multiple markets.

→ *A Roquette / Dupont partnership*

- **NatureWorks™ PLA**

100% maize-based PLA for the packaging of food products and consumer goods, bottles, plates, cups and cutlery.

→ *A Cargill / NatureWorks partnership*



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# Today's innovations for tomorrow's market needs

- **BIO-PDO™**

1,3 propanediol, a key ingredient of Sorona<sup>R</sup>, a polymer for clothing, carpeting, biodegradable plastics etc.

→ *A Tate & Lyle / Dupont partnership*

⇒ All these innovations in the use of starch provide new opportunities to produce and use bio-products beyond their current limitations.



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## Where do we stand ?

- The starch industry is the first processor of renewable resources in the value chain for bioplastics
- Huge investments in R&D and production have been made in different parts of the world, including the EU.
- Many products are on the market, proving the feasibility and technical functionality, beyond the traditional packaging applications.



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## Our main concerns

- Increased use of cereals for non-food applications will push prices up.

*Can Europe remain competitive ?*

- More R&D efforts and investements are needed.

*What are the incentives ?*

- The consumer's choice for bio-products must be encouraged through e.g. an awareness campaign, mandatory use, fiscal incentives etc.

*Only national initiatives?*



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## Some ideas...

1. Implement raw material-related instruments: the starch industry must have access to competitive raw materials.
2. Implement incentive plans for investments in production capacities and R&D: some EU programmes recognize this already.
3. Stimulate the demand for bio-products, e.g. the German and French initiatives should be taken as examples over Europe.



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## Our actions

- The AAF has prepared a reflection paper on « the promotion of starch-based chemistry in Europe ».
- Discussion forums will be organised at all political levels in order to find support for our ideas, and grow towards a more sustainable Europe.