

An European Model for Transatlantic Collaboration in Science

Thorleif Anthonsen,
Norwegian University of Science and Technology,
Trondheim



COST

European Cooperation in Science and Technology
European Science Foundation

Cost effective collaboration in Science

A model for transatlantic collaboration?

36 COST Countries

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Nine domains

1. **Biomedicine and Molecular Biosciences (BMBS)**
2. **Chemistry and Molecular Sciences and Technologies (CMST)**
3. **Science and Environmental Management (ESSEM)**
4. **Food and Agriculture (FA)**
5. **Forests, their Products and Services (FPS)**
6. **Individuals, Societies, Cultures and Health (ISCH)**
7. **Information and Communication Technologies (ICT)**
8. **Materials, Physical and Nanosciences (MPNS)**
9. **Transport and Urban Development (TUD)**

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Chemistry actions (examples)

A new Action is started when the MoU is accepted.
Lasts for 4 years

Action D25: Applied Biocatalysis: Stereoselective and Environmentally-friendly Reactions Catalysed by Enzymes, 2001-2007.

Green and Sustainable Chemistry, White Biotechnology

**Memorandum of Understanding signed by 22 countries.
48 research groups participated.**

- **Spin off: Cascade Chemoenzymatic Processes – New Synergies Between Chemistry and Biochemistry 2008-2012**

Management Committee, Meets once a year

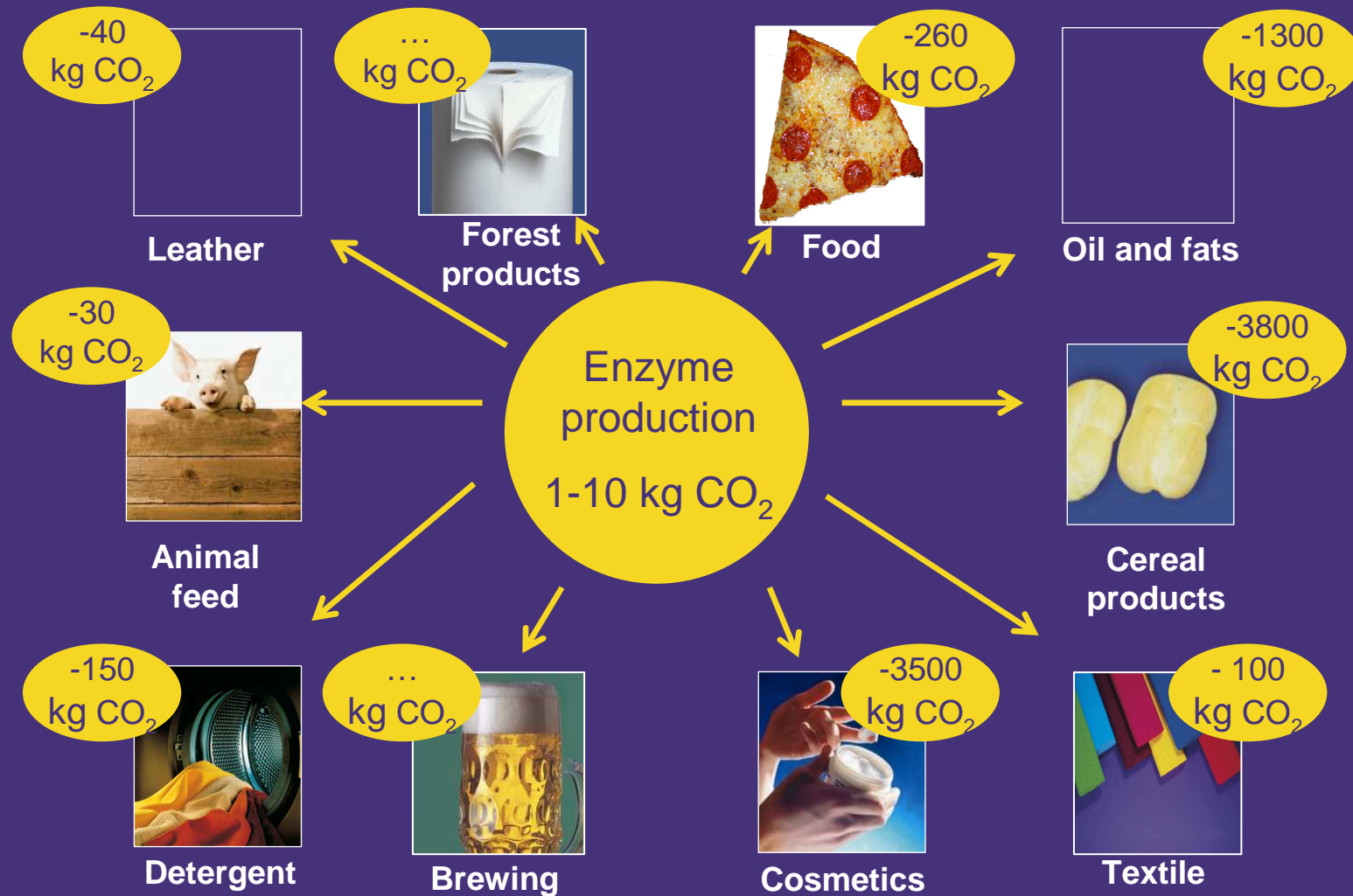
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A possible topic: Saving of green house gases using enzymes



The research of an Action is performed in Working Groups

- A Working Group consists of 4 to 6 closely Collaborating Research groups
They meet once or twice a year at Workshops
- Group members are visiting each other in order to learn special techniques.
(STSM's Short Term Scientific Missions)
- One Summer School
- All of these activities are paid from the Action Budget
(The MC decides who will get funding)
- Mid-term evaluation and Final report have to be accepted.
- Secretary in Brussels.

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D 25 Working Groups

WG 1. Glycosidase-Catalysed Synthesis of Bioactive Glycosides.

WG 2. Nitrile- and amide-hydrolyzing enzymes.

WG 3. Biotransformations Using Enzymes and Catalytic Antibodies.

WG 4. Enzymes in Organic Solvents.

WG 5. Biooxidation.

WG 6. Enzymatic synthesis of non-natural amino acids.

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Results of D25

- Working groups: 6
- Papers: More than 150
- Book: Eds. Fessner and Anthonsen, **Modern Biocatalysis** Wiley-VCH, 2009
- STSM's: 20
- Summer School: Siena, Italy May 2007
- "Biotrans" conference (4-500 particip.) bi-annual
- Spin off: New Action, Cascade Enzymatic Reactions

**Amigos para siempre-Friends forever
(Catalysed by science)**

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Opportunities and challenges

Opportunities:

- Cooperation improves the quality and amount of research
- Cultural exchange

Challenges:

- Encouraging students to go abroad
- Creating networks
- Predictable funding necessary!

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