

AMONCO

**Advanced prediction, monitoring and controlling
of anaerobic digestion processes behavior
towards Biogas usage in Fuel Cells**

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**BIO-ENERGY
ENLARGED PERSPECTIVES**

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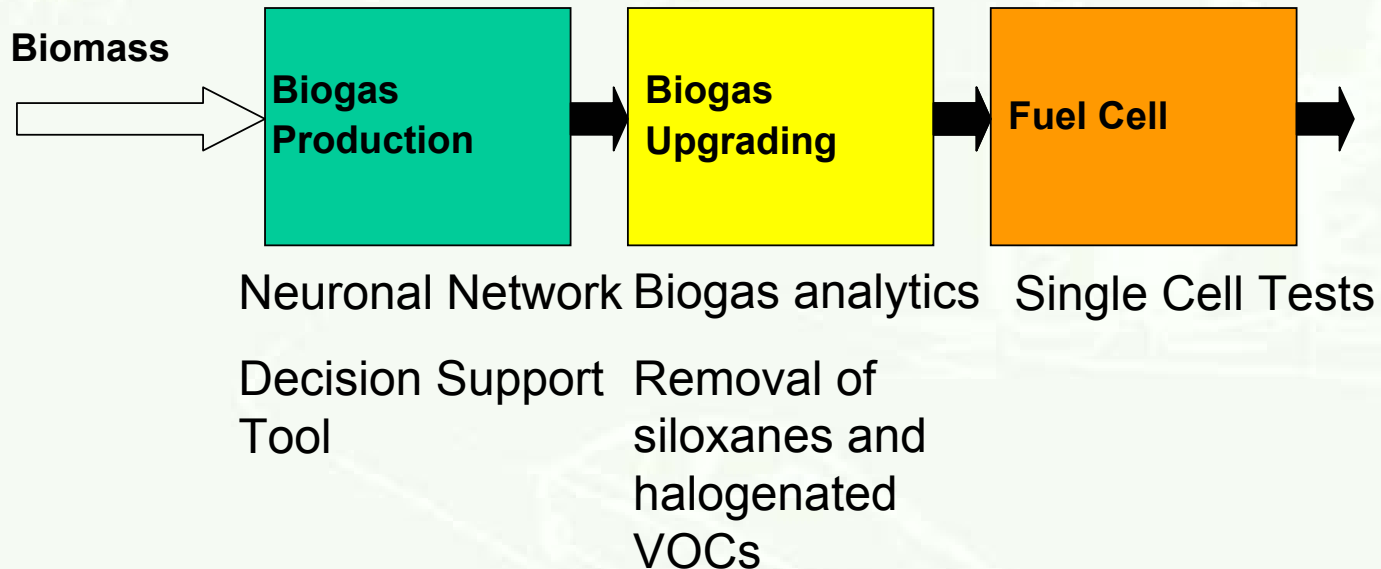
Overview of the project

- Official start: 01. December 2001
- Duration: 3 years
- Budget: ~ 3.6 Mio Euro
- Consortium: 12 partners from 5 European Countries: Austria, Germany, Spain, Denmark, Slovakia
- Partner:
PROFACTOR (Co),
IAM, E.V.A.
farmatic, Biogas
Barth, Saria, EBV,
Seaborne, GasCon,
MFN, CSIC, Uni Nitra



AMONCOs Approach

The optimization of the usage of biogas in fuel cells is the primary goal of the AMONCO project



Objectives of the Project

The scientific and technical objectives of AMONCO are:

- Comprehensive Biogas analysis on a detailed level
- Advanced controlling of the anaerobic digestion process to hinder the formation of trace gases while keeping a high methane yield
- Suitable and cost-effective biogas cleaning processes
- Investigations of the performance of biogas in fuel cells through single cell tests

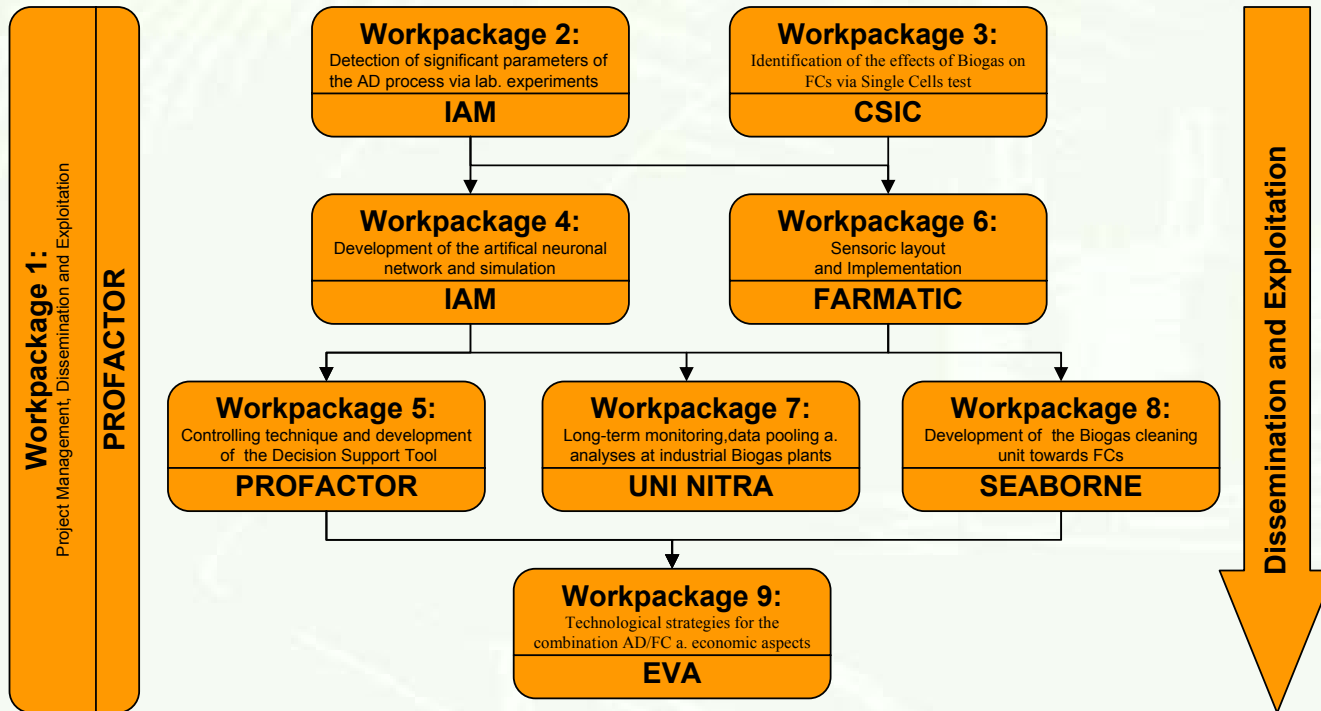
Objectives of the Project

In addition to that economical aspects are also important for a successful technology implementation.

Non technical objectives of AMONCO are:

- Economic feasibility study
- Market driven implementation strategies
- Establishing a Business Interest Group

Project - Workplan



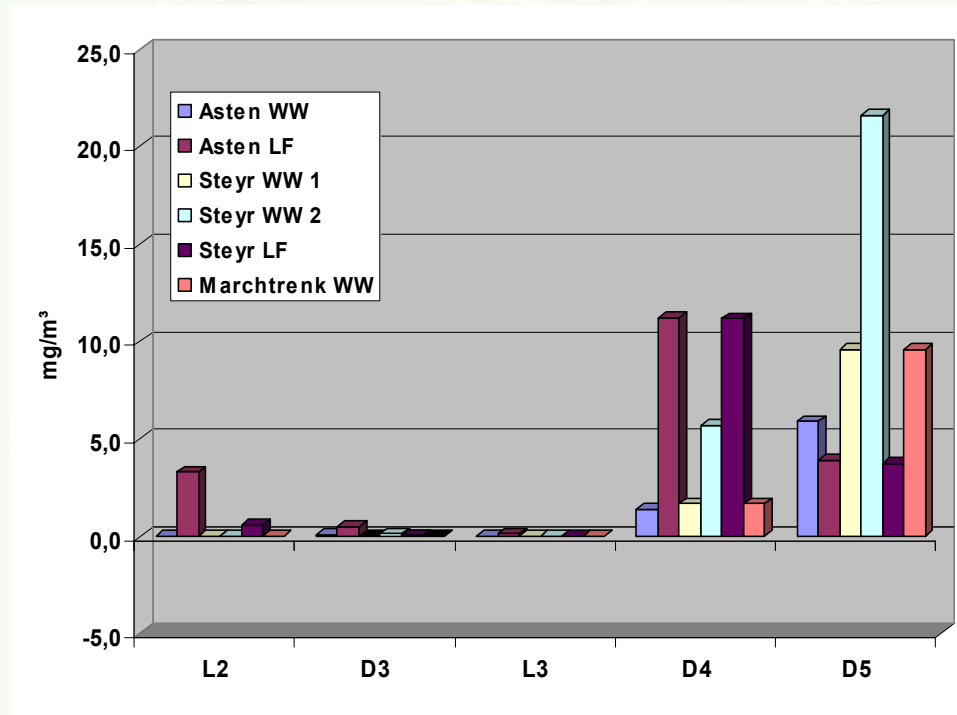
Achieved Results

- For starting modelling and controlling the anaerobic process, a lot of data must be produced first. Laboratory reactors with the appropriate sensors and analyses are operated by partner IAM and Profactor.



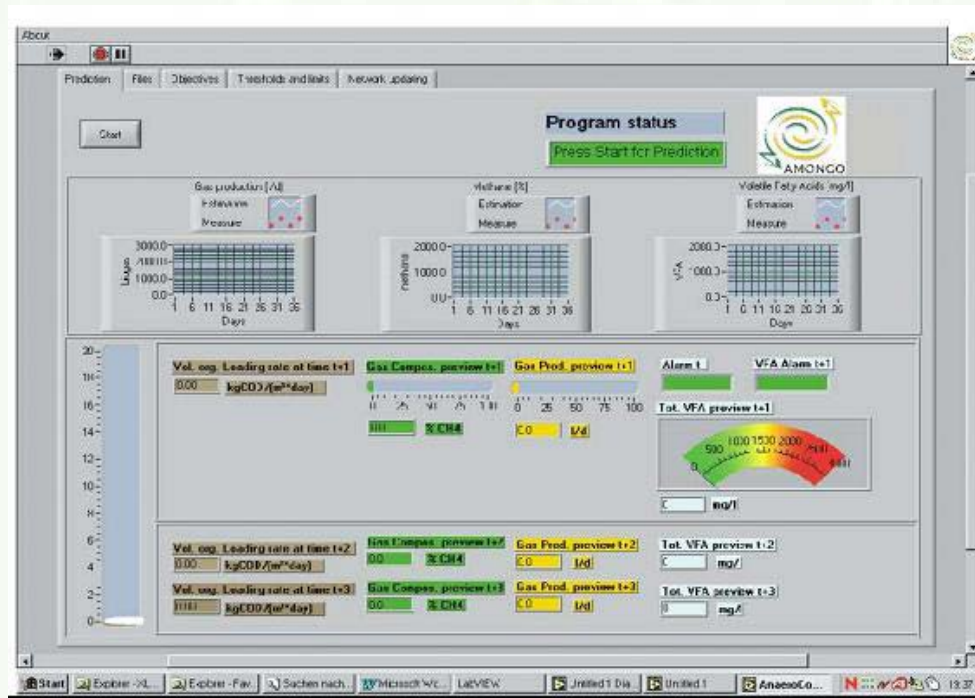
Achieved Results

- Development of analytical methods for a comprehensive Biogas analysis



Achieved Results

- A first client front panel for the control program was developed by partner IAM



Achieved Results

- Two fuel cell stations have been designed and constructed by partner CSIC
- First experiments with the fuel cell station are carried out



Achieved Results

- Definition of the parameters, which are collected at the five biogas plants
- Installation of sensors at biogas plants
- First test phase of the sensors finished



Achieved Results

- Design of the laboratory tests regarding biogas cleaning processes



Next Steps

- Collection of the data from the biogas plants
- Training of the neuronal network
- Tests with the different cleaning processes
- Further tests with the single fuel cells
- Economic feasibility study
- Round Table

Thank you for your attention