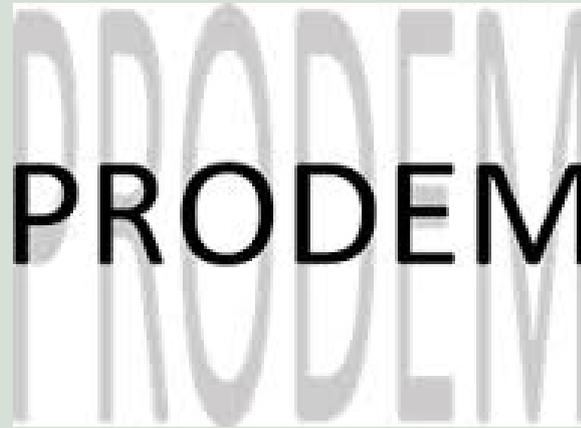


## Best Practice in Innovation Support



The PRODEM project offers a solution to an innovation barrier many SMEs are facing. Jacobs nv - a major player in the recycling of construction and demolition waste - appealed to PRODEM to gain momentum for their applied research and development of cellular concrete recycling. PRODEM is hosted by VITO, the Flemish Institute for Technological Research.

### RATIONALE

- ◆ PRODEM supports Flemish SMEs to research solutions and take steps towards sustainable production. It also helps to implement these tailor-made solutions into company policy.
- ◆ The EKP Recycling Division of Jacobs nv is specialized in the processing of construction and demolition waste as well as residual waste streams.
- ◆ The stony fraction of construction and demolition waste is crushed by means of a stationary crushing unit and processed into approved materials for application in the sub-foundation in road construction or as aggregates in concrete.
- ◆ Jacobs nv is convinced that recycled products are a valid substitute for conventional natural aggregates, provided that they are applied properly.
- ◆ Jacobs nv was looking for a way to recycle autoclaved aerated concrete (AAC) waste, a particular type of cellular concrete waste, and to re-use it in high-value applications. Until recently, AAC waste was landfilled.

### AIMS

Remove or reduce the technical and environmental barriers to recycling AAC waste.

### INNOVATIVE RESULTS—for the company

- ◆ VITO researchers determined the physical and chemical properties of the waste flow. Based on these data they investigated the applications for which the material could be eligible.
- ◆ The major aspects in this evaluation are the environmental impact and the long-term effects of re-usage.
- ◆ The researchers succeeded in the immobilisation of leachable sulphate from the AAC waste granulates, resulting in a stable product.
- ◆ VITO researchers guided Jacobs nv during the implementation of the new process into their existing infrastructure.
- ◆ VITO monitored the performance of the secondary raw materials in their new application in order to fine-tune the process.

## CHALLENGES OVERCOME

Jacobs nv appreciated the contribution of VITO's multidisciplinary and independent research team, introducing complementary specialized knowledge. Moreover, Jacobs nv gained access to specialised research facilities for their specific needs thanks to the PRODEM project.

## PROCESS

- ◆ Jacobs nv appealed to PRODEM in order to gain momentum for their applied research and development of cellular concrete recycling.
- ◆ Researchers at VITO performed a range of analytical tests and suggested a route by which Jacobs nv might begin to recycle cellular concrete waste.

## RESULTS FOR THE ECONOMY

The implementation of this innovating technology helps to promote employment, increases turnover and tackles the important environmental issue of landfilling of AAC waste. Besides, it is believed that the recycling volumes of AAC waste will still increase in the future.

## ABOUT PRODEM

- ◆ PRODEM stands for PROmotion and DEMonstration of eco-friendly and energy-efficient technologies
- ◆ The PRODEM project is hosted by VITO, the Flemish Institute for Technological Research, and has benefited as a start-up from EU co-funding through the ERDF. The Flemish Government is aware of the importance of SMEs and provides a 66% subsidy of the total VITO costs.
- ◆ SMEs can participate in demonstration projects to assess the efficiency and effectiveness of an acclaimed technology or a pioneering innovation for a concrete business situation, before deciding to invest in them.
- ◆ PRODEM can optimise an existing technology by studying technical and economic feasibility.
- ◆ PRODEM can help technology suppliers by validating a promising technology for Flanders before putting it on the market.
- ◆ A light administrative procedure makes the innovation support easily accessible for SMEs. Each year about 75 Flemish SMEs appeal to PRODEM for advice, studies, etc.
- ◆ The PRODEM project aims to offer solutions to innovation barrier many SMEs are facing. Most small businesses know their core business, but few have the time or knowledge to introduce more sustainable development practices into their workplace and operations.



Case study produced by the ReNEW Project under Action 5 (Best Practice for Innovation Support) which seeks to improve support mechanisms for innovation in waste processing and resource recovery.

For further information: [www.renew-network.eu](http://www.renew-network.eu)