



## Colsen 1989 - 2014 Newsletter 2014 # 1

### Colsen celebrates 25 years jubilee

Colsen started its activities in 1989 and became very proficient in the areas of Environment, Water and Energy. In our silver jubilee year 2014 we put a lot of emphasis on our three key competencies. Those 3 technology domains will be further highlighted and the latest Colsen technological developments communicated during the year. In addition we would like to share with you our specially designed 25 years logo to decorate our 2014 communications. This logo embodies the 25 years of innovations, in which Colsen diligently collaborated with its customers and partners, to arrive at major technology developments.

For more information and news please visit [www.colsen.nl](http://www.colsen.nl).

Colsen logo



25 years jubilee

### UASB / MBR-NAS® project in China



Chinese character for water

In close collaboration with partner Shanghai Minsion Environmental Protection Science and Technology Co. Ltd. two water treatment installations are currently being realized for a Chinese customer. The systems consists of a [UASB](#) and a MBR-NAS®. The wastewater originates from an artificial leather production site. After the anaerobic treatment step to remove the organic substrates using an UASB reactor, the residual nitrogen is removed by a [MBR-NAS®](#) system. The first installation is to be commissioned at the end of June 2014. This covers the upgrade of an existing WWTP. The second installation represents a complete new UASB & MBR-NAS®. Colsen is responsible for the technology and technological design, whereas Minsion takes care of the local preparations, the construction, commissioning and startup.

### SBR-NAS® realised in Salamanca (ES)

In Salamanca (ES) a SBR-NAS® system has been realized in collaboration with Ahidra, agua y energia, S.L. The reactor system is based on Colsen technology & design and constructed by Ahidra for a communal WWTP in conjunction with the processing of sludge digestion digestate. SBR-NAS® represents a 40% less energy consuming system then the traditional systems for biological nitrogen removal. The technology is based on the use of anammox bacteria performing a short circuit in the nitrogen cycle. This process consists of two consecutive steps which take place in the same reactor: a first step where the ammonium is converted into nitrite (partial nitrification), and a second step where autotrophic bacteria (anammox type) perform partial ammonium de-nitrification without the need to consume organic substrates (COD). In addition the sludge production is much lower. The SBR-NAS® system is very robust and equipped with fully automated process control.



SBR-NAS reactor (Salamanca ES)

### Emergo Innovation Award 2013 for Colsen

Deputy De Reu hands over the Emergo award



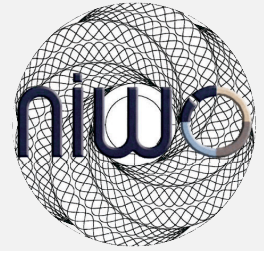
to Boris Colsen

On December 12<sup>th</sup>, 2013 Colsen received the [2013 Emergo Innovation Award](#) during a joyful ceremony at the HZ University of Applied Sciences in Vlissingen (Zeeland). This Emergo award is presented on an annual basis by the Province of Zeeland and Syntens Innovation Centre to a local SME, which successful realized an innovation. Colsen was nominated with the [BIDOX®](#), a biological desulphurization technology and system for a range of (industrial) gases. An expert jury assessed the nominations on innovation, market potential and achieved market success.

Colsen has an excellent innovation track record. In 2001 Colsen received the 'Zeeuwse Environment Award' and in 2005 a previous Emergo Innovation Award. The jury praised the Colsen nomination for its novelty, relative simplicity and because it allows the user to valorize waste streams. This technology development also aligns very well with the Biobased Economy agenda of the province of Zeeland.

### Colsen VIHB certified

Dutch companies that specialize in the trade and brokerage of (dangerous) waste streams have to qualify in The Netherlands via CBR. In order to obtain a registration code the entrepreneur must provide proof of proper knowledge and code of conduct. For qualification purposes a trading license must be obtained. This is realized via the Master Craftsman's certificate for waste materials at CBR. This certificate is then validated by the NIWO (Organization for national and international road transport). Coltrade has fulfilled the criteria and is formally added to the [certification list](#) of the VIHB (Dutch Trade Association for Transporters, Collectors, Traders and Mediators). With this admission Colsen is entitled to mediate the trading of a wide range of waste types and waste streams.



## Friday May 9<sup>th</sup>, 2014: Open House UNAS<sup>®</sup> at WBD

**Open House**  
Friday May 9<sup>th</sup>, 2014



*UNAS<sup>®</sup> pilot installation  
at Waterschap  
Brabantse Delta*

Many water boards are eagerly looking for more cost effective ways to produce adequate effluent quality with their municipal waste water treatment installations. In this spirit Dutch water boards have specified concrete objectives to reduce the energy consumption and to maximize the recovery of energy and nutrients at WWTP's. Many of the current installations qualify for a technology upgrade in which cold anammox constitutes a crucial component. Colsen and SieTec have realized a [UNAS<sup>®</sup> pilot installation](#) for cold anammox at the premises of the water board Brabantse Delta in Nieuwveer (Breda, NL). The UNAS<sup>®</sup> pilot can be visited during the Open House on Friday May 9<sup>th</sup>, 2014 from 10 AM to 16:30 PM. The WBD visiting address is *Biezenstraat 7 at Breda* (N 51° 37' 48,9", E 4° 42' 19,6"). During the open house various activities will be organized, e.g. a guided tour at the WBD WWTP site with an explanatory visit to the pilot as well as a lecture on the technology advancements.

## Colsen International b.v.



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