



Track & Trace concrete blocks with RFID

The customer

Level is a construction consortium, formed by BAM, Van Oord and Rebel, which has been established to renew the *Afsluitdijk* (enclosure dam) in the Netherlands. This renewal project has been awarded by Rijkswaterstaat.

The *Afsluitdijk*, a dam with a length of 32 km, separates the IJsselmeer from the Wadden Sea and has protected the Netherlands for the last 88 years against flooding. In March 2018, Level has been awarded a 25-year-contract of 550 million euros for the improvement and maintenance of the *Afsluitdijk*.

The challenge

The *Afsluitdijk* is protected against the high waves of the Wadden Sea by a new type of concrete blocks with a patented design, the so-called Level-bloc (the XblocPlus is an optimisation of the Xbloc of BAM). Level will manufacture about 75.000 Level-blocs. For this purpose, the company has built a temporary production facility in Harlingen. The enormous blocks are manufactured by pouring a specific concrete mix in heavy moulds.

In order to guarantee the quality, Level requires **full traceability of the concrete blocks, from production to installation on the dike**. The solution should take into account the climatically harsh environment and the robust industrial materials used.



Installation of RFID antennas and readers on pontoon crane.



The RFID antennas and readers on the different cranes read the information of the concrete blocks tagged.



Level-bloc with embedded RFID tag containing the product information.

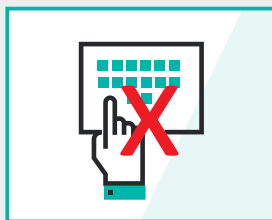
The solution

Every Level-bloc is equipped with an RFID tag, produced by Idencia. The tags are embedded during the manufacturing process of the concrete blocks and provide a link with all required product information.

Aucxis implemented the ATLAS RFID track & trace solution. RFID antennas and readers have been installed on certain strategic cranes in the production hall, in the concrete block drying area and on the dike in order to be able to read out the specific data of the blocks. For the installation of these antennas, heavy duty equipment has been provided to enable working at sea in all weathers.

The Aucxis middleware HERTZ enables to conveniently consult all tag information, stored in the cloud, through a web platform accessible to Level and its partners at all times. Furthermore, thanks to the integration of HERTZ with the GPS systems of the cranes, an insight is provided into the exact position of every block.

The result



No manual counting or data processing needed, the detailed information about the Level-blocs during the whole manufacturing process is automatically processed and made available.



The exact position of every block can be requested at any time.



Thanks to the software, specific reports can be generated with relevant data for high-performance analyses.



The RFID solution ensures a timely intervention if something happens with a block.

[Aucxis cvba](#)

Zavelstraat 40
9190 Stekene
Belgium
T: +32 3 790 17 17
info@aucxis.com
www.aucxis.com