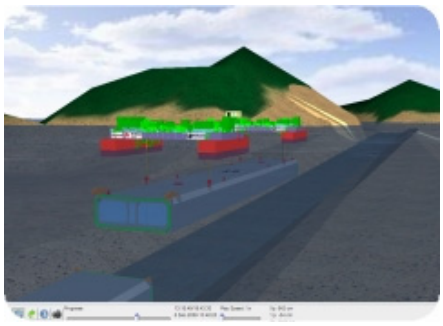

Client
Strukton Afzinktechnieken 'Mergor'

Location
South Korea, Busan

Delivery date
2008-2010

Contract sum
EUR 1,000,000 tot 2,500,000

Project summary
- Development and realisation of a measuring system for the immersion of tunnels
- Integration of specialist sensor techniques with land surveying
- Close collaboration with various divisions within the customer organisation
- Rapid acquisition of knowledge in a highly specified technological field

Monitoring the immersion of tunnel elements in South Korea

Strukton Systems was commissioned by Strukton Afzinktechnieken 'Mergor' to design a new system for monitoring the immersion of tunnel elements. This system was used during the construction of a 3.2 km long tunnel consisting of 18 tunnel elements of approximately 180 metres in length. This tunnel will connect the South Korean city of Busan to the Geoje peninsula.

Through collaboration with Geocon, a corporate division of Strukton Afzinktechnieken 'Mergor', Strukton Systems developed an immersion measurement system for reading out sensors and analysing the data measured. This allowed the tunnel elements to be positioned accurately to a millimetre during the transport over the sea and during the immersion on site. Integration with land surveying methods and techniques was of key importance.

Strukton Systems has verified that it was possible to convert the data from different kinds of sensors into land surveying information presented graphically in a cockpit overview. This made it possible to create a graphical presentation of the immersion process of a tunnel element in all stages.
At the same time, customers and other parties involved could follow the immersion process online through a special 3D internet application. And after the immersion process, the system provides a wealth of information for analysis and reporting purposes based on measurements taken afterwards. Engineers of Strukton Systems were available on site to assist at the building, coupling and calibrating of the sensors and for direct support during the immersion process if required.

A highly successful product was created owing to the integration of various specialist fields of knowledge. Knowledge of specialist techniques and measurement methods was acquired in a relatively short period of time. Strukton Systems has successfully delivered a custom-made product and an accurate measurement system within this highly specialised technological field. The immersion measurement system delivered has already been used in various other immersion projects.

Please refer to the website www.geocon3d.com for more information, where immersion projects can be followed in 3 D.

Strukton Systems

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