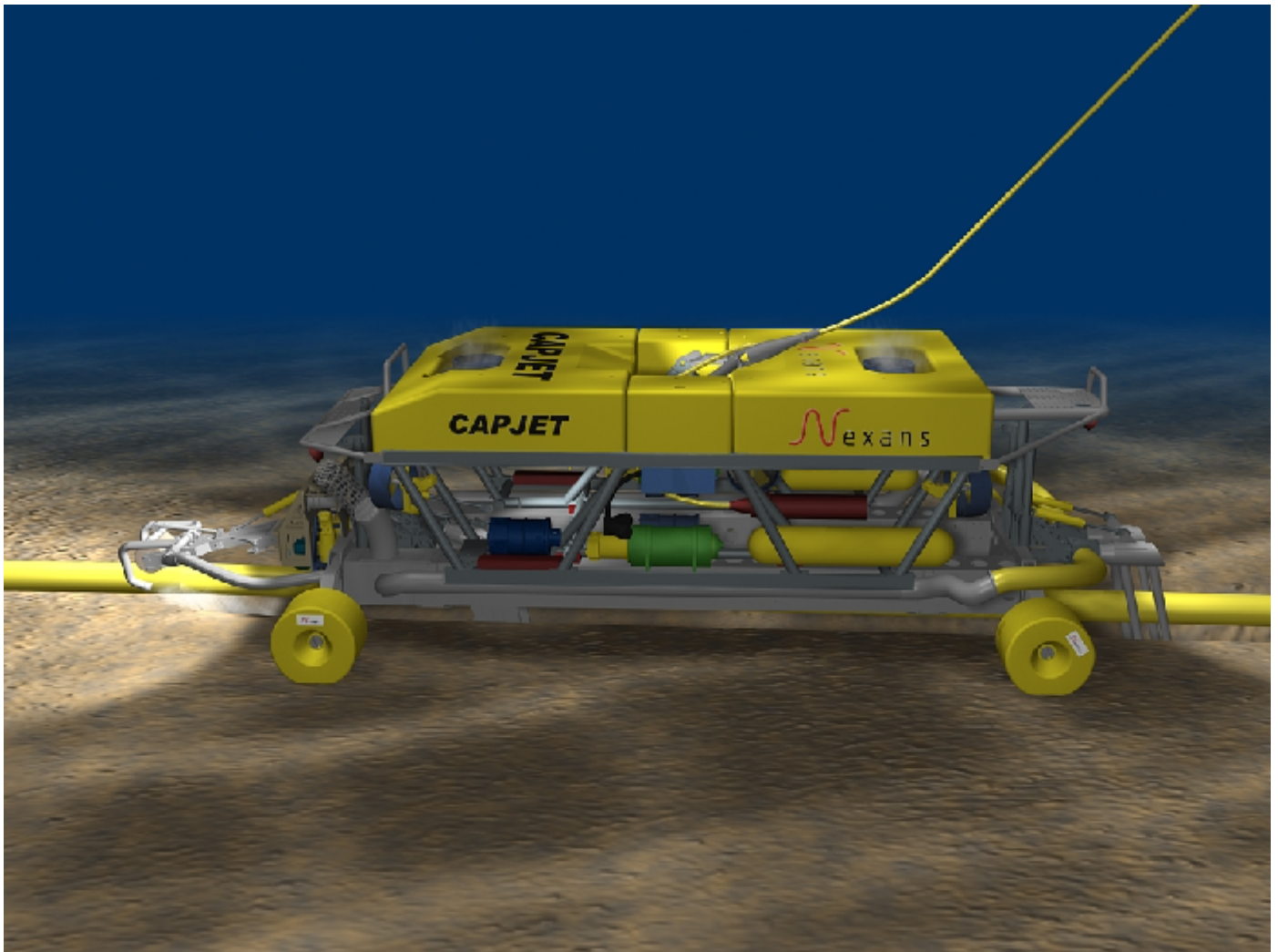

NEXANS CAPJET trenching system



 Nexans

Installation Services Section



The CAPJET systems was originally developed as a cable burial tool for shallow water. In 1987 the shallow water system was further developed, and the first remote controlled jetting trencher went into operation in 1988. The system was further developed for deeper water and the CAPJET performed the first offshore operation in 1989. The requirement for burial in harder soil and trenching of flowlines required more power available for the jetting pumps. The CAPJET 500 1 MW with more than 1 MW of power was developed and started operation in 1993. It operated together with the smaller CAPJET 1000 until 1999, when the CAPJET 650 MW 1 was developed and built.

With the development of the SPIDER system and the conversion of SPIDER to CAPJET system, Nexans have four MW trenching system complete with handling systems and frequency controlled electrical umbilical winches.

Size & weight

- Control container 20', 7 t
- Workshop 1 x 20', 4 t each
- Transformer container 1 x 20', 13 t
- Storage container 20', 7 t
- Generators (optional) 2 x 20', 15-18 t each
- Umbilical winch 4.4 x 3 x 2.8 m, 30 t (1000m typ)
- LARS 16 t SWL DAF 3.75. 3.5 x 5 x 11 42 T
- Capjet 8 x 4 x 2.5 m, 14.5 t

Hydraulic system

- 2 x 150 HP HPU redundant systems
- 1 x 6 HP dirty hydraulic
- 10 x 17" thrusters (each 550 kg)

Bollard pull

- Forward approx 2000 kg
- Lateral 1000 kg
- Vertical 1000 kg
- all HPUs pressure software controlled

Trench module and water pumps

- Adjustable front and aft swords
- Vertical lifting 600 mm
- Horizontal adjustment of sword opening 200 mm
- 2 x 420 KW water pumps
- Pressure from 10 to 16 bar dependent of project requirement.

Electronic/data

27 Gbit uplink/175 baud download w 5xRS232 and 5xRS485/422, 6 x video and 2 x imaging sonar links, Ethernet w 3 x 10 Mbits links
Typical 16 extra Rs232 on Ethernet 1 Ghz main computer on control system.

Handling system

- Operation up to Hs 3.5 m vessel dependent
- Constant tension winch

Frame and lift structure

- Titanium air filled structure
- pressure rating 2000 m
- Buoyancy (for North Sea operation) 1000 m or 1550 m.

Control system

All data are collected on a serial to Ethernet drop down network which gives "local" control of all sensors and valvepacks. The latest control system technology as OPC, distributed data collection, touchscreens and WEB based monitoring and support tools. The system can be fully supported through the internet and low speed connections. Realtime control system for transformer control and LARS and umbilical winch control and monitoring.

Trench modules

- Special trench modules for :
- Flexible pipeline trenching with software controlled speed control and measurement
 - Steel flowline
 - Backfill plough
 - Ejector system
 - Cable trenching to 3 m burial depth
 - Tension system for all modules

Sensors (Typical)

- Six color video cameras
- Two mesotech 1000 sonar
- Mesotech SM2000 imaging sonar
- DigiQuarts pressure sensor
- Digital yoke sensor
- Mesotech digital altimeter
- Octans fiberoptical survey gyro
- Three off electrical P&T units
- Linear sensors 8 off (typical)

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