



# SUBSEA TRENCHING & EXCAVATION

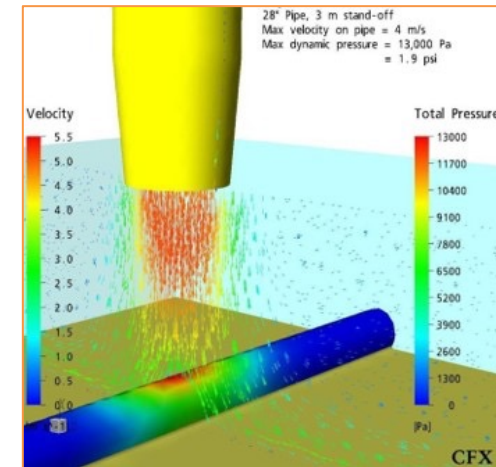
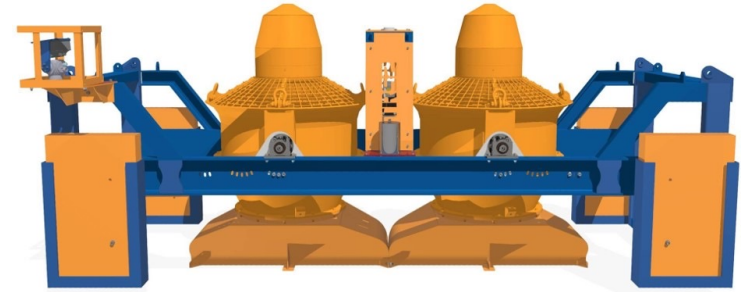
In collaboration with



# ROTECH SUBSEA LTD.



- All Rotech equipment is developed and manufactured in-house.
- Rotech Subsea Ltd. began operations under the Rotech Group banner in 1994 and has successfully completed more than 500 projects worldwide.



# CAPABILITIES



## Pre-commissioning:

- Sandwave Clearance
- Route / Debris Clearance
- Boulder / Rock Clearance
- Seabed Levelling / Deepening

## Decommissioning:

- Subsea Structure De-burial / Access
- Pipeline Lowering
- Mattress Lowering / Removal
- Cutting

## Commissioning:

- Cable Jet Trenching, Infield and Export
- Cable Remedial Lowering
- Cable Energised Cable Lowering
- Pipeline Trenching, Umbilical, Flexible and Trunklines

## IRM

- Cable De-burial / Access
- Cable Cutting and Removal
- Cable Freespan Correction
- Pipeline De-burial / Access
- Pipeline Freespan Correction
- Rock Dump Dispersal
- Pre Cut Trench Debris Clearance
- UXO & Salvage De-burial / Access
- Harbour Clearance / Deepening

### RSG1

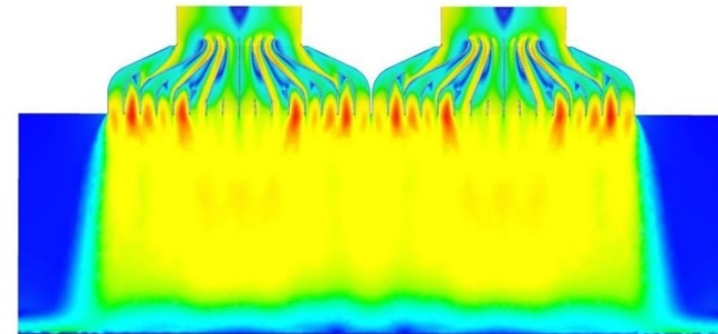
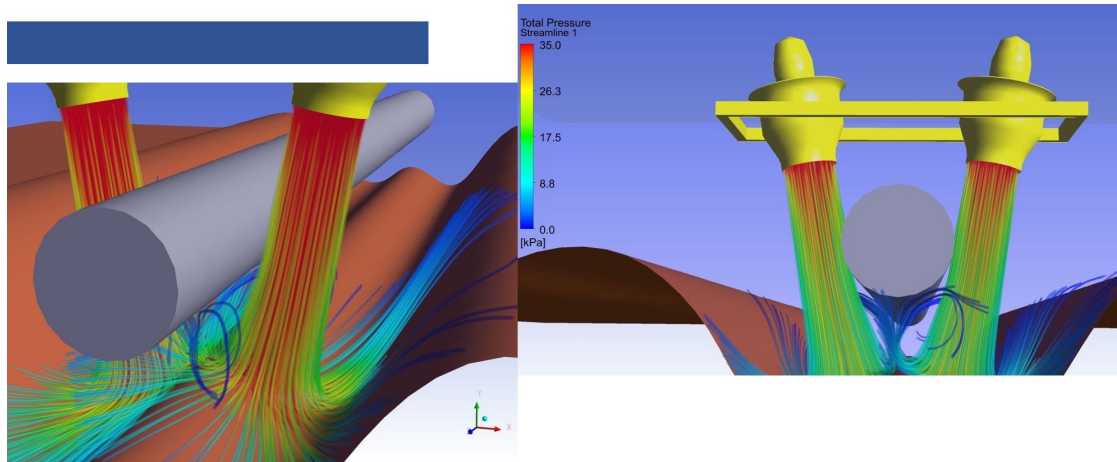
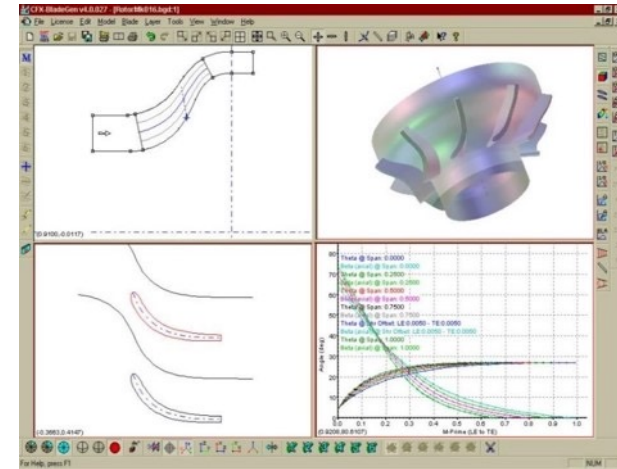
- Over 100 cuts
- Sonar
- Cut positioning system





# THEORY OF OPERATION

- Rotech provides highly effective subsea excavation tools deployed over the side of a vessel and operated remotely from its deck.
- They work by producing a controlled column of water, the pressure of which fluidises the seabed and effectively excavates a trench.
- It is a non-contact system which minimises the risks associated with physical contact especially around complex subsea assets.
- The new RS range has involved radical design changes and extensive optimisation of design with fluid dynamics software.
- The Result is:
  - Improved transfer of energy from impellers to jet of seawater
  - Improved flow paths – reduced flow losses
  - Improved stability and increased jet pressure



# TRACK RECORD



*Rotech has successfully completed more than 500 projects globally since it's inception in 1994. Rotech has worked in water depths ranging from 0.6m to 1,000m (in the GOM).*

The projects include:

- Cable Trenching/burial
- Decommissioning
- Projects have been completed in the following locations worldwide:
  - North Sea
  - Europe
  - Gulf of Mexico
  - South East Asia
  - Australia
  - South America
  - Canada
- Rotech equipment has worked with many different soil types including:
  - Soft, medium and hard clay
  - Gravel
  - Rock Dumps
  - Soft silt
  - Mud
- Major clients include:
  - Apache
  - Premier Oil
  - ConocoPhillips
  - Boskalis
  - Talisman
  - Petronas
  - Saipem
  - Allseas
  - Shell
  - Woodside
  - Subsea 7
  - Technip



# EQUIPMENT



## RS Equipment





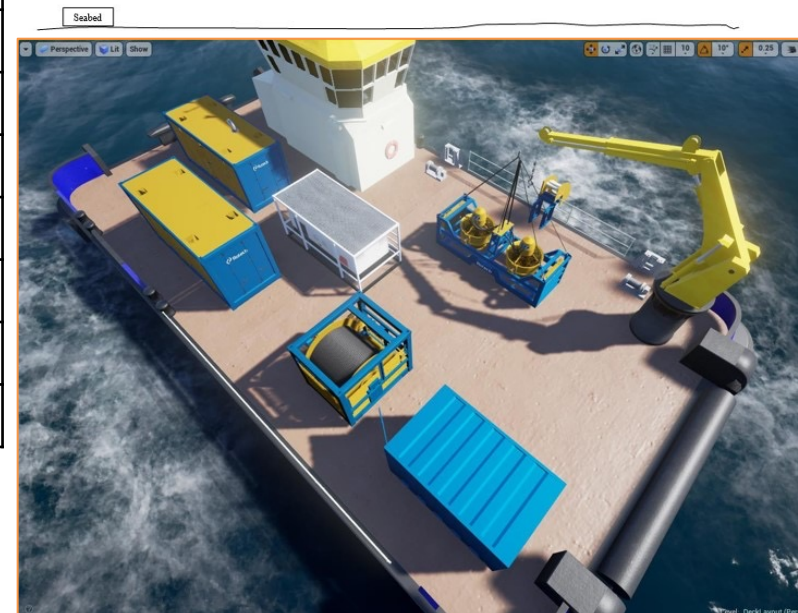
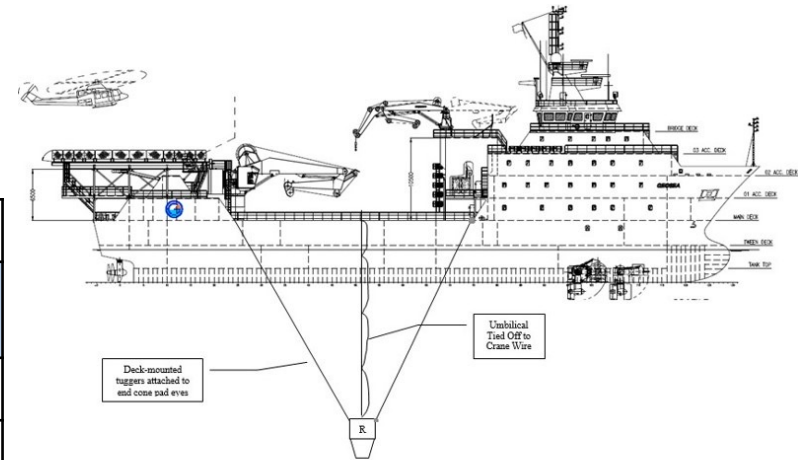
# FOOTPRINT



## LAYOUT AND REQUIREMENTS

- The following is a typical equipment spread:

ROTECH SUBSEA EQUIPMENT			
No	Item	Dimensions (m)	Weight (kg)
1	RS2 Tool	2.1 x 2.2 x 0.8	5000
2	Tool HPU	6.1 x 2.45 x 2.40	16000
3	Spares Container	6.1 x 2.45 x 2.7	12000
4	Hydraulic Umbilical Winch	2.26 X 2.56 X 2.42	10000
5	Umbilical Chute	2.90 X 0.84 X 1.17	1000
6	Deck Tugger (2)	1.34 X 0.56 X 0.69	1100
7	Tugger Compressor	5.02 X 2.45 X 2.51	10000
8	Universal Roller Fairlead	1.55 X 0.56 X 1.14	500
9	Control Shack	3.05 X 2.45 X 2.60	5000





**“COMBINING DISRUPTIVE TECHNOLOGIES AND  
PROVEN ENGINEERING CAPABILITIES”**

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