

A large offshore oil rig is positioned on the left, connected by a taut cable to a support vessel on the right. The rig features a tall derrick and complex scaffolding. The support vessel has several cranes and a flat deck. They are situated in the middle of a blue sea with white-capped waves. The sky is blue with scattered white clouds.

# TECNICHE COSTRUTTIVE NELL'INGEGNERIA OFFSHORE

 **ROSETTI MARINO**  
*Group of Companies*



UNIVERSITÀ  
DEGLI STUDI  
FIRENZE

**UNIVERSITÀ DEGLI STUDI DI FIRENZE**  
**DICEA - NOVEMBER, 06<sup>TH</sup> 2017**

**QUESTIONS?**

# CONTENT

Rosetti Marino

Yard Engineering

Yard Management

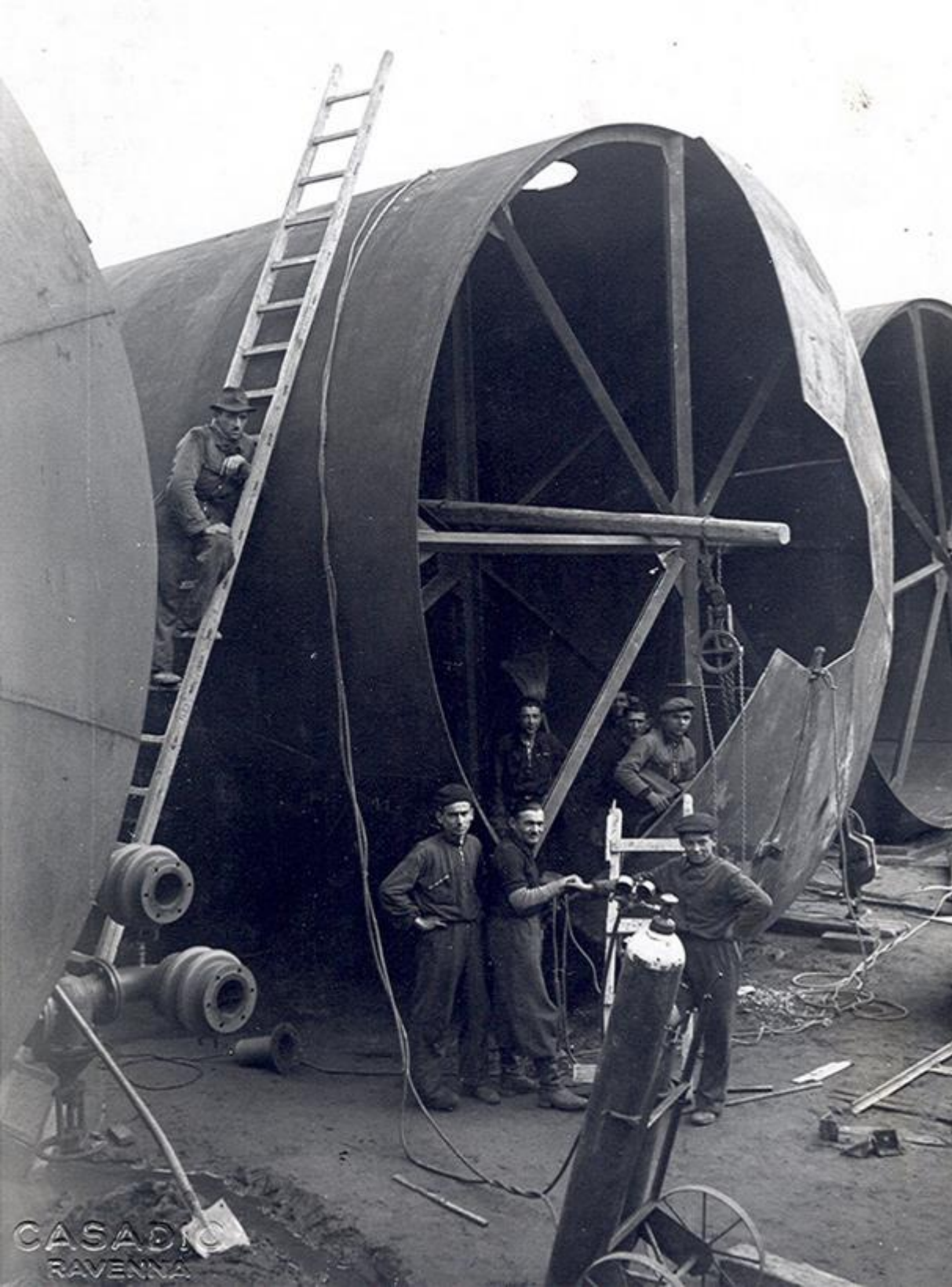
*Heavy Lifting & Roll Up*

*Load Out*

Subsea

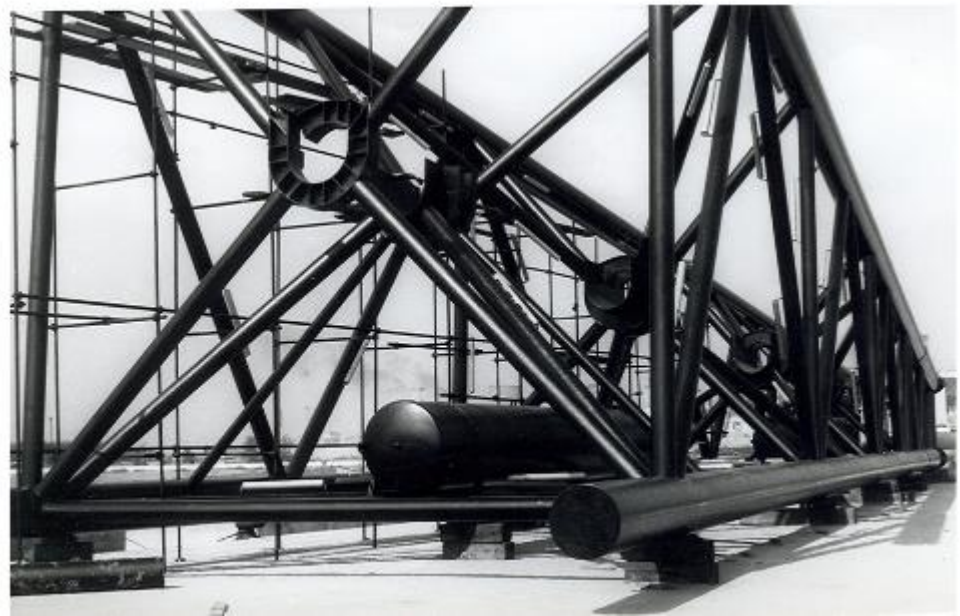
Marine





**OUR**

**HISTORY**



# COMPANY MILESTONES

Rosetti Marino is an italian **Engineering Procurement & Construction (EPC) Contractor** active in the Oil & Gas and Energy sector.

1925

The company **is established** in Ravenna, North Eastern Italy, as a mechanical fabrication workshop

The '50s

Rosetti contributes to the development of **Chemical and Petrochemical industry** in Ravenna and operates also as shipbuilding yard.

The '60s

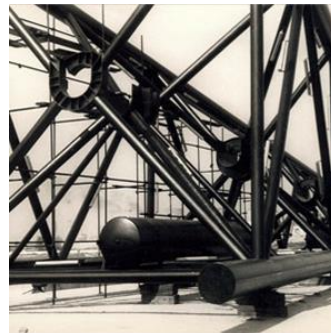
The company begins the construction of **Offshore Oil & Gas facilities** for the Adriatic Sea.

Early '90s

The company recognizes the need for a strong engineering content in its business, thus settling **Fores Engineering** and purchasing **Basis Engineering**; hence the core of Rosetti Marino Group is established.

From late '90s to date

The Group starts **international operations** and settles foreign subsidiaries in Europe, Africa, Asia and South America.





# WHO WE ARE

An integrated **Group of Companies**



**ROSETTI MARINO SPA**  
Ravenna - Italy



**BASIS ENGINEERING SRL**  
Milano - Italy

100%

100%

**ROSETTI MARINO UK**  
Scotland



**FORES ENGINEERING SRL**  
Forlì - Italy

100%

50%

**ROSETTI CONGO SARL**  
Congo



**TECON SRL**  
Milano - Italy

20%

65%

**ROSETTI LIBYA JSC**  
Libya



**ROSETTI PIVOT LTD**  
Nigeria

49%

50%

**KCOI LLP**  
Kazakhstan



# WHO WE ARE

An Italian **EPCI Contractor** with:



## IN-HOUSE ENGINEERING PROCUREMENT AND CONSTRUCTION CAPABILITIES

STRUCTURAL  
MULTIDISCIPLINARY  
ELECTRICAL & INSTRUMENTATION  
MARINE AND OFFSHORE



**WORLDWIDE PRESENCE**



**IMPRESSIVE TRACK RECORD OF EPCI  
PROJECTS SUCCESSFULLY DELIVERED FOR  
O&G MAIN PLAYERS**



# WHAT WE DO

## SUBSEA



## OFFSHORE



## ONSHORE



## SHIPBUILDING & SUPERYACHTS





# WHAT WE DO

Nowadays, Rosetti's **range of Products and Services** can be summarized as follows:

## SUBSEA

- Manifold
- Pipeline End Terminal (PLET)
- Pipeline End Manifold (PLEM)
- Boosting System
- Subsea Control Module (SCM)
- Subsea Electronic Module (SEM)
- Master Control Station (MCS)
- Subsea Umbilical Termination Unit (SUTU)
- Topside Umbilical Termination Unit (TUTU)
- Remote Terminal Unit (RTU)

- Jackets
- Integrated Topsides
- Process modules
- Living Quarters
- Power Generation, Compression & Utility Modules
- Brownfield, Upgrade & Revamping

## OFFSHORE

## ONSHORE

- Gas/Oil separation Plants
- Compression Stations
- Pumping Stations
- Gathering Stations
- Oil&Gas Power Plants and Substations
- Process Equipment

- Harbour tugs
- Ocean going tugs
- Platform Supply Vessels & AHTS
- Ferries
- Living Quarters barges
- Special purpose barges
- Super Yachts

## SHIPBUILDING & SUPERYACHTS

# OUR CAPABILITIES

Rosetti Marino Groups provides a full range of services for the Energy sector including Oil&Gas Upstream, Petrochemical, Power Generation and Subsea Development

## CONCEPT SELECTION

### Feasibility studies

Reservoir engineering  
Process Studies

- Structural
- Multidisciplinary
- E&I
- Marine
- Telecom
- Automation
- Skid & Packages

Systems Integration

Existing Facilities Due diligence

Environmental Impact Studies

Permitting engineering

Risk assessment

Site surveys

CAPEX-OPEX estimation +/- 30%

## CONCEPT DEFINITION

### Basic Design Front End Engineering Design

Tender Documents

Permitting Engineering

Site surveys

Reverse engineering and laser scanning

Risk assessment,  
HAZID/HAZOP/QRA

CAPEX estimation +/-15 -10%

Owner Engineering Services

## PROJECT DEVELOPMENT

### Detailed Design

Procurement engineering

Site surveys

Reverse engineering and laser scanning

Risk assessment,  
HAZID/HAZOP/QRA

Operating Manuals

Commissioning & Startup

Owner Engineering Services

Project Management Services

Installation Supervision Services

Technical Service

A large offshore oil rig is shown at sunset, with its complex steel structure and a prominent crane. The rig is situated in a body of water, and the sky is filled with soft, colorful clouds. The rig's reflection is visible in the calm water below. A red banner with white text is overlaid across the middle of the image.

# YARD ENGINEERING



# YARD MANAGEMENT



Total area: 110.000 m<sup>2</sup>

Covered Assembly: 1.700 m<sup>2</sup>

Blasting and Painting: 3.400 m<sup>2</sup>

Yard Bearing Capacity: 23 Tons/m<sup>2</sup>

Warehousing+Offices: 2.400+750 m<sup>2</sup>

Quay Length: 450 mt

Reinforced Quay: 50 mt

Load Out up to 10.000 Tons

Water Depth: 7,5 – 9,5 mt



# YARD MANAGEMENT

- Erection sequence definition
- Handling methods definition
- HSE assessment + Yard assessment
- Equipment selection
- Design calculation + Grillage + Supports
- Logistic



# HEAVY LIFTING & ROLL UP

- Design calculation
- HSE assessment + Yard Assessment
- Equipment selection
- Stability analysis
- Clash analysis
- Logistic





# LOAD OUT

- Design calculation  
Grillage & Sea Fastening
- HSE Assessment + Quay Assessment
- Equipment selection
- Ballasting calculation
- Logistic



# ...A CASE STUDY



# RECENT REFERENCES



## Marlin Project (Foxtrot)

EPC – Dec. '12/Aug. '14-Mar. '15

- Topside: 54x31x20 (LxWxH)
- Weight: 4.500 tons
- Jacket: H 118 m
- Weight: 3.500 tons  
(+ 1.300 tons for piles)
- Living Quarter: 20 POB



## Clipper (Shell UK)

EPC – Aug. '12/June '14

- Topsides - Living Quarter (84 POB)
- Deck/helideck: 50x25x25 (LxWxH)
- Weight: Approx. 3000 tons
- Four-legged jacket (800 tons)



## West Franklin (Total)

EPC(I) – July '11/June '13

- Design pressure: 915 barg
- Design temperature: 190°C
- Topside: 40x40x20 (LxWxH)
- Weight: 3.300 tons



## Elgin B (Total)

EPC(I) – July '11/June '13

- Design pressure: 915 barg
- Design temperature: 190°C
- Topside: 35x35x15mt (LxWxH)
- Weight: 2.300 tons



An underwater photograph showing sunlight rays (crepuscular rays) filtering down from the surface, creating a dramatic, blue-toned scene. The water surface is visible at the top with ripples and reflections.

**SUBSEA**

- **Shallow Water...**not only for deep and ultra-deep water
- **More and more Reliable** subsea developments thanks to technology evolutions
- **Cheapest Solution** rather than fixed or floating platform
- **Boosting System** to maximize the well's life

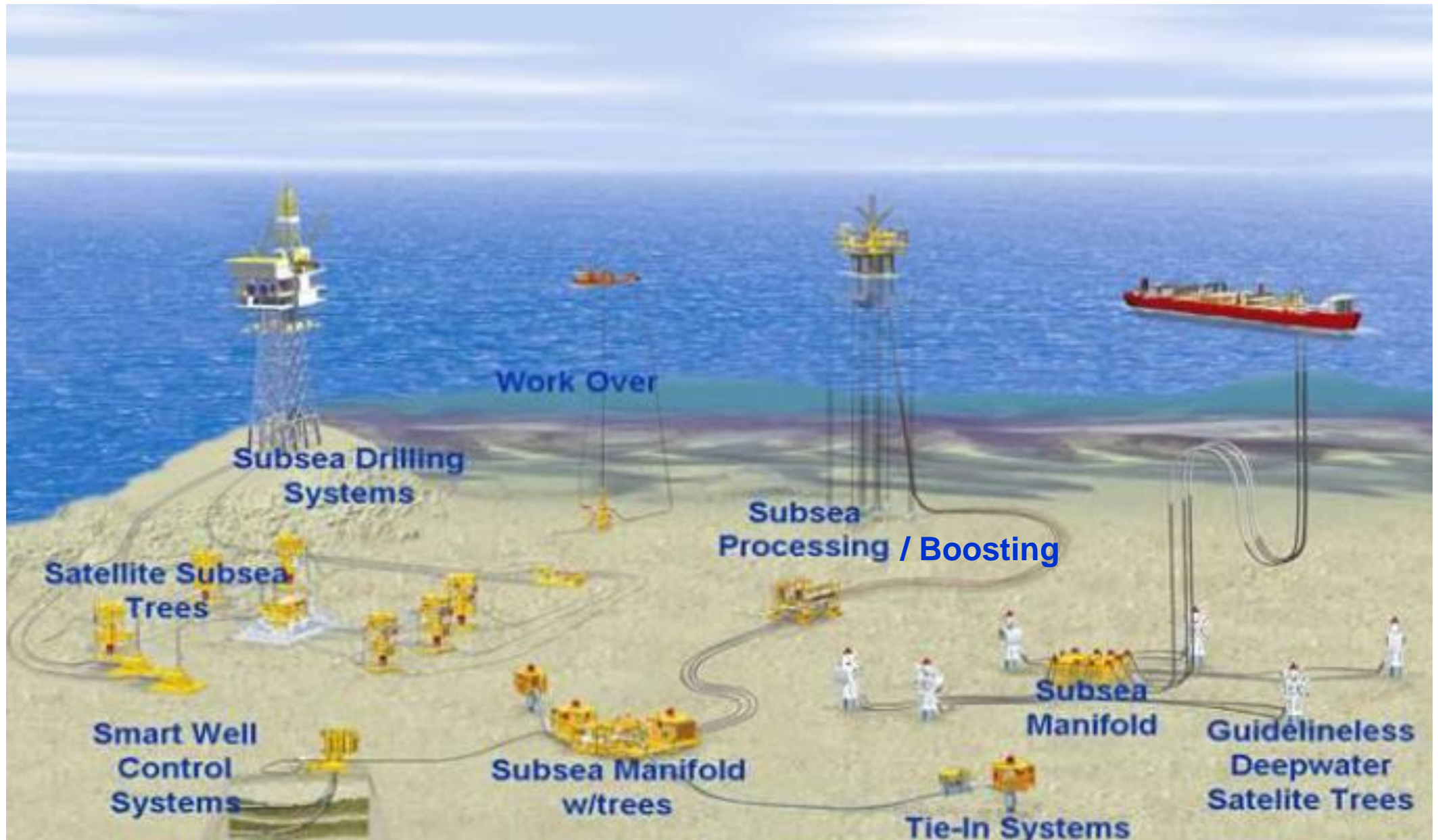
- Subsea Developments (DEVELOPMENT STRATEGY)
- Process transfer to Seabed (PRODUCTS)



- Complete view of the Project Development Phases
  - Proved International Experience
  - High Flexibility



# A TYPICAL SUBSEA FIELD





# MAIN SUBSEA EQUIPMENT

- *WellHead*
- *Xmas-Tree*
- *Pipeline End Terminal (PLET)*
- *Pipeline End Manifold (PLEM)*
- *Manifold*
- *Jumpers*
- *Umbilicals*
- *Boosting System*
- *Subsea Control Module*
- *Umbilical Termination Assembly*





# YARD SUBSEA ACTIVITIES

- **Design**  
integration  
reliable
- **Construction**  
quality  
experience
- **Testing**  
integrated  
customized





**MARINE**



# ...A CASE STUDY





# ...A CASE STUDY





# ...A CASE STUDY





# ...A CASE STUDY



# ...A CASE STUDY





# ...A CASE STUDY





# CONCLUSIONS

Human Capital

Yard and Assets

Engineering and Construction Experience

HSE and Risk Assessment

International Experiences

Solid References



**Marco Pacini**

Business Development  
Manager

[marco.pacini@rosetti.it](mailto:marco.pacini@rosetti.it)

## **Rosetti Marino S.p.A.**

Via Trieste 230, 48122

Ravenna, Italy

[www.rosettimarinogroup.com](http://www.rosettimarinogroup.com)

[www.rosetti.it](http://www.rosetti.it)

Tel. +39-0544-878111

**Q&A**