CRN Engineering

Brazilian company that utilizes strategic intelligence, value engineering, cutting-edge knowledge and the Just in Time engineering practices acting as strategic partner to develop services and innovations.
When

- Conceptual Design
- Feasibility Study
- Detailed Design
- Manufacturing Support
- Decommissioning
- Life Extension Study
- Integrity Management
- Commissioning
Market Coverage

Where

Oil & Gas

Industry

Renewable
“We work in partnership with academic institutions in an ongoing program of RD&I to leverage competitiveness for clients with economic or technological challenges.”
Subsea Generator of Electrical Energy from Maritime Currents

Motivation: Renewable Energy Generator directed to the needs from the Subsea Factories of Oil & Gas industry.

Activities: Conceptual Design; Model Testing; Energy Efficiency Study; Environmental Impact Assessment; Detailed Design; Prototype Manufacture; Field Proven.
Monitoring and Integrity Maintenance of Subsea Pipelines in Free-span Condition

RD&I


• Activities: Conceptual Design; Model Testing; Software Development for Acquisition, Treatment and Integrity Evaluation; Detailed Design; Prototype Manufacture; Field Proven.
VIV Mitigation Device for Subsea Pipelines in Operation

**Motivation:** Adequacy to the needs of subsea pipelines in operation in free-span condition with advanced process of fatigue damage and without the use of vortex suppressors.

**Activities:** Hydrodynamic Behavior vs Engineering Critical Assessment; Conceptual Design; Model Testing; Detailed Design; Prototype Manufacture; Field Proven.
RD&I

- Motivation: The first multi sensor inspection platform that moves externally along the riser length.
- Activities: Conceptual Design; Study of Inertial Navigation Application; Hydrodynamic Study; Detailed Design; Prototype Manufacture; Field Proven.
**Y-Method: Active Control of Natural Frequency of the System**

**Motivation:** Installation of heavyweight subsea equipment ($\approx 300$tf) in ultra-deep waters ($\approx 2,000$m) using 2 AHTS and avoiding the resonance phenomenon.

**Activities:** Concept; Hydrodynamic Study; Model Testing vs Numerical Verification.
Motivation: Development of a new FPSO's hull that produces less heave and roll motions than vessels designed for navigation purposes.

Activities: Stability Analysis in Intact and Damaged Condition; Loadcase Study (Mooring and Risers Systems); Model Testing; Hydrodynamic Study; Simplified Structural Analysis.
“The more we dedicate ourselves to working and to understand the day-to-day operations of our clients, the more knowledge we will acquire and the better the decisions we take will be.”
Experiences

Partners of RD&I from CRN team
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