

ITALY DAY

ABSTRACT TABLE OF VRSim Project

PROJECT Nr. 10

SECTOR:

Virtual Reality

**PROJECT IDEA IN A
HEADLINE:**

3D Virtual Reality Immersive Simulation for Oil&Gas Industry

INNOVATIVE POINTS:

VRSim is a platform for interactive virtual environments specialized in the Oil & Gas. Its main purpose is to improve plant safety through appropriate training aimed at:

- Improve knowledge of the system: the exploration of the system in the virtual door to learn procedures and skills that can be reused in the field.
- Reduce errors: for example, in operations carried out rarely for maintenance
- To manage potentially dangerous situations: through the simulation of different types of accidents such as gas leaks, explosions, fires ...

**POTENTIAL BUSINESSES AND
APPLICATION FIELDS:**

Virtual Reality Simulation in oil&gas industry (immersive training, security, simulation of malfunctions, ecc.), but also virtual reality simulation on other business area (real estate, Information Technology, other process industry, ecc.)

**CHARACTERISTICS OF POTENTIAL
PARTNERS:**

Research Center in area of chemical-physical simulation of process industry, process industry in oil&gas area

BRIEF PROJECT DESCRIPTION:

VRSim combines photo-realistic rendering and hi-fidelity simulation that lead the user to experience a full immersive training scenario. The sense of immersion is enhanced by spatial sounds, support for stereoscopic glasses and CAVE room. The high performance 3D engine can render complex scenes and massive data set within a high responsive frame rate, even in stereoscopic view.

The accuracy of the simulation is guarantee by the bidirectional links with many commercial process simulator. User can read values on virtual field instruments, operate on device in the scene, and see in real time the effect of his action on the plants.

VRSim has a distributed architecture with a multi-user capability, appealing for team training, supervised by a teacher. The field operators will take advantage of over-imposed augmented reality feature and directly perceive behaviours and internals of any

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equipment in the field. A visual guide can optionally drive the operator to carry out complex procedures and rate its performances.