

We are a **compact** and **enthusiastic spin off company** who wholeheartedly subscribe to continuous learning and improvement and who have a willingness to share and collaborate with our partners. Our mission is to blend R&D know-how from *academia* with *practical consulting experience* from industry to enhance production systems in the global **energy and environmental** sectors via innovative measurement and control solutions and world class training and development of operating staff.

## “PER ASPERA AD ASTRA”

Seeing forward in a challenging world



We took the "**GROLLA**" as a symbol to express our group identity. *Sharing*: Drink all from the same source of knowledge and share experiences in order to grow together. The custom of drinking in company from a single chalice has remote origins and the act of drinking in turn would make it more strong ties between people. So we think that by offering the cup of knowledge and by drinking with our partners customers can grow strong together.

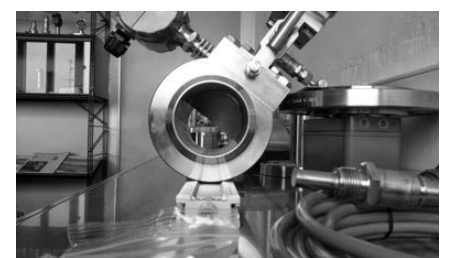
**3FASE srl** creates bespoke alternative measurement solutions for the global energy and environmental sectors. By drawing on our academic and consulting partnership, we provide innovative yet pragmatic answers that are adapted to the specific conditions of each field application and consider fully the reliability of the interpretation models used.



Agenzia per la Diffusione delle Tecnologie per l'Innovazione  
Presidenza del Consiglio dei Ministri

In 2011 **3FASE srl** participate and was selected to the Italia degli innovatori project.

**Consultant and field experience:** Reservoir engineering, drilling monitoring and optimization, production optimization, gas storage, multiphase flow metering, geothermal energy.



## OIL & GAS SOLUTIONS

Reliable multiphase flowmeters, due to complexity of the fluid mixtures, need improved measuring concept. Multiphase flow or different mud types as oil based, water based, fillers, additives, cuttings, gases, flow regime, vibrations and other issues have to be considered when selecting a suitable flow meter.

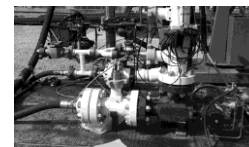
**3Fase Srl** and **Terranova@ Srl** are working to offer new solutions through innovation of traditional well known meters with innovated algorithms tested in real conditions which bring to

- Higher efficiency and enhanced performances, granted in real time monitoring, of each well.
- Optimization of well drilling and of reservoir production.

OUR SMART DEVICES ARE NON-INTRUSIVE AND EASY TO MAINTAIN

### OIL&GAS PRODUCTION FLOW METERS:

- MFU Multiphase Flow Meter
- MFU + (MFU & 3SEP Inline Test Separator)
- OWD - Water Cut Meter
- CVA - Choke Valve Multiphase Flow Meter



### OIL&GAS UPSTREAM DRILLING FLOW METERS:

- DRILLING MUD MFM100 MEASUREMENTS
  - MUD FLOW
  - MUD FLOW + OIL FLOW + GAS FLOW
  - MUD FLOW & CUTTINGS + OIL FLOW + GAS FLOW
- DDM - MUD Density in-line Meter

## GEOTHERMICS SOLUTIONS

### CONVERTING INTO ELECTRICITY

The conventional geothermal resources are concerned with hydrothermal systems. Our view is focused on possible use or conversion of O&G fields.

**CO-PRODUCTION:** The waste heat recovery from the produced stream could be an interesting option. Increase in profitability of small oil and gas producers as well as the possible reuse of an oil field as the geothermal one are our specific goals

**WELL HEAT EXCHANGER:** The WellBore Heat eXchanger (WBHX) is a solution in reuse of O&G wells. This completion allows to extract heat using an heat carrier fluid circulating in a closed loop using the underground heat capacity

### USING THE UNDERGROUND HEAT CAPACITY

The effort of the European Union for the next future is to reduce carbon emission and increase the energy efficiency in buildings. A mature technology is the Ground Source Heat Pump. In this field we are improving energy efficiency of the probes and the whole system in order to optimize the management of the underground capacity.