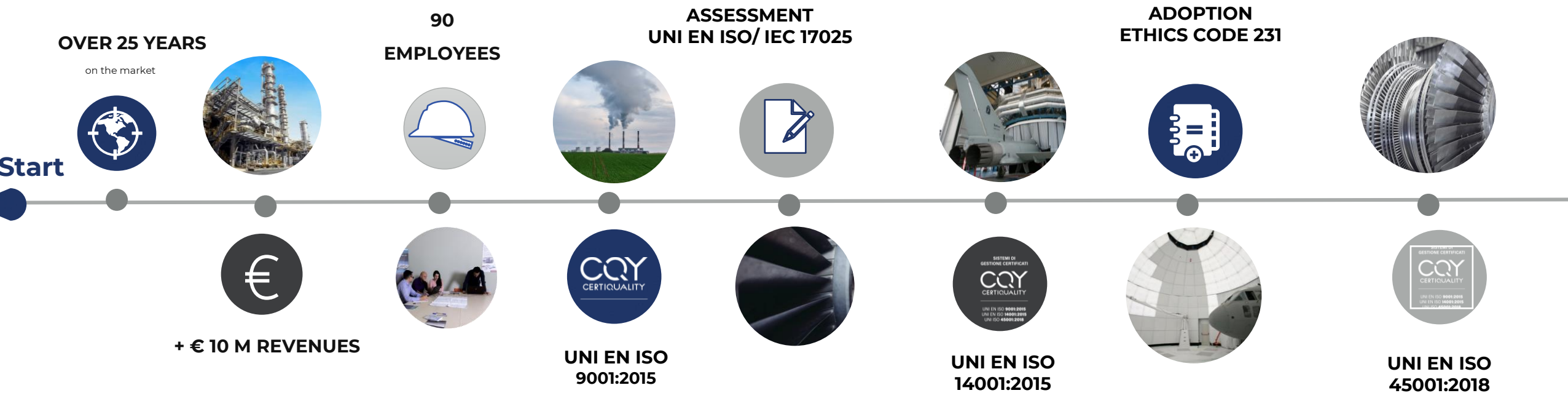




opus
automazione

**TOGETHER
WE BUILD
THE FUTURE**

Who We are



Opus at glance



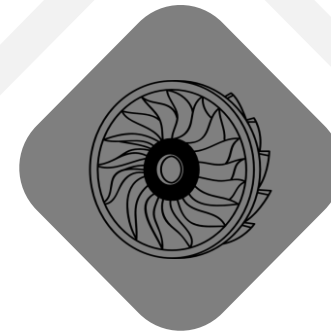
INDUSTRIAL AUTOMATION

Design – Production
Commissioning of
industrial automation
systems



TESTING

Test benches for industry
and defence
System integration



TURBOMACHINERY

Remote diagnosis
Predictive diagnostics
Industry 4.0



ENVIRONMENT

Design - Construction
Maintenance - Continuous
systems of emission
monitoring

Upstream



Roller cone

Hydrotest (HTB-01H)

The Hydro Test Bench is designed to test one by one BIT with test pressures up to 300 bar (4351,13 psi), in order to verify the leakage proof of the test BITs. It is possible to obtain higher pressures on request. Easy and fast replacement of ternale BIT interface in order to change the product under test.

The pressure generation system allows to get any type of ramp: it can be managed directly by the operator and it reaches a greater performance then traditional system, both for accuracy and repeatability of the test.



One Head Nitrogen Test Bench (TPN2)

The nitrogen Test bench NTP2 is designed to test one by one BIT internal valves with test pressures up to 20 bars (290 psi), in order to verify the holding pressure and relief pressure of the internal valves.

The system is able to test up to three valves for every BIT. The bench is equipped with bar code scanner and it is interfaced with factory production data base due to retrieve information about type of BIT under test and it select the associated recipe.

At the end of the test if one or more valves are fail the bench show a valves status layout.

When the Bit is tested again, the system indicate to perform testing only failed valves on the previous test.



Greasing Machine (GM-02H)

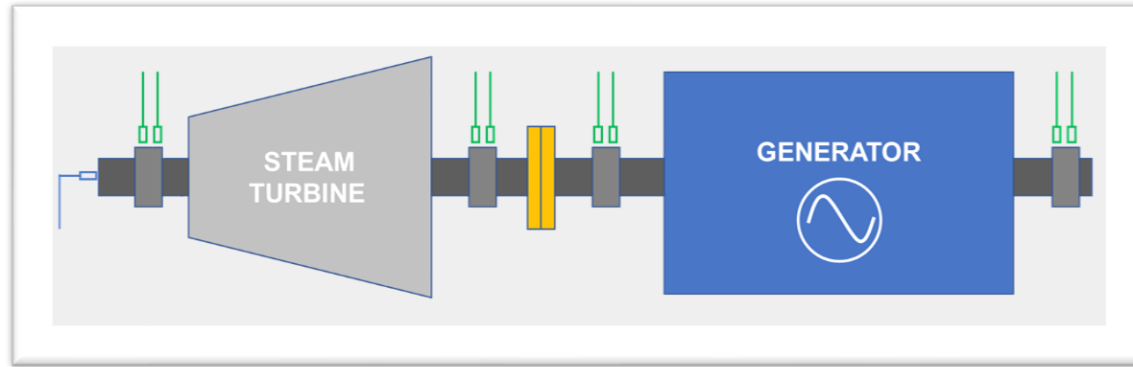
For the need of the drilling industry, the "Greasing Machine" was born.

Optimal lubrication of bits is a strategic feature for their safe operation, our machine makes this reliable operation through a semi-automatic system that allows the complete filling of the channels and lubricant tanks and the verification of successful success of the operation.

The distribution system is modular to allow greasing complete of two chisels at the same time with only one pumping unit.



Downstream



- Gas turbines
- Steam Turbines
- Axial and centrifugal compressors
- Turbo-Compressors e Turbo-Generators

DATA TO BE ACQUIRED

- Steam conditions (pressure and temperature) at the different turbine section (inlet, extraction, exhaust,..)
- Plant steam flow rate measurements
- Machine control valve positions
- Generated electrical power
- Vibration sensor data
- Data from machine auxiliary systems
- Data from other plant components (e.g., boiler, condenser, etc.)

✓ Environment

CEMs (Continuous Emissions Monitoring)

Opus automazione designs and implements the entire CEMS system, thanks to the support of the internal design team.

In addition to the preliminary phase, it also provides for the construction and commissioning of the system.

Fully modular, starting from an established manufacturing standard.

Adaptable to plant requirements (safe zones, ATEX zones, etc.)

Accompanied by certifications and meeting safety standards.

In mercury and hydrogen sulfide abatement plants (AMIS) we provide continuous measurements for Hg and H₂S.



Air Quality

opus designs, manufactures and maintains air quality analysis booths.

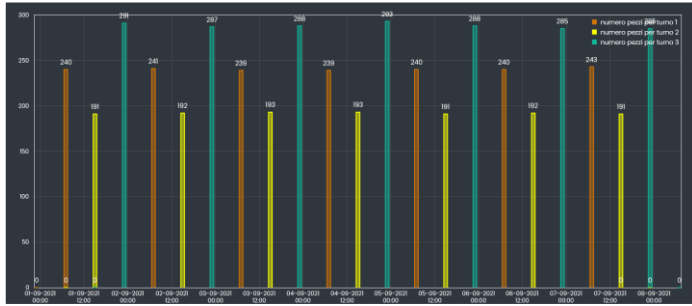
Systems consisting of:

- dedicated analyzers with ppb measurements
- dedicated acquisition system
- monitoring of weather parameters
- data remoting



Dashboard for data visualization and KPIs

Opus has internally developed the InnTegra software to carry out machine diagnostics and for Industrial-IOT solutions, aimed at the digitization of industrial processes.



Overview Impianti

Impianto: TURBOGENERAZIONE | MACCHINE: 3

TURBOGEN_1:

- Misure:
 - TURB_STATUS: STATO TURBINA: IN AVVIAMENTO
 - CONN_STATUS: COLLEGAMENTO RETE ELETTRICA NAZIONALE: CONNESSA
 - VALV_OPEN: APERTURA VALVOLA INGRESSO VAPORE: 84%
- KPI: DISP_TURBOGEN_1: PERCENTUALE DI DISPONIBILITA

TURBOGEN_3:

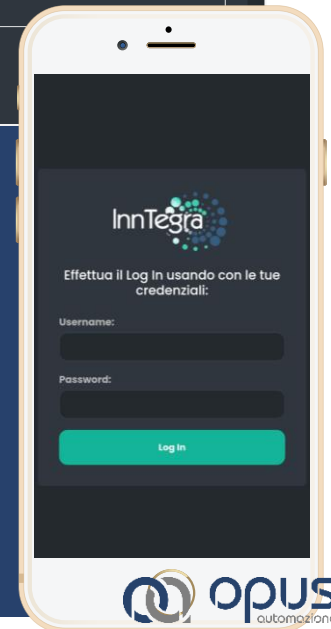
- Misure:
 - Q_FUEL_GAS: PORTATA FUEL GAS: 1.7 kg/s
 - RUNNING_HH: ORE DI MARCIA DELLA TURBINA: 177
 - FUEL_QTY: QUANTITA' MEDIA DI COMBUSTIBILE CONSUMATO GIORNALMENTE (kg): 2.521,047 (1 Giorni)
- KPI: DISP_TURBOGEN_1: PERCENTUALE DI DISPONIBILITA

TURBOGEN_2:

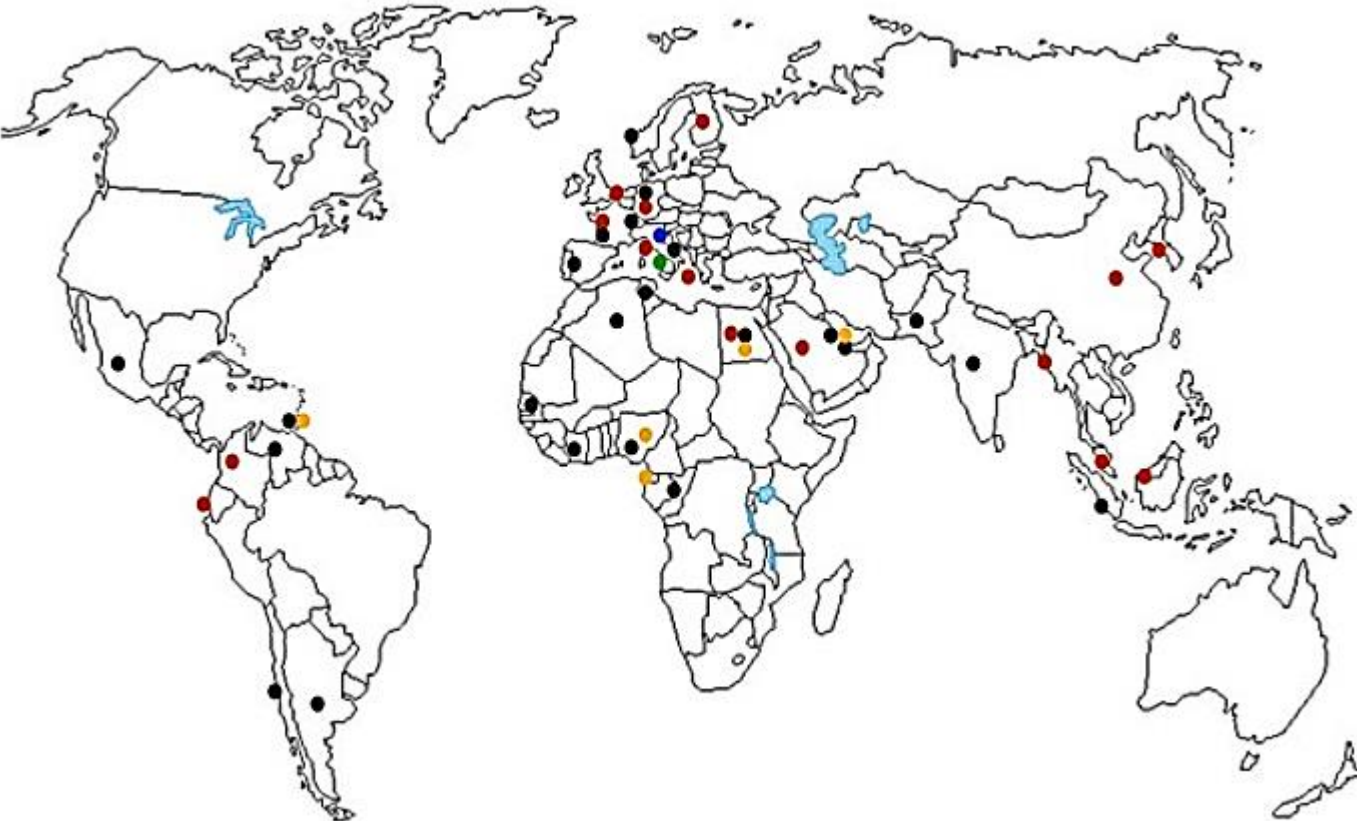
- Misure:
 - Q_STEAM_IN: PORTATA TOTALE VAPORE IN INGRESSO: 21
 - CONN_STATUS: COLLEGAMENTO RETE ELETTRICA NAZIONALE: CONNESSA
 - POWER: POTENZA EROGATA DALLA TURBINA: 6896
- KPI:
 - STEAM_QTY_TURBOGEN_2: Quantità di vapore media immessa in linea (t): 1.019,422 (1 Giorni)
 - AVG_POWER_TURBOGEN_2: PRODUZIONE MEDIA ENERGIA ELETTRICA TURBOGENERATORE_2 (kWh): 162.028,738 (1 Giorni)
 - DISP_TURBOGEN_2: PERCENTUALE DI DISPONIBILITA TURBOGENERATORE 2 (%): 0,257 (1 Mesi)

Misure

Misura	Descrizione	UDM	TURBOGEN_1	TURBOGEN_3	TURBOGEN_2
TURB_STATUS	STATO TURBINA		NUMERIC	5	
Q_FUEL_GAS	PORTATA FUEL GAS	kg/s		5	
SERB_I1_STATUS	STATO SERBATOIO 1			5	
TURB_STATUS	STATO TURBINA				5
CONN_STATUS	COLLEGAMENTO RETE ELETTRICA NAZIONALE		5		
STATUS	STATO TURBINA			5	
SERB_I1_LIV	LIVELLO SERBATOIO 1	%		5	
CONN_STATUS	COLLEGAMENTO RETE ELETTRICA NAZIONALE				5
VALV_OPEN	APERTURA VALVOLA INGRESSO VAPORE	%	5		



WorldWide



Business contact



- INDUSTRIAL AUTOMATION**
- ENVIRONMENT**
- FIELD TESTING**
- DEFENSE & AUTOMOTIVE**
- NON-DESTRUCTIVE TESTING**

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