

# Company Profile

2012



**ESO Information Day**  
Rome 22nd June 2012  
Paolo Bonifazi

# Facts and Figures

**50** years



Experience Company

**20.000** tons/year



Production

**200.000** sqm



Workshops

**420**



Employees

**30.000** hours/year



Wide Machine Park

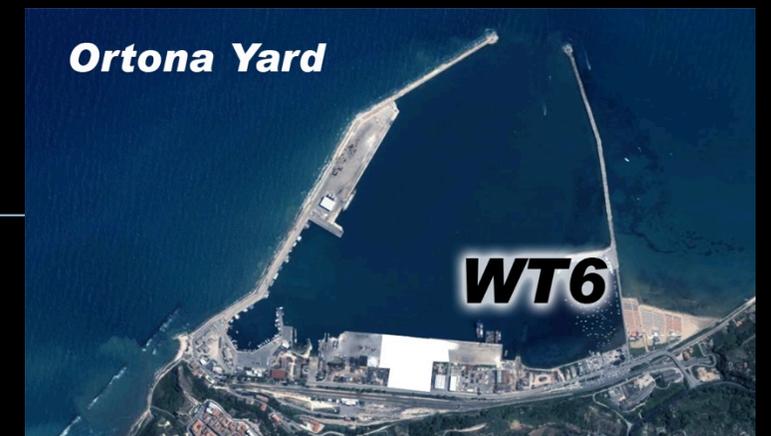
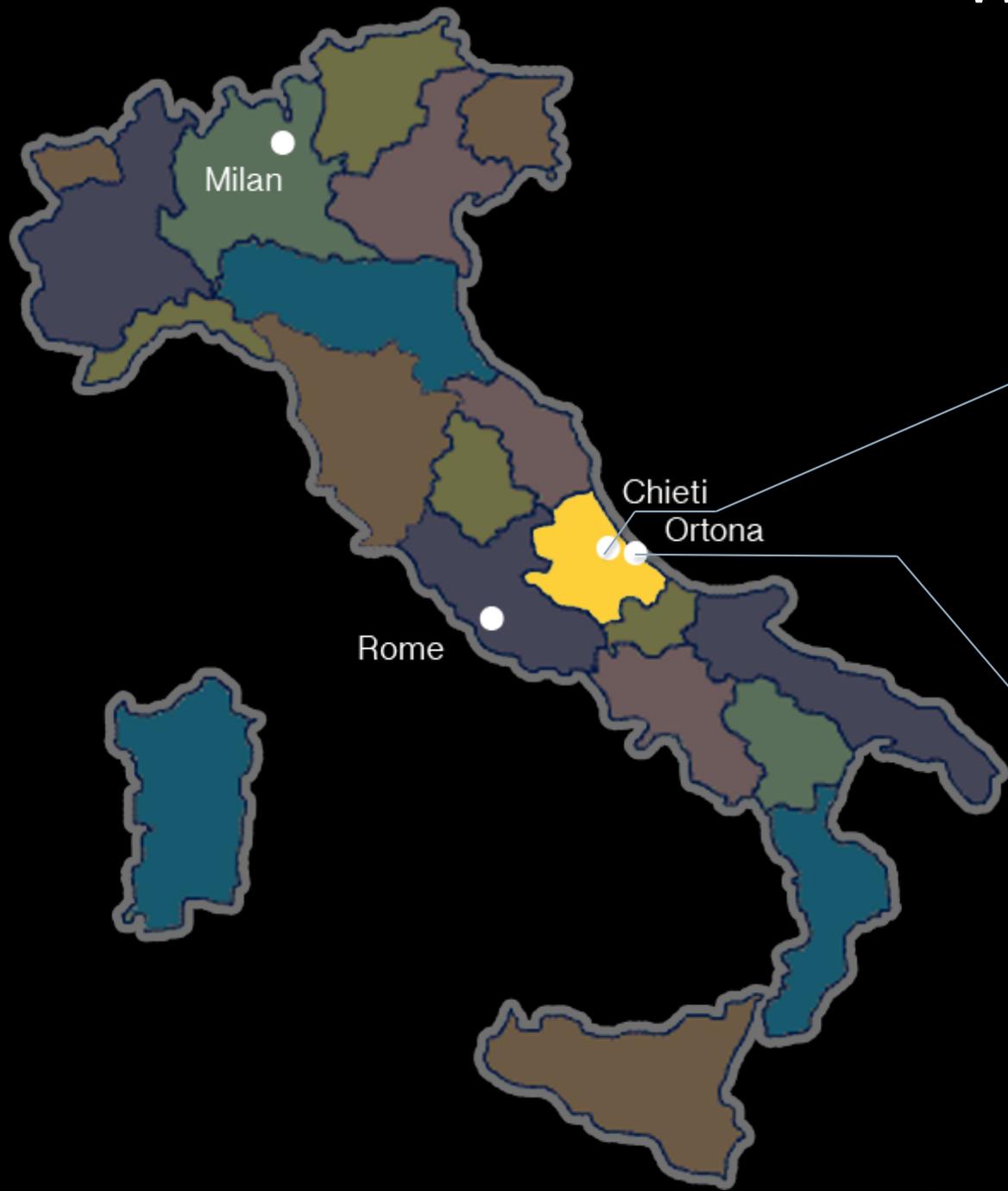
**75.000** sqm



Sea Front Workshop

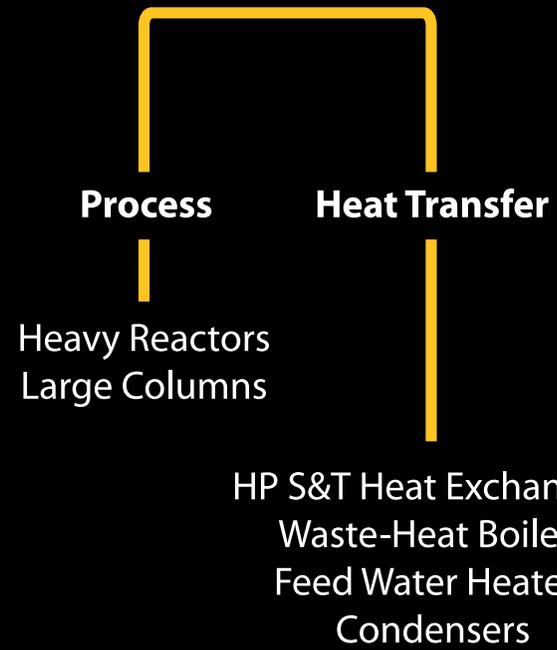


# Workshops

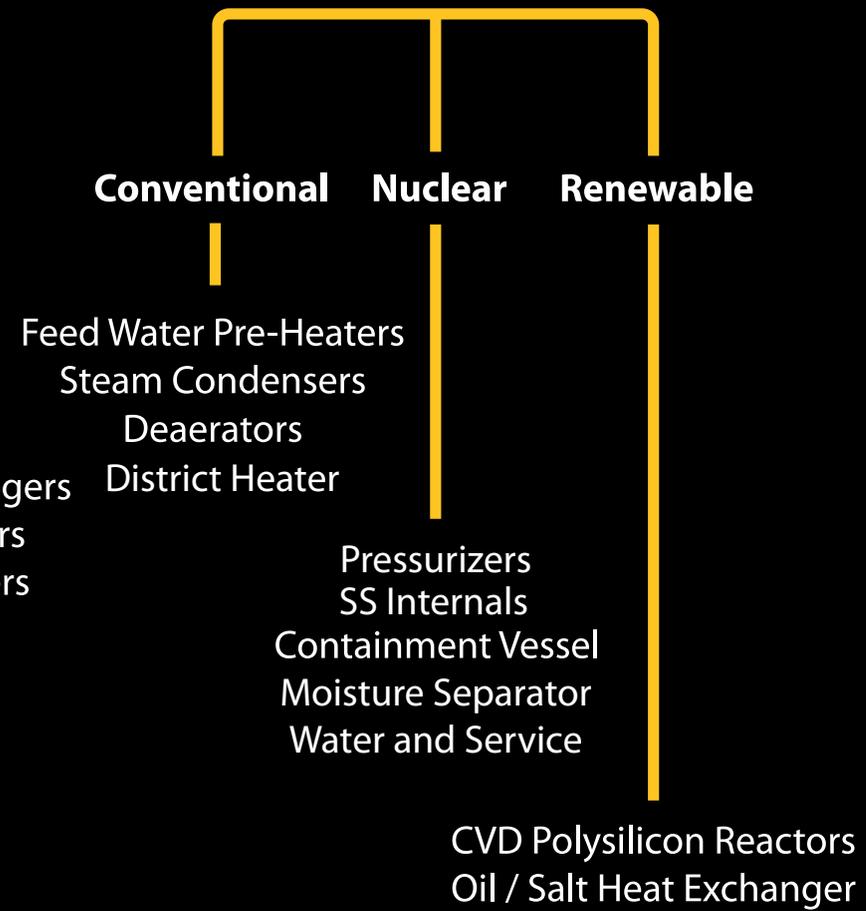


# Company Markets

## OIL & GAS, Refining and Petrochemical



## POWER



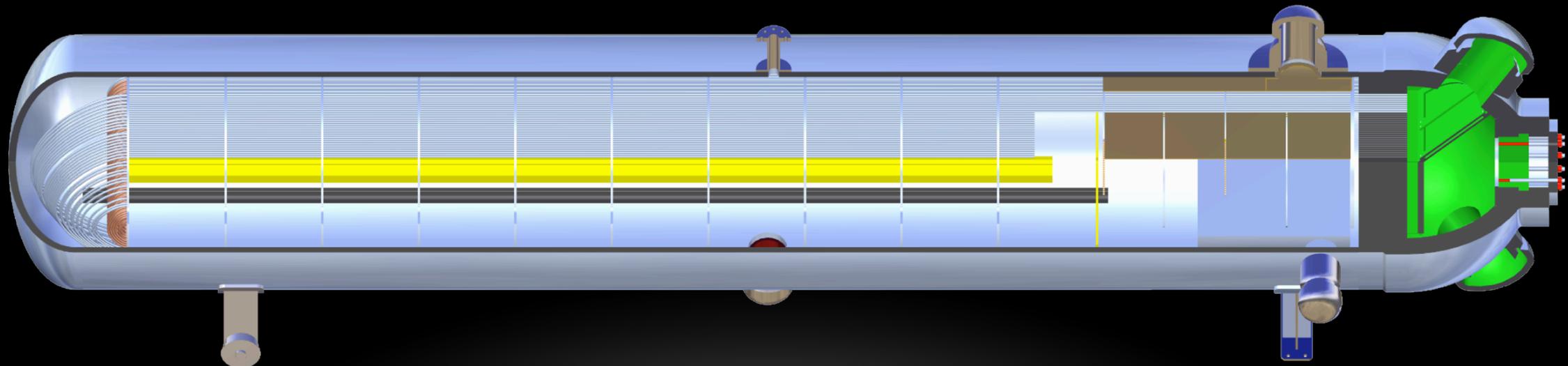
# Standards and Code

## Some of the Applicable Design Codes and standards

- ASME-III
- ASME-VIII Div. 1
- ASME-VIII Div. 2
- PD5500
- AD Merk Blatter 2000
- ASME I VSR
- Stoomwelzen
- SQL/SELO
- API
- CODAP
- CODRES
- HTRI
- HEI
- GOST
- IBR
- RCC-M
- RCC-MR
- EUR

## Computer Aided Design System

System Name	Purpose	Developer
Finglow	Calculation software	Finglow Ltd
Soild Edge	3D drawing calculation software	USG
Pro Engineer	Parametric 3D drawing program	PTS
AutoCAD	2D drawing Program	Autodesk
ANSYS	Finite Elements Analisis	ANSYS
Aspen Suite	Heat Exchangers Mec. Design Shell & Tube Exchanger Design Rating Software	Aspentech
Sant'Ambrogio PAAC	Mechanical calculation software Feedwater Heater and surface condenser thermal design	Sant'Ambrogio Bosco Spa



# Materials

## Carbon Steel (CS)

Fine grain Steel/Normalized  
High strength – CS (QH)

## Cr – Mo alloys

0,5 Mo  
1 Cr – 0,5 Mo  
2,25 Cr – 1 Mo  
2,25 Cr – 1 Mo  
2,25 Cr – 1 Mo – 0,25 V

## Stainless Steel

Ferritic  
Austenitic  
Alloy clad

## Ferritic

## Austenitic Steel Duplex

S 31803  
S 32205

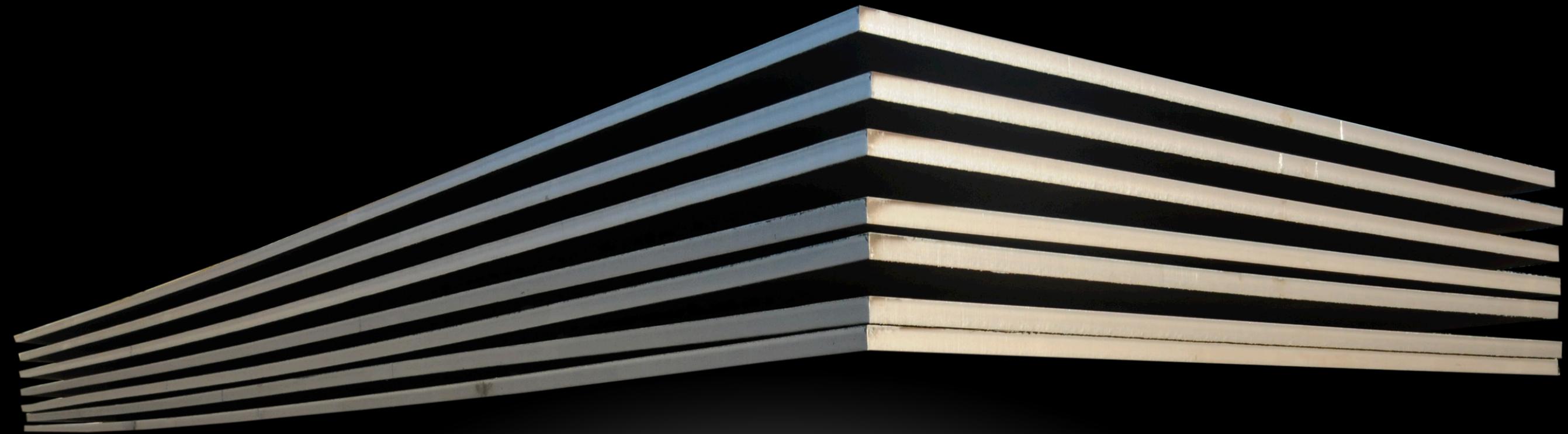
## Ferritic

## Austenitic Steel Duplex

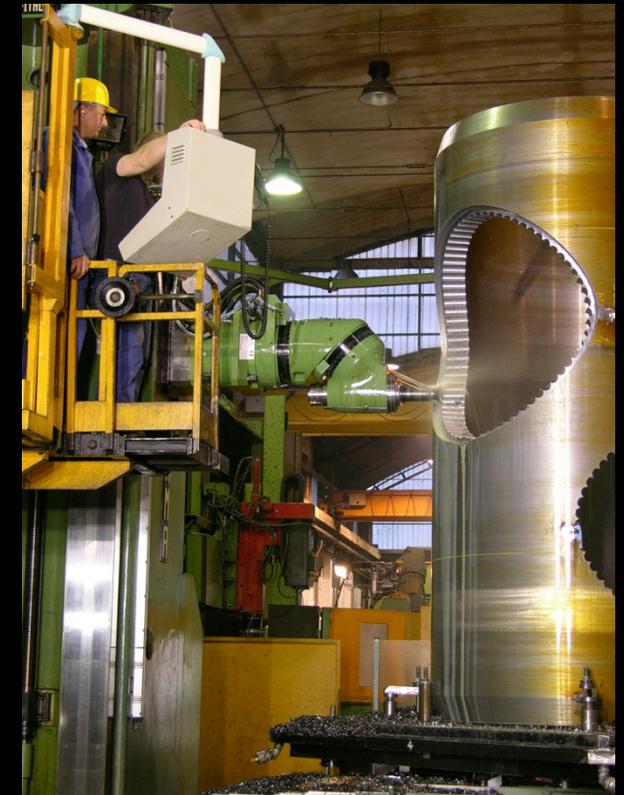
0,35 Ni  
3,5 Ni

## Non Ferr. Materials

Ti-Gr. I/ Gr. II  
Copper Alloy  
High Nickel Alloy



# All in House



# CND

WT's quality system is certified according to ISO 9001:2008 to guarantee the highest level of quality in all processes involved in the company's operations focusing on full Customers satisfaction

## Non-destructive testing

In-house Contract

UT / Ultrasonic	x	x
UT / TOFD ("Time of Flight Diffraction")	x	x
RT / X-Ray	x	x
RT / Gamma Ray	x	x
PT / Dye-Penetrant	x	x
MT / Magnetic Particle	x	x
HB, HV, HRC / Hardness Testing	x	x
Air Pressure Testing	x	
Tightness / Leakage Testing Helium		x
Hydro Pressure Testing	x	
Delta Ferrit Testing		x
PMI	x	x
UT Phased array	x	x

## Mechanical Test

In-house Contract

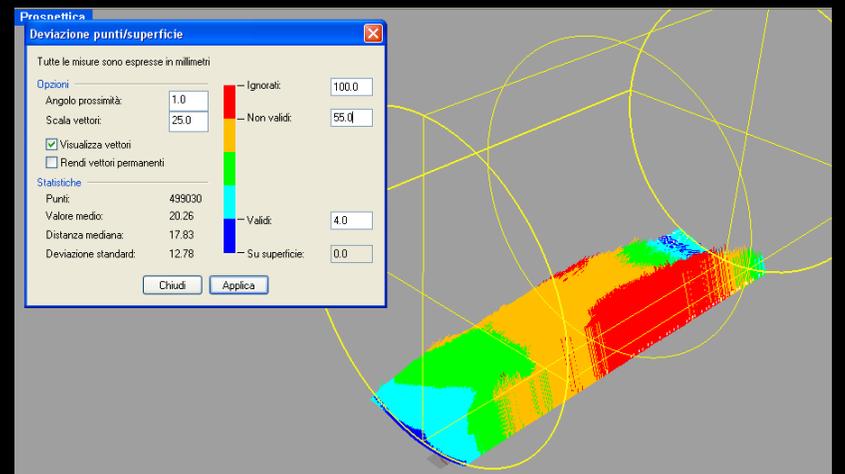
Tensile	x	x
Impact T.	x	x
Hardness	x	x
Bending	x	x
Macrotest	x	x

## Others

Disbonding		x
Microtest		x
Chemical analysis		x

## DIMENSIONAL CHECKING

Only 3 D laser scanner shall be used for dimensional check. This control shall be done in any intermediate step of fabrication to keep under control and in case to allow a remedial action, the actual dimension with the predicted ones.



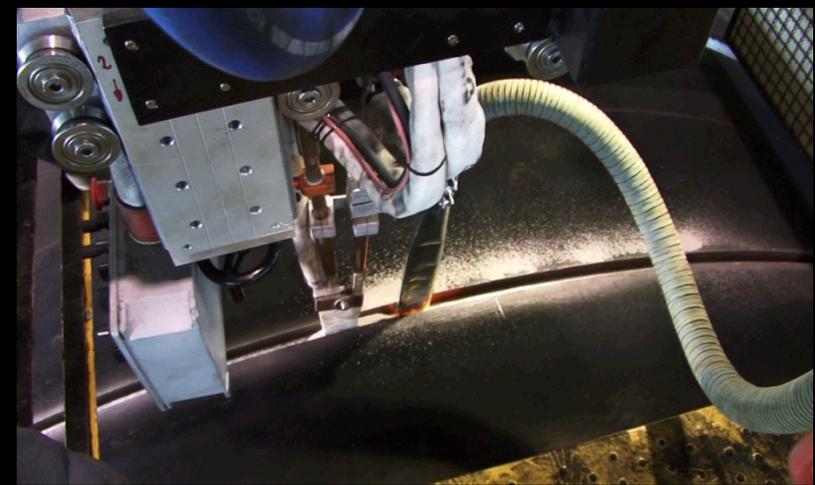
## NDE

Special dedicated and robotized equipment shall be designed manufactured and qualified for the NDE examinations



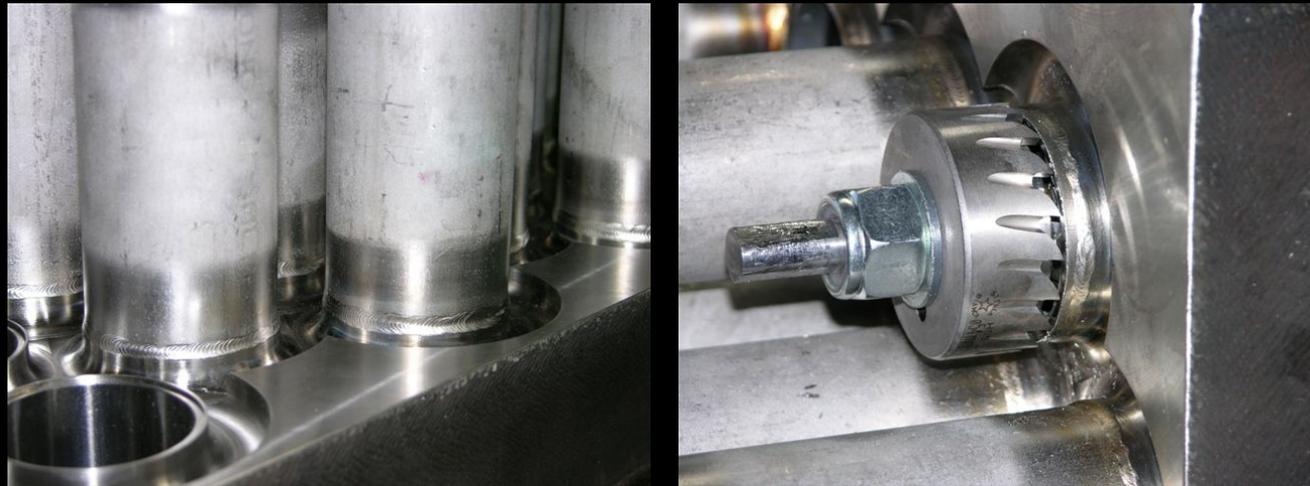
# Welding

Welding process employed		Manual	Autom.
SMAW	Shielded Metal-Arc welding	X	
SAW	Submerged-Arc Welding		X
SAW STRIP	Subm.-Arc Weld. with strips		X
SAW Tandem	SAW Double Wire		X
GMAW	Gas Metal-Arc Welding	X	X
GTAW	Gas Tungsten-Arc Welding	X	X
FCAW	Flux-Cord Arc Welding	X	X
ESW	Electro Slag Welding		X
PAW	Plasma-Arc Welding		X



# Welding

## Internal Bore Welding



This particular welding is performed using a gun inserted in the tubesheet hole with a rotating head. With special tools is possible to re-build the seat when is necessary to cut the tube already welded.

## Electro Beam Welding with PRO-BEAM partnership



For the construction of the Vacuum Vessel, Walter Tosto, with the cooperation of PRO-BEAM, has **developed and qualified procedures for the execution of EB welding.**

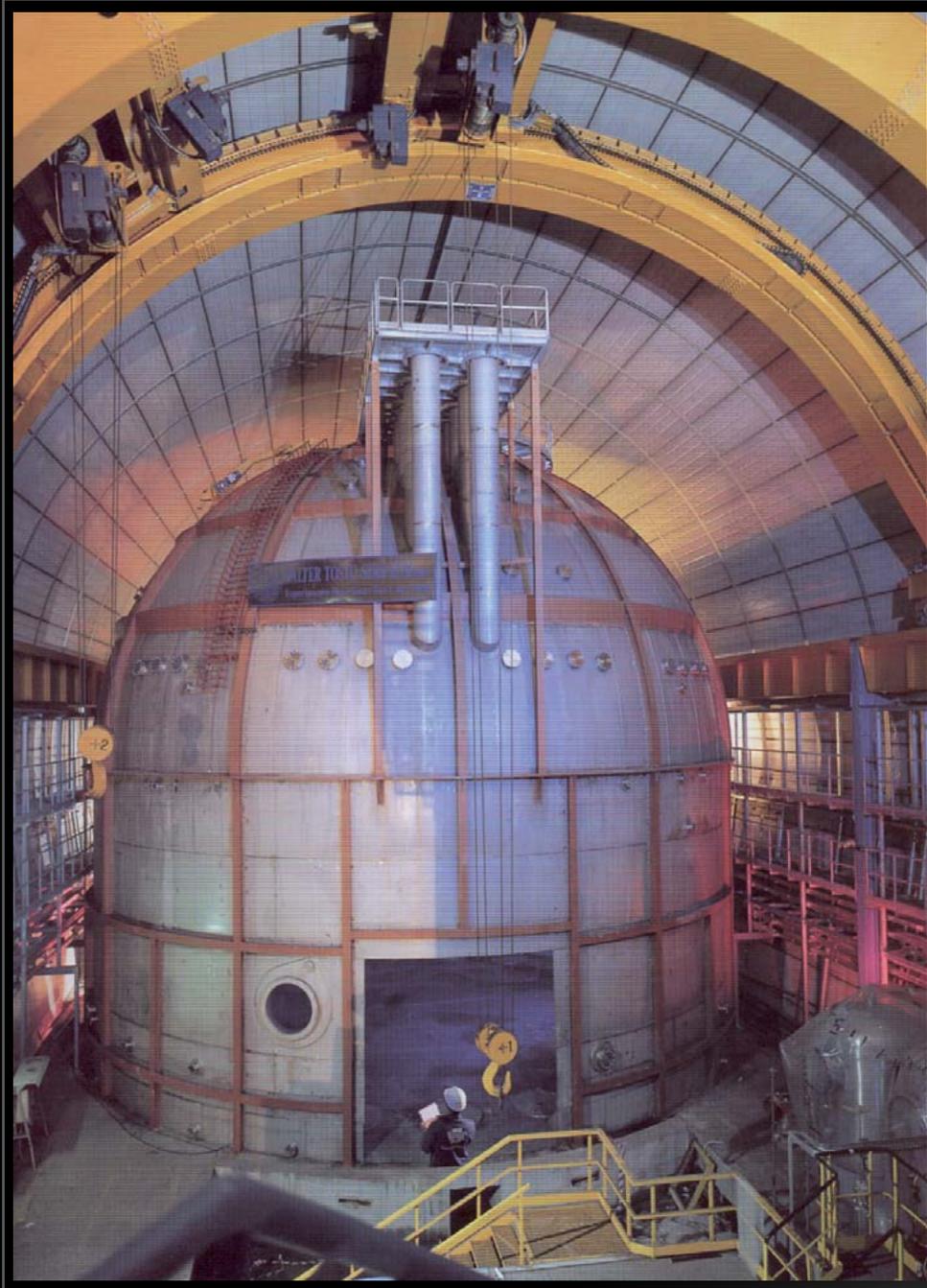
EB welding, thanks to the **low heat input** during the activities, allows a **better control of the related deformation.**

# Certificates and approvals



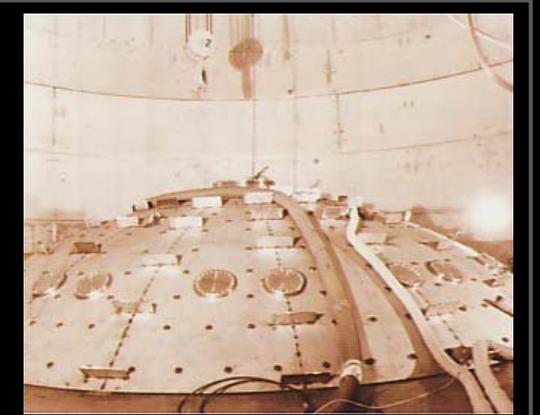
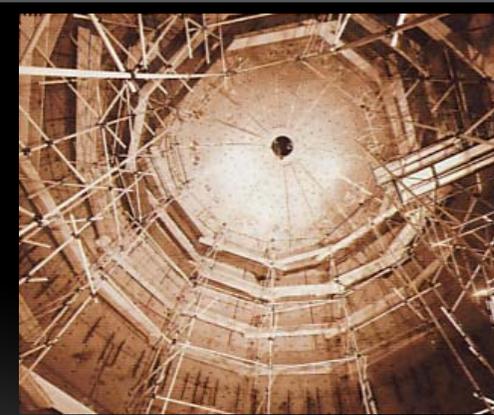
CERTIFICATES
ISO 3834-2:2006
ISO 9001:2000
ISO 14001:2004
PED MODULO H1
SELO: PRESSURE VESSELS
SELO: BOILER
CERTIFICATE OF AUTHORIZATION U
CERTIFICATE OF AUTHORIZATION U2
CERTIFICATE OF AUTHORIZATION U3
CERTIFICATE OF AUTHORIZATION S
CERTIFICATE OF AUTHORIZATION R
CERTIFICATE OF AUTHORIZATION N
CERTIFICATE OF AUTHORIZATION NPT
CERTIFICATE OF AUTHORIZATION NATIONAL BOARD
GOST R
KOSHA
GOST K

# Special Project - Borexino



**Istituto Nazionale di Fisica Nucleare & Princeton University – LNGS Assergi (AQ)**  
WT has supplied Sphere, Water tank and service equipment for the Borexino Project. The main challenging of the project was the installation of a large steel structure in a very limited access facility.

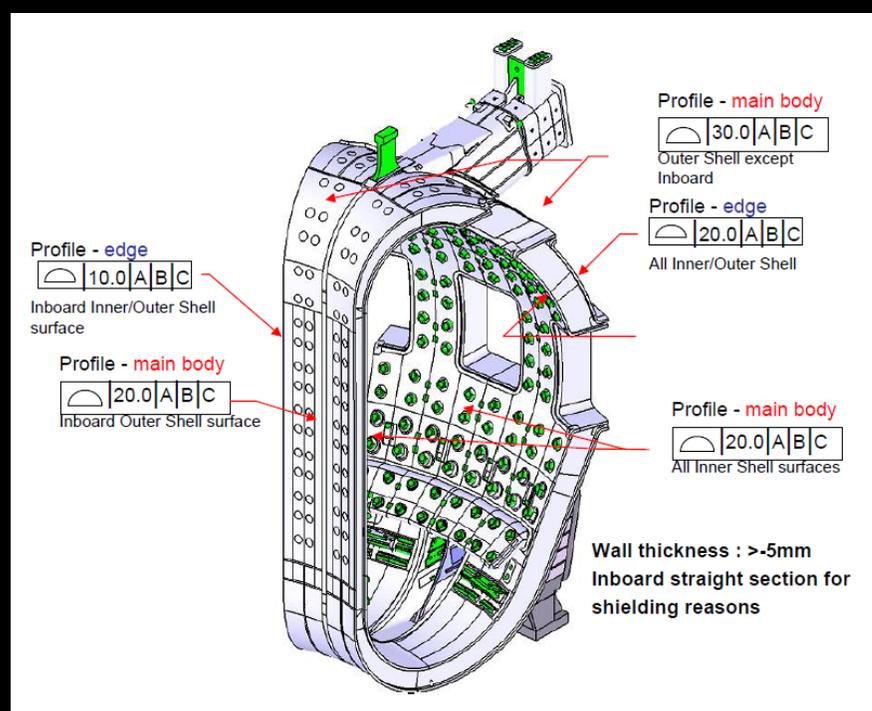
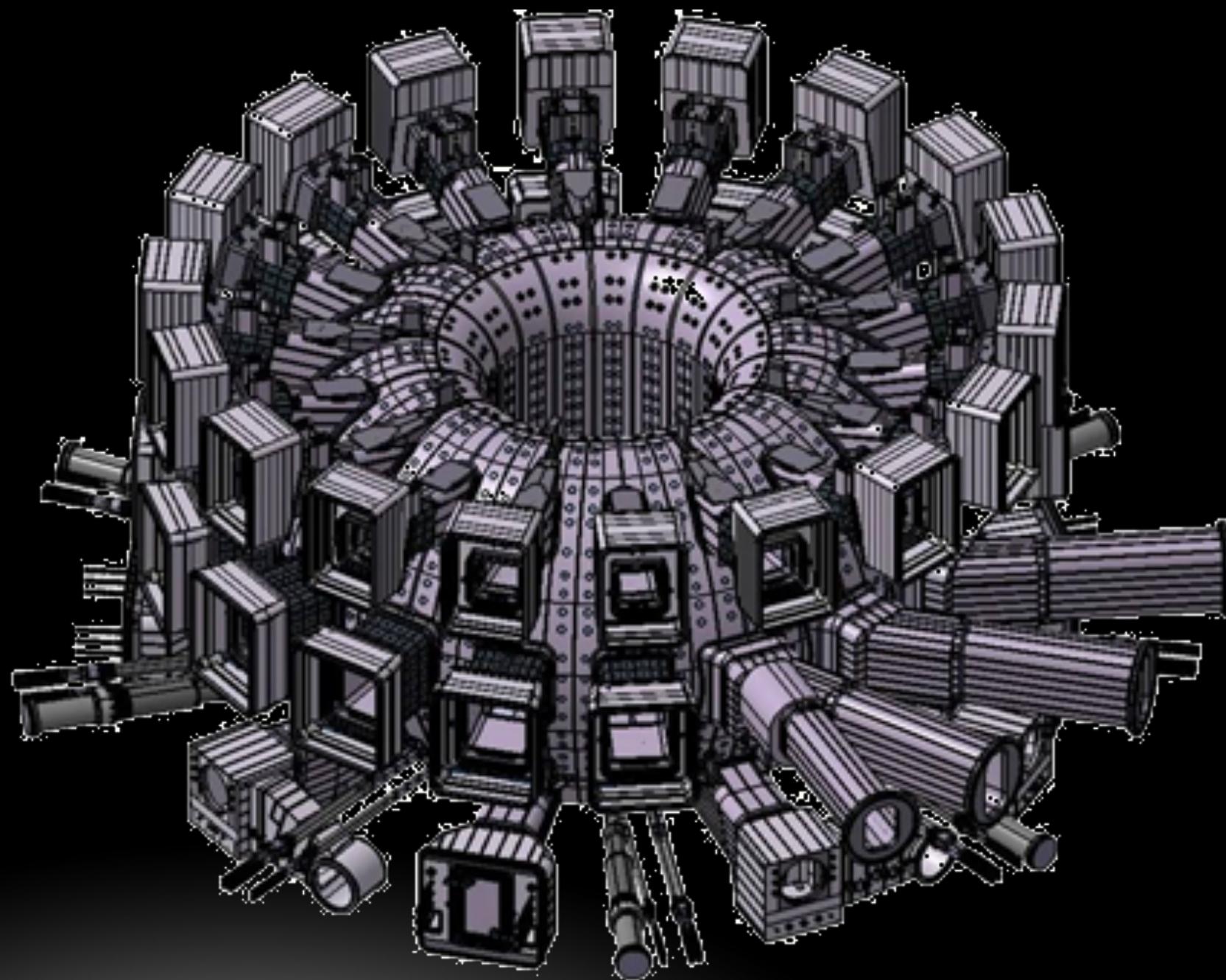
Part	Dimensions	Material
Water Tank	Ø 18.000 mm	SS304L
Sphere	Ø 13.700 mm	SS304L
Waterlock Sliding Port	□ 4.200 mm	SS304L



## ITER Project – Cadarache (FR)

WT as member of AMW consortium awarded the contract in 2010 for the supply of seven sectors of ITER Vacuum Vessel. A nuclear component Class 2 according to RCC-MR.

A Double wall Special Stainless Steel structure for a total weight of 5.000 Tons





# Special Project – ITER Vacuum Vessel



## ITER Project – Cadarache (FR)

During the stage 1 of the project, AMW is developing manufacturing of mock-ups scale 1:1, developing and qualifying manufacturing process according to reference code and French Nuclear Regulation.

**Aut. GTAW m.w.**



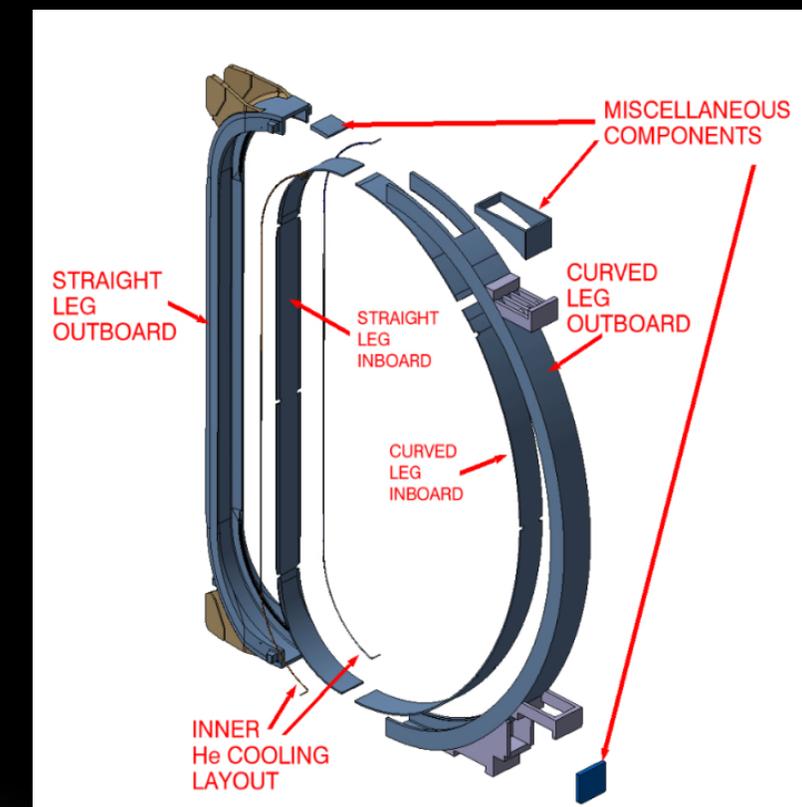
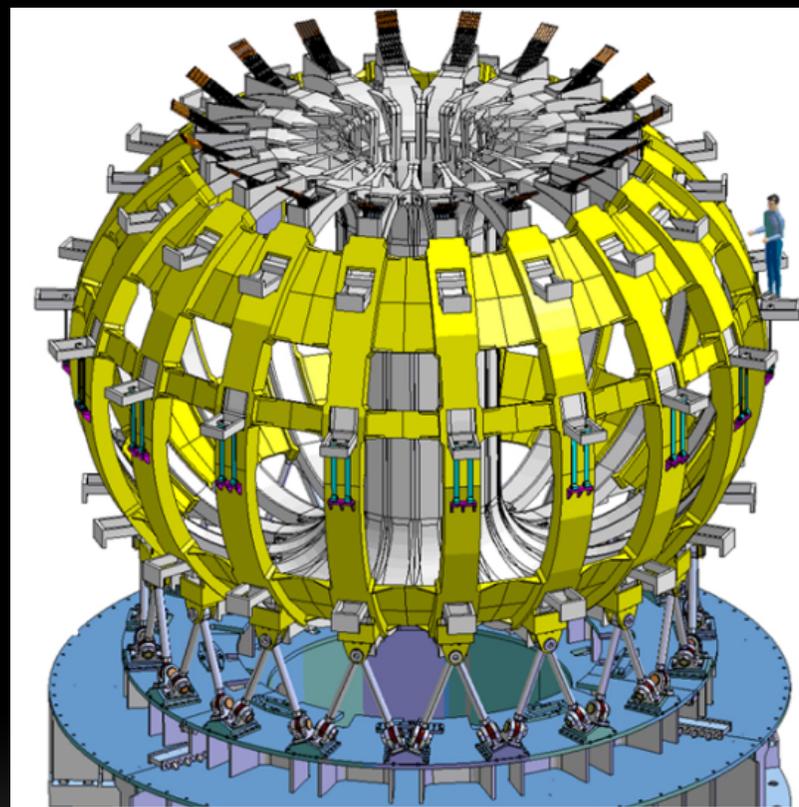
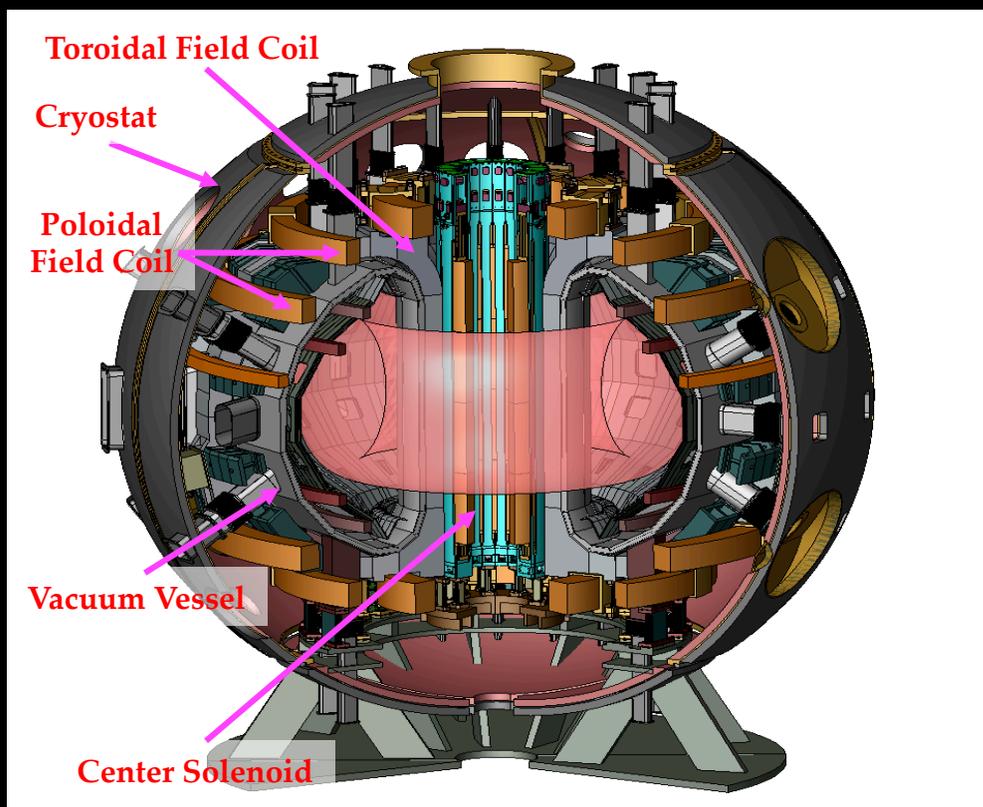
**Aut. GTAW e.w.**



# Special Project – JT60

## ENEA

Design, Supply and Manufacturing of # 18 Casing for Toroidal Field Coil. JT60 is a Tokamak to be installed in Japan according to Broder Approach of ITER Project.

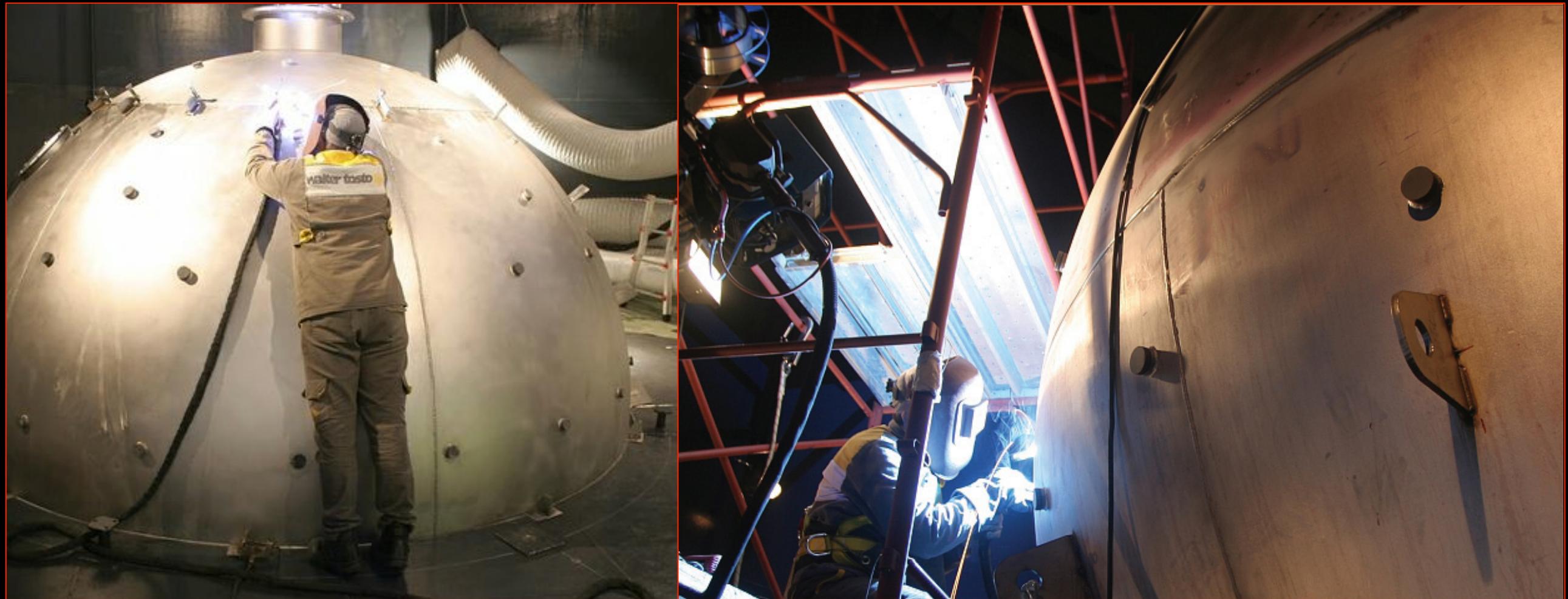


# Special Project – Dark Side



## PRINCETON UNIVERSITY

Conceptual and Detail Design of a pure SS Sphere and Titanium Cryostat to be installed at LNGS in an existing Water Tank.



Thank for your attention

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