

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

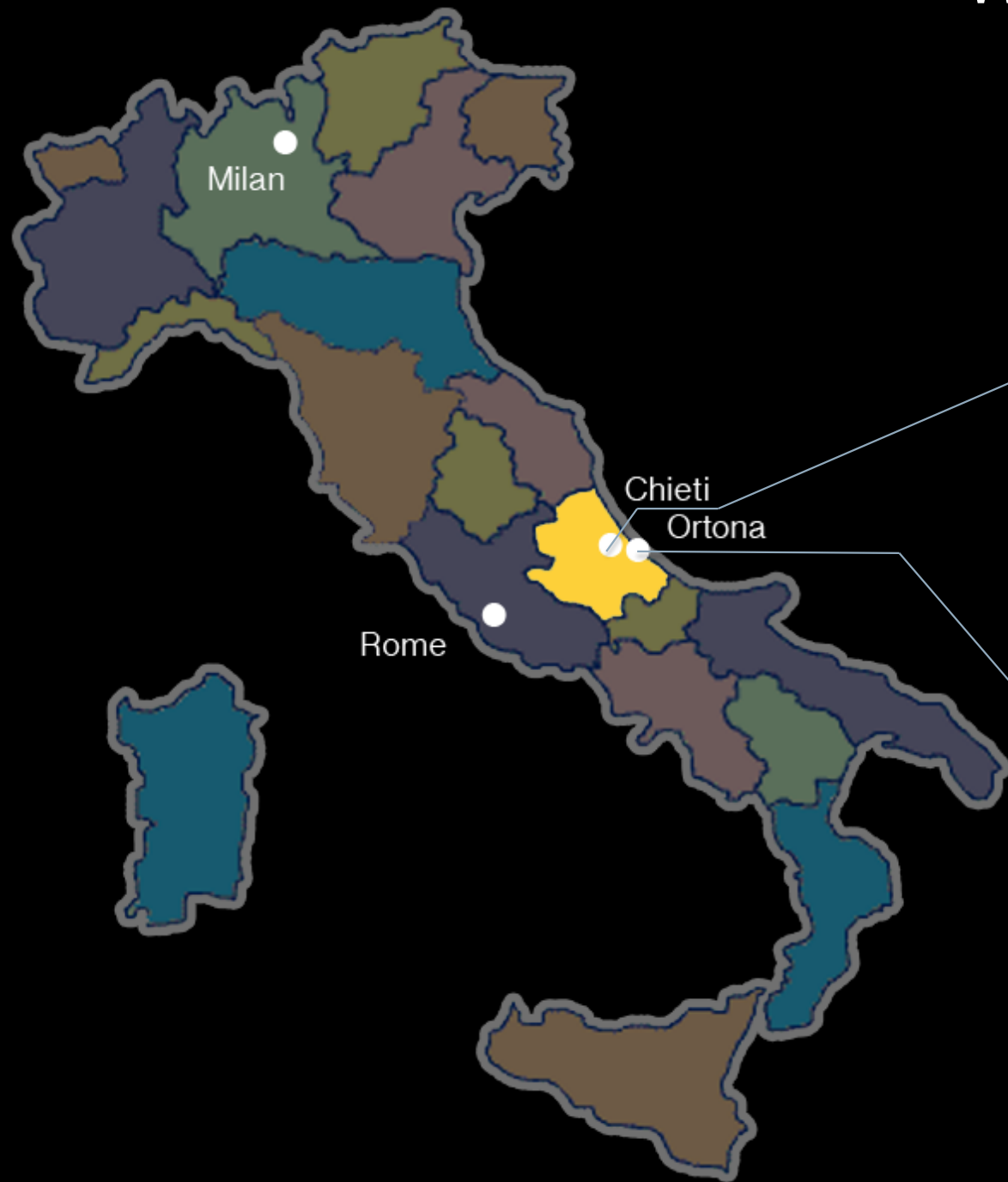
75.000 sqm



Sea Front Workshop



Workshops



Company Markets

OIL & GAS, Refining and Petrochemical

Process

Heavy Reactors
Large Columns

Heat Transfer

HP S&T Heat Exchangers
Waste-Heat Boilers
Feed Water Heaters
Condensers

POWER

Conventional

Feed Water Pre-Heaters
Steam Condensers
Deaerators
District Heater

Nuclear

Pressurizers
SS Internals
Containment Vessel
Moisture Separator
Water and Service

Renewable

CVD Polysilicon Reactors
Oil / Salt Heat Exchanger

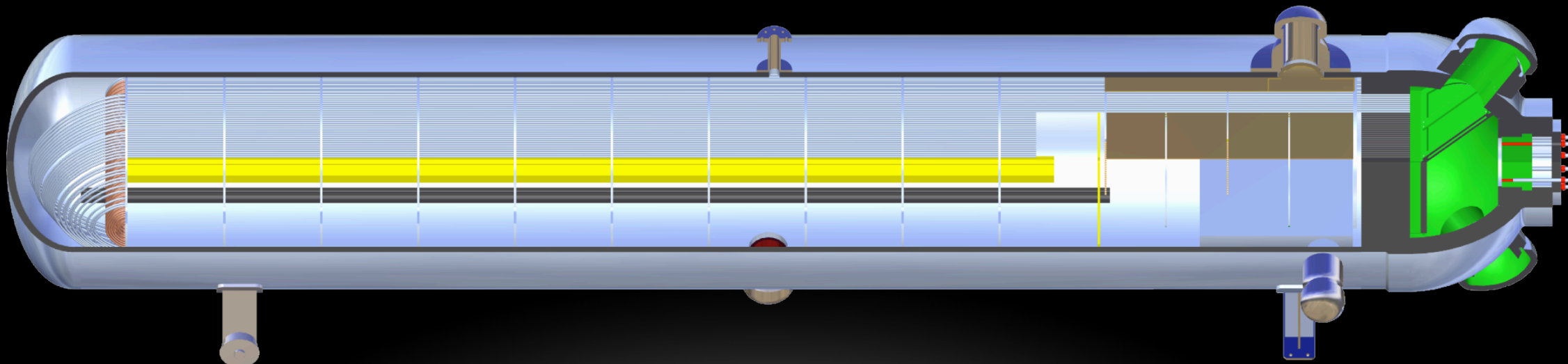
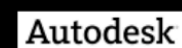
Standards and Code

Some of the Applicable Design Codes and standards

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

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	Aspentech
	Shell & Tube Exchanger Design Rating Software	
Sant'Ambrogio	Mechanical calculation software	Sant'Ambrogio
PAAC	Feedwater Heater and surface condenser thermal design	Bosco Spa



Materials

Carbon Steel (CS)

Fine grain Steel/Normalized
High strenght – 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 cladde

Ferritic

Austentic Steel Duplex

S 31803
S 32205

Ferritic

Austentic Steel Duplex

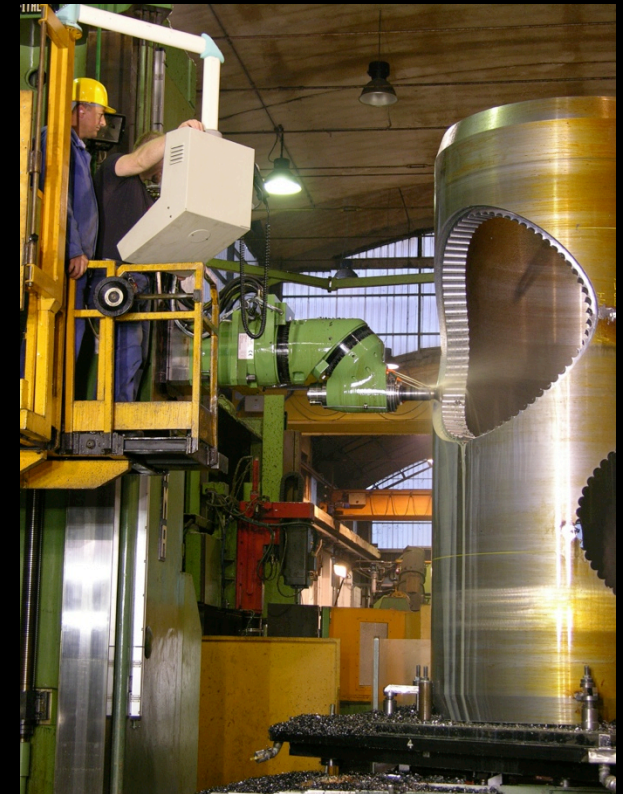
0,35 Ni
3,5 Ni

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

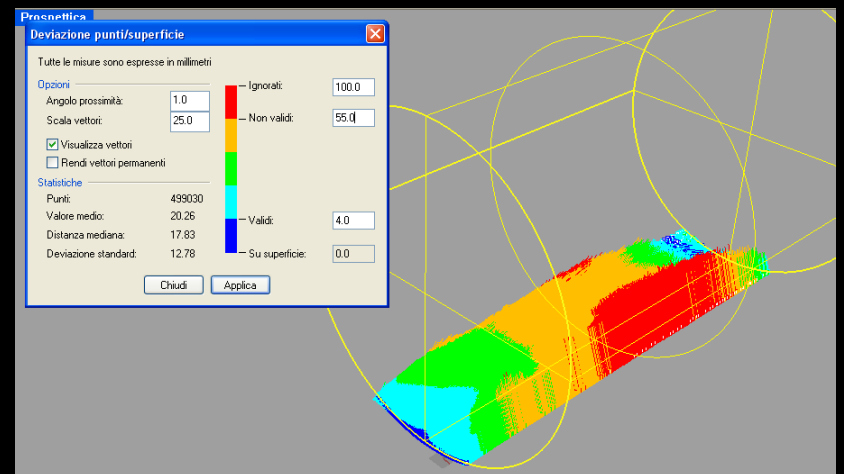
Tensile	x	x
Impact T.	x	x
Hardness	x	x
Bending	x	x
Macrotest	x	x

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.



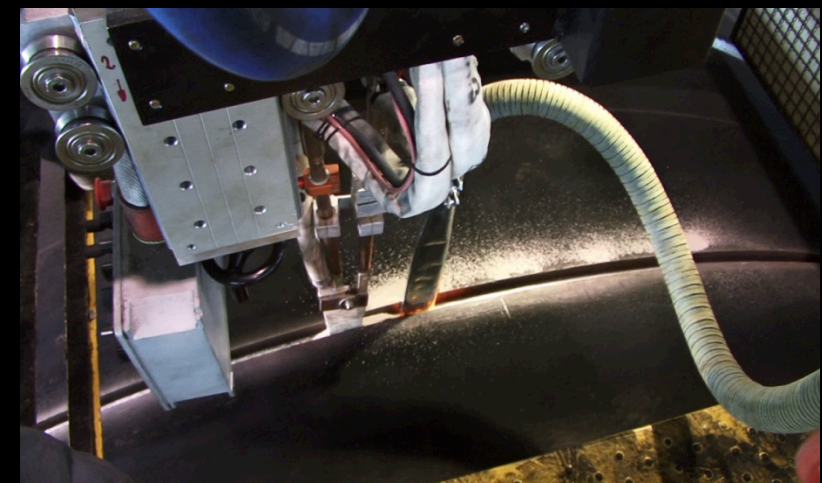
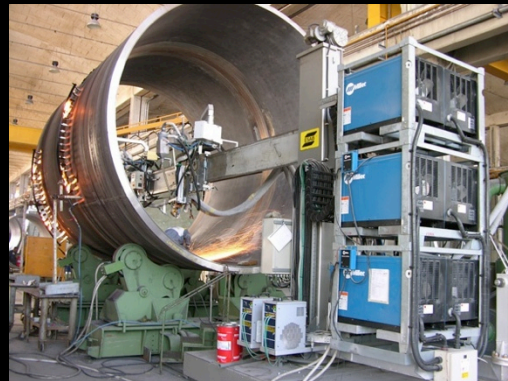
NDE

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



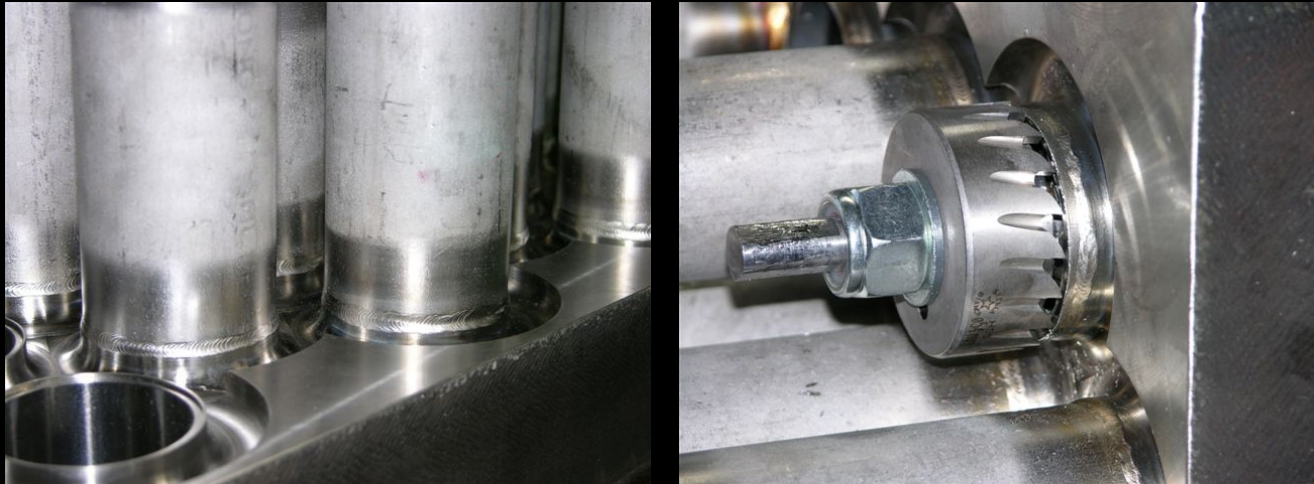
Welding

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



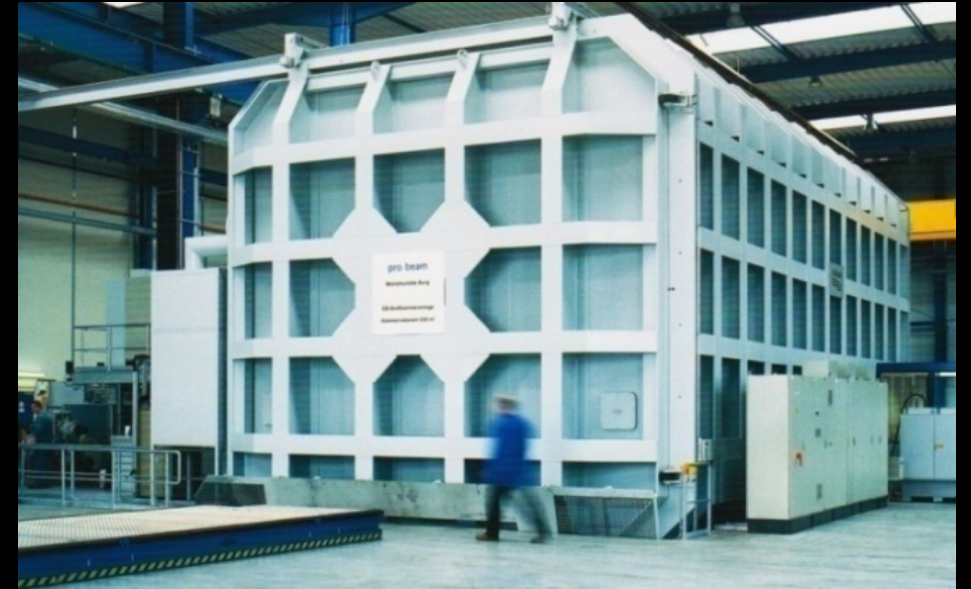
Welding

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

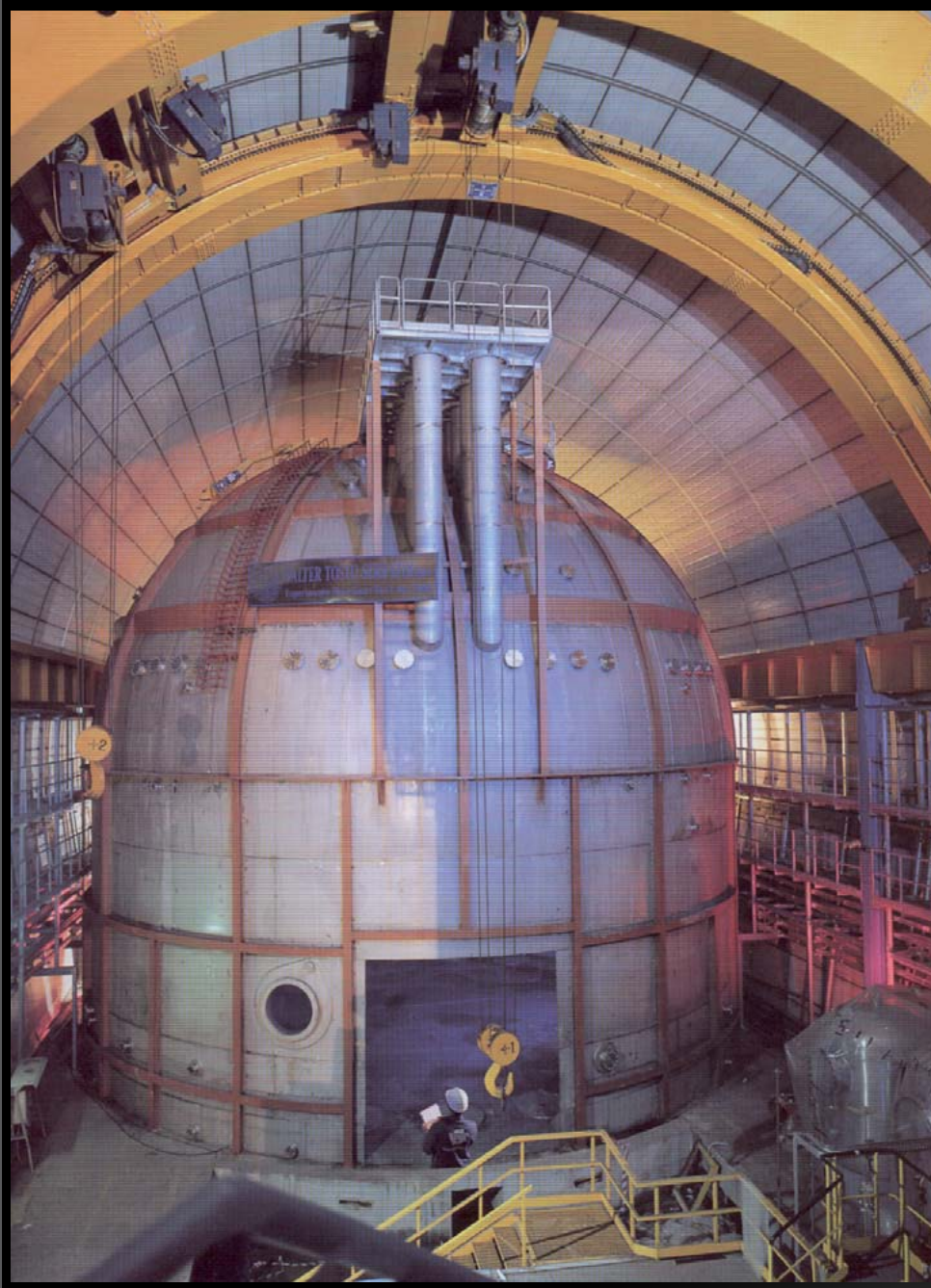
CERTIFICATE OF AUTHORIZATION NATIONAL BOARD

GOST R

KOSHA

GOST K

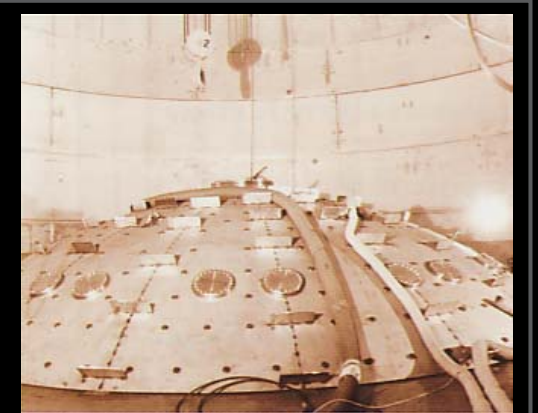
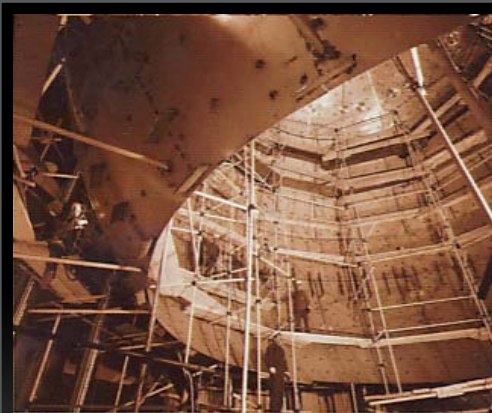
Special Project - Borexino



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.

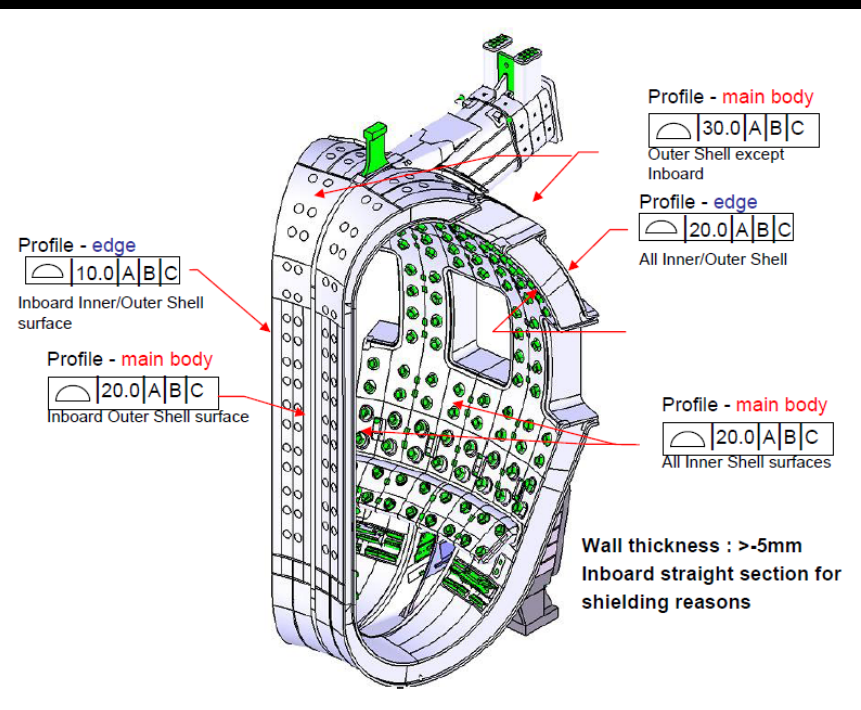
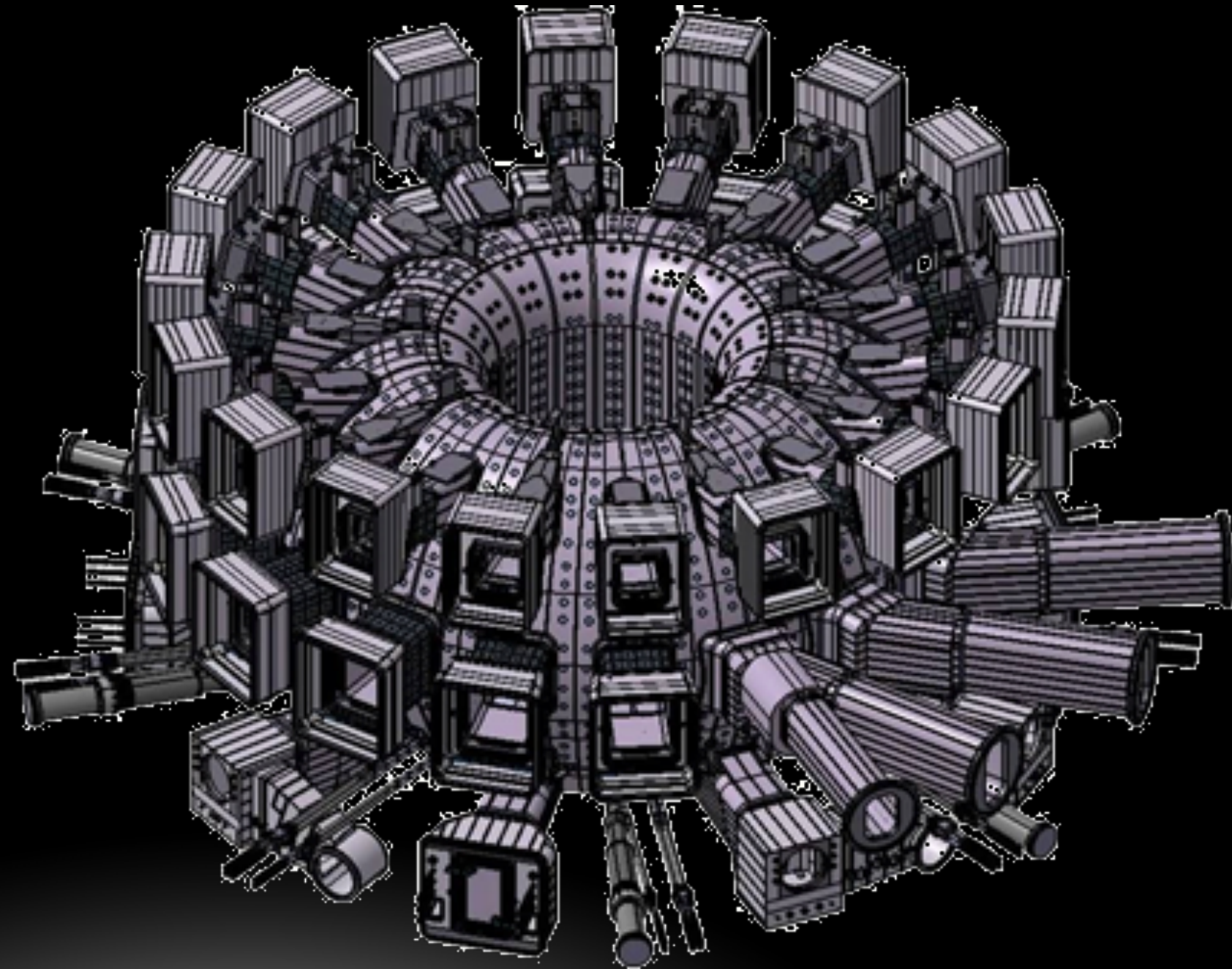
Part	Dimensions	Material
Water Tank	Ø 18.000 mm	SS304L
Sphere	Ø 13.700 mm	SS304L
Waterlock Sliding Port	□ 4.200 mm	SS304L



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



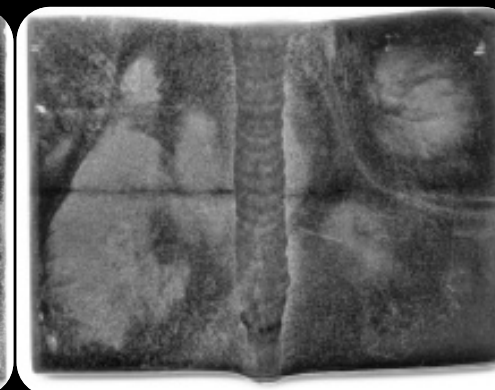
ITER Project – Cadarache (FR)

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.



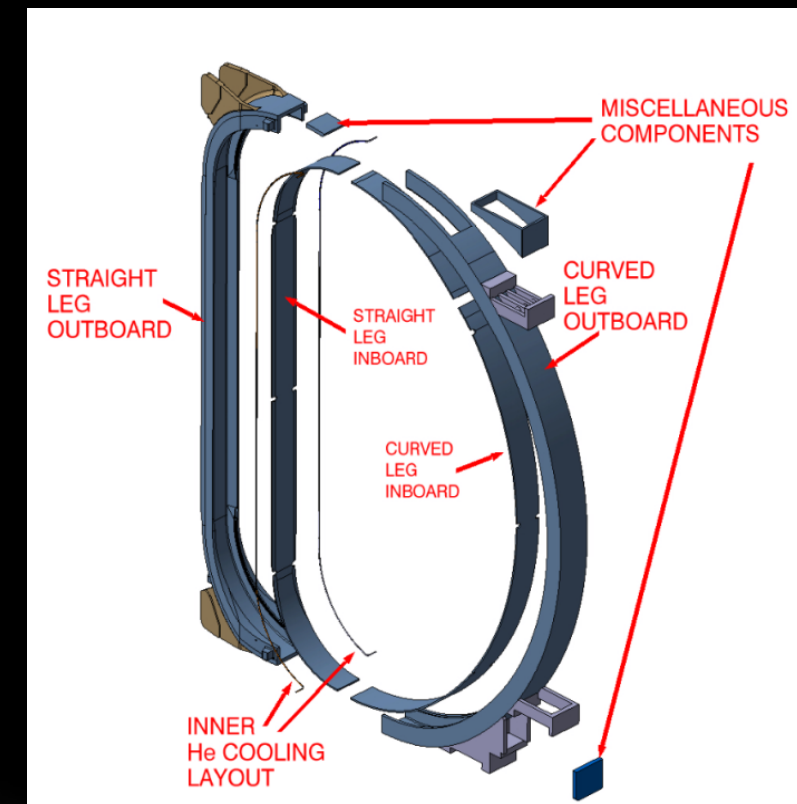
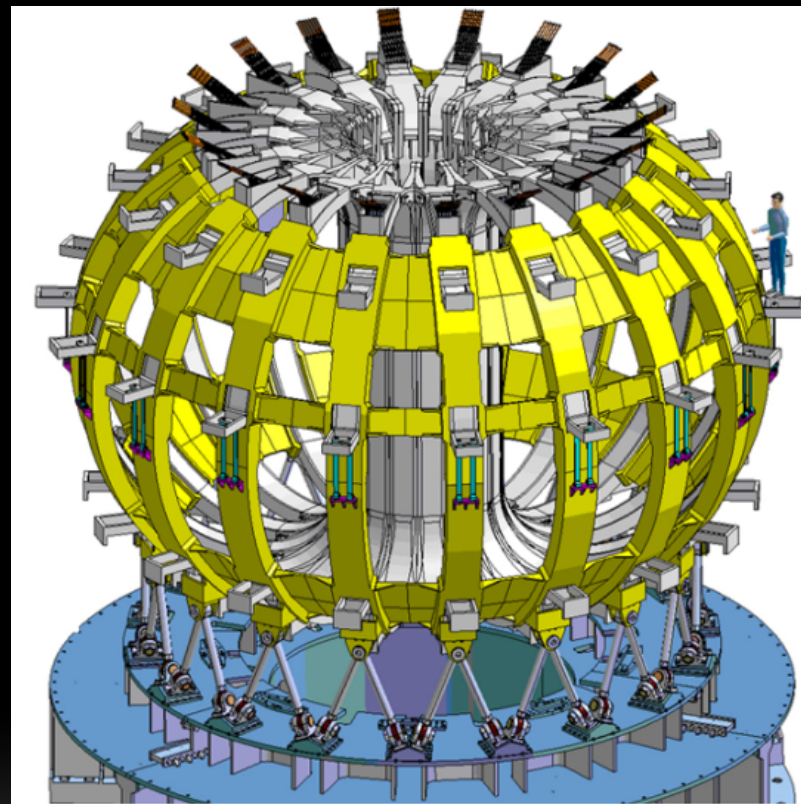
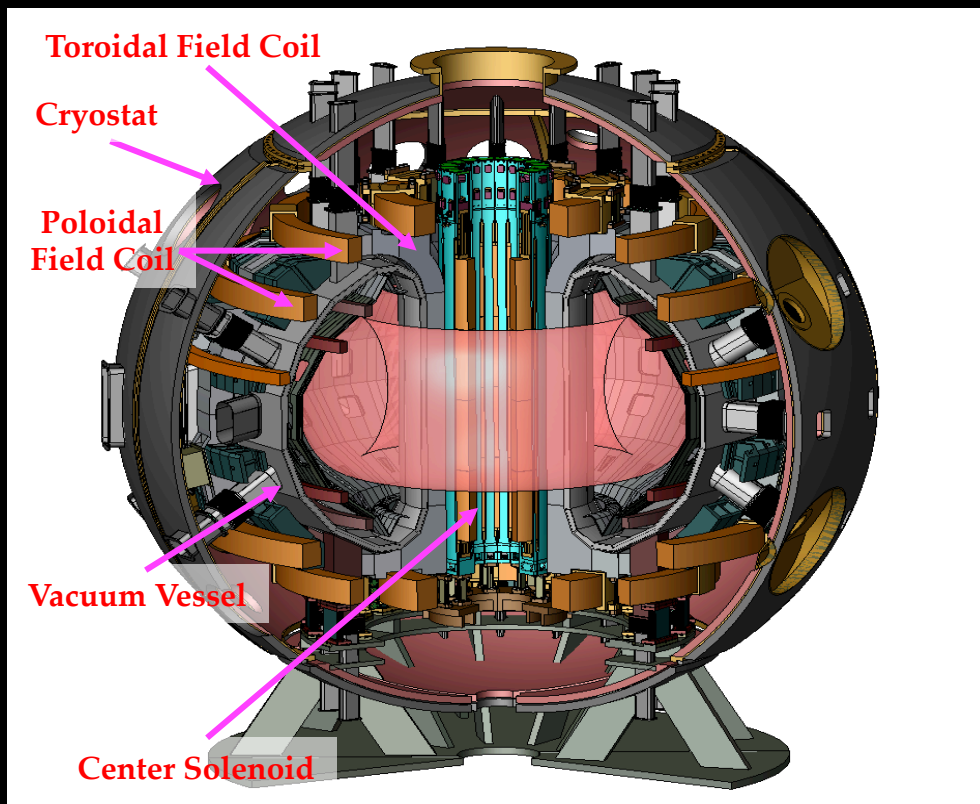
Aut. GTAW e.w.



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.

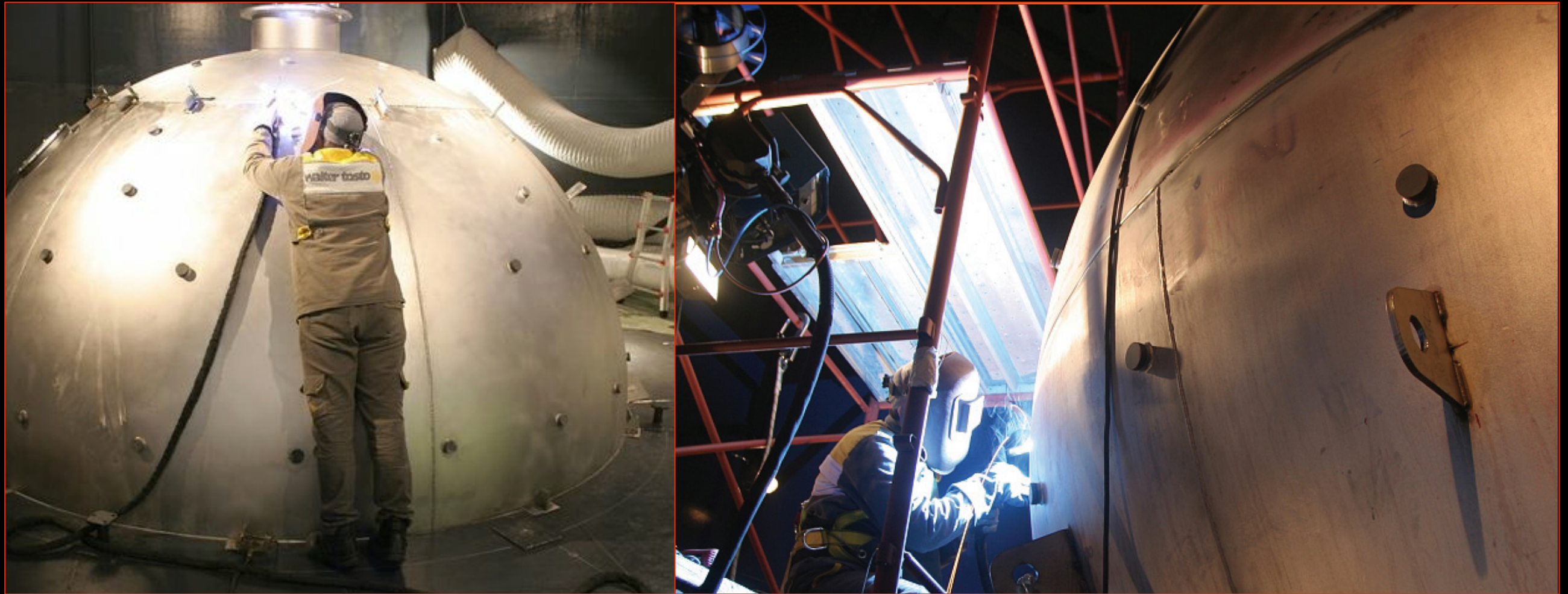


Special Project – Dark Side



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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