

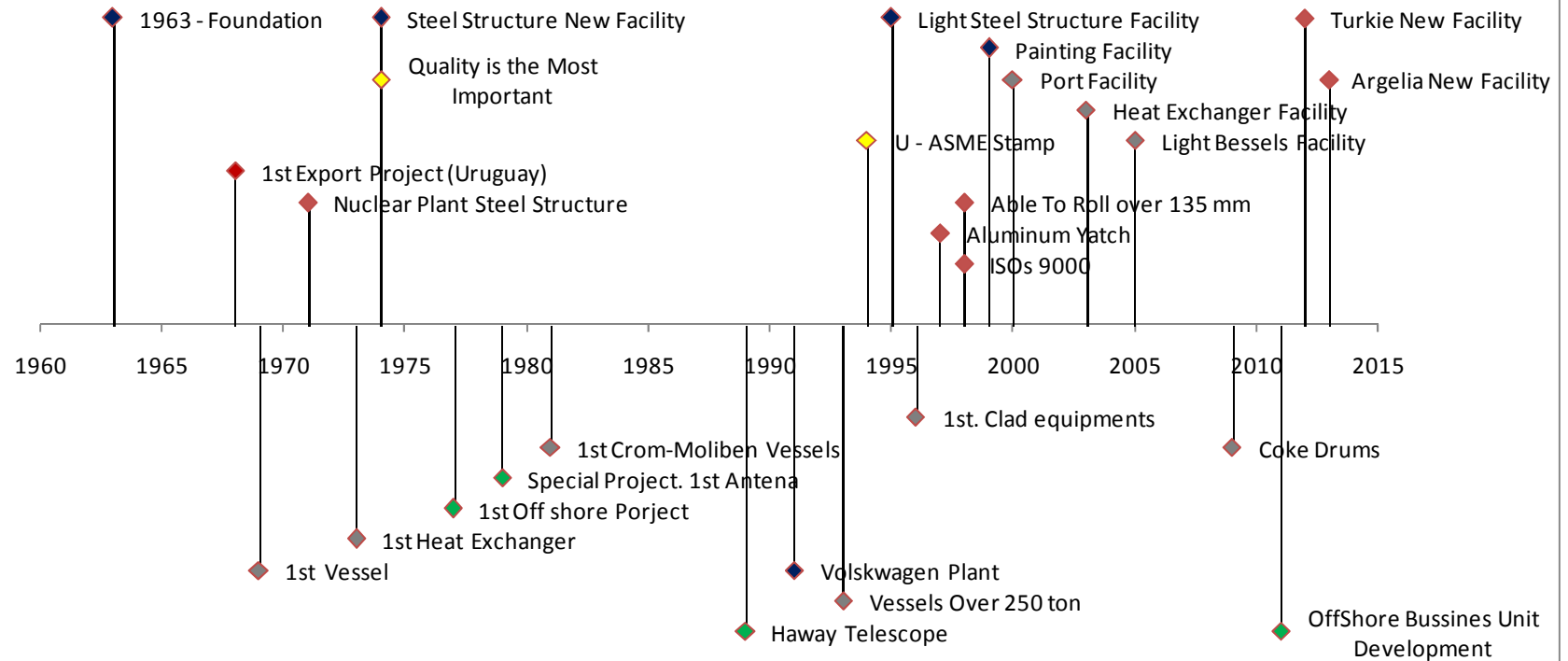
An aerial photograph of a large-scale industrial construction project. The site is filled with a complex network of steel beams, pipes, and scaffolding. Several tall chimneys and cylindrical tanks are visible. The overall scene is one of intense industrial activity. A red rectangular box in the top right corner contains the company name in white, bold, sans-serif capital letters. The company name is also written in a larger, red, serif font across the center of the image.

**SCHWARTZ
HAUTMONT**

Schwartz Hautmont

Introduction: Our Origins

SH Group History



Introduction: Key figures

80M€ Turn Over 2011 (Despite European Crisis)

95% Export

450 employees

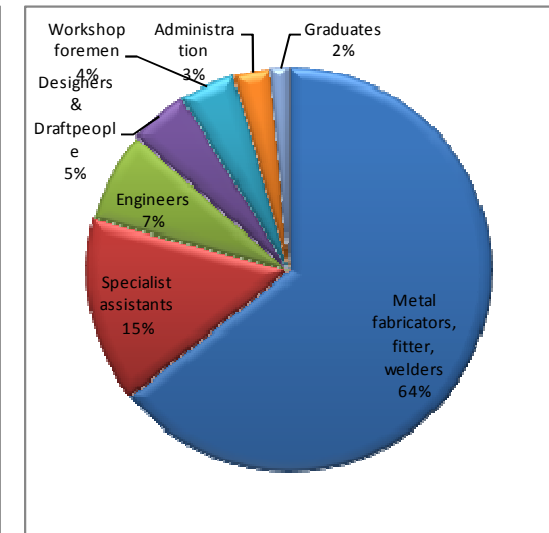
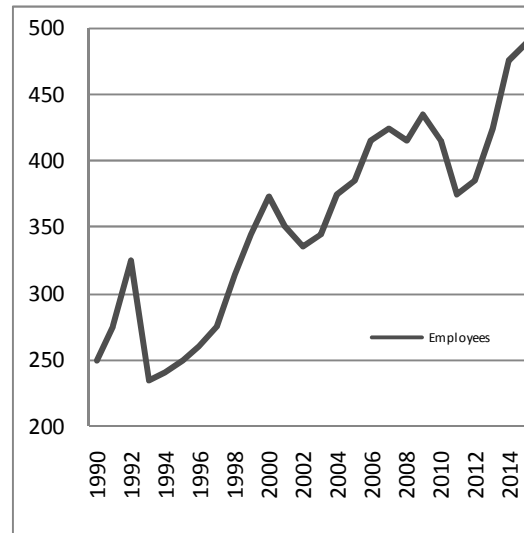
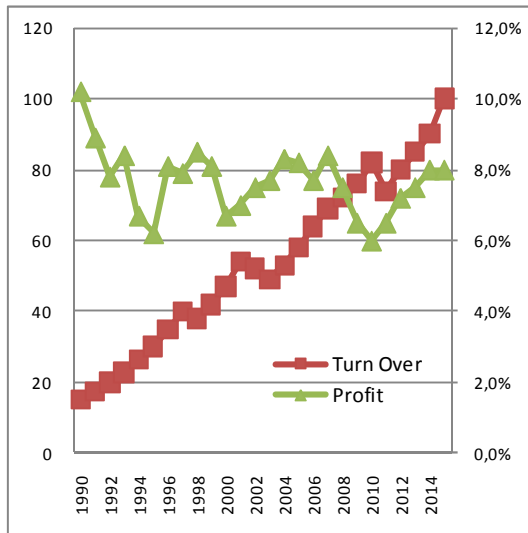
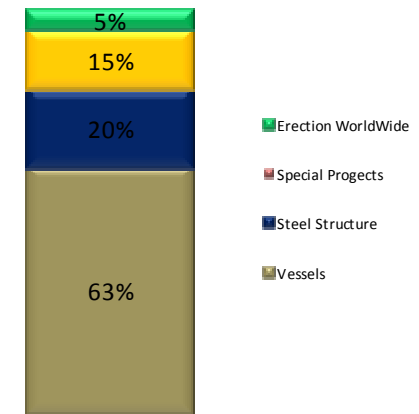
55 M€ Capital Reserves

Consume over:

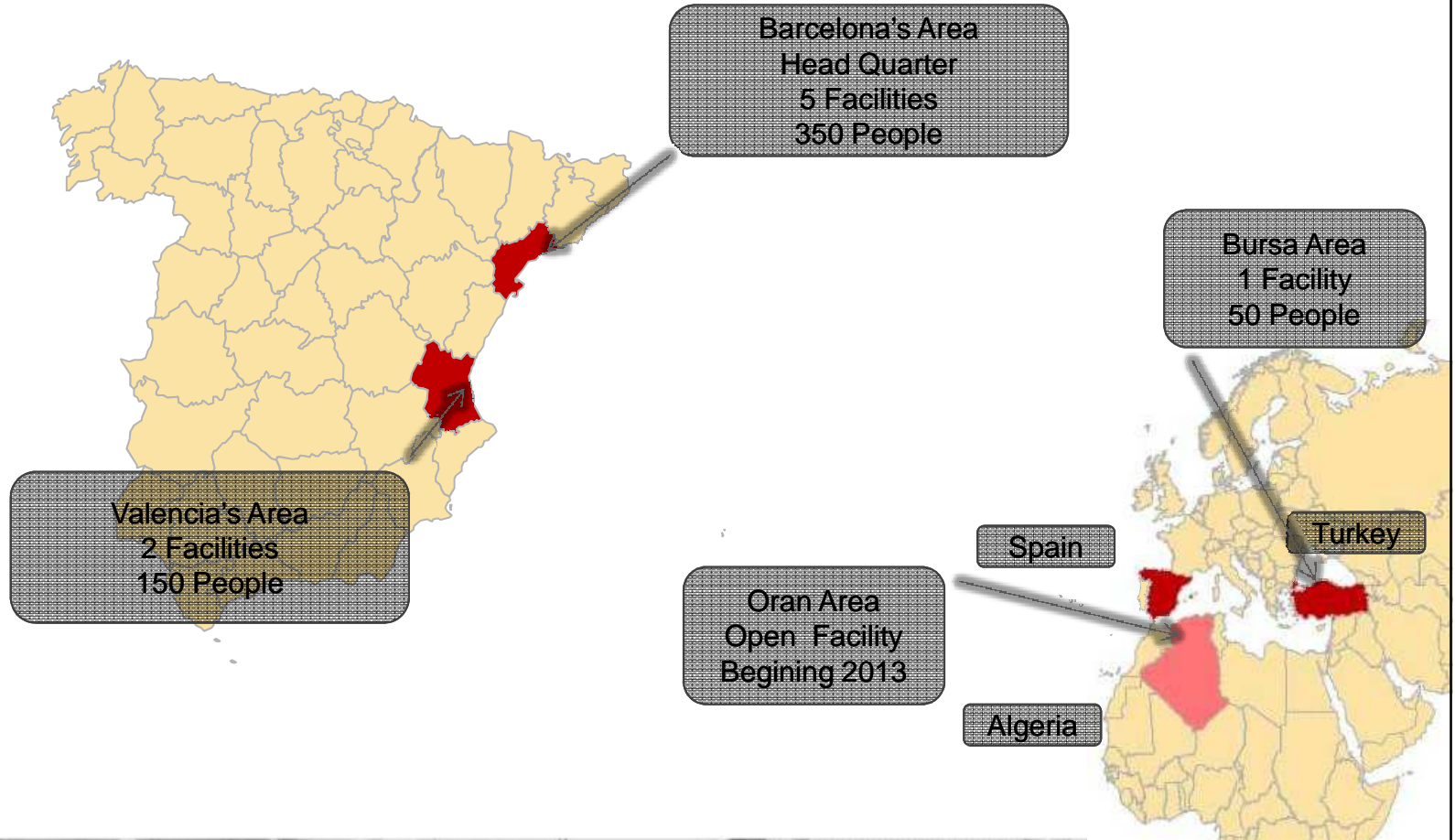
16.000 mT x Year of Carbon steel Std. Profiles

3.000 mT x Year of Carbon Steel Plates

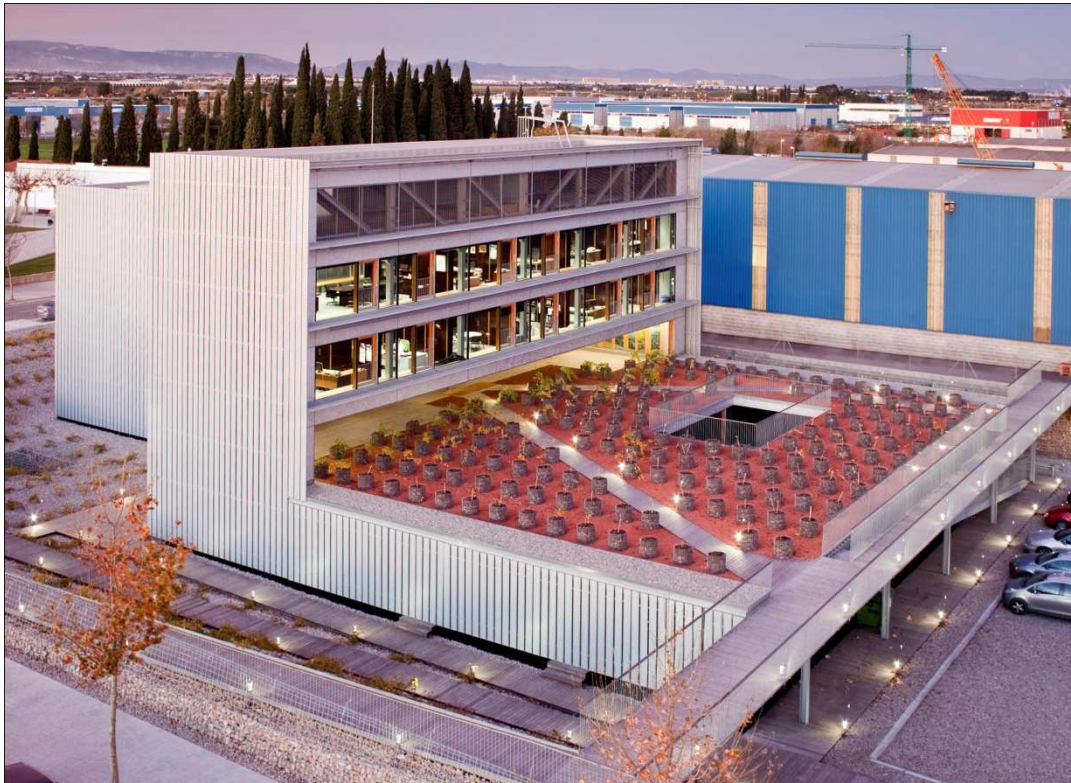
2.500 mT x Year Alloyed Steels Plates



Introduction: Where We Are



Facilities: Our Head Quarter



Barcelona South
2:30 hours from Madrid (High Speed Train)

Member of the **European GreenLight Programme** (Environmental Sustainability and maximum energy efficiency)

Introduction: Our Target – Customer Satisfaction



Quality

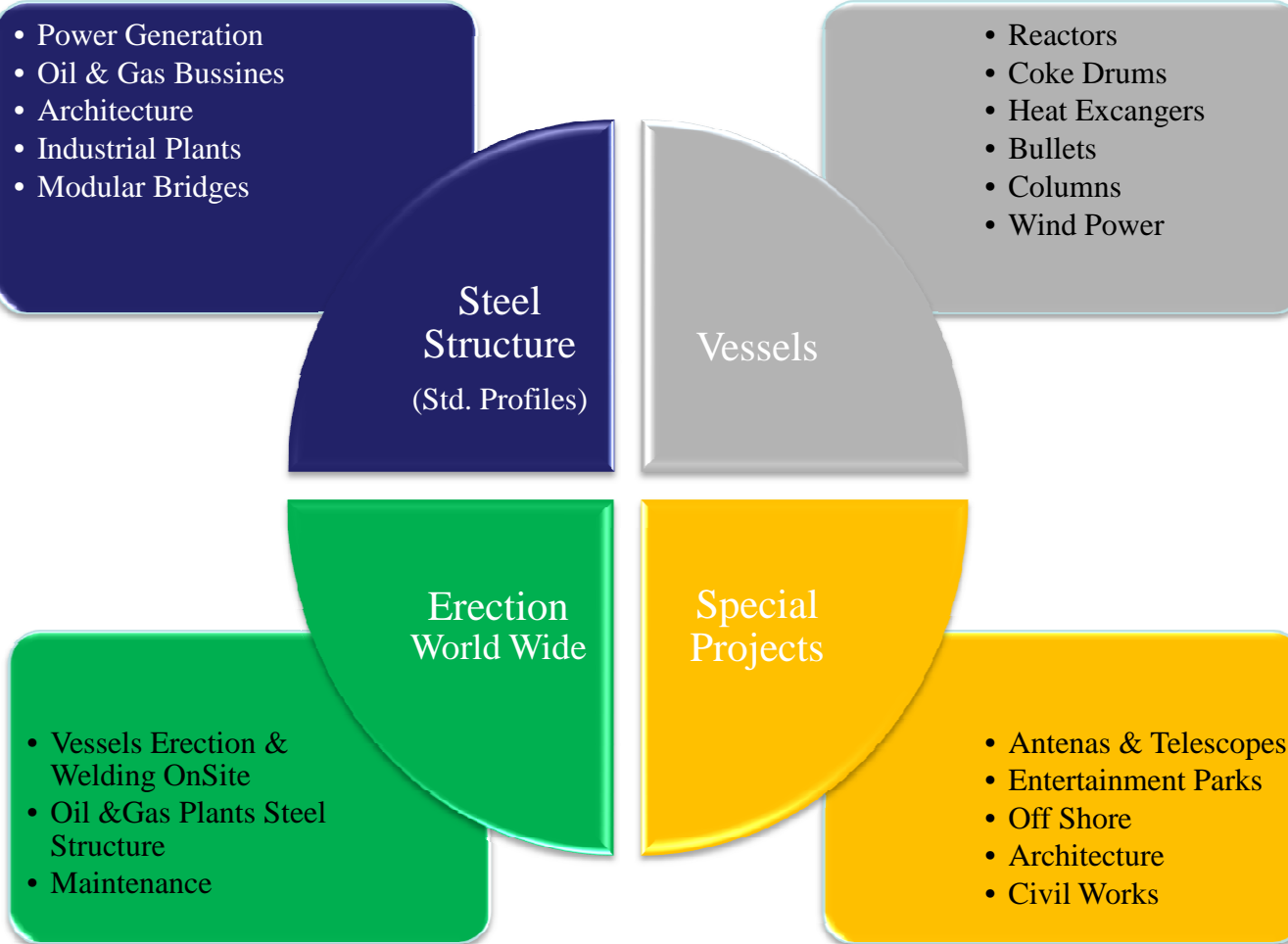


Health, Safety
&
Environment

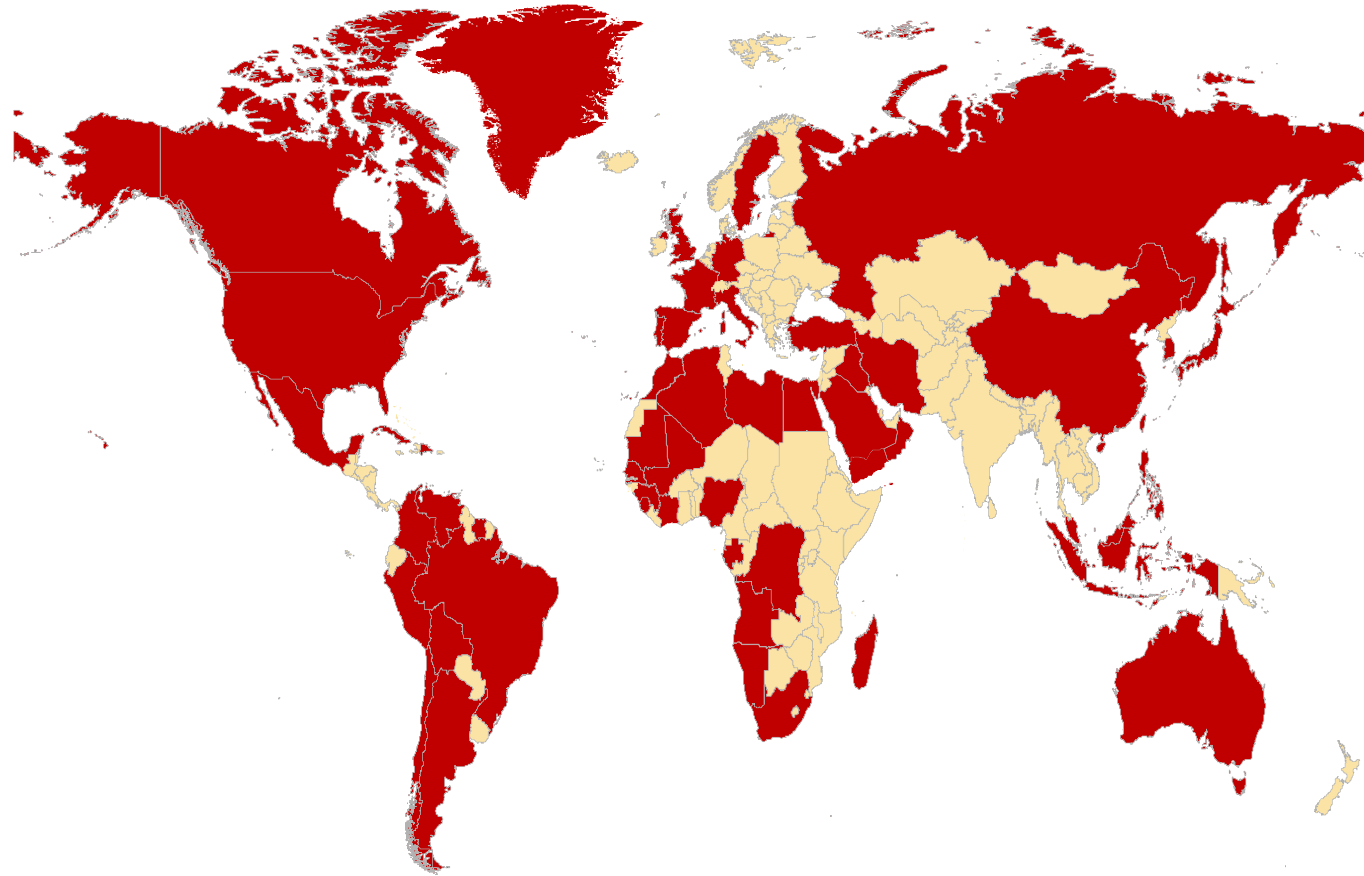
Delivery
Schedule



Introduction: Our Business Units



Introduction: Where Are Our Projects



Facilities: Vessel Facilities Business Unit

- Reactors
- Coke Drums
- Heat Exchangers
- Bullets
- Columns
- Wind Power

Vessels



High Thickness

- Maximum sizes:
- 130 mm Thickness
- 8,5 m Diameter
- 35 m Long
- 120.000 Total Surface
- 22.000 m2 Carbon Steel Indoor WorkShop
- 5.000 m2 StainlessSteel Indoor WorkShop
- Furnance 30x5.5x5.5 m
- Painting Cabine 15x5.5x5.5
- Vessels Up to 800 tons
- 10km. From Tarragonas Port

High Diameter

- Maximum sizes
- 130 mm Thickness
- 12 m Diameter
- 125 m Long
- 20.000 Total Surface
- 7.500 m2 Indoor WorkShop
- Where:150 meters from Quay
- Weekly Regular Shipping routes to Middle East, Netherlands
- Roll On, Roll Of & Cranes Load

Light Vessels

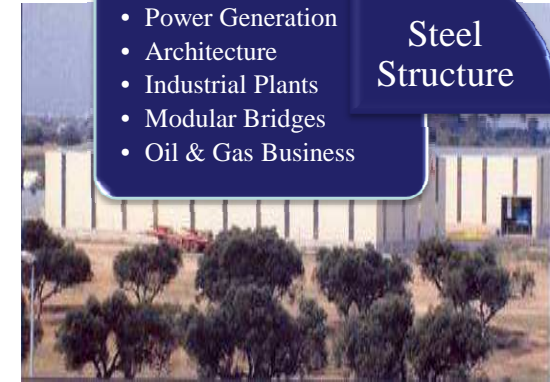
- Maximum sizes
- 45 mm Thickness
- 3.5 m Diameter
- 25 m Long
- 5.000 Total Surface
- 2.500 m2 Indoor WorkShop



Facilities: Steel Structure Facilities Business Unit

Steel Structure

- Power Generation
- Architecture
- Industrial Plants
- Modular Bridges
- Oil & Gas Business



Heavy Structure

- 40.000 m² Total surface
- 10.000 m² indoor workShop
- Specialized Layout
- Hall Sandblasting and painting.

Light Steel Structure

- 10.000 m² Total Surface
- 7.500 m² indoor workShop

Painting Hall

- 10.000 m² Total Surface
- 4.000 m² indoor workShop
- Automatic shot blasting machine and air less/manual equipment, temperature/humidity control stations, blast recovery system

Facilities: Especial Projects Facilities Business Unit

Special Projects

- Antenas & Telescopios
- Entertainment Parks
- Off Shore
- Architecture
- Civil Works



Complex Design High Quality Specs.

- 40.000 m² Total surface
- 10.000 m² indoor workShop
- Hall Sandblasting and painting.



Modular Off Shore

- 10.000 m² Total Surface
- 4.000 m² indoor workShop
- Piping



High Dimension

- 20.000 Total Surface
- 7.500 m² Indoor WorkShop

Facilities: Erection World Wide Business Unit

Erection
World Wide



Welding Vessels OnSite

- Specialized Foreman
- Welders High Qualified
- More than 25 Years Of Experience



Steel Structure

- Welded Steel Structure
- Bolt Steel Structure
- Middle East countries, South American, European countries
- More than 100.000 mTon erected

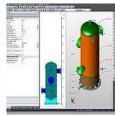


- Vessels Erection & Welding OnSite
- Oil & Gas Plants Steel Structure
- Maintenance

Break Down Maintenance

- Specialized Foreman
- Welders, Helpers
- Experienced in boilers, Heat Exchangers, Furnances, Steel Structure

Facilities: Our Back Office Technology



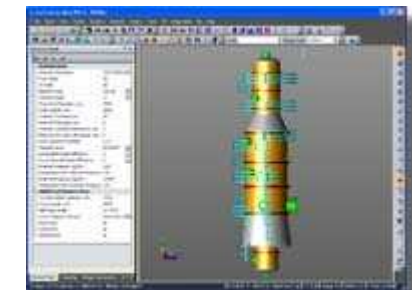
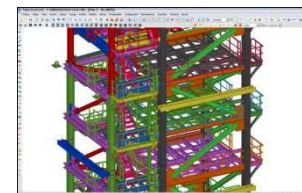
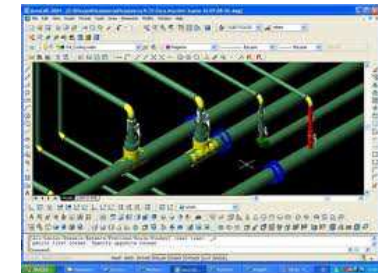
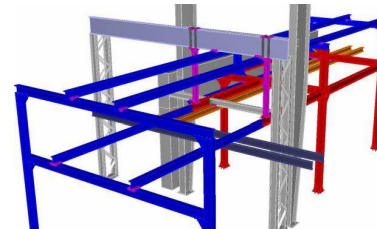
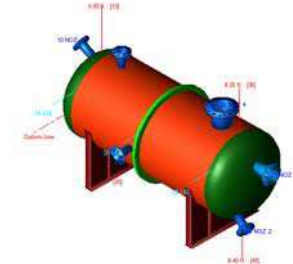
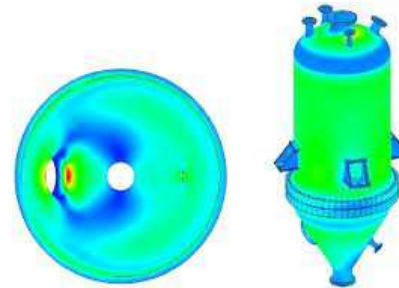
Calculation

- Finglow
- Finite Elements
- Microprotol
- PV Elite
- Compress
- Power Connect.
- Prokon.
- Tricalc
- Trebol



Drawing

- AutoCAD
- Microstation
- Xsteel



Facilities: Our Stamps & Certificates



Design Codes

- ASME
- British Standard
- AD-Merkblatt
- Norsok
- TEMA
- Gost
- EEMUA



Certificates

- U; U2
- National Board
- ARAMCO
- RePro
- Chinese Certificate
- Corean Certificate
- TWI
- NASA
- ISO 9000
- ISO 14000
- OSHAS



中华人民共和国
特种设备制造许可证
Manufacture License of Special Equipment
People's Republic of China
(压力容器) (Pressure Vessel)



Facilities: Our Equipments & Experience

Machines

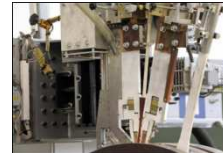
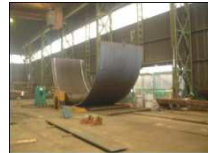
- 5 Plasma or Oxy cutting Station
- 5 Rolling Machines
- 3 CNC Cutting & Drilling stations for Std. Profiles
- 200 Manual Welding
- 50 SMAW Towers
- Surface Material Overlay

Materials knowHow

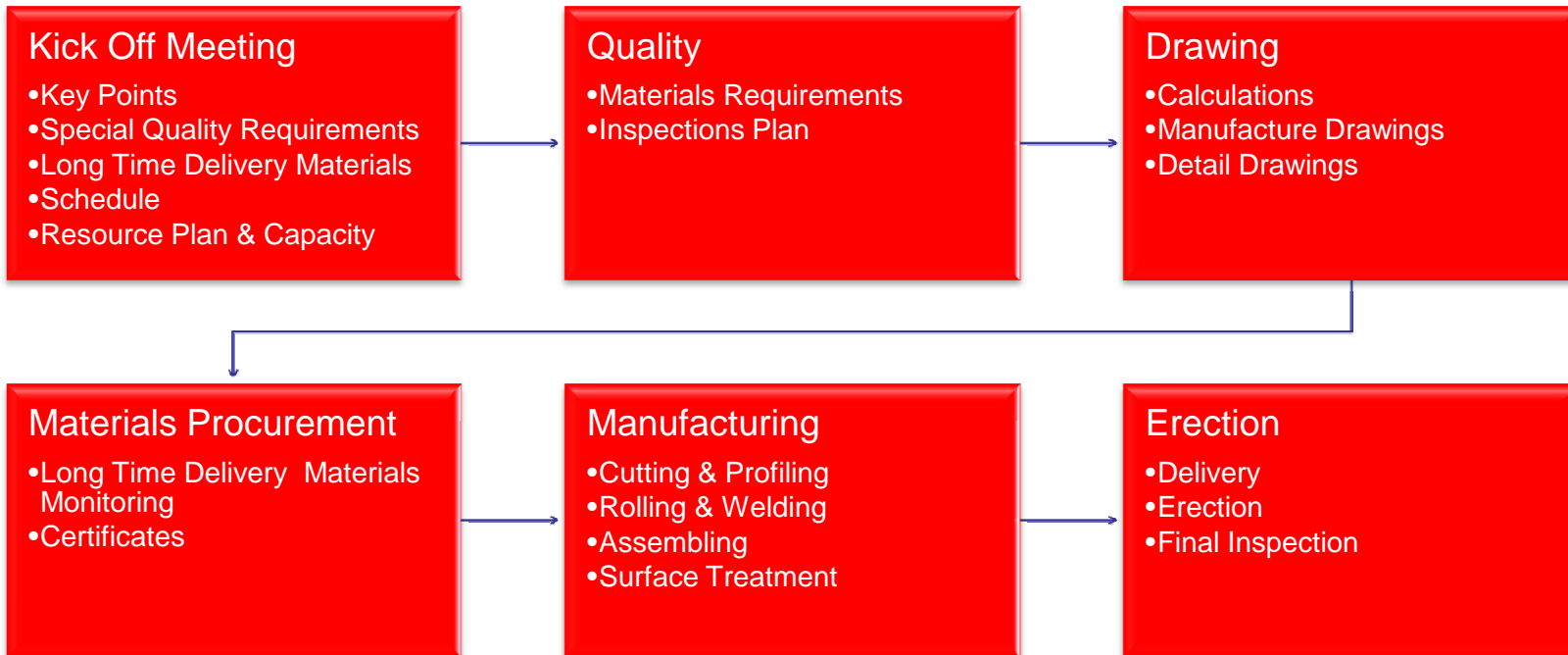
- Carbon steel.
- Alloy steel (Cr-Mo).
- Stainless steel (AISI-304, 316, 321).
- 3 ½ Nickel alloy steel.
- Duplex and superduplex.
- Aluminium.
- Inconel and Monel
- Cladding
- Surface Material Overlay

Business Units

- Steel Structure
- Vessels
- Special Projects
- Erection World Wide



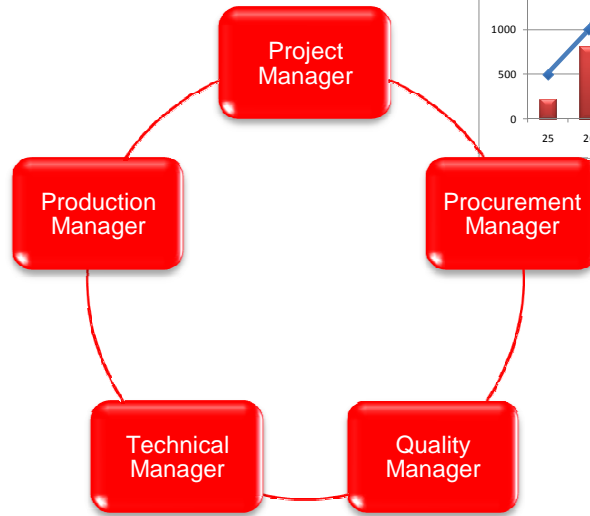
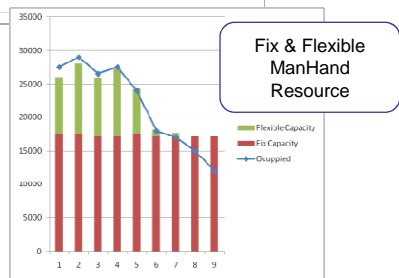
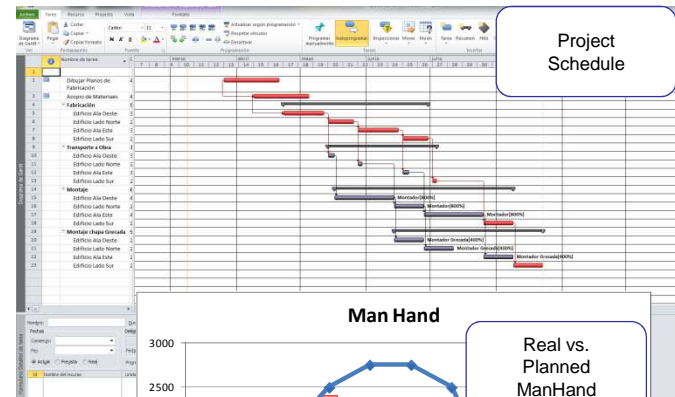
Process: Our Process



Process: Kick Off Meeting

Kick Off Meeting

- Key Points
- Special Quality Requirements
- Long Time Delivery Materials
- Schedule
- Resource Plan & Capacity



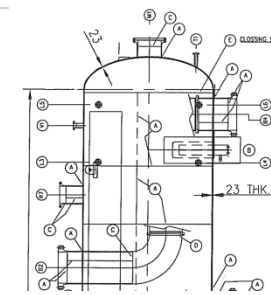
Process: Quality

Quality Dossier

- Materials Requirements
- Inspections Plan
- Welding Procedures

PLAN DE CONTROL DE CALIDAD		QUALITY CONTROL PLAN	
CLIENTE	ENDE AG	PROYECTO	192
OPERACION	DEFINICION DE REQUISITOS	REVISIONES	01
1.0	100%	VERIFICACION	VERIFICACION
1.1	100%	INSPECCION	INSPECCION
1.2	100%	CONTROL	CONTROL
2.0	100%	VERIFICACION	VERIFICACION

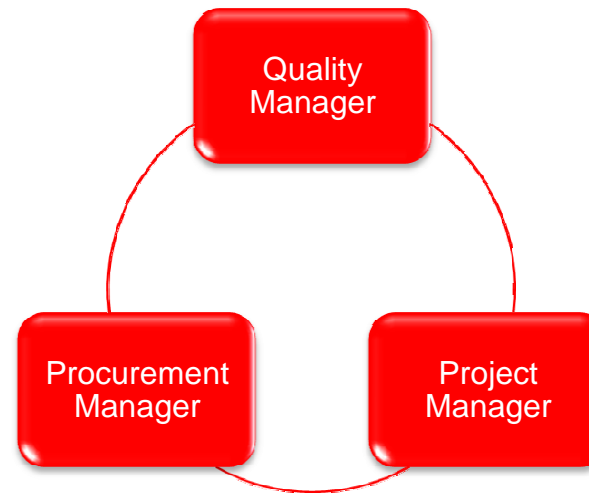
Project Quality Plan



Welding Map

WELD MAP: 1/2E-1402

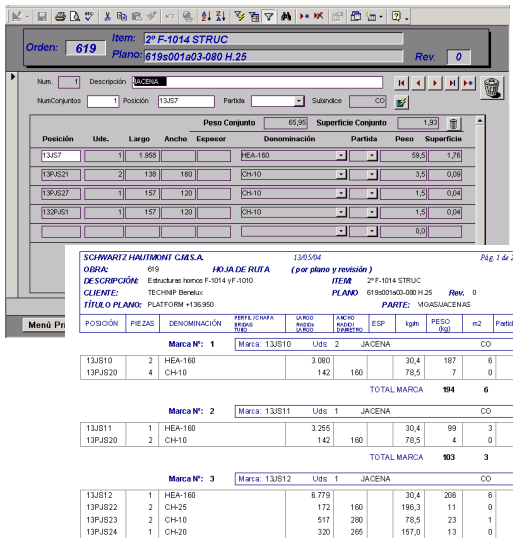
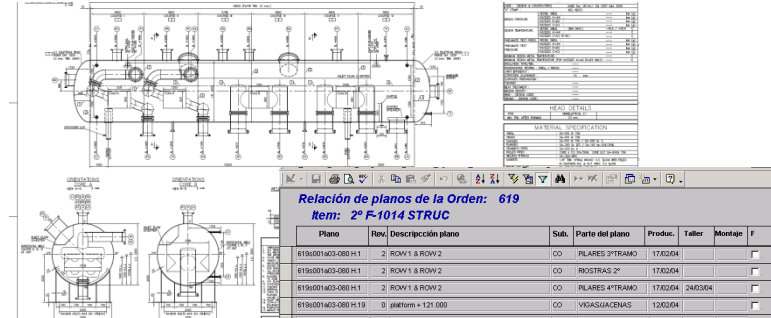
MATERIAL SPECIFICATION	
SHELL	SA-516 Gr. 70
HEADS	SA-516 Gr. 70
NOZZLES	SA-516 Gr. 70 / SA-309 Gr. C
FLANGES	NOZZLES SA-309 Gr. C / SA-309 Gr. C
NOZZLES SA-309	INTERNAL / SA-309 Gr. C / SA-309 Gr. C
NOZZLES SA-309	EXTERNAL / SA-309 Gr. C / SA-309 Gr. C
NOZZLES SA-309	INTERNAL / SA-309 Gr. C / SA-309 Gr. C
NOZZLES SA-309	EXTERNAL / SA-309 Gr. C / SA-309 Gr. C
NOZZLES SA-309	INTERNAL / SA-309 Gr. C / SA-309 Gr. C
NOZZLES SA-309	EXTERNAL / SA-309 Gr. C / SA-309 Gr. C



Process: Drawing

Drawing

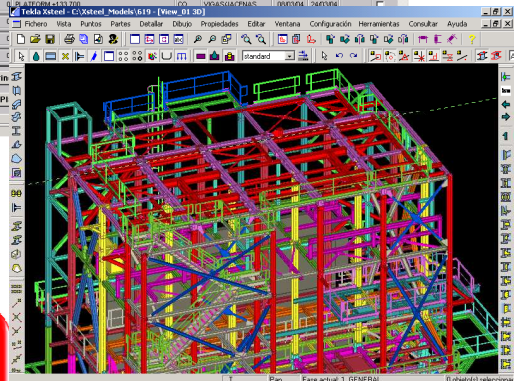
- Calculations
- Manufacture Drawings
- Detail Drawings
- Bill Of Materials
- Drawings Data Base Revisión



Technical Manager

Project Manager

Production Manager



Process: Procurement

Materials Procurement

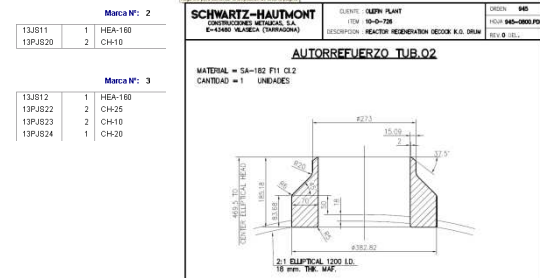
- Long Time Delivery
- Materials Monitoring
- Certificates
- Approved supplier

SCHWARTZ HAUTMONT C.M.S.A. 1305/04 Pág. 1 de 2

OBRA:	895	HOJA DE RUTA	(por plano y revisión)	PLANO:	015001903-000-H-25	Rev:	0
DESCRIPCIÓN:	Estructuras hormo F-1014 vF-1010	ITEM:	21F-1014 STRUC	ESP:	kgm	FEED:	0,00
CLIENTE:	TECHNIP Bevelux	TÍTULO PLANO:	PLATFORM v138390	PARTE:	MOGASARENAS		
POSICIÓN:	PIEZAS:	DENOMINACIÓN:	TIPO DE RUTA	USO:	2	JACENA:	CO
			TIPO DE RUTA	USO:	2	JACENA:	CO

POSICIÓN	PIEZAS	DENOMINACIÓN	TIPO DE RUTA	USO	JACENA	CO			
13JB10	2	HEA-160			30,4	167	6		
13PJS20	4	CH10			142	100	78,5	7	0

TOTAL MARCA 194 6



voestalpine

FLABOFORM
MAASS GLOBAL GROUP

OUTOKUMPU
ALUMINIUM TECHNOLOGY GROUP

ALMESA

SPECIAL FLANGES
STEEL FORGING

ArcelorMittal

KOCH-GLITSCH

TUBOS REUNIDOS

ESAB

memit
Johnson screens

DILLINGER HÜTTWERKE GMBH

LINCOLN
ELECTRIC

Technical
Manager

Project
Manager

Production
Manager

SCHWARTZ
HAUTMONT
CONSTRUCCIONES METÁLICAS, S.A.

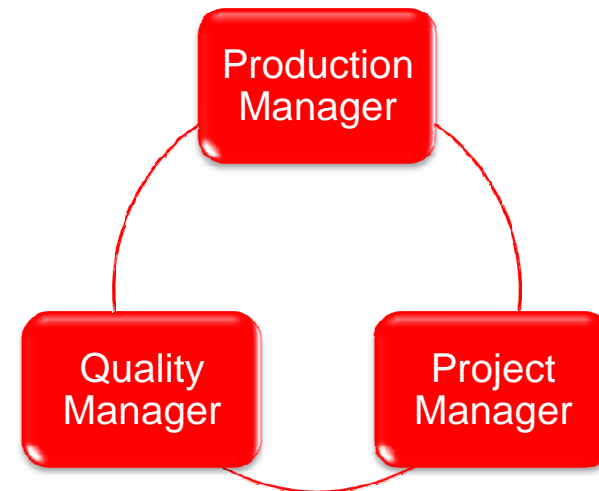
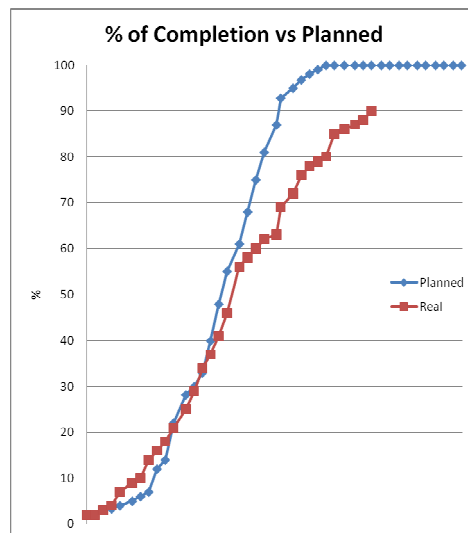
Process: Manufacturing

Manufacturing

- Cutting & Profiling
- Rolling & Welding
- Assembling
- Surface Treatment
- NDT during whole process
- Weld Fails control
- Planning Accuracy

Formulario Albaranes

Numero	Fecha	Matricula	Espede	Recibe	Transportista	Obra	Subidice	Peso Basecula
040792	27/04/04	T-1619-AS	E.H.	CLIENTE	SH	619		3.330
040801	28/04/04	T-6630-AB	E.H.	CLIENTE	SH	619		1.800
040816	29/04/04	SR-ARTES	E.H.	CLIENTE	SH	619		110
040819	29/04/04	3379-CCP	E.H.	CLIENTE	TRANSPRANC	619		10.910
040902	03/05/04	SR-ARTES	E.H.	CLIENTE	SH	619		830
040909	04/05/04	SR-ARTES	E.H.	CLIENTE	SH	619		100
040948	07/05/04	SR-ARTES	E.H.	CLIENTE	SH	619		42
040963	10/05/04	T-1619-AS	E.H.	CLIENTE	SH	619		4.030
040978	11/05/04	T-1619-AS	E.H.	CLIENTE	SH	619		14.680
040990	12/05/04	SR-ARTES	E.H.	CLIENTE	SH	619		14
040715	13/04/04	NRM	E.H.	CLIENTE	NRM	619		
040909	03/05/04	T-1619-AS	E.H.	CLIENTE	SH	619		14.680
040918	05/05/04	SR-ARTES	E.H.	CLIENTE	SH	619		1.182
040944	07/05/04	T-1619-AS	E.H.	CLIENTE	SH	619		3.560



Process: Packing & Wrapping for Transport

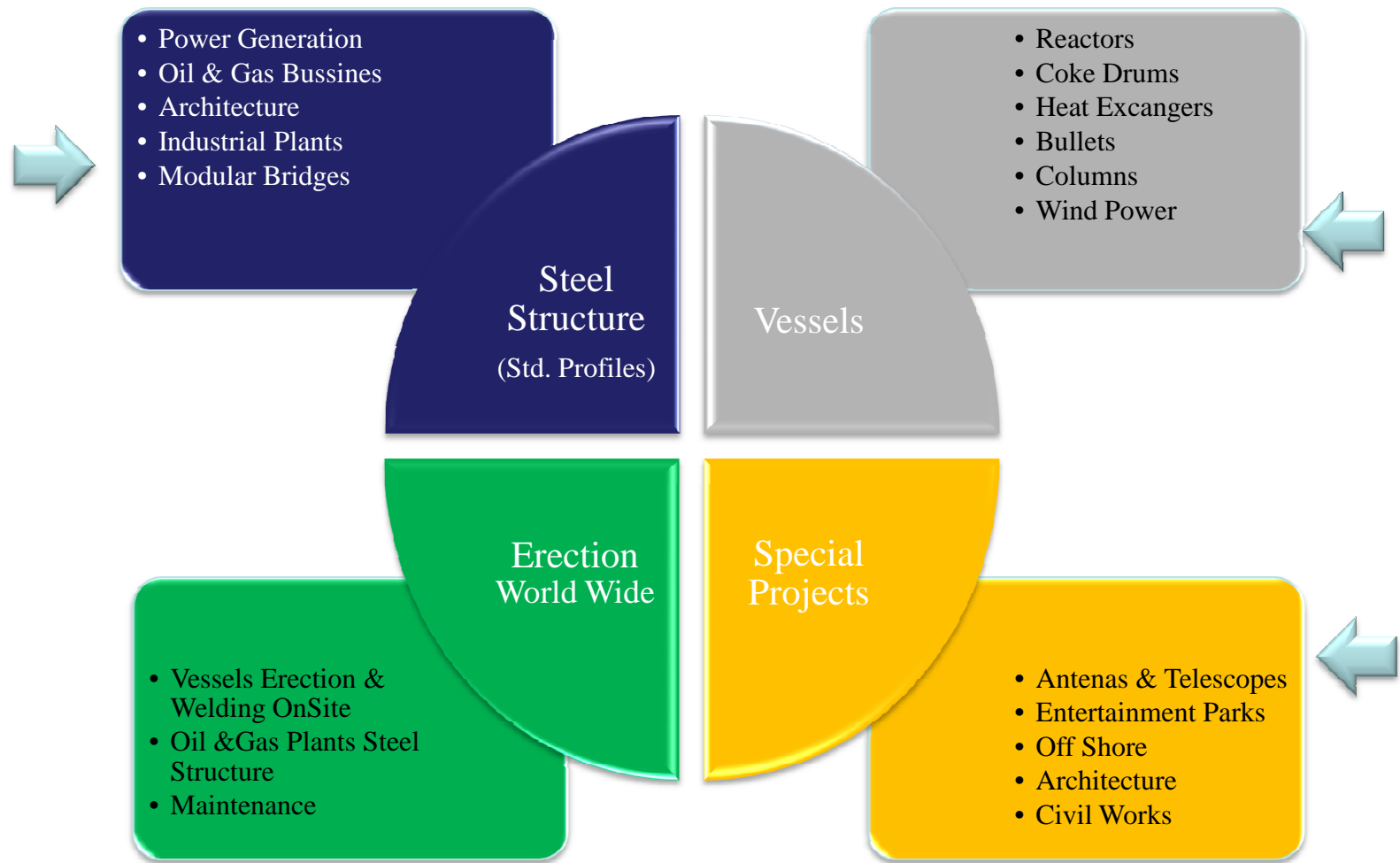
Steel Structure Packing



Pressure Vessel: Stainless Steel



Introduction: Our Business Units



Vessels Projects: Reactors



Client	INTECSA /CEPSA (2000)	Length	31.400 mm
Material	SA-387 Gr.11 Cl2 + 347	Diameter	3.200 mm
Weight	235 mT	Thickness	90+3 mm



Client	Technip Germany (2004)	Length	17.000 mm
Material	SA-387 Gr.22 Cl2	Diameter	3.600 mm
Weight	250 mT	Thickness	108 mm



Client	Tecnicas Reunidas (1.996)	Length	14.380 mm
Material	SA-387 Gr.11 Cl2.	Diameter	3.456 mm
Weight	180 mT	Thickness	70+3 mm



Client	Bayer (2.000)	Length	13.500 mm
Material	WStE 355 + SS 1.4306	Diameter	4.000 mm
Weight	70 mT	Thickness	26+3 mm

- Reactors
- Coke Drums
- Heat Exchangers
- Bullets
- Columns
- Wind Power

Vessels

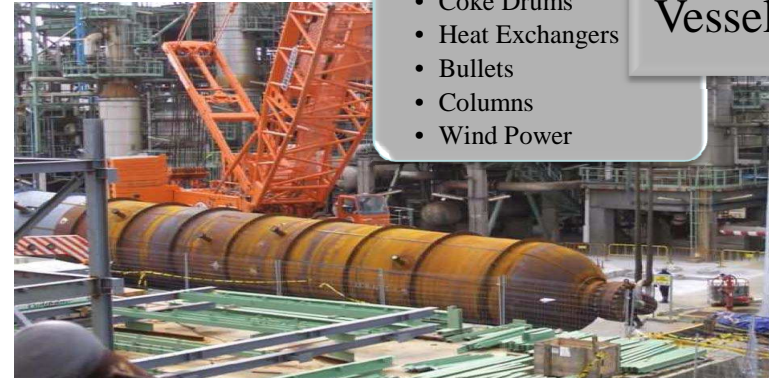
Vessels Projects: Reactors



Client	<i>SG engineering, 2.006.</i>	Length	17.000 mm
Material	SA-387 Gr.11 Cl2.	Diameter	3.600 mm
Weight	300 mT	Thickness	110+5 mm



Client	<i>JGC, 2.007</i>	Length	14.000 mm
Material	SA-387 Gr.22 Cl2	Diameter	3.010 mm
Weight	150 mT	Thickness	76+3mm



Client	<i>Repsol / Axens, 2.007.</i>	Length	18.000 mm
Material	SA-387 Gr.11 Cl2.	Diameter	3.600 mm
Weight	200 mT	Thickness	90+3 mm



Client	<i>TR / Repsol YPF, 2.011</i>	Length	11.500 mm
Material	SA-350 LF2 Cl1 + 308 L	Diameter	3.640 mm
Weight	88mT	Thickness	115+5 mm

- Reactors
- Coke Drums
- Heat Exchangers
- Bullets
- Columns
- Wind Power

Vessels



Vessels Projects: Coke Drums

- Reactors
- **Coke Drums**
- Heat Exchangers
- Bullets
- Columns
- Wind Power

Vessels



Client Repsol / FW, 2.008

Length 40.000 mm

Material SA-387 Gr. 11 Cl2 + 410 S

Diameter 8.600 mm

Weight 450 mT

Thickness 40+3 mm



Client CONFIDENTIAL, 2011

Length

Material

Diameter

Weight

Thickness

Vessels Projects: Heat Exchangers

- Reactors
- Coke Drums
- **Heat Exchangers**
- Bullets
- Columns
- Wind Power Towers

Vessels



Client Alfa Laval Packinox, 2.005
Material SA-387 Gr.11 Cl2.
Weight 115mT
Length 12.500 mm
Diameter 2.400 mm
Thickness 70 mm



Client USF, 2.003
Material SA-516 Gr.70.
Weight 175 mT
Length 15.000 mm
Diameter 6.500 mm
Thickness 24 mm



Client SNC Lavalin / JPMC, 2.011.
Material SA-516 Gr. 70 + 304
Weight 135 mT
Length 14.500 mm
Diameter 4.800 mm
Thickness 8600mm



Client Air Industrie Thermique, 2.006.



Vessels Projects: Heat Exchangers

- Reactors
- Coke Drums
- **Heat Exchangers**
- Bullets
- Columns
- Wind Power Towers

Vessels



Client *Ecolaire / Pluspetrol, 2.011*



Client *DOW Chemical 2011*

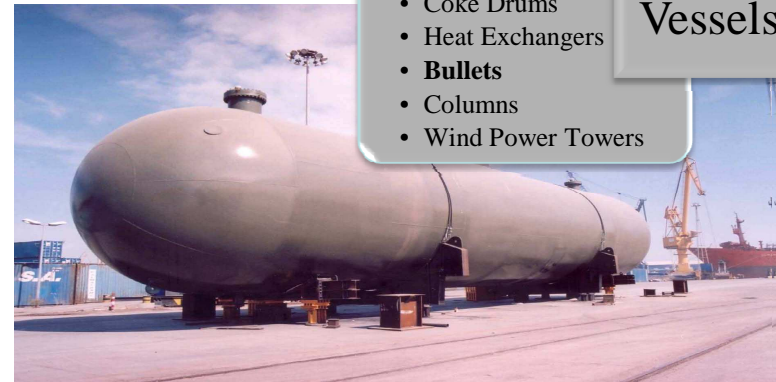
Vessels Projects: Bullets



Client	<i>Intecsa / Repsol, 2.000</i>	Length	74.000 mm
Material	TStE 355.	Diameter	8.000 mm
Weight	800 mT	Thickness	35 mm



Client	<i>CLCM / Galp, 2.004</i>	Length	35.000 mm
Material	P 355 NL-1.	Diameter	8.000 mm
Weight	275mT	Thickness	32mm



Client	<i>Shell, 2.004.</i>	Length	38.000 mm
Material	P 355 NL-1.	Diameter	8.000 mm
Weight	275 mT	Thickness	32mm



Client	<i>Aramco / TR, 2.005.</i>	Length	30.000 mm.
Material	SA-516 Gr. 70N	Diameter	7.600 mm.
Weight	700 mT.	Thickness	97 mm.

- Reactors
- Coke Drums
- Heat Exchangers
- **Bullets**
- Columns
- Wind Power Towers

Vessels



Vessels Projects: Columns

Deethanizer



Client	<i>Linde AG / Statoil, 2.003</i>	Length	46.000 mm
Material	12Ni14 (3 1/2Ni).	Diameter	4.200mm
Weight	450 mT	Thickness	58 mm

Fractionator



Client	<i>Petro Rabigh, 2.007</i>	Length	60.000 mm
Material	SA-516 Gr. 70 + 410 S	Diameter	4.900 mm
Weight	210 mT	Thickness	22+3 mm

Vacuum Tower



Client	<i>Repsol / FW, 2.009</i>	Length	45.000 mm
Material	SA-516 Gr. 70 + 317 L.	Diameter	10.100 mm
Weight	450mT	Thickness	32 +3 mm



Client	<i>Aramco , 2.007</i>	Length	35.000 mm.
Material	SA-516 Gr. 70 (HIC)	Diameter	5.950 mm.
Weight	550 mT.	Thickness	94 mm.

- Reactors
- Coke Drums
- Heat Exchangers
- Bullets
- **Columns**
- Wind Power Towers

Vessels

Vessels Projects: Columns

Fractionator



Client	<i>Repsol / FW, 2.009</i>	Length	55.000 mm
Material	SA-516 Gr. 70 + 317 L.	Diameter	6.100 mm
Weight	230 mT	Thickness	24+3 mm

HDS Column



Client	<i>Técnicas Reunidas, 2.007</i>	Length	35.000 mm
Material	SA-516 Gr. 70 + 316 L	Diameter	4.200 mm
Weight	80mT	Thickness	15+3 mm

Fractionator



Client	<i>Cepsa / FW, 2.008</i>	Length	75.500 mm
Material	SA-387 Gr. 11 Cl 2 + 317 L	Diameter	6.100 mm
Weight	355 mT	Thickness	27+3 mm

Fractionator



Client	<i>Technip / JGC, 2.007</i>	Length	60.000 mm.
Material	SA-516 Gr. 70 + 410 S.	Diameter	5.400 mm.
Weight	315 mT.	Thickness	22+3 mm.

- Reactors
- Coke Drums
- Heat Exchangers
- Bullets
- **Columns**
- Wind Power Towers

Vessels



Vessels Projects: Light Vessels

- Reactors
- Coke Drums
- Heat Exchangers
- Bullets
- **Columns**
- Wind Power Towers

Vessels



Client	<i>Ferrostal</i>	Length	10.000 mm
Material	SA-516 Gr. 70	Diameter	1.800 mm
Weight	15 mT	Thickness	24 mm



Client	<i>TR Qatar 2010</i>	Length	8.5000 mm
Material	SA-516 Gr. 70N	Diameter	1.800 mm
Weight	80mT	Thickness	35 mm



Client	<i>PDVSA 2011</i>	Length	9.000 mm.
Material	SA-516 Gr. 60	Diameter	950 mm.
Weight	25 mT.	Thickness	18 mm.



Vessels Projects: Stainless Steel Vessels

- Reactors
- Coke Drums
- Heat Exchangers
- Bullets
- Columns
- Wind Power Towers

Vessels



Client **CEPSA 2011** Length 10.000 mm
 Material 316 L Diameter 3.900 mm
 Weight 23mT Thickness 16 mm



Client **INTECSA 2011** Length 19.000 mm
 Material 304 /304 L Diameter 1900 mm
 Weight 41 mT Thickness 35 mm



Client **Cobra 2011** Length NA
 Material SuperDuplex Diameter NA
 Weight NA Thickness NA



Client **Kellog** Length 35.000
 Material 304L Diameter 1.200 mm
 Weight 65 mT Thickness 22 mm



Steel Structure Projects: Power Generation

- Power Generation
- Industrial Plants
- Modular Bridges
- Oil & Gas Business

Steel Structure



Client BASF, 1.998.
Location Spain (Tarragona)
Weight 1.950 mT



Client Elcogas, 1.996
Location Spain (Puerto Llano)
Weight 1.750 mT



Client Babcock, 2.002.
Location Spain (Tarragona)
Weight 1.000 mT



Client Técnicas Reunidas, 2.008
Location Spain (Barcelona)
Weight 4.000 mT

Steel Structure: Industrial Plants

- Power Generation
- **Industrial Plants**
- Modular Bridges
- Oil & Gas Business

Steel
Structure



Client *Seat Volkswagen Factory, 1.990*

Location Spain

Weight 18.000 mT



Client *National CAN Factory, 1.992*

Location Spain

Weight 2.000 mT



Client *Danone 2001*

Location Spain

Weight 3.000 mT



Client *Verallia, 2011*

Location Argentina

Weight 2.000 mT

Steel Structure: Oil & Gas Projects

- Power Generation
- Industrial Plants
- Oil & Gas Business
- Modular Bridges

Steel Structure



Client Repsol, 1.998.
Location Spain (Tarragona)
Weight 9.000 mT



Client Repsol 2.011
Project Pipe Racks



Client Fydsa, 2005
Location Spain (Almussafes)
Weight 825mT



Client GE, 2010
Location Spain (Cartagena)
Weight 5.000 mT

Steel Structure: Bridges (std. Profiles)

- Power Generation
- Industrial Plants
- **Bridges (Modular)**
- Oil & Gas Business

Steel
Structure



Client Road bridges, 1.995 & 2.010

Location Ghana

Weight 1.000 mT



Fotografía Superior
Muestra de cómo se monta el puente al proceso de armado de uno de los pilares.
Fotografía Inferior
Muestra el puente ya armado con el pila de montaje, listo



Special Projects: OffShore Projects

- Antenas & Telescopes
- Entertainment Parks
- **Off Shore**
- Architecture
- Civil Works

Special
Projects



Client **Chevron-Repsol, 1.984-1.985.**

Location Spain (Tarragona)

Weight 1.200 mT



Client **Technip, 2005**

Location Dalia



Client **ABB Offshore / Shell 2002**



Client **Technip Brazil, 2011**

Location Brazil

Special Projects: Antenas & Telescopes

- Antenas & Telescopes
- Entertainment Parks
- Off Shore
- Architecture
- Civil Works

Special
Projects



Client *Deep space 1996*
Location Australia
Weight 400 mT (34m Diam)



Client *Telescope Erection on site*
Location Hawaii
Weight 550 mT



Client *Deep Space 2001-2004*
Location Spain
Weight 400 mT (34 m diam.)



Client *Grantecan Telescope, 2.002*
Location Canary Islands
Weight 500 mT

Special Projects: Civil Works

- Antenas & Telescopios
- Entertainment Parks
- Off Shore
- Architecture
- Civil Works

Special Projects



Client **Tarragona Port 2001**

Location Spain

Weight 7.000 mT



Client **Angel Road Viaduct, 1.996**

Location UK (London)

Weight 3.000 mT



Client **High Speed Train Station 2006**

Location Spain

Weight 8.000 mT



Client **Olympic access, 1991**

Location Spain

Weight 1.000 mT



Special Projects: Architecture



Client Science Museum 1998

Location Spain (Valencia)

Weight 1.500 mT



Client Science Museum, 2.002

Location Spain (Barcelona)

Weight 2.000 mT (34 m diam.)

- Antenas & Telescopes
- Entertainment Parks
- Off Shore
- **Architecture**
- Civil Works

Special
Projects



Client Communication tower, 1.991

Location Spain

Weight 1.000 mT

Special Projects: Entertainment Parks

- Antenas & Telescopes
- **Entertainment Parks**
- Off Shore
- Architecture
- Civil Works

Special
Projects



Client **Port Aventura, Dragon Khan 1994**

Location Spain



Client **Cerecedas Family 2005**



Giant Drop 2005

References: Our Clients



BOLLIGER & MABILLARD



TECNICAS REUNIDAS





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