

Specific Packaging Solutions
Packaging Engineering



Company Profile

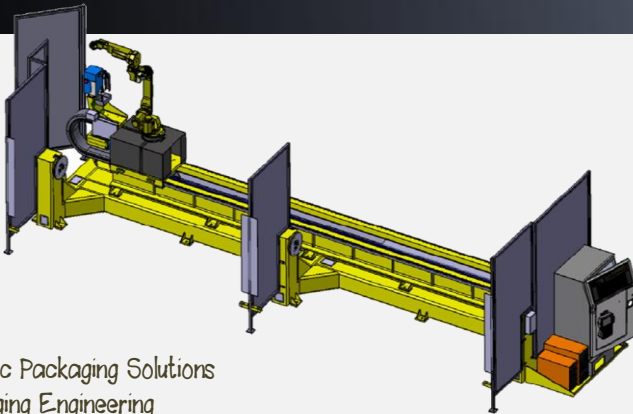
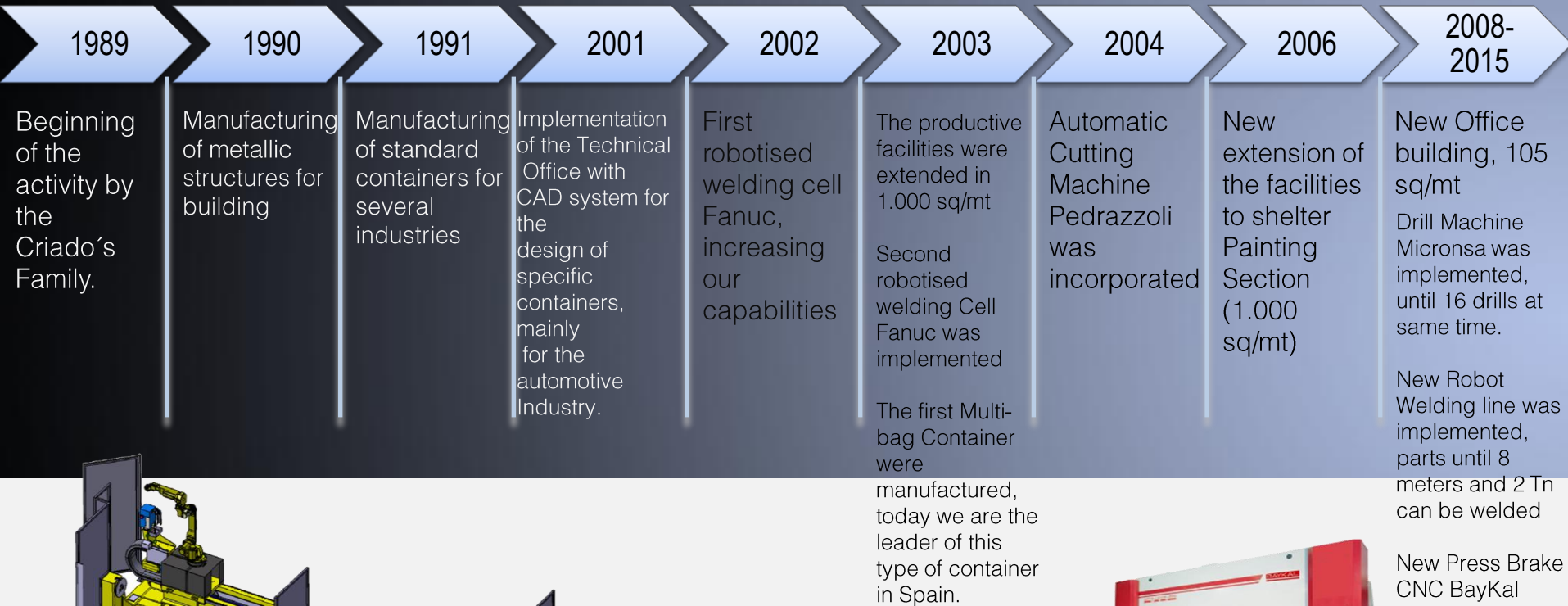
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 - Development, I+D+I
 - Products
- Customers
- Future

Criado

PACKAGING ENGINEERING

Main Dates



Specific Packaging Solutions
Packaging Engineering



New Press Brake
CNC BayKal

Figures

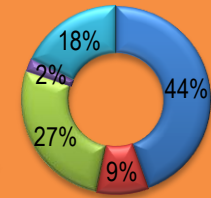
45
Employees
3 Engineers
2 Economist
4 Technicians

Between
6.000-10.000
packaging
every year
(depending
complex)

+100 new
references
every year

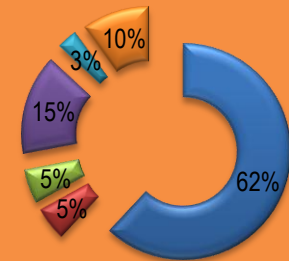
+2.200.000
€
Accumulated
investments

Sales



- Spain
- Portugal
- France
- Germany
- England

Sales Per Activity

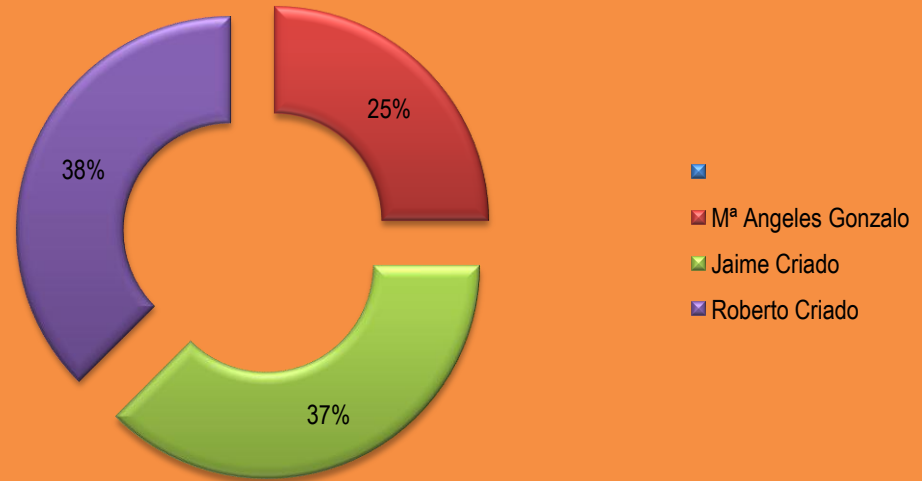


- Automotive
- Food
- Industrie
- Renovable Energy
- Engineering

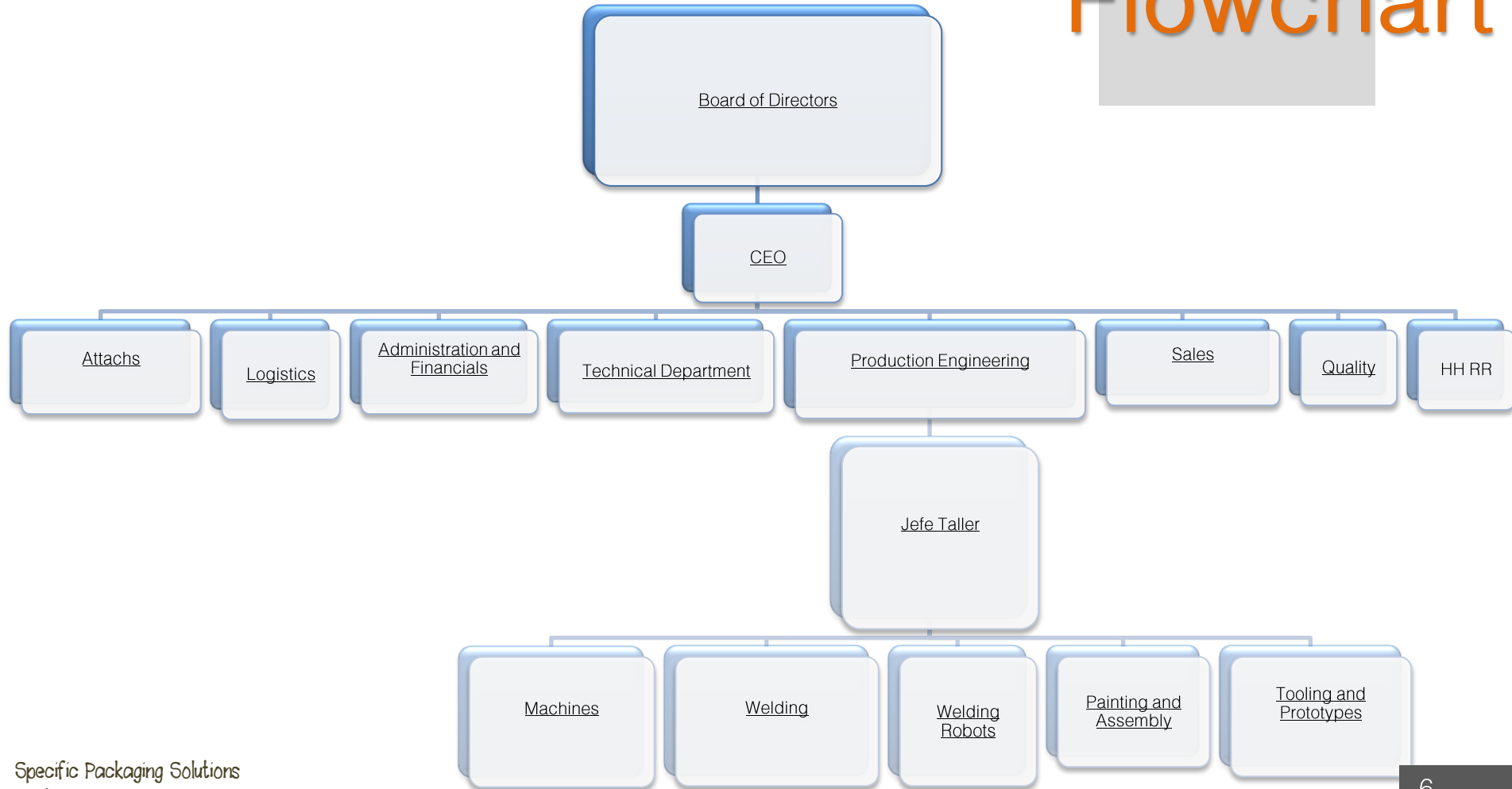
Shareholders

Criado is a Family Company, with the 100% of the Shares owned by the Criado Family

The Company was founded by Mr. Luis Criado in 1989



Flowchart



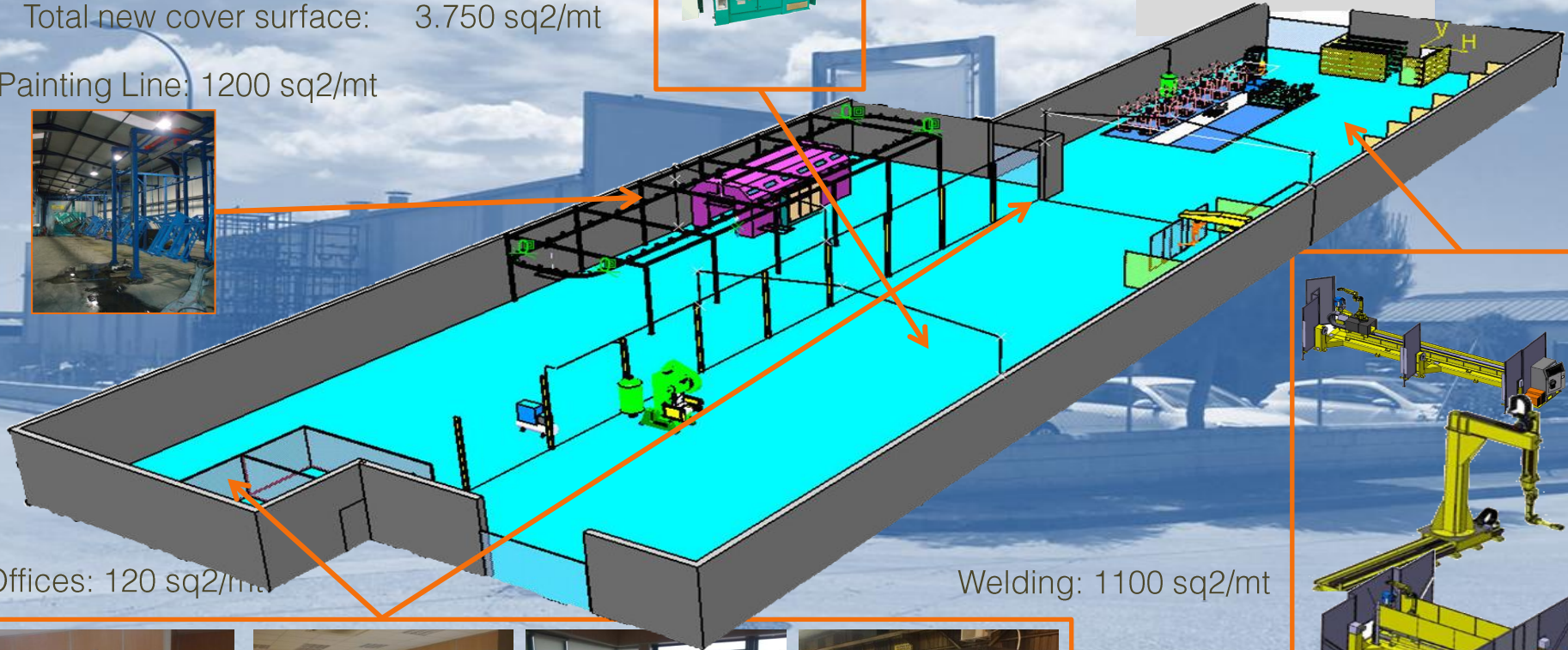
Facility

Cutting + Stamping: 900 sq2/mt



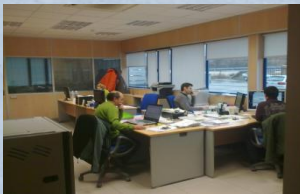
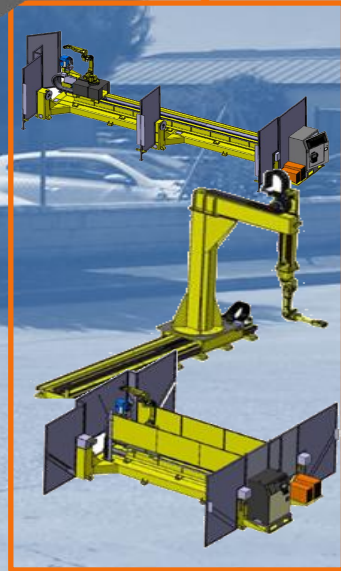
Total surface: 7.800 sq2/mt
Cover surface: 3.300 sq2/mt
Extension: 450 sq2/mt
Total new cover surface: 3.750 sq2/mt

Painting Line: 1200 sq2/mt



Offices: 120 sq2/mt

Welding: 1100 sq2/mt



Facility

Metal transforming shop

This plant have approximately 1000 sq/m.

CNC bending presses, CNC and semi-automatic cutting lines, punch presses, drills, all the necessary to transform tubes and sheets with the highest precision.



Facility

Welding shop

This plant have approximately 1100 sq/m.

Criado has invested very much in this area. Most of the welding processes are robotized, approximately 70% of each container. There are three robotized welding stations

- ROBOT 1: With 2 turn tables up to 250 Kgs, parts of 2000 mm. length
- ROBOT 2: A column robot with 2 stations
- ROBOT 3: With 2 turn tables up to 2000 kgs, parts of 7000 mm. length

All the robots are Fanuc.

The hand welding machines are Kemmpy. Up to 15 machines are in the shop

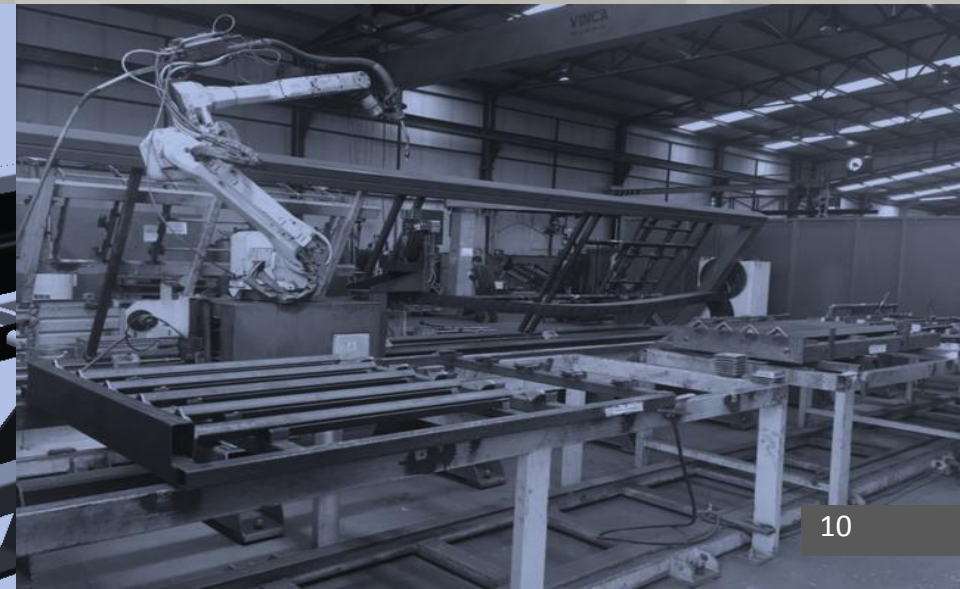
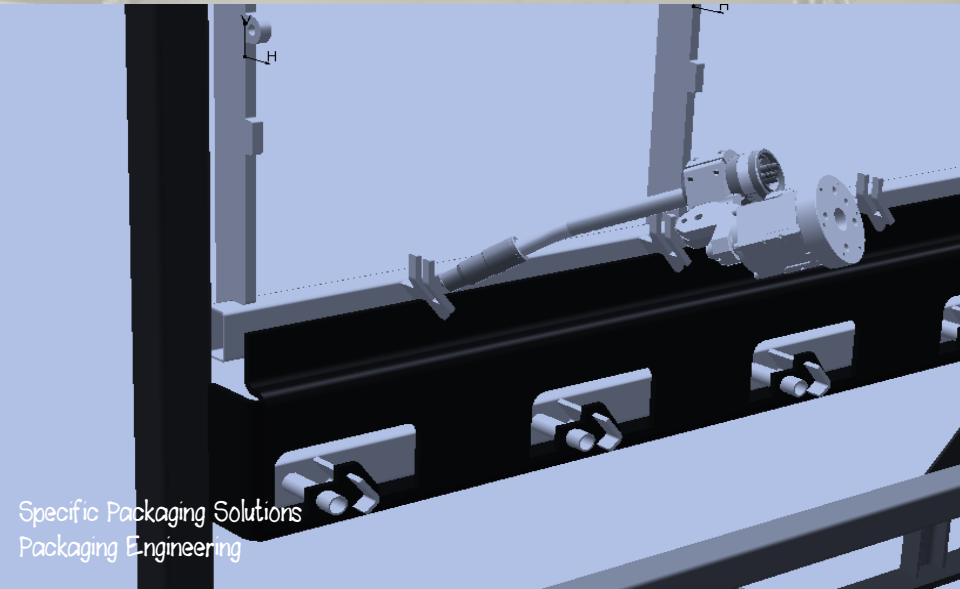


Welding shop

Facility

There is a department (2 persons) dependent of the welding section fully dedicated to design, develop and manufacture prototypes and welding tooling for the robot welding processes.

This department is very important to satisfy the delivery time and quality necessities of our production department and of our customers



Facility

Paint shop

This plant have approximately 1200 sq/m.

A conveyor of 77 meters long is on the facility, the containers are transported in it.

Electrostatic painting equipment (2 units) and automatic epoxi / poliuretane mixing equipment are user to the painting process.

A degreasing process is used for the treatment of all the containers

Assembly shop

In it, Criado makes the assembly processes
A new building of 500 sq/m. with new equipment is planned to increase the capabilities.



Quality

Criado

Packaging Engineering
Ingeniería de Embalaje

"Calidad significa hacer lo correcto cuando nadie
esta viendo"

Henry Ford

Firm with our values
Quality is our primary concern for your
satisfaction

Quality

During last years, Criado has realized efforts in reinforcing the quality of processes and the final product

Most of the welders are certified in GMAW according EN ISO 15614-1:2005

Most of the container's parts are welding in robotized processes

For ADR containers (airbag and Ion Lito) we work with AIDIMA and Bureau Veritas for the test, product certification and processes certification

For containers with maximum paid load, we make test of resistance and elevation, with Bureau Veritas certifications

Criado has a calibrated measurement table in the measurement area, with electronic devices and software to the dimensions control of the containers

Welding Procedure Approval Record (WPQR)

Registro de Cualificación del Procedimiento de Soldado (WPQR)

Qualification of welding procedure - Certificate of the test

Welding procedure approval - Test certificate

Procedimiento de soldado del fabricante/Manufacturer's welding procedure (WPS)

WPS Reference No. CRIADO-000000

Manufacturer/Talleres Criado S.L. - CIF: B46101460

Address: C/ UNIBARRIO-SANABASA / SAN ESTEBAN DE GIMNAR 42200 TORRE

Code of welding procedure: UWE EN ISO 15614-1

Date of welding: 24 ABRIL 2008

Extension of the Qualification / Extent of Approval

Process of welding: GMAW 135

Welding Position: A TOPE EN CHAPAS SOLDADOS POR UN LADO Y SIN REPALDO

Test of Union: 307 WELDING IN PLATE, SINGLE SIDE WITHOUT BACKING

Material: Metal base: Metal (s): CHAPALATES Y TUBOS (PIPE/PLATE/PIPE) EN 10025 S235

Thickness: 3 mm (Cualificación: 2 T 3 mm)

Shielding Gas: Argon y Mezclas de gases, tipo argón y aluminio del grupo 1

Qualities: Qualities $\geq$ 150 mm PA

Filler Metal Type: AWS A5.18 ER 70S-B

Gas protection: E R 70S-B - Qualities S.M

Welding Gas Flow: M1, M1-402

Type of welding current: DC + 100

Position of welding: PG / QUALITIES: ALL EXCEPT PG - B402

Preheating: ROOM TEMP 250 C (Temperatura ambiente)

Post-weld heat treatment: Extremar las condiciones de limpieza y secado de metales base

Se certifica que los resultados de la prueba se prepararon, soldaron y ensayaron satisfactoriamente de acuerdo con los requisitos de homologación indicados anteriormente

It is certified that test were prepared, welded and tested satisfactorily in accordance with the requirements of the homologation indicated above

Signature of the manufacturer: 30 MAYO 11

Signature of the inspector: EWF

Welding Procedure Approval Record (WPQR)

Cualificación de Procedimiento de Soldado (WPQR)

Según la Norma Europea EN ISO 15614-1:2005

According to EN ISO 15614-1:2005

Expedido a la Empresa / Delivered to the manufacturer: TALLERES CRIADO, S.L.

Después de la ejecución de la prueba de soldadura / After execution of the welding test piece, en presencia de / in the presence of: Oscar Echegoyen

Pol. Las Carretas, s/n Parcelas 1,2 y 3

VALIDEZ DE LA CUALIFICACIÓN / EXTENT OF APPROVAL

Procedimiento de soldado / Welding process: GMAW

Welding Position: BW

Material base / Parent Metal (Group): 1.5 mm

Exposición metal base / Parent Metal Thickness (mm): 1.5 mm

Diameter exterior / Pipe Outside Diameter (mm): 1.5 mm ER 70S-B

Gas de protección / Shielding Gas / Flux: Argon

Tipos de corriente de soldado / Type of Welding Current: DC

Posición de soldado / Welding Position: PG

Preheating / Preheat: N/A

Tratamiento térmico y/o maduración de la soldadura / Post weld Heat Treatment and/or ageing: N/A

Otras informaciones / Other informations:

Se certifica que los datos presentados en este certificado son conformes a los ensayos realizados y que los procesos fueron preparados, soldados y controlados satisfactoriamente de acuerdo con los requisitos de la norma indicada anteriormente.

It is certified that the statements in this record are correct and that the test results were prepared, welded and tested in accordance with the requirements of the code standard above mentioned.

Certificado emitido el / Record issued the: 14 / Agosto / 2008

Con la referencia / with the reference (WPQR No.): 5200108001601-IPOR-CRIADO 01

Apellido, fecha y firma del inspector autorizado / Name, date and signature of the authorized examiner

14 de Agosto de 2008

EL INSPECTOR: S. CAYETANO

Gala Gar GMAW 135



Bureau Veritas GMAW

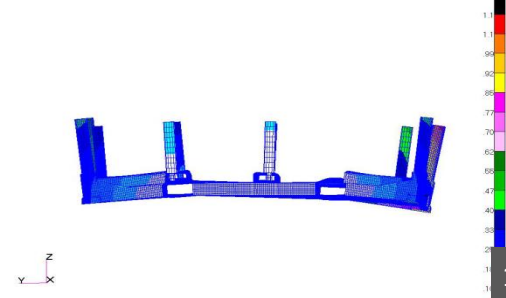
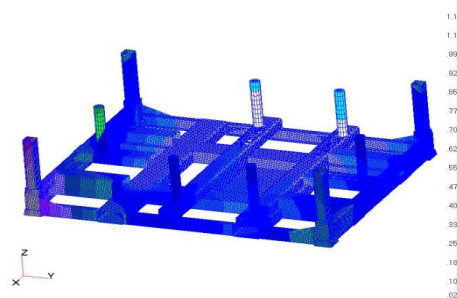
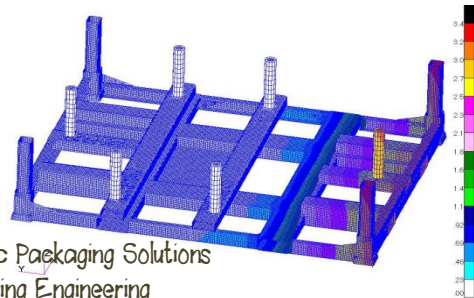
Capabilities

Criado have been focused its activities to the Design, Development and manufacturing of especial packaging for a variety of sectors, like automotive, food, renewable energies, etc

We offer the integral development of a packing to our clients, including:

- Design
- Prototypes (with 3D prototyping of fitting components made in house, to close delivery times and to test parts before the prototype and to prevent errors)
- Test and validations (including official homologations, like ADR packaging)
- Pre-series
- Massive manufacture

Criado design its products using the CAD Catia V5 and SolidWorks



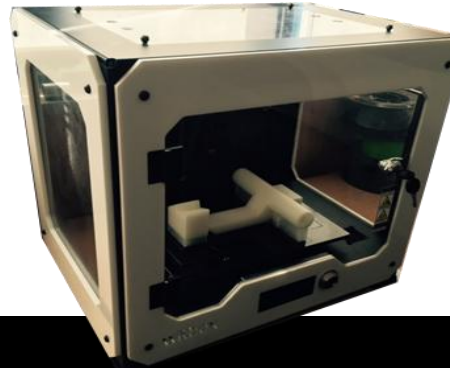
Capabilities

3D prototyping

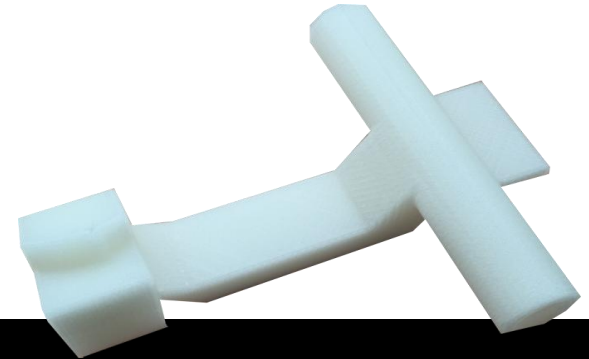
Criado have capabilities to make fast prototypes. PLA plastic is used in the 3D print. Parts of 297*210*200 mm. can be printed, we have two machines,



CAD design

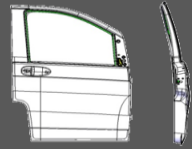


3D Print



Printed Part

Design Process



Part Study



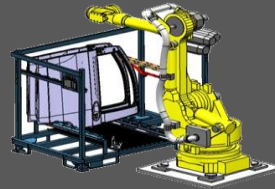
Concept Design



Volumetric Study



Kinematics



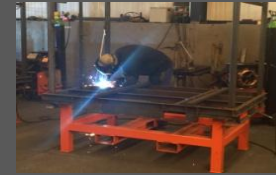
3D Prototype of fitting parts



Internal/External validations



Prototype



Mass Production



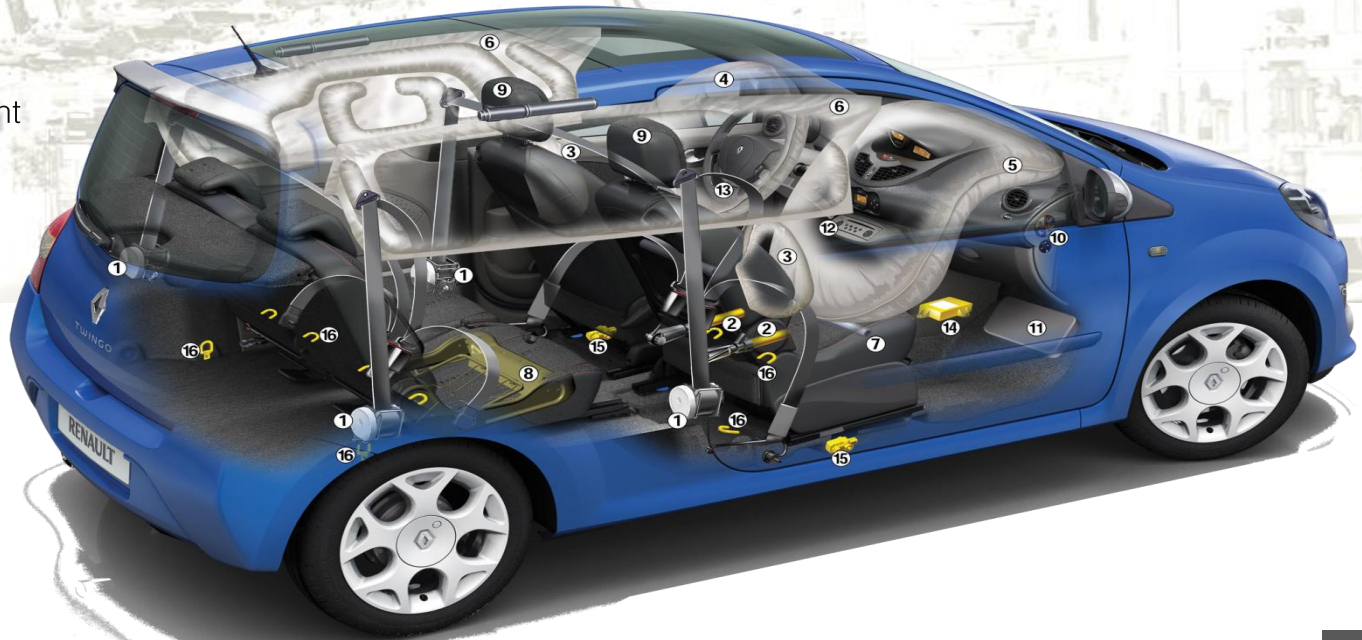
Capabilities

Products

Package for Automotive Components like:

- Body in White
 - Crossmember
 - Doors
 - Roof
 - Floor
 - Sub-frames
 - Instruments panels
 - B-Pillar reinforcement

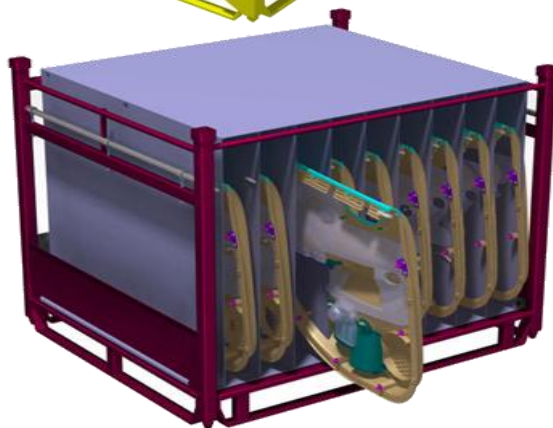
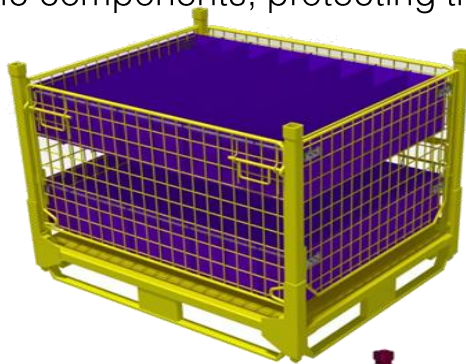
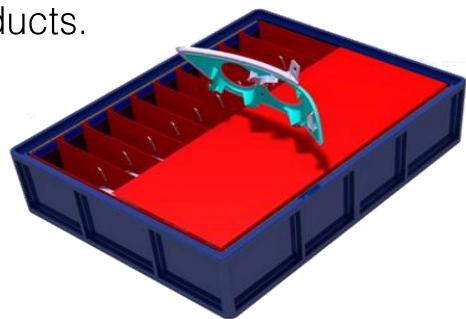
- Engines
- Bumpers
- Radiators
- Front End
- Axles
- Tyres
- Recovery components
 - Door Trim
 - Headliner
 - Seats
 - Cockpit
- Steering Wheels
- Airbag (ADR)
- Glass



Products

Containers with Fabric Dunnage

Criado is one of the largest manufacturers in Spain of this type of containers. We use the best fabrics with different solutions, Tyvek, Evolon, PVC, Nylon, etc combined with plastic boxes, standard containers or specific steel frames. Specific solutions to transport your plastic components, protecting the quality of your products.



Containers for metal parts

Simple parts or assembly products, body in white or underbody, with handle or robotized manipulation. We always look for the best solution. Stacking columns or plastic bars and separators.



Containers for steel formats and Tailored Blank

Products

Companies like Benteler, Gestamp and Arcelor Mittal give us their confidence



Products

Containers for ADR transport

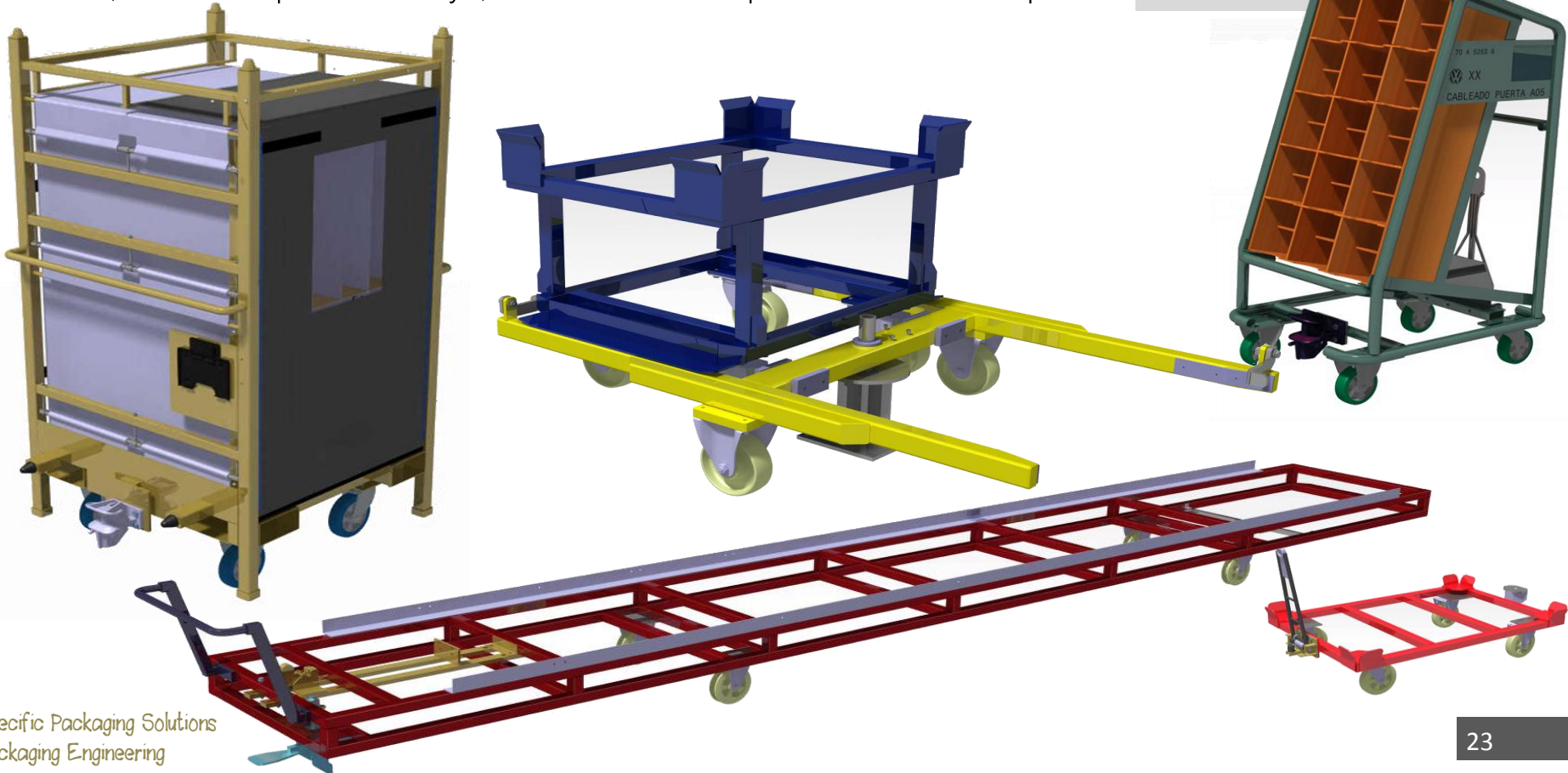
For dangerous goods like airbags, we have the solution.
With EDS thermoforming nest and steel frames. Tested to comply with the law, tested to be safe.



Intra-logistic solutions

Platforms, JIS/JIT sequence trolleys, from the most simple to the most complex.

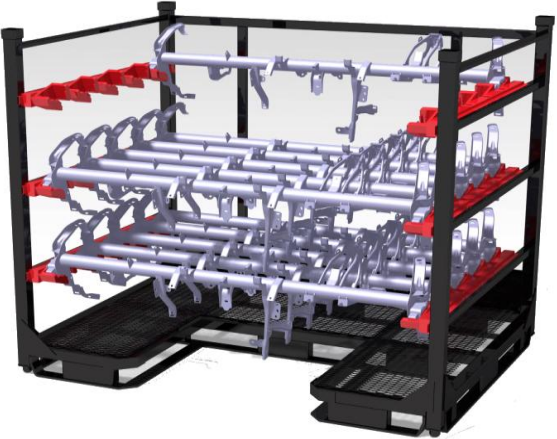
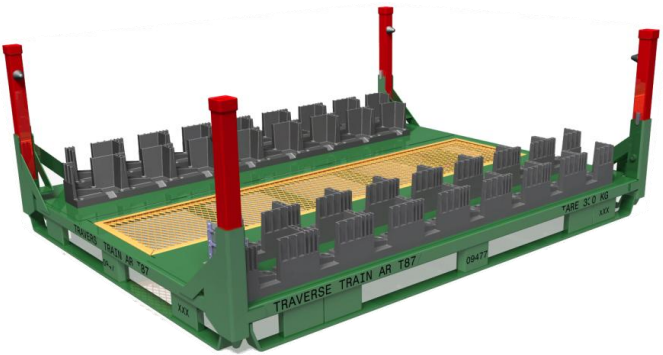
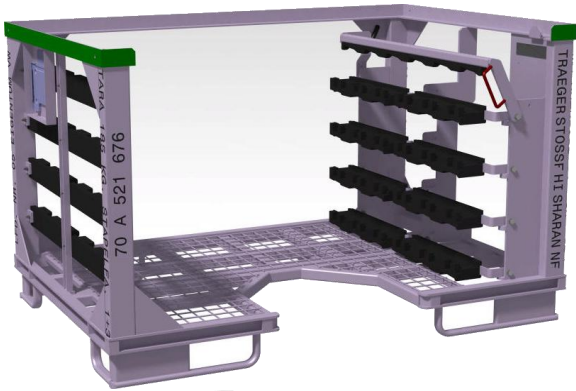
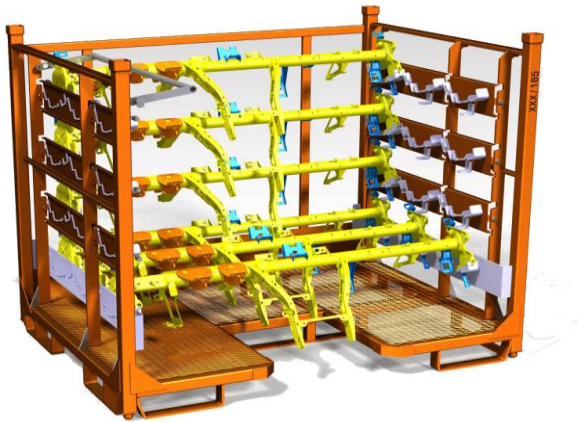
Products



Containers for Chassis Assemblies

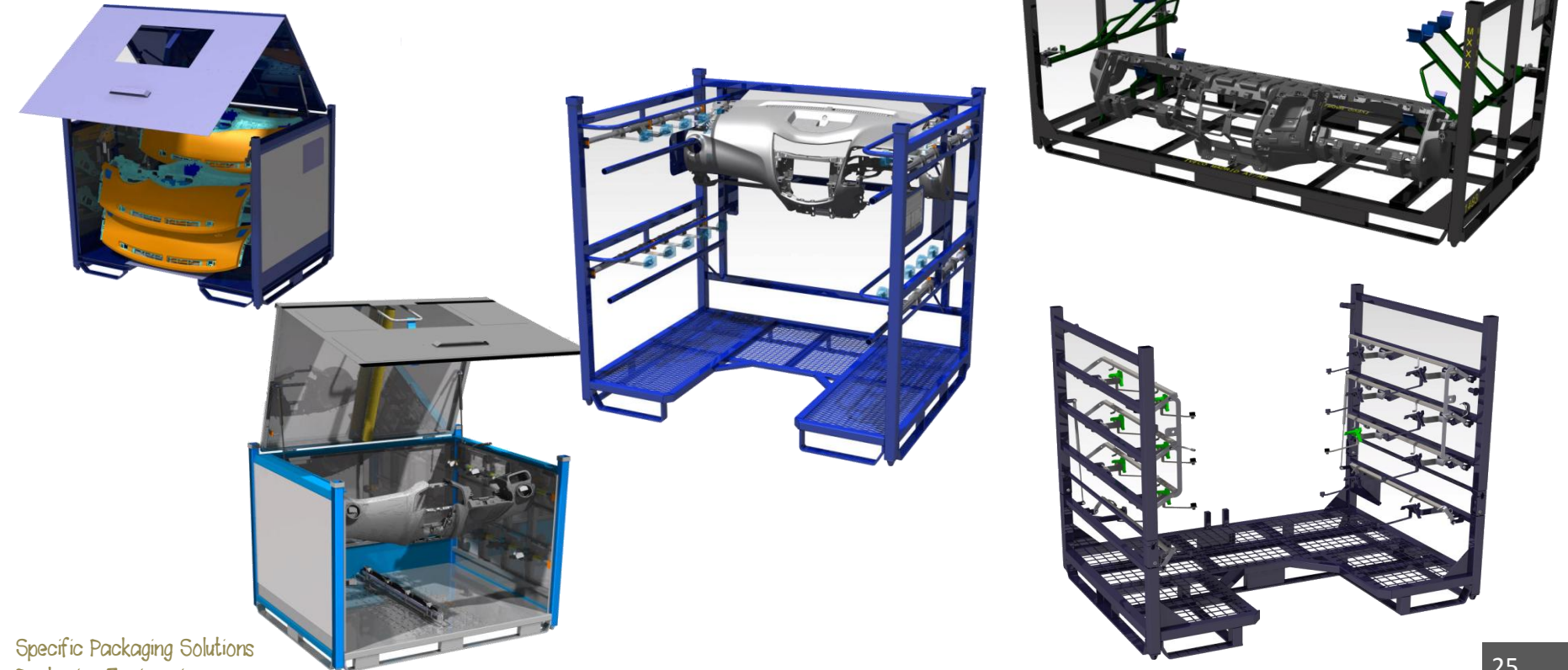
Products

Solutions for bumpers, instrument panel support, axles, structural components...



Containers for Instrument Panels, consoles and glove box. Products

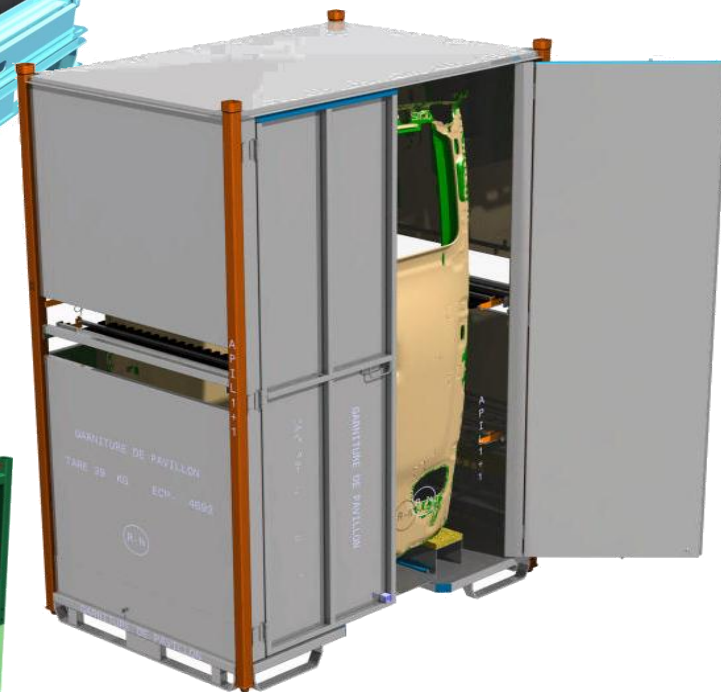
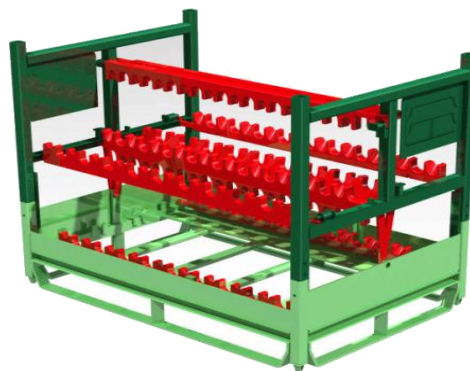
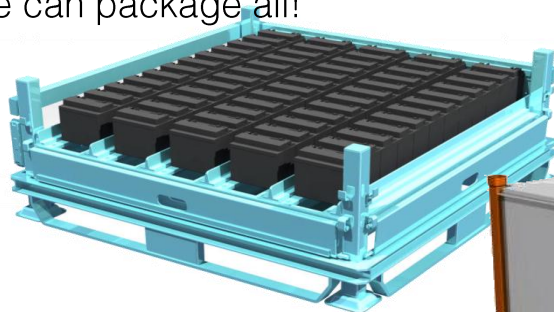
We can design different solutions for different necessities.
Open and closed container, foldable, rigid...,



Products

Containers for Interior and other components

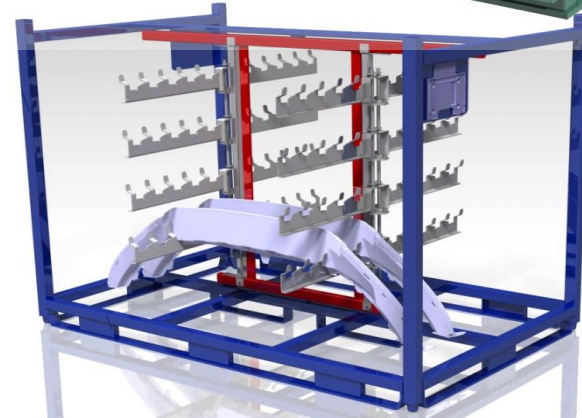
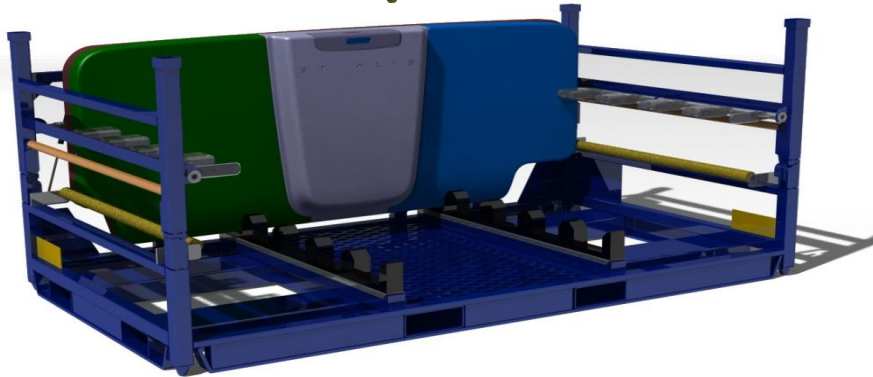
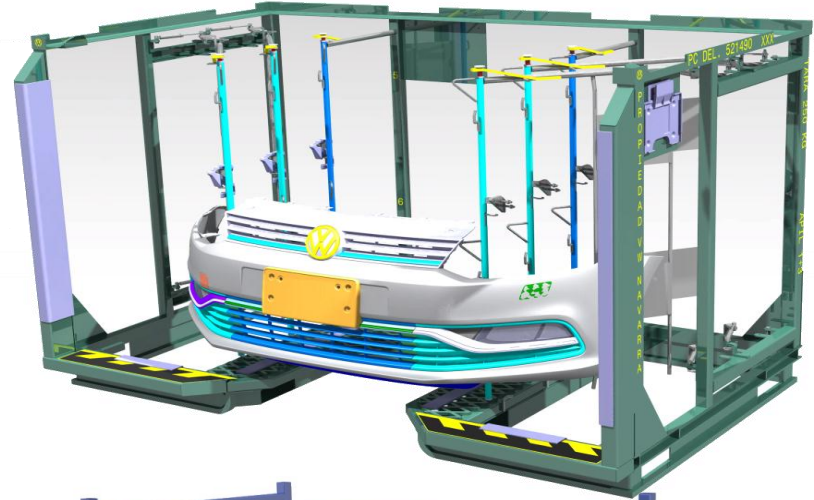
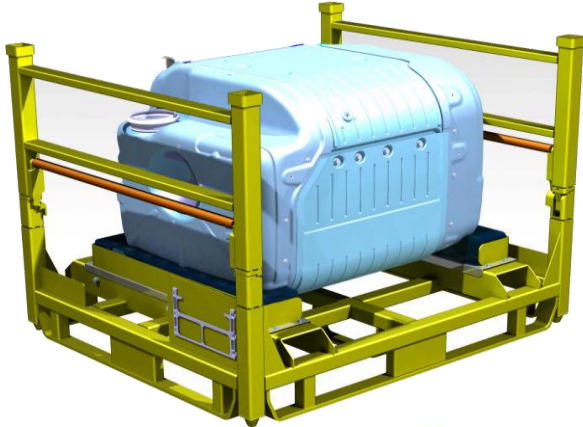
Headliners, wheels, seats, door panel, we can package all!



Containers for Interior and other components

Products

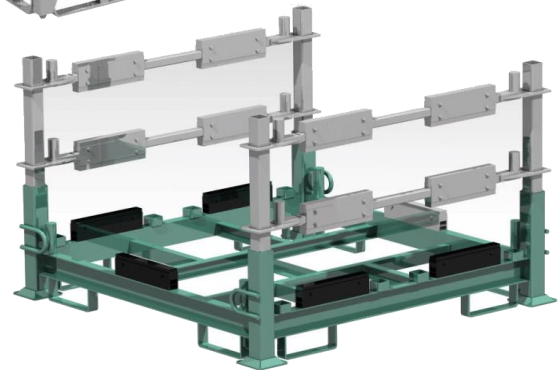
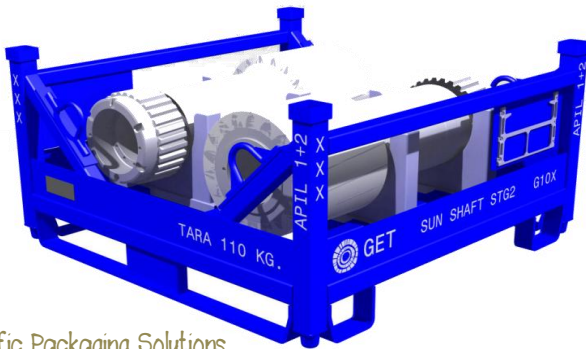
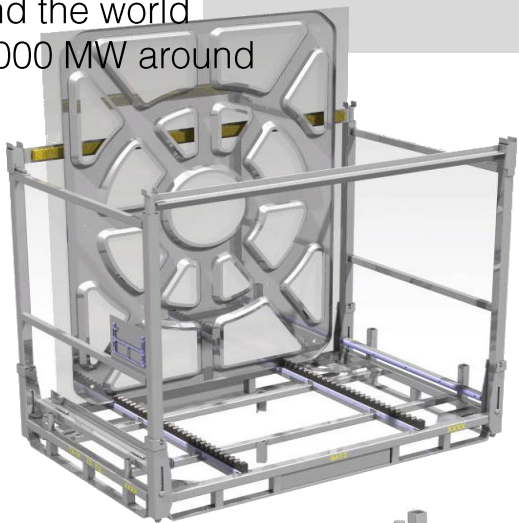
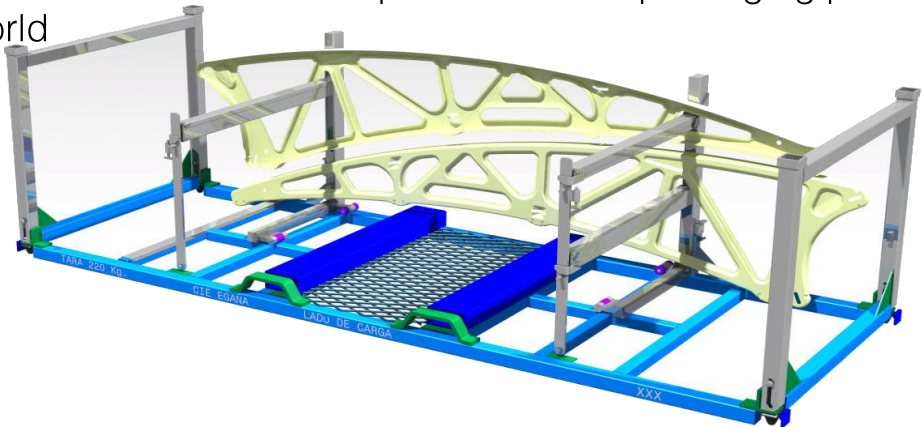
Headliners, wheels, seats, door panel, we can package all!



Containers for Renewable Energies

Products

From the USA to India, our packaging for thermo-solar parts are around the world
The wind transmissions transported with our packaging produces 14.000 MW around the world



Managing Software

CMP Application

Criado have developed a new software that manage all the productive area, like OF, Production Sequence, Bill of Material, Capture of information in Plant, Quality, etc.
This software is connected with SAP BO

CRIADO
SOFTWARE

Menú

- Inicio
- Usuarios
- Ajustes
- Almacén
- Área de producción
- Área de incidencias
- Área de consultas
- Gestor documental
- Área de indicadores
- Área Personal

Gestión de los ajustes de la aplicación

Opciones dentro del menú de ajustes

- Área de producción
- Área de incidencias
- Área de consultas
- Área de indicadores
- Área de Personal
- Área de producción
- Área de incidencias
- Área de consultas
- Área de indicadores
- Área de Personal

ESTADÍSTICA DE OPERACIONES

Local: GIN P.01000000

Tempo GH	Tempo en kg / Pasa	MF de Pasa / Hora	Tempo Total Pasa GH
0.718	1.077.000	1.187	0.718

Operaciones / Movimientos

MF de Operaciones	Tempo por Operación	MF Operarios	MF Pases
1	0.015	1	0
2	0.009	1	0
3	0.005	1	0
4	0.005	1	0
5	0.005	1	0
6	0.005	1	0
7	0.005	1	0
8	0.005	1	0
9	0.005	1	0
10	0.005	1	0
11	0.005	1	0
12	0.005	1	0
13	0.005	1	0
14	0.005	1	0
15	0.005	1	0
16	0.005	1	0
17	0.005	1	0
18	0.005	1	0
19	0.005	1	0
20	0.005	1	0
21	0.005	1	0
22	0.005	1	0
23	0.005	1	0
24	0.005	1	0
25	0.005	1	0
26	0.005	1	0
27	0.005	1	0
28	0.005	1	0
29	0.005	1	0
30	0.005	1	0

Diagrama a lo largo de la operación

Gráfico a lo largo de la operación

Diagrama de contenidos de unidades

Lugar	Longitud del Contenedor	Cantidad	Long. x 100
1	100	100	10000
2	100	100	10000
3	100	100	10000
4	100	100	10000
5	100	100	10000
6	100	100	10000
7	100	100	10000
8	100	100	10000
9	100	100	10000
10	100	100	10000
11	100	100	10000
12	100	100	10000
13	100	100	10000
14	100	100	10000
15	100	100	10000
16	100	100	10000
17	100	100	10000
18	100	100	10000
19	100	100	10000
20	100	100	10000
21	100	100	10000
22	100	100	10000
23	100	100	10000
24	100	100	10000
25	100	100	10000
26	100	100	10000
27	100	100	10000
28	100	100	10000
29	100	100	10000
30	100	100	10000

Producción: CARRIL 27" DE DOOR PANEL ALU

Fecha de: 16/06/2015

Fecha de modificación: 16/06/2015

Verificado por:

MF Pasa: 15

Operaciones:

Nº	Nombre Operación	Código Operación	Sección	MF Pasa/Cont	Tempo en seg	MF Pasa	MF Pasa Hora	Tempo Total Hora	MF Pasa Hora	Tempo Total Hora	MF Pasa Hora	Tempo Total Hora
1	CONFIRM TURBO	P.010000.1	Sección corte	84	25.2	142.857	4.400.000	0.440	0	31.980	0	31.980
2	CONFIRM TURBO RODILLAS	P.010000.2	Sección corte	8	34	200.000	440.000	0.044	0	3.400	0	3.400
3	TUQUINADO DOOR TURBO	P.010000.3	Sección laminado	1	72	30.000	70.000	0.007	0	2.400	0	2.400
4	REQUINADO TURBO	P.010000.4	Sección laminado	1	20.8	115.000	70.000	0.009	0	0.900	0	0.900
5	PULGAR DOOR TURBO	P.010000.5	Sección laminado	1	20.8	115.000	70.000	0.009	0	0.900	0	0.900
6	PULGAR DOOR TURBO	P.010000.6	Sección laminado	1	20.8	115.000	70.000	0.009	0	0.900	0	0.900
7	RODILLAS TURBO	P.010000.7	Sección laminado	2	14.4	200.000	440.000	0.009	0	0.900	0	0.900
8	RODILLAS TURBO	P.010000.8	Sección laminado	2	14.4	200.000	440.000	0.009	0	0.900	0	0.900
9	RODILLAS TURBO	P.010000.9	Sección laminado	2	14.4	200.000	440.000	0.009	0	0.900	0	0.900
10	RODILLAS TURBO	P.010000.10	Sección laminado	2	14.4	200.000	440.000	0.009	0	0.900	0	0.900
11	RODILLAS TURBO	P.010000.11	Sección laminado	2	14.4	200.000	440.000	0.009	0	0.900	0	0.900
12	RODILLAS TURBO	P.010000.12	Sección laminado	2	14.4	200.000	440.000	0.009	0	0.900	0	0.900
13	RODILLAS TURBO	P.010000.13	Sección laminado	2	14.4	200.000	440.000	0.009	0	0.900	0	0.900
14	RODILLAS TURBO	P.010000.14	Sección laminado	2	14.4	200.000	440.000	0.009	0	0.900	0	0.900
15	RODILLAS TURBO	P.010000.15	Sección laminado	2	14.4	200.000	440.000	0.009	0	0.900	0	0.900
16	RODILLAS TURBO	P.010000.16	Sección laminado	2	14.4	200.000	440.000	0.009	0	0.900	0	0.900
17	RODILLAS TURBO	P.010000.17	Sección laminado	2	14.4	200.000	440.000	0.009	0	0.900	0	0.900
18	RODILLAS TURBO	P.010000.18	Sección laminado	2	14.4	200.000	440.000	0.009	0	0.900	0	0.900
19	RODILLAS TURBO	P.010000.19	Sección laminado	2	14.4	200.000	440.000	0.009	0	0.900	0	0.900
20	RODILLAS TURBO	P.010000.20	Sección laminado	2	14.4	200.000	440.000	0.009	0	0.900	0	0.900
21	RODILLAS TURBO	P.010000.21	Sección laminado	2	14.4	200.000	440.000	0.009	0	0.900	0	0.900
22	RODILLAS TURBO	P.010000.22	Sección laminado	2	14.4	200.000	440.000	0.009	0	0.900	0	0.900
23	RODILLAS TURBO	P.010000.23	Sección laminado	2	14.4	200.000	440.000	0.009	0	0.900	0	0.900
24	RODILLAS TURBO	P.010000.24	Sección laminado	2	14.4	200.000	440.000	0.009	0	0.900	0	0.900
25	RODILLAS TURBO	P.010000.25	Sección laminado	2	14.4	200.000	440.000	0.009	0	0.900	0	0.900
26	RODILLAS TURBO	P.010000.26	Sección laminado	2	14.4	200.000	440.000	0.009	0	0.900	0	0.900
27	RODILLAS TURBO	P.010000.27	Sección laminado	2	14.4	200.000	440.000	0.009	0	0.900	0	0.900
28	RODILLAS TURBO	P.010000.28	Sección laminado	2	14.4	200.000	440.000	0.009	0	0.900	0	0.900
29	RODILLAS TURBO	P.010000.29	Sección laminado	2	14.4	200.000	440.000	0.009	0	0.900	0	0.900
30	RODILLAS TURBO	P.010000.30	Sección laminado	2	14.4	200.000	440.000	0.009	0	0.900	0	0.900

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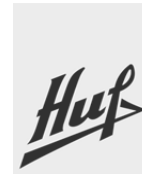
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Thank you for your attention!

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