



June 2016



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- 03_ Projects Portfolio**
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01

Company Description

History & Company Structure

Organization

International Presence

Strategy & Financial Resources

Main Customers

WHAT IS TECNOQUARK GROUP

Tecnoquark Group is an industrial trust of 2 companies created in 2013 to offer complete solutions for its customers mainly from the Automotive and Aerospace industries.

Its main subsidiary company is **Tecnoquark Tooling**, created in 2013 from the old “Matribages S.A.”, a company existing since more than 25 years with large experience in the design and manufacturing of molds & dies. Today, it offers its services at worldwide level for several automotive customers.

In 2015, the company **Tecnoquark Aero** is created in order to isolate the increasing aerospace activity from Tecnoquark Tooling.

In 2015, the brand **Ingeenious** specialized in CFD Simulation joins the group as a Business Unit.



HOW IT IS MANAGED

The **Tecnoquark Group** is today organized and managed as a single company since its headquarters and manufacturing facilities located in Manresa, Barcelona, Spain, are also shared with Tecnoquark Aero and Tecnoquark Tooling.



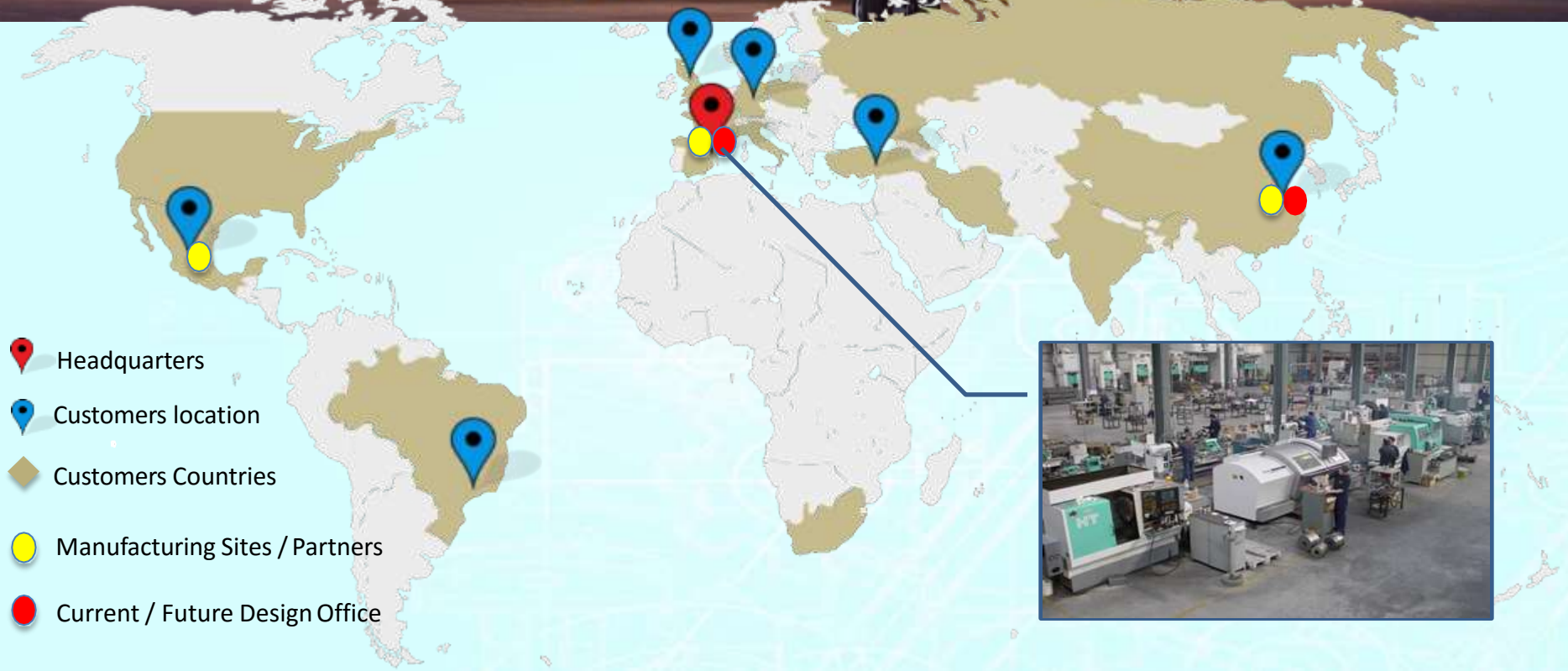
An engineering office has recently been inaugurated at Sant Cugat del Valles, Barcelona, where the following activities are performed:



- Ingenious Simulation (CFD)
- Aero Tooling Engineering
- Quotations & Pre-Studies
- Project Management
- Technical Assistance



WHERE WE ARE





GROWTH AXIS

- ✓ **Continuously improving to become a recognized engineering and manufacturing supplier:**
 - Increasing the quality of our services (9001/9100 on going).
 - Integrating more tasks and services (Simulation, Control System definition...).
 - Being capable to offer competitive and innovative turnkey solutions. (Vision Systems)
 - Being financially strong to support large project milestones (MAB Resources)

- ✓ **Continuous empowering of our engineering know how and capabilities:**
 - Hiring high skilled and experienced profiles (Aerospace tooling, Control Programming)
 - Participate in added value projects (Inspection Processes Automation)
 - Integrating other synergic companies (Inorganically).
 - Launching strategic R&D projects (Composite Wheel).

- ✓ **Continuous growing in manufacturing facilities and services:**
 - By the acquisition of new CNC Machines for Aero parts serial production.
 - By the acquisition of new CNC for medium size structures (6mts)
 - By integrating welding services (Organically)
 - By integrating other synergic companies (Inorganically).

- ✓ **Support our customers where they need:**
 - Increasing our International presence (USA/CHINA)
 - By cooperating with other synergic local companies
 - Investing Inorganically

WHO TRUSTS





02

Capacities & Services

Companies Services Overview

Manufacturing Capabilities

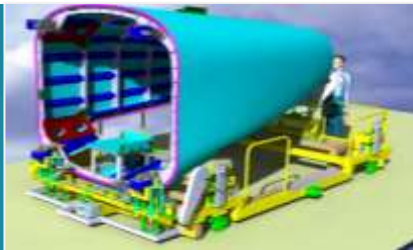
Quality

Engineering Capabilities

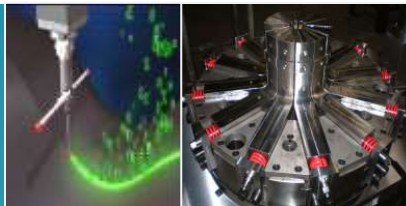
Simulation – INGEENIOUS

In-Line Inspection

02 Capacities and Services – Companies Services Overview



- Large Experience in tooling Engineering
- Carbon fiber tools and forming and curing molds and processes design.
- Automated Inspection systems
- High Precision parts manufacturing (5axis)
- In site On site Assembly capacities.
- AC parts short series Manufacturing



- Large Experience in Molds and stamping Dies Engineering and special machines
- Molds and stamping dies manufacturing, assembly
- High Precision parts manufacturing (3-5axis)
- Try-outs on prototypes up to process certification
- Maintenance and Spare Parts Manufacturing support
- Competitive costs



- Large experience offering simulation solutions for many sectors and industries, mainly Energy efficiency, Architecture and Industry.
- Helps customers to optimize costs, reduce risks and time to market.
- Fluid Dynamics (CFD)
- Structural Analysis
- Energy Simulation
- Facility Performance
- Sustainable Design



MACHINERY PARK (23 operators 3 shifts):

- CNC 5 axis, DECHEL MAHO, 80P-HIGH-Dyn: x: 800, i: 700, z: 600, 12.000 rpm
- CNC 3 + 5 axis, DECKEL MAHO DMC-165V: x: 1650, l: 1300, z: 1000, 33.000 rpm
- CNC 5 axis, DECKEL MAHO DMU-200P: x: 1800, l: 2000, z: 1100, 8.000 rpm
- CNC 3 axis, DECKEL MAHO 1350V: x: 1350, i: 600, z: 600, 10k rpm
- CNC 3 axis, DECKEL MAHO 70V: x: 700, i: 550, z: 500, 18.000rpm
- Vertical Lathe CNC, TOSHULIN, SKL 12R: Ø1800
- Horizontal Lathe, DECKEL MAHO NEF720, : from Ø400 to Ø800
- 3 Hydraulic presses, up to 400T.



ASSEMBLY and TRIALS ZONE (5 operators 1 shift):

- Painting
- Assemblies
- Fine Adjustments
- Measurement
- Tests & Trials



METROLOGY (2 operators / 2 shifts):

- DEA HEXAGON; X500, Y3000, Z900mm.
- 5 axis head REMISHAW & METROLOG SW





QUALITY CONTROL

- Tecnoquark Tooling is ISO9001 certified.
- Tecnoquark Group has a Quality department (composed by 2p) currently involved in the procedures definition to obtain EN9100 in Dec 2016. Our aim is to offer serial manufacturing services for the aerospace industry.



CERTIFICATE

Management system as per
ISO 9001 : 2008

In accordance with TÜV NORD CERT procedures, it is hereby certified that

Matribages, S.L.
Pol. Ind. Bufalvent
Ramon Farguell, 56
08243 Manresa
Spain



applies a management system in line with the above standard for the following scope:

Design, machining and assembly dies, molds, tooling and mechanical assemblies in general.

Certificate Registration No. 44 100 14510057
Audit Report No. 140465

Valid from 2015-01-28
Valid until 2017-12-02



Certification Body
TÜV NORD CERT GmbH

Madrid, 2015-01-28

This certification was conducted in accordance with the TÜV NORD CERT auditing and certification procedures and is subject to regular surveillance audits.

TÜV NORD CERT GmbH

Langemarkstraße 20

45141 Essen

www.tuev-nord-cert.com

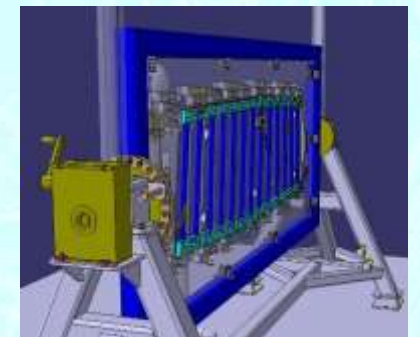
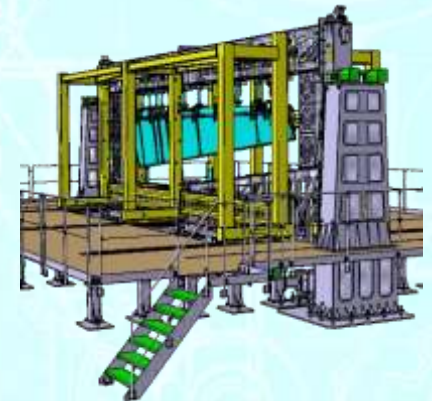
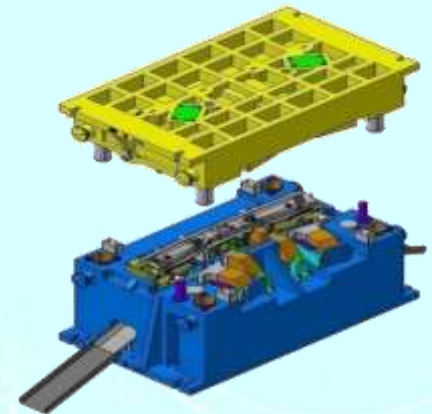
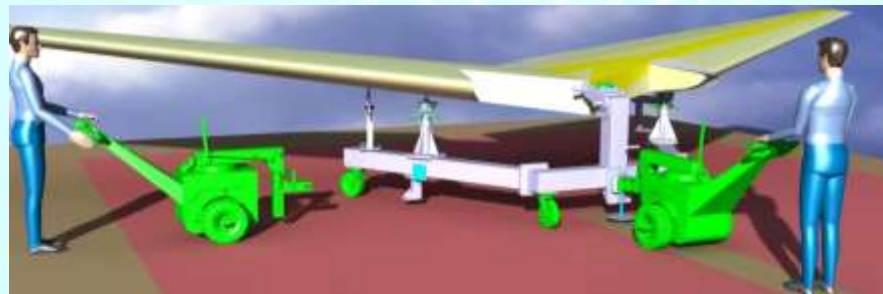
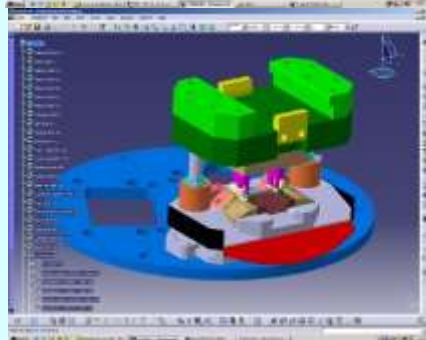
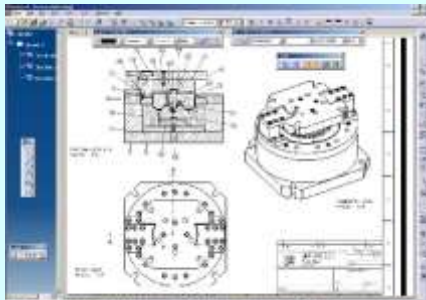
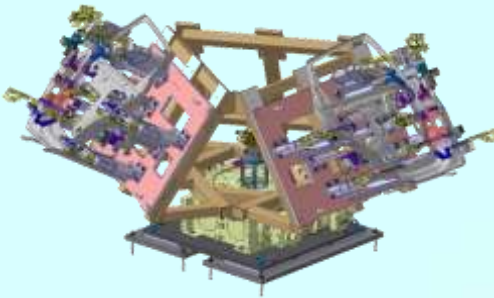


ENGINEERING CAPACITIES

- 4 Engineers with high experience in molds, stamping dies and welding cells design for the automotive industry (using CATIA V5)
- 3 Engineers with many years of experience in diverse tooling and production means design for the aerospace industry. (Using CATIA V5)
- 1 Engineer with large experience in dimensional control tools design and Automated Inspection Systems. (Using CATIA V5)
- 2 Engineers with experience in the design, installation and maintenance of fully automated in-line inspection systems.
- In site structural and CFD simulation services by INGEENIOUS
- 2 CAM Engineers

ENGINEERING AND SIMULATION SW

- 4 CATIA V5 Licenses.
- 2 CAM system Work NC 5 axis License with “Auto 5” module
- 3 Autocad

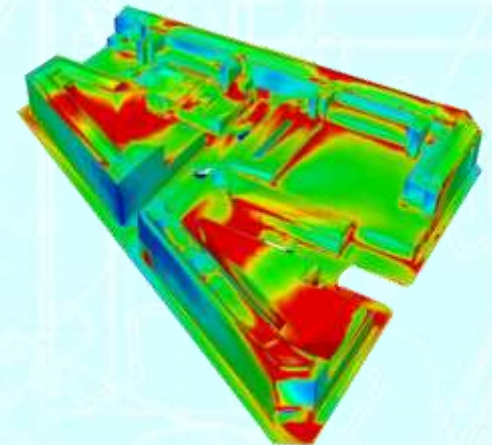
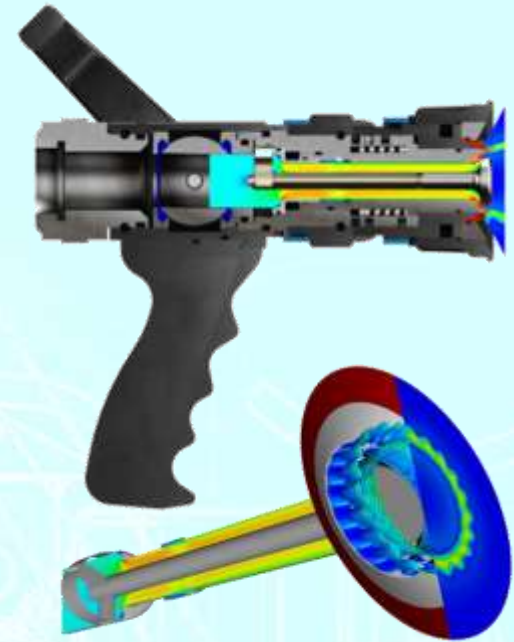
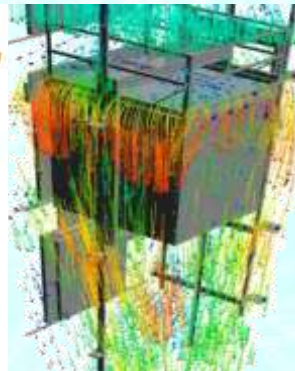
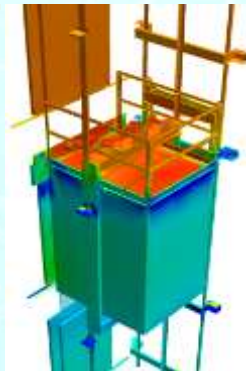
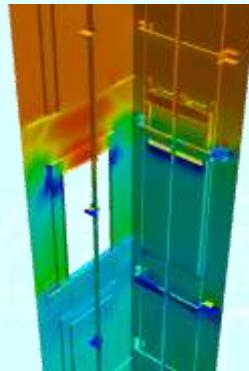
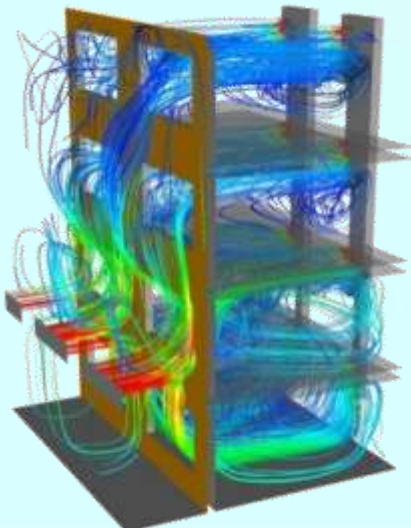
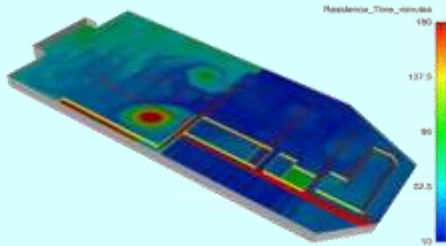
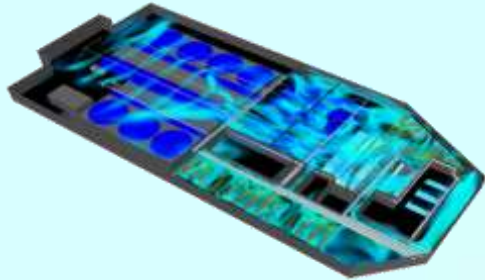


SIMULATION CAPACITIES

- 1 structural FEM calculation services
- 1 structural and CFD simulation services by INGEENIOUS
- 3 Support Engineers (external)

SIMULATION SW

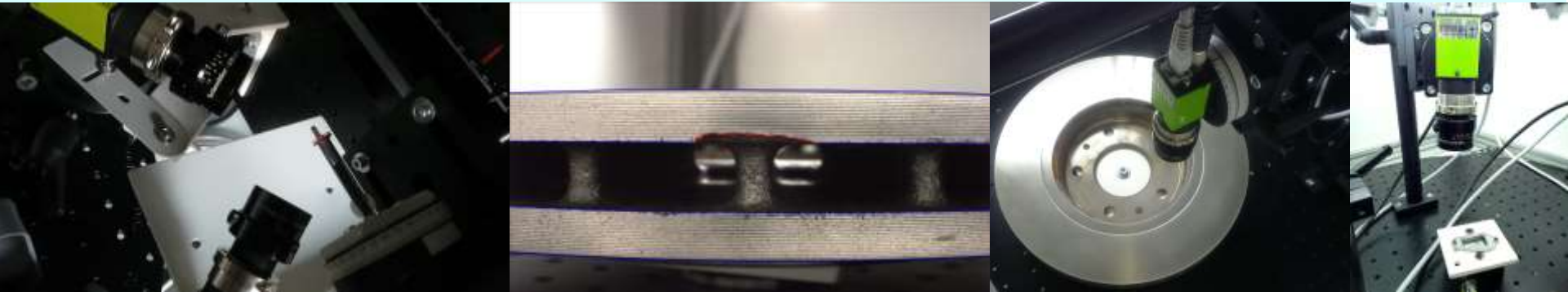
- 1 DesignBuilder V4
- 1 ANSYS CFD professional V15 / Mechanical
- 1 ENSIGHT V10 (Multiphysics post processing)



02 Capacities and Services - In-Line Inspection

We have experience in the **design, manufacture, installation and maintenance of fully automated in-line inspection systems**, according to each particular customer needs.

Our **mission** is to fully meet the inspection requirements of our customers in industrial mass manufacturing environments, meeting all their quality criteria.



Our **vision** is to provide the manufacturing industries solutions to get:

- the **optimization** of the quality processes
- the inspection **reliability**
- the **decrease** of your manufacturing costs
- **zero defects** in the production line



**Quality
+
Productivity**

Industry
4.0

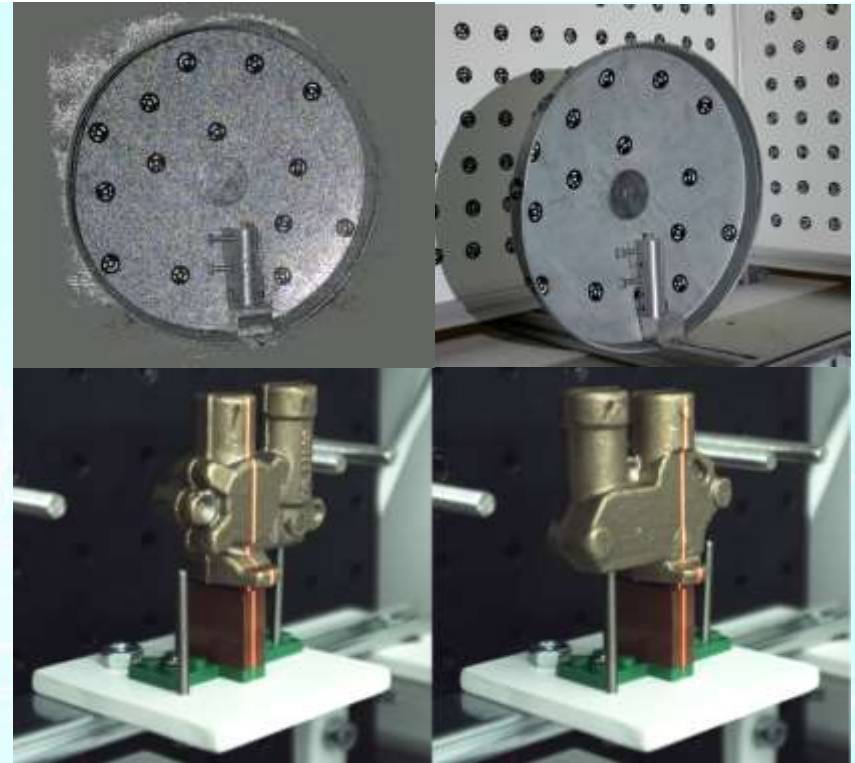
Among the **industries** where our systems are applicable stand :

- | | | | |
|-----------------------|-------------|------------|-------------|
| - Automotive | - Plastics | - Coking | - Naval |
| - Sheet metal forming | - Gas & Oil | - Chemical | - Aerospace |

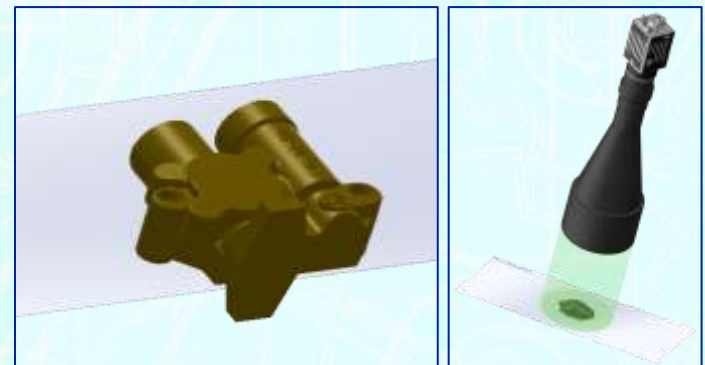
We rely on the use of **market standard components**, together with the **latest technology and own developments** that allow us to offer our customers the **optimal and customized solution** for their inspection needs with a **fast return on investment**.

Optical Triangulation: Applications

- Measurement of **metallic, steel, plastic and rubber profiles** and other materials.
- Surface and geometry inspection of **elastomer parts**: radial shaft seals, gaskets, tires, etc.
- **In-Line inspection in assembly lines**: rivets, screws, glue beads, PCBs, batteries, contacts, etc.
- **Inspection of adhesive and sealing beads**: volumetric measurement, dispensing, completeness verification.
- **Inspection of electronic components**, boards and connectors, inspection of solder paste.
- Automatic **over/under relief text recognition**: tires, Braille (medicine, id. plate)
- Inspection of **wood surfaces, plastic**: scratches, cracks, punches, holes.
- Measurement of **shafts, alignments and thickness**:: gap and flush, slices, etc.
- **Contactless measurement of the entire product geometry**
- Accurate measurement of **products in movement, translation and rotation**.



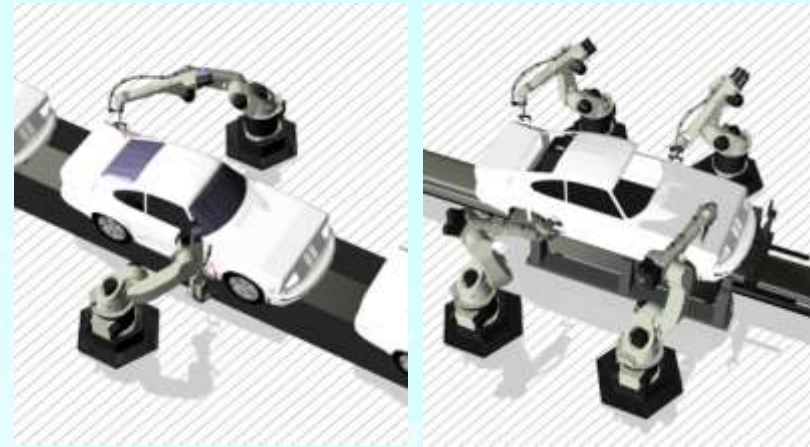
Small Defects Automated Inspection



Optical Triangulation: Sectors Applications

- **Automotive:** traceability of parts / parts / assemblies, evaluation of critical dimensions, presence of welding, screws, springs and fasteners, surface defects, etc.
- **Electronics:** presence / absence of components, high precision alignment, metrology, plate inspection, functional testing of LEDs and LCDs, etc.
- **Food and beverage:** verification date and lot codes, selection and packaging, label inspection, presence of caps, seals and labels, joint inspection, verification closure bags, etc.
- **Solar:** inspection panels, alignment of structures, cell sorting, coating inspection, assembly verification panels, etc.
- **Pharmaceutical:** check dates and batch codes, label inspection, sorting by color, readings mono and two-dimensional codes, the presence of the seal, etc.
- **Robot guidance and location:** detection products for its packaging and palletizing, location, identification and inspection of components, collection and positioning on conveyor belts, assemblies, etc.

In-Line Automated Inspection Example Video



Manual Inspection Example (GapGun) Video





03

Experience Portfolio

Tecnoquark Tooling

Tecnoquark Aero

Ingeenious

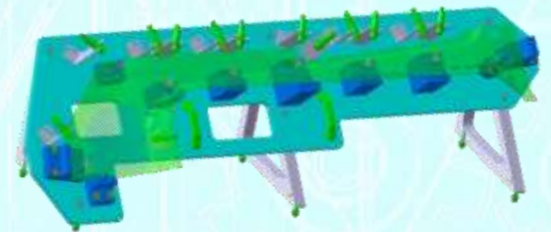
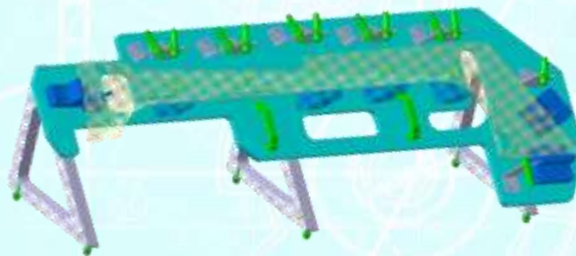
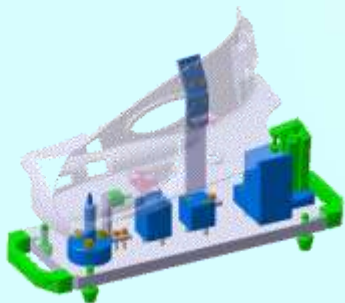
03 Experience Portfolio – Tecnoquark Tooling - Manufacturing

Tecnoquark Tooling has more than 20 years of experience in high precision machining services. It has the adequate resources and means for design, manufacturing, assembly, mechanical adjustment and testing of stamping dies for metal wheels.



03 Experience Portfolio – Tecnoquark Tooling - Manufacturing

Tecnoquark Tooling has also experience in the design, manufacturing, assembly and adjustment of different dimensional control and transport tools for automotive parts.



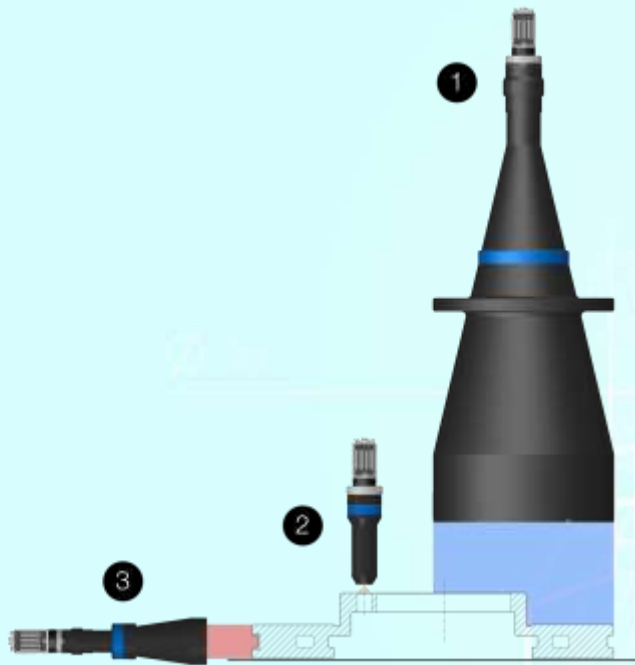


Tecnoquark Tooling has also experience in the manufacturing, assembly, adjustment and testing of different automated cells for the automotive industry.



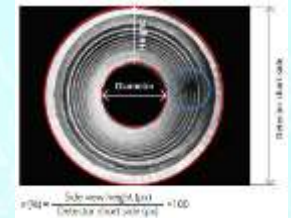
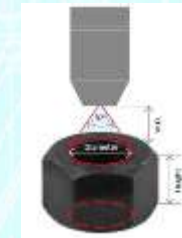
Brake Discs Defects Inspection using Optical Triangulation

The product produced by the customer are ventilated brake discs. Defects to be inspected are cracks and pores, number and position of the holes, threaded holes, testimony, point clouds, lack of material, burrs and rat tails.



Defects to be Inspected:

- ✓ Pores in the braking band 0.5 mm
- ✓ Unthreaded bore or
- ✓ double thread
- ✓ Testimony in the band braking
- ✓ Lack of material



Online Inspection of a Stamped Box

The product produced by the customer are metal boxes (gas valve covers) which are manufactured by stamping using a progressive press. The approximate overall dimensions of the piece are 50 x 26 x 8 mm, and weighing approximately 10 grams. The production rate is 2 parts per second.

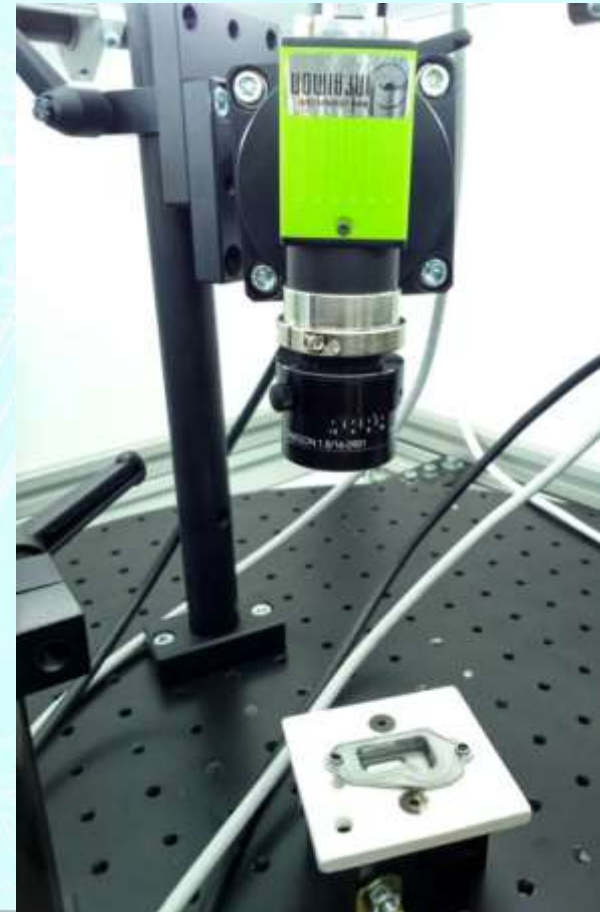
Defects to be Inspected:

- ✓ Marks anywhere on the outer face
- ✓ Break stamped on the edge of the inner face
- ✓ Deformation of housing fastening screws

The solution undertook the inspection of 100% of the production line. a small sampling is currently inspected by a coordinate-measuring machine (CMM) for dimensional evaluation, and visual method for inspecting defects

A power module loaded parts in the inspection system and positioned so that they can be inspected by artificial vision. A classification module ejects defective parts to a drawer of retract and deposits the good parts in a drawer conforming parts.

Process Video



Tecnoquark Aero takes advantage of the Tecnoquark Tooling large experience in manufacturing services to be more competitive Aerospace Industry.

From its recent creation, it has participate in the manufacturing and assembly of different tools for the Aerospace like templates, dimensional control tools, forming and Curing tools, trimming tools,...



Tecnoquark Aero has designed, manufactured and equipped 250 drilling templates for the A350.





Aluminum templates in 5 Axis with exigent accuracy requirements and complex shapes.





Tecnoquark Aero has also experience in the manufacturing of molds for composites and engine parts made of Titanium and Inconel with high precision requirements (i.e: ITP, ACITURRI, AUBERT DUVAL)



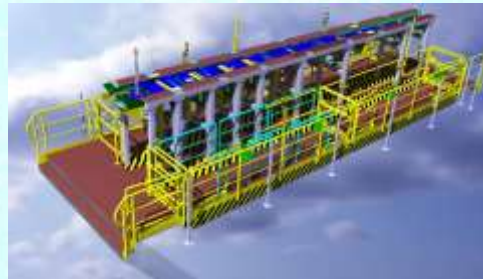
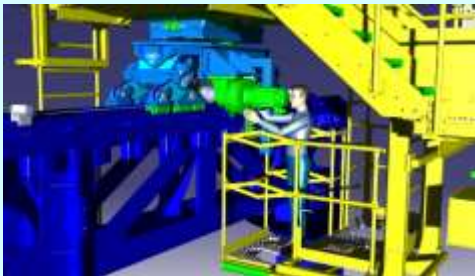
Tecnoquark Aero previous experiences with AUBERT DUVAL.



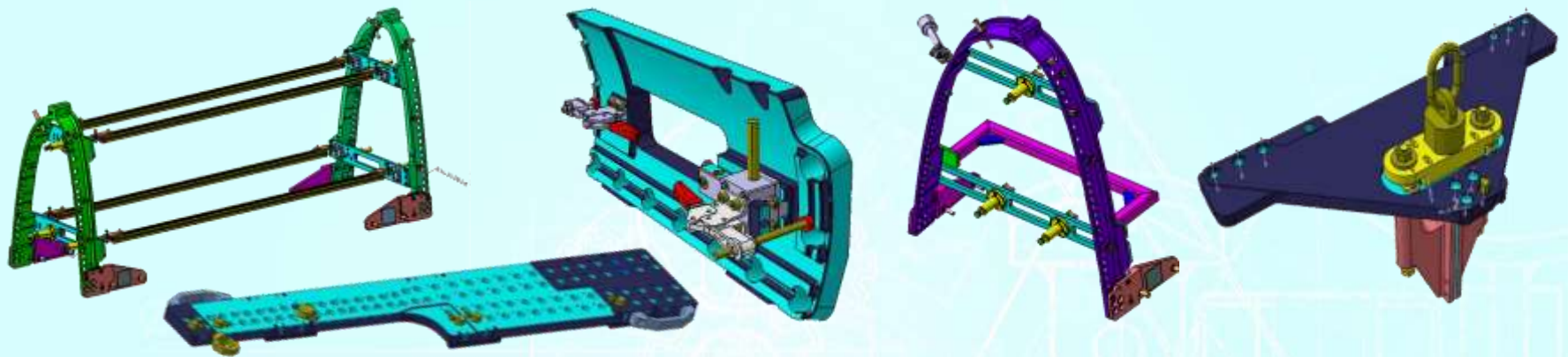
Tecnoquark Aero has high skilled team of engineers with more than 15 years of experience in the design, development, manufacturing and Set-up at customer's site of different solutions for several AC production processes. This team is friendly with all standards (Airbus, Boeing, Embraer) and has participated in the most important programs of the last 15 years like the A380, A350, A320Neo, A400M, B787Dr, KC390, Cseries, C919, Eurofighter, etc...

The know how of our engineering team covers different tooling families:

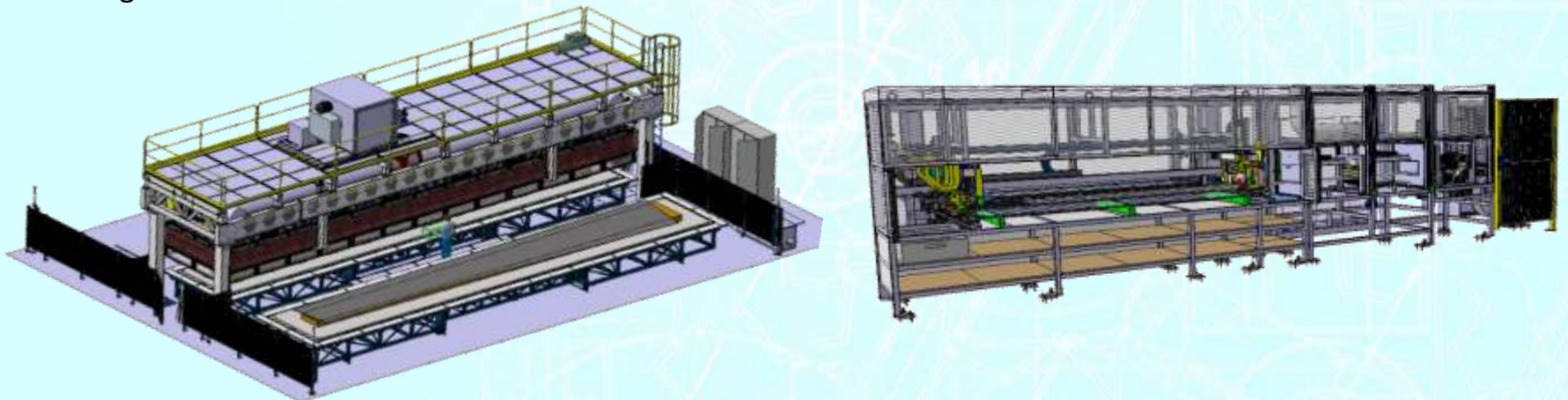
- Assembly tooling for different AC Sections like HTP, VTP, SEC19, SEC19.1, SEC18 and sub-assemblies like Doors, Ailerons, Spars, Frames,...
- Automated drilling and riveting machines.
- Large & Heavy structures handling means and positioning systems.
- Dimensional control tools / Contactless Tests (Optical Scanning)
- Forming and curing tools (Hotforming, RTM, Carbon Fiber Tools)
- Mechanical test rigs and benches
- Drilling templates
- Auxiliary equipment (Transportation, Lifting)



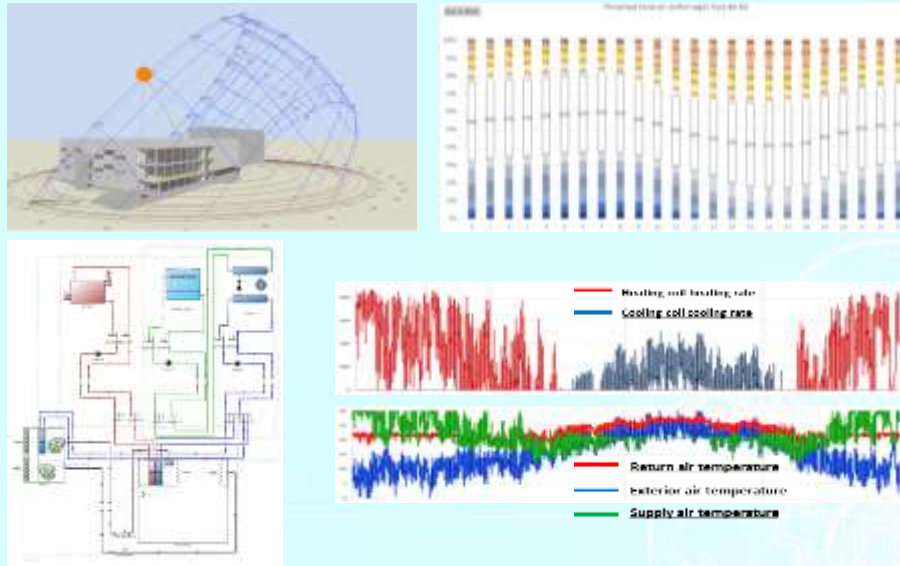
Templates design examples.



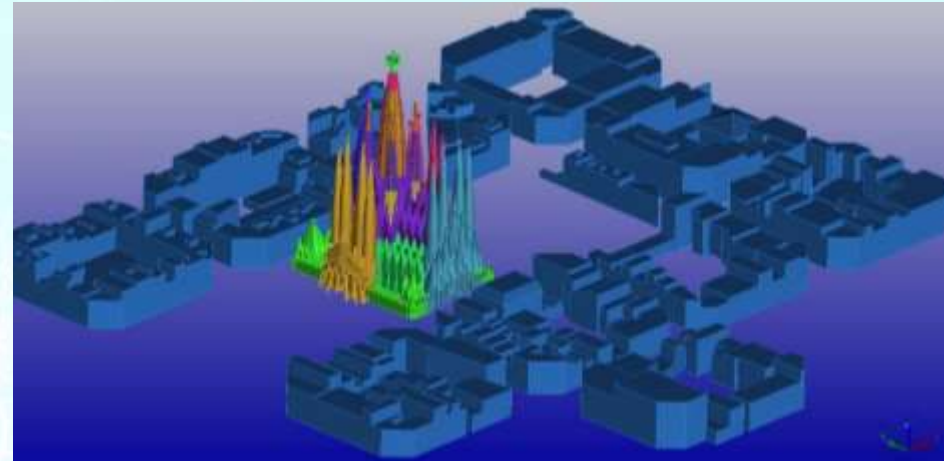
Forming machines.



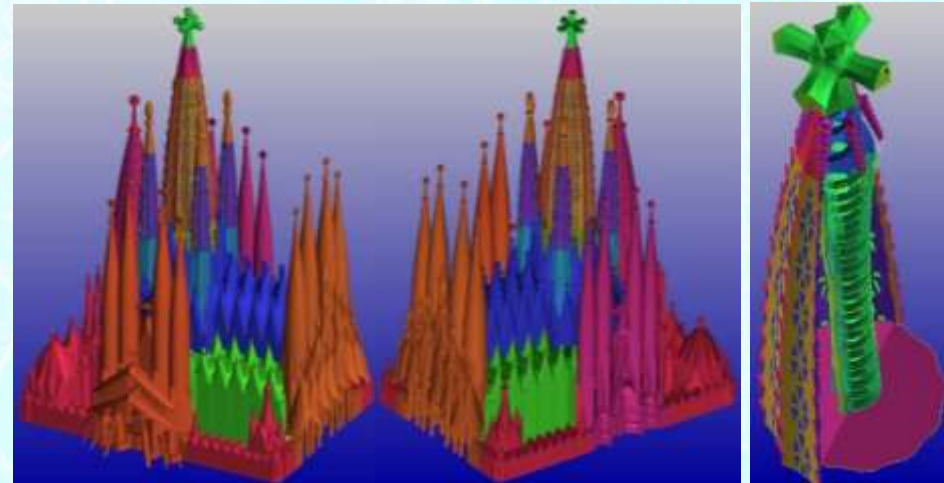
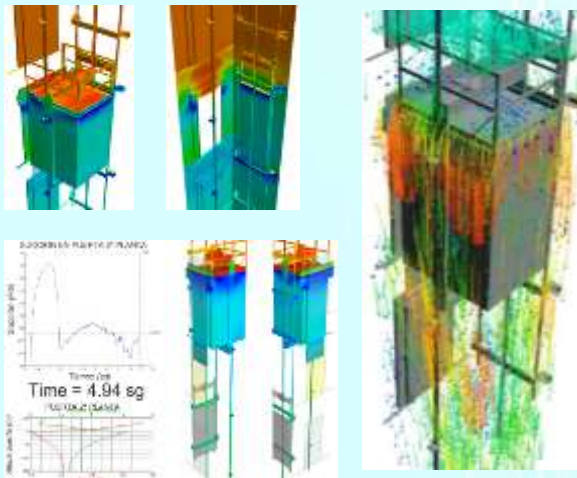
Low Energy Enclosure design – New Desigual Logistic Center



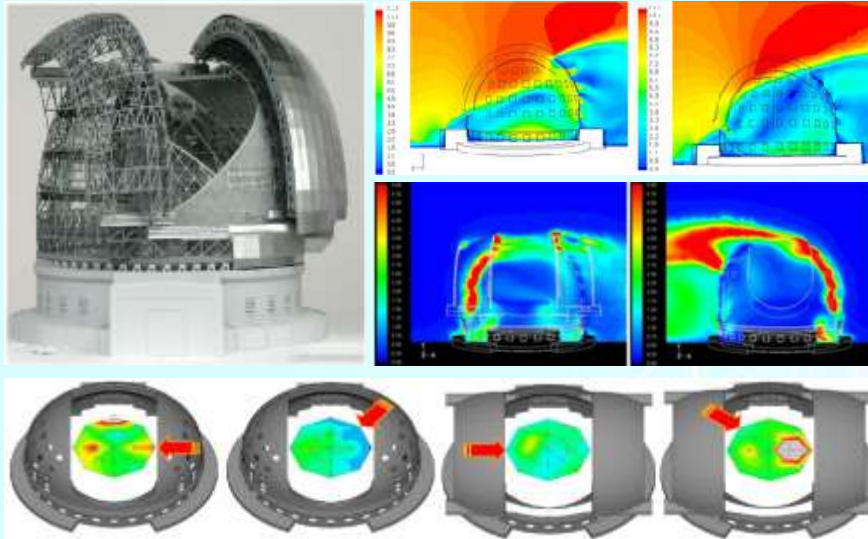
Thermal Comfort Mapping – Sagrada Familia



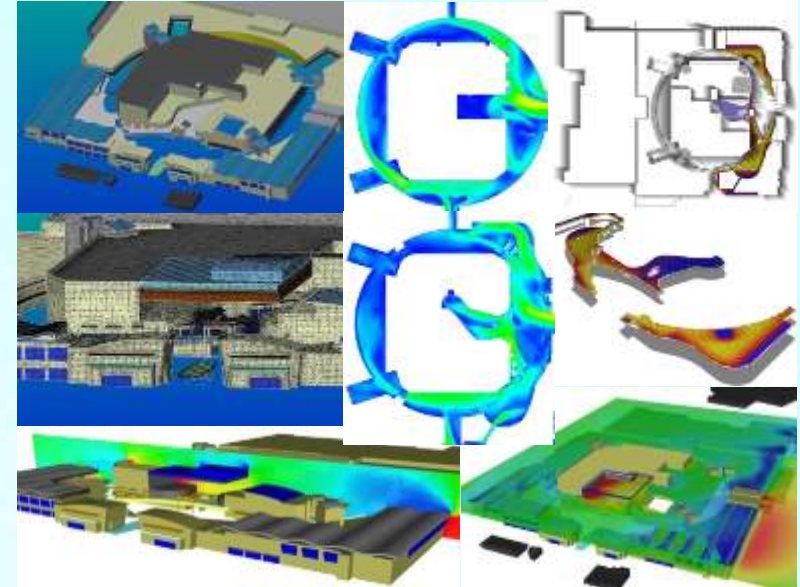
High Speed Cabin design – ISAMAT Engineering



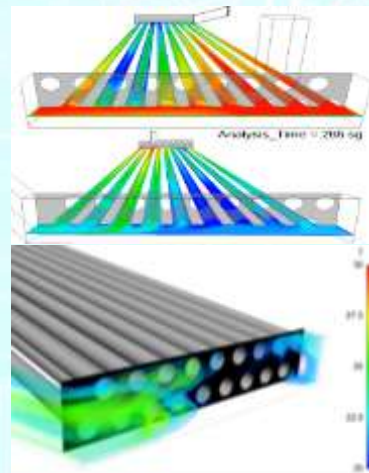
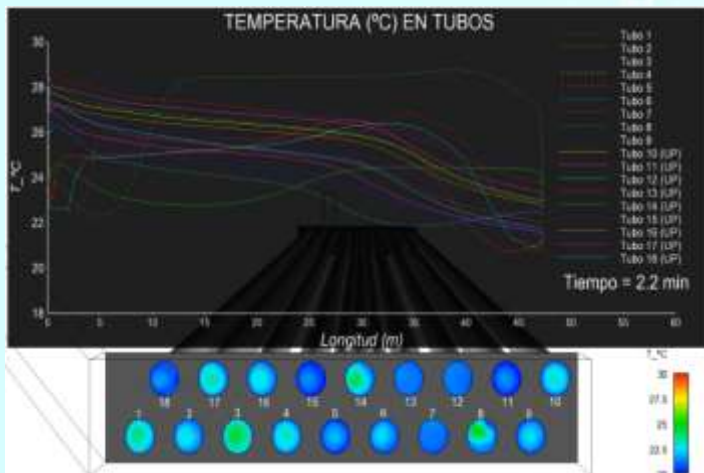
Turbulence Study on ELT Canopy – Adaptive Optics Development



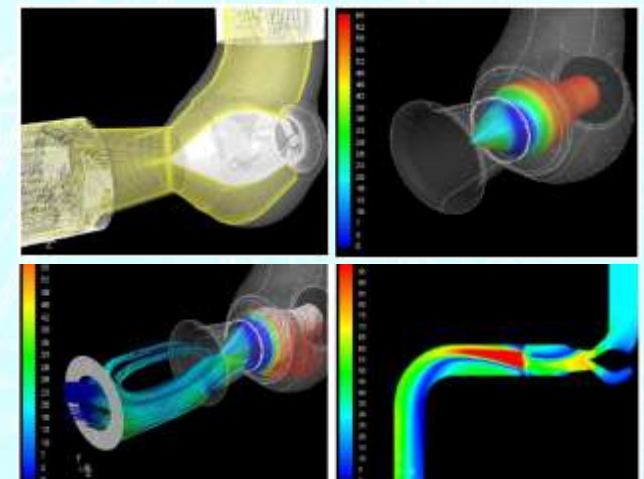
Comfort mapping - Bonaire Mall (Valencia)



Geothermal System Design – ZEROPLUS Sustainable Architecture



Electric Plant Shaft Failure – Needle Valve Redesign





04 Financial Figures

Highlights

Capital Increase

Order Book 2016

Business Plan 2015-2018

04 Financial Figures: Highlights 2015

Capital Increase

- Capital Increase: 4,459 Mio Eur.
- New member of Stock Alternative Market (MaB) in December 2015.
- High expenses due to the capital increase: 413k Eur.

Turnover Increase +19%

- Turnover 2015: 3.293k Eur (+522k Eur vs. 2014).
- Better sales in european market that compensates decreasing sales in China .

TQ AERO new activity

- Turnover: 514k Eur. (Salest to TIER-1 AIRBUS: M.TORRES, ACITURRI...)
- Investment : 965k Eur: 3 CNC 5 axes

Holding Start-Up

- 4 new Professional Managers (Commercial, Engineeing, Business Development and Finance).
- New Engineering Offices in Sant Cugat.
- R&D project: Composite Process.

04 Financial Figures – Capital Increase 2015

CAPITAL INCREASE		
INITIAL CAPITAL :	3.050 M.	
2015 CAPITAL INCREASE		
New Shares (*)	2.275 M.	} 4.459 M.
Issue Premium	2.184 M.	
ACTUAL CAPITAL	5.325 M.	
<i>Member of Alternative Stock Market (M.A.B.) from 21th de Desember 2015</i>		

Consolidated Balance Evolution 2015

<i>Consolidated Balance ('000 Eur)</i>	2015	2014
NON CURRENT ASSETS	7.459,46	5.920,95
CURRENT ASSETS	3.468,37	2.395,56
TOTAL ASSETS	10.927,83	8.316,51
EQUITY	6.952,21	3.079,09
NON CURRENT LIABILITIES	720,89	658,12
CURRENT LIABILITIES	3.254,74	4.579,29
TOTAL PASIVO	10.927,83	8.316,51

WORKING CAPITAL	213,64	-2.183,73	2.397,37 IMPROVEMENT
FINANCE AUTONOMY	63,6%	37,0%	

04 Financial Figures: *Forecast 2016*

Order Book
3,5M Eur

- TQ Tooling:
 - 5 projects for Maxion Lemmerz Spain.
 - 2 projects for Maxion Inci Turkey.
 - 1 project to Z.JINGU: China.
 - 1 project VW: 538k Eur.
- TQ Aero:
 - Aciturri, M.Torres, Sener, Aritex, Aernnova > 0,5M Eur

Potencial Orders
> 3M Eur

- TQ Aero:
 - Offers to M.Torres > 1Mio Eur
 - Engineering projects > 1,5Mio Eur

04 Financial Figures: *Business Plan 2015-2018*

Investments

2015

- ✓ Listing Investment Process
- ✓ Reinforcing the Holding Corporate Organization
- ✓ New capabilities in TQ Aero (3 CNC 5 axis)

2016

- Corporate Acquisition of a French Aeronautical company (Aero).
- Corporate Acquisition of a Spanish Engineering company.
- Create JV in China
- Create JV in India
- Create New Company in USA - Missouri

2017

- Complete investment in JV China
- Complete investment in JV India



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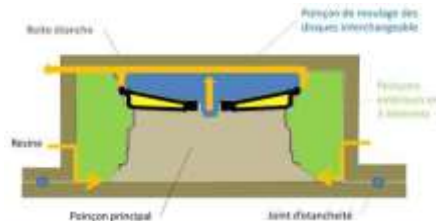
Current Facts

Main Facts

Capabilities Enhancing

MAIN FACTS

- In final negotiation of the acquisition of a Tooling and Aero parts manufacturing company located in the south of France (Airbus, Dassault and Safran Group Supplier). Done mid June 2016.
- Studying the establishment of a company in Missouri – USA, to supply parts for the domestic market and Mexico. We respond to an invitation from one of our main customers in USA.
- Under signature of a Joint Venture with a Chinese company in Shanghai to locally supply dimensional control tools and other services to our Automotive and Aerospace customers. Tecnoquark will invest in this new company to increase its manufacturing capabilities.
- Enhancing our Engineering department with the incorporation of experienced and high skilled resources and launching first R+D projects, among others, a composite wheel in cooperation with ICAM in Nantes, France.



- Introducing CFD services in relevant projects. Tecnoquark has been selected to simulate thermal comfort inside the “Sagrada Familia” in Barcelona.

NEW CAPABILITIES

- With the aim to fulfill its growth strategy in manufacturing services, Tecnoquark Group is immersed in the acquisition process of a New CNC machine to be able to mill structures up to 6mts long in its headquarters facilities in Manresa. The machine is foreseen to be installed and ready for manufacturing in the second half year 2016.

5 Axis CNC DMG DMU 600G Linear

- X= 6000
- Y= 3500
- Z= 1500
- From 6 to 24.000 rpm





HEADQUARTERS

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