engenhotec

Product Engineering and Prototyping

Simplifying with Technology

VISION & IMPLEMENTATION

Since its creation in 2004, Engenhotec (acronymous of Engineering + Technology) vision is to offer global customers, development and product engineering services.

In 2011, service was enlarged with precision prototypes machining, tooling and moulds up to 1.600 x 860 x 750 mm, by operating 6 machines with 3, 4 and 5 axes machining centres.

In 2023, Engenhotec moved to a larger workshop, with 470m^2 in the work floor and 180 m^2 for offices. This move was aimed to have conditions to increase machining capacity.

Last year, in 2024, 3 more machines were added to the workshop, namely 1 machining center and 2 lathes.

CUSTOMER APPROACH

Our key focus of development has been the creation of a “one stop” service **FROM IDEA TO PRODUCT THROUGH CO ENGINEERING**.

Engenhotec engineers start the cooperation from the design step all along the whole Development Process, either performing inside Client’s facilities or at Engenhotec Activities may be:

- Complex Products and Systems Design
- Laboratory Tests
- Support to Field tests
- Electronics Development
- Software Apps Programming
- Preparation of Prototypes and Small Series
- Tools and Fixtures Design

SUPPORTING THE INNOVATION

For satisfying the innovation driven by the customers of the most advanced sectors Aeronautic, Automotive and Aerospatiale we offer a disruptive approach.

- A key expertise and experience in a wide range of materials EPS, EPP, Resins, Nylon, Rubber, Polymers, Aluminium, Brass, Copper, Steel, Stainless Steel, Pre-Hardening Steel, Hot Work Steel, Stainless Hot Work Steel, Titanium, Inconel.
- Complex Products and Systems design and development integrating

the Engineering Systems Methodologies, with a solid experience and practice in vehicles development, supported by the methodological approach in Engineering Systems which follows the MIT ESD (Engineering Systems Division) model.

- Product development engineering is conducted using the most advanced 3 D software CATIA, SIEMENS NX, CREO, MOLDEX 3 D, AUTODESK.

SERVICES PROVIDED BY CUSTOMER

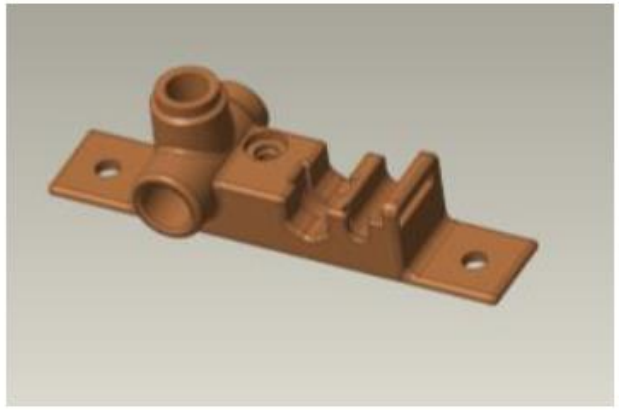
- **BOSCH TERMOTECNOLOGIA PORTUGAL** - Engineering services: 3D modelling of components and appliances; drawing specifications under BOSCH standards; laboratory testing; prototypes design and manufacturing
- **AERNNOVA** – Tools manufacturing for aeronautical parts
- **AVIO** - Engineering services; 3D modelling of components and 2D drawing specifications under AVIO's directives for ESA project Prototypes, Machining jigs and equipment for testing for VEGA E new launcher
- **BOSCH CAR MULTIMEDIA** - Engineering services and jigs manufacturing for car infotainment applications
- **SUNVIAUTO** - Engineering services and tool design and manufacturing for foam parts
- **FUNFRAP** - Engineering services; tool design and manufacturing for sand casting moulds
- **OGMA** - Design and manufacturing of fixtures, tooling for aeronautic parts production
- **LEICA** - Supply of tools and fixtures for dimensional control of optical parts
- **BOSCH SECURITY SYSTEMS** - Engineering services and prototypes for security applications infotainment applications

3D DESIGN AND HIGH PRECISION MANUFACTURING

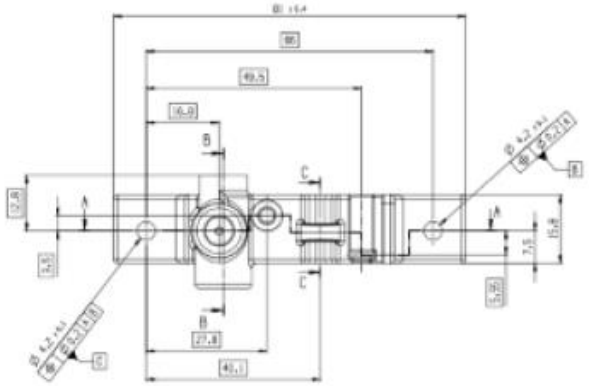
3D Design and high precision manufacturing of complex components, prototypes and tools

Turn-Key Solution from Product Model to Prototype

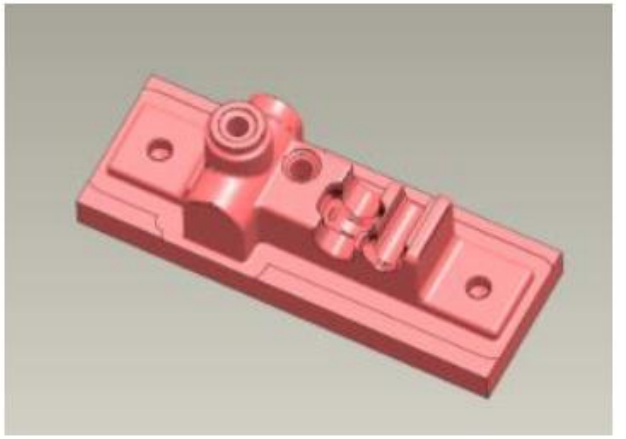
Step 1: 3D Modelling following original design



Step 2: 2D Dimensions, Tolerances and Material Specification

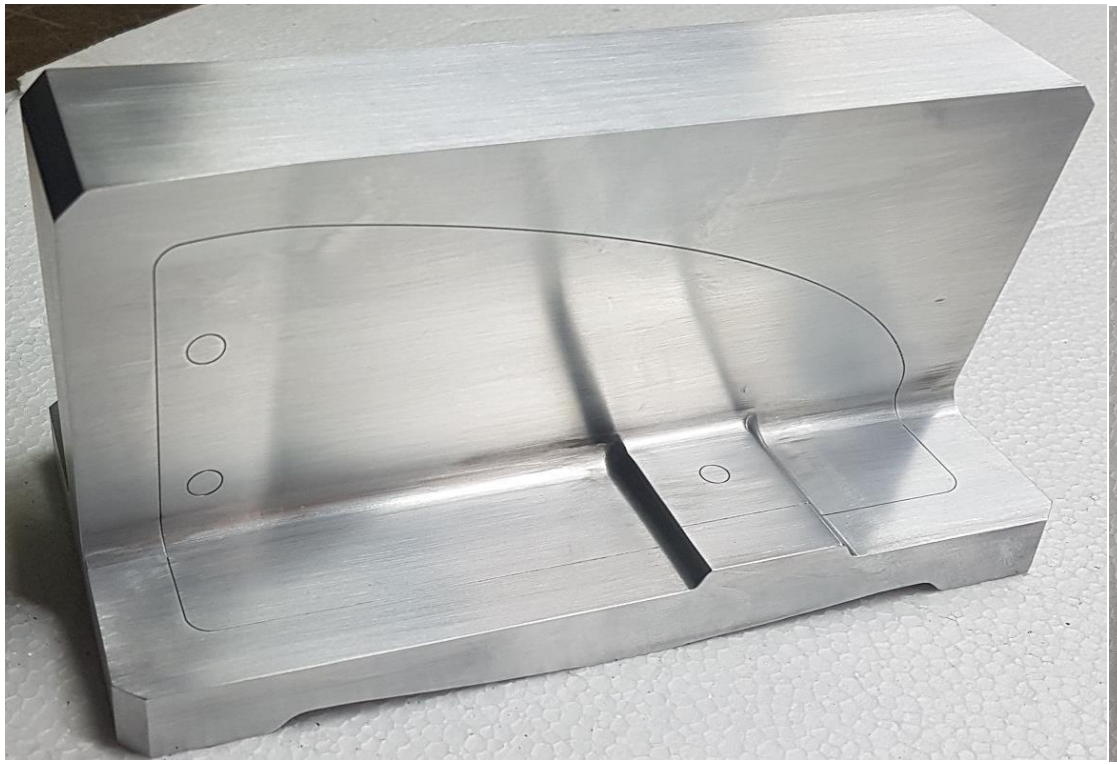


Step 3: CNC Programming



Step 4: CNC Machining using High Precision Equipment

3D DESIGN / HIGH PRECISION MANUFACTURING



Precision machining with 5 axis CNC Machine
Definition of trimming lines

EXTENDED RANGE OF INDUSTRY SECTORS

Satisfying the requirements and needs from Consumers Goods to Aeronautical Companies

RANGE OF INDUSTRY SECTORS

- AEROSPATIAL
- AERONAUTICAL
- MECHANICAL
- ENGINE
- TOOLING
- ELECTRIC / ELECTRONIC
- AUTOMOTIVE
- CONSUMER GOODS

CASES OF INDUSTRY SECTORS

AVIO(IT) – 3D modelling of componentes and 2D drawing specifications under AVIO's directives for ESA project
AIRBUS – 5Axis High Precision Machining of Tooling – Tooling for airplane fuselage riveting
OGMA – EMBRAER(PT) – Fixtures, tooling for aeronautic parts production
ACTIVE SPACE TECHNOLOGIES (PT) – Components for aerospace equipment testing
EMBRAER(BR)-Tooling for aeronautic parts production
AVIO (IT) – Prototypes, Machining jigs and equipment for testing for VEGAE new launcher
SANDEN MANUFACTURING EUROPE (FR) –Machining of aluminium pressure cast parts for automotive HVAC systems
GIGN (FR) – 3D Metal printing of small parts in Titanium and finishing with machining
LEICA (PT) – Supply of tools and fixtures for dimensional control of optical parts
BOSCH (PT) – Engineering services and prototypes design and manufacturing for water heating appliances
ZOLLERN (PT) – Precision machining of stainless-steel casted parts
ADESS (PT) – Tooling for composite parts
AERNNOVA ES) - Tooling for aeronautic parts production

DESIGN AND MANUFACTURING FLEXIBILITY

for a wide range of materials, from EPS to Stainless Hot Work Steel

DESIGN AND MANUFACTURING FLEXIBILITY

SOFT MATERIALS:

- EXPANDED POLYSTYRENE (EPS), EXPANDED POLYPROPYLENE (EPP)

POLYMERS:

- RESINS (PU), RUBBER, POM, PPS, PA

NON-FERROUS MATERIALS

- ALUMINIUM, BRASS, COPPER, BRONZE

FERROUS MATERIALS

- STEEL, STAINLESS STEEL, PRE-HARDENING STEEL, HOT WORK STEEL

3D PRINTED MATERIALS

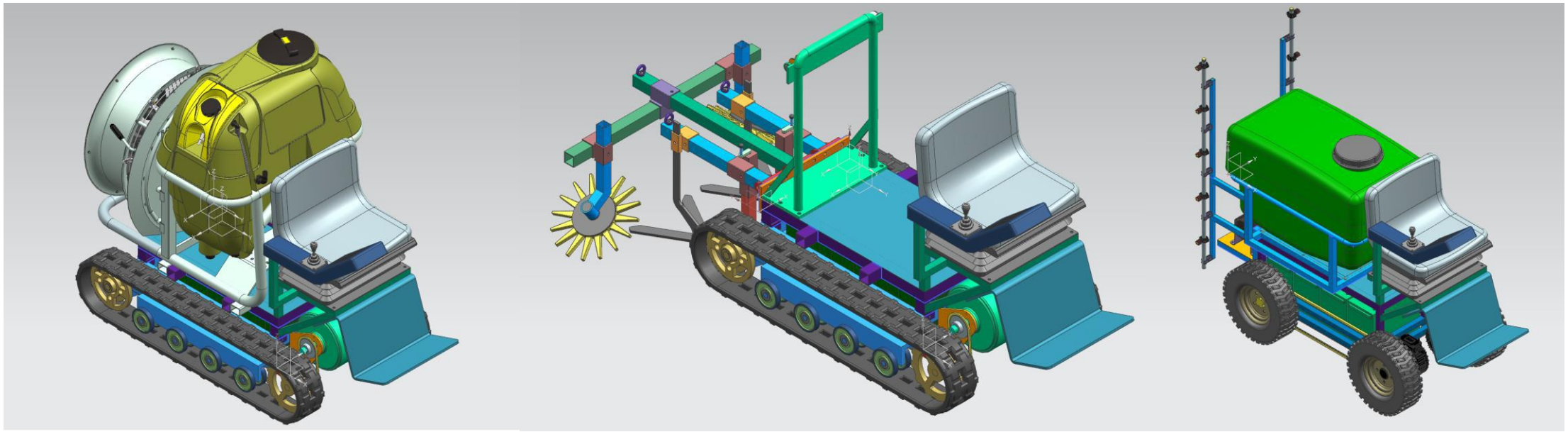
- TITANIUM, INCONEL, STAINLESS HOT WORK STEEL

COMPLEX PRODUCTS AND SYSTEMS DESIGN

Complex Products and Systems design and development integrating the Engineering Systems Methodologies

With a solid experience and practice in Engineering Systems supporting vehicles development, Engenhotec is applying its expertise in the development and demonstration of a smart connected electrical eBlue tractor.

It brings a new performance (1/3 of ICE energy consumption, no GHG emissions) and quality of life (drastic noise reduction) for the Horticulture and Vine farmers, Smart IoT data capture connection to the Cloud.



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