

COSTRUZIONI NOVICROM HIGH TECH MANUFACTURING

Prototypes
Small series and pre-series
Engine Manufacturing
Aerospace and military components
Mechanical High-Tech
Units assembling
Supply and complete machines



Since 1947

Opening the first factory in Pontedera as mechanical workshop and protective chrome plating system.

In the 1960s beginning first collaboration with aerospace companies (Alfa Romeo, Avio and Aeritalia).

From 1980s precision mechanics becomes the company core business.

In the late 1990s Costruzioni Novicrom obtained UN EN ISO 9001, and through a path of continuous growth, UN EN ISO 9100 and UN EN ISO 45001.

Costruzioni Novicrom has also received certificates from its customers in the aviation industry: Statement of Approval, MOE...

The deserved success definitely consecrated the name of the company, which through years of intense activity managed to count leading Italian companies among its customers.

Over 100 employees

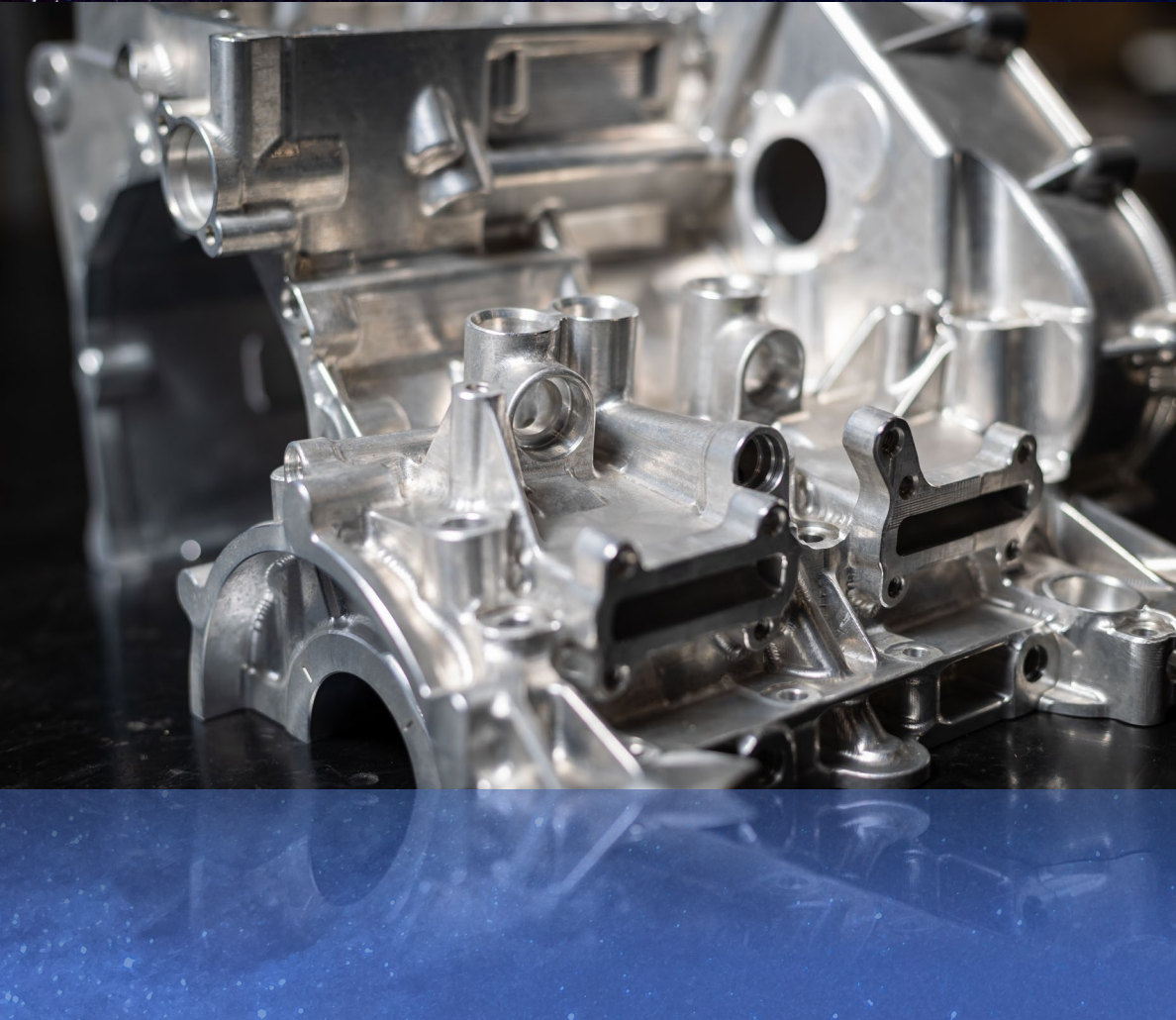
The Employees in Technical, Quality, Logistics, and Finance departments are highly skilled and rigorously selected.

The Management use modern data processing centres and coordinates and plans the organization.



Company surface area over 15000 mq





Manufacturing

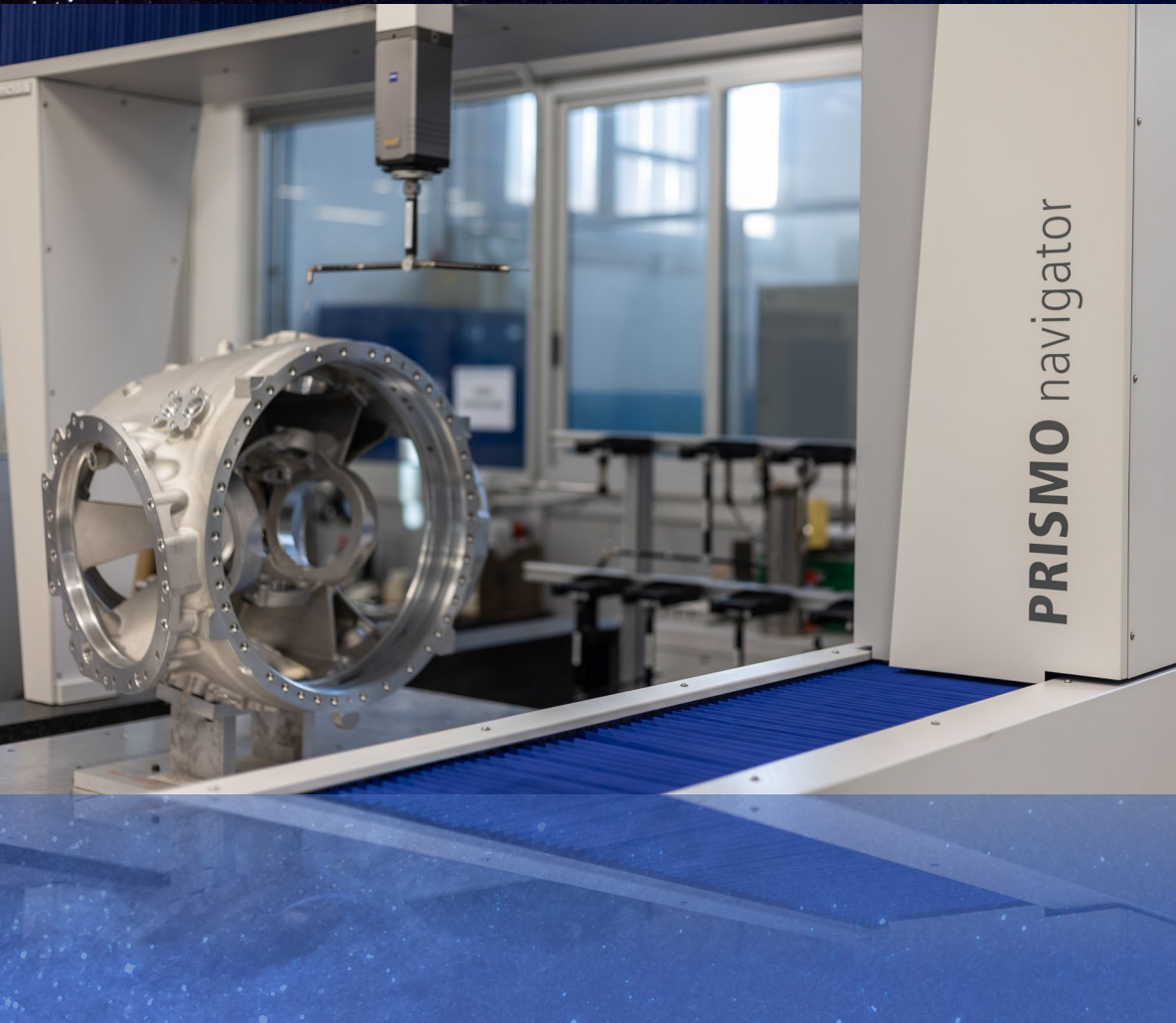
Costruzioni Novicrom offers a large variety of products and can supply a wide range of manufacturing solutions:

- Components in small and medium batches for aeronautical, aerospace, motorsport and defence sectors
- Overhaul of aviation components in accordance with PART 145
- Aviation components and assemblies for the Defence
- Assembly operations
- Construction of fixtures
- Packaging machines
- Machine tools

Operating since 1947

“Costruzioni Novicrom is a landmark of Italian excellence in the aeronautics, aerospace, motorsport and defence sectors from casting, forged and billet components.”





Quality System

UNI ISO 9100:2018 Quality Management System required by Aerospace and Defence Authorities and Manufacturers

UNI EN ISO 9001:2015 International standard for quality management systems aimed to improve the quality of products or services and increase customer satisfaction.

UNI ISO 45001 Worker health and safety management system
NADCAP Penetrant inspection Non destructive testing

Licence for Manufacturing Armed Forces components
RNI certificate for export, import, transit and brokering of armament materials

Certificates

LEONARDO

Helicopter division

Electronic division

Liquid penetrant inspection

DQP Thermal coupling monitoring

DQP Chrome plating of magnesium alloys

DQP Chromium alloy conversion.

MOE Subcontractor Costruzioni Novicrom

AVIO AERO

Cleanliness process

Liquid penetrant inspection

PIAGGIO AERO INDUSTRIES

Qualified supplier

Liquid penetrant inspection

MAGNAGHI AERONAUTICA E SALVER

Qualified supplier

SPIRIT AEROSYSTEM

Quality system approval





Sustainable Business Model

The definition of a sustainable company for Costruzioni Novicrom can be expressed as a commitment to a responsible business model, whose aim is to ensure sustainable development with a strong focus on the health of the planet and the social and economic well-being of people.

The meaning of corporate sustainability, therefore, goes beyond the environmental impact of a company, because it also considers the well-being of society.

Benefits of Digitalization Process

Digitalization of Costruzioni Novicrom business processes goes beyond simple technological implementation. It is a complex concept that touches on cultural, managerial and organisational aspects.

The company has embarked on this path to optimise the effectiveness of its activities, evolve continuously and maintain a competitive advantage.

Digital technologies are fundamental in the transformation of Costruzioni Novicrom.

The company focuses on identifying and adopting the most effective solutions to consolidate its digital transformation journey. This includes the integration of new technologies to improve efficiency, reduce costs and waste.





Departments

5-axis CNC machining centres: Fully air-conditioned, it consists of the latest generation of 5-axis machines that, thanks to the use of innovative CAM, allow the generation of complex trajectories and machining operations that would otherwise not be possible. It is also possible to complete parts with fewer positionings, which benefits the accuracy and tolerances achieved.

4-axis CNC centres: In this department it is possible to machine products of any material and even complex shapes with very high precision and, thanks to offline programming and the use of state-of-the-art tool magazines and pallet changers, it is possible to approach small to medium batches, optimising production times and thus reducing time to market.

Lathe and Milling Department:
equipped with state-of-the-art multi-purpose machinery capable of combining the continuous movement of the various turning and milling axes to create complex 3D surfaces. In addition, the ability to perform both turning and milling operations in perfect timing without changing machines ensures maximum speed and precision.

Sip Department :
high-end, fully air-conditioned control boring machine department consists of a SIP GENEVOISE 8000 gantry machine, a SIP 4000 horizontal-axis machine, and a SIP 640 vertical-axis machine, all equipped with Heidenhain control. These machines guarantee accuracies of a few microns for working volumes up to 1500x1000x1000mm. The SIP department constitutes one of the peaks of excellence of Costruzioni Novicrom's process technology. This provides great flexibility in responding to special customer requirements. These state-of-the-art machines operate in a constant temperature environment (20°) and guarantee extremely precise machining.





Non-Destructive Testing CND Penetrant Inspection:

It allows the process to identify any defect on the material through the application of penetrating fluorescent liquids, with subsequent inspection by qualified Level II personnel.

Plant and operators are NADCAP-certified and the electrostatic spray application process, is carried out up to dimensions 1500x1500x1500mm.

Oil-Air-Water Pressure Test:

It allows to verify in advance the perfect tightness of the machined part under the operating conditions foreseen in the design phase, by introducing oil or pressurised air into the internal circuits and ducts, according to the customer's requirements.

Costruzioni Novicrom designed and manufactured the equipment required to seal the areas to be tested.

Cleanliness Check:

The large fluxing bench and the ultra-high resolution Zeiss microscope allow the size, density and composition of any surface residues downstream of machining to be verified.

EDM Centre (Electro Discharge Machining):

It incorporates a modern wire-cutting machine that enables high-precision machining while guaranteeing an excellent surface finish. Maximum dimensions of 1050x800x350mm.

Sharpening centre:

In this department with a 6-axis controlled machine CN sharpen drills, milling cutters, reamers and taps. Tools of complex shapes are also prepared from solid carbide bars according to drawings.





Presetting Department:

Balancing and tool integrity checks should be carried out to ensure the highest quality standards and precision.

Milling and Drilling Department :

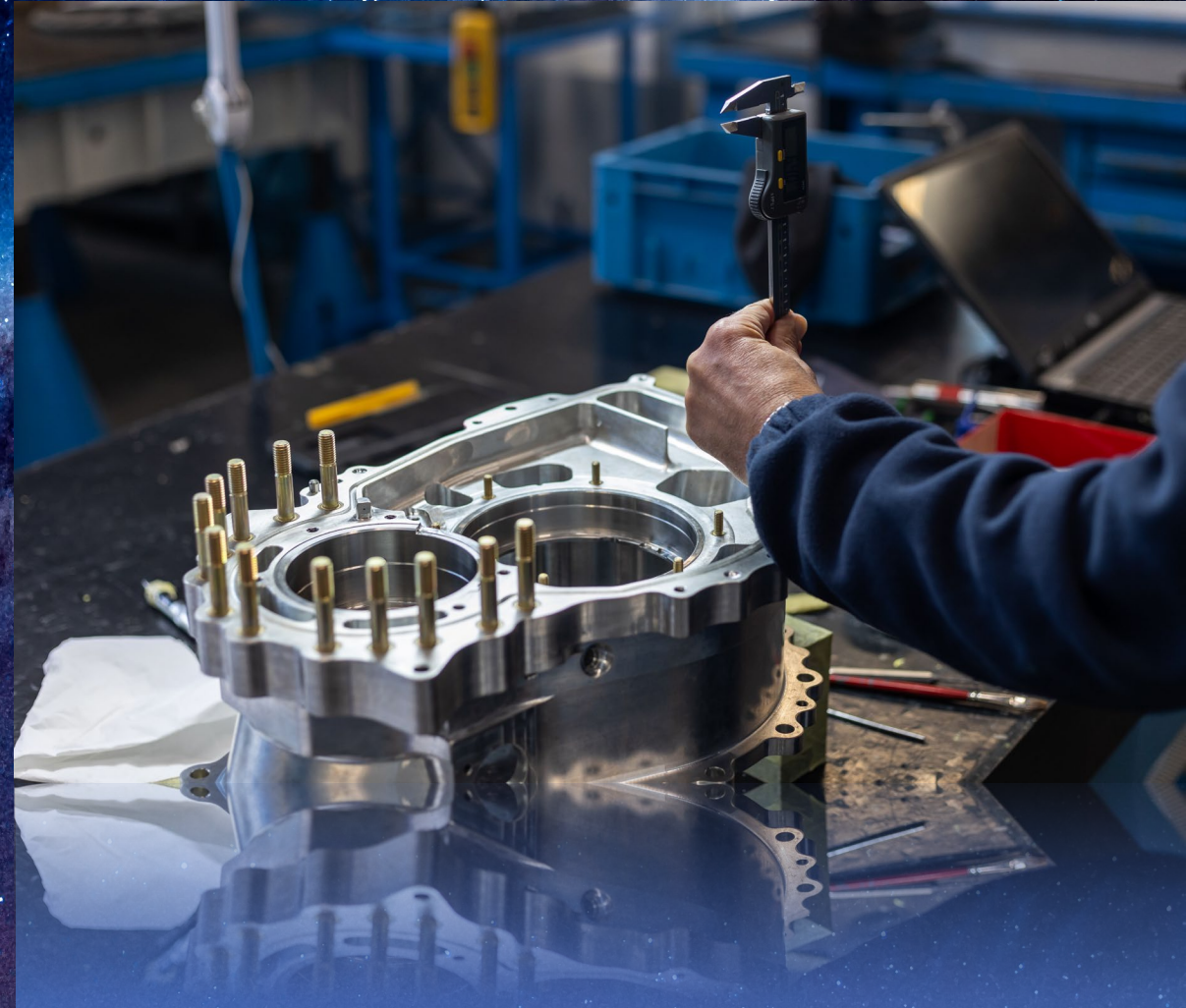
It includes both traditional and numerically controlled machines, which allow, under the guidance of competent operators the machining of mechanical components.

Lathe Department :

Equipped with the latest generation of traditional and numerically controlled machinery.

Versatility of the machines and competent operators allow the production of revolution parts in the most diverse shapes, with diameters ranging from a few millimetres up to 1.5 metres.

Manual Operations and Assembling Department: composed of a team of operators with special manual skills, who carry out all intermediate and final operations, such as deburring, polishing, drilling or tapping by hand, and other aesthetic finishes requested by the customer. They have the specific skills to carry out mechanical pre-assembly of pins, screws, helicoils and various inserts, valve seats and guides, bushings and sleeves with related pinning, up to the final assembly of the components into sub-assemblies and the complete assembly. In addition, through training and coaching, they are qualified by various customers to carry out special Qualification of Process.





Testing Room:

6 Zeiss brand measuring machines including two equipped with portals of maximum XYZ travel of 1600x2400x1000mm under strictly controlled temperature and humidity conditions.

Other Department Equipment: profilometer, roughness tester, probe for lite scope inspection of cavities and ducts, as well as a wide range of manual testing instruments to verify 100% of product characteristics.

List of machines and their specifications

5-axis CNC machining centres

Name	X (mm)	Y (mm)	Z (mm)	Year	TMC	TCR
DMG Mori DMC 160U	1600	1600	1100	2019	183	✓
DMG Mori DMC 160U	1600	1600	1100	2023	243	✓
DMG Mori DMC 125U	1250	1250	1000	2018	186	✓
HERMLE C1200U	1200	600	300	2001	30	-
MIKRON HPM 1000U	1000	800	600	2007	250	-
DMG Mori DMC 85	935	850	650	2015	90	✓
DMG Mori DMC 85	935	850	650	2021	120	✓
DMG Mori DMC 85	935	850	650	2023	180	✓
DMG Mori DMC 65	835	650	550	2023	120	✓
MIKRON UCP 800	800	650	500	2007	30	-
MIKRON HSM 600U	800	600	500	2006	50	-

4-axis CNC machining centres

Name	X (mm)	Y (mm)	Z (mm)	Year	TMC	Pressure (bar)
DIXI DHP 80	1180	1090	1080	2002	200	70
CNS CNC KMV16	1600	815	815	2018	30	15
MAZAK FH-8800	1300	1100	1000	2004	240	40
MAZAK H-800	1250	1000	850	1995	80	40
MAZAK FH-6800	1050	800	880	2001	150	40
MAZAK H-630 N	1000	800	750	1997	120	15

Boring machining centres

Name	X (mm)	Y (mm)	Z (mm)	CNC	5 AXES	TMC	TCR
SIP 8000	1600	900	950	✓	✓	80	✓
SIP 4000	1500	1000	600	✓	✓	140	✓
SIP 640	1000	700	1000	✓	-	1	✓

CNC Mill Turn department

Name	X (mm)	Y (mm)	Z (mm)	Ø (mm)	Spindle (mm)	Year	TMC
DMG CTX Gamma 2000 TC	1250	400	2000	720	315	2011	36
DMG CTX Beta 2000 TC	650	300	2050	720	400	2019	50
DMG CTX Beta 1250 TC	490	250	1300	415	315	2017	80

CNC Turning department

Name	X (mm)	Y (mm)	Z (mm)	Ø (mm)	Spindle (mm)	Year	TCR
HYUNDAI L600 MA	800	-	1600	920	800	2019	-
DMG CTX G 3000	495	160	3050	700	500	2017	✓
CNS VT 36 2000	385	-	1960	630	380	2018	-
DMG Ecoturn 650	412	-	1150	600	315	2019	✓
DMG Ecoturn 650	412	-	1150	600	315	2015	-
HITACHI NR 1742	180	-	340	165	240	1990	✓

TCR = Temperature Controlled Room - TMC = Tool Magazine Capacity

Our Customers

Leonardo Helicopters	Ferrari
Leonardo System Defences	Scuderia Ferrari
Leonardo Land & Naval System Electronics	Ducati Corse
Avio Aero	Aprilia Racing
Piaggio Aero	Maserati
Aerea	Lamborghini
Magnaghi Aeronautica	McLaren
Salver	Centro Ricerche FIAT
Spirit	Grainger
Kongsberg	Piaggio