

# Studio Progettazioni Industriali

## Mission and Activities

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Best quality service and competitive cost are the basis for the developing of Client faithful relation, thanks to the distinguishing and strategic approach.

Through continuous improvement of performances, of service, of flexibility, of human resources we seek our main objective: Customer's satisfaction.

During 30 years, S.P.I. has developed his know-how in different branches of Engineering and set up departments chiefly skilled in

**AERONAUTICS: ENGINE GROUPS and ASSEMBLY JIGS**

**INDUSTRIAL SECTOR: PRODUCTION METHODS, INDUSTRIALIZATION, PRODUCT**

**RAILWAYS: BRAKING PLANTS, COMPRESSORS, PNEUMATIC UNITS**

# Studio Progettazioni Industriali

## Clients

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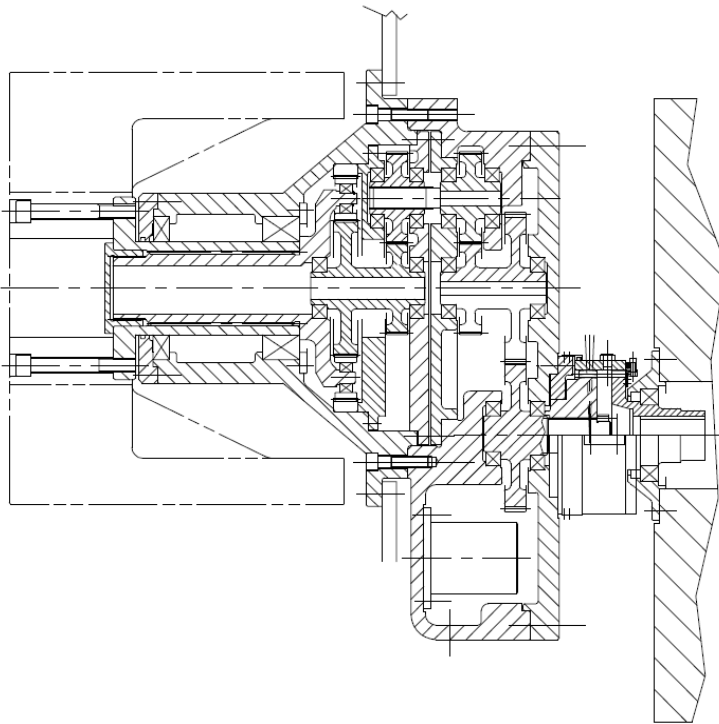
The close cooperation S.P.I. established with the market leader enterprises based in Turin and in Piemonte finds expression in the participation to European International Projects developed together with Companies of the same territory as well.

S.P.I. could rely on profitable and fruitful partnership with Local Companies and Authorities, Research Institutes and Universities, Trading Associations.

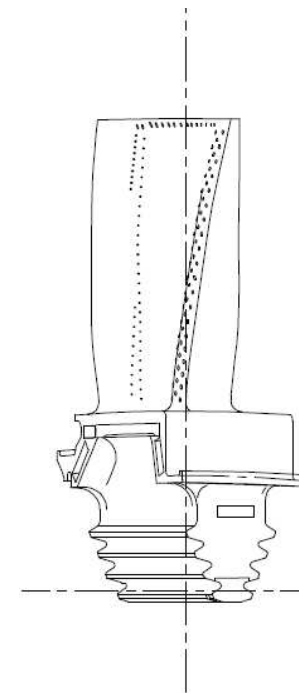
# Aeronautics

## Engine Groups

- ✓ Complete units design: gearboxes, reduction gears, pump



*Reduction Gear for special applications*

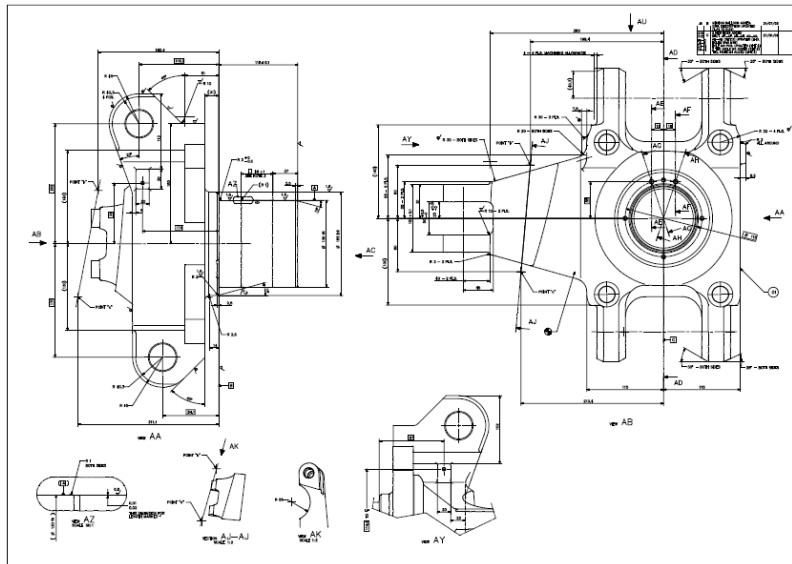


*Modelled turbine blade*

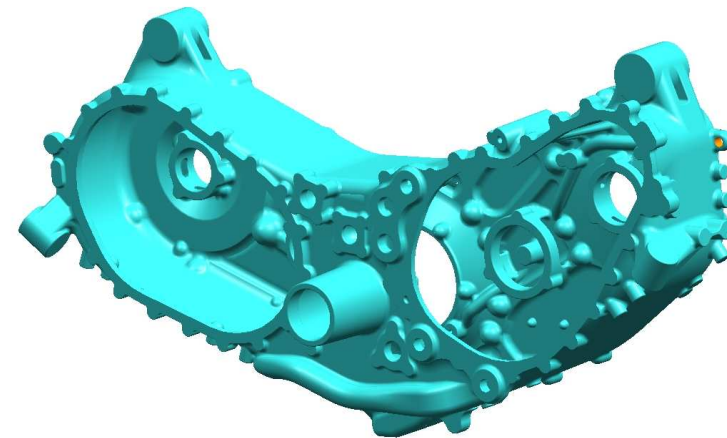
# Aeronautics

## Engine Groups

- ✓ Drafting and 3D modelling of parts constituting an assembly : castings, drop forgings, assy of, calculation to the finished elements



*Special reduction gear central body*



*Gearbox housing casting model*

# Aeronautics

## Engine Groups

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- ✓ Feasibility analysis: this analysis appraises how a part should be produced, which kind of machines are required for machining, which kind of fixtures or toolings, which kind of gauges, which areas should be appointed for assembling
- ✓ Analysis of production cycle: the possibility of producing a part with the most normal using condition of manufacturing machines
- ✓ Determination of cycle time: investigation of maximum production time of the part to be produced.
- ✓ Manufacturing cycle and operation sheets: more than 30 years of experience in looking for the best working sequence
- ✓ Drafting of PART PROGRAM for management of NC machines.

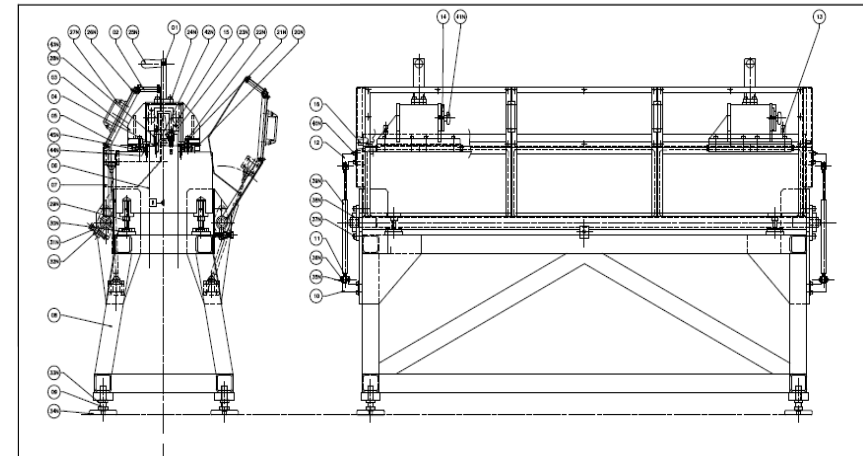
# Aeronautics

## Engine Groups

- ✓ Studying of dedicated fixtures for single phases : design of fixtures for working centres and for traditional machines, fixtures for washing, fixtures for lifting and handling. Our long experience in this specific job allows us to individuate and to solve problems bound to simplification of subjection of the part on manufacturing machine or alleviation of intervention of the operator



*Special tailstock fixture*



*Inspection fixture*

# Aeronautics

## Engine Groups

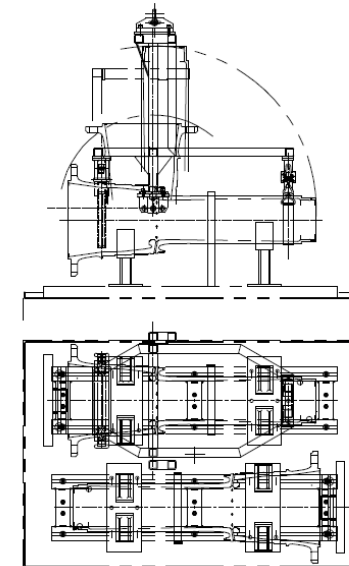
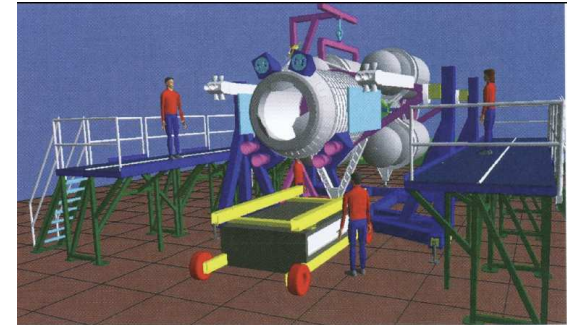
- ✓ Design of gages and comparisons for measurements in line and inspection in metrological room
- ✓ Design of test benches and instrumentation and telemetry on impellers, turbines and actuators, for pressure test on castings fatigue test on rotors (high rpm and high loads).



# Aeronautics

## Assembly Jigs

- ✓ Design of assembly jigs of airplane items (fuselage, wings, centre body)
- ✓ Design of fixtures for air transport, with static and dynamic calculations for stress compensation in  $x, y, z$ , in function of “g” accelerations to which the carried object is submitted
- ✓ Design of lifting plants with static calculations



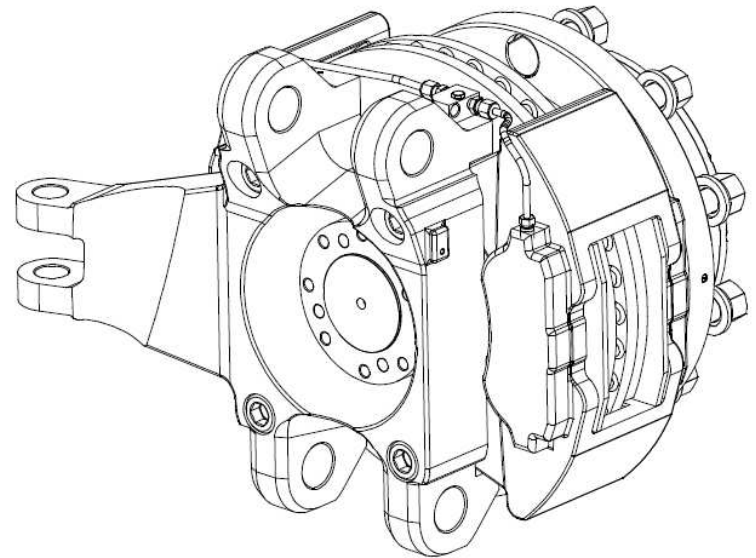
*Shaft lifting and positioning fixture*



# Industry

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Our long experience in this specific job allows us to recognize and to solve problems bound to simplification of subjection of the part on manufacturing machine or alleviation of intervention of the operator, aimed to cost and dead time reduction



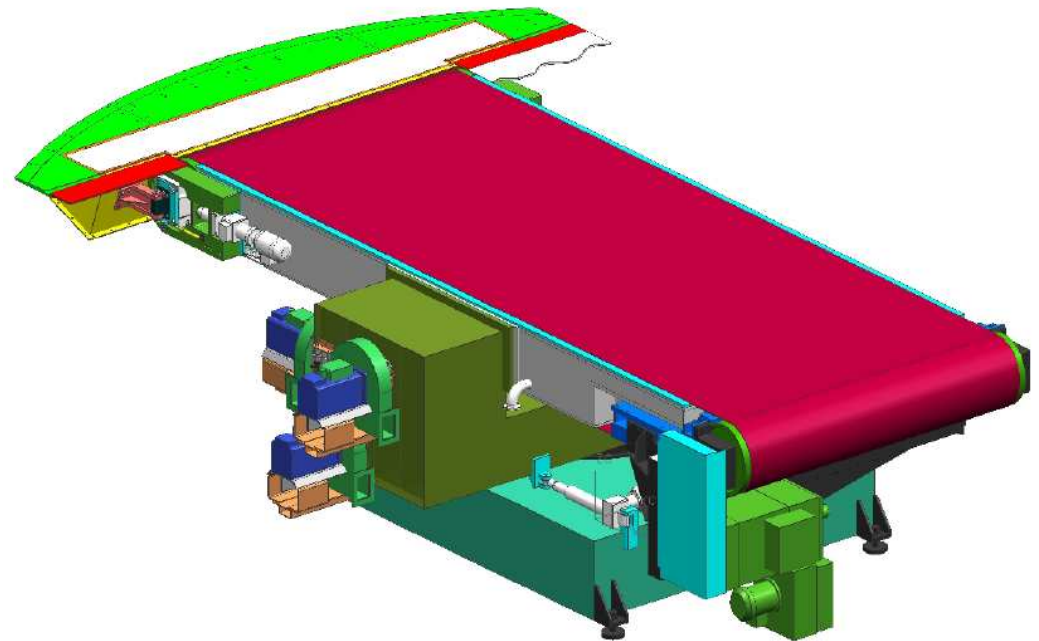
# Industry

## Production Methods

- ✓ MACHINES: Design of special machines and plants, automatic and not automatic for handling, loading, and dosage, pack up, assembly and machining, surface treatment.



*Extrusion machine*

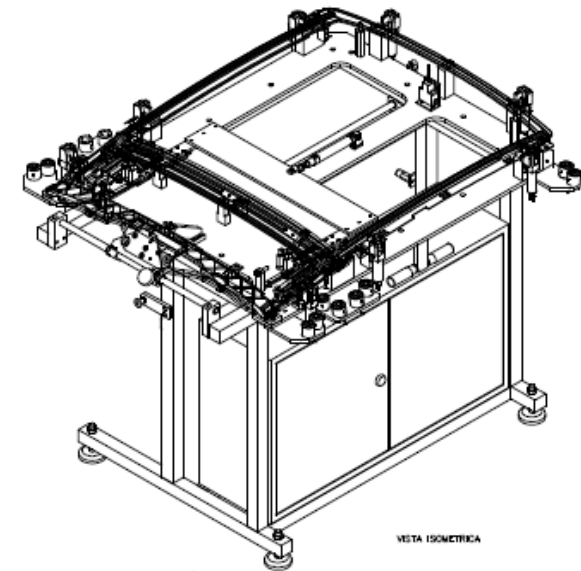
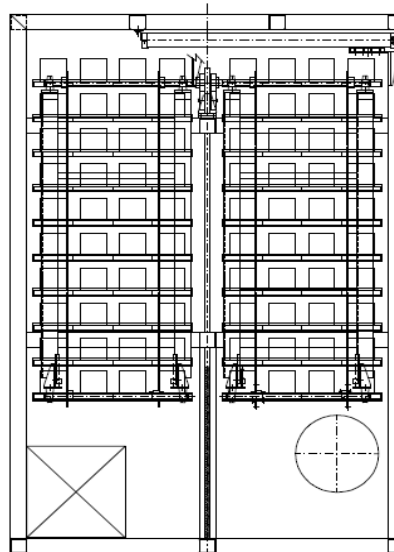
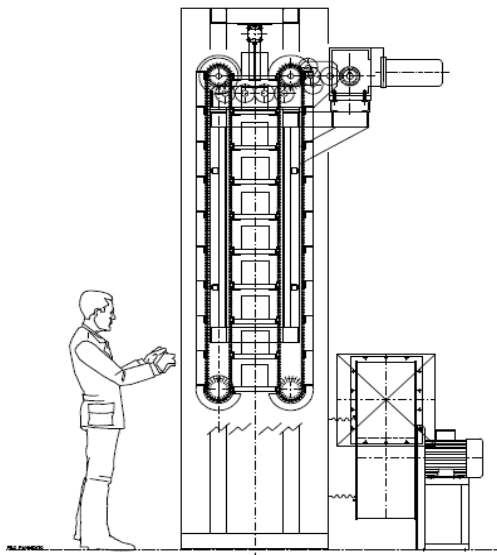


*Special Conveyor for ground effect verification in wind tunnel*

# Industry

## Production Methods

- ✓ **FIXTURES** : special machines for mechanical machining, assembly, inspection, subjection masks, lifting and transportation devices



*Fixture for assembly on car roof*

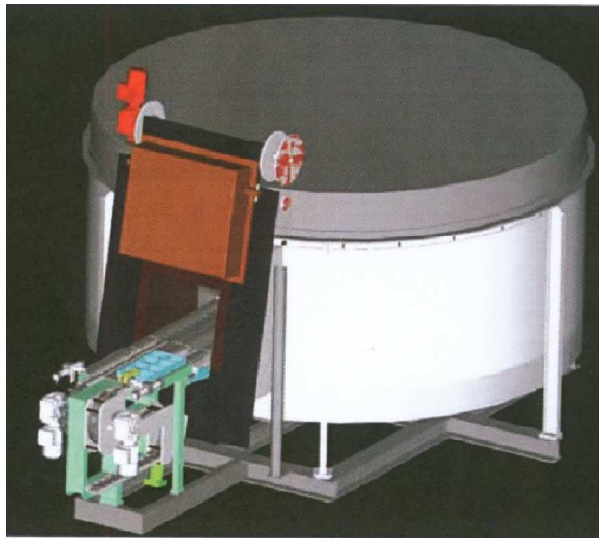
*In line system for cooling of surface treated parts by means of vertical conditioned tunnel*

# Industry

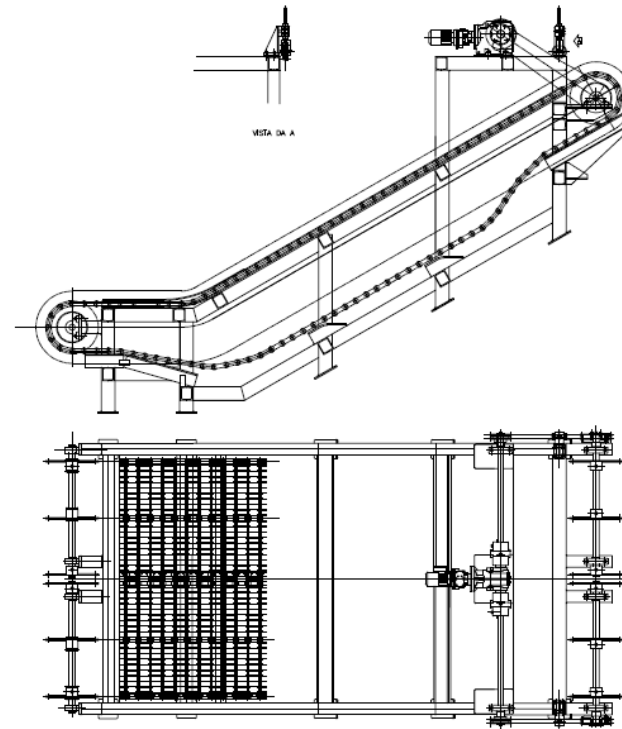
## Production Methods

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- ✓ PLANTS: plants for storing, for transport or transfer, lifting plants, automatic and not automatic, - ovens for treatment on castings and various parts



*Rotating oven with automatic loading and unloading device*



*Special Chain conveyor for heat treatment plant*

# Industry

## Industrialization

Among the phases of industrial process, S.P.I. has developed skills mainly in Industrialization, Study of Production Criteria

- ✓ Complete units design
- ✓ Drafting and 3D modelling of parts constituting an assembly
- ✓ Feasibility analysis
- ✓ Production cycle analysis
- ✓ Determination of cycle time
- ✓ Drafting of manufacturing cycle with operation sheets
- ✓ Drafting of PART PROGRAM for NC machines management
- ✓ Studying of dedicated fixture for single phases
- ✓ Studying of gauges and comparisons for measurement of dimensions.
- ✓ Design of test benches and instrumentation.

S.P.I. uses a productive partnership with Architect's office **D+designstudio**, made up of Professional and successful architects and designers.

- ✓ Support and advice to industrial design activity: advice for feasibility analysis, technical solution analysis, useable materials analysis, producibility analysis, cost analysis.
- ✓ Engineering : product engineering, detailed development of technical solutions used, structural calculations, three-dimensional modelling and parts development, production methods development.
- ✓ Prototyping : technical consultation during prototyping phase, up to the complete elimination of defects or design freezing.
- ✓ Pilot production: technical assistance during whole pre-production phase.

# Railways

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More than 25 years of experience in engineering and developing new solutions together with leader Companies of Railway Industry.

- ✓ Study of Braking Plants
- ✓ Study of Compressors for air production on board
- ✓ Actuating Pneumatic Control Units: pneumatic subjection unit
- ✓ Structural items of boogie: structures, frames, supports
- ✓ Automatic doors: design of devices for handling of internal doors

# Studio Progettazioni Industriali

## Contact Us

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For further information about our Company please visit the  
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Thank you!