

ALUTRON[®]

RACK and MICROELECTRONICS
www.alutron.it



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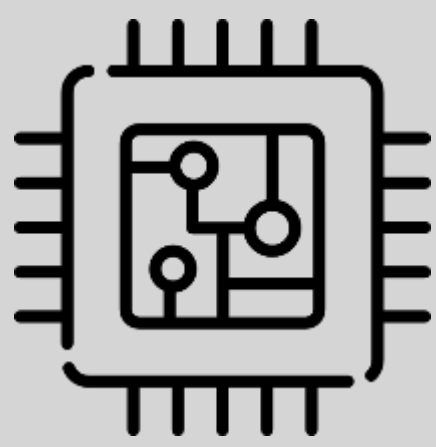
www.alutron.fr et www.neohmcomponenti.com

Preface



2023: A new beginning

At the end of 2022, Alutron S.r.l. (LLC) merged with Neohm Components, a company specialized in the design and the production of custom circuits, wireless systems and thick-film hybrid circuits, creating two closely related divisions (Micro-electronic and Mechanic)



Alutron S.r.l., a company belonging to the TKM-Tekfer group, is specialized in the design, prototyping and mass production of advanced solutions for mechanics for electronics and modular mechanics. In particular, the brochure proposed by our company consists of electronic enclosures such as racks, sub-racks, sub-units and all the related components and accessory items as front panels.



We think that Customer Satisfaction is the driving force behind our success. Thanks to our technical department we try to daily improve our service. Quality, innovation, research and development are always on our agenda.



Our commitment is to offer high-quality products and integrated solutions in order to satisfy our stakeholders' needs in the different application fields.

OUR CORPORATE GROUP



Assembly and Inspection of electronic boards and systems.



Its Core Business is the Research and Development of Railway Signaling Techniques. It has been one of the first Italian companies who introduced SIL4 Electronics. Company Certified in accordance to the ISO/TS22163 standard (ex IRIS)



Design e Production of Advanced Custom Solution of Mechanic component for the Electronics field.
Engineering and Development of hardware and software systems and Production of sophisticated Micro-Electronics products.



Distribution of Semiconductors



Design, construction and inspection of electronic products, more precisely of printed circuit boards.

Market sectors

Alutron's range of products is designed to be applied in areas where the highest reliability is required:



Space



Navigation



Energy



Railway



Automation



Telecommunications



Aeronautics



Datacenter



Biomedics

Customers and Projects

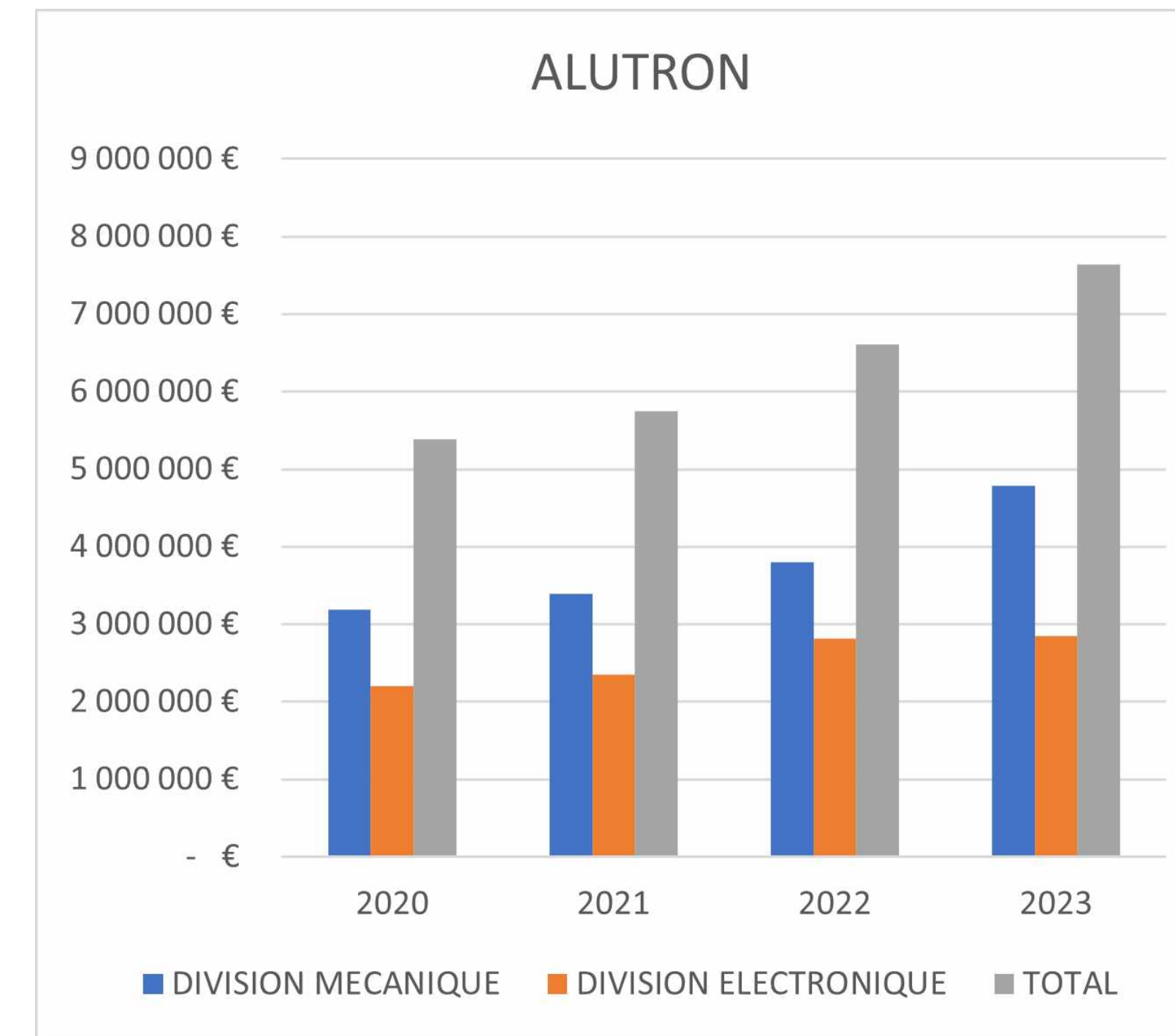


During last three-year period, having reached and overcome its turnover targets, Alutron has developed new projects both in the **Mechanic and Electronic fields**. Among the most relevant examples we mention the design and production of locker cabinets with electronic locks and cooperation in Space research projects.

Each project is oriented to the environmental sustainability goals and the worker needs. Indeed, the Italian security standards are respected and adopted in all the procedures aimed to guarantee employees' health.



Alutron boasts an important range of loyal customers that is confirmed during the years.



Certifications

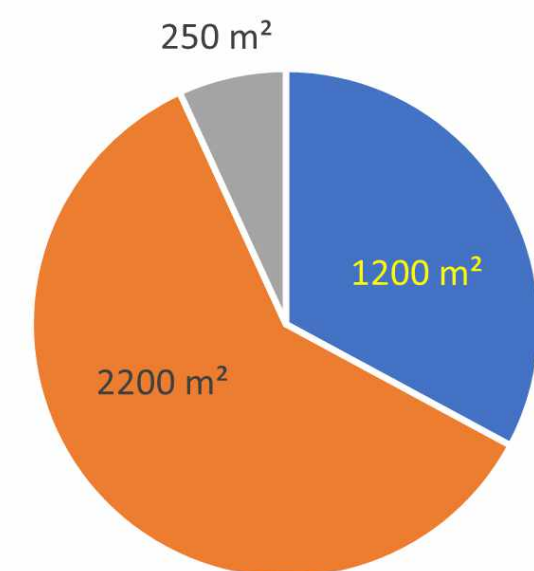
Alutron follows the guidelines given by the 4.0 INDUSTRY through the machine monitoring, robotic systems, integrated and automatized production processes.



ELECTRONIC CERTIFICATIONS

- IPC-A-610 – CIS
- IPC-A-610 – CIT
- ECSS-Q-ST-70-08 (cat 3)
- ECSS-Q-ST-70-28 (cat 3)
- ECSS-Q-ST-70-38 (cat 3)

Alutron mai 2023: Superficie des 3 établissements



- Division Mécanique Alutron Srl
- Division électronique Alutron Srl
- Alutron France

Alutron is certified by the UNI (Italian Institution of Standardization) EN ISO 9100:2018, ISO 9001:2015, ISO 14001:2015, ISO 45001:2018, and by the RINA - Accredited Institution of certification.

It guarantees that the processes are planned and kept under control through specific quality plans aimed at the continuous improvement of products, services and of the working environment.

Member of CISQ Federation



CERTIFIED MANAGEMENT SYSTEM
ISO 9001 – ISO 14001
ISO 45001
AS9100D/EN9100:2018 N° 248/22/S



Mechanics Division

The great technical competence and more than 40 years of experience in design and production are the strong points of all the Mechanics Division products. From the 19" racks and subracks to the subunits and front panels, we provide each necessary element including accessories and customisable components.

This division operates in accordance to the UNI EN ISO 9001:2015, ISO 14001:2015, ISO 45001:2018 standards.



A highly specialized technical department distinguishes us in Italy for the design of innovative and customised systems. The research and development department cooperates in close synergy with the production department in order to engineer products and optimize the production process.

Mechanics Division - PRODUCTS

19" RACK

Alutron s.r.l. is specialized in the production of rack enclosures, drawers and baskets for the physical rack housing of hardware devices.



SUBRACK

Subracks are made of aluminium with a Surtec 650 surface treatment and they are divided in 4 different production lines: Subrack Executive, Subrack Rail, Subrack Rail Plus and Serie Instruments.



SUBUNIT

Standard subunits are divided in two types: the ones made of 3 units and those of 6 units. Both types are provided with aluminium covering with Surtec 650 treatment.



Accessories

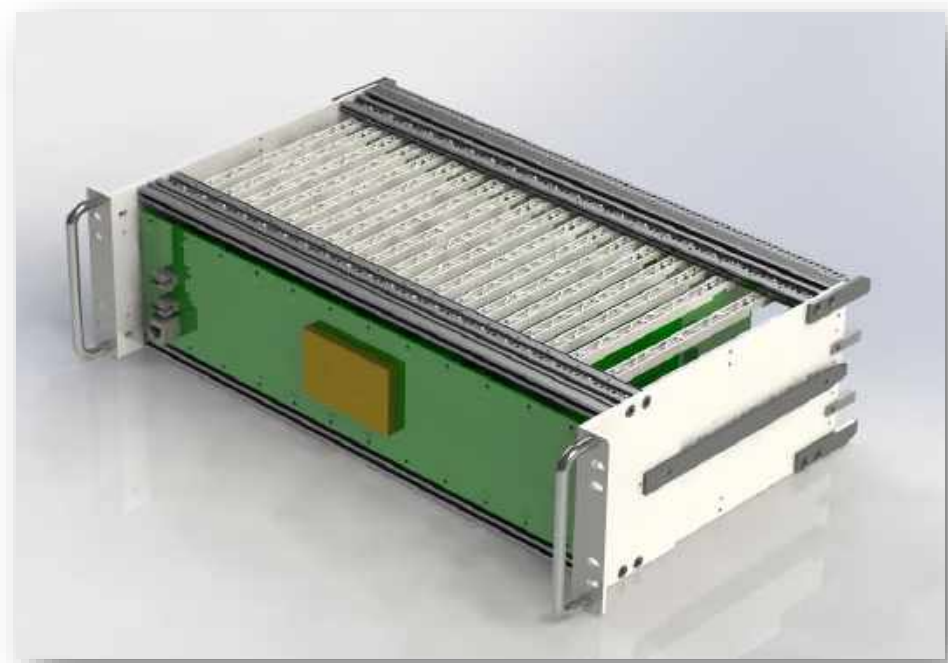
Alutron offers a wide range of accessories suitable for any kind of need.



Mechanics Division – CUSTOM-MADE SOLUTIONS

40 years of experience in the field of modular mechanics and the skills of our R&D department allow us to realize STANDARD mechanic solutions but, above all, to carry out 3D-drawn projects to meet our consumers' needs.

Alutron R&D has the Know-how and the ability to develop specific solutions tailored for various applications.



Mechanics Division – INNOVATIVE MATERIALS

ALUTRON OFFERS MAGNELIS® MANUFACTURING

A new, incredible metallic steel coating able to implement an **optimal superficial protection** against long-term wear, within a wide range of applications.

Magnelis® guarantees:

- Superior corrosion resistance
- Self-healing protection along the cut edges
- An alternative to the post-galvanizing process and to the aluminium or to the stainless steel
- Eco-compatibility

MAGNELIS®
34 weeks



Aluzinc®
34 weeks



Galfan
28 weeks



HDG
6 weeks

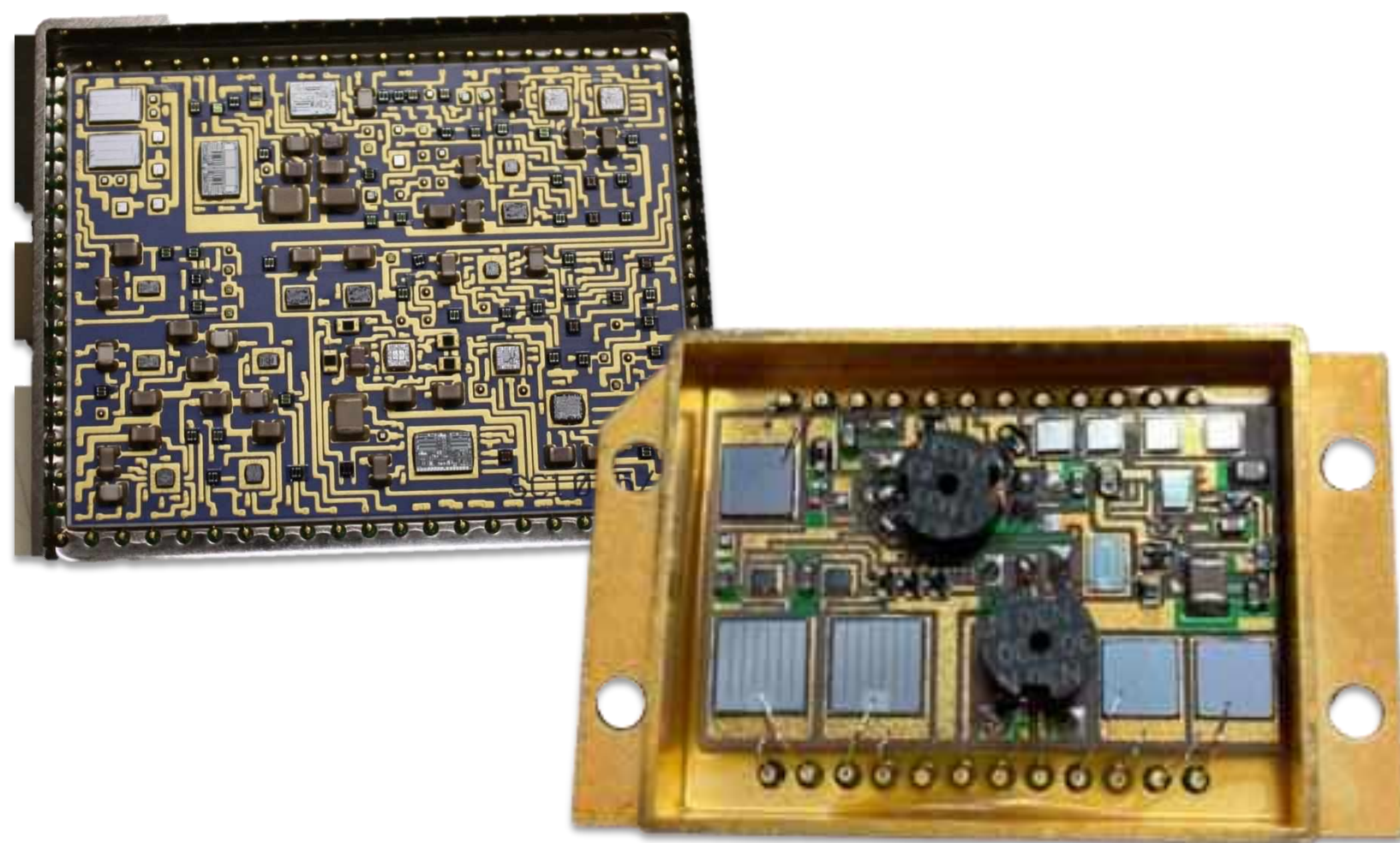


ArcelorMittal

Electronics Division

Alutron's Electronics Division, ex Neohm Componenti, has in-depth knowledge of hardware and software engineering and of the production process of sophisticated products and electronic systems. It tries to guarantee to its partners the achievement of process and product performance.

This division operates in accordance to the UNI EN ISO 9100:2018, ISO 14001:2015, ISO 45001:2018 standards.



Our Electronics Division offers an outsourcing complete service:

- Electronic support and engineering
- Industrialization
- Technological Support
- Material Supply
- Production
- Testing

Electronics Division – PRODUCTS and SERVICES

Production of :

Professional hybrid circuits

Hybrid watertight circuits

Power hybrid circuits

MCM-L

MCM-C

Professional boards and subsystems

Radiofrequency

Sensoristics

Digital Circuits

Custom Mechanical Solutions



SERVICES OFFERED:

Molds Assembly

SMT Assembly

Wire Bonding

Seam welding in inert atmosphere

AuSn Soldering

Tests and Screenings



Electronics Division– BEST IN PRACTICE

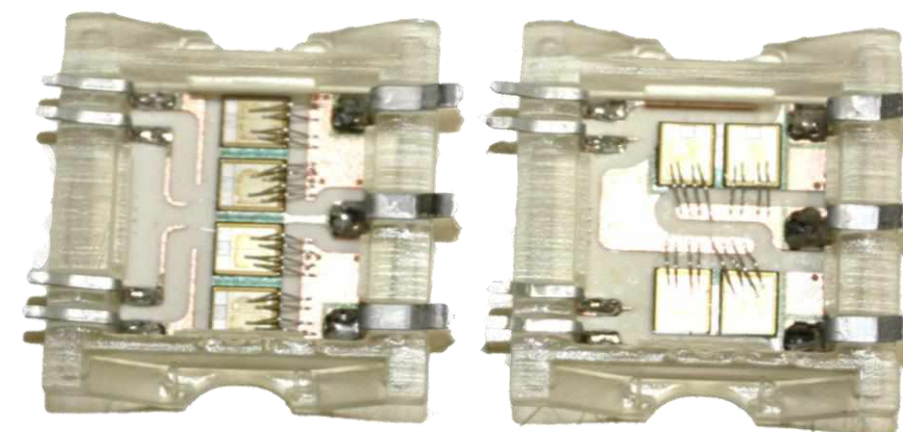
AC/DC - DC/DC MODULES

- Design Production
- Form Fit Function
- Pin-to-pin compatibility for availability solutions
- High Integration Hybrid Solutions
- Customized Oem
- Ceramic or FR4 Pcb
- High Thermal Conductivity therefore High Efficiency
- Electrical Insulation between Input and Output
- 1:5 input voltage



B-MAX

- SiC MOSFET dies
- Half Bridge and Bidirectional Switch Configurations
- 1200V RDS ON <10 mohm (SWITCH)
- Minimum Size
- DBC for very good thermal conductivity
- High Current Pin
- Reduced parasitic inductance and capacitance
- Top side cooling technology smd
- For High frequency DC/DC converter and High frequency switching



POWER RESISTOR

- 100W to 1kW Thick Film Series
- Very high Power / Volume ratio
- Non-inductive for high frequency applications
- Customized models (values and cases)
- UL94-V0 compliance



Electronics Division PRODUCTION IN CLEANROOM

Alutron's Electronics Division is provided with an area of about 800 sqm divided in different departments: silkscreening, coating/potting, chain ovens and an ISO7 cleanroom of more than 300 sqm where microelectronic products are realized.

The Cleanroom is provided with:

- Deionized water distribution
- Technical aspirator
- Compressed air distribution
- Dust vacuum cleaner
- Nitrogen distribution

The operations for the production of substrates and those where bare DIE are manipulated, take also place in the Clean Room.

Here we operate particular processes. A certificated staff operates:

Die attach, Wedge bonding, Ball bonding, Hermetic Packages, Inert atmosphere seam welding (glove box), AuSn brazing, Burn – In, Air-air thermal cycles, P.I.N.D. test, Fine and gross leak check.

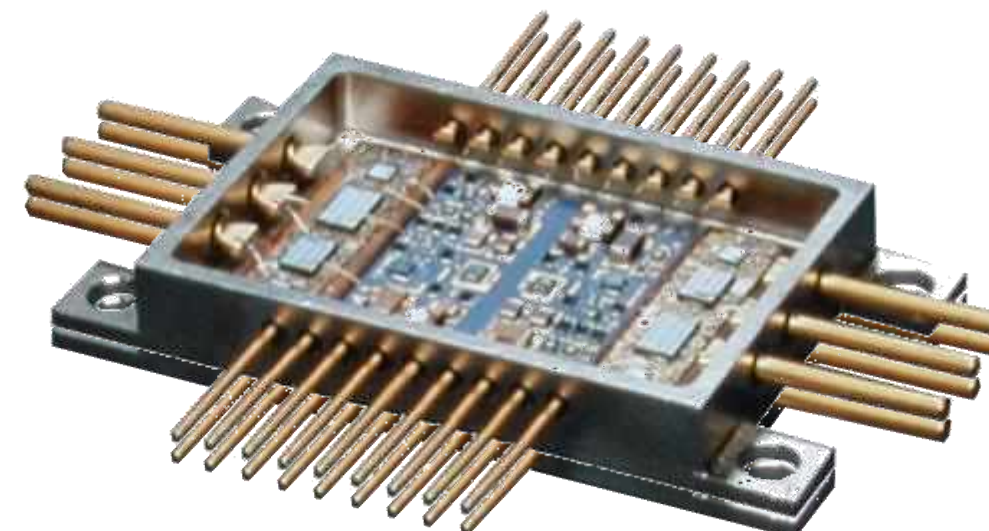
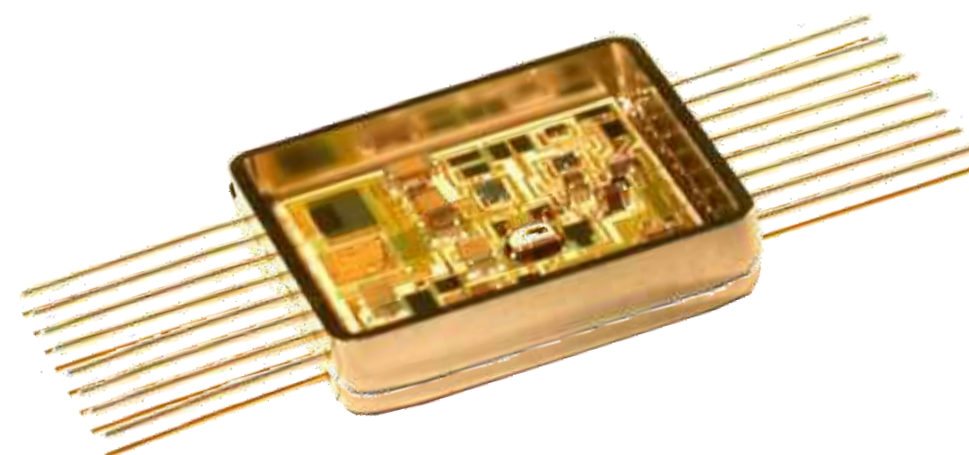




Electronics Division : REVERSE ENGINEERING PROCEESS

Alutron's Electronics Division has a highly specialized technical department where a team of experts is able to operate **reverse engineering processes** in order to analyze the internal composition of certain products, trying to **extract design information** and reproduce it.

This process is requested by those companies where a certain product is considered **obsolete** or **subject to obsolescence**; through this process we can analyze how it was designed and how it operates in order to replicate it in FFF (Form, Fit and Function).





Electronics Division - HERITAGE SPACE PROGRAMS

Hot Bird and Sicral Program
Low Power Module

MATRA MARCONI SPACE



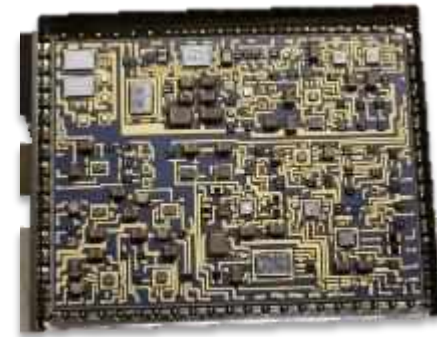
1995

GSTB Program
Low Power module



1998

Cosmo Skymed program
Low power module



2007

SAOCOM program
35-50W Power Module



2018



ESA-SSC
15W Power Module



2019

DC/DC converter
H6



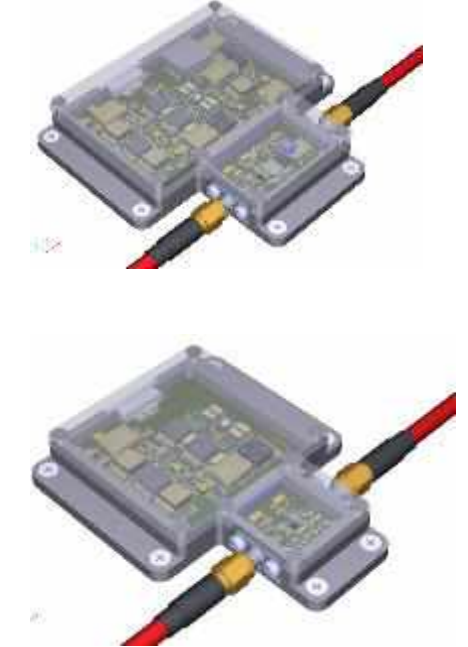
2021

ESA GSTP



2022

Driver PA & LNA module
ERMES Program



2023

More than 400 Hybrids in space mission

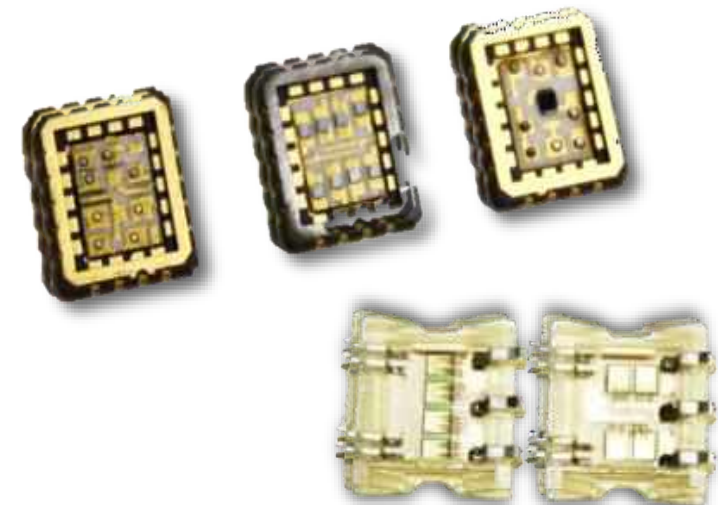


MECHATRONIC SYSTEM INTEGRATION

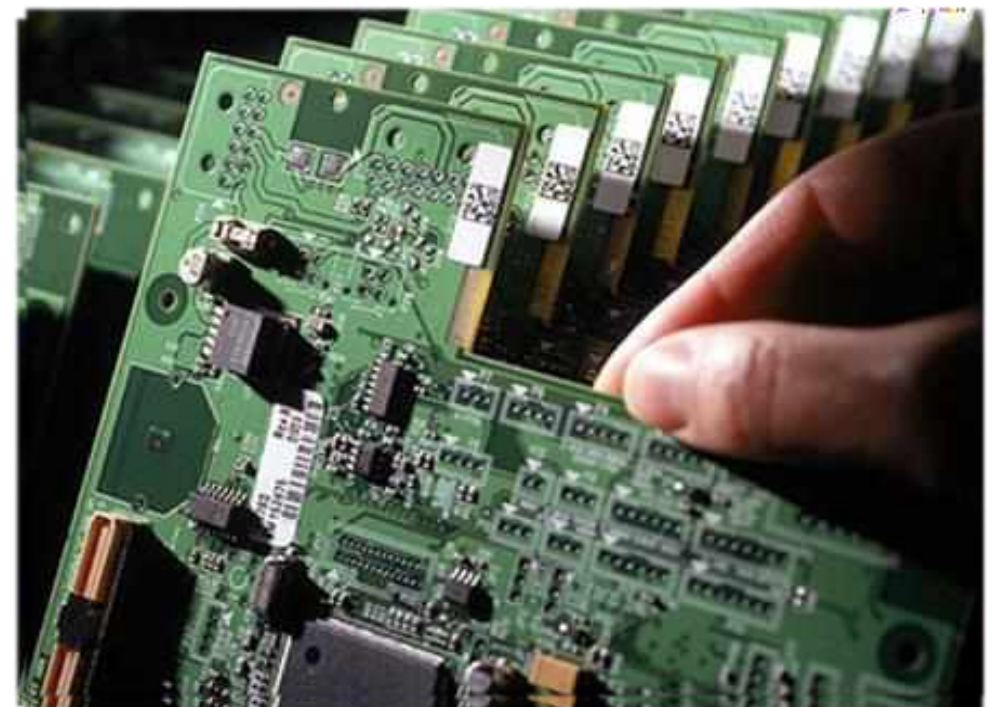
Off-the-shelf component



Custom-made components through Die-attach/Wire Bonding processes



Assembly of components in electronic boards



Subracks in racks



Front panels in subracks

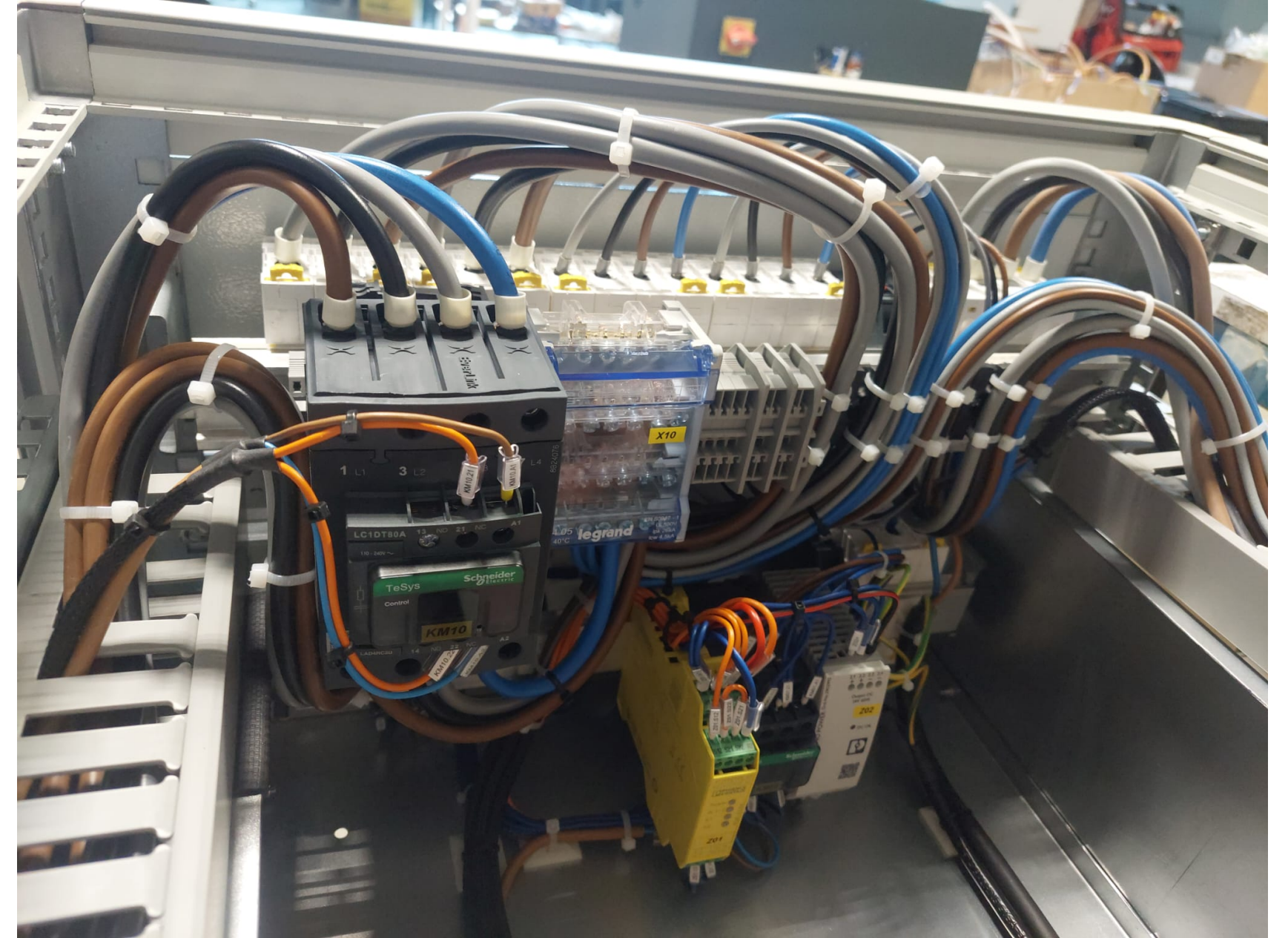
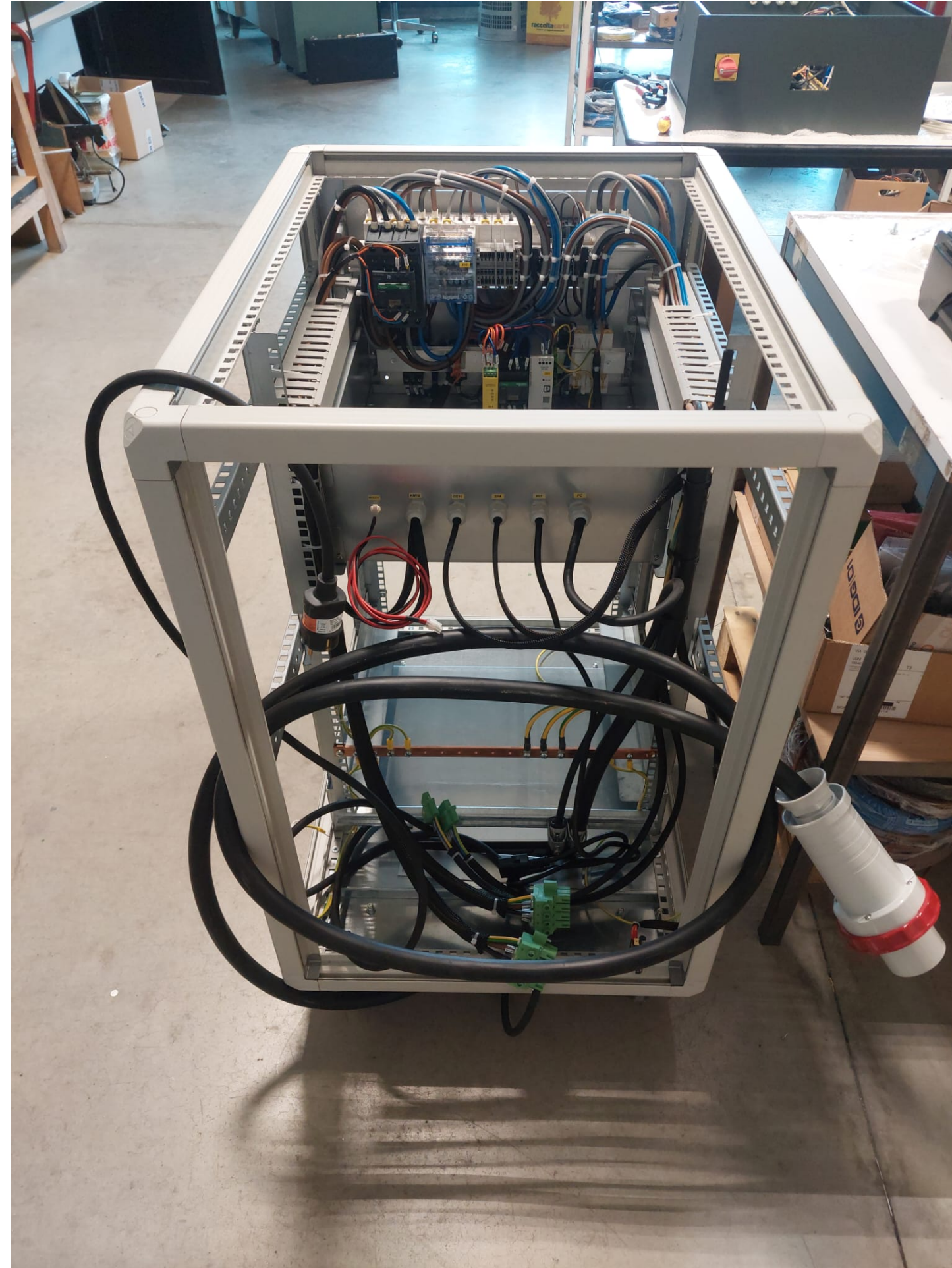


Front panels on electronic boards



Design and development of application software





WATT
& WELL 
ELECTRIC MOBILITY

ALUTRON
FRANCE

ALUTRON®

RACK and MICROELECTRONICS

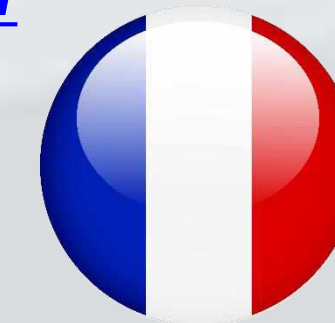


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