TURIN
APRILIA
ROME

WORLDWIDE

RETE DS IMPIANTI

DESIGN AND PRODUCTION OF ELECTRONIC MATERIALS

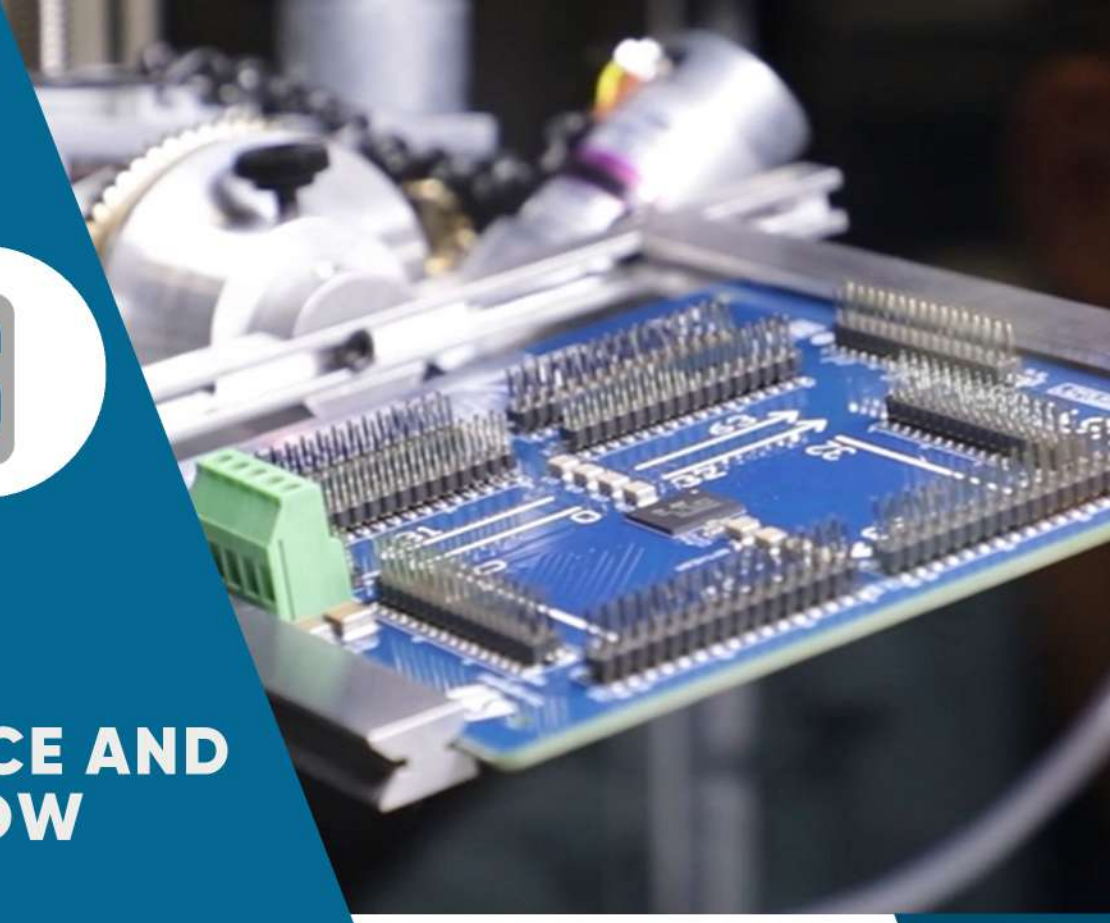
CSQ
ISO 9001

QUALITY

SINCE 2013 THE COMPANY IS ISO 9001 CERTIFIED

TURIN
PLANT

RETE DS IMPIANTI



ABOUT US

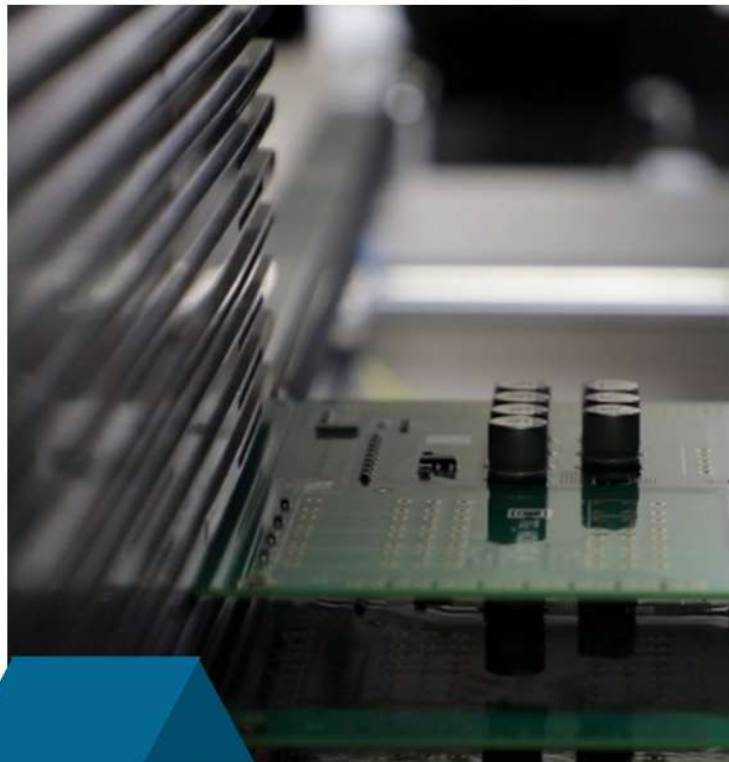
EXPERIENCE AND KNOW-HOW

RETE DS IMPIANTI **TURIN PLANT**

We are an Italian company that has been operating for over 40 years in electronic production, design, engineering and assembly of electronic boards and electronic devices, in industrial automation, railway equipment, security systems.

MATERIALS SUPPLY

An advanced computer system allows us to manage orders from customers and suppliers and also we know, at any time, the exact situation of the materials, of the our customer and our supply.
The company is able to work with subcontracting materials and with full or partial supply.



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Legal Office: ROMA

dsimpianti2@gmail.com

info line: 389.63.17.334

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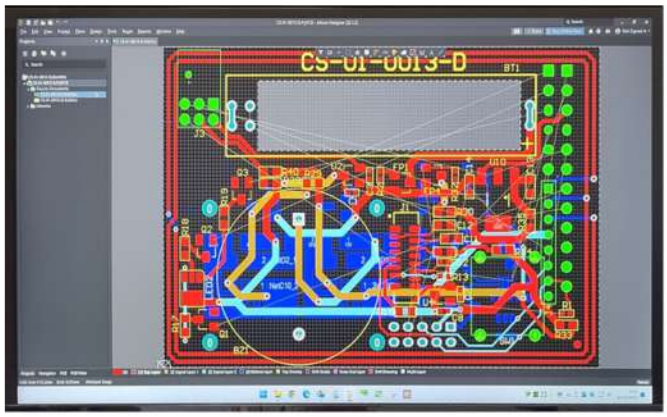
MES SOFTWARE

Use of MES software allows you to manage the progress of processing and costing in a timely manner.
All information on the activities and performance of people, machines, equipment are available in real time. All the information on production processes is available: times, quantities, waste, operations.

DESIGN

The company, where required, is grateful to support the customer in the realization of the unraveling of printed circuit boards through the ALTIUM DESIGNER system



THE WAREHOUSE

The storage, allocation, identification and retrieval of material are managed by the SMIRO system.

"Smiro System is the system that allows one or more users to instantly identify objects placed in free positions in undefined areas. This allows to make the most of vertical and horizontal locations by optimizing allocation areas, without the use of spatial coordinates or dedicated zones"

Smiro System

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The assembly of SMD components is carried out by two Siemens Pick and Place automatic lines with:
Total mounting capacity of 87,000 components/hour
SMD chip minimum size: 0102
In-line mounting of data plates/serial numbers, etc.

The first line is equipped with HF series heads

The second line is equipped with E by DEK machines

The solder paste deposit is made, for each line, by a Siemens ASM Mod screen printing. E by DEK with automatic 2D inspection of solder paste.

Both lines are equipped, for reflow welding, with a 7-zone hot air oven of the RENM VXC 2450

For MSC3 (Moisture Sensiviti Device) rated components, the department uses a GHIBLI-II Mod. OEM-1200-6

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AUTOMATIC OPTICAL INSPECTION

The Automatic Optical Inspection follows the SMT assembly process, it is intends to verify the absolute integrity from any assembly or welding defects. Prior to the electrical test and any functional testing, the AOI guarantees a considerable advantage in economic terms, since it allows to identify in advance possible defects, which affect the functionality of the assembled board.

The first system used is the Automatic Optical Inspection System LV6 Twin from Schneider & Koch

The second system used is the AOI - Z7X System of VCTA. The system is also able to perform the test of the weld paste and the glue stitch.

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WELDING OF BTH COMPONENTS

The welding of the PTH components is carried out by the STE-AL-TECH ST-550 system equipped with two motorized wave wells, removable and replaceable, for Lead-Free and Leaded welding.

Four forced hot air preheating modules, or with IR lamps, have enormous thermal potential and allow the use of 100% water-based fluxes and solder boards with different substrates such as FR4, Multilayer and Metalcore.

Wave welding preparation area <<<<<

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SELECTIVE WELDING THROUGH HOLES

The ZEVAm system is equipped with a flushing station with a selective high-frequency fluxator (1000 Hz) that allows the dispensing of flux on the single lead. This minimizes ionic contamination of the board and flux waste and ensures a clean soldering process.

The preheating station, consisting of 16 quartz lamps positioned on the underside of the system in parallel to the conveyor, works by radiating 8.8 kW medium waves, combining fast response times with a gradual dissipation of heat on the surface of the PCB.
The welding station consists of an electromagnetic well equipped with a software-programmable wave height control system and can be configured with a nitrogen delivery system directly on the wave, which reduces the risk of short circuits between the pins.
It also has a cockpit handling and rotation system combined with the possibility of tilting the board from 0 ° to 10 °, and an automatic supply of the tin inside the cockpit, useful to keep the volume of alloy stable and to eliminate manual intervention.

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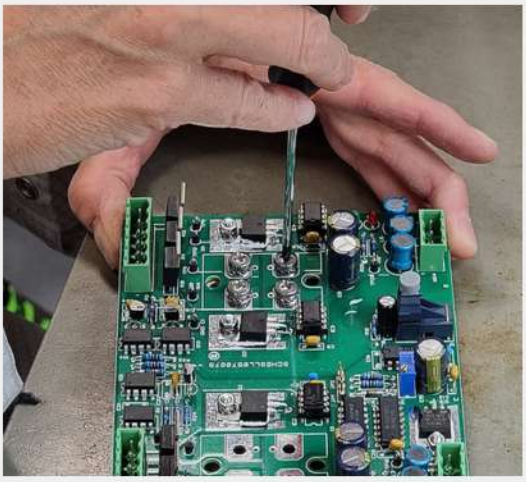
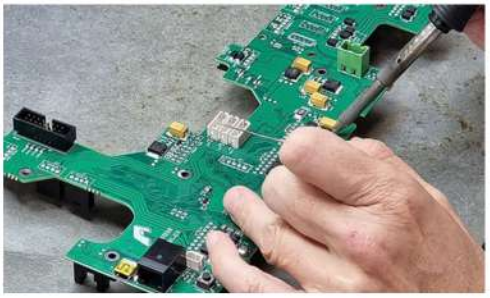
PTH MACHINING





The company has a PTH finishing department and for the assembly of mechanical and special components.

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END PROCESSING

To eliminate any residual contaminant, at the end of processing, the electronic boards can be washed with a water system and hot air drying; of the company BARBIERI model Washing machine BA / LR II SMT PLC.

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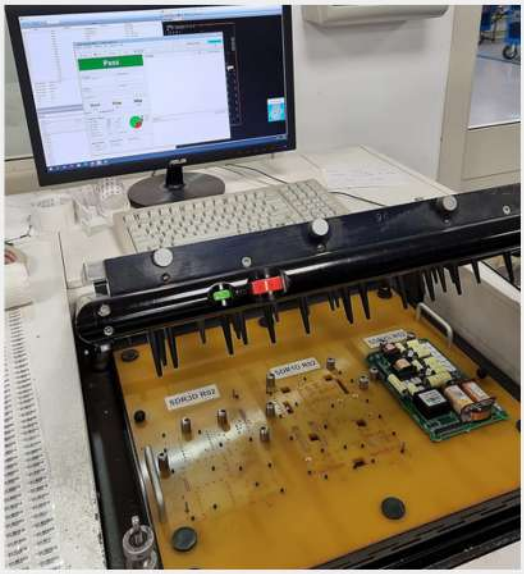
FUNCTIONAL TESTING



The production of boards and/or systems ends with functional testing. The company is able to satisfy the client's request, and every type of programming and control and ICT and functional testing.

ICT (In-Circuit Test) tests are parametric tests that are typically carried out through the use of a bed of needles. The test coverage depends on the testability of the PCB and the type of components mounted on the electronic boards.

The company uses a SPEA 30/30 Multimode system. The beds of needles can be supplied by the clients or made by DS IMPIANTI.

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CONFORMAL COATING

Where required, the company is able to carry out the "Conformal coating" on electronic boards or semi-finished products.
The process of conformal coating on electronic boards involves covering the PCB with a material (resins and silicones) to protect it mainly from dirt, moisture, vibrations, chemical events and other elements that can damage the board in the work environment in which it operates. It also guarantees an excellent level of electrical insulation.

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ASSEMBLY SERVICE

The assembly service of electronic equipment proposed by DS IMPIANTI allows the customer to receive a turnkey product, ready to use, thanks to the possibility of completing, at our factory, electronic boards with mechanical components and accessories (heat sinks, plastic, mechanical and various parts).

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CERTIFICATIONS

The company confirms that the materials used do not contain minerals that come from conflict zones.

Since 2013 the company is ISO 9001 certified and the staff is IPC-A-610 certified on the "Quality of electronic assemblies".

IPC IPC-A-610

CSQ ISO 9001

The company also guarantees production with ROHS components, REACH

RoHS compliant

REACH COMPLIANCE

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MISSION

OFFERING EXCELLENCE IS OUR PASSION

RETE DS IMPIANTI

APRILIA PLANT

Consolidated business operating in the field of Electronic Manufacturing Services (EMS), focused on a growth strategy that has led the company to strengthen and renew its skills according to the requirements of industry 4.0

EXPERTISE

We have acquired over the years skills that are increasingly relevant and focused on the specific application sector, thus creating a top-level customer portfolio.

Constantly updates and increases the skills of its team in order to offer its customers ad hoc and very high quality solutions.

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SECTORAL EXPERTISE

We propose as a partner for the development of its customers, which operates in the following different sectors, using the skills and expertise it has acquired over the years:


AEROSPACE


DEFENCE


TELECOMMUNICATIONS


ASTRONOMY


MEDICAL DEVICES

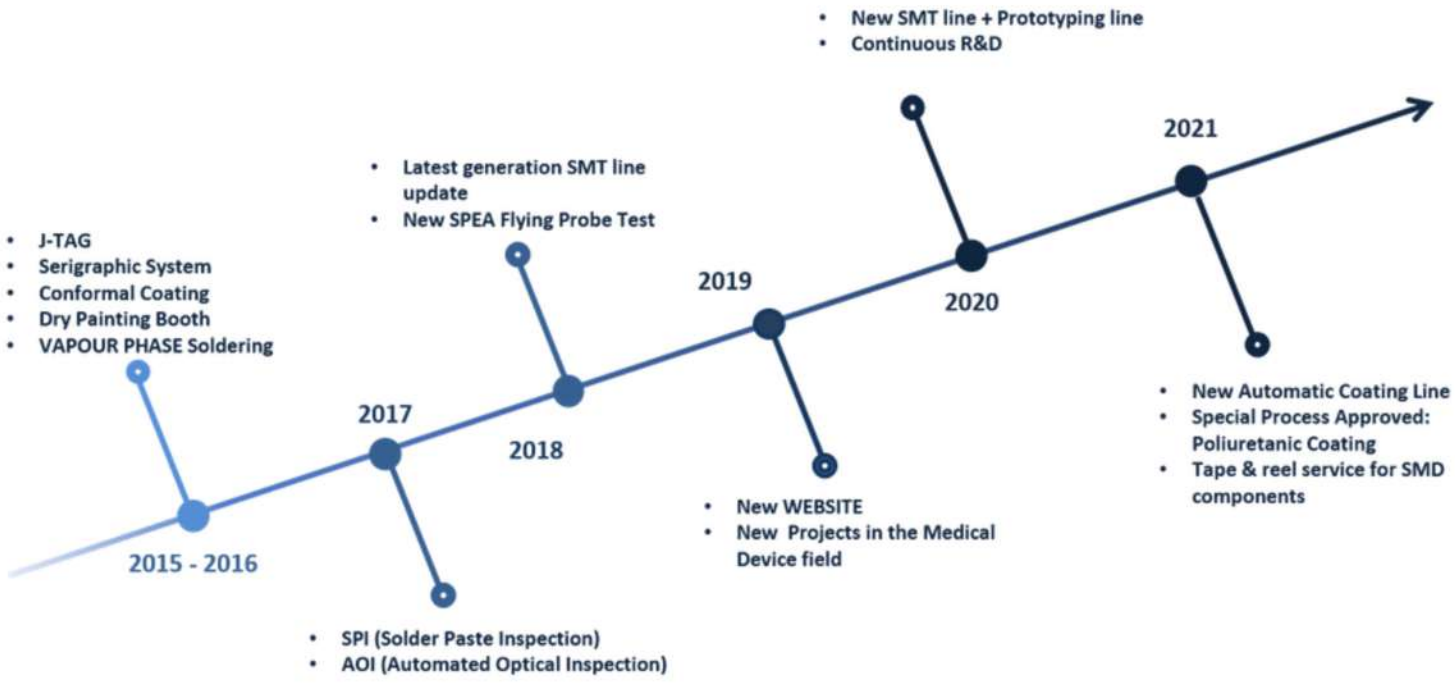

INDUSTRIAL TECHNOLOGY


INFORMATION TECHNOLOGY


RAILWAYS E TRANSPORT

GROWTH

We invest continually introducing new methods of design, production and sale of its services and leveraging its human capital, fostering a knowledge process continues once you learn how to develop new approaches and new models throughout all phases of working life.
New technology and people blend together to create a unique driver of innovation, with the aim of understanding, support and satisfy the expectations of our customers.



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CERTIFICATIONS

Reliable partner for companies of all types and sizes, including small companies that need technical / design support, large national or international groups and also covering military

The quality of the processes, attention to the environment and safety standards are certified by the quality certificates acquired over the years which testify to our constant attention to continuous improvement.

UNI EN ISO 14001:2015
UNI EN ISO 9001:2015
EN 9100:2018, AS9100D, JISQ 9100:2016

EMPLOYEES

The continuous training and technical growth of its own staff allows to us to have an excellent know-how highly qualified and certified.

IPC J-STD-001 IPC IPC-A-610 IPC IPC-7711/7721

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VISION

We are focused on exceeding our customers' expectations day after day, through new technologies, high productivity, sustainability, constant innovation and qualitative excellence in production processes.

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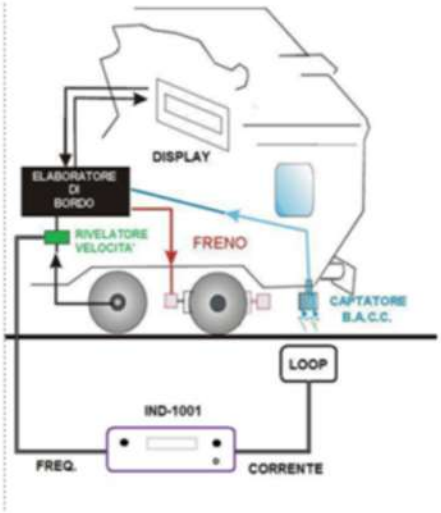
INDUSTRIAL AREA

The design phase is a critical stage that has a high impact on the entire life cycle of the electronic product. We places all its experience at the complete disposal of the customer in every step of this phase, supporting existing products, developing totally new systems and managing to guarantee the quality and competitiveness of the product on the market.



Frequency generator

- Frequency from 1 Hz to 2 kHz
- Step regulation 1 Hz, 10 Hz, 100 Hz, 1 kHz
- 5 Vpp differential output voltage
- High impedance output for dc
- Output on isolated RCA connector

Current generator

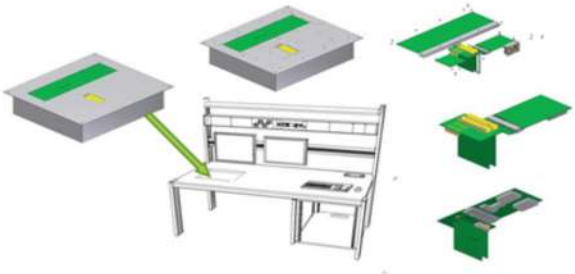
- Carrier frequency 75 Hz
- Adjustable current intensity up to 5,8 A (RMS)
- Display precision of 0,05 A (RMS)
- Generated railway code: AC, 75, 120, 180, 270, 420

- Portable Power Supply BC102 per radio
- HandHeld
- Input: 9-50 Vdc / 110-240 Vac
- Output: 12,6 Vdc 1,2 A
- Classe di protezione: IP68

TESTING AREA

COMPACT PCI TEST-BENCH STATION

- TEST-BOX for semi-automatic test of cPCI boards
- Based on "National Instruments" environment
- The box is designed to be integrated on a control desk
- Mechanical and Electronics designed by Innodesi



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PROTOTYPING

Prototyping is considered a fundamental aspect of design by RETE DS IMPIANTI, and is a key point for each customer in order to understand the added value of the electronic product before proceeding with mass production and transferring it to the market.

One of the best qualities of RETE DS IMPIANTI is certainly the ability to assist the Customer from the prototyping phase, advising them in the choice of materials both from the point of view of the functionality of the product and in view of its industrialisation, all within a short, guaranteed time frame.

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PLANT

PRODUCTION

Continuous investment in technological innovation has made our production lines a real point of reference for all productions oriented to an error-free result.

The continuous review of production processes, aimed at constant improvement, allows us to rely on a structured organisation today, capable of preparing orders managed in "work account" and "full account".

All work environments are air-conditioned at a controlled temperature and adapted to the current ESD regulation concerning protection against electrostatic discharges. The staff is constantly trained: in accordance with IPC-A-610 and J-STD-001 standards.

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PRODUCTION - SMT DEPARTMENT

Today, we boasts an SMT DEPARTMENT (Surface Mount Technology) composed of two complete lines equipped with cutting-edge and latest-generation pick & place machinery capable of processing more than 10,000 components/hour with housing up to 0201.
Continuous improvement of the machines and a high level of process control mean RETE DS IMPIANTI is able to work with the minutest and the most voluminous technology without the quality standard being altered.
The fact that we have our own design centre and work with external centres allows us to experiment with technology advances, thus testing our machinery on the most diverse components.
Ten-years of experience of the staff in the military aerospace and the civil field, and continuous training in compliance with the international standards for the processing of electronics (IPC-610) make RETE DS IMPIANTI an ideal partner especially in areas where proactive collaboration takes on a fundamental value for achieving the result.
In addition, we supplies tape & reel service for SMD components (as well for PTH components) for production automation.

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PRODUCTION - THT DEPARTMENT

THE THT DEPARTMENT (Through Hole Technology) is composed of **IPC** qualified operators, whose standards are fundamental in every step of the electronic product development cycle. The assembly service is applied both to lead-free and tin lead technologies, and also uses automatic wave soldering machines. Preforming the components and inserting them on the boards are performed manually, as are the repair welds on **ESD** benches. The completed boards undergo a further visual inspection by microscope or automatic optical control.

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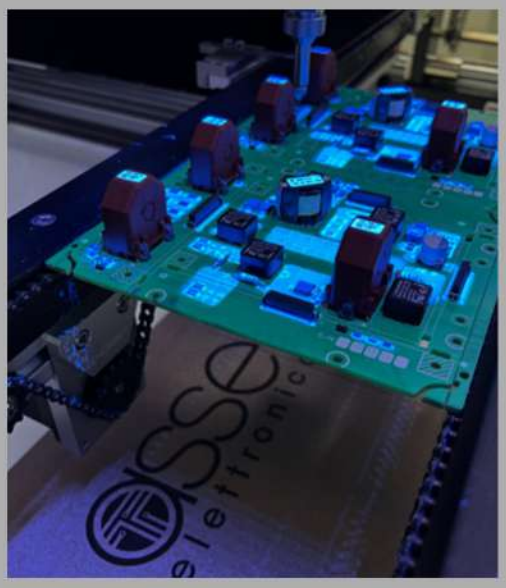
PRODUCTION - CONFORMAL COATING



The CONFORMAL COATING technique involves dispensing a transparent "plastic" protective film (usually made of synthetic or acrylic resins) that adheres perfectly to the assembled board.

We can boast of possessing equipment for the silicone and acrylic resin coating of PCBs for military production. The conformal coating considerably improves the surface resistivity of the materials, such as printed circuits (PCBa), electronic components, etc., which must be used in very humid environments and could not withstand high temperature treatment.

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PRODUCTION - TESTING DEPARTMENT

The checking of the components on the PCBs is entrusted to high-resolution X-ray machines, which make it possible to check that welds have been correctly executed, thus avoiding problems such as shorts or voids that would make the operation of the electronic board unreliable.

The visual inspection is entrusted to a machine called AOI (Automatic Optical Inspection), which detects assembly errors in real time, through a 3D reconstruction of the board and all its components, and signals them for repair. The company has also recently invested in an advanced electronic testing machine, called Flying Probe SPEA with mobile probe technology, capable of accurately and quickly testing every part of a circuit board, along with a Boundary Scan system that expands our Testing Department, allowing us to add a "pseudo-functional" test to the incircuit test (SPEA4060S2) and to the "functional" tests using TB. In fact, in addition to the functional checking of the components that integrate the aforementioned technology, the Boundary Scan test also makes it possible to test the interconnections of the components connected to them.

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PRODUCTION - CABLES AND WIRING

Our deep knowledge of the sector associated with special attention to new technologies gives us a presence on the market and means we can support the customer in the design phase and in the phase to identify the wiring; we cover the various activities from the supply of goods to electro-mechanical processing:

- Optical wiring
- Military wiring
- Assembly of drawers and rack cabinets
- Electro-mechanical repairs

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SERVICE CENTER

A multi-purpose, modern structure with a specialised staff for all-round customer service.
The enormous wealth of experience finds further implementation in the area of qualified support.
Our qualified service and repair centre covers all preventive and corrective maintenance activities on land-based, aeronautical, maritime, military and civilian equipment.

The ability to manage flexible volumes, combined with the ability to mould ourselves to meet the different needs of each customer, makes our service centre an important national and international reference point for all companies that need to quickly manage the problem of assistance.

QUALIFIED MILITARY SERVICE CENTER

The consultancy offered, from a technical engineering standpoint, is based on many years of experience in the Avionics and Terrestrial sector. The primary objective is to offer an excellent service in the activities of:

- Routine, preventive and corrective maintenance
- Fault diagnosis and repair at Technical Levels I, II and III
- Development of manual and automated testing systems

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dsimpianti2@gmail.com

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QUALIFIED MILITARY ASSISTANCE CENTER

Our in-depth knowledge of the Communication, Navigation and Identification products produced by Marconi/Elmer/Selex Comms allows us to become meticulously skilled in the following systems:

AVIONICS

ANV-801 M.C.D.U.

ANV-241 M.M.R.

ANV-301 D.G.N.S. Doppler

RT651 V/UHF Radio System

SRT470 HF Radio System

LAND / NAVAL

MH297-X / MH344 / MH915 Radio Link

CD115WB Circuit Node

MPS 115 Switching/Routing

MT327

HF/VHF CNR2000

V/UHF Sincgars

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CIVIL AND INDUSTRIAL ASSISTANCE CENTRE

Whired phones

Test and repair of analogue / digital systems and devices that work in transmission and access facilities in PDH / SDH hierarchies. STM Optical (STM-1, STM-4 and STM-16).

Test and Repair of Energy Systems

- ELTEK
- BENNING
- OMICRON
- BRAGA MORO

Main customers

- SELEX ELSAG
- VITROCISET

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CUSTOMER SUPPORT

Customer satisfaction is the top priority for our company.

Our services do not end when the goods are delivered to the customer. Following the production phase, we offers complete after-sales support to the customer, together with:

- Re-engineering to optimise the production process (hardware: digital, analogue, radio frequency; software: dos, windows, linux, C++, VB, JAVA; firmware: FPGA, EPLD, PAL)
- Qualified off-load staff
- Re-engineering due to obsolescence: the production capacity of electronic assemblies depends on the availability of components used. Critical components are identified, registered and replaced with alternatives, if necessary
- Logistics: RETE DS IMPIANTI is able to ship products that comply fully with the packaging specifications provided by the customer

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RETE DS
IMPIANTI

Sede operativa/plant - TORINO/TURIN
Via Canonico Maffei 217/A
10077 SAN MAURIZIO CANAVESE (TO) – ITALY

Sede operativa/plant - APRILIA
Via Pontina Vecchia 189
04011 APRILIA (LT)

Sede legale/legal office
Viale Giulio Cesare 71
00192 ROMA (RM)

E-mail
dsimpianti2@gmail.com

Telefono / Phone
389.63.17.334