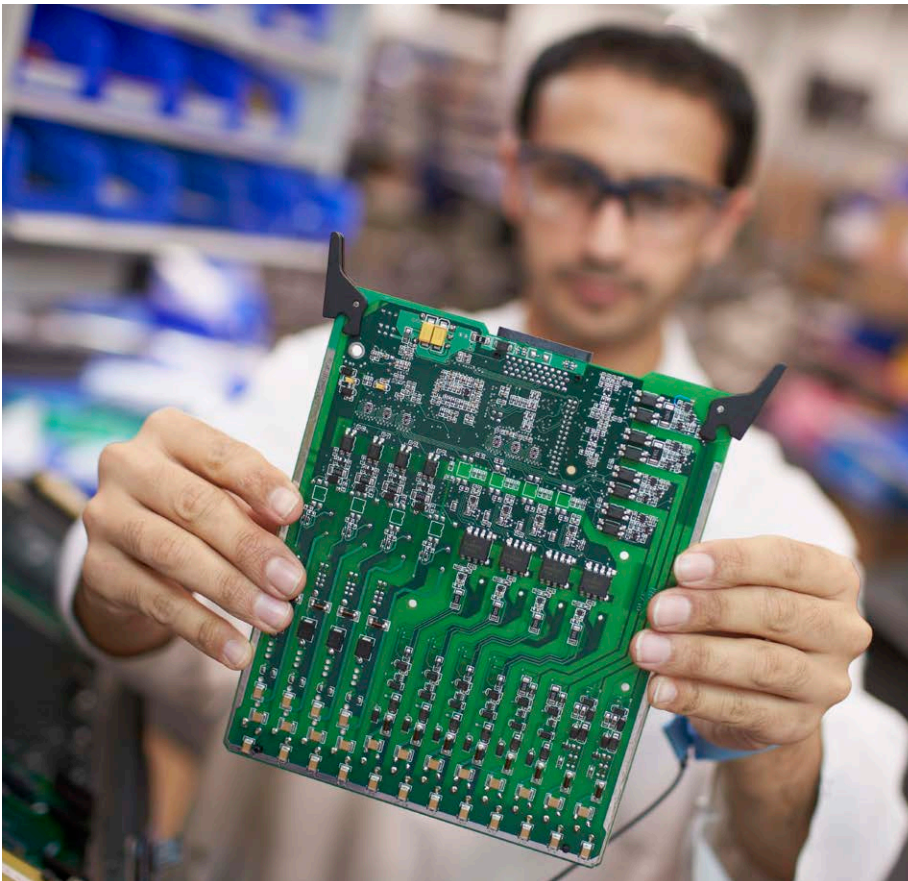




Electronic Boards Manufacturing

Your long-term & flexible electronic boards partner
for small and medium manufacturing volumes.



Based on its strong 25-years experience and its location in France, Automation & Controls, a part of GE's Industrial Solutions business, offers a wide range of services in electronic boards manufacturing. Supporting the full product life-cycle, from design to long-term support and repair, GE helps you:

- Handling complex and highly technical electronic designs (from 70s up to latest technologies)
- Outsourcing your production activities (from engineering to manufacturing & tests)
- Supplying on-time very small or medium volumes (from 1 to < 10 000 units)
- Delivering highly reliable boards compliant with the most stringent operating environments (nuclear, salted humid environment)
- Managing the long life time of your electronic equipment through spares, repairs and obsolescence management (up to 70 years)



Key figures

- Founded in 1989
- 70 employees
- 40,000 new boards/year
- 700 different board types
- 4,000 re-qualification/year
- 7,500 m² workshop area

Manufacturing Capabilities

Surface Mounted Components

- 16,000 components per hour
 - Maximum 410 x 360 mm PCB dimensions
 - Minimal component width 0.2 mm, Height between 0.08 mm and 12 mm

Manual insertion

- Components preparation: bending, cutting and insertion
 - Control and post-welding treatments

Wave selection welding

- Double processes: RoHS or non-RoHS

RoHS & Non-RoHS welding

- Up to 400 mm PCB dimension

Electronic board cleaning machine

Burning & tests

- Automatic Optical Inspector
- In-situ tests
- Flying probe
- X-Ray
- 2 Burning test ovens
- Di-electrical testing
- Functional tests

Industries covered

- Power Generation
- Transport
- Signaling
- Automation
- Defense
- Telecom

Our Customers

- Alstom Power
- Alstom Grid
- Alstom Transport
- EDF
- GE
- Phitec

GE Service Offering

Design

- Reviewing Customer specifications
- Engineering for new or reverse-engineering for existing boards
- Specification and development of tests procedures

Industrialization

- Definition of manufacturing and testing routings
- Definition of machine settings
- Manufacturing and testing of prototypes or pre-series
- Cost killing
- Feedbacks loop with Customers and design teams

Manufacturing & Testing

- Manufacturing through Surface Mounted/ Through-Hole Components
- Components welding on boards, RoHS or not RoHS rules
- Board vanishing for demanding operating environments
- Firmware uploading
- Visual controlling
- Full electronic boards testing: Automatic Optical Inspector, In-situ, Flying probe, X-Ray, Di-electrical and functional
- Electronic board cleaning
- Mechanical assembly (Face plates, racks, cubicles...)
- Individual board customization or tuning

Delivery

- In-house Factory Acceptance Tests with Customers and end-users
- Inventory management (components, semi-assembly or assembly)
- Dedicated team for each Customer
- Packing
- International logistics
- Tracking
- Forecast and KPI communication with Customers

Maintenance Repair & Overhaul

- Local Customer support with a 150 service engineer network
- On-site troubleshooting and replacement
- Repair and replace
- Board history tracking
- Technology watch
- Obsolescence management
- Long-term retainment of tooling and skills

Certifications

- ISO 9001
- ISO 14001
- OHSAS 18001
- Electronic standard: IPC-A610 Class 3
- Nuclear French standard (IPS)
- Compliance with REACH regulation

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