gaiasense

HUB

Production Line

The gaiasense HUB by NEUROPUBLIC features a state-of-the-art, fully automated electronics production line, covering a total area of 320 sq.m., housed within a specially designed space in its cutting-edge smart building. The facility is equipped with advanced automation capabilities and is available for use by companies seeking to manufacture electronic boards in an environment that meets high technical specifications.

Tailored solutions to fit your needs

The gaiasense HUB by NEUROPUBLIC offers flexible and scalable production capabilities, adapted to meet your specific requirements. The production line includes:

Electronics production unit

Covering 140 sq.m., this space operates under controlled, ESD-safe conditions and houses a fully automated electronics assembly line. It features an exceptionally high placement capacity of up to 30,000 components per hour (CPH, optimum), along with a state-of-the-art 3D Automated Optical Inspection (AOI) system. The AOI system utilizes a 10 Megapixel camera and delivers 12-layer imaging with a precision of up to 0.015 mm, ensuring the highest standards of quality and accuracy in PCB inspection.

Mechanical production facility

There is a 180 sq.m. facility, specially designed for mechanical work and the mechanical assembly of final products. It is fully equipped with electrical and pneumatic tools, workbenches with ergonomic design, abundant natural lighting, as well as staff amenities including changing rooms and hygiene facilities — all contributing to a highly efficient production workflow.

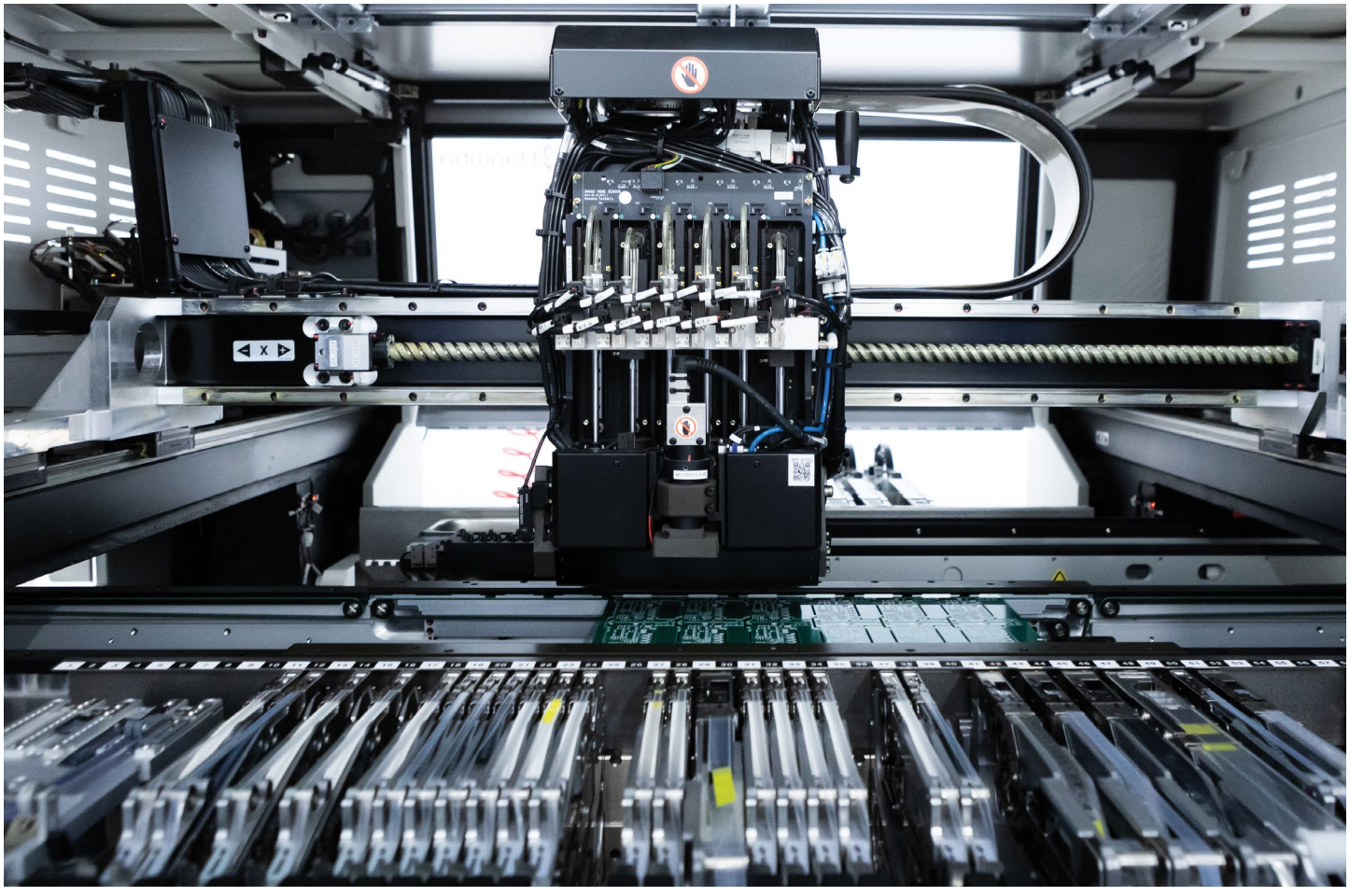
SMT reliability for demanding projects

NEUROPUBLIC's production line is equipped with high-precision SMT technology, featuring the SAMSUNG SM482 Plus system. With a placement accuracy of <40µm and a speed of up to 30,000 components per hour (CPH),it ensures both reliability and speed, even for the most demanding projects.

We support Rigid and Thick Copper PCBs, meeting common requirements for durability and power handling. The maximum supported panel size on the production line is 400x460 mm, providing the flexibility needed for small to medium production volumes.

Quality control with 3D precision

With NEUROPUBLIC's trusted quality, the production line integrates an advanced Automated Optical Inspection (AOI) system to ensure the quality and reliability of electronic circuits. We utilize the Pemtron ATHENA 3D AOI machine, which delivers high-precision 3D automated inspection, capable of detecting defects in surface-mounted devices (SMDs), solder joints, and component alignment. This system enables rapid analysis with dependable results, guaranteeing that every unit leaving our production line meets the highest quality standards.

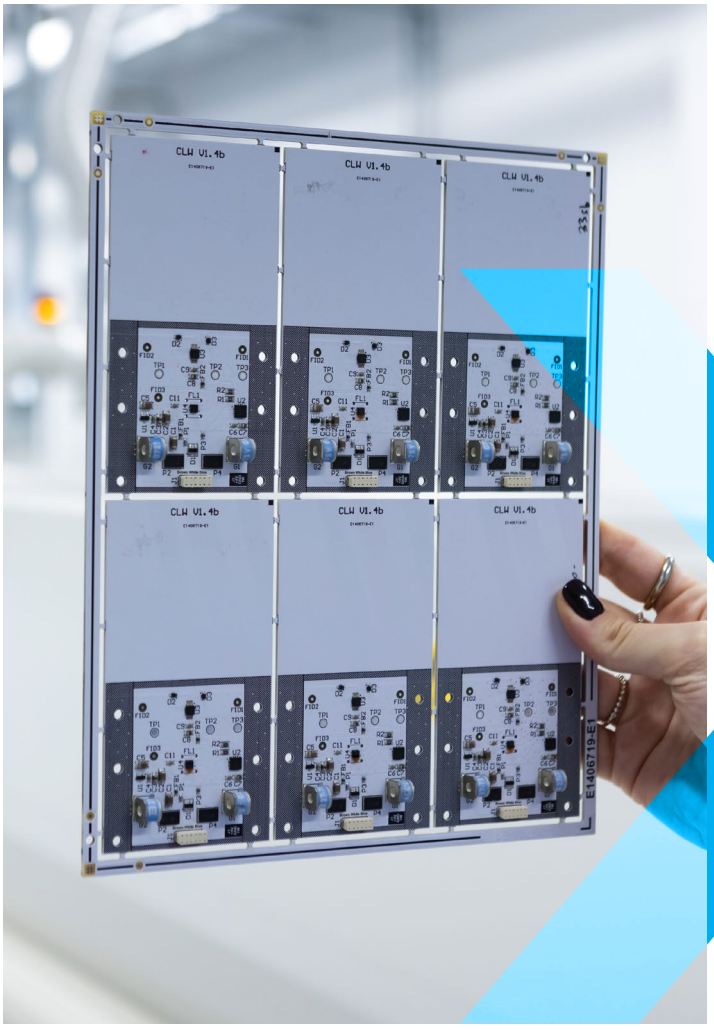


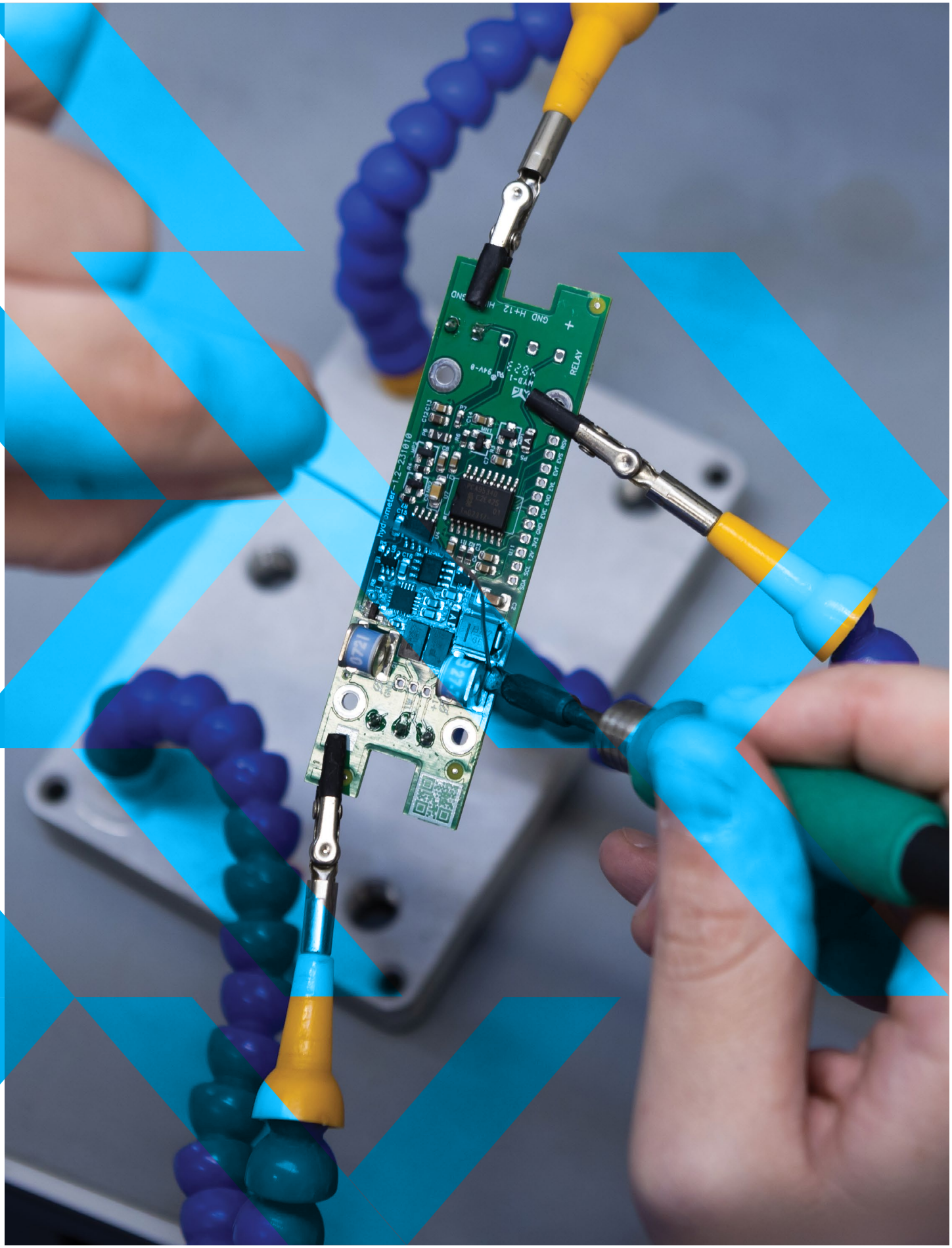

Maintenance
None
File
Print
Maintenance
Utility
Calibration
Pass
Idle
Warm-up
Double Print
Auto Align
Pause
Stop
Manual Functions
Stop mode
PCB Condition
Initial Squeegee Direction
Cleaning System
Pressure
6.000
Pumping Test
Reset
Machine Initialization
Servo Alarm
Paste Recovery
Newsync
LIGHT

The power of the supply chain

NEUROPUBLIC's production line in Piraeus offers comprehensive material management and procurement services, designed to flexibly meet your project needs. We handle the sourcing and procurement of components on your behalf, saving you time and reducing administrative overhead.

At the same time, we fully support customer-provided BOMs or consignment stock, adapting the production process to align with your project's specific requirements. Additionally, we ensure full traceability of all components and materials, guaranteeing transparency and quality at every stage of the production cycle.




GND H+12
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RELAY

From concept to production!

We offer a complete range of engineering support services, covering every stage of product development. Our team conducts Design for Manufacturability (DFM) reviews to optimize designs for efficient production, while also providing consulting services in engineering and prototype design, transforming customer needs into fully functional products.

In addition, we support functional testing, test fixture (testbed) design, and firmware programming (flashing) — ensuring your product is ready for market, both in performance and manufacturability.

We specialize in supporting prototype development for startups and hardware development labs, offering practical, hands-on expertise. We apply the same proven processes to our own in-house products, which include dozens of distinct hardware solutions.

We also offer a range of value-added services, including:

- **Mechanical component design (metal constructions, 3D printing, mold-ready designs for casting)**
- **Packaging design**
- **Product labeling**
- **Intellectual Property (IP) management**
- **CE Compliance Declarations**
- **Certification and testing based on industry standards**
- **Waterproofing and ingress protection testing (e.g., IP65 compliance)**

We deliver quality through processes and certifications

To ensure the reliability and functionality of our products, we implement advanced quality control procedures, including Automated Optical Inspection (AOI), Outgoing Quality Control (OQC), and functional testing using testbeds prior to shipment. Every stage of the production process is carefully monitored, aiming for optimal performance and zero returns. With over 20 years of experience in the technology sector, NEUROPUBLIC guarantees high-quality solutions that meet the demands of every project.

Equipped with state-of-the-art machinery and fully automated facilities, the production line benefits from the latest available technology, laying the foundation for new growth opportunities.

The "Agriculture with Intelligence" Case Study in numbers

As part of the project for the Digital Transformation of the Agricultural Sector, our production line manufactured a total of 19,500 electronic products within 4 months, assembling them into at least 3,050 stations. Specifically, the following were produced:

- 3,250 complete multi-sensors for atmospheric data, "ATMO"
- 7,500 complete multi-sensors for microclimate foliage data, "LEAF"
- 3,250 central units for telemetry data collection stations, "gaiaTRON"
- 3,250 remote control units, "E-VALVE"
- 3,250 interface units, "IO-Bridge"

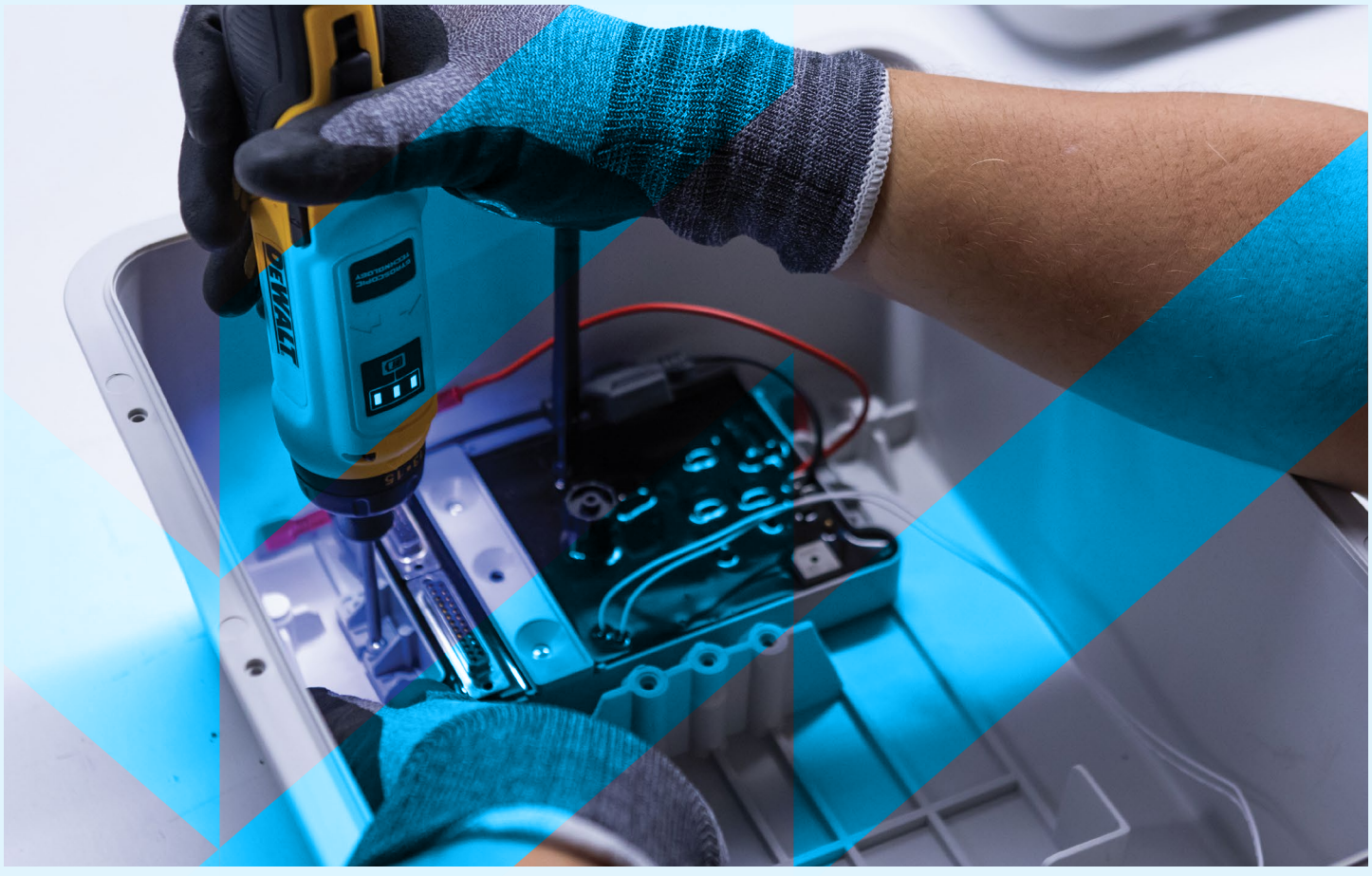
A total of 6 units are used per data collection station for the needs of this project. Additionally, 15 people are employed on the production line, with the following specialties:

- 4 Engineers (Electrical, Mechanical)
- 3 Electronics Technicians
- 8 Assembly Technicians

The SMD component assembly line places 30,000 components per hour and can produce 12 "LEAF" boards in 13 minutes.

The first-pass quality inspection success rate was 99.7%.

Finally, it is worth mentioning that no stations required rework or reconstruction.



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NEUROPUBLIC

Precision.
Automation.
Innovation
at Scale.

gaiasense

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