



YOUR EXPERT PARTNER IN FACTORY AUTOMATION



ABOUT IPTE

Today, more than ever, manufacturing companies are facing increased demands for lower cost, high quality products and faster delivery times to meet new and emerging market needs.

The drive to automation and the requirement to optimize production equipment means that IPTE customers have to meet the market's demands to be flexible, agile and responsive to technology and technology changes.

IPTE supplies automated production equipment around the world for the manufacturing industry. We offer standard systems, custom-designed assembly systems and turnkey test and automation that ensures high-quality products, delivered on time and on budget.

Our investment in people and hardware is complemented with our development of new software drivers critical to our industry, like Industry 4.0.

Our mission is “To be the leading, independent, global factory automation partner to the electronics and mechanical manufacturing industry”. We do this by providing a reliable service, with core competencies and support around the globe.

Our strategy to fulfil this mission is based on customer care, leading technology, excellent price/performance and a worldwide presence. IPTE's emphasis on quality, service, expertise and cooperation has built a dynamic organization, with convenient regional locations.

***To be the leading, independent,
global factory automation
partner to the electronics and
mechanical manufacturing
industry”***





WHAT MAKES IPTE DIFFERENT

IPTE's proven expertise in process technology allows us to stand out. You benefit from our extensive knowledge and expertise. A customer-focused approach helps IPTE meet your project requirements. Your success is based on IPTE looking to your needs from a process perspective.

Customers rely on IPTE's leading technology and expertise in factory automation, coupled with consultancy, on-site support and after-sales services.

MARKETS WE SERVE



Automotive



Consumer



E-mobility



Industrial



IT / Telecom



New energy



Smart home

TRUSTED BY CUSTOMERS AROUND THE WORLD

IPTE is present worldwide, with factories in close proximity to customers' manufacturing sites, each providing 24-hour accessibility and fast responses. Long-standing partnerships with customers enable a continuous evolution of equipment and technology as we together identify new opportunities. We constantly assess new processes and process improvements to offer competitive automation solutions.

OUR UNIQUE APPROACH

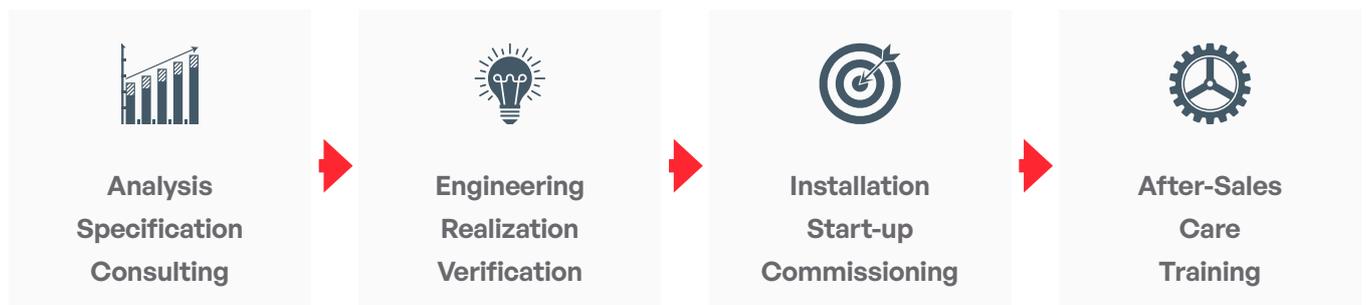
IPTE offers 3 core competences in-house, to meet customers' requirements.



Our engineers examine the customer's specification for optimization possibilities, based on our considerable expertise in testing, processes and assembly. Our competences cover most factory

PROJECTS

'EARLY INVOLVEMENT WITH THE CUSTOMER'



IPTE stands out by offering

- A customer-focused approach to provide a reliable, tailored solution.
- Testing, production processes and assembly all in-house.
- High levels of customization. In addition to standard stations, IPTE accommodates all our customers' needs with ease, and offers semi- or fully-customized stations as and when required.
- A worldwide presence.

CORE COMPETENCE

TEST SYSTEMS

COMPREHENSIVE TEST FACILITIES

Since 1992, IPTE has provided comprehensive, high-quality manual to in-line test systems and applications for PCBs and final products.

Multi-disciplined teams provide basic or turnkey solutions in technology areas as diverse as automotive, telecommunications, industrial, consumer and medical applications among others.

Test capabilities include manual, semi-automated and automated test solutions with optimal test coverage. Hardware, software, process and management aspects range from test handlers to test systems, fixtures, application programs and tooling.

IPTE offers a broad expertise on test technologies for your state-of-the-art products. You are invited to challenge us: we thrive on working in partnership to help you find the right test solution for your projects.

Test capabilities range from design for testability, test engineering, installation and start-up support, to training, process improvements and repair assistance. Testing is available at test-onboard level (in-circuit, flash and functional), sub-assembly, and on assembled products (end-of-line testing, burn-in, stress screening).



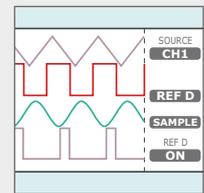
ICT / Boundary Scan

Detected using an in-circuit and boundary scan tester, from a broad portfolio, IPTE offers turnkey solutions covering handlers, fixtures and application.

IPTE has automation solutions available for Acculogic, Checksum, DigitalTest, Dr. Eschke, Elowerk, Göpel, JTAG, Keysight, SPEA, Teradyne, XJTAG and more.

Functional Test

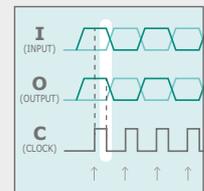
Functional test systems have an open, modular hardware platform, based on IPTE's proprietary test electronics or rack-and-stack equipment, PXI standards or PC-based solutions.



IPTE's EasyTest software platform provides customers with an easy to use, fast, efficient tool to develop new applications in the shortest possible time.

Flashing

IPTE offers a range of solutions to download software from low- to high-volume production environments, on PCB to final product level.

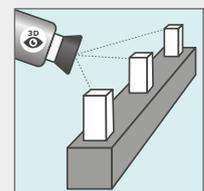


EOL (End of Line) / Final Test

End-of-line testing refers to the final verification process where assembled electronic products are tested for functionality and compliance with specifications before shipment or installation. It ensures that each unit meets quality standards and operates as intended, preventing defective or substandard products from reaching customers. Contacting final products requires specific automatically inserted connector solutions with low-wear, high-contact reliability.

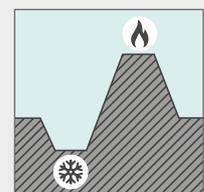
Vision Inspection

Vision inspection can be implemented in any step in the product assembly process. These steps include 2D and 3D measurements of the product such as inspection of connector pins for presence and straightness, glue bead...



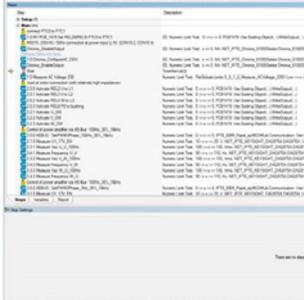
Temperature test, Burn-in and Run-in

In-line and off-line systems to handle PCBs or final assemblies. Products can be checked at temperatures down to -40°C and tested up to $+125^{\circ}\text{C}$. Burn-in solutions can be adapted to fit final products for lifetime measurements.



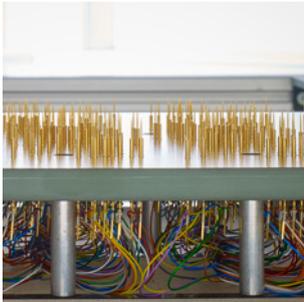
CORE COMPETENCE

TEST SYSTEMS



Application

The complexity of Printed Circuit Boards (PCBs) has increased dramatically with the use of surface-mount technology. The manufacture of double-sided boards densely packed with very fine pitch devices is complex, as is the identification of faults on these boards. IPTE provides the full range of test applications for In-Circuit Test (ICT), Boundary Scan, Flash, Functional to Final Test within all renowned platforms to verify for your state-of-the-art products.



Fixtures

IPTE offers a range of test fixtures for a secure test environment, including shielded environments using a Cage of Faraday to test RF products, such as smart devices, Bluetooth modules and remote applications. Manual, vacuum or pneumatically-operated test fixtures are available for in-circuit functional testing or programming. For optimal results, IPTE can customize in-line test fixtures for its complete range of test handlers.

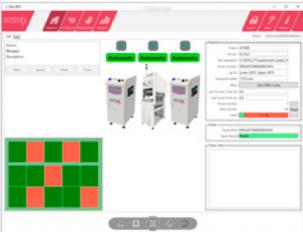




Handling

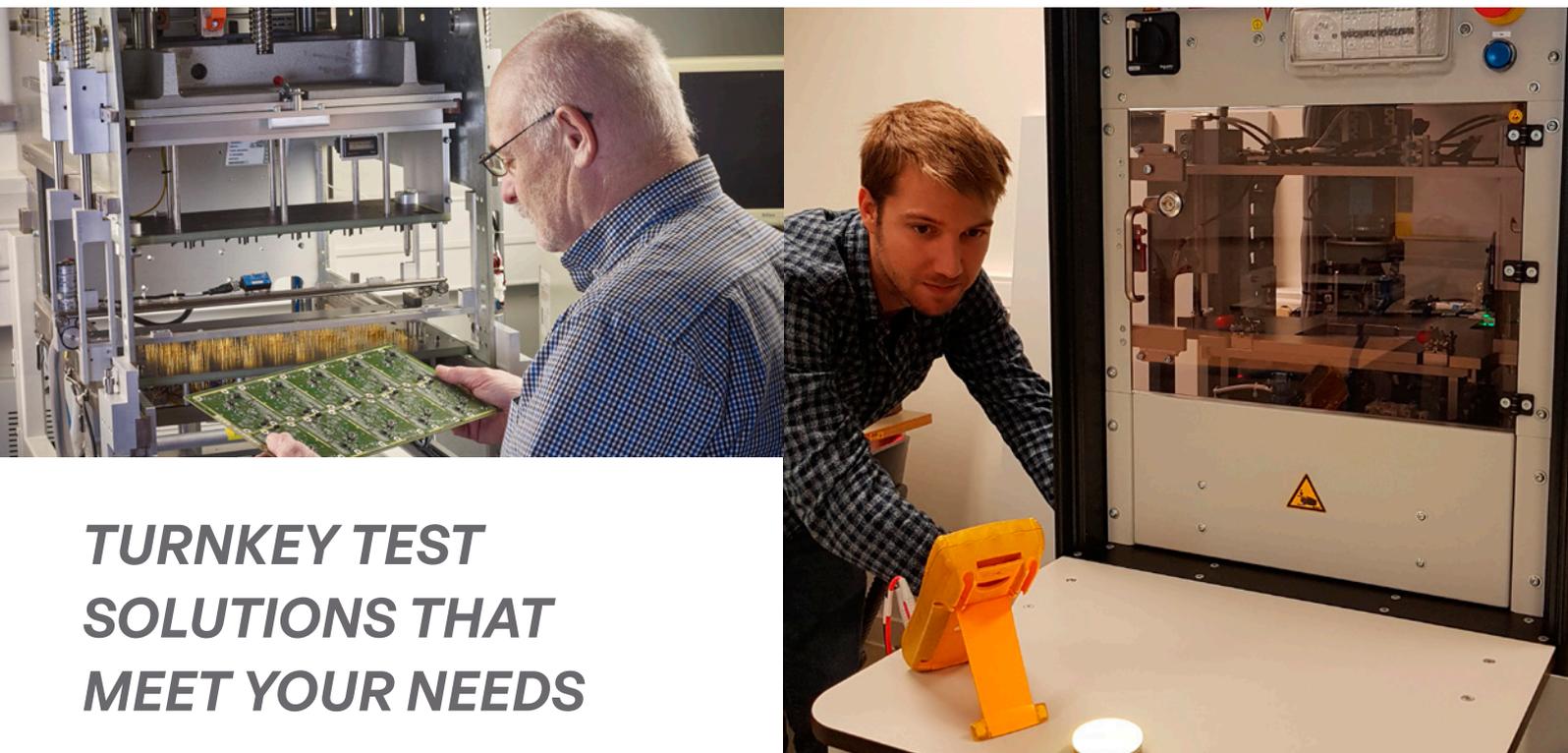
For high volume manufacturing, IPTE has a range of automatic, in-line test handlers that comply with specifications for RF and vision applications and all industry protocols.

Manually-operated test systems, such as workstations and turntable-and drawer based test handling, are available for low volume production or low labor cost environments.



User Interface

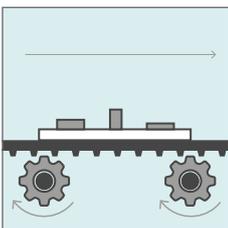
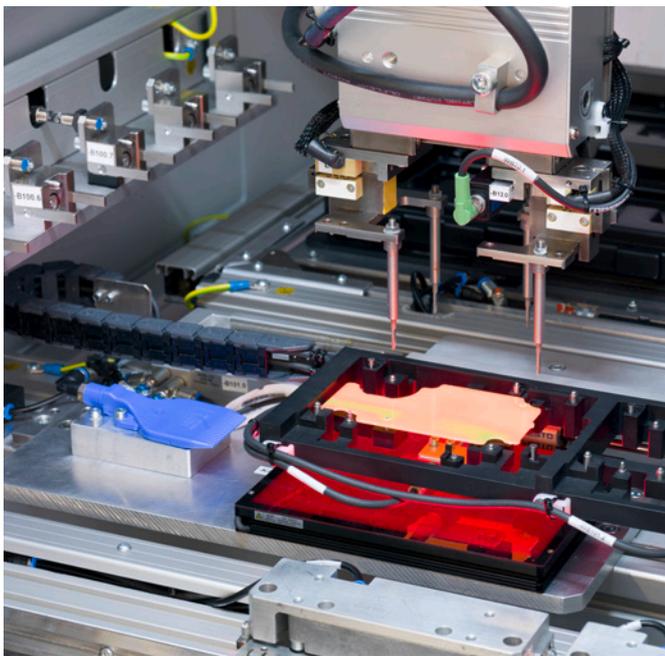
For IPTE's testing solutions, EasyTest was developed. This cutting-edge software naturally complements IPTE's software lineup. Its intuitive interface is instantly recognizable to operators, demanding minimal expertise. EasyTest bridges the gap with various external test platform, ensuring consistent translation and display of test outcomes.



**TURNKEY TEST
SOLUTIONS THAT
MEET YOUR NEEDS**

PRODUCTION PROCESSES

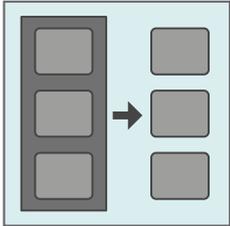
IPTE understands and has expertise in specific industries. It adds value by assessing the customer's needs from the process angle. IPTE solutions are economical in footprint, cost, have an excellent return on investment and embrace all the latest concepts in lean design. The system is controlled using IPTE's user friendly interface TS1. The communication between all equipment is done by IPC standards such as SMEMA, HERMES and CFX.



Conveying

IPTE's portfolio of the Easyline equipment includes all necessary modules for the efficient handling of boards in electronics manufacturing lines; from SMT to back-end lines. Our systems are based on years of PCB handling experience. Large, medium and small sizes are available.

Conveying solutions for hybrid boards can be used to link multiple bonding stations for parallel operation.



Depaneling

IPTe depaneling systems are designed to singulate individual PCB's from a panel by means of a high speed, low stress process. A large variety of routing is possible: top or bottom, routing with saw, router bit and laser; each process type offering a robust solution to the market. For use in all production environments, they can be seamlessly integrated or used as standalone tools (and operated using cobot/robot).

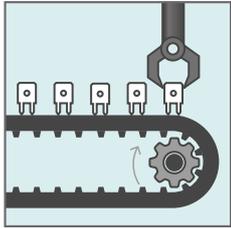


Dispensing

Dispensing is available for single, or multi-component dispense solutions. Integral indexed motion dispensing systems are used for liquids or solids. A programmable servo axis delivers X-Y motion. The automation platform handles the most demanding assembly requirements. It can be used standalone or integrated and provides maximum performance and capability on using standard machine platform.

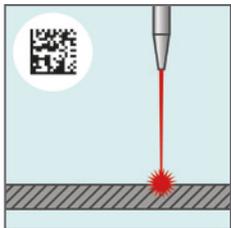


PRODUCTION PROCESSES



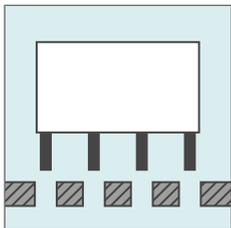
Feeding

IPTe's component feeding solutions cover stick, axial, radial feeding and tray feeding. For odd-form components, feeders can include cutting and forming tools, vision for polarity check and buffering, for high-speed applications. All IPTe feeders are compatible with renowned SMD placing machines and can be integrated by 3rd party equipment manufacturers.



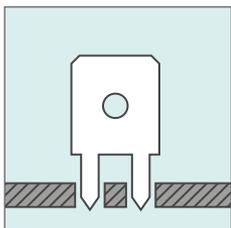
Laser Marking

Essential for traceability in components, boards and products, the marking process is integrated seamlessly into the production line, without workflow interruptions. IPTe provides both laser and labeling systems for direct marking onto board assemblies or products during the manufacturing processes. The portfolio includes 1D/2D, text and graphics on PCBs (top and bottom), metals, plastics and ceramics followed by an optional verification check. IPTe laser markers utilize the latest state of the art CO₂, YAG, YVO and Fiber lasers.



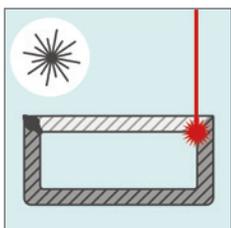
Odd-Form Component Placement

Equipment designed to automate placement of odd-form connectors and components. Systems can be designed to be used with various feeding types. Machines are equipped with servo-gripper and vision tools.



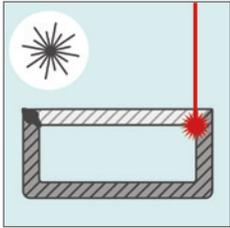
Pin Insertion

The high-speed pin insertion machine places variously-shaped contacts into a PCB. Pins can be designed for soldering or press-fit connections. A servo-controlled placement head combines speed with accuracy and insertion force control.



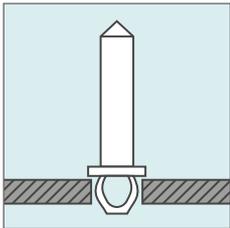
Laser Metal Welding

IPTe offers state-of-the-art metal weld by means of a laser. A single clamping system will ensure a good contact between the terminals. Welding process will be performed over each part located under the clamping unit. A camera with crosshairs to aid/accurate setup of the welding coordinates is integrated in the laser optics, where auto-correction will be active to compensate the location of the terminals. This allows the system to automatically centering the welding Lines resulting on a better welding process.



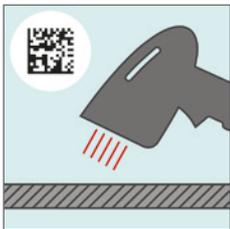
Laser Plastic Welding

Today's products require more high quality and precise sealing. IPTE's laser expertise is available for competitive automated laser plastic welding. The optimal and closed loop welding process utilizes high speed scanning for quasi-simultaneous welding. Included is a low cost quick exchange clamping mechanism, collapse measurement, laser power and force control during the welding process. The clamping lid supports inner and outer surface and a cooling system improves process control and cycle time.



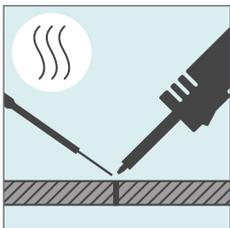
Press-Fit

A high force placement machine inserts connectors and components with multiple connections onto the PCB, controlling the insertion force and stroke.



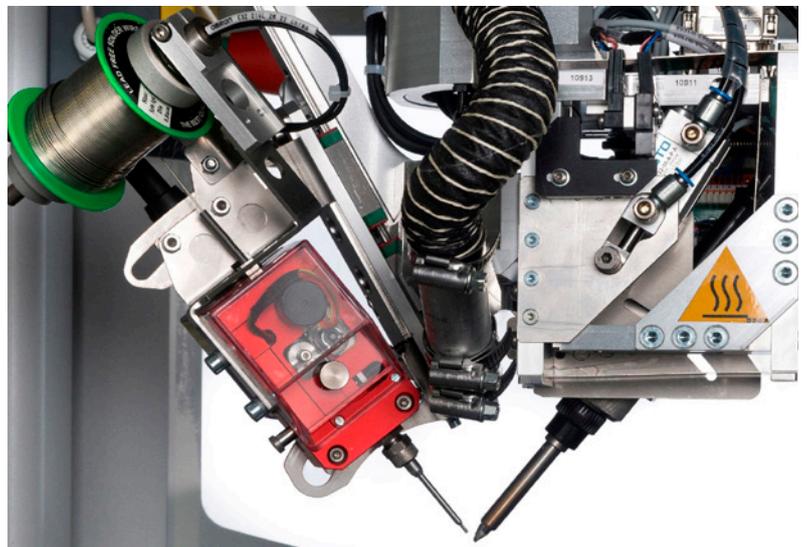
Scanning

To meet your challenges in handling multiple DMC codes on one panel at multiple locations, IPTE provides an automated scanning system to read all the codes at (predefined) locations according to free programmable scripts. This enables very short product change-over as the readers do not need adjustment. The scanning systems can also be equipped with vision for 2D and 3D inspection.



Soldering

A selective wire soldering production cell targets demanding soldering processes on PCBs (from the top), hybrid ceramics, flexfoil and many more substrates. The system can be used for soldering on PCB assemblies that are already incorporated into unit housings. This feature makes the soldering cell a highly flexible solution compared to other soldering machines on the market.

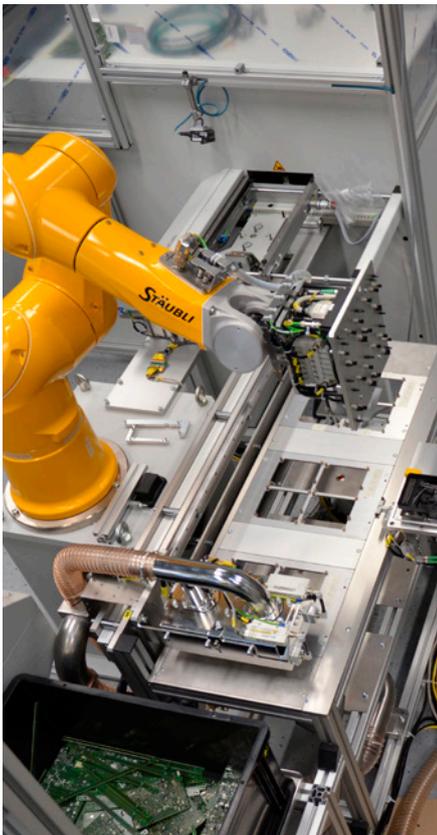


CORE COMPETENCE

ASSEMBLY

FLEXIBLE AND EFFICIENT

IPTE's assembly solutions are simple, economical, efficient and flexible. The comprehensive offering covers standard assembly, pallet-based systems and lean solutions, with proven systems and innovative emerging technologies included. Blending Industry 4.0 and efficient working practices, IPTE's portfolio can meet specific requirements, with elements that have the flexibility to be adapted for project-specific needs.



Standard Assembly

Standard assembly cells enable complex lines to be built. Capacity or integration levels can be increased as required by adding assembly cells. Modularity guarantees flexibility. Machines can be easily adapted to meet specific requirements. Product-specific applications can include loading and unloading, clinching, marking, pressing, screw fastening, sorting and packaging, or any other process. The standard assembly cells are tailor-made for the design and installation of automated stations – from simple working heads to advanced, high performance equipment.

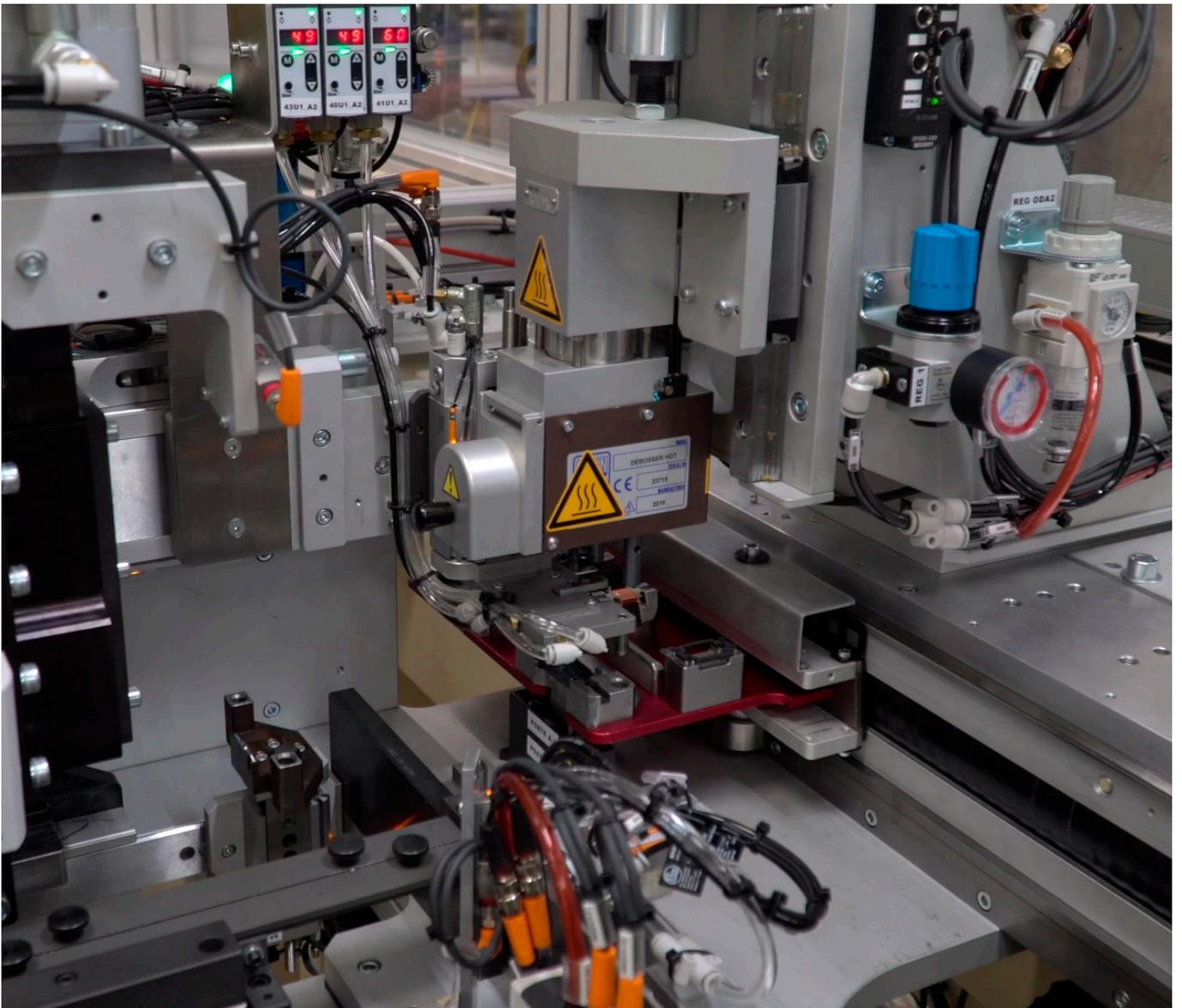
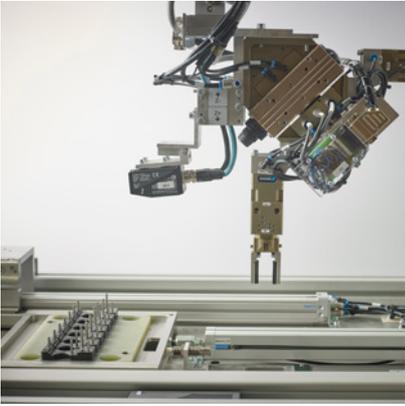
Pallet-Based Systems

Designed for continuous material flow in high-volume assembly lines, IPTE's pallet-based systems offer plug-and-play modularity. A main conveyor and cells can be positioned serially or in parallel in an assembly line. A basic cell operates with specific robots or with pre-defined software. The modular system can be adapted or extended (or even re-used) to handle different products or quantities. As self-contained units, IPTE's pallet-based systems can be equipped and tested off-line. Ready-to-run stations can be plugged into the assembly line in a matter of minutes.



Lean Solutions

A range of Lean solutions is available with different levels of automation. All IPTE's Lean solutions achieve the Lean manufacturing goals of higher throughput with minimum inventory.



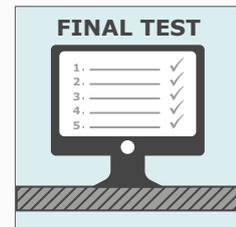
CORE COMPETENCE

ASSEMBLY

A range of process assembly solutions offered by IPTE includes

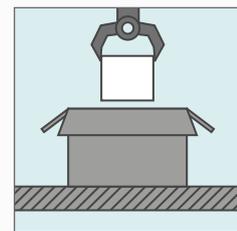
Automatic test

Automating production improves quality. Automating final tests makes quality control independent of the human factor and guarantees zero defect. Traceability is a major asset in your quality assurance system. For this reason, the pallet's RF memory tag stores not only the origin of parts and the production parameters, but also the individual results of any measurement carried out. The resulting comprehensive traceability record is then downloaded to a database.



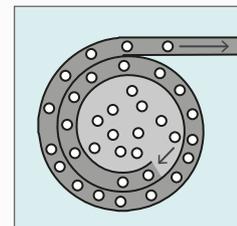
Packaging

The final stage of many production lines is storage of products in a variety of containers (such as magazines, trays, boxes). Some products are even stored in individual boxes which in turn are stacked on a pallet. Each individual box receives an identification label for traceability. Trays can be combined in tray stacks. Automated Intelligence Vehicles (AIV) transfer the packed products to the warehouse for processing.



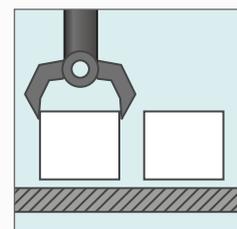
Part feeding techniques

Automatic part feeding is a basic component of assembly machines. Efficiency of a system and its profitability, directly depends upon the performance of the feeders. Our feeders are designed to permit efficient feeding and placement.



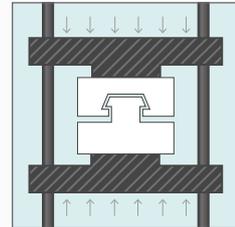
Pick and place

High-speed pick and place robots take your product from one location to another with pinpoint accuracy. Human pick and place applications require repetitive motion over a long period, whereas robots can increase efficiency and reduce production costs and ergonomic issues.



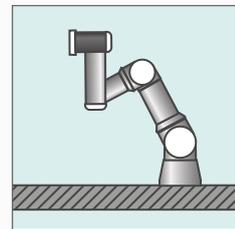
Pressing

IPTE standard modules are equipped with a standardized four columns and platform mounted structure together with a lower anvil to support pallets during pressing operations. In this way, it is easy to integrate pressing into your production line.



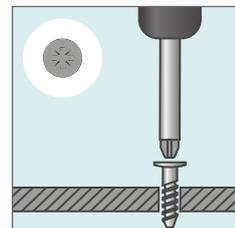
Robotics

To maximize links with external machines and especially with automatic testers, IPTE has implemented Hi-Speed linear robots. Standardized electronic and mechanical interfaces support robots from the industry's major brands. The new generation of Cobots provide a new way of thinking for your application, permitting a Cobot to work closely with operators.



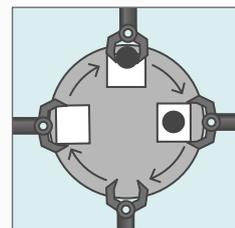
Screw insertion

Tightening equipment is provided with travel, torque and angle control devices which monitor the screw process. Additionally, sensors control the screw height after the operation is completed to ensure good results.



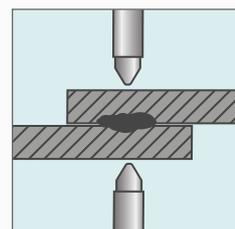
Turntables

IPTE's turntables offer a significantly larger central opening for operator or robot feeding yet maintain the same external dimensions to simplify system design. Using a suitable control system further reduces the cycle time. Rotary tables can be pneumatic or servo based. The number of indexes is optimized for the number of parallel processes.

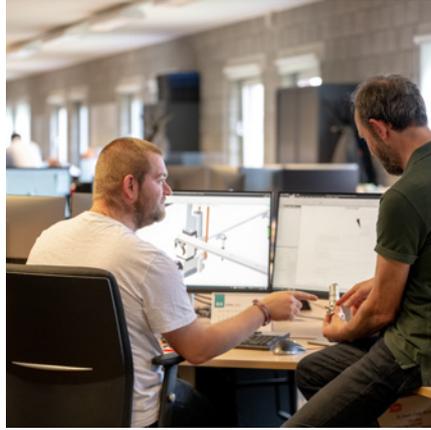


Welding

Welding, whether ultrasonic, laser or resistance, is a typical assembly operation. Integrating robotics means it can be adapted for a faster and more accurate process.



SERVICE, SOFTWARE AND SUPPORT



Consultancy

Engineers act as partners to customers, working on the principle that early involvement results in a versatile, innovative solution.

Project Management

A single contact is responsible for communicating a project's requirements and ensuring they are implemented.

Design and Realization

CAD systems and proprietary software turn ideas into practical solutions. Systems are manufactured and assembled by skilled mechanical and electrical technicians and software specialists in our ISO9001-certified facilities.

Software Support

IPTE invests in developing proprietary software, based on its many years of experience in automation. Software meets all of today's known customer needs and can be adapted when required.

- Proprietary controller software, TS1, configures standard equipment to specific requirements. It is available on all IPTE equipment and provides a common HMI and work method.
- Intelligent software, MES, allows the system to execute manufacturing based on upstream results. It adds information for use in downstream processes. Information is accessed via the CFX interface and converted into OML.
- 3D modelling software simulates dynamics behavior to produce a virtual image of the manufacturing line, to identify specific areas of interest.
- Test lines are monitored and controlled with TS1 EasyTest software.
- Digital Twin and Virtual Components software models the project and simulates performance.

After-Sales Service

IPTE maintains our customers partnership with customized service, warranty and preventative maintenance contracts, software updates, training and 24-hour support.



Overview of IPTE's service capabilities

- Full Service Concept
- Problem analysis
- Co-engineering
- Facility planning
- Technical design
- Execution
- Line assembly
- Line installation
- Trial run
- Training: for customers, operators and maintenance teams
- After-sales service
- Maintenance/repair: spare parts, preventive maintenance, corrective maintenance
- Software updates

WORLDWIDE



PRESENT NEAR YOU

IPTe is headquartered in Genk, Belgium, and has production plants, sales offices and service centers on three continents. We are therefore close to you – wherever you are located. We speak the same language as you, are in the same time zone for 24/7 support, and offer a short response time.



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