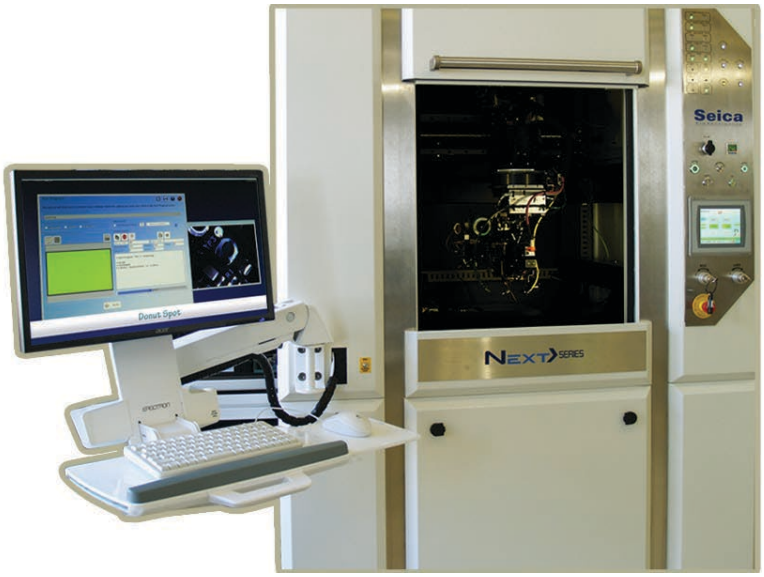
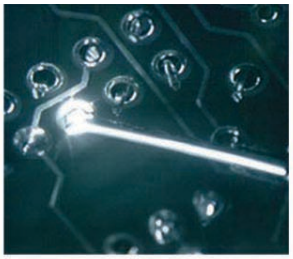
Seica

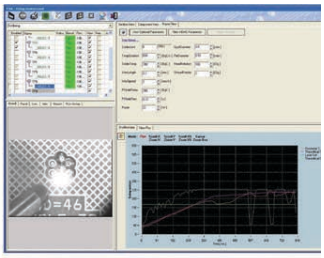
After many years of development and several installations worldwide, the Firefly line has completely redesinged its architecture, taking a major step forward and setting the way for the **NEXT> generation**.

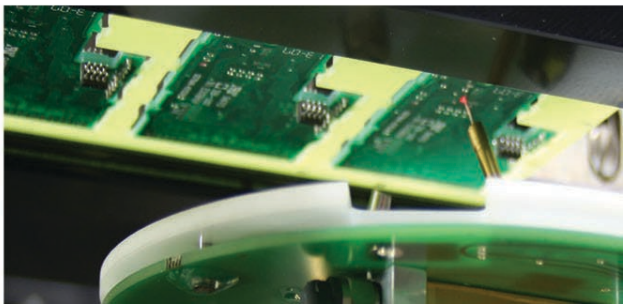
FLEXIBLE AND CONSTANTLY MONITORED PROCESS

The **Firefly NEXT>** line offers an excellent alternative for the selective soldering process, taking full advantage of laser technology to provide a clean and efficient solution. The modular hardware architecture of the **Firefly NEXT>** systems, combined with its sophisticated software, enable deployment in different **manufacturing environments:** multi-product, which require flexibility and fast setup times, or high-volume production, where process control and repeatability are key. **Firefly NEXT>** introduces a ring shaped orthogonal laser beam: “the donut spot”, to improve the focusing of laser energy where required, and offering suitability for pads with different shape and size, providing clear advantages in terms of applicability and process repeatability.
A minimized footprint, efficiency and cleanliness (low maintenance), accompany a flexible, monitorable and certifiable soldering process, making the **Firefly NEXT>** Selective Soldering System the ideal soldering solution to resolve manufacturing issues, both in EMS (Electronic Manufacturing Services) and OEM industries, such as **Automotive**.



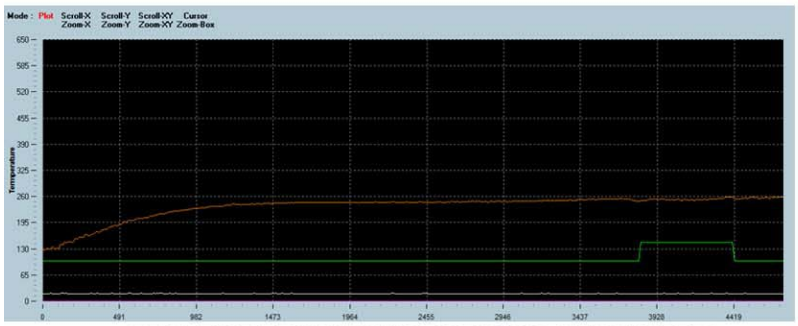




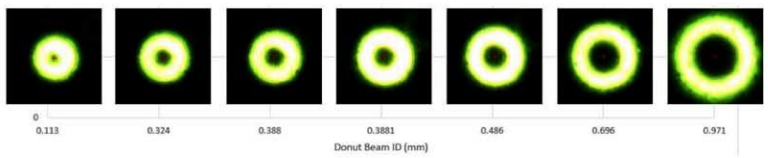


ADVANTAGES OF LASER TECHNOLOGY

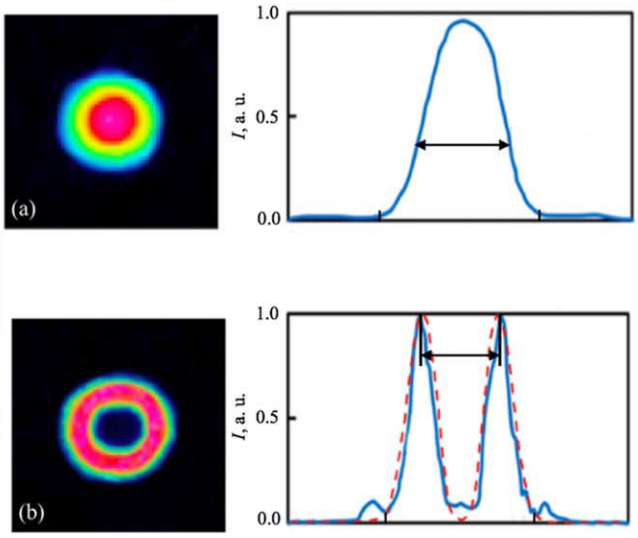
Allows point to point adjustment of the power and tin wire needed for soldering; the absence of thermal inertia of the laser combined with real-time temperature readings, **enable the dynamic correction of the thermal profile**.



REAL TIME TEMPERATURE READING (PYROMETER)

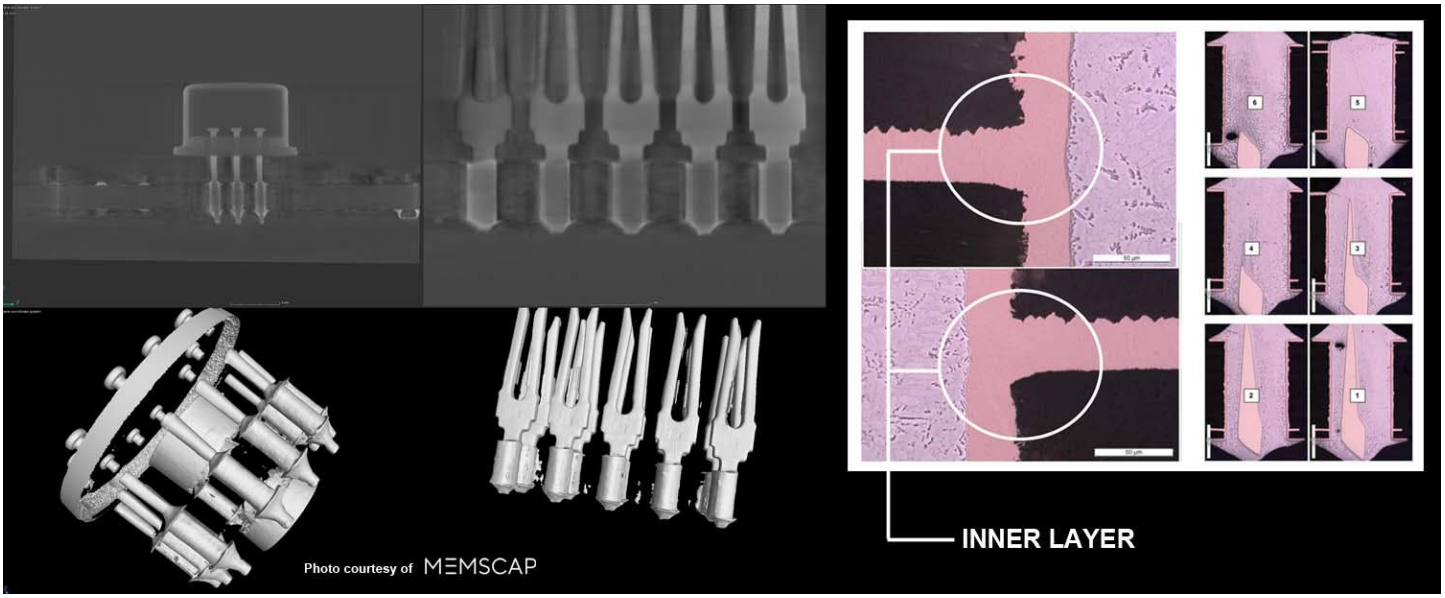


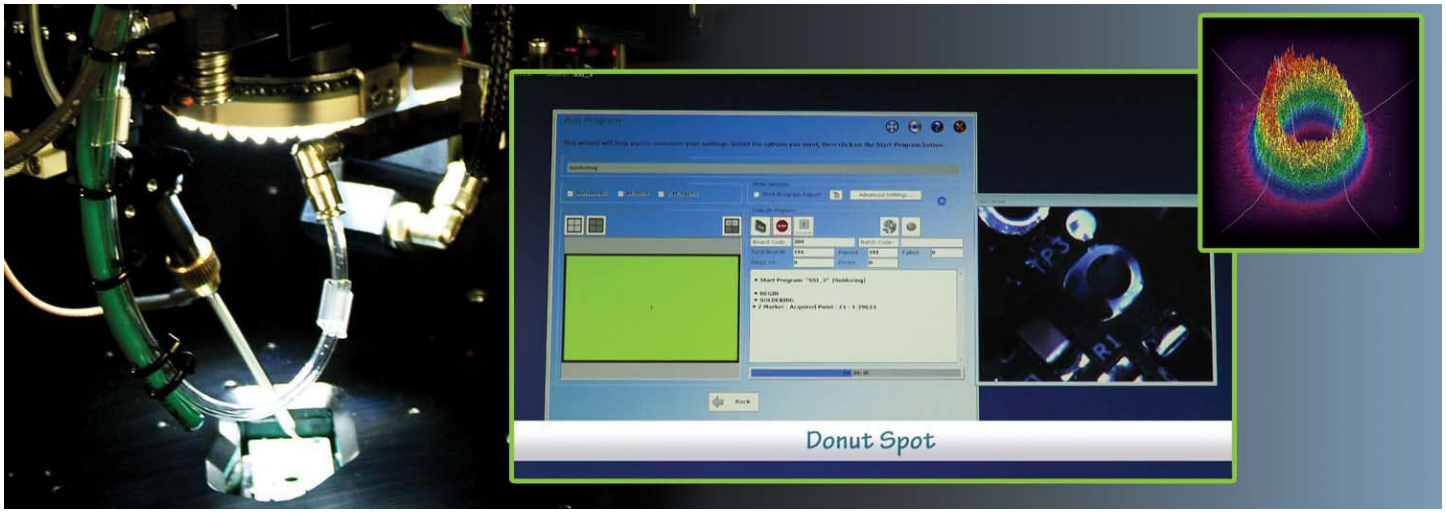
PRECISE SPOT SIZE REGULATION



FULL BEAM VS DONUT BEAM ENERGY DISTRIBUTION

- The orthogonal position **improves the energy transfer** in desired area
- The donut beam allows to **radiate energy only on the pad** and not on the hole, preventing damages to components and harmonizing the temperature of pin and pad.
- The **ability to manage the spot size, laser power** during the entire soldering process (pre heat – soldering – post heat), together with **tin wire delivery**, provide full flexibility to process all possible soldering scenario.
- Changing from “Lead” to **“Lead-Free”** soldering is simply a matter of changing a spool of solder wire.
- The laser soldering process **is clean**, which eliminates the need to clean, and subsequently handle, the processed boards, and the power consumption of the Firefly **is extremely low** compared to other types of soldering technologies.
- The **Firefly** systems are ready to solder as soon as they are switched on, without preheating, making them an **extremely flexible tool** in a manufacturing environment.





DIVERSE SOLUTIONS

The soldering head, which is the core of the system, is common to both the **Firefly B60** and **T60 NEXT>** machine configurations. The two solutions are characterized mainly by the side of the board where processing is performed: the **BOTTOM** solution, where the soldering process is carried out from below the PCB, and a **TOP** solution, where the soldering process is carried out from above the printed circuit board.

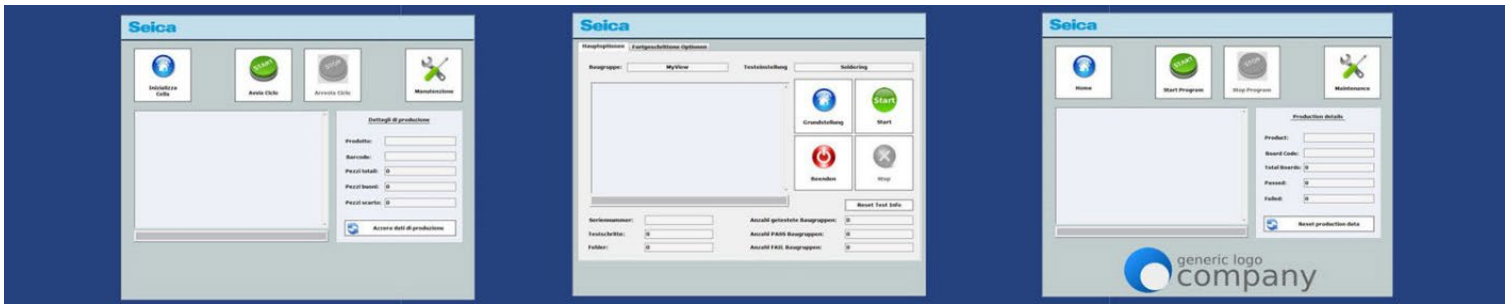
This configuration is particularly suitable for automated processes where the system is integrated into high-volume production lines, as well as in those cases where the products to be soldered are continuously changing and Lead" and "Lead-free processes are often mixed.

CUSTOM SOLUTIONS

As a global partner, **Seica** is able to design and customize specific solutions for its customers also for the sector of laser selective soldering.

VIVA: A GROWING SOFTWARE

The **Firefly NEXT>** is managed through the **VIVA software**, common to all **Seica** systems. By means of its intuitive graphical interface, the software guides the programmer. When CAD data are available, the software can import the coordinates automatically, otherwise, the coordinates of the points to be soldered can be acquired through the camera. **VIVA** will automatically generate a soldering program, optimized according to the geometrical and dimensional characteristics of the points to be soldered, allowing to modify the soldering parameters. All the soldering parameters can be stored in libraries to be used in other programs.

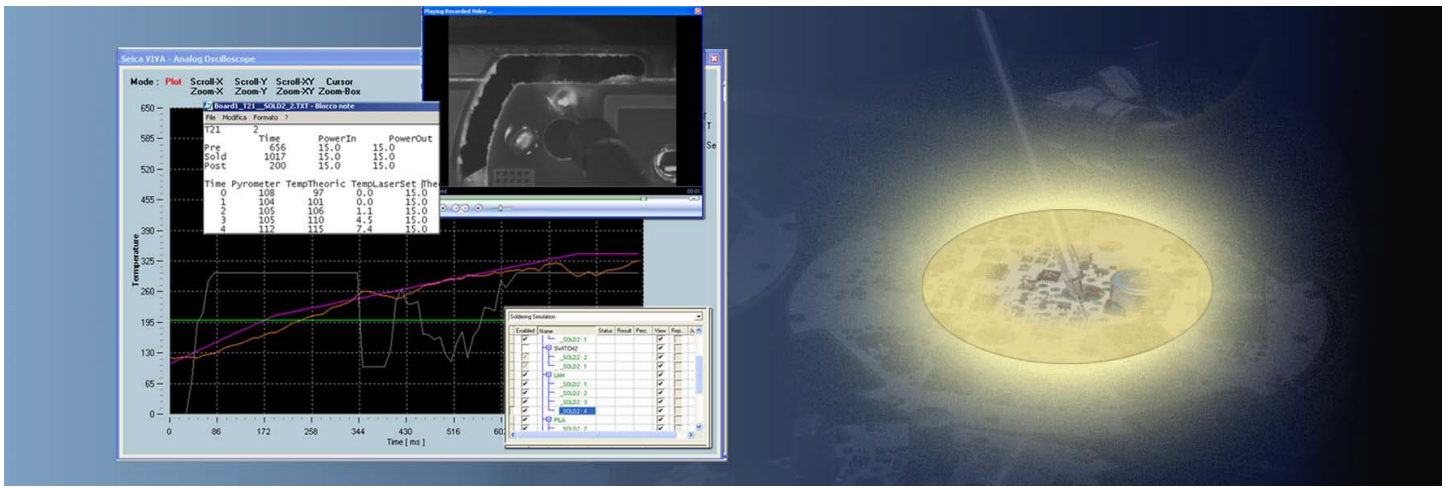


MYVIEW

An innovative graphical operator interface is available, specifically designed for manufacturing environments, which allows the customization of the layout of the control buttons and the information displayed on screen, translatable into any language.

PROCESS TRACEABILITY

Process traceability is ensured by the possibility to collect the video recording and thermal profiles acquired for every solder joint, and to associate them to the serial number of the printed circuit board. The collection of this data is also valuable as a debug tool of the soldering process.



INDUSTRY 5.0

The **Firefly NEXT>** has all of the capabilities needed for implementation in any Factory 5.0 scenario, providing the possibility to plug in any proprietary or third party information system to achieve the desired goals.

ENVIRONMENT-FRIENDLY

With a maximum power absorption of 2.5 KW/h, the Firefly NEXT>Series is easy to manage and maintain. In addition, the utilization of flux-based soldering alloys eliminates the need to use external fluxing stations, as well as the necessity for nitrogen. The consumption of solder alloy is limited to the amount applied to each joint, generating zero waste and eliminating disposal costs.

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