

Innovation Days 2019 - Prima Industrie presents the new generation of systems for Additive Manufacturing in its new Advanced Laser Center

- *During the "Innovation Days 2019" event, which hosted more than 300 visitors at the Prima Industrie Headquarters in Collegno (TO), the Group opened the doors of its Advanced Laser Center, the new facility of about 4000 m² dedicated to research and innovation of advanced laser manufacturing systems.*
- *During the event the new solutions for metal additive manufacturing by Prima Additive, the division of the Prima Industrie group specialized in turnkey solutions for the Powder Bed Fusion and Direct Energy Deposition technologies, were also presented.*

Collegno - 22-23 October 2019 - The second edition of the Innovation Days, the international event dedicated to innovative technologies for Additive Manufacturing and sheet metal processing, was held in the new Advanced Laser Center of Prima Industrie. Over 300 guests, including customers, universities and research centers, were welcomed to the event.

The 4000 m² of the Advanced Laser Center are dedicated to the new research and innovation laboratory of advanced laser production systems. The premises are built with the latest sustainable building criteria and uses geothermal systems and solar panels to minimize environmental impact.



The new facility is part of a wider program for the renewal of the group's sites in Torino area, which began in 2016 with the construction of the new Collegno Headquarters and Tech Center, which will be completed within the next year with the construction of the new production plant for laser machines, currently located in another area of the city. The total investment on the territory is around 25 million euros and will allow Prima Industrie to increase efficiency bringing the sites closer together in a single large complex, improving the customer experience in the areas dedicated to visitors, and being able to count on more modern and organized work environments.

During the Innovation Days 2019 the new generation of systems for the additive manufacturing of metal components by Prima Additive, the Division of the Prima Industrie group specialized in turnkey solutions for Additive Manufacturing, were presented. The innovations shown during the event cover both AM technologies: Powder Bed Fusion (PBF) and Direct Energy Deposition (DED).

The new systems have been designed following the group's **Open Innovation approach, which focuses on the needs and applications of customers**, ensuring a close partnership with the end users of the technologies and a strong adherence to market demands.

Another important drive for group's innovation projects is sustainability. **Following its "green" vocation, Prima Industrie has developed high energy efficiency products** that reduce consumption compared to traditional systems and guarantee high performance. Prima Additive products also allow customers to **embrace the business paradigm of the Circular Economy, which aims to maintain the value of products and materials for as long as possible**, transforming resources at the end of their life cycle into new inputs in the value creation process.

Many companies in different industrial sectors are adopting additive manufacturing technologies for their production, also to satisfy the increasing requests for customization of products by the market. Prima Industrie meets these needs with products that make it possible to exploit all the competitive advantages of Additive Manufacturing, thanks to high



productivity, first-rate process reliability, excellent quality of finished parts and excellent performance-price ratio.

At the Innovation Days Prima Industrie presented **the Print Genius 250, the new PBF machine with a construction volume of 262x262x350 mm, suitable for the production of medium-sized components.** Print Genius 250 is the ideal solution for high productivity metal printing applications thanks to its dual 500 W single-mode laser, which reduces production time, combined with intelligent software for fast part orientation and for the definition of machine parameters.

Optimized gas flow, minimizing consumptions, and the capability of complete material change in less than 2 hours, are other strengths of this innovative machine. Print Genius 250 is equipped with a 2-line filter unit for the recirculation of the gas inside the work area, which maintains a high degree of cleanliness of the machine and minimizes the replacement of parts subject to wear. The new HMI allows to monitor in real-time the building environment, the building plate, the dispenser, the recoater, and generates reports with all traceable key printing parameters.

Print Genius 250 is suitable for the processing of a wide range of materials: stainless steel, maraging steel, high-temperature nickel-base alloy (Inconel), titanium, cobalt-chromium, aluminium and copper alloys, and high strength steel.

The guests were also able to see **the Print Sharp 250 PBF machine at work, with a construction volume of 250x250x300mm.** The system is equipped with the Convergent CS450 proprietary laser, the high efficiency fiber source developed thanks to the deep experience of the Prima Industrie Group in the field of laser technologies. The Print Sharp 250 combines high quality of the components produced, both in terms of surface and mechanical characteristics, with an excellent quality-price ratio.

As part of the Direct Energy Deposition technology, at the Innovation Days was also presented **the Laserdyne 430 DED, the compact and accurate laser metal deposition platform with a working volume of 585x400x500 mm, a high build rate (max 40-50 cm³/h**



– typical 20 cm³/h), **and excellent end-part properties, suitable for 3D fabrication, reworking, and repairing.**

The Laserdyne 430 DED is equipped with **the Advanced Head, the innovative multi-purpose DED laser head with modular design that can be mounted in different configurations to adapt to multiple laser processes.** Some of the strengths of the new head are: the fusion pool monitoring, the pressurized optical path that avoids dust infiltration, and the water-cooled additive-made nozzle for continuous deposition, which reduces the risk of powder adhesion during the process. The head also offers easy maintenance and fast alignment of the powder / laser spot.

The Advanced Head can be mounted on all Prima Industrie Laser Metal Deposition products, and is also available as part of Prima Additive's Laser Metal Deposition Kit, which includes the head, a high-efficiency laser source, a flexible powder feeder and a CAM software for off-line programming. The kit can be integrated into any machinery and robotic system.

The flexibility of the Laserdyne 430 DED can be further increased thanks to the addition of an optional roto-tilting table, which adds two more axes for more complex applications.

The Innovation Days were also the occasion to show visitors the latest news on the entire range of sheet metal processing products, present in the adjacent Headquarters & Tech Center. Some advances have also been given on the next generation of Additive Manufacturing machines, which will be launched by the group over the next year and which will allow to expand the horizons of this technology, increasing the production areas, the productivity and the efficiency of the systems, and extending their application range.

Pictures:

<https://drive.google.com/drive/folders/1DaASOhDnZJWfcU3BOxzlvOtrNU6qBd2?usp=sharing>

Captions:

1. *Print Genius 250, the new PBF machine from Prima Additive suitable for medium-sized components*
2. *Laserdyne 430 DED by Prima Additive: high productivity and excellent quality of finished parts*



3. *Print Sharp 250, the Prima Additive PBF machine with Prima Electro CS450 Convergent laser*
4. *Gianfranco Carbonato, Prima Industrie Executive Chairman, during his speech at the Innovation Days*
5. *The new Prima Industrie Advanced Laser Center in Collegno (TO)*

For more information

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Prima Industrie

PRIMA INDUSTRIE heads a leading Group in developing, manufacturing and marketing of laser systems for industrial applications, sheet metal processing machinery, as well as industrial electronics and laser technologies. The parent company Prima Industrie S.p.A. is listed on the Italian Stock Exchange since 1999 (MTA- STAR segment). With over 40 years of experience the Group can count on about 13,000 machines installed in more than 80 countries worldwide and is among the main worldwide manufacturers in its own reference market. The Group has about 1,800 employees and manufacturing sites in **Italy** (PRIMA INDUSTRIE S.p.A, PRIMA ELECTRO S.p.A), **Finland** (FINN-POWER Oy), **USA** (Convergent Photonics Llc, PRIMA POWER LASERDYNE Llc.) and **China** (PRIMA POWER SUZHOU Co. Ltd.). Remarkable is as well its direct commercial and after-sales presence in BRIC, NAFTA, European Union and other emerging Asian countries.

The Prima Industrie Group is structured on 3 Business Units:

Laser and sheet metal processing machines (Prima Power): including design, manufacturing and marketing of laser machines for cutting, welding and drilling of 3D and 2D components, and machines for sheet metal treatment by means of mechanical tools (punching machines, combined punching/shearing systems, combined punching/laser cutting systems, panel benders and automation systems).

Industrial electronics and laser technologies (Prima Electro): including development, manufacturing and marketing of power and control electronics, and of high-power laser sources for industrial applications, destined both to the Group machines and to third parties.

Additive Manufacturing (Prima Additive): dedicated to the design, production and marketing of turnkey solutions for the main technologies in the field of Additive Manufacturing; Prima Additive's product range includes both Additive Manufacturing technologies: Powder Bed Fusion - PBF (powder bed fusion) and Direct Metal Deposition - DMD (direct deposition of metals), as well as the related application support and services.