

## IRPD's first additive machine tool IMPACT 4530 reaches the market

UNITED GRINDING Group member IRPD unveiled the inaugural industrial additive machine tool "Made in Switzerland" at a celebratory event held at the Switzerland Innovation Park Biel/Bienne (SIPBB).

The IMPACT 4530 was handed over at SIPBB in Biel on December 6, 2024. In attendance were representatives of IRPD, SIPBB, and the UNITED GRINDING Group, who recognized the importance of the investment in speeches at the event. "For SIPBB, whose mission is to promote the Swiss economy and create and maintain jobs in Switzerland, additive manufacturing is one of the focus areas," emphasized Felix Kunz, Chairman of the Board of Directors of SIPBB. The Innovation Park is a private non-profit organization that primarily facilitates and engages in applied research and development related to industry. As a member of the foundation's national and international network "Switzerland Innovation," the SIPBB attracts research investment from abroad, enhances Swiss innovation performance, supports start-ups, and accelerates the conversion of research findings into marketable products. The SIPBB has created a platform for exchange among companies and initiated collaboration between research and industry partners by establishing topic-specific ecosystems in the key areas of Smart Factory, Battery Technology, Health Tech, and Advanced Manufacturing. The acquisition of the IMPACT 4530 is now to convey a powerful message about Switzerland as a business hub. By emphasizing quality and productivity, along with a digitalized process chain and a high degree of automation, production in Switzerland is expected to continue to be profitable in the future.

### Closing the gap

In his speech, member of the Board of Directors at IRPD and CTO of the UNITED GRINDING Group Christoph Plüss spoke about the Group's motivation for entering the additive manufacturing sector. "Market analyses indicated that we could fill a gap by developing and constructing the first Swiss additive machine tool. This presented a clear opportunity and sufficient motivation for the Group." IRPD then assumed responsibility for this task within the

Group. “After six years of development, today marks a significant milestone for IRPD and the history of additive manufacturing in Switzerland – and this circumstance fills me with pride”, says Andreas Burn, Managing Director of SIPBB and Head of the Swiss Advanced Manufacturing Center, on the occasion of the handover of the IMPACT 4530. IRPD is a St. Gallen-based mechanical engineering company specializing in additive manufacturing. In addition to its core business – the construction and sale of machines for additive manufacturing – IRPD is also active in the service sector. This includes consultations, seminars, and workshops, along with contract manufacturing of high-quality metal or plastic components.

### **Alternative to conventional manufacturing processes**

The IMPACT 4530 provides SIPBB with consistently high component quality, automation capabilities, short changeover times, low maintenance requirements, and ease of operation. The system works according to the Laser Powder Bed Fusion (LPBF) process and is equipped with a thermostabilized machine core as well as a vacuum-capable process chamber, which is a robust cast component featuring high rigidity and hermetic sealing. The system provides a build volume with a footprint of 450 mm x 300 mm and a height of 400 mm. Metal powder can be melted in micrometer-thick layers with either two or four synchronized 1000 W fiber lasers while sensors and cameras monitor the process in real time. The machine’s 54" display provides the operator with a clear view of the interior with all relevant data. The IMPACT 4530 features “C.O.R.E.,” the hardware and software framework for machine tools developed by the UNITED GRINDING Group. The user-friendly 24" operating panel features an icon-based interface, enabling efficient operation even without programming knowledge. The IMPACT 4530 also has a high level of system autonomy and can be scaled as a stand-alone machine or a fully automated system network. The LPBF process is well-suited for automated manufacturing of components, particularly those featuring intricate geometries in single-part production, offering an efficient and cost-effective alternative to conventional manufacturing methods. This opens up new potential for automotive engineering, aerospace, and medical technology.

## Cooperation with great potential

“SIPBB is an ideal customer for us,” explains IRPD CEO Stefan Lang. “This is evident from the keywords Switzerland, research, proximity to industry and applications, as well as employee qualifications.” Lang ceremoniously presented the key to the IMPACT 4530, visibly delighted about the forthcoming collaboration.

## Captions

### Image 1

*The ceremonial handover of the inaugural IMPACT 4530 additive machine tool to SIPBB took place on December 6, 2024.*

*(Image: IRPD)*

### Image 2

*The IMPACT 4530 is the first industrial additive machine tool “Made in Switzerland” for the production of metal components. (Image: IRPD)*

### Image 3

*Stefan Lang provides Andreas Burn with the symbolic key to the IMPACT 4530. (Image: IRPD)*

## Contacts

### Irpd AG

#### Jonas Gerber

Lerchenfeldstrasse 3

CH-9014 St. Gallen

Tel.: +41 33 439 11 83

E-mail: [jonas.gerber@studer.com](mailto:jonas.gerber@studer.com)

Web: [www.irpd.ch](http://www.irpd.ch)



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## **Switzerland Innovation Park Biel/Bienne AG**

### **Andreas Burn**

Aarbergstrasse 46

CH-2503 Biel

Tel.: +41 32 5308888

E-mail: [andreas.burn@sipbb.ch](mailto:andreas.burn@sipbb.ch)

Web: [www.sipbb.ch](http://www.sipbb.ch)

## **UNITED GRINDING Group**

Wankdorfallee 5

CH-3014 Bern

Tel.: +41 31 3560111

E-mail: [info@grinding.ch](mailto:info@grinding.ch)

Web: [www.grinding.ch](http://www.grinding.ch)