

July 2021, Kottlingbrunn/Austria

## PRESS RELEASE

### 新聞稿

WITTMANN BATTENFELD Highlights 2021

威猛巴頓菲爾 2021 亮點

## WITTMANN BATTENFELD live at the Fakuma 2021

### 威猛巴頓菲爾在 Fakuma 2021 參展

*Following a year of “Fakuma break”, the WITTMANN Group is now looking forward to presenting itself again live on site in Friedrichshafen and showing its product highlights at booth 1204 in hall B1. But this time, “live” is more than just being there on site. In addition to the exhibits to be viewed physically, WITTMANN will also offer the opportunity of live connection with its various facilities via its new media technology WITTMANN Interactive to obtain information about additional exhibits.*

經過一年的“Fakuma 休展”，威猛集團期待著再次在 Friedrichshafen 的現場展示自己，並在 B1 大廳的 1204 展位展示產品的亮點。但這一次，“現場”不僅僅只是現場。除了現場參觀產品之外，威猛集團還將透過新的媒體技術 WITTMANN Interactive 提供與其各種設施連接的機會，以獲得其他相關展品的資訊。

### Highlight *SmartPlus*

#### Smart Plus 亮點

The highlight of this year's presentation by WITTMANN BATTENFELD is the new *SmartPlus*. The *SmartPlus* is a servo-hydraulic machine which stands out by its high level of cost and energy efficiency, as well as repeatability. Thanks to the use of proven technologies and carefully selected options, short delivery times and an excellent price-performance ratio have been made possible for this machine.

威猛巴頓菲爾集團今年展示的亮點是新型 *SmartPlus*。*SmartPlus* 是一種液壓伺服機，它以高水平的成本和能源效率以及可重複性脫穎而出。由於使用了成熟的技術和精心選擇的選項，該機器可以實現較短交貨時間和出色的性價比。

A special feature of the *SmartPlus* is the new B8X control system with system components developed in-house. These enable a higher frequency, shorter response times and a higher repeatability rate for parts, with the same operating comfort as before and the familiar visualization concept. Of course, the *SmartPlus* also offers the KERS energy recovery technology originally developed for the *EcoPower*.

SmartPlus 的一個特點是新的 B8X 控制系統，其系統組件是自主研發的。這些使零件的頻率更高，響應時間更短，重複率更高，操作舒適度和熟悉的可視化概念與以前依樣。當然，SmartPlus 還提供了最初為 EcoPower 開發的 KERS 能量回收技術。

The *SmartPlus* is currently undergoing practical tests at selected customers. From the 4<sup>th</sup> quarter of 2021 onwards, the machine is expected to be available in a first series with clamping forces ranging from 60 to 180 t.

SmartPlus 目前正在選定的客戶處進行實際測試。從 2021 年第四季度開始，該機器預計將推出第一個系列，鎖模力範圍為 60 到 80 噸。

The advantages of the new *SmartPlus* will be demonstrated on a *SmartPlus* 180/750. This machine is equipped with the HiQ Flow<sup>®</sup> application software, the new CMS-Light condition monitoring system to monitor an extended range of service-relevant machine parameters and a GRAVIMAX G14 gravimetric blender. The automation system, using a PRIMUS 26T robot from WITTMANN, is implemented via an Easy Cell developed and manufactured by WITTMANN BATTENFELD Deutschland in Nuremberg. The Easy Cell mounted on castors requires no safety gate and thus takes up only a minimal amount of space beside the injection molding machine. In spite of its compact design, customers receive the complete range of CE-compliant safety features.

新的 SmartPlus 的優勢將在一台 SmartPlus 180/750 上展示。這台機器配備了 HiQ Flow<sup>®</sup> 應用軟體、新的 CMS-Light 狀態監測系統，用於監測更多與服務相關的機器參數和 GRAVIMAX G14 秤重式計量機。使用威猛的 PRIMUS 26T 機器手的自動化系統，通過位於紐倫堡的威猛巴頓菲爾德國公司開發製造的 Easy Cell 實現。安裝在腳輪上的 Easy Cell 不需要安全門，因此在射出機旁邊只需佔用很小的空間。儘管其設計緊湊，但客戶獲得了完整的符合 CE 標準的安全功能。

On the *SmartPlus* 180/750 a hub-cap for lawn mowers will be manufactured from PP, using a mold supplied by Uralan, Germany. In the interest of sustainable manufacturing, the part will be produced from a mixture of virgin material with regrind. The HiQ Flow<sup>®</sup> software will be used to ensure adequate parts quality. This is a material viscosity-related injection control system to compensate the effects of temperature and batch fluctuations on the viscosity of the material.

在 SmartPlus 180/750 上，將使用德國 Uralan 公司提供的模具，用 PP 製造割草機的穀蓋。為了實現可持續製造，該部件將由原生材料和再研磨的混和物製成。將使用 HiQ Flow<sup>®</sup> 軟體來確保足夠的零件質量。這是一個與材料黏度有關的射出控制系統，以補償溫度和批次波動對材料黏度的影響。

## Medical application on *EcoPower* 55 production cell

### 在 *EcoPower* 生產元件上的醫療應用

With the production of a hose clamp for medical technology in an 8-cavity mold supplied by WILAméd, Germany, WITTMANN BATTENFELD will demonstrate its digitization expertise. The machine to be used is an all-electric *EcoPower* 55/350, equipped with the software packages HiQ

Flow® for compensating viscosity fluctuations, HiQ Melt for material quality monitoring and HiQ Metering for active closing of the check valve.

通過德國 WILMed 公司提供的 8 腔模具中生產醫療技術用的軟管夾，威猛巴頓菲爾集團將展示其數位化專業知識。將要使用的機器是全電動的 EcoPower 55/350，配備了用於補償黏度波動的 HiQ Flow® 套裝軟體、用於材料質量監測的 HiQ Melt 套裝軟體及用於主動關閉單向閥的 HiQ Metering 套裝軟體。

Equipment integrated in the machine's UNILOG B8 control system via WITTMANN 4.0 will include a WITTMANN W918 robot, an ATON plus H30 segmented wheel dryer and three temperature controllers from the TEMPRO plus D series, as well as the TEMI+ MES system. The electronic mold data sheet will also be used by UNILOG B8. It enables the production cell, integrated via a WITTMANN 4.0 router, to check whether the connected auxiliaries are sufficient for the selected product data set, or whether additional equipment is needed. In this application, too, the automation will be installed by way of an Easy Cell from WITTMANN BATTENFELD Germany.

通過 WITTMANN 4.0 集成到機器的 UNILOG B8 控制系統中的設備包括一個 WITTMANN W918 機器手、一個 ATON plus H30 分段式轉輪乾燥機和三個 TEMPRO plus D 系列的溫度控制器，以及 TEMI+ MES 系統。電子模具數據表也將被 UNILOG B8 使用。它使得通過 WITTMANN 4.0 路由器集成的生產單元能夠檢查所連接的輔助設備是否足以滿足選定的產品數據集。在這個應用中，自動化也將通過威猛巴頓菲爾德國公司的 Easy Cell 來安裝。

## **LSR application on *MicroPower 15/10H/10H COMBIMOULD***

### **LSR 在 *MicroPower 15/10H/10H COMBIMOULD* 上的應用**

WITTMANN BATTENFELD will show its expertise in the area of LSR processing as well as injection molding of micro parts at the Fakuma by manufacturing a support ring with a silicone membrane made of PC and LSR on a *MicroPower 15/10H/10H COMBIMOULD*.

威猛巴頓菲爾集團將在 Fakuma 展覽上展示其在 LSR 加工即微型部件射出領域的專業技術，在 *MicroPower 15/10H/10H COMBIMOULD* 上製造一個由 PC 和 LSR 組成的矽膠膜支撐環。

This multi-component version of the *MicroPower* comes equipped with two injection units in horizontal configuration and a rotary disc. The machine is laid out for clean-room injection molding. The rotary disc is completely encapsulated. All connections for heating aggregates, temperature sensors, water tempering, core pull pneumatics and sensors, as well as the blow-off valve, are mounted on the rotary disc. The connections to the mold have thus been kept short to enhance the machine's user friendliness. As in the standard machine, the injection units of the multi-component *MicroPower* also take the form of two-step screw-and-plunger aggregates with a shot volume of 4 cm<sup>3</sup>, which enable processing of thermally homogeneous melt with minimal flow paths to achieve excellent parts quality.

多組分MicroPower配分了兩個水平配置的射出單元和一個旋轉盤。該機器是為潔淨室射出成形而設計的。旋轉盤是完全密封的。所有用於加熱骨料；溫度傳感器、抽芯氣動裝置和傳感器的連接，以及吹氣閥，都安裝在旋轉盤上。因此，與模具的連接被保持得很短，以提供機器的用戶友好性。與標準機器一樣，多組分MicroPower的射出單元也採取了兩步螺桿和柱塞聚合的形式，射出量為4 cm<sup>3</sup>，可以加工熱均勻的熔體，流到最小，以達到優秀的零件質量。

The materials used to make the support ring presented are polycarbonate (Macrolon) from Covestro and a self-adhesive LSR (Silopren) supplied by Momentive. The mold has been constructed in cooperation with Nexus. The LSR dosing unit comes from Nexus and is equipped with a new Servomix dosing system including an OPC-UA interface (Euromap 82.3).

用於展示所製造的支撐環的材料是來自 Covestro 的聚碳酸酯(Macrolon)和由 Momentive 提供的自黏性 LSR(Silopren)。該模具是與 Nexus 公司合作製造的。LSR 混料單元來自 Nexus，配備了一個新的 ServoMix 混料系統，包括一個 OPC-UA 接口(Euromap 82.3)。

## **IMAGOxt to minimize energy consumption**

### **IMAGOxt 將能源消耗降到最低**

All machines exhibited at the WITTMANN booth will be equipped with the IMAGOxt software, an additional module for the MES TEMI+. IMAGOxt makes it possible to visualize and monitor the energy consumption, or energy flow.

在威猛集團展為上展出的所有機器都將配備 IMAGOxt 軟體，這是 MES TEMI+的一個附加模塊。IMAGOxt 使能源消耗或能源流的可視化和監測成為可能。

IMAGOxt supports the preparation of a detailed energy cost analysis for the machines connected to it. This enables subsequent creation of user-defined KPIs, generation of personalized alarm signals and monitoring of the company's energetic performance.

IMAGOxt 支持對與其連接的機器進行詳細的能源成本分析。這使得隨後可以創建用戶定義的 KPI，生成個性化報警信號並監測公司的能源績效。

## **AIRMOULD® Center**

### **AIRMOULD® 中心**

The latest developments in the area of AIRMOULD® internal gas pressure technology will be presented in a separate AIRMOULD® center at the booth. Here, interested visitors can gather detailed information about the opportunities this technology has to offer in terms of sustainable parts manufacturing, as well as the advantages of the new pressure control module and the AIRMOULD®<sup>Next</sup> manual operating device of the next generation.

AIRMOULD®內部氣壓技術領域的最新發展將在展台的獨立 AIRMOULD®中心進行展示。在這裡，感興趣的參觀者可以收集到關於這項技術在可持續零部件製造方面所提供的機會的詳細資訊，以及新的壓力控制模塊和新一代 AIRMOULD® Next 手動操作裝置的優勢。

## **WITTMANN Interactive – streaming from the fair to the technical labs**

### **WITTMANN 互動 – 從展覽流向技術實驗室**

In addition to the exhibits on display at booth 1204 in hall B1, the WITTMANN Group will offer its visitors the opportunity to log in on site with the technical labs in Kottingbrunn, Meinerzhagen and Nuremberg, using the new media technology WITTMANN Interactive, in order to receive information about further selected exhibits.

除了 B1 展廳 1204 展位的展品外，威猛集團還將為參觀者提供機會，通過威猛互動的新媒體技術，在現場登錄位於科廷布倫、邁爾紮根和紐倫堡的技術實驗室，以獲得更多精選展品的資訊。

Via WITTMANN Interactive, WITTMANN BATTENFELD will present existing technologies such the **CELLMOULD® light-weight technology on a MacroPower 1100/12800**. With this machine, a seat carrier for a German sports car model will be manufactured from PP using a single-cavity mold supplied by Frimo, Germany.

通過威猛互動，威猛巴頓菲爾集團將展示現有技術，例如 **MacroPower 1100/12800 上的 CELLMOULD®輕量化技術**。在這台機器上，將使用德國 Frimo 公司提供的單腔模具，用 PP 製造出一個德國跑車模型的座椅架。

Moreover, **inline recycling with a SmartPower 60 Ingrinder** will be demonstrated at the Meinerzhagen facility. On this machine, a can with a lid made of PS will be produced using a double 2-cavity mold.

此外，將在邁爾紮根工廠展示使用 **SmartPower 60 Ingrinder 的在線回收**。在這台機器上，將使用雙 2 腔模具生產一個帶 PS 蓋子的罐子。

At the facilities, several new applications will also be shown in addition familiar technologies:

在這項設施中，除了熟悉的技術之外，還將展示一些新的應用：

### **Injection compression molding for thinner wall thicknesses**

#### **用於更薄壁厚的射出壓縮成型**

In injection compression molding (ICM), the melt is injected into a mold which is not completely closed. The actual forming process takes place by way of pressing the melt into the cavity after the mold has been closed. In this way, the mold can be filled under lower pressure, which results in reducing the warpage inside the part.

在射出壓縮成型(ICM)中，熔體被注入一個未完全封閉的模具中。實際成型過程視在模具閉合後，將熔體壓入模腔的方式進行的。通過這種方式，模具可以在較低的壓力下被填充，從而減少零件內部的翹曲。

WITTMANN BATTENFELD will present this technology in Kottlingbrunn using a high-speed *EcoPower Xpress 160/1100+*. The machine is equipped with a WITTMANN robot for fast parts removal. Using a 4-cavity mold supplied by GLAROFORM, Switzerland, a thin-walled cup will be produced within a short cycle time. The highly dynamic drive technology of the high-speed *EcoPower Xpress* makes it possible in particular to work with the short injection times required for the ICM process.

威猛巴頓菲爾集團將在科廷布倫使用高速 *EcoPower Xpress 160/1100+* 展現這項技術。該機器配備了一個威猛機器手，用於快速拆卸零件。使用由瑞士 GLAROFORM 公司提供的 4 腔模具，將在很短的周期內生產出一個薄壁杯。高速 *EcoPower Xpress* 的高動態驅動技術使其特別適用於 ICM 工藝所需的短射出時間。

## **Saving resources with AIRMOULD® Next internal gas pressure**

### **使用 AIRMOULD® Next 內部氣體壓力節省資源**

With AIRMOULD® Next internal gas pressure technology, nitrogen is injected into the mold cavity, which is either partly or completely filled with melt, thus forming an internal cavity structure. In this way, light-weight parts can be produced within a short cycle time and simultaneously with good surfaces.

利用 AIRMOULD® Next 內部氣體壓力技術，氮氣被注入模腔，模腔內部或全部充滿熔體，從而形成內部模腔結構。通過這種方式，可以在較短的周期內生產出重量輕的零件，同時具有良好的表面。

All necessary system components were developed by WITTMANN BATTENFELD. The pressure control module and the manual operating device required for use on machines of other brands have been thoroughly revised, with a special emphasis primarily on compact design of the new units, as well as improvement of user-friendliness and quality monitoring.

所有必要的系統組件都是由威猛巴頓菲爾集團開發的。對其他品牌機器所需的壓力控制模塊和手動操作裝置已被徹底修改，特別強調了新裝置的緊湊設計，以及改進了用戶友好性和質量監控。

The new AIRMOULD® Next internal gas pressure technology will be demonstrated in Meinerzhagen with a *SmartPower 120/525*. On this machine, a towel holder made of polystyrene will be produced.

新的 AIRMOULD® Next 內部氣體壓力技術將在邁爾紮根用 *SmartPower 120/525* 進行演示。在這台機器上，將生產一個由聚苯乙烯製成的毛巾架。

## Decorated and functionalized surfaces

### 裝飾和功能化的表面

In a joint project with LEONHARD KURZ, a maker of functional foils and foil feeding equipment, and Syntech Plastics, an IMD technology supplier, WITTMANN BATTENFELD is continuing to drive the interesting and promising theme of decorated and functionalized surfaces for the automotive industry as well as white goods and other sectors, by supplying appropriate injection molding technology. To this end, the company is working on a machine concept which incorporates all essential elements for four different decoration processes and will be adjustable to specific applications. The equipment is to be laid out flexibly for IMD with a foil feeding unit, IMD with foil pre-heating, IMD Vario with pre-heating and thermoforming insert molding. The machine is equipped with the EXPERT-Coining package, which permits parallel mold movements during the injection process.

在與功能性箔片和箔片送料設備製造商 LEONHARD KURZ 和 IMD 技術供應商 Syntech Plastics 的聯合項目中，威猛巴頓菲爾集團通過提供適當的射出技術，繼續推動汽車工業及白色家電和其他行業的裝飾和功能化表面這一有趣而有前景的主題。為此，該公司正在開發一種機器概念，該概念包含四種不同裝飾工藝的所有基本要素，並可根據特定應用進行調整。該設備可靈活佈置用於帶箔進料裝置的 IMD、帶箔預熱的 IMD、帶預熱和熱成型嵌件成型的 IMD Vario。該機器配備了 EXPERT-Coining 配件包，允許在射出過程中平行移動模具。

Via WITTMANN Interactive, the partners will present the production of an interior covering for the automotive industry with a functional surface at the WITTMANN BATTENFELD facility in Nuremberg on a *SmartPower* 300 production cell with automation and WITTMANN 4.0 integration. The finished interior part will be shown on demonstrators at both the WITTMANN booth and the booth of LEONHARD KURZ.

通過威猛互動，合作夥伴將在位於紐倫堡的威猛巴頓菲爾集團工廠的 *SmartPower* 300 生產單元上展示一種具有功能性表面的汽車工業內飾材料的生產，該生產單元具有自動化和 WITTMANN 4.0 集成功能。完成的內飾布建將在威猛展台 LEONHARD KURZ 展台的演示器上展示。



**Fig. 1:** *SmartPlus 60*



**Fig. 2:** hub cap for lawn mowers, produced on the new *SmartPlus 180*  
用於割草機的輪轂蓋，在新款 *SmartPlus 180* 上生產





**Fig. 3:** hose clamp for medical technology, produced on an *EcoPower 55/350* WITTMANN 4.0 production cell (photo of hose clamp: WILamed GmbH)

用於醫療技術的軟管夾，在 *EcoPower 55/350* WITTMANN 4.0 生產單元上生產 (軟管夾照片：WILamed GmbH)



**Figs. 4a+b,** from the left: pressure control module and manual operating device for AIRMOULD® Next

從左邊看：AIRMOULD® Next 的壓力控制模塊和手動操作裝置



**Fig. 5:** towel holder, produced with AIRMOULD® Next internal gas pressure technology  
毛巾架，採用 AIRMOULD® Next 內部氣壓技術生產



**Fig. 6:** cup, manufactured on a high-speed EcoPower Xpress 160 using ICM thin-wall technology  
(Photo: GLAROFORM AG)  
杯子，在高速 EcoPower Xpress 160 上使用 ICM 薄壁技術製造  
(照片：GLAROFORM AG)

## The WITTMANN Group

The WITTMANN Group is a worldwide leader in the production of injection molding machines, robots and peripheral equipment for the plastics processing industry, headquartered in Vienna/Austria and consisting of two main divisions: WITTMANN BATTENFELD and WITTMANN. They jointly operate the companies of the group with eight production plants in five countries, and its additional sales and service companies are active with 34 facilities on all important plastics markets around the world.

WITTMANN BATTENFELD pursues the further expansion of its market position as an injection molding machine manufacturer and specialist for state-of-the-art process technologies. As a supplier of comprehensive, modern machine technology in modular design, the company meets both present and future market demands for plastics injection molding equipment.

The WITTMANN product portfolio includes robots and automation systems, material handling systems, dryers, gravimetric and volumetric blenders, granulators, temperature controllers and chillers. With this diversified range of peripheral units, WITTMANN offers plastics processors solutions to cover all production requirements, ranging from independent production cells to integrated plant-wide systems.

The syndication of the various segments under the umbrella of the WITTMANN Group has led to complete connectivity between the various product lines, for the benefit of plastics processors with an increasing demand for seamless integration of processing machinery with automation and peripherals.

### 威猛集團

威猛集團是塑料行業中製造射出機、機械手和周邊設備的全球領航者。威猛集團總部設在維也納/奧地利，由兩個主要部門，威猛巴頓和威猛組成，他們共同經營集團旗下分公司，在全球 5 個國家設有 8 個生產工廠，其中超過 34 個直屬子公司位於世界各大塑料市場，並各自負責該區域的銷售及售後服務。

威猛巴頓致力於製造最先進的射出機和工藝技術的獨立市場增長，提供現代化和全面的機械模組化設計，滿足塑料射出成型的實際和未來要求。

威猛的產品系列包括機械手和自動化系統，中央供料系統，除濕乾燥機，秤重式和體積式的計量機，粉碎機，模具溫度控制器和冷卻器。憑藉這種全面的周邊設備，威猛可為塑料加工商提供涵蓋所有生產要求的解決方案，從自主工作單元到整個工廠範圍的系統。

威猛集團的結合已經使所有產品線連接為一體，提供塑料加工商在射出機、自動化和輔助設備的無縫接軌，為塑料加工廠帶來了益處，對加工機械與自動化和外圍設備的無縫集成日益增長。

更多信息可參訪我們的網站 [www.wittmann-group.tw](http://www.wittmann-group.tw)

FB: <https://www.facebook.com/WittmannBattenfeldTaiwan>

YOUTUBE: <http://www.youtube.com/c/WittmannBattenfeldTaiwan>

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