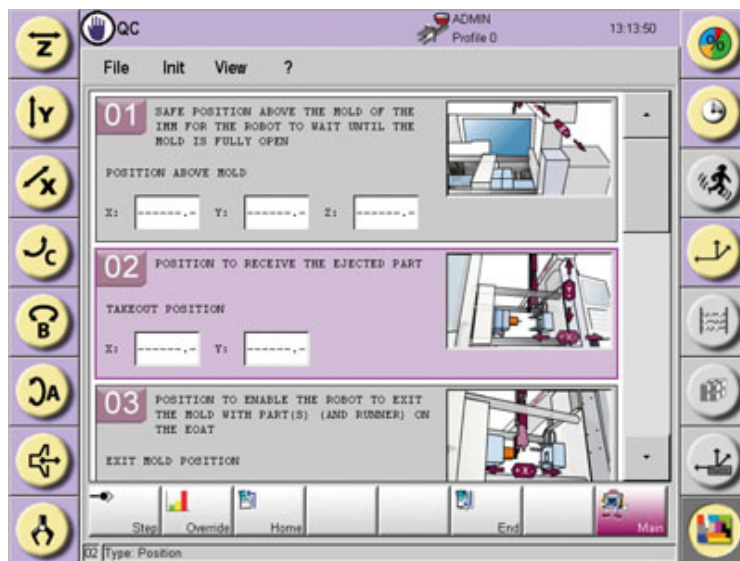


Support in the struggle against the lack of skilled staff

提供缺乏專業技能員工的企業給予有效的解決方案

*Certainly not a universal remedy for skills shortage, but a practical means to procure operating staff able to work safely and expertly with reduced training expense: **QuickEdit, TextEditor and Wizard** – control functions from WITTMANN which substantially facilitate working with robots.*

當然這不是解決技能短缺的萬能良藥，但卻是一種切實可行的方法，使操作人員能夠在減少培訓費用的情況下安全、熟練地工作：威猛公司的 QuickEdit, TextEditor 和 Wizard - 控制 WITTMANN 的功能，極大的促進了機械手臂的使用功能。



**Display of QuickEdit on the R8 robot control system:
this function provides template programs which can be used
as the starting point for robot programming on site.**

在 R8 機械控制系統上顯示 QuickEdit：

此功能提供了可以使用的模板程序
並作為現場機械編程的起點。

In virtually all industrialized countries, the production sector suffers from an acute shortage of skilled labor. Due to the expected demographic development, it is foreseeable that this shortage is going to get even worse in the coming years, especially in the European countries. Even now, numerous projects have to be put on the back burner or entirely deleted from the agenda in many places, because they simply cannot be realized due to lack of technical capacities, or because long-term reliable operation of technical equipment cannot be guaranteed.

幾乎所有工業化國家的生產部門都嚴重缺乏熟練工人。由於預期的人口發展，可以預見這種短缺在未來幾年會變得更加嚴重，特別是在歐洲國家。即使是現在，也有很多項目由於技術能力不足，或者技術設備長期可靠運行得不到保障，不得不暫時擱置，或者乾脆從很多地方的議事日程上全部刪除。

When planning the realization of injection molding projects today, aspects of technical feasibility are not the only questions to be considered, but increasingly also the capacities for reliable production in view of an often insufficient pool of expert staff.

當今日規劃注塑項目的可行性時，技術可行性的各個方面並不是唯一需要考慮的問題，但越來越多可靠的生產力都礙於專業人員不足。

The principle known in the Anglo-American region by the acronym of KISS (= “keep it simple and stupid”) is also taking on greater significance in Europe. For the injection molding industry, the KISS principle indicates an increasing necessity to invest in optimized production cells which are easy to run. This includes intuitively operated, self-learning control systems for injection molding machines – such as the **B8** machine control system from WITTMANN BATTENFELD with its **HiQ** software packages. Just as vitally important is the selection of a robot to take care of fast molded parts removal and to support high-speed downstream finishing. Robots equipped with the **R8** and **R9** control systems from WITTMANN are ideally suited for such purposes. Linear axes are used for the basic traverse movements, which must be carried out within the generally very confined mold space. For additional functions – which are normally required outside the mold space – they are combined with compact rotation axes. The linear axes permit quick and easy extension and retraction of the gripper. In contrast to working with articulated robots, the operator here is not required to change to and fro between different systems of coordinates or concern himself with all possible types of collisions that may be caused by multi-axis movements.

英美首字母縮寫詞 KISS (= “保持簡單和愚蠢”) 在英美地區所知的原則在歐洲也具有更大的意義。對於注塑行業而言，KISS 原則表明投資於易於運行的優化生產單元的必要性日益增加。這包括用於注塑機的直觀操作的自學習控制系統 - 例如 WITTMANN BATTENFELD 的 B8 機器控制系統及其 HiQ 軟件包。同樣重要的是選擇機器手來處理快速模塑零件的移除並支持高速下游精加工。配備威猛的 R8 和 R9 控制系統的機器手非常適合此類用途。線性軸用於基本的橫向移動，必須在通常非常狹窄的模具空間內進行。對於通常在模具空間外部需要的附加功能，它們與緊湊的旋轉軸組合在一起。線性軸允許快速方便地伸展和縮回夾具。與使用鉸接式機器手相比，此處的操作員不需要在不同的坐標系之間來回切換，也不需要關注可能由多軸運動引起的所有可能類型的碰撞。

Although the WITTMANN **R9** robot control system also allows manual selection of any desired movement coordinates in space, the movements of the robots' main axes are nevertheless invariably orientated within the Cartesian coordinate system. Again, in contrast to articulated robots, the risk of collision can be substantially reduced, and last, but not least, the training expense for the operating staff as well, for whom the movements of the robot invariably remain clear and understandable at all times.

儘管 WITTMANN R9 機械控制系統還允許手動選擇空間中任何所需的運動坐標，但機械主軸的運動仍然總是在笛卡爾坐標系內定向。同樣，與鉸接式機械相比，碰撞的風險可以大大降低，並且最後但並非最不重要的是，操作人員的培訓費用也是如此，對於他們來說機器手的運動始終保持清晰和可理解。

Another important, central attribute offered by the **R8** and **R9** robot control systems from WITTMANN is the presence of special input assistants for preparing, editing and operating process sequences.

WITTMANN 的 R8 和 R9 機械控制系統提供的另一個重要的中心屬性是用於準備、編輯和操作過程序列的特殊輸入輔助。

Unlimited flexibility

無限的靈活性

WITTMANN robot control systems provide two different user levels as standard, which can be selected depending on how familiar the operator is with the system. **QuickEdit** allows changing of a few commands and programming with templates. The **TextEditor** grants complete freedom in programming. With its help, any desired robot sequence can easily be realized menu-driven. Each individual function is carried out directly on the robot and then taken over into the program by pressing a key. Free allocation of names for interfaces of auxiliaries, cylinders, gripper and vacuum circuits facilitate readability and permit clear structuring of the program.

威猛機器手臂控制系統提供兩種不同的標準用戶級別，可根據操作員對系統的熟悉程度進行選擇。**QuickEdit** 允許更改一些命令和使用模板編程。**TextEditor** 賦予編程完全的自由。借助它的幫助，任何所需的機械手序列都可以輕鬆實現畫面驅動。每個單獨的功能直接在機械上執行，然後通過按鍵接收到程序中。為輔助設備，氣缸，夾具和真空迴路的接口自由分配名稱有助於提高可讀性並允許清晰的程序結構。

The idea behind **QuickEdit** is to enable operators without previous experience in equipment programming to create a program. With **QuickEdit**, the robot is programmed in very easy steps. Using pictures and animations, the control system proposes the sequence step by step and explains to the operator the correct input. This method of programming is primarily used for simpler applications, such as "pick & place" functions or parts removal with sprue picking and subsequent depositing. Such simple programs can be created with the help of the new **QuickNew** function. **QuickNew** is the animated program editor which supports users in the creation of **QuickEdit** programs.

QuickEdit 背後的理念是讓沒有設備編程經驗的操作員能夠創建程序。使用 QuickEdit，機械手臂可以通過非常簡單的步驟進行編程。使用圖片和動畫，控制系統逐步提出序列並向操作員解釋正確的輸入。這種編程方法主要用於更簡單的應用，例如“拾取和放置”功能或通過澆口揀選和隨後的存放來移除部件。可以在新的 QuickNew 功能的幫助下創建這樣簡單的程序。QuickNew 是動畫程序編輯器，支持用戶創建 QuickEdit 程序。



Additional screen displays of the R8 control system: QuickNew (left) and TextEditor.
R8 控制系統的附加屏幕顯示：QuickNew（左）和文本編輯器。

For more complex tasks, the proven **TextEditor** is available, which also offers the possibility to generate a simplified illustration in **QuickEdit** for this type of application. Moreover, the **TextEditor** can be used to create templates, and users can add their own animations and integrate them into the control system.

對於更複雜的任務，可以使用經過驗證的 TextEditor，它還可以在 QuickEdit 中為此類應用程序生成簡化圖示。此外，TextEditor 可用於創建模板，用戶可以添加自己的動畫並將它們集成到控制系統中。

An extremely efficient control function for programming is the WITTMANN **Wizard**. When using the **Wizard**, the robot operator is guided through the creation of the program in only eight steps by way of simple yes/no questions, resulting in the development of a full-fledged process sequence.

WITTMANN 嚮導是一種非常有效的編程控制功能。使用嚮導時，機械手臂操作員通過簡單的是/否問題僅通過八個步驟來指導程序的創建，從而開發出完整的過程序列。

The WITTMANN Group is a worldwide leader in the manufacturing of injection molding machines, robots and peripheral equipment for the plastics industry. Headquartered in Vienna/Austria, the WITTMANN Group consists of two main divisions, WITTMANN BATTENFELD and WITTMANN, which operate 8 production facilities in 5 countries, including 34 direct subsidiary offices located in all major plastics markets around the world.

WITTMANN BATTENFELD focuses on the independent market growth in the manufacturing of state-of-the-art injection molding machines and process technology, providing a modern and comprehensive range of machinery in a modular design that meets the actual and future requirements of the plastic injection molding market. WITTMANN's product range includes robots and automation systems, material handling systems, dryers, gravimetric and volumetric blenders, granulators, mold temperature controllers and chillers. With this comprehensive range of peripheral equipment, WITTMANN can provide plastics processors with solutions that cover all production requirements, ranging from autonomous work cells to integrated plant-wide systems.

The syndication of the WITTMANN Group has led to connectivity between all product lines, providing the advantage plastics processors have been looking for in terms of a seamless integration of injection molding machines, automation and auxiliary equipment – all occurring at a progressive rate.

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，在全球5個國家設有8個生產工廠，其中超過33個直屬子公司位於世界各大塑料市場。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塊化設計，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，稱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，成為尋求集成方面的所在優勢 - 所有這些都以漸進的速度發生。