



Our Passion.  
Your Success.



**KePlast i-series** – The optimized automation  
solution for injection molding machines

**KEBA®**

Automation by innovation.



# KEBA – the technology expert for all plastics machines

## Our Passion. Your Success.

Simplicity, modern operation, and strong performance are particularly important in controlling injection molding machines. With KEBA, you can rely on innovative automation solutions with the highest service quality. In line with its credo, "Automation by innovation", we have been developing cutting-edge solutions accustomed and optimized to the needs of the plastics industry – because our passion is your success.

### KEBA – your perfect partner

KEBA customers enjoy the best possible support and assistance. A comprehensive understanding of the markets, processes, technologies, and customer-specific requirements right down to the smallest detail forms the basis for a successful and long-lasting partnership. This begins with initial consultation and continues with system design through to installation and series production support. Our modular training programs provide focused instructions in operation, servicing and programming.

### We speak the language of your industry

Thanks to years of experience in controlling injection molding machines, the experts from KEBA have acquired comprehensive knowledge of the industry and technology. As a result, KEBA employees are able to respond to your requests in all areas quickly and competently and discuss issues with you on an equal footing in the specialist language that you are accustomed to.

### Always two steps ahead – for your competitive advantage

Our customers rely on innovative automation solutions with the highest service quality and a worldwide network of highly skilled application engineers. The locally based teams will put your injection molding machines (IMM) into operation instantly and competently. They can also carry out customer-specific software adaptations quickly and effortlessly through to process control optimization.

## Over 30 years of experience in controlling complex processes

Our state-of-the-art control system KePlast is perfectly designed for all plastics processing and die-casting (c-series) machines. Our complete automation solutions are outstanding due to our industry expertise, particularly in injection molding machines (i-series) as well as in further applications in the plastics industry, such as extrusions, blow molding, thermoforming and recycling machines. The associated processes and technologies result in synergies with these machine types in control technologies as well as optimized hardware solutions.





# Experience cutting-edge control solutions in a new dimension with **KePlast**

## The innovative, turnkey control platform for your injection molding machines

### Set new standards with the KePlast i-series

The KePlast control solutions cover a wide range of machine types, starting with standard hydraulic and all-electric through to complex, multi-component IMM with process-integrated robotics and cell automation. The entire KePlast i-series – ranging from i1000, i2000, i3000, and i8000 – is characterized by a scalable hardware and a common software platform that enables maximum flexibility for all business requirements. This guarantees you the maximum differentiation for your competitive advantage.

### High-end design and premium technologies

The control generation of the KePlast i-series provides the highest performance in combination with the shortest cycle time. The system stands out with its European brand quality and modern design on both hardware and software.

## KePlast i-series – the highlights at glance:

- Scalable range of powerful, compact, and modular controllers & I/Os
- Wide range of HMI panels with keyboard, single- or multitouch operation
- Future-proof & state-of-the-art Linux platform
- Unique KePlast Application Framework
- One software for all injection molding machine types
- Innovative closed-loop concepts
- Smart Industry portfolio for Industry 4.0 readiness



### For all machine types

From standard hydraulic, all-electric, and hybrid to complex, multi-component IMM



### Premium quality & modern design

High-end brand design of hardware & software based on latest technologies



### Strong partnership

Your reliable partner offers best & instant support by a globally available team

## Your benefits with KePlast



### Ready for Industry 4.0

Smart assistance systems for the highest productivity



### Future-proof platform

High-end, modular, and scalable hardware & software platform

### Future-proof platform for any requirements

KEBA technologies are based on a Linux platform with a strong community. Due to its modularity and sophisticated software architecture, all KePlast controllers can be upgraded from a basic to a high-end system at any time, meeting the latest technology trends – supplemented by several functionalities and further smart assistance systems. This makes our KePlast control solutions future-proof.

### Software makes the difference

The KePlast platform enables multiple communication protocol standards and interface specifications, such as OPC UA and EUROMAP. Due to its openness, any customer-specific individualization and the integration of 3rd party programs can be realized. The KePlast Application Framework with its integrated software libraries is a ready-to-use solution as well as a starting point for any requested modifications and extensions – in which the customers can bring in their own technology and application know-how.

### Embrace the future – master your digital transformation with KePlast Smart Industry

The journey of Industry 4.0 has already started and the upcoming future technologies have to be realized continuously and smoothly. It is certain that the implementation of these applications requires a reliable automation specialist with profound expertise in software and IT infrastructure. The KePlast Smart Industry portfolio covers a wide range of innovative assistant systems for worldwide connectivity, mobility, and the highest productivity.



# Stronger together! A strengthened partnership over the entire product life cycle

Automation in the plastics industry is becoming more complex, the pace of innovation is speeding up, the competitive pressure is increasing. Open, safe, and reliable automation makes it possible to combine traditional mechanical engineering with the latest Industry 4.0 technologies and modern operation.

## Let us be your reliable partner by your side

In the age of I4.0, injection molding machine manufacturers face numerous challenges: As innovation cycles become shorter all the time, the market demands a broad portfolio of new technologies that must be integrated smoothly and quickly. At the same time, these solutions must be scalable, highly flexible, and future-proof.

## For all those who expect more from an automation system

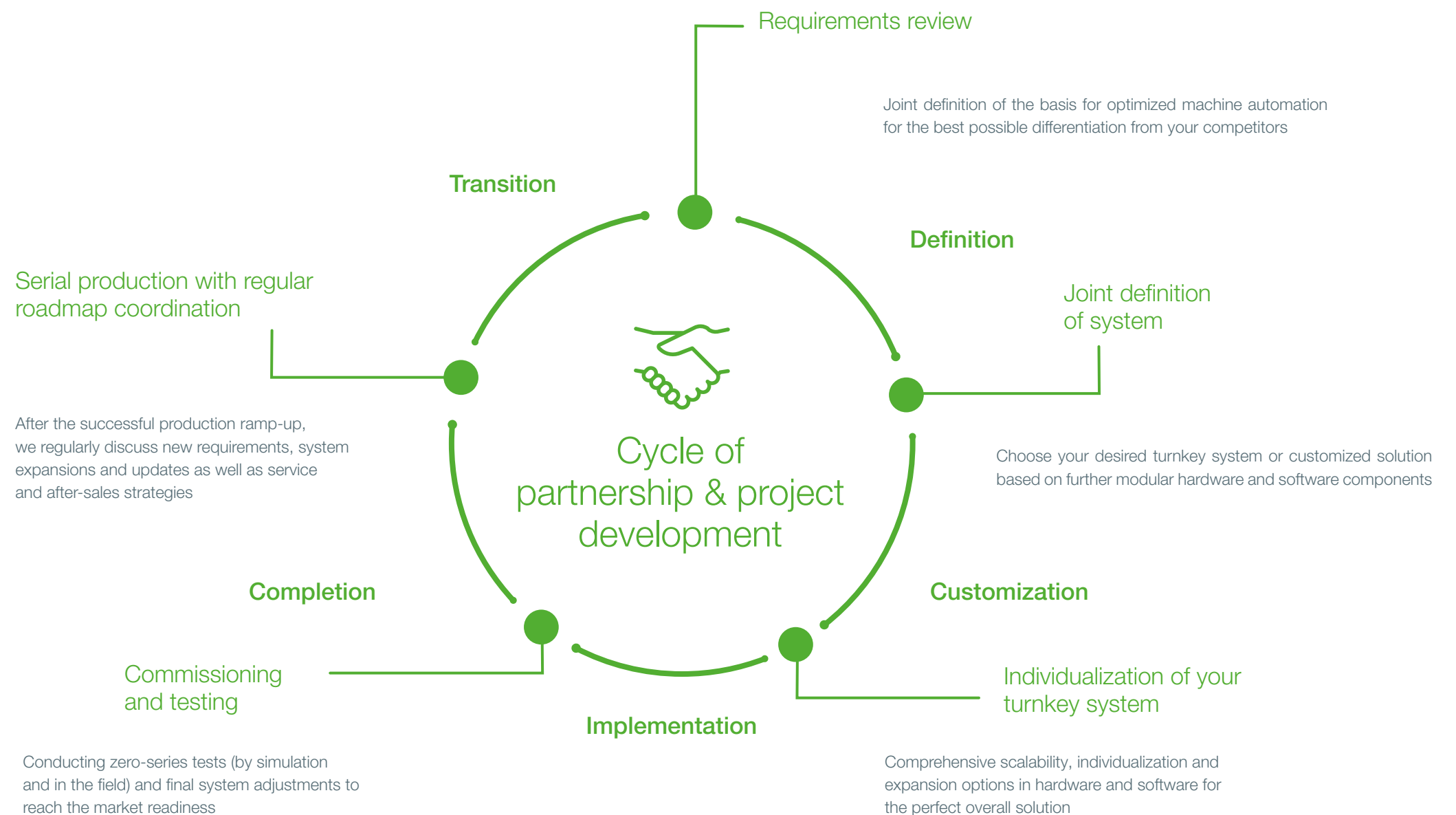
Since its foundation 50 years ago, the automation specialist KEBA has offered innovative industrial automation solutions. With over 30 years of expert knowledge particularly in the plastics industry and above all in IMM technology with its processes, our customers can rely on individually customized as well as complete turnkey control solutions that enable worldwide networking with cloud-based data management and smart IT integration.

## We inspire your business – with our extraordinary team spirit

A team is more than the sum of its parts. We believe in teamwork, both within KEBA and when working with our customers and partners. This principle has been an integral part of our success.

## Enhanced competencies & thriving relationships

With our customers we go for a partnership-based relationship which goes far beyond project support. In perfect symbiosis we master together ever shorter product life cycles. In an active dialog, we jointly design the best custom solutions together. The end of series production is not the end of our partnership. It is the beginning of a new generation of machines.





From standard hydraulic injection molding machines to complex, multi-component systems with process-integrated robotics, the KePlast control solutions cover the entire range of applications.

The KePlast i-series, consisting of i1000, i2000, i3000, and i8000, stands out thanks to its precision and high productivity and ensures flexible integration into Industry 4.0 application fields. The common software platform and the scalable hardware – both in control performance and in the operating unit – provide maximum flexibility. Due to the turnkey solution, a rapid time-to-market can be achieved.

# KePlast – the full range of automation solutions for your IMM



## KePlast i1000 / i1000 Eco

Owing to its powerful computer core, the KePlast control system i1000 is real-time-capable, thereby enabling a continuously controlled quality of production.

- For standard hydraulic injection molding machines
- 7" to 12" TFT displays with microswitch keyboard operation
- Closed-loop injection process including monitoring by means of injection graphics
- SPC package (Statistic Process Control)
- Expandable via fieldbus
- Network compatible due to Ethernet connection



## KePlast i2000

The hardware of the i2000 series consists of a top-performance single-board computer with scalable performance level. I/O modules or electric drives are connected via the integrated high-speed and real-time EtherCAT bus.

- For hydraulic, hybrid, and all-electric IMMs
- Scalable hardware based on Intel x86 Atom
- High-speed EtherCAT fieldbus
- 12" to 15" TFT displays with single-touch operation
- Seamless integration of the KEBA drive technology incl. application package for all-electric and hybrid IMMs
- Linux software platform for Industry 4.0 technologies



## KePlast i3000

With its high-performance control system and innovative & fast multitouch operating panel, KePlast i3000 stands out with a future-proof software platform which enables several communication protocol and interface standards, including OPC UA, EUROMAP, etc.

- For hydraulic, hybrid, all-electric, and multi-component IMMs
- Based on Linux & ready for any Industry 4.0 requirements
- 12", 15", and 18" multitouch HMI panels with established key operation
- Seamless integration of KEBA drive technology via EtherCAT interface
- New & innovative closed-loop concepts



## KePlast i8000

The control solution of the i8000 series offers the very latest multitouch technology in combination with top performance. The Linux-based complete package combines state-of-the-art gesture operation with an open control platform and provides the highest customizability.

- For hydraulic, hybrid, and all-electric multicomponent injection molding machines as well as high tonnage IMMs
- Active operating unit with Linux operating system
- 15" and 21.5" multitouch widescreen displays
- Perfect solution for large-scale machines and complex HMI requirements due to separated active panel
- Smart assistance systems for Industry 4.0



# The perfect hardware for all machine types

## Flexible. Modular. Scalable.

Optimized for injection molding machines, the i-series is based on a fully scalable, high-end, and innovative hardware platform. You can fully individualize your automation solution based on our components portfolio – with comprehensive and continuous consultation from our side. This allows maximum differentiation for your competitive advantage.

The KePlast i-series covers the entire range of injection molding machine types – from standard hydraulic up to complex, multi-component IMMs. Additional peripheral devices can be easily integrated via I/Os or various interfaces. The hardware portfolio is completed by a powerful drive package and KePlast SpeedPump, the ideal solution for energy-saving hydraulic servo pumps.



### I/O modules & technology extensions

A wide range of high-end I/O (input/output) modules can be connected directly to the control or via bus coupling

- Digital or analog inputs and outputs
- Temperature inputs with galvanic isolation
- Special modules and bus interfaces
- Hot runner technology modules incl. energy measurement
- High-speed EtherCAT fieldbus enables top control quality
- Ultra-compact I/O pin size of 3.81mm



### Drives & motors

With our perfectly designed drives and motors you achieve a maximum performance for your machines while keeping energy costs at a minimum

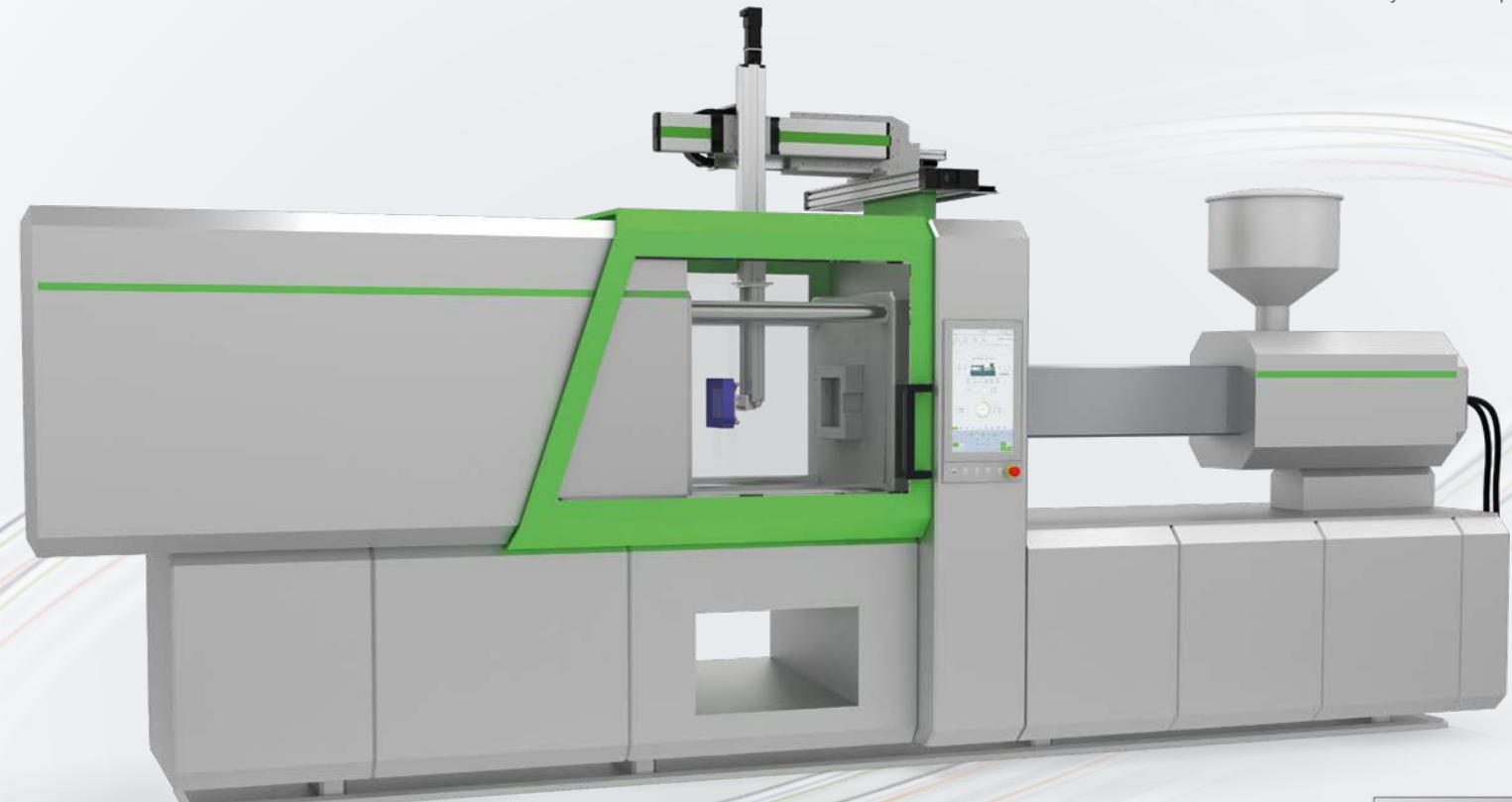
- Wide power range up to 420A peak current
- Single-, double-, and triple-axis modules
- EtherCAT high-speed communication
- Optimized package for all-electric and hybrid machines
- Competent drive sizing consultancy



### Controls

#### Powerful and scalable control platform

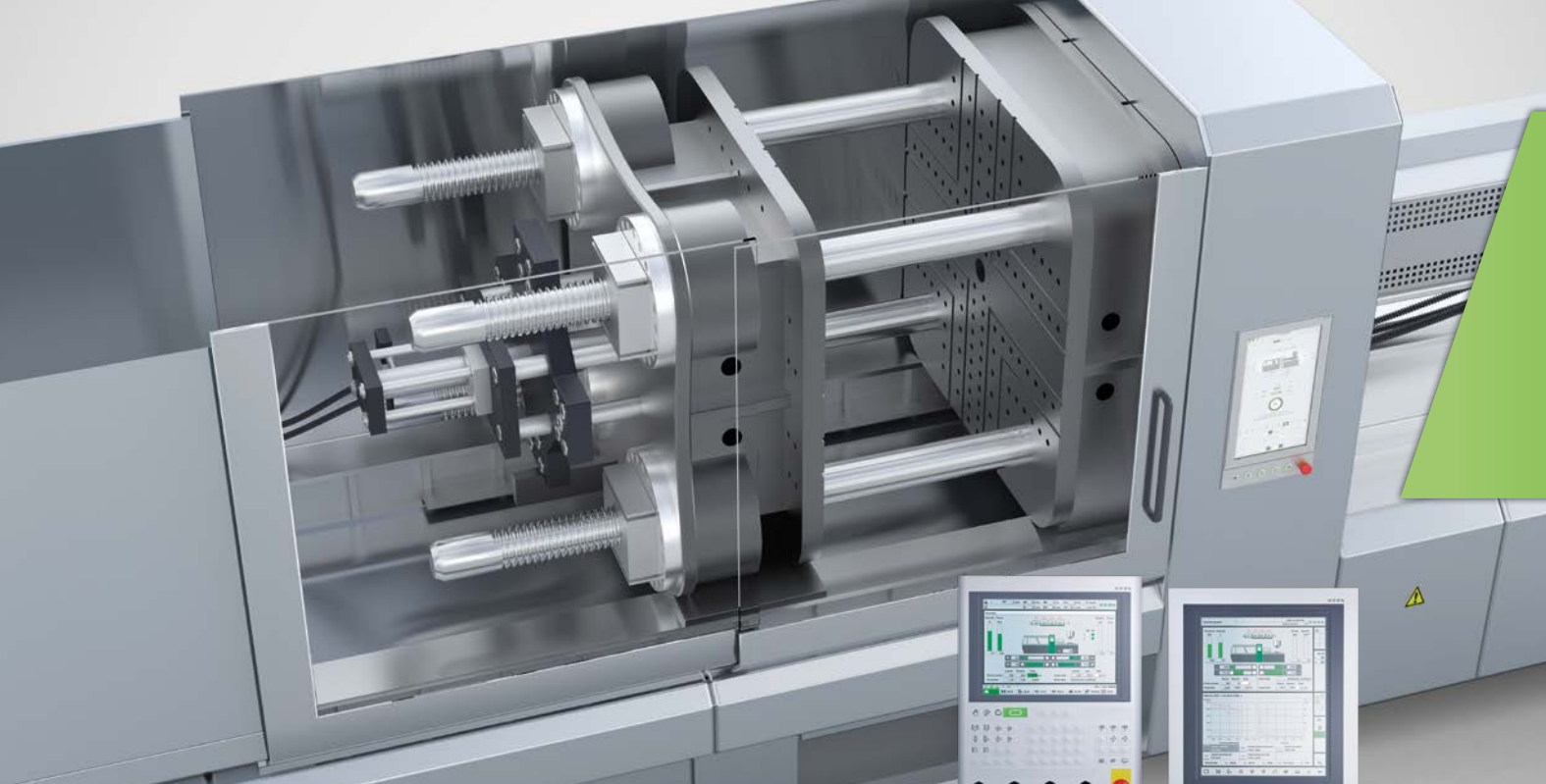
- Intel x86 based CPU architecture – single to quad core
- Different performance classes for any application
- CP 0xx line – compact control with integrated I/O board
- CP 5xx line – perfect for modular machine configuration in combination with decentral I/Os
- Linux-based & future-proof software architecture
- Cycle time up to 500µsec



### Human-machine interface – HMI Visualization

Modern, user-friendly, and powerful stationary and mobile operating panels for the best usability

- **AP 500 (Active Panel)** series from 15" to 21" PCT multitouch screens for innovative and cutting-edge gesture operation based on Linux including a top-performance multi-core CPU
- **OP 500 (Passive Panel)** series with 12", 15", and 18" high-end PCT multitouch screens via DVI interface including optional established machine keyboards and switches
- **OP 300 (Passive Panel)** series with 7", 8", 10", 12", and 15" brilliant TFT displays via DVI interface enable operation via microswitch keyboard or single-touch screen
- **KeTop Mobile** series with 7" and 10" handheld devices for peripheral applications and robotics



# Optimized packages for high-end machines

KePlast covers any machine type with the same software. From standard hydraulic up to complex, multi-component machines with peripheral devices – the scalable control hardware in combination with the high-end KePlast software technology is the perfect starting point for any injection molding machine. The ready-to-use packages for two-platen as well as all-electric and hybrid machines, makes the KePlast system an unbeatable solution in the IMM market.

## Ready-to-use solution for two-platen machines



With the products ranging from the i2000 to the i8000 series, KePlast offers a complete package for two-platen machines. Due to the comprehensive KePlast Application Framework and a comfortable integration in the engineering tool suite, these types of injection molding machines can be realized easily. With our ready-to-use KePlast systems, you can even equip the biggest tonnage machines with complex processes and additional peripheral devices – this leads to a fast commissioning and a short time-to-market for your competitive advantage!

### Comprehensive technology functions

Due to the KePlast closed-loop control, a smooth, fast, and accurate movement of the mold is guaranteed, which is achieved by a perfect lock-nut synchronization. In combination with an optimized control of the core sequences, you can reach the highest process quality as well as the shortest cycle time.

Following our credo of the easy-to-use approach, the programming of the molds and core movements can be done easily with the KePlast MachineSequencer. Without any further programming knowledge, even the most complex sequences including parallel and special core movements, can be realized in a short matter of time.

### Hot runner & valve gates control

Especially big machines often require a set of hot runners and valve gate controls. The customer can benefit from the deep integration of these hot runner systems into the KePlast controls – through the convenient operation directly on the HMI screens or via the central mold data management.

The hot runner modules can be cascaded up to a high number of temperature zones. Due to the power measurement of the module, you can keep your machines' energy consumption under control. With the integrated power line synchronization of the closed-loop control, perfect process quality is ensured.



Hot runner modules via EtherCAT or CAN interface

## The complete package for all-electric and hybrid injection molding machines

### High-performance drive technology

A comprehensive range of drives and motors is available for all-electric and hybrid injection molding machines. They are cost-optimized and offer a high degree of flexibility with regard to the design of the machine configurations. Whether highly dynamic applications with low power requirements or high-energy installations with an injection power of up to 120 kW. The supply units are optionally available with a regenerative power feedback which enables a reduction of power costs.

### More space in your control cabinet

The small footprint of the KEBA drives in combination with the optimized 2- or 3-axis units, makes our solution especially attractive for injection molding machines – where cabinet space is always a important issue.



Several power supply packages

Power range up to 120kW



Multi-axis drive range

Peak current up to 420A

### Control at the highest level

The high-performance hardware platform in both control and drive technology as well as the fitting KePlast software solutions present an ideal complete package for the injection molding market. Intelligent control algorithms – that run directly at the drive – guarantee extremely short response times and an optimum process behavior.

The possibility of coupling drives and by doing so, further increasing performance and dynamics, offers unique flexibility. Whether rigidly coupled systems or master and slave drive combinations with intelligent software, the right solution is available for every machine requirement. The technology libraries used in the KePlast software and the parts of applications optimized for electric injection molding machines round off our complete package.



# Industry 4.0 – connecting globally with KePlast Smart Industry

For KEBA, Industry 4.0 (I4.0) is not just a buzzword, but a living reality – we show the possibilities opened up by new technologies and how these trends can be expanded successively to meet future requirements. This is particularly evident in the user-friendly applications and assistance programs of the KePlast Smart Industry portfolio.

One of the challenges of I4.0 is the availability of highly complex technologies in the form of simple integration at the IMM manufacturer and also at the end-customer. With KEBA, Industry 4.0 applications are available for both OEM clients as well as small to medium-sized end-customers – providing the convenient and optimized implementation of I4.0 technologies for everyone is the true art of automation.

## KePlast Smart Factory

Assistance programs for increased productivity at the end-customer's factory

KePlast EasyNet MES monitors the machine productivity and manages its data on stationary and mobile end-devices for small and medium-sized companies. KePlast ServiceNet enables worldwide access to the machines and a rapid problem solving by experts and guarantees the fastest communication due to a global IT infrastructure.

## KePlast Smart Technology

Future-proof technology libraries and wizards for the machine

The complete technology libraries allow high-quality processes for sophisticated applications. These modules enable numerous communication protocols and standards, such as OPC UA and EUROMAP. Several smart wizards, such as KePlast MachineSequencer, support the process operator in the daily business.

## KePlast Smart Engineering

User-friendly engineering and tools for the OEM's fast machine configurations

With the ergonomic tool KePlast AppCo, the OEM customers can easily configure the machine software without any comprehensive trainings – this is also applicable for high-volume customers while implementing overall product line management workflows.

## Mastering your digital transformation

You can benefit through the partnership with KEBA – by having an expert at your side who plays a pioneering role in various areas including the integration of Linux-based technologies and other cloud-based assistance services. With innovation cycles becoming frequently shorter, the market demands a broad portfolio of new technologies that needs to be integrated quickly and easily. At the same time, these systems must be scalable and highly flexible.



## With smart technologies into the future – Edge computing & cloud access

The conception of a digitalized industry often only takes new machine generations into account and neglects already existing plants. It is therefore also essential to consider these existing machines on both a horizontal and vertical networking level by using several standards, such as OPC UA, TSN, MQTT, etc. This bridge into the cloud can be built ideally through our open hardware and modular Linux software platform. The real-time data acquisition up to 500µsec enables machine learning as well as big data management – making our control platform future-proof.

## KePlast ServiceNet – in seconds at your machine

KePlast ServiceNet is a user-friendly plug & play solution for comprehensive remote support and efficient distant monitoring of IMM. Fast, worldwide access to process data for service as well as the convenient remote diagnosis are as simple and uncomplicated as the comfortable support of the operative staff in application and process queries.

Thanks to the secure connection to all machines in the field, service and process assistance can be provided regardless of the location – be it at the machine manufacturer's service center, at the local resellers on the global markets or on site during a service session.





# Process monitoring for maximum productivity with KePlast EasyNet MES

## Be ready for Industry 4.0 – with KePlast Smart Industry!

As part of the KePlast Smart Factory – KEBA's Industry 4.0 portfolio – KePlast EasyNet MES (Manufacturing Execution System) is a user-friendly program that enables the reliable networking of injection molding machines at a high price-performance ratio. It is ideal for central data acquisition and backup. With EasyNet, you have an overview of your production machines at all times – while the short reaction time ensures the highest performance.

## Status of all machines at a glance for higher factory performance

For medium-sized plastics processing companies, KePlast EasyNet MES offers various easy-to-use monitoring and planning functions at a glance, such as the productivity overview and the process quality view of an individual machine. Due to the KePlast Heatup Management function, you can significantly minimize your energy costs in order to achieve the best possible machine availability. In the clear overall plant view, the shift manager has an overview of the entire production and can react efficiently to plan production changes or will be informed instantly about machine alarms.

## Central data management ensures the highest efficiency

EasyNet captures all the relevant machine parameters cyclically. The recorded process data is stored in a central database and this ensures the best data backup and efficient process analysis including the generation of individual production reports. The calculation of the OEE (Overall Equipment Efficiency) allows the comparison of the given data to improve future productivity. The machine standstill analysis enables you a rapid planning of the service and maintenance of the machines as well as the optimization of your workflows.



## Smart production planning & SOAP interface

Balance your plant with ERP integration

**Mold data management**  
Save time & reduce failures

**Productivity view & smart heatup management**  
Save costs & increase your plant efficiency

**Your benefits with KePlast EasyNet**

**Quality view**  
Analyze the machine processes & generate quality reports

**Machine standstill analysis**  
Review your machine availability & plan its maintenance

**EasyNet Mobile**  
Be informed wherever you are by alarm notifications at any time

## KePlast EasyNet MES – One solution for all machine brands and generations

### Keep your critical production data secure

The KePlast EasyNet MES concept is built on the philosophy of keeping all the collected data secure and at the production company's hands with special permissions of the data owner. Our solution is based on a local server architecture on site to avoid data security challenges, while the available internet and cloud access can be provided on request via a secure connection.

### Deep vertical integration of production jobs via EUROMAP 77

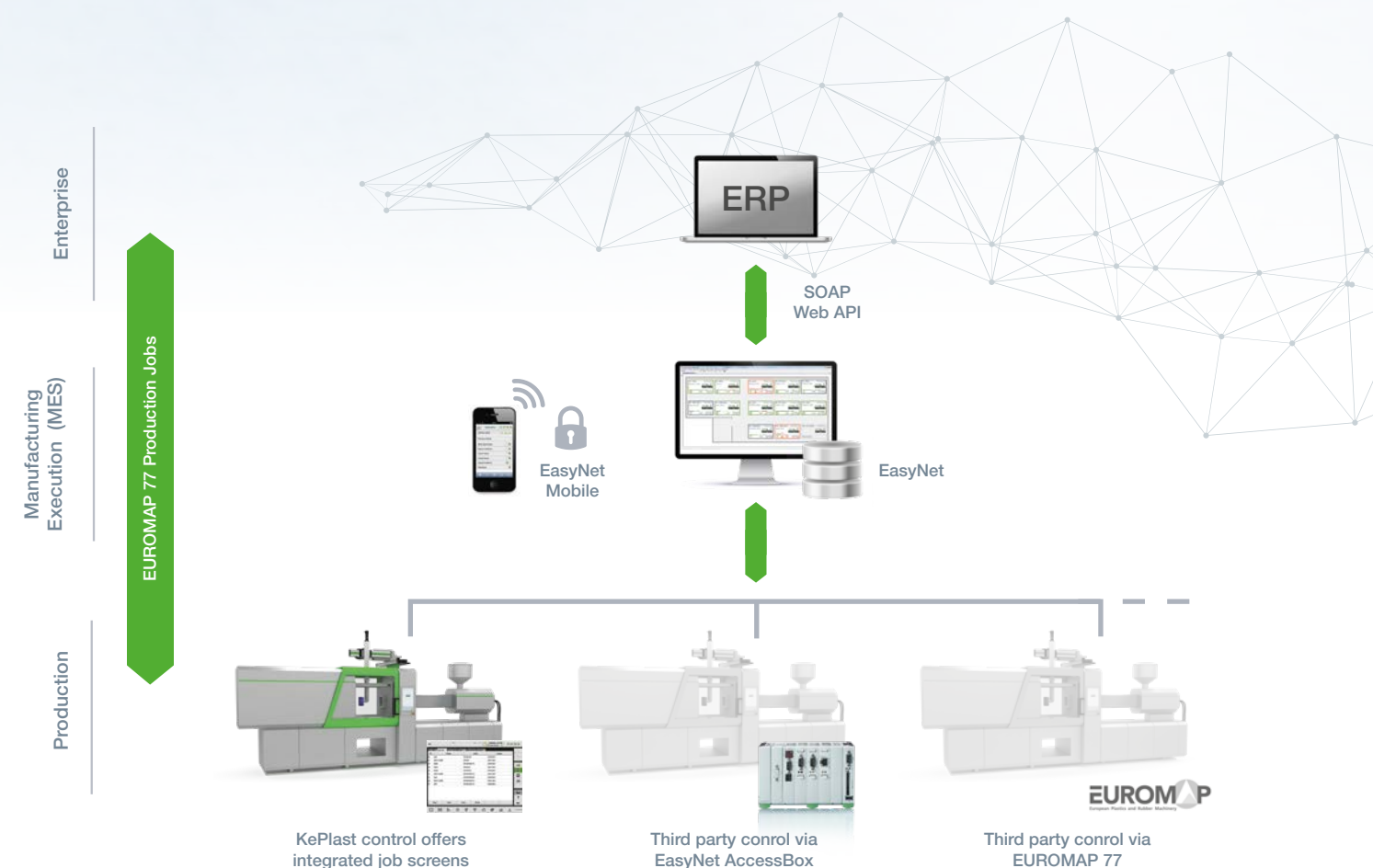
Ensure your best factory performance and increase your information level to the highest with the full and homogenous integration of production jobs according to EUROMAP 77 – from the ERP system directly to the operator at the machine. With EasyNet, production jobs are sent in real-time to the HMI screens and the collected information of the production status is returned instantly.

### Connect all your machines with EasyNet AccessBox

A production hall often contains machines from a variety of different manufacturers and machine generations. With EasyNet AccessBox, you can also integrate machines without KEBA controller into the EasyNet network – while the new machine generations can be integrated via EUROMAP 77 directly.

### KePlast EasyNet Mobile – be informed wherever you are

Regardless of the operating system and available for all mobile smart end-devices, KePlast EasyNet Mobile is a HTML-based assistance system and provides all necessary and required production data of your plant. Stay up to date with notifications regarding production events and maintenance – wherever you are and at any time.





# Software makes the difference

Whether a single-board computer or a complex modular system, whether for hydraulic, hybrid or all-electric injection molding machines – all KePlast systems are based on a fully scalable, high-end, and innovative hardware control and software platform.

## Rapid and easy creation of applications

The software of the KePlast Framework is extremely portable. Programs created for one injection molding machine can also run on other KePlast controlled machines with different hardware without time-consuming adaptation. Comprehensive software and technology libraries for IMM are included in order to create applications quickly and effortlessly.

In addition, this modern and state-of-the-art software package with its Linux-based architecture, guarantees a stable and future-proof solution that is a must-have for all future requirements of Industry 4.0.

## KePlast MachineSequencer Configuration of machine sequences

The software is a graphical online programming interface for machine sequences. Thanks to its intuitive design, the sequence program can be adapted quickly and cost-effectively.

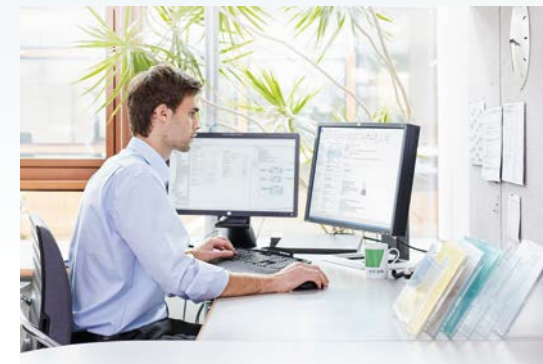
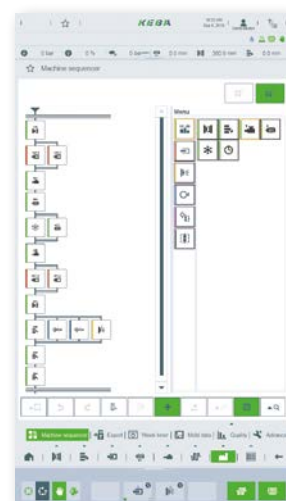
The sequence of all machine movements is entirely flexible and enables new tools to be set up quickly. The MachineSequencer is ideal for the use in high-quality machines with complex alternating core sequences or multiple injection units.



## KePlast Technology Libraries Comprehensive and high-tech IMM libraries

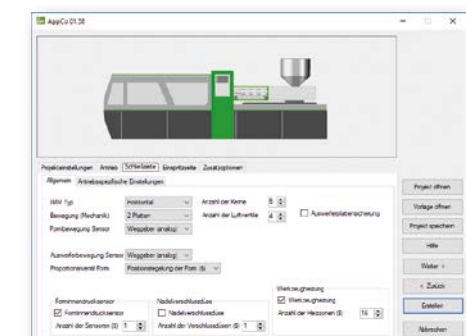
Part of the powerful KePlast Framework is the comprehensive range of technology functions for controlling the injection molding process and implementing all injection molding functions. Based on many years of experience, various technology modules, such as servo valve control or mold position control, are available.

Furthermore, the software and technology libraries also contain industry-specific functions, such as OPC UA and EUROMAP interfaces. These features allow highly complex applications to be implemented in the shortest possible time.



## The result: Fastest commissioning Let us run your machine within three days

The unique KePlast concept results into an outstanding software framework and smart engineering workflows. Our modular, open, and powerful KePlast software can be either used as a ready-to-use solution or as an ideal starting point for commissioning and further development up to customer-specific adaptations in PLC and HMI. With KePlast, you can realize a fast time-to-market and gain a competitive advantage.



## KePlast AppCo Application creation by a mouse click

The user-friendly KePlast AppCo software tool supports the machine manufacturer in creating the optimal control application by guiding the user through the entire configuration process up to the finished control program without requiring any programming skills.

For high-volume customers, KePlast AppCo can also be an ideal tool for implementing individual product line management. In combination with the Linux-based control platform and innovative Industry 4.0-related software concepts, highly optimized workflows can be implemented for setting up series machines.



# Fit for the future with KEBA.

Founded in 1968, KEBA AG is an internationally successful electronics company based in Linz/Austria with subsidiaries around the world.

In line with its credo, "Automation by innovation", KEBA has been developing and producing inventive, top-quality automation solutions for 50 years for industrial, banking, services and energy automation branches. Indeed, as a result of competence, experience and courage, KEBA is the technology and innovation leader in its market segments. Extensive development and production expertise represents a guarantee for the highest quality.

[www.keba.com/keplast](http://www.keba.com/keplast)

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# KEBA®

Automation by innovation.