SOCIALPRODUCTION

PROACTIVE PRODUCTION MONITORING

Krauss Maffei

Pioneering Plastics

socialProduction
THE PRODUCT FAMILY
AT A GLANCE

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socialProduction

PRODUCTION. COMMUNICATION. PROACTIVE. INTUITIVE.

The socialProduction family of products facilitates the intuitive monitoring of injection molding machines, the production process and the condition of machine components. socialProduction products combine the benefits of social media with cutting-edge production monitoring technologies.

social Production
KraussMaffei

KraussMaffei smartCube

CONNECTIVITY IS KEY TO DIGITALIZATION

- Innovative connectivity solution for using socialProduction products
- Future-proof and standardized industrial PC with highest security standards

INDUSTRY AWARDS FOR SOCIALPRODUCTION

- 1st place at the IOT Solutions World Congress 2023 in the category of "Best Smart Manufacturing / Industry 4.0 Solution"

- 2nd place at Industry of Things World Award 2021 in the category of "Economic success and sustainability: Using the IoT to CO_2-neutral production"

productionMonitor

DIGITAL PRODUCTION MONITORING

- Efficient monitoring of the machines with intelligent production figures
- Increased transparency thanks to cross-machine and cross-location dataset management
- Precise monitoring of the energy consumption and identification of potential savings

processSupport

DIGITAL PROCESS SUPPORT

- Continuous monitoring of the production process using self-learning technologies
- Proactive reporting of irregularities in the process
- Detailed visualization and analysis of all available process parameters

liveCare

CONDITION MONITORING FOR MACHINE COMPONENTS

- Continuous online monitoring of the state of wear of machine components
- Helps with the implementation of efficient, condition-based maintenance strategies and with determining the optimum service life of components

socialProduction

INNOVATIVE PRODUCTS FOR PRODUCTION MONITORING

Plastics processors must deliver perfect quality under time constraints. They need machinery with high availability and a minimal scrap rate. Until now, critical key figures have been monitored and evaluated manually to comply with quality requirements. Now digitalization offers the option of doing it automatically. Faster, more comprehensively and with better communication than humans could manage alone.

The continuous monitoring of machines gives you the ability to detect anomalies in real time and thus prevent faulty components and downtimes.

socialProduction facilitates the intuitive monitoring of injection molding machines, the production process and the condition of machine components and combines KraussMaffei's extensive expertise in plastics with forward-looking IT expertise. This prevents malfunctions, downtimes or quality fluctuations and optimizes internal processes.

Tailored to your requirements

Thanks to its modularly selectable products productionMonitor, processSupport and liveCare, socialProduction is precisely tailored to the needs of users working in plastics production. The ease of use and attractive design make socialProduction an enhancement in each production hall.

You can use socialProduction via a smartphone app or via a web application on a PC or tablet. Whatever your requirements, both applications can be integrated into your daily work with ease.
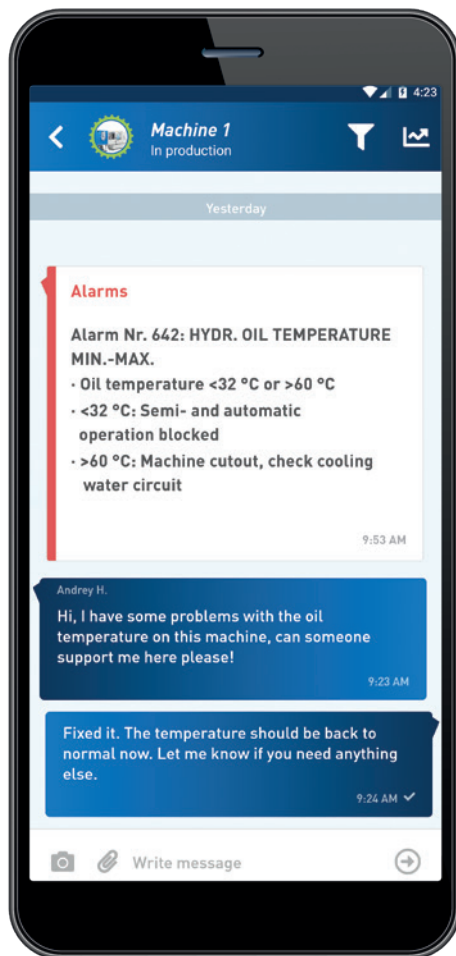
socialProduction – the product family

– **productionMonitor** for efficient monitoring of the machine pool
– **processSupport** for automatic detection of deviations in the production process
– **liveCare** for intelligent condition monitoring of machine components

YOUR BENEFITS:

- Automatic and continuous monitoring of production status, process parameters and the condition of machine components
- The machines are always live – in any place, at any time
- Certified according to the highest IT security standards

THE INJECTION MOLDING MACHINE AS A TEAM MEMBER IN ITS OWN CHAT ROOM

Everybody is familiar with the use of chat rooms and push notifications and knows how to upload photos. Why should these skills not be used to make communication in the production environment easier, safer and more efficient?

socialProduction app
Integrated messenger

United: The best of two worlds

A fast and targeted flow of information is as essential in production as it is in one's personal life. This is why KraussMaffei is using socialProduction to move the communication between humans and machines to common chat rooms. The machines send chat messages independently to report events and problems that have occurred. With seamless integration, users can communicate about these events and problems with texts and images. The machine thus becomes an active team member in the production hall.

YOUR BENEFITS:

- Fast and targeted communications channel in production
- Live push notifications in the event of anomalies and important events
- Communication between employees in various departments and working different shifts
- Digital logbook for seamless documentation

EVERYTHING AT A GLANCE
SOCIALPRODUCTION
MAKES IT POSSIBLE

Every day, production managers are faced with the challenge of achieving optimal control of the efficiency and utilization of their machine pool. But they often lack the necessary transparency, meaning that important information about the condition and capacity of machines is dispersed or not available at all. A central production monitoring solution, which provides a comprehensive overview, is indispensable in making informed decisions and preventing production downtime.

To confront these challenges, socialProduction offers an innovative machine dashboard that lets you record all the key figures and information from your machines in real time.
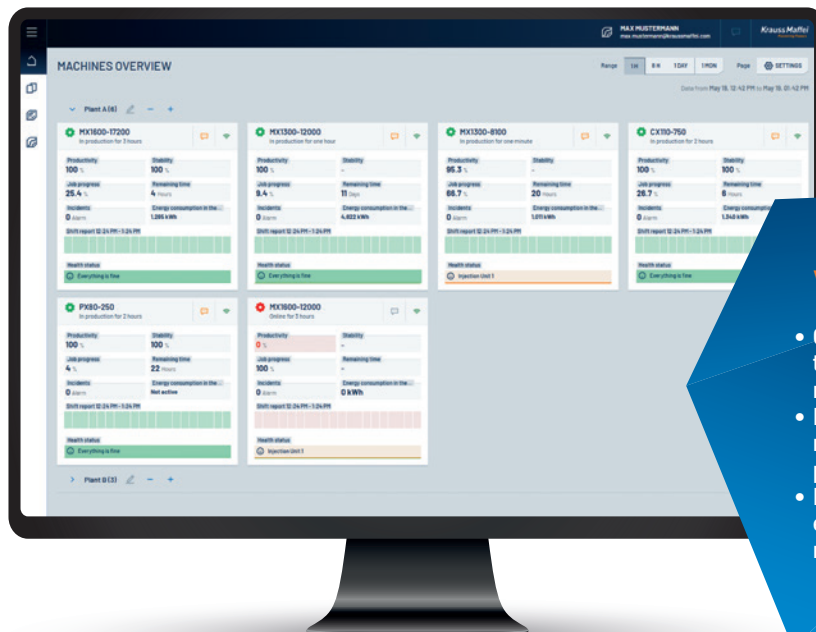
Intelligent status display

– Animated real-time display of the machine status
– Display of the historical machine status in the form of a machine timeline

Key figures related to production, process & condition

– **Productivity:** What percentage of time was the machine in production?
– **Stability:** How stable is the production process in the machine?
– **Job progress & remaining operating time:**
   How many parts have been produced, and how much more time does the machine need to complete the current production order?

– **Quality:** What is the ratio of good parts to the total number of parts produced?
– **Anomalies & overall condition:**
   Are there anomalies in the process or an increase in wear and tear of machine components?
– **Energy consumption:** How much energy do the machines consume?

The display can be customized to meet your specific requirements such that it shows the precise information that is critical for your production processes. Machines can be repositioned and then assigned to various groups, such as production halls.

YOUR BENEFITS:

• Customized insights into production through individual adaptation to specific requirements
• Increase in quality thanks to continuous monitoring of the production and process
• Reduction in costs thanks to optimized energy consumption and component monitoring
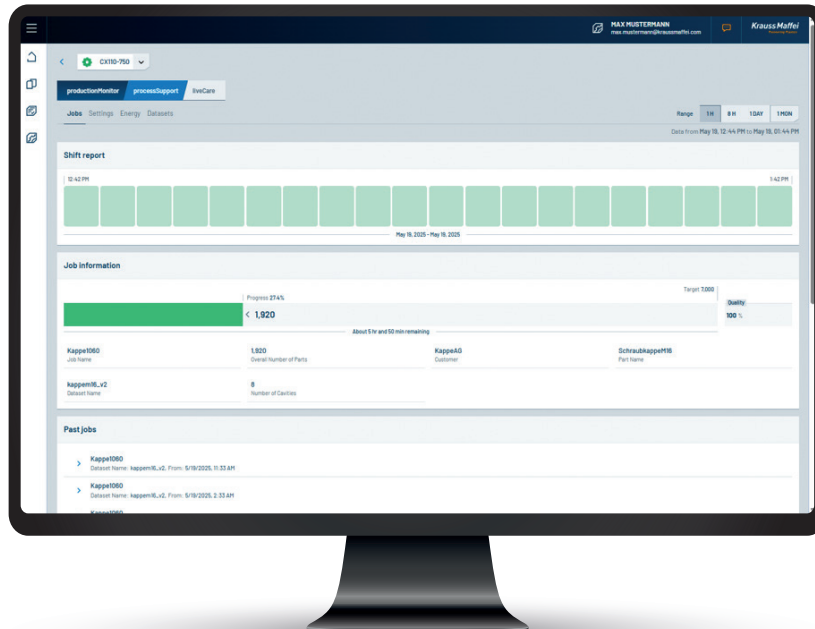
productionMonitor
ALL PRODUCTION DATA IN ONE LOCATION – DIGITAL & CENTRALIZED

Production monitoring often requires substantial effort: recurring manual tasks such as logging, evaluation and comparison of production data tie up valuable working time that could be used for strategic optimizations and improvements. Important information on the order status and energy consumption is also less available at centralized locations, such as machine and process settings. In addition, there is frequently no centralized dataset management nor a comprehensive display of the change history.

productionMonitor from KraussMaffei offers a comprehensive solution for these challenges by digitally recording, storing and displaying an overview of all relevant data in a centralized location. Thanks to automatic storage of data records, error sources are minimized and the change history can still be tracked at all times. In addition, productionMonitor guarantees a continuous overview of the current order status and the energy consumption of the machines.

YOUR BENEFITS:

- Clear display of the machine status and the setting data
- Increased transparency thanks to cross-machine and cross-location dataset management
- Efficient energy monitoring and determination of potential savings
- Quicker tool setup thanks to easier production preparation

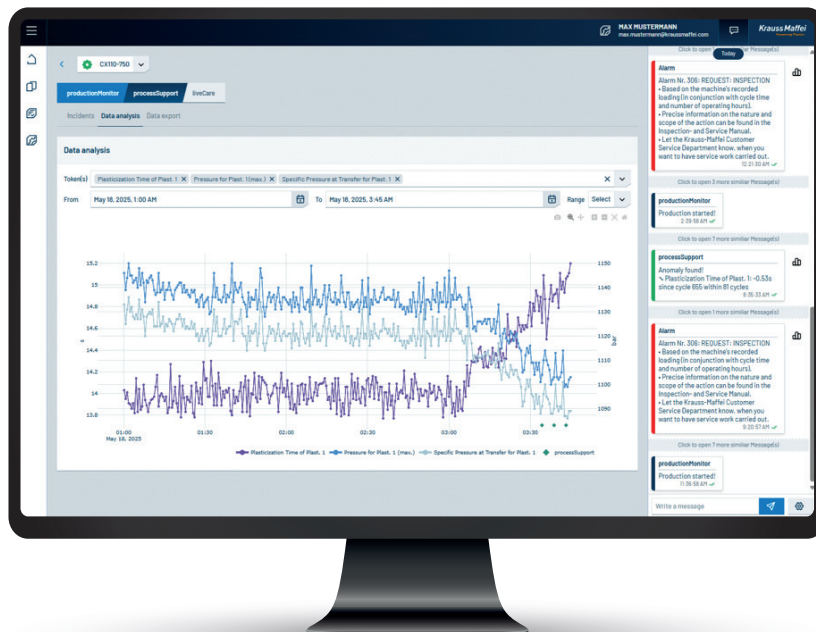# AUTOMATIC DATA ANALYSIS – GREATER PROCESS UNDERSTANDING

In contemporary machine and system structures, a continuously growing wealth of data and information opens up the option of expanding the present understanding of production and processes. However, the volume of data often exceeds the human capacity to arrange this information so that it makes sense, to draw conclusions and to use the information to solve urgent problems in a way that is advantageous.

KraussMaffei is also forging new paths in the area of process support

The production process is continuously monitored by a self-learning technology. Relevant anomalies in the process are identified at an early stage based on the detected machine data and proactively communicated to the user as anomaly notifications. Process parameters are evaluated completely autonomously and without the need for preconfiguration by process owners. All machine parameters can be accessed in socialProduciton at any time for visualization and analysis. In addition, the export function facilitates the use of process parameters outside of socialProduction to ensure flexible further processing.

Detailed insight into all available machine parameters and correlation with occurrence of events

The intuitive configuration means important machine parameters can be accessed quickly. You can simply click to open a detailed view of the anomalies in the process, including the underlying process parameters and the time frame in which they occurred.

INDEPENDENT AND CONTINUOUS MONITORING OF THE PRODUCTION PROCESS

Special features of processSupport

Common solutions for the market and competition reach their limits when plastics and process knowledge is required to make optimizations. processSupport builds on the extensive plastics process knowledge of KraussMaffei, which is embedded in a complex algorithm for this purpose.
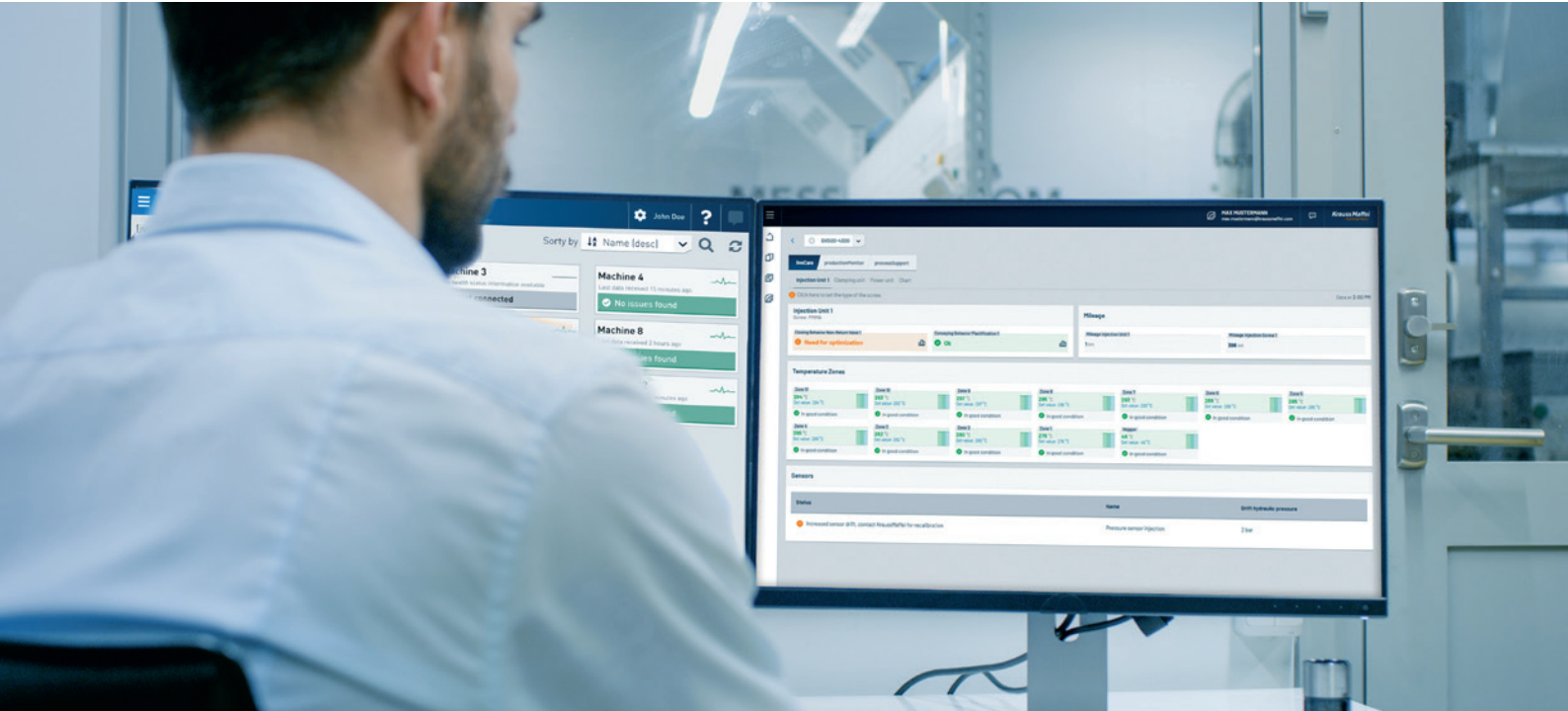
YOUR BENEFITS:

- Detect process faults early and avoid machine downtime
- Detect process deviations before component quality suffers
- Active notifications in the event of anomalies, and faster problem identification
- Automated monitoring of all available process data without manual input of tolerance limits

♥ liveCare
CONDITION MONITORING FOR INJECTION MOLDING MACHINES

Regular maintenance is indispensable in maximizing the availability of a machine and making optimal use of the service life of its components. However, it is also a cost factor that should not be neglected. In the past, it was mainly time-based or cycle-based strategies that were pursued here. Condition monitoring goes one step further and is critical for many companies in ensuring their future viability and competitiveness.

In general, condition monitoring includes three substeps:

1. Measurement of physical variables using sensors and documentation of values
2. Comparison of each actual situation recorded with the corresponding target value, including predefined tolerance bands
3. Analysis of the determined status and diagnosis of possible malfunctions

Condition monitoring of machines and components facilitates early detection of problems and thus prevents unplanned downtime.

Specific maintenance tasks can be designed to be more efficient as they do not have to be carried out on the basis of set, predefined intervals, but only when they are actually required. In addition, maintenance tasks can be scheduled at an early stage, efficiently integrated into the production plan and planned downtime reduced. These are known as condition-based maintenance strategies. Information on the condition of components can also be used to optimize the process of ordering spare parts so that the storage time and storage costs can be reduced. High-quality and reliable condition monitoring is also the basis for predicting the remaining service life.

DETERMINING THE OPTIMUM REPLACEMENT TIME FOR MACHINE COMPONENTS

KraussMaffei liveCare is a condition monitoring solution that facilitates implementation of significantly more efficient data-based and condition-based maintenance strategies.

Condition monitoring for injection molding machines

liveCare monitors various components from the injection unit, clamping unit and drive unit assemblies. In addition to the plasticizing screw, non-return valve and the pump groups, temperature zones and pressure sensors are also continuously monitored.
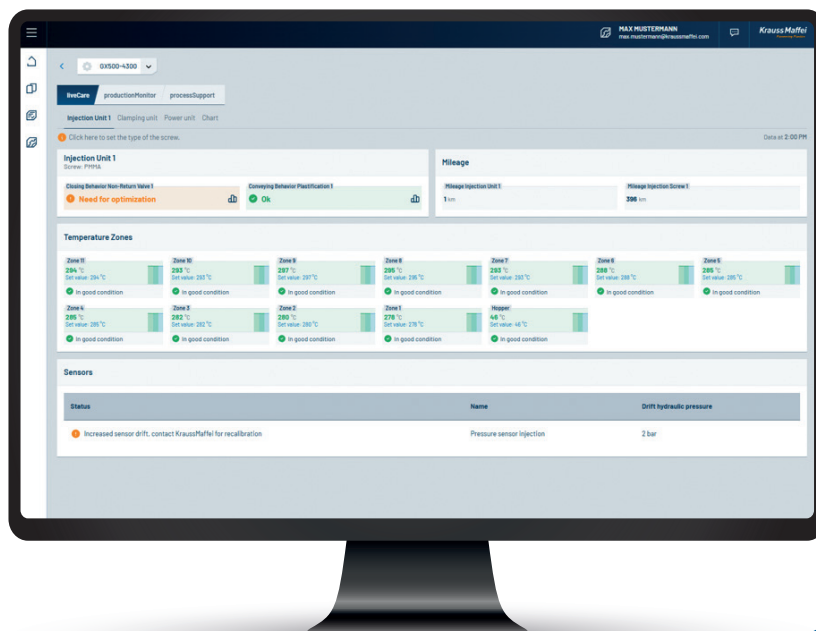
liveCare does not just offer condition displays for components. It also provides background information on relevant process parameters, such as the plasticizing and cycle times. This means that wear-based performance losses or increased energy consumption can also be detected. As such, information from liveCare helps you determine the optimal replacement time given the energy consumption and to ensure cost-effectiveness. This lets you plan maintenance work in advance.

Special features of liveCare

liveCare only uses sensors that are already integrated, thus avoiding the cost and effort of installing additional and external sensors. This ensures continuous condition monitoring as opposed to monitoring at given points in time.

YOUR BENEFITS:

- Direct identification of components in critical condition
- Detail views with background information
- Use of available machine data without additional sensors
- Support in determining the optimum replacement time for components

socialProduction
PROACTIVE
PRODUCTION MONITORING

Push your production efficiency to a new level. socialProduction allows continuous monitoring of productivity, warns you about deviations in the process in real time and uses the familiar options of modern chat communication. The system can be used at any time and in any place. It runs both on smartphones and desktop computers.

The highlights of socialProduction at a glance:

– **Transparency and procurement of information:**
  Machine and process data can be accessed at any time and from any location, which guarantees comprehensive transparency and efficient procurement of information.

– **Efficient dataset management:**
  Simple documentation and the comparison and transfer of datasets facilitate efficient management and use of the data collected.

– **Cost reduction:**
  The operating costs can be reduced significantly through transparent energy monitoring and identification of potential savings.

– **Efficient communication:**
  The chat function facilitates fast collaboration and simplifies troubleshooting through direct communication.

– **Automated process monitoring:**
  Proactive notifications and the identification of deviations in the process ensure continuous and automated monitoring of the processes.

– **Increased machine availability:**
  A reduction in unplanned downtimes and more efficient maintenance planning lead to increased availability of the machines.

– **Increased machine performance:**
  Condition-based replacement of components prevents extension of the cycle times, thereby increasing machine performance.

– **Financial optimization:**
  Reduced stockkeeping of spare parts leads to financial optimization and lowers storage costs.

OUR WORLDWIDE EXPERTISE
IS YOUR ADVANTAGE
DIGITAL & SERVICE SOLUTIONS

With your KraussMaffei machine, you have chosen a product that delivers the highest levels of productivity and reliability. In addition to our range of machinery, KraussMaffei focuses on comprehensive and future-oriented solutions, innovative business models and an innovative portfolio of digital products.

Customer service at the touch of a button
The process of digital transformation is becoming faster and easier than ever for the customer. Our Digital & Service Solutions unit makes your production chain even more flexible and efficient with future-oriented solutions. KraussMaffei thus globally provides an all-inclusive customer service package and networks machines and processes with each other. Our global support offers a sound basis for your local long-term success.

Individual challenges in mechanical engineering call for intelligent solutions
With our services portfolio, we support you throughout your machine's lifecycle with a strong focus on your specific needs. In order to satisfy your wishes, we offer you a wide range of solutions in order to ensure maximum availability and optimum productivity of your machines.

Technology³ as a unique selling proposition
KraussMaffei is the only supplier in the world with a product range comprising the most important machine technologies for plastic and rubber processing: injection molding machinery, automation, reaction process machinery and extrusion technology. KraussMaffei is represented worldwide with more than 30 subsidiaries and over 10 production plants as well as about 570 commercial and service partners. Working together with our customers and partners, we are thus in a position to offer vast and unique expertise in the industry.

You can find further information at:
www.kraussmaffei.com

KRAUSSMAFFEI –
PIONEERING PLASTICS

Extensive expertise from a single supplier

KraussMaffei is one of the world's leading manufacturers of machinery and systems for producing and processing plastics and rubber. Our brand has been synonymous with cutting-edge technology for over 180 years. Our product range includes all technologies in injection molding, extrusion and reaction process machinery. KraussMaffei has a unique selling proposition in the industry as a result. By drawing on our proven innovative capacity, we can guarantee our customers sustained additional value over their entire value-adding chain through our standardized and individual product, process, digital and service solutions. The range of our products and services allows us to serve customers in many sectors including the automotive, packaging, medical and construction industries. We also supply manufacturers of electrical and electronic products and household appliances.

At your service all over the world

KraussMaffei is represented all over the world. Subsidiaries provide you with support in the countries shown in light blue. Our sales and service partners take care of you in the regions shown in white.

**You can find all contact information at
www.kraussmaffei.com**

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