



## BLOWN FILM IN PERFECTION

Over 75 years of innovation and continuous improvement

**HOSOKAWA  
ALPINE**

ENGINEERED,  
MANUFACTURED  
& ASSEMBLED  
in GERMANY



**HOSOKAWA  
ALPINE**





## DEAR **FILM-** **MANUFACTURERS**

125 years of experience in mechanical engineering, 75 years of specialist knowledge in the blown film sector, top quality made in Germany – this is the formula that has made us the technology leader in blown film lines. With our innovative and state-of-the-art systems for the production of top-quality films, we are constantly setting new standards and are pioneers in MDO technology. We continuously develop, test and optimise – so that you can ultimately produce optimum films in uncompromising quality.

We think about tomorrow with our actions as well as with our technologies. That is why we are convinced that the flexible packaging of the future must follow a circular economy. To this end, we are working on film solutions, which can be recycled and reused at the same level. So that economic efficiency and sustainability go hand in hand.

Martin Schorbach  
Senior Vice President Blown Film Extrusion

*That's* **ALPINE**

# WE ARE YOUR **PARTNER IN** **FILM PRODUCTION**

FOR YOUR MARKET



*FOOD*



*CONSTRUCTION*



*PHARMACY*



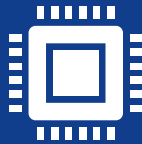
*HYGIENE*



*LOGISTICS*



*HOUSEHOLD*



*ELECTRONICS*



*MEDICINE*



*AGRICULTURE*



*CHEMISTRY*

**»» FOR NUMEROUS DIFFERENT APPLICATIONS**

## Consumer packaging



PE & PP lamination film



Frozen food packaging



Bread bags



Fine shrink wrap

## Industry packaging



Stretch cap



Shrink cap



Heavy duty sacks



Lining bags for Big Bags

## MDO stretched packaging



MDOPE lamination film with/without barrier



Compression wrap



Breathable film



Twist wrap

## Barrier packaging



Re-closable lid film



Thermoformed trays



Bag-in-box packaging



Flow packs

## Packaging made from PCR material



Carrier bags



Bin liners



Tissue wrap



Shrink film

## Bio-based and compostable packaging



Fruit and vegetable bags



Cling film



Mulch film



Organic waste bags

# THE SECRET OF OUR **BLOWN FILM LINES**

## **Unique technology – made in Germany**

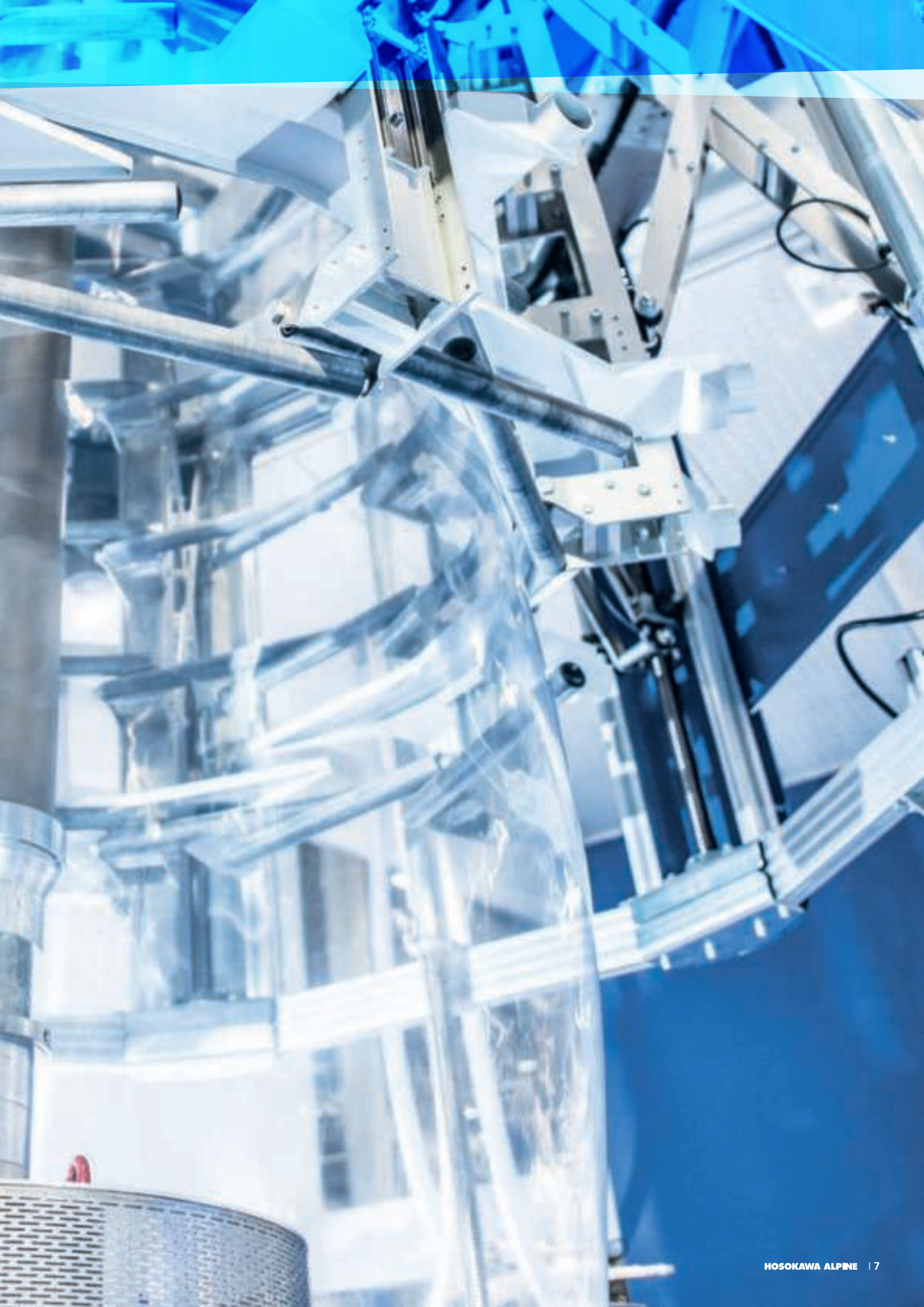
Hosokawa Alpine has been setting standards in film quality for decades. Just like the production of first-class films, the development and manufacture of state-of-the-art blown film lines and monoaxial film orientation units requires the perfect interplay of all components. Decades of experience, numerous tests in our own test center and sophisticated technologies made in Germany make Hosokawa Alpine one of the leading specialists for blown film lines worldwide.

## **German craftsmanship**

More than 125 years of company history speaks for itself. Loyal to our location in Augsburg, Germany, we look to the future. Here, in the heart of Bavaria, we have highly qualified specialists, a perfect infrastructure and solid synergies. Top conditions for innovative developments as well as for sustainable production.

*That's* **ALPINE**









## WE USE **SYNERGIES**

Our company history stands for invaluable experience in mechanical engineering. In order to be able to produce essential components for blown film lines in the required quality, we are constantly developing new production methods, investing in state-of-the-art production technologies and can always rely on synergies with other business areas and business partners. After all, Hosokawa is the world's largest supplier of process systems for mechanical process engineering.

*That's* **ALPINE**

## A PARTNER YOU CAN **RELY ON**

Whether development, engineering, production, or commissioning, we offer you everything from a single source. With Hosokawa Alpine lines and systems for blown film extrusion, you are always on the safe side, from the test series to ongoing production. We work closely with you at every stage. As a result, you end up with the product that exactly meets your current requirements, but at the same time offers you flexibility for further applications.

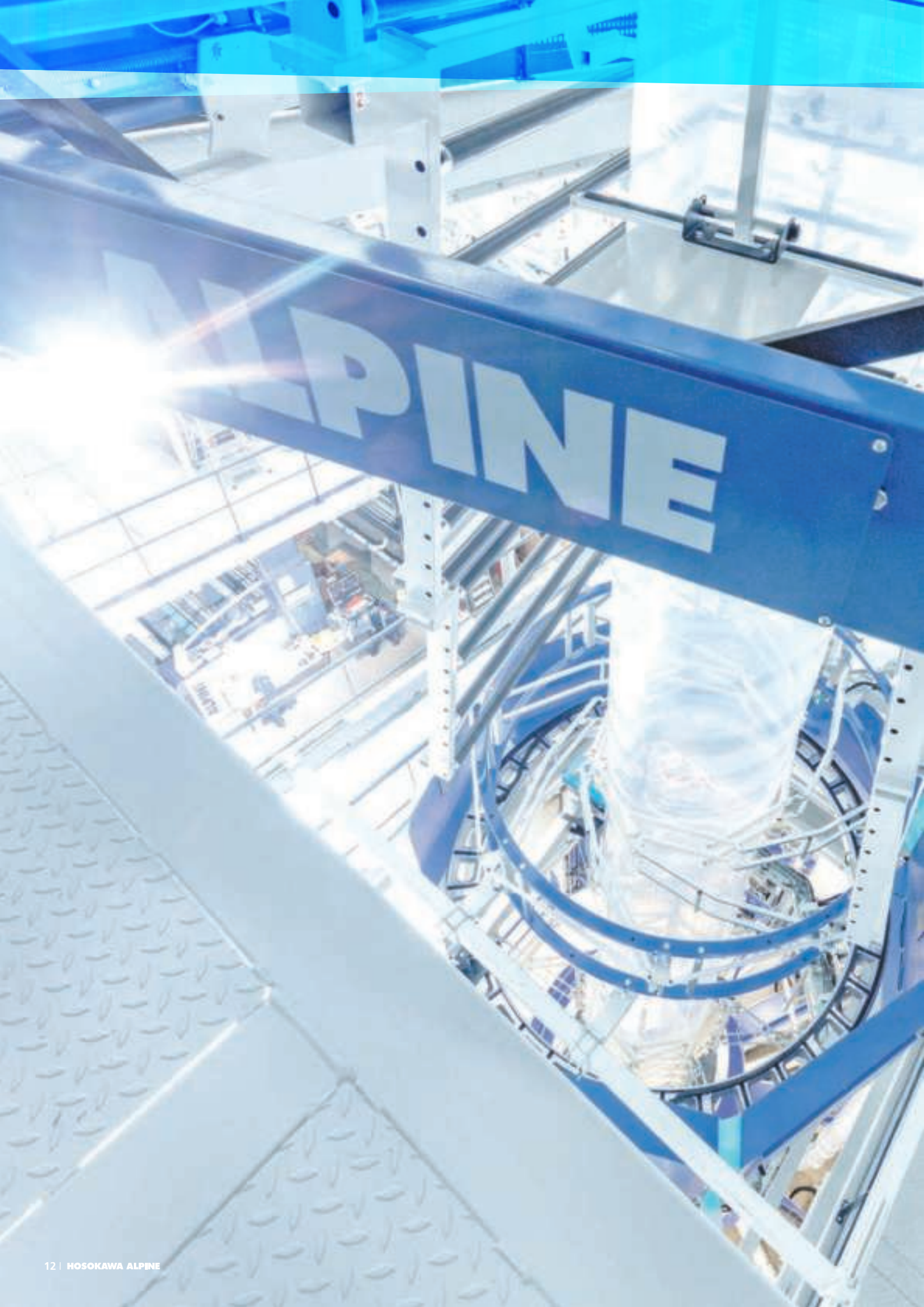
## WE CARE FOR **LONG-TERM CUSTOMER RELATIONSHIPS**

Quality always has something to do with consistency. Both technically and personally. We have been looking after many of our customers for decades. A special basis of trust that speaks for security and satisfaction on both sides.

*That's* **ALPINE**









## TEST CENTRE FOR **PRODUCT TESTING**

The Hosokawa Alpine test center in Augsburg (Germany) offers you 1000 square meters of state-of-the-art mono and coextrusion lines with up to eleven layers for your test runs. Monoaxial inline orientation is just as possible as the use of different film winders. Attached to the test center is an in-house laboratory with state-of-the-art film testing equipment. This allows you to prove the quality of our innovative blown film lines and incorporate these findings into the planning of your individual line.

*That's* **ALPINE**

## WE BELIEVE IN **OUR TRAINEES**

Hosokawa Alpine has a continuous trainee ratio of ten percent in relation to its core workforce. In this way, we pass on elementary knowledge to the next generation at an early stage and thus secure our skilled workers and know-how carriers of the future.

*That's* **ALPINE**





# CUSTOMISED SYSTEM CONFIGURATION

You know the properties of the film to be produced. We know what the right system configuration needs to look like. Whether it's a specified formulation, required film properties or the desired film format – we combine your and our expertise and use it to configure your customised blown film line. From the extruder to the film winder.

*That's* **ALPINE**





## PERFECT INTER- ACTION OF THE COMPONENTS

Only the highest quality components are used in Hosokawa Alpine's blown film lines and they harmonise perfectly with each other. For you, this means that your system runs reliably and has hardly any downtime. This gives you maximum performance for your blown film production – from a system you can rely on.

The use of our high-quality original components made in Germany is a crucial detail for economical film production – from the high-performance extruder to our user-friendly precision winders. Hosokawa Alpine systems also score points with unique technologies such as the X series die head for optimum film surfaces and the shortest changeover times or the TRIO system for the most efficient film orientation technology.

*That's* **ALPINE**

## ALPINE X-DIE

### For the highest film quality and shortest purging times

- Reduced raw material loss thanks to extremely fast material changes (extremely short flow paths and round channels)
- High system availability due to low deposition tendency in the melt-bearing channels (self-cleaning effect)
- High output rates at a low pressure level
- Good accessibility thanks to compact design
- Optimised arrangement of the melt feeders in the spiral mandrel distributor ensures exceptionally high homogeneity of the melt
- Reversible distribution strips are eliminated in the process
- Excellent film appearance with the best film thickness tolerances – even in the individual layers
- Mono to 11-layer die heads

### Characteristics

- Over 50 standard versions
- Diameter 100 – 900 mm
- All surfaces in contact with the polymer are coated
- Large-area centre for the use of internal cooling

**SHORTEST  
PURGING TIMES –  
THE FASTEST  
AVAILABLE  
PRODUCT CHANGE  
ON THE MARKET!**



# HIGH-PERFORMANCE EXTRUDER

## Modular principle for customised system configurations

- › High-performance barrier screws with low-shear mixers achieve optimum melt homogeneity at low temperatures
- › Maximum throughputs with low cooling capacity, thus saving energy
- › Low-wear and therefore low-maintenance
- › Compact design enables good accessibility and is easy to install

## Characteristics

- › Extruder diameter from 50 to 135 mm
- › Depending on requirements, can be combined for 1 to 11-layer systems
- › Direct drive with multi-stage gears

### *HX Flex*

- › All-rounder for the perfect balance between performance and melt quality

### *HX Select*

- › Specialist for applications with low shear and cooler melt
- › Up to 20 % energy savings



# COMPACT SCREEN CHANGERS

## For high output and easy screen changes

- › Optimised melt channel geometries prevent deposits and extend the service life
- › Fast heat-up times
- › Alpine's own screen changer for optimum interaction of all the components in Alpine systems → guarantees maximum efficiency and the best film quality

## Characteristics

- › Integrated melt pressure measurement and melt temperature measurement
- › Hydraulic or manual operation
- › Continuous screen changer available



# HIGH-PERFORMANCE COOLING SYSTEM

Matched to the system

## Cooling ring (external cooling)

- › System with low counter-pressure
- › Efficient utilisation of the available cooling capacity and increase in system throughput
- › Fully thermally insulated base body for maximum energy efficiency
- › Optimised air distribution increases control accuracy for optimised film tolerances
- › Simple integration into the system with just one cooling air supply line
- › Optional monomer extraction between the cooling ring and blow head

## IBC stack (internal cooling)

- › Unique monomer collection system for paraffin retention avoids paraffin splashes on the film bubble and leads to a considerable improvement in film quality and a significant increase in cleaning intervals
- › Low pressure nozzle geometry ensures optimum utilisation of the available cooling capacity
- › High volume flow guarantees maximum system output

# REVERSING TAKE-OFF SYSTEMS

## Characteristics

- › High-quality films with or without gussets
- › Layflat widths up to 3,500 mm
- › Take-off speeds of up to 250 m/min
- › Collapsing of the film bubble via mounted rollers, surfaces
- › Made from lightweight and low-wear carbon fibres

## Options

- › For more friction, boards with wooden slats possible
- › Side gusset unit
- › Extended collapsing boards for rigid films
- › S-wrap 1, S-wrap 2 or S-wrap 4

**POST-COOLING SOLUTIONS TO AVOID BLOCKING OF THE FILM AND FOR LOW ROOF HEIGHTS.**



## MDO FILM ORIENTATION SYSTEMS

### For optimised film properties

- › Pioneers in MDO (Machine Direction Orientation) technology with over 25 years of experience in monoaxial orientation
- › Patented TRIO technology “Trim Reduction for Inline Orientation” ensures significant material savings by gaining more useable film between minimized edge trims
- › Vacuum technology enables optimised flatness for excellent processability and maximum process stability
- › Flexible gap setting to reduce the neck-in

### Characteristics

- › MDO technology is a key component in the production of high-performance mono-material composites for use in a circular economy
- › Working widths 1600/2000/2600/3000 mm
- › Continuous stretching ratio up to 1:10
- › Version with 8, 10 or 12 rollers depending on application



## VERSATILE WINDING MACHINES

### For outstanding reel quality

- › Designed for high speeds
- › Effective prevention of air pockets
- › Optimally adjustable winding hardness
- › Perfect appearance and flatness
- › Allows excellent further processing of the reels

### Characteristics

- › High-precision film winding
- › Single or double station winder
- › Face-to-face or back-to-back configuration
- › With/without central drive
- › Preliminary prints integrated or delivered separately and incorporated
- › Working width up to 3200 mm
- › Reverse winding on option



# AUTOMATION & ASSISTANCE SYSTEMS

We rely on state-of-the-art software and digitalisation solutions to ensure that your production processes run efficiently and stable. The goal: to increase productivity and avoid waste. To achieve this, fast product changes and a quick machine start are important. As a result, the system quickly reaches the optimum operating point.

Hosokawa Alpine provides you with various automation tools and assistance systems for this purpose. This includes the intuitive system operation with many clever features as well as the isa.io digitalisation modules with their individual solutions for a wide range of customer requirements.

*That's* **ALPINE**

## EXVIS SYSTEM OPERATION

### Characteristics

- › Comprehensive monitoring of products, processes and workflows
- › Clear visualisation and documentation of product, process and operating data
- › Storage of film formulas enables quick changes between different products – with reproducible quality
- › Storage of process data and alarms for analysing the production process and quick diagnosis
- › ExVis can be easily integrated into the customer's own network
- › Data interface for Industry 4.0 requirements

### *Further smart options for everyday life on the machine – customised to your needs*

- › Simplified operation with automatic heat-up function
- › Start-up assistant to support the operating personnel
- › One-touch change for automated format changes
- › Reel management system for transparency regarding produced film reels
- › Order management system



# New: Intelligent Software Assistant

The logo for isa.io, featuring the text "isa.io" in white lowercase letters inside a dark blue circle. The background of the entire slide is a dark blue gradient with a pattern of binary code (0s and 1s) in a lighter blue color.

isa.io is a modular, intelligent software assistant that supports industrial production through real-time data analysis, system connectivity, and smart automation. It boosts efficiency, transparency, and reliability. Scalable, cost-efficient, and easy to integrate – isa.io turns complex processes into actionable insights.



## isa.view

Visualizes process data, creates full transparency and supports informed decisions.



## isa.connect

Connects ERP and other IT systems, plus third-party machines, via standardized interfaces for seamless data exchange.



## isa.analyse

Identifies ideal conditions and derives specific action recommendations.



## isa.automate Intended

Keeps optimal processes stable and efficient. Parameters are automatically adjusted.



## isa.guard

Monitors machines in real time and detects anomalies early – for predictive maintenance.

### Smart efficiency:

- ✓ Full transparency with continuous data collection and visualization
- ✓ Higher efficiency through realtime insights and recommendations
- ✓ Early anomaly detection with cloud monitoring and predictive analytics
- ✓ Easy integration via standard ERP/MES interfaces
- ✓ Automated control for optimal operations at all times



Contact us and discover  
new opportunities.  
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[isa-io@alpine.hosokawa.com](mailto:isa-io@alpine.hosokawa.com)

# CUSTOMISED **SERVICE** FOR MAXIMUM PERFORMANCE

Our goal is to ensure top performance and high availability of your blown film lines from day one throughout their entire life cycle. We provide you with customized support solutions that are tailored to your specific needs and based on decades of experience. Take advantage of our free, personal consultation to find the right services for your blown film line. Whether on site or remotely, we like to provide you with expert advice and intelligent solutions.

**HOSOKAWA ALPINE**  
**BLUESERV**





## OUR MAJOR SERVICES

### Die head cleaning

The die head is the heart of your blown film line. Our professional cleaning service restores performance, prevents defects, and extends service life – with minimal downtime.

- In-house or on-site service
- Gentle and thorough cleaning
- Support with reassembly and system check

### Free consultation

Every blown film production is unique. We are happy to understand your specific requirements and to advise you free of charge and without obligation. This is the basis for recommending intelligent, future-proof service solutions.

### Upgrades & control retrofits

Stay competitive by upgrading older equipment with the latest technology. From new control platforms to intelligent functions – we modernize your blown film line without downtime.

- Modular upgrade packages
- Short retrofit times
- Improved automation and integration

### Remote Service

Our eSupport acts as a hub of experts from all areas, such as process engineering, software, electrical, mechanical. As a strong and competent team we are able to improve the performance of your blown film line.

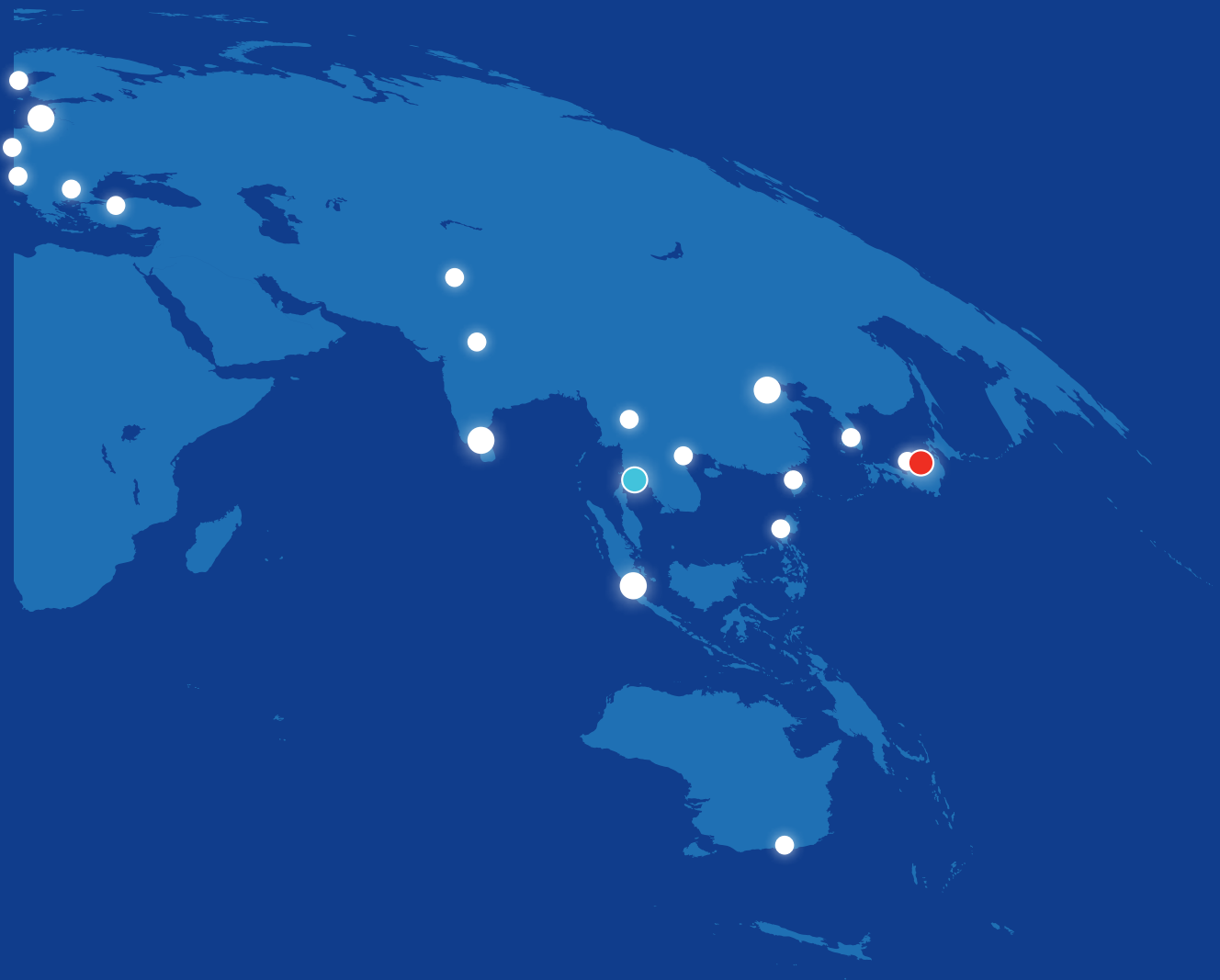
- Fault analysis in real time
- Process optimization
- Fast support

- Production
- Sales, Service and Engineering
- Sales



# HOSOKAWA ALPINE INTERNATIONAL

*your global partner*



FIND YOUR CONTACT



*That's* **ALPINE**



# HOSOKAWA ALPINE

Process technologies for tomorrow.

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