

▶ **PP / PS /  
barrier sheet**

# Sheet Lines



**The benchmark  
for perfect packaging**

**When the highest level of quality is demanded, we at SML are in our element. Find out about advanced machinery for nearly all types of sheet used for thermoforming applications.**

Such applications can be, for example, cups, lids, trays or blister packs. In every case, SML's thermoforming sheet lines are designed for 24/7 production reliability and a long service life. The request of our customers encourages us to push the limits of what was previously considered technically feasible.

**Comfortable to operate**

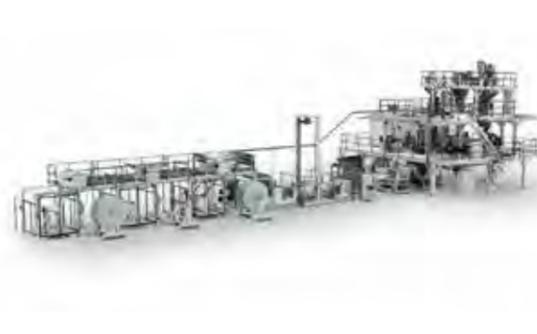
Besides outstanding extrusion solutions, it is above all SML's advanced roll stack technology in combination with superior winding systems and the operator-friendly machine control system SMILE, that gives SML's customers a competitive edge in this market segment. Finally, the analysing tool bitWise supports the constant optimisation of production processes.

**High-speed extruders for large-scale production**

Most of SML's sheet lines for thermoforming are based on high-speed extruders (HSE) and HO-LT (High Output – Low Temperature) extrusion technology, both developed in-house. This allows the cost-efficient and large-scale production of sheet with superior qualities.



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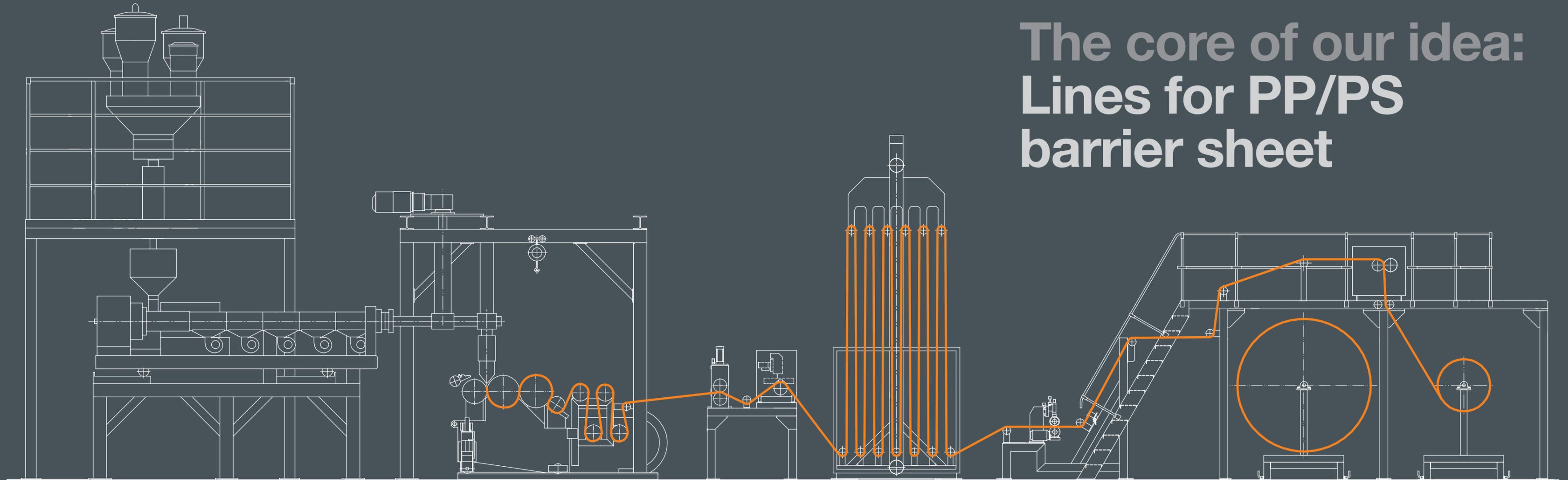
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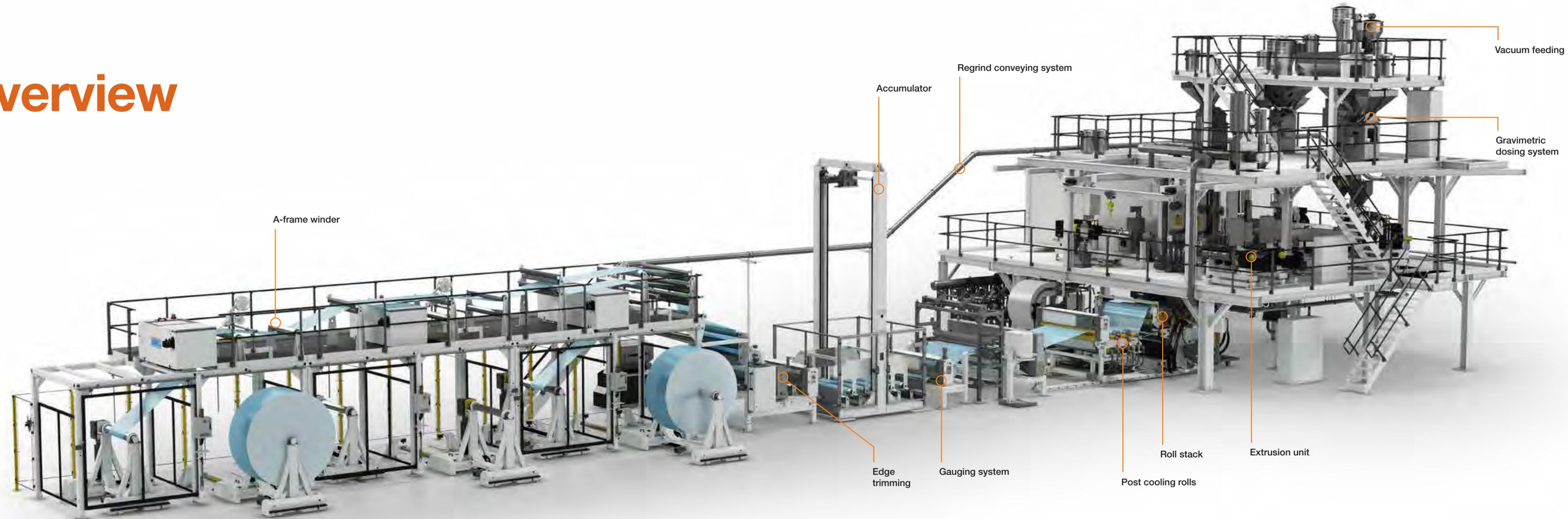
**Thermoformable  
PP/PS sheet**



# The core of our idea: Lines for PP/PS barrier sheet



# Overview



# Great performance

## High-Performance Class Sheet Lines

SML's High-Performance Class Sheet Lines provide extraordinary high output levels in combination with **top product qualities**, a low energy consumption and the very economical use of polymers. Our high-performance extrusion sheet lines are **designed for minimum energy consumption**.

### Twice the output on the same width

The core elements are high-speed extruders in combination with well-designed calendaring roll stacks. These include a unique Smart Parallel Gap (SPG) calendaring roll and an optimal number of post-cooling rolls. This proven technology is characterised by precise temperature control for effective sheet cooling.

### Compact line design

Another key characteristic of SML's High-Performance Class Sheet Lines is its very compact design, providing a maximum of productivity on a minimum of floor space. Based on SML's modular design concept, the layout of the line can be customised to very specific space requirements.

### Your Advantages

- ▶ Maximum output and line speed
- ▶ Energy efficiency
- ▶ Polymer savings



Calendaring roll stack

### Performance level:

Polymer	production performance (at 1 m sheet width)
PS	up to 3,300 kg/h
PP	up to 3,000 kg/h
PET	up to 1,800 kg/h

### Configuration examples:

	TSL-1 Jumbo	TSL-2 Jumbo
Extruder	1 x HSE75	3 x HSE75
Extrusion performance	PS: 1,500 kg/h; PP: 1,350 kg/h	PS: 3,300 kg/h; PP: 2,700 kg/h
Sheet thickness range	200 - 2,500 µm (thin PP films may require an airknife)	
Number of layers	1	3
Sheet width	1,000 mm	1,200 mm
Line speed limit	70 m/min	70 m/min
Webs	1	2
Winding diameter on 6-inch shafts	2,000 mm	2,000 mm

# Always keeps the focus in a straight line

## Economy Class Sheet Lines

SML's Economy Class Sheet Lines stand out with their optimised design and their easy handling in daily operation. Our Economy Class Sheet Line, including a high-speed extruder (HSE), is the **ideal solution for medium-sized production quantities.**

### Price-performance ratio

With output volumes of up to 1,000 kg/h, this line concept stands for the highly efficient production of premium sheet with a remarkably reasonable price-performance ratio.

### Design that stands out

One main characteristic of SML's Economy Class Sheet Line is its straight-forward design. The HSE main extruder, the melt pump, the die, and the electrical cabinets are all mounted on the same frame.

### Machine set-up ideal for low buildings

Using a vertical roll stack allows the extruders to be placed directly on the floor. The winding technology, including the accumulator, is designed to keep the height of the line as low as possible. With this set-up, SML's Economy Class Sheet Lines are ideally suited to installation in buildings with low ceiling heights.

### Your Advantages

- ▶ Ideal line for the medium output range
- ▶ Energy and polymer savings
- ▶ Optimal price performance ratio



TSL-ECO jumbo



### Configuration examples:

	TSL-Eco Jumbo
Extruder	1 x HSE75
Extrusion performance	PS: 1,100 kg/h; PP: 1,000 kg/h
Number of layers	1
Sheet thickness range	200 - 2,500 µm (thin PP films may require an air knife)
Net sheet width	1,000 mm
Line speed limit	40 m/min
Webs	1
Winding diameter on 6-inch shafts	2,000 mm
Options	Co-extruder and feedblock, air knife, gauge, cantilever winder

# Never compromise on delivering the highest standard Barrier Sheet Lines

SML offers customised Barrier Sheet Lines for PP and PS thermoforming products, that meet the **highest standards for food applications**.

SML's technology leadership in this field is above all based on its competencies in process engineering and comprehensive R&D which are both constantly developed and continued in-house. The latest innovations are High-Performance Barrier Sheet Lines with unparalleled high output capacities. Another highlight: 70 % of the skeleton waste can be recycled without any loss in visual appearance.

## Integration of HSE and HO-LT technology

With the launch of its high-performance PP/EVOH barrier sheet lines with a capacity of up to 3.2 tons per hour, SML has set a milestone – both in terms of output volumes and product properties.

The line integrates two well-proven extrusion concepts: High speed extruders (HSE) are used for the outer and regrind layers of the film structure, while the barrier layer in the centre is produced by a High Output – Low Temperature (HO-LT) extruder.

## New opportunities for manufacturers

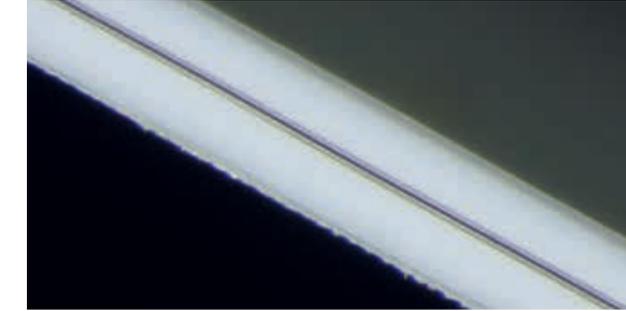
The use of HSE and HO-LT extruders in sheet lines for barrier film opens new opportunities for manufacturers, above all in cost-efficient high-volume production.

## Ready-to-use-solutions

Like all systems from SML, the High-Performance Barrier Sheet Lines are generally delivered as ready-to-use solutions. Due to the modular set-up, the commissioning times are very short.

## Your Advantages

- ▶ Superior sheet quality for thermoforming
- ▶ Tight and stable layer distribution
- ▶ Skeleton recycling up to 70 %
- ▶ Outstanding polymer flow design to avoid polymer degradation effects



EVOH barrier sheet

## Configuration examples:

	BSL - Eco	BSL - Smart	BSL - Power	BSL - Power XL
Extruder	1 x HSE75	1 x HSE75	3 x HSE75	3 x HSE75
	(1 x ES60)	(1 x ES75)	1 x HOLT35	2 x HOLT45
	2 x HOLT35	2 x HOLT35	1 x HOLT45	1 x HOLT55
Extrusion performance	PP: 650 kg/h	PP: 1,050 kg/h	PP: 2,000 kg/h	PP: 3,200 kg/h
Sheet thickness range	200 - 2,500 µm (thin PP films may require an air knife)			
Number of layers	5 - 7	5 - 7	7 - 9	7 - 9
Sheet width	900 mm	900 mm	1,600 mm	1,600 mm
Webs	1	1	2	2 - 6



Barrier sheet line

# Ready-to-use products

## Inline Extrusion Lines

Inline extrusion and thermoforming constitute the **most efficient method** of producing large quantities of cups and containers.

SML's inline extrusion sheet lines in combination with thermoformers are designed to manufacture ready-to-use end products with outstanding quality properties.

### Advanced roll stack technology

SML has made no compromises with regard to the functional components and the extremely uniform sheet formats of these types of lines. An excellent product quality is guaranteed through comprehensive temperature control, Thin Shell Roll technology and a 5° inclined roll stack design.

### Closed loop material flow

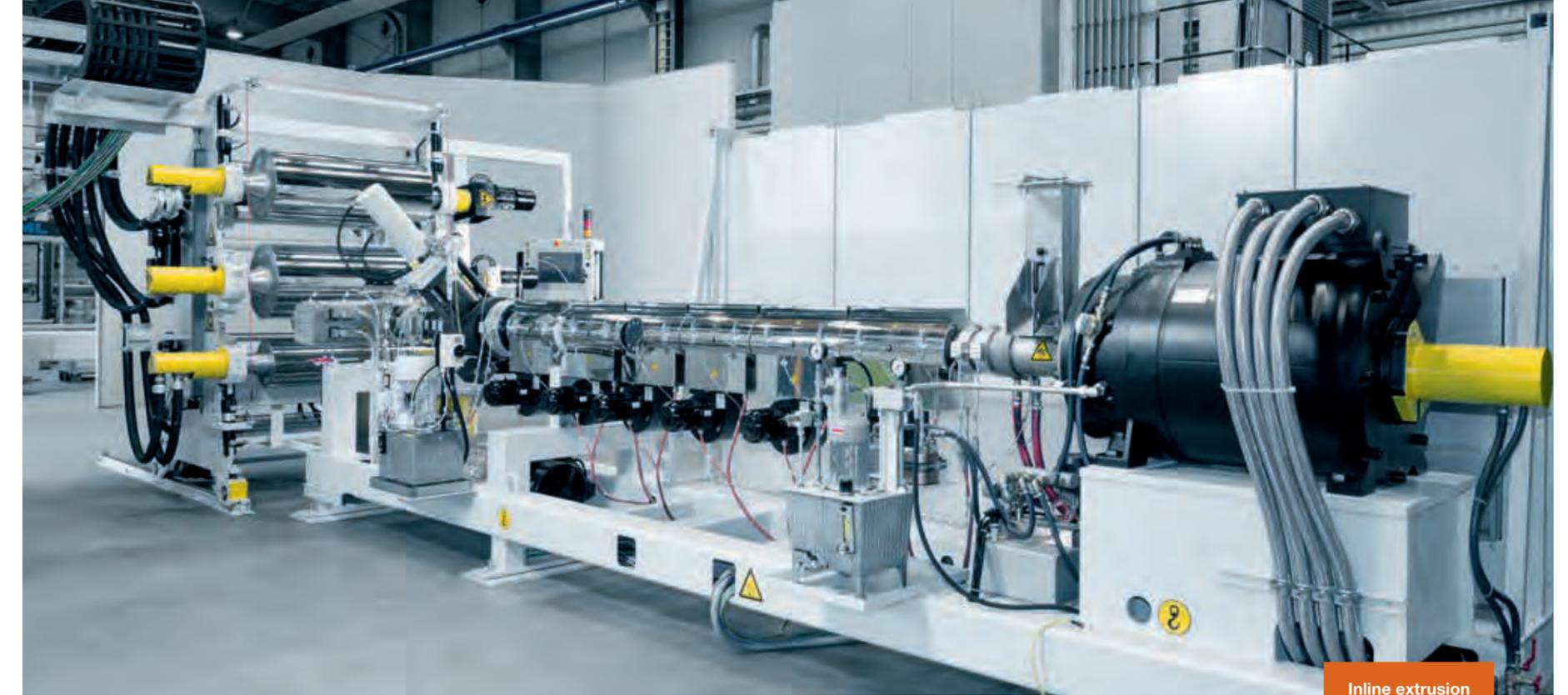
A closed material loop flow means that there is usually no waste production. Only thermoformed containers leave the production line. No edge trim is necessary and the skeletal refeed is done directly.

### Energy efficient process

Inline extrusion and thermoforming lines require 20 - 25 % less energy compared with a conventional production process. During inline extrusion, the sheet is not cooled down more than necessary. The re-heating of the sheet to thermoforming temperature thus requires significantly less energy. The moderate cooling and re-heating process in the core of the sheet results in superior final product clarity and stiffness.

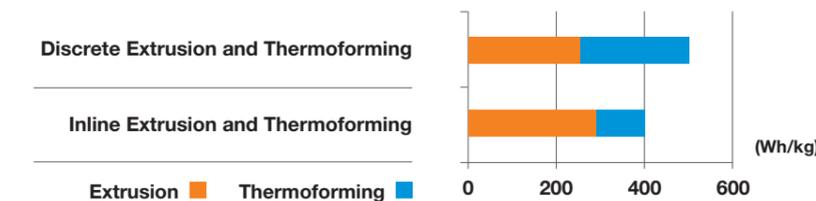
### Your Advantages

- ▶ 20 - 25 % less energy consumption
- ▶ Optimal utilisation of the residual heat in the sheet
- ▶ Superior final product clarity and stiffness
- ▶ Inline recycling of skeleton up to 60 %



Inline extrusion

### Energy saving potential of Inline Extrusion and Thermoforming:



### Configuration examples:

	I-TF2	I-TF3
Extruder	HSE75	HSE75 (*)
Extrusion performance	PS: 700 kg/h; PP: 600 kg/h	PS: 1,100 kg/h; PP: 900 kg/h
Co-extruder option	ES35 or ES35 HO-LT	
Maximum sheet width	920 mm	920 mm
Number of layers	1	1
Roll stack	Ø SPG300/400/400 mm	SPG300/490/490 mm
Roll width	1,050 mm	1,050 mm
Post cooling rolls (optional)	3 x 250 mm	

(\*) As and alternative, the HSE90 can be used for greater polymer flexibility

# It is all about Extruders

We offer **highly customised** extrusion solutions to satisfy individual production requirements.

In addition to the high speed extruders (HSE) and HO-LT extruders, SML provides various standard systems, directly driven by a motor-gearbox combination. All SML extruders are designed for a maximum of energy efficiency.

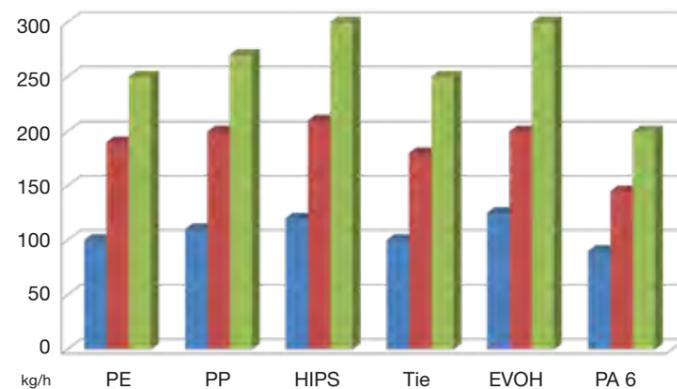
## High-speed extruders

For thermoforming sheet applications, SML provides HSE solutions with 75 mm and 90 mm screw diameters. With the 75 mm diameter extruders L/D ratio of 37 and 42 is standard. This allows the processing of up to 70 % recycled material in SML's thermoforming sheet lines. In general, all SML's HSE extruders cover a wide output range with only two screw diameters by using different extruder configurations.

## Energy-efficient drive technology

Naturally, all of SML's HSE extruders are equipped with vented barrels. They are driven by energy-efficient, special AC or torque motors.

Typical output rates for Ø 35 ■, Ø 45 ■ and Ø 55 ■ HO-LT extruder

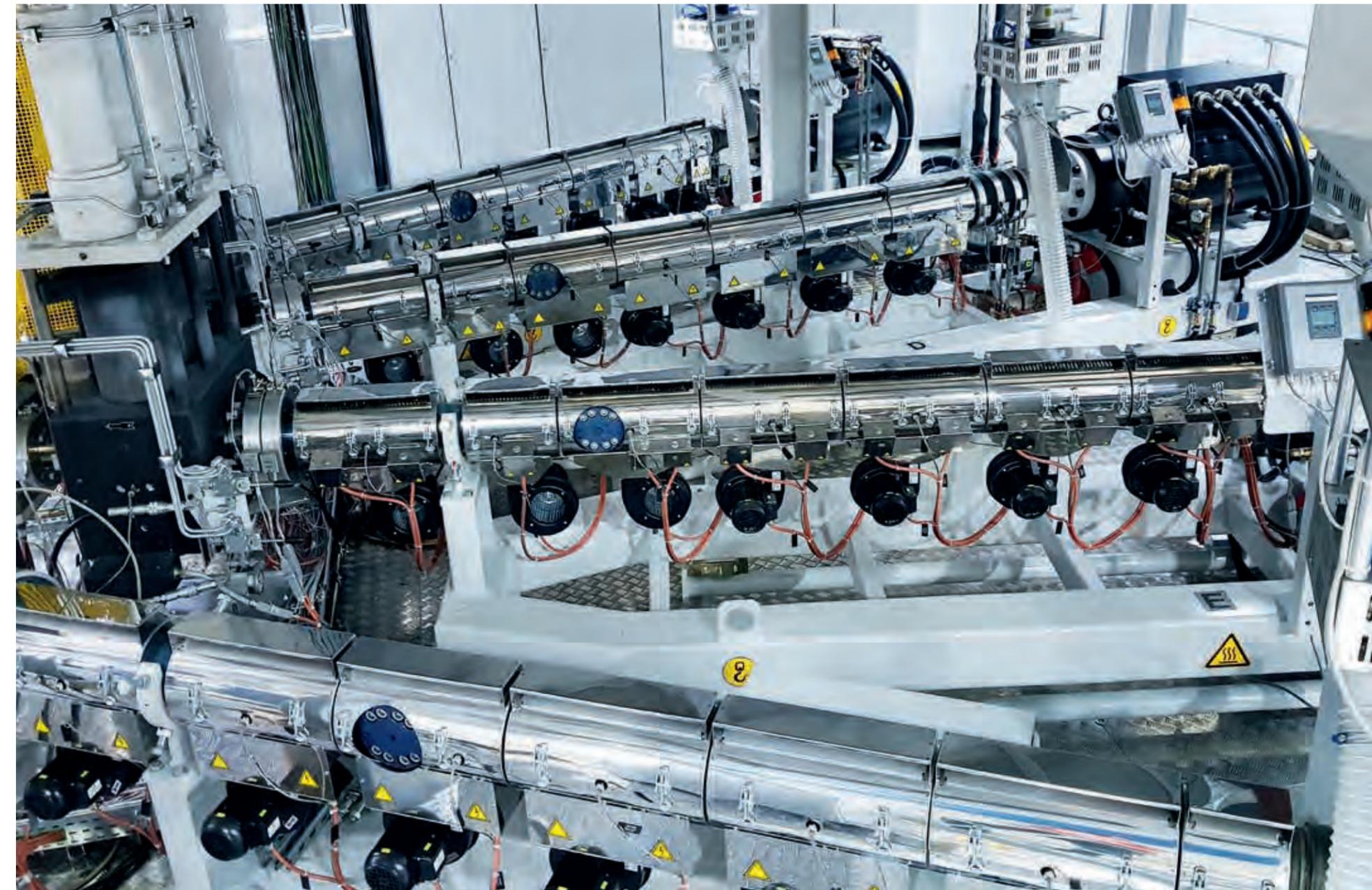


## HO-LT extruder

The special screw and barrel configuration enables HO-LT extruders to plasticise a huge amount of polymer at relatively low screw speeds. This leads to a low melt temperature, an extremely stable output and high pressure generation with very fast material changeover times. Due to these features, HO-LT extruders do not require a melt pump. They are ideal for heat-sensitive polymers such as EVOH and tie polymers. SML's HO-LT extruders are available with screw diameters of 35, 45 and 55 mm as a standard.

## Your Advantage

- ▶ Perfect for heat-sensitive polymers
- ▶ Outstanding output volume at low melt temperatures
- ▶ High pressure generation for a maximum of production stability



## Details that matter

# Use of regrind material

SML's sheet extruders are designed to re-process very high volumes of regrind material. For some applications, up to 100 % of the regrind can be recycled. This is possible due to the advanced screw geometrics in SML's extruders, which are very forgiving with regard to changes in regrind density. The refeed of scrap can be done directly from buffer storage, or by using standard dosing equipment.



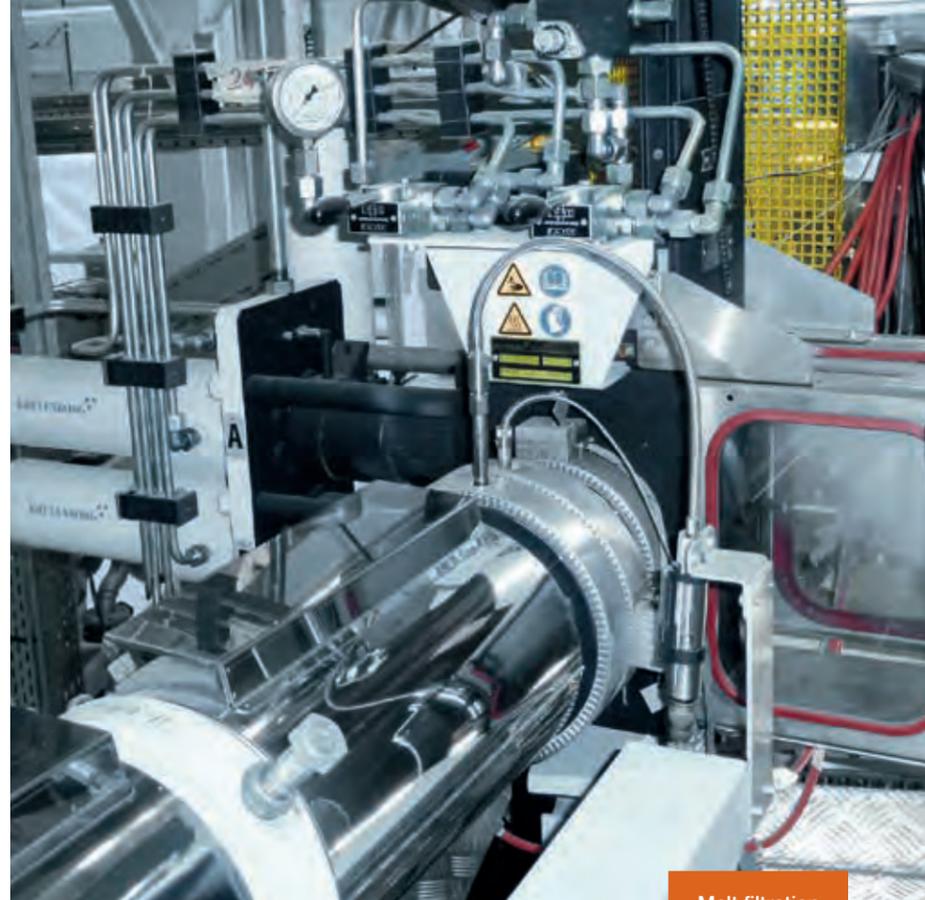
Regrind material

## Venting

Depending on the materials used, vented extruders are employed in sheet extrusion for thermoforming applications. Quite often it is sufficient to vent atmospherically. In addition, a wide choice of active vacuum systems is available.

## Melt filtration

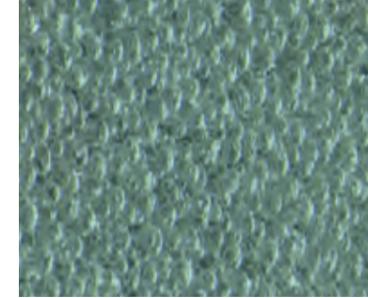
The size and type of a melt filtration system depends on the output volume, the type of polymer and the anticipated amount of contamination. SML provides single, double piston and backflush screen changer concepts for the production of thermoforming sheet. These are manually actuated for small units, and are otherwise hydraulically actuated. Double-piston and backflush systems allow screen changing while the machine continues to run.



Melt filtration

## Melt pumps

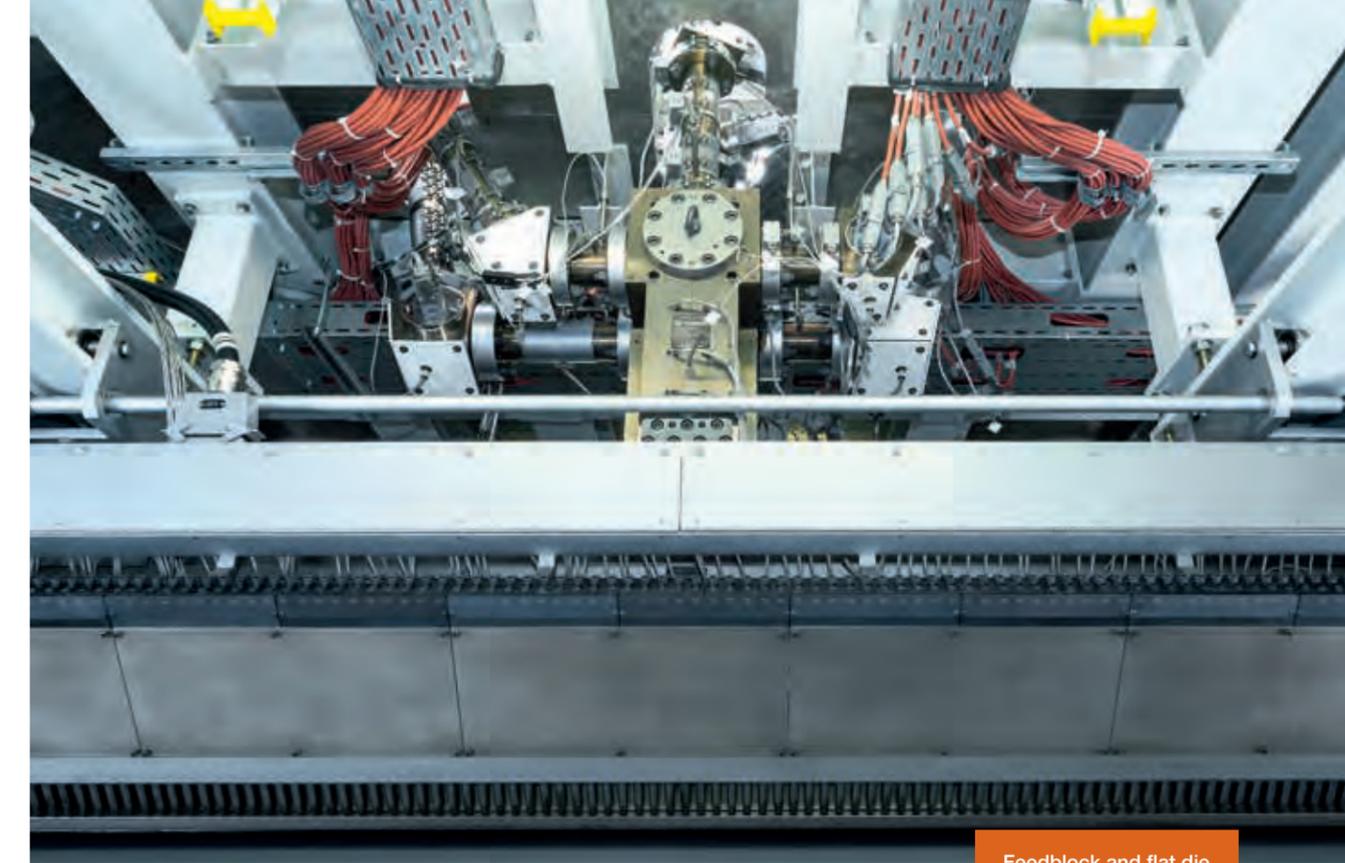
The melt pumps in SML's thermoforming sheet lines build up pressure efficiently. The constant volumetric flow ensures a perfect sheet thickness in the machine direction. The excellent pressure build-up capacity in SML's lines relieves the screw of this task, which makes it easier to operate e.g. vented extruders economically. In addition, the melt pump can improve the stability of the extruder, when running a very high amount of low density regrind material.



Foam structure in the microscope

## Foam

Polymer foam can be produced using additives (chemical), direct gas injection (physical), or with a combination of both. In the case of physical foaming, SML's thermoforming sheet lines can be fitted with a special screw design and a gas injection. The gas injection process is less expensive than the use of additives. In addition, the direct gas injection allows the quick adjustment to the required density in less than five minutes.



Feedblock and flat die

## Feedblocks and flat dies

SML provides various solutions for feedblocks for its thermoforming sheet lines. These range from simple fixed geometry inserts, to flexible solutions for layer configuration, adaptable flow geometry, and elements for the fine tuning of the traverse layer distribution. The latter are frequently used for barrier sheet lines.

### Flat dies with ideal flow geometry

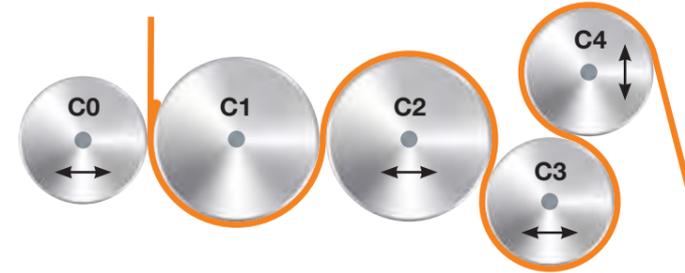
SML provides manual and automatic flat dies from renowned partners. They can be characterised by their simplicity, by their robustness and by the ideal design of the flow geometry. This allows operation with only one flexible lip, a restrictor bar is not necessary. Dies are usually deckled with external or internal deckles or a combination of both.

### Your Advantage

- ▶ Various solutions for feedblocks, simple and technically advanced
- ▶ Flexible layer configuration
- ▶ Die splitting system for fast and easy cleaning

# Keeping it cool with outstanding technology

## Roll Stacks



The roll stack technology from SML is characterised by precise temperature control **for effective sheet cooling** and the best operability.

These are the key factors for outstanding product properties. The typical roll dimensions in SML's roll stacks are diameters between 400 – 700 mm and widths from 1,050 – 2,000 mm, while other dimensions are available on request.

### Horizontal roll arrangement

SML generally employs roll stacks with a horizontal roll arrangement in its high-performance sheet lines. On horizontal roll stacks, the melt flow from the die to the rolls follows gravity, avoiding undesirable effects such as the melt touching one of the rolls prematurely. Free access to the bolts of the hanging die provides maximum comfort and allows the easy integration of a die splitting device.

### Additional cooling rolls

Additional cooling rolls can be installed without compromising the process or the handling of the machine. The design of the additional cooling rolls and the relevant process settings define properties such as the surface, transparency and flatness. Both also determine the mechanical properties of the sheet.

### SPG polishing for perfect sheet thickness profiles

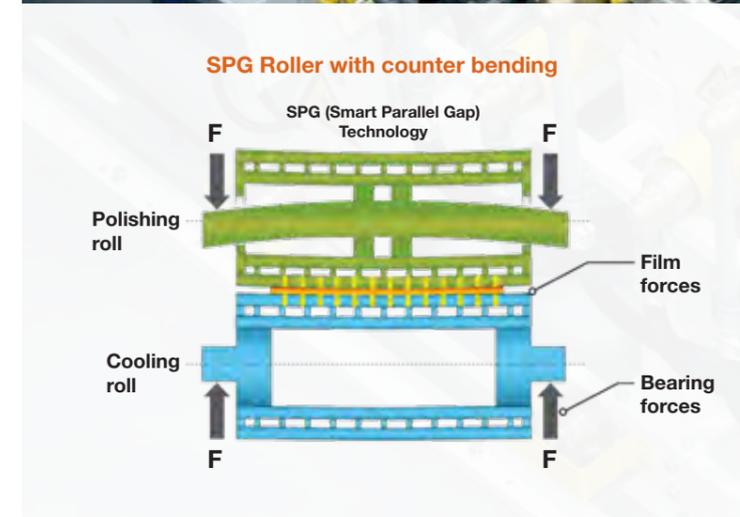
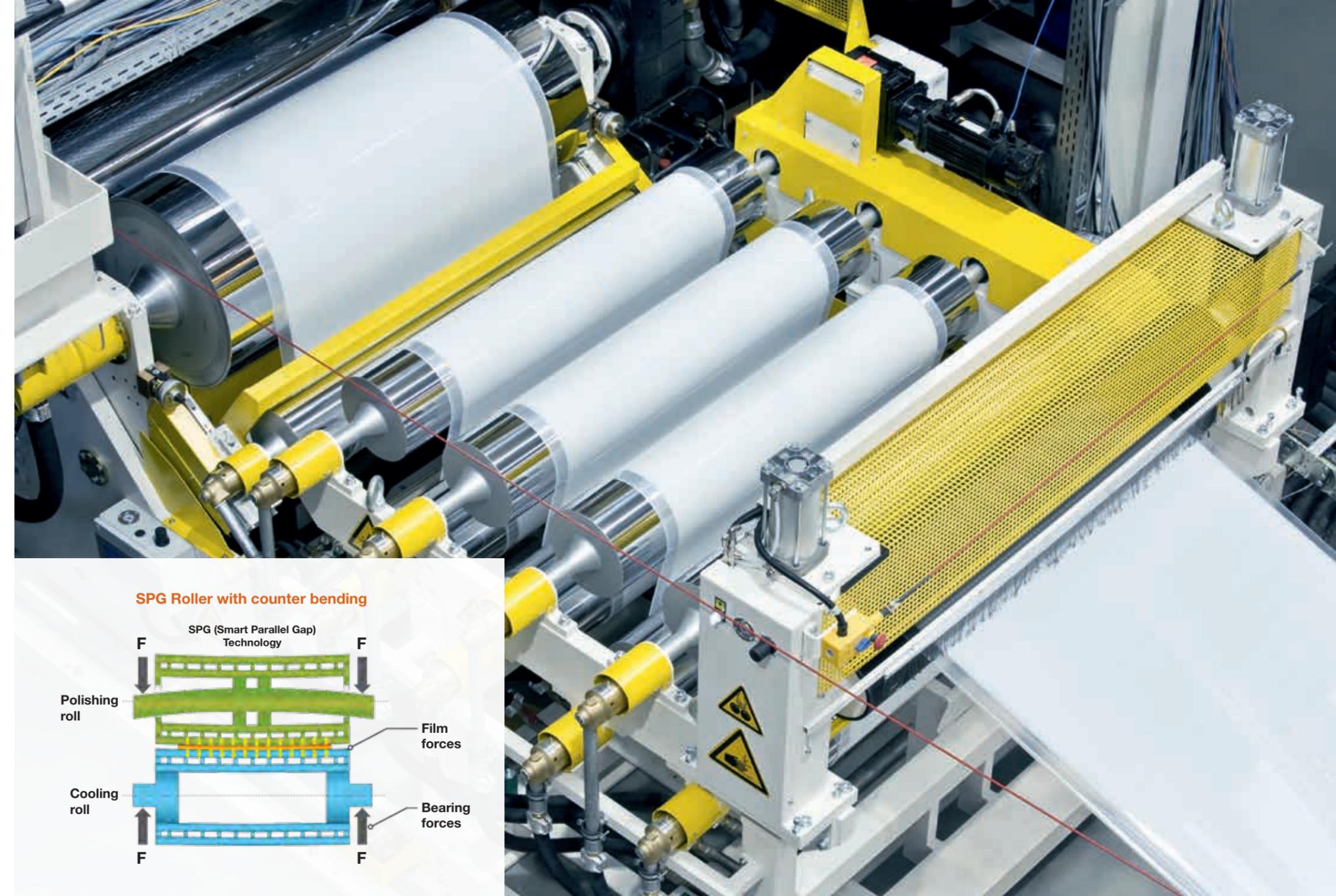
The specially designed SPG (Smart-Parallel-Gap) C0 calendering roll ensures a parallel gap between the rolls, since it deflects exactly, following to the cooling roll. The parallel gap provides a perfect sheet profile with minimal operator intervention. This principle works for a wide range of sheet widths and nip pressures, allowing comfortable and quick changes of sheet thicknesses with minimal die adjustment.

### Specific attributes:

- ▶ Thin Shell Rolls
- ▶ SPG roll
- ▶ Four roll gaps possible
- ▶ Additional cooling rolls
- ▶ Air knife
- ▶ Temperature control unit either open or closed loop

### Your Advantage

- ▶ Superior product properties
- ▶ Maximum flexibility
- ▶ Quick change of sheet thickness with minimal die adjustment
- ▶ Less edge trim, better winding quality



# Your choice of gauging Gauging system

In answer to local regulations and to specific product needs, SML supplies different gauging systems:

- ▶ Inductive / capacitive sensors
- ▶ Radioactive Beta-ray sensors (Krypton 85 or Sr 90)
- ▶ X-ray sensors
- ▶ Laser shadow sensors

All these systems are available for dies with manual adjustment or automatic profile control. To maintain the average value of the thickness setting, they are linked to the speed of the main cooling roll C1.

# Edge trim cutting/removal

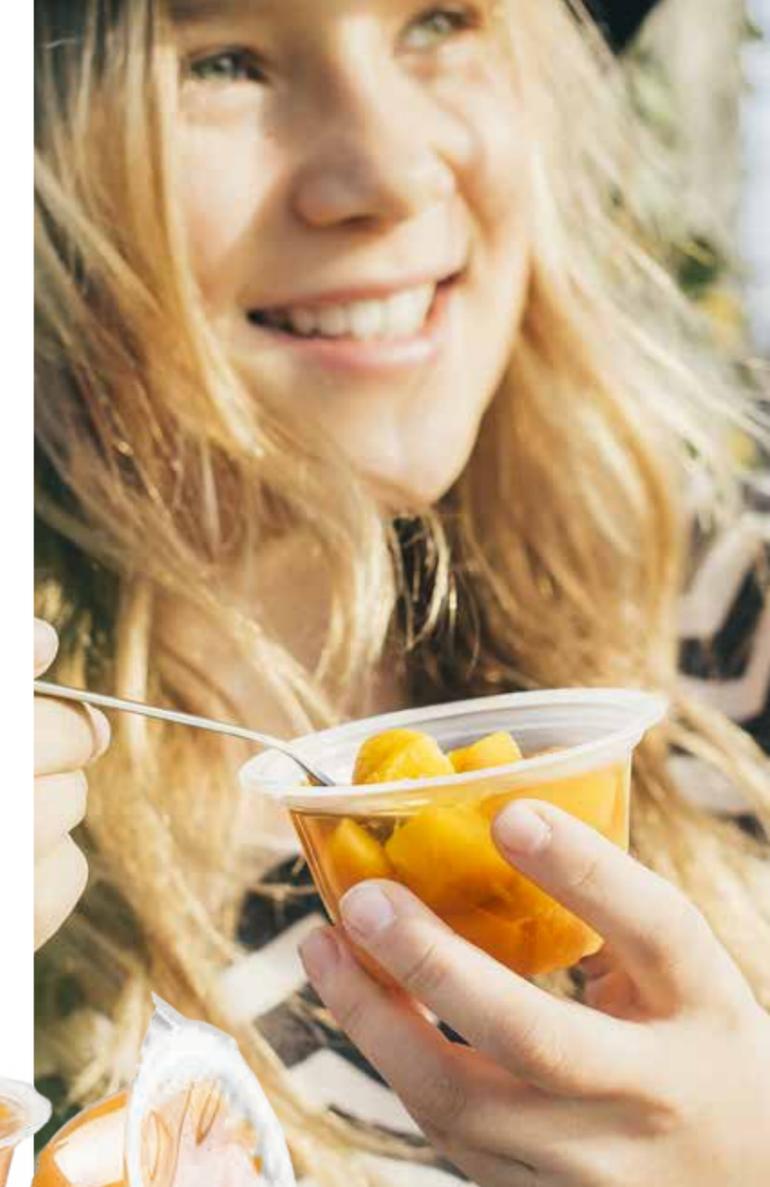
Edge trims are cut off using static blades or motor-driven circular knives. A precise cut is required for excellent winding quality. The edge trim is usually pulled into an inline grinder and the regrind is then either filled into big bags, interim storage silos or re-fed directly to the main extruder.



Multiple web cutting



# Highest quality products



# Get the best out of your production

## Winding systems

SML offers a wide range of different semi-automatic sheet winding systems, depending on customer requirements and the available floor space.

All winders for thermoforming sheet are designed and built in-house by SML. They have a proven track record for longevity and outstanding properties in terms of technical precision, reliability and operability. Semi-automatic sheet winders are known for an excellent production stability at an attractive price.

### Accumulators for continuous operation

Accumulators integrated in SML's semi-automatic winding systems work either from top to bottom with gravity, or from the bottom to top position. In that case, a torque-driven servomotor generates storage movement and a precise web tension. The accumulator accumulates the sheet during the manual change of the roll in the winder, making roll changes by the operators both very easy and safe.

### Your Advantages

- ▶ Film capacity of accumulator: 38 or 50 m
- ▶ Access doors at operation side for easy sheet feeding into the accumulator
- ▶ Compact solutions for limited floor space



# Find the right winder for your application

Winder type	W500	W600	W550
	950 mm/1,100 mm	650 mm/950 mm	950 mm/1,100 mm
<b>Maximum net film width</b>	1,300 mm/1,550 mm	1,100 mm/1,300 mm	1,300 mm/1,550 mm
	1,700 mm/1,900 mm	1,550 mm	
<b>Number of webs</b>	up to 6	up to 3	up to 3
<b>Core ID (inch)</b>	3, 6, 8	3, 6, 8	3, 6, 8
<b>Thickness range</b>	250 – 2,500 µm	250 – 2,500 µm	250 – 2,500 µm
<b>Maximum mechanical speed</b>	70 m/min	70 m/min	70 m/min
<b>Accumulator</b>	yes	yes	yes
<b>Maximum roll diameter up to*</b>	1,200 mm	1,000 mm	1,200 mm
	2,000 mm		

\* Depending on the shaft diameter, roll width and the number of webs



## Winder W500 A-frame

The winder W500 A-frame is a **comfortable** and **economic** solution **for large roll diameters**.

It is a single or multiple web winder equipped with an electric drive and with two A-frame winding trolleys for each web.

The operation of the W500 A-frame is simple and straightforward: After the roll change procedure, an operator removes the A-frame trolley with the finished roll from the winder.

### Your Advantages

- ▶ Suitable for large roll diameters
- ▶ Single or multiple web winding
- ▶ Electrically moveable winding trolley optional



## Winder W600 cantilever

The winder W600 cantilever ensures a **maximum of operator convenience**, especially in the case of **small diameter rolls** and frequent roll changes.

This single or multiple web winder has two winding stations with winding shafts for each web, supported on just one side.

After the roll change procedure, a manually operated lifting trolley is used to remove the finished roll from the cantilever shaft, which remains in the winder.

### Your Advantages

- ▶ Suitable for smaller roll diameters and frequent roll changes
- ▶ Single or multiple web winding
- ▶ Winding shafts for each web, supported on just one side

# Winder W550 combined A-frame / cantilever

The winder W550 **combines** the advantages of the A-frame winder **W500** and the cantilever winder **W600**. It can be easily modified.

This winder stands for increased flexibility and production reliability when making roll diameters from small to big. The A-frame winding trolley is typically used for production processes requiring jumbo rolls, while the cantilever winding shaft is best suited to making frequent roll changes when producing small rolls.

The winder W550 can be easily modified from an A-frame winder to a cantilever winder. The A-frame trolley only has to be moved out and the cantilever shaft is quickly fixed to the drive disc.

## Your Advantages

- ▶ Highly flexible system can be used efficiently for all roll diameters
- ▶ Operator-friendly modification from A-frame to cantilever winder



# Proven technology – **new design**

When it comes to line performance, high quality and precise interaction of the internal components are particularly important. But who says **extrusion lines** shouldn't **look great too**?



# Technology that makes you smile

## SMILE® control system

Not sure if a technology can really make you smile? Now, let the facts about **our ingenious machine** control systems **convince you**.

SMILE is SML's machine control and operation concept, allows the **highly precise synchronisation** of all the components in an **extrusion system**. If an extrusion system is the powerful body, then SMILE is the **driving soul that brings that body to life**.

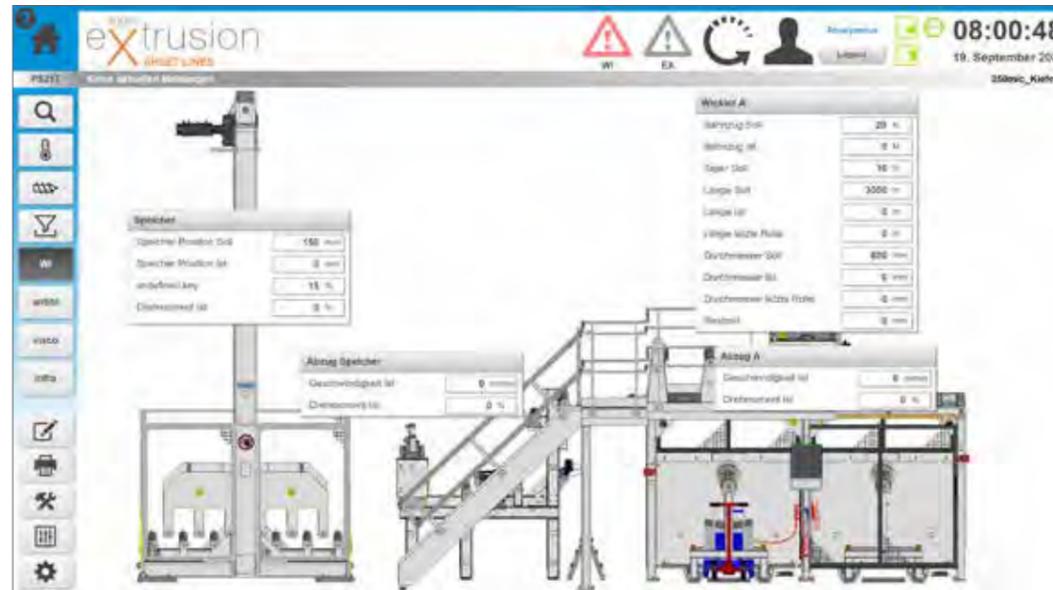
### 100 % developed in-house

The dynamic controller system is entirely developed in-house and has undergone significant further development in recent years. SML's long-standing competence in the field of automation and machine control provides loads of innovative and exceptional features.

### Centralised all-in-one concept

SMILE's central control station system allows the management of each production process with a wide touch screen attached to the sheet line. More than 1000 signals come together here, collected by many sensors, transducers and motors and transported via modern Ethernet bus systems.

This data includes sensory measurements like temperatures, speeds and pressures as well as actuator readings from valves, hydraulics, drives and positions. Thanks to SMILE, all of these components are interconnected and can be perfectly synchronised with each other. This fine-tuning allows customers to run their sheet lines at the very best performance level.



### Intuitive machine control

At SML, we believe machine control and operation should be highly intuitive and self-explanatory. SMILE is therefore an integral part of our coherent and user-friendly overall line concept.

- ▶ A central control station system for the highest operating comfort and the visualisation of all processes
- ▶ Reduced training efforts and error rates at operator level
- ▶ Remote control, remote update and remote service (from a PC or even a smartphone)
- ▶ The system is fully multi-client and multi-user capable, different types of users can log-in simultaneously

### Optimised production efficiency

One key purpose of SMILE is the increase in the Overall Equipment Effectiveness (OEE) through optimised production processes.

- ▶ Optimised use of raw materials, preventing waste
- ▶ Faster start-up of production
- ▶ Minimised times for product change-overs, customisable assistant for product changes

### Systematic quality control

In close interaction with SML's data collection and analysis system bitWise, SMILE is an efficient tool to keep output quality stable and to optimise output properties.

- ▶ Formula recipe system to store production parameters
- ▶ Documentation and detailed reporting of production processes
- ▶ Automatic alarm functions via e-mail or text message for quick debugging

### Interconnectivity and third-party integration

SMILE has many open interfaces that allow the web-based data exchange with third-party machines and systems.

- ▶ Open to interconnecting with systems like Enterprise Resource Planning (ERP), Quality Assurance (QA) or SML's data analysis tool bitWise
- ▶ Based on open standards like HTML5 and OPC-UA, complete end-to-end process control beyond SML extrusion lines

### Tailored to specific requirements

SMILE can be tailor-made to client's specific requirements. This is blazing the trail to new manufacturing concepts as well as delivering product properties.



# Stop guessing, start knowing with bit.Wise data analytics

With bitWise, SML's customers can **analyse the entire process history** of a sheet line with a **single click**, rather than relying on **current snapshots**.

bitWise incorporates decades of experience in automation with the **latest technologies in data analytics** and provides for a wide range of **completely new opportunities** for data-driven decisions.

## In-depth view of all details

SML's sheet lines are equipped with hundreds of data-generating sensors. BitWise records and visualises this data up to 10 times per second. In addition, each manufactured roll is provided with a QR code that can be identified again. Putting everything together, manufacturers get an in-depth view of all the details involved in a production process – both in the present and in the past.

With bitWise, customers can look back at pressures within the system components and check whether there is a correlation with other measured values such as temperature or with the laboratory results of a finished product roll.

## Always connected, even on the go

BitWise is an 100 % on-premises-solution. This means that the data remains in-house on dedicated hardware, no cloud services are required. Nevertheless, customers can access bitWise in their company network via their VPN or a remote desktop solution.



## Optimising quality

BitWise is a powerful tool to precisely optimise any aspect of the production process with a direct effect on product quality.

- ▶ Monitoring of all quality-related process parameters, allowing quick corrective action
- ▶ Comprehensive tracking and documenting of product quality
- ▶ Making quality reproducible

## Maximising output

Recorded, aggregated and visualised data by bitWise helps to raise overall line utilisation and delivers a faster return on investment (ROI).

- ▶ Discovering hidden or unused output capacities
- ▶ Preventing downtimes by detecting potential problems at an early stage
- ▶ Minimising maintenance times through optimised scheduling and structured access to documentation and service support

## Minimising production costs

BitWise is the central tool to measure and visualise all production related costs. It forms a strong and reliable basis for the continuous cost-optimisation.

- ▶ Detailed monitoring and reporting of energy and raw material consumption
- ▶ In-depth optimising, tracking and reporting of Overall Equipment Effectiveness (OEE)
- ▶ Full end-to-end cost transparency through third-party integration

## Open for vertical integration

At SML we understand that sheet lines represent a key part in a wider production chain. For end-to-end optimisation, bitWise therefore supports data exchange and vertical integration with third-party systems such as Manufacturing Execution Systems (MES), Enterprise Resource Planning (ERP) or Quality Assurance (QA). Customers can simply retrieve the data from the system.



## Choose your perfect interface

As with most technologies developed by SML, bitWise is highly customisable. The remote system can be retrofitted to all existing SML sheet lines.

# Outstanding end-to-end service support. Reliable assistance - around the globe, at all times.

## Always at your disposal.

Our dedicated customer service team offers reliable assistance to ensure the continuous operation of any SML extrusion line at all times. Regardless of how long a system has been in operation, we offer service to every customer.

- ▶ Long term experienced SML service technicians
- ▶ Support in all ways – via telephone, video call, chat, email and in person
- ▶ On-call service from 7 am to 10 pm CET
- ▶ Remote maintenance system
- ▶ Visual assistance via smart glasses as an option
- ▶ SML service technicians on call worldwide
- ▶ Quick on-site service



## Immediate assistance.

The remote maintenance system, which is available for every SML extrusion line, makes it easier to identify potential problems and provide a quick diagnosis. In order to find solutions, our service team works closely together with other departments at SML. This way, 85 – 90 % of all malfunctions can be solved remotely.

**Our highly-skilled technicians are at your service within 24 hours throughout Europe and within 48 hours in the rest of the world.**

## Up-to-date knowledge and experience.

Our service team consists of technicians who know SML's extrusion lines inside out, as they have been these themselves for many years. In order to keep their know-how up to date, all service employees continue to work regularly in everyday production. Their competence is reflected in the short reaction times to our customers' enquiries.

## Visual assistance in real time.

Through the use of smart glasses, our service team can provide real-time assistance worldwide. Whether our customers have technical problems, need help with product changes or maintenance work - they are guided step by step. This service is available for every extrusion line from SML.

Analyses  
Development  
Pre-tested Performance  
Delivery on Time  
Service Support  
Customer Satisfaction

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The image shows a large, modern industrial building with a white facade. The SML logo is prominently displayed on the upper part of the building, rendered in a light blue, three-dimensional font. The building has a long, low profile with a series of windows along its side. In the background, another building with a grid-like facade is visible under a clear sky.

**SML**

► **SML - Head Office**

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**Follow Your Instinct –  
choose SML!**