Sigpack TTM.

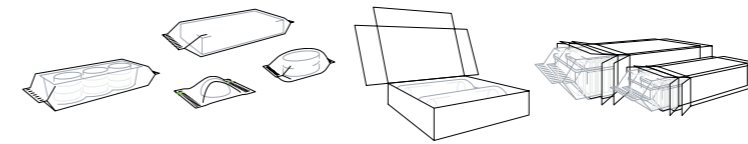## The best when it comes to secondary packaging.

Welcome to Syntegon Technology∎

Syntegon Technology is your reliable partner for process and packaging technology in the global food and pharmaceutical industries. Whether you are an aspiring start-up or a global market leader, we offer intelligent and sustainable solutions for everyone. Individual machines, systems or services – as a full-service provider, we take responsibility right up to fully integrated end-to-end solutions.

Fields of application in the food industry are primary and secondary packaging of dry, liquid and frozen food as well as process technology for the production of confectionery. In the pharmaceutical industry, we offer solutions for the production, processing, filling, inspection and packaging of liquid and solid active ingredients

in all common packaging materials. We are at your side from project planning, development and implementation to comprehensive digitization, qualification and validation services. In addition, you always have access to our worldwide network of service specialists who support you throughout the entire machine lifecycle.

3

Sigpack TTM

YOUR BENEFITS AT A GLANCE

☐ **Reliability and availability**
100% carton control, robust design for maximum uptime

☐ **Easy format changeover with vertical restart**
Fast, tool-less and fully reproducible

☐ **Packaging flexibility**
Various pack styles and formats ensure long-term flexibility

☐ **Compact, hygienic and open design**
Easy machine access and easy cleaning

☐ **Operator convenience**
Ergonomic and safe design

«Fast and error-free format changeovers are essential with our variety of products. The different products and pack styles had to be managed quickly and reliably. That's why the Sigpack TTM1 was our first choice.»

Dan Klock, CEO of
Bridgetown Natural Foods, USA

TTM Platform:
A perfect combination of the best technologies
TTM is the toploading solution for your secondary and end-of-line packaging. The platform comprises various solutions for cartoning and case packing. It is designed to package almost every product and to increase your OEE.

Infeed. Typical products.

Infeed into secondary packaging

| Pouch | Rollpack | Tray | Flowpack | Multipack | Dispaly carton | Tablet |

Outfeed. Typical products.

Loading of cartons and trays

| Open tray | Tri-seal closure | Tuck-in lid | Tray and hood | RSC | Display carton |

| Multipack | Endloader |
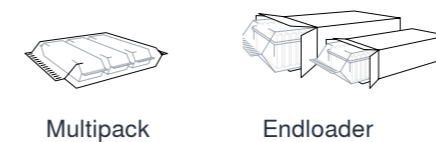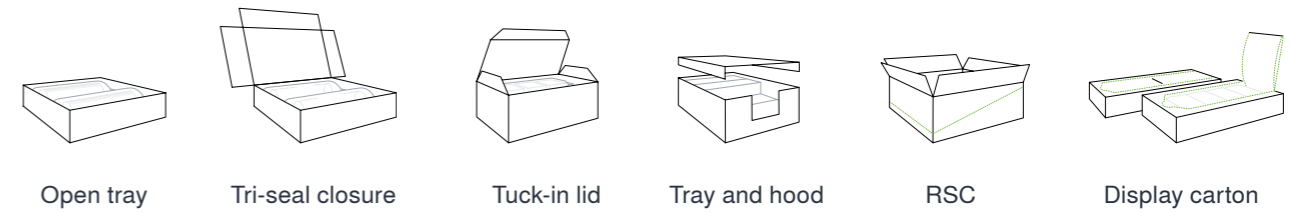
The best attributes.

Combined to exceed.

TTM toploaders are designed for easy operation. Human Machine Interfaces, spare parts and components are standardized. Visibility and access are increased for easy and ergonomic operation. Just one operator is required to run the machine – even for format changeovers. Also, less training is necessary due to the same look and feel of the entire machine line-up. Standardization of all components simplifies storage and maintenance. All of these aspects reduce costs and increase your profit over time.

Product infeed.
For product infeed you can choose between various options. The latest one is an intelligent high speed feeding module, which is adaptive and works without the use of vacuum. It transports the products gently at high speeds. Thanks to linear motor technology, every individual product can be placed in the correct position. It has an extensive format range. Format changeovers are completely reproducible and can be carried out tool-less within a very short time.

Forming reliability.
Active carton blank transport and gentle forming at moderate cycling speed guarantee a safe and accurate forming process. This enables the Sigpack TTM to run blanks of solid or corrugated cardboard that have a high percentage of recycled content.

Smart changeover concept.
Quick-lock interfaces and pre-set format rods ensure that changeovers at a Sigpack TTM are all 100% reproducible allowing a three dimensional carton changeover with vertical restart within a few minutes. Due to the easy, tool-less changeover concept and light-weight change parts it is even possible for one operator to changeover the machine.

HMI 4.0.
The factory of the future is intelligent and fully connected. Industry 4.0 requires new solutions to support operators better than ever in their daily work. Although the HMI is only a very small part of the machine, it is a true gateway to the connected factory. It is not only about software, not only about hardware, the new HMI 4.0 is all about the best possible user experience. The HMI 4.0 is a state-of-the-art solution with a consistent look and feel, intuitive operation and full connectivity.

Innovative carton transport.
The proven carton transport optimizes reliability and flexibility during the packaging process. Variable batch sizes and pitches ensure future flexibility. Individual carton carriers provide maximum carton control and format flexibility.

SYNTEGON

Well prepared
for the future.

Customized to your needs.

«**The Sigpack TTM comes as standard but it is a flexible piece of equipment that can be tailored to the customer's needs with different infeeds, setups and discharges.**»

Jeff Downer, Head of
Jeff Downer & Co. Ltd., Kanada

Inline and 90° infeed

Infeed versatility.
With the Sigpack TTM, the customer always comes first. That is why you can choose from a wide range of infeed options to suit your needs and given circumstances: Inline, 90° or double infeed – with products lying flat or on edge. Together, we will find the best solution for you.
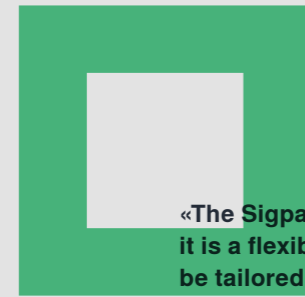
Prepared for tomorrow's needs.
Today's rapid changes in market demands and challenges in price point setting make flexibility crucial. TTM cartoners are highly flexible in regard to pack styles and formats which can be run on all TTM machines with a fast, tool-less change-over and vertical restart. In order to respond to the rise in demand for sustainable packaging materials, the Sigpack TTM has been optimized to run carton material with high recycling content due its precise and controlled forming process. High performance is maintained and can offer a considerable cost advantage.

Double product infeed on edge and flat

Inline high-speed infeed module

Code reading function

Integration of printer and code reader

Pack style flexibility.
Another strength of the Sigpack TTM is its pack style and format flexibility. Products can be packed into almost any conventional carton style such as tri-seal closure, tray and hood, open tray, tuck-in lid, RSC or HSC. All TTM cartoners can handle both corrugated and solid cardboard. The highly flexible toploading concept allows packaging of single products or small batches of products up to very large count numbers – all on the same machine. Labeling, printing and leaflet feeding or other modules can be added easily.

Outfeed flexibility.
The Sigpack TTM offers many different outfeed options. This includes the integration of a multipack infeed chain, additional devices for miscount or open flap detection as well as the integration of printing, labeling and code reading functions.

Carton erector and leaflet insert dispenser

The TTM platform at a glance.
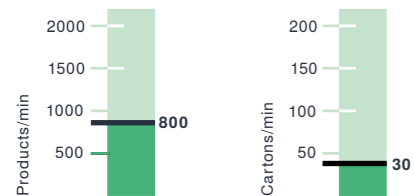
For each requirement the right solution.

Sigpack TTME
Integrated topload cartoner

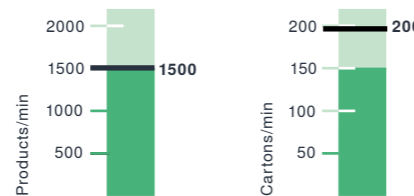Integrated forming, loading and closing of cartons

Maximum Performance

Products/min: 800
Cartons/min: 30

Format Range

carton length:	100 - 400 mm
carton width:	100 - 300 mm
carton height:	25 - 160 mm

Sigpack TTM1/ TTM2
Integrated topload cartoner

Integrated forming, loading and closing of cartons

Maximum Performance
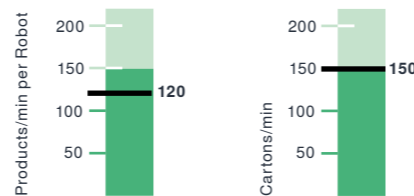
Products/min: 1500
Cartons/min: 200

Format Range

carton length:	100 - 400 mm
carton width:	100 - 300 mm
carton height:	25 - 160 mm

Sigpack TTMD
Topload cartoner with integrated Delta robot product handling

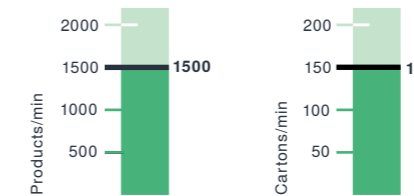Integrated forming, loading and closing of cartons

Maximum Performance

Products/min per Robot: 120
Cartons/min: 150

Format Range

carton length:	100 - 400 mm
carton width:	100 - 300 mm
carton height:	25 - 160 mm

Sigpack TTML
Toploader

Integrated loading of boxes and cartons or infeed chains for downstream processes
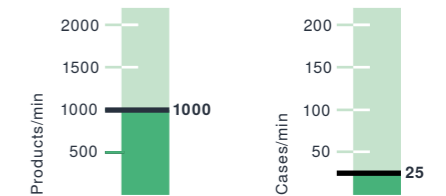
Maximum Performance

Products/min: 1500
Cartons/min: 150

Format Range

carton length:	100 - 600 mm
carton width:	100 - 400 mm
carton height:	25 - 400 mm

Sigpack TTMC
Integrated case packer

Integrated feeding, loading and closing of cases

Maximum Performance

Products/min: 1000
Cases/min: 25

Format Range

case length:	200 - 600 mm
case width:	100 - 400 mm
case height:	100 - 400 mm

Sigpack TTME

Integrated Topload Cartoner

Flexible and compact.

The Sigpack TTME is based on the proven TTM platform. It offers an exceptionally compact footprint and can be used as a stand-alone machine or it can be integrated into any production line. The layout is highly flexible, no matter if used in a 90° angle or inline from right or left. The gentle carton forming allows for the use of carton material with high recycling content. As the entire TTM portfolio, the TTME offers extensive pack style flexibility. The machine is scalable to speeds up to 800 products and up to 30 cartons per minute. It is well suited for small volumes or batch production.

The Sigpack TTME-FL is a carton former and loader. Here, the gentle forming of the carton also allows for the use of materials with high recycling content. Just one operator is needed to handle all operations – changeover and cleaning included. Active carton control, reproducible changeovers and process transparency make the machine operation easy.
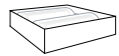
Products

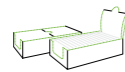Pre-packed products from food, non-food and pharmaceutical industries

Pack styles

YOUR BENEFITS
- ☐ Compact footprint and open design
- ☐ Expandable with standardized modules providing optimal access
- ☐ Also suitable for small volumes or batch production
- ☐ Gentle carton forming and loading
- ☐ Designed for 24/7 operation and high OEE

Loading of cartons and trays

Loading of infeed chains

| Tri-seal closure | Open tray | Display carton | Shelf-ready carton | Tuck-in lid | Multipack | Endloader |

Sigpack TTM1

Integrated Topload Cartoner

Safe investment in the future.
Like all cartoners of the TTM platform, the TTM1 ischaracterized by its high pack style flexibility. New formats for new products can be implemented thanks to the easily exchangeable format sets. The Sigpack TTM1 convinces with its reliability and consistently high performance of 100 cartons per minute on a comparatively small footprint. The integrated cartoner can be smoothly integrated into existing lines and quickly put into operation.

The Sigpack TTM1-1 is a combination of an integrated topload cartoner with an additional lidding unit. The lidding unit can be added at a later date to expand the pack style range on the existing machine. The possibility to upgrade the Sigpack TTM increases the flexibility of the machine and your future pack style options.
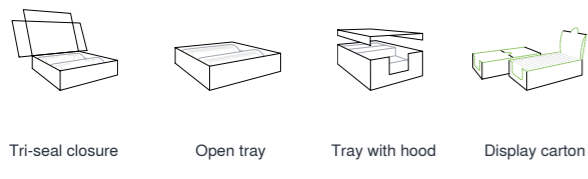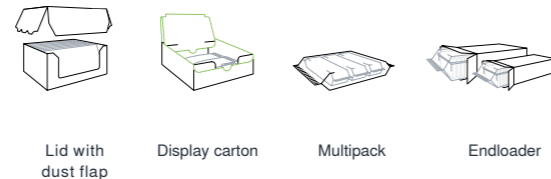

Products

Pre-packed products from food, non-food and pharmaceutical industries

Pack styles

Loading of cartons and trays   **Loading of infeed chains**

| Tri-seal closure | Open tray | Tray with hood | Display carton | Lid with dust flap | Display carton | Multipack | Endloader |

YOUR BENEFITS

☐ Patented changeover concept with vertical restart – easy, quick, tool-less and reproducible from the first carton

☐ Various pack styles and formats on one machine, also suitable for cartons with high recycling content

☐ Reliable due to maximum carton control, designed for 24/7 operation and optimal OEE

Sigpack TTM2

Integrated Topload Cartoner

Solutions for highest performance.
With up to 200 cartons per minute the Sigpack TTM2 is the fastest cartoner of the TTM platform. The highest speed and quality for a high-performance is combined with a compact footprint by integrating an additional forming robot and a carton closing robot.

Sigpack TTMD

Topload cartoner with Delta robot product handling

The core of the Sigpack TTMD consists of a TTM1 or TTM2 topload cartoner for forming and closing combined with one or more seamlessly integrated Delta robot cells. The robotic solution's camera-based vision system detects the position of the individual products on the infeed belt. Delta robots pick single or multiple products arriving in random order and place them in cartons, trays or other containers according to specifications. To enable additional flexibility, the new topload cartoner can also simultaneously pack different products from several infeed processes. The Sigpack TTMD uses the proven tool-less format changeover concept from the TTM platform, enabling a vertical restart after each format change.

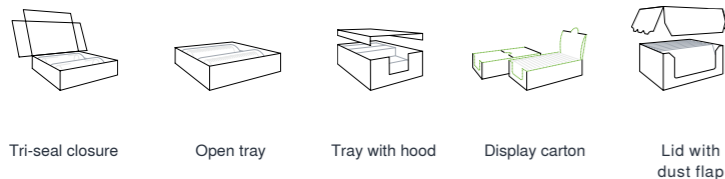**Modular integration of Delta robot cells**
The highlight of the Sigpack TTMD is its carton loading by seamlessly integrated Delta robots.

Each cartoning machine can be equipped with one or more Delta robot cells. A camera-based vision system detects the position of the individual products on the infeed belt. The pick rate of the delta robots depends much on the product. Typically it's between 60 and 90 products per minute, and can go up to as many as 120 products per minute.

Following the single- or multi-pick process, the robotic arms pick the products from the belt and place them in the cartons either in a flat or on-edge position. The process is organized according to the counterflow principle: the cartons move in the opposite direction to the product. This reduces the reject rate and makes sure that each carton is filled correctly. The Delta robots can track on the infeed conveyor and the carton transport, which allows the products to be conti-nuously loaded into the cartons. The Sigpack TTMD has a maximum output rate of 150 cartons per minute.

The Sigpack TTMD expands the portfolio by a carton-ing machine that uses the proven core technologies of the TTM platform, while the integrated Delta robots increase the range of products and pack styles.

Products

Pre-packed products from food, non-food and pharmaceutical industries

Pack styles

Loading of cartons and trays

| Tri-seal closure | Open tray | Tray with hood | Display carton | Lid with dust flap |

YOUR BENEFITS
- ☐ Product and format flexibility
- ☐ Patented tool-less format changeover for vertical restart
- ☐ Compact footprint
- ☐ Maximum process safety with full carton control
- ☐ Hygienic design for easy cleaning
- ☐ Easy to operate by just one operator

Sigpack TTML

Toploader

Versatile and fast.

The Sigpack TTML is a stand-alone loader designed to load all types of single products into any preformed carton, tray or case. The simple interfaces for tray infeed result in a short setup time and ensure long-term flexibility. Its product and layout flexibility make the Sigpack TTML a highly versatile machine.

YOUR BENEFITS

☐ Short setup times
☐ Various pack styles and formats on one machine
☐ Expandable by standardized modules with optimal accessibility and easy cleaning

Products

Pre-packed products from food, non-food and pharmaceutical industries
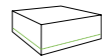

Placement of products into RSC

Pack styles

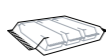**Loading of cartons and trays**

Tri-seal closure | Open Tray | HSC | RSC

Loading of infeed chains

Multipack | Endloader


Sigpack TTMC

Case Packer

Flexible and compact.

The robust Sigpack TTMC is a great addition to your packaging process. Due to its high infeed and outfeed flexibility, the case packer is designed to fit into almost any factory layout. Both, case erecting and product loading are integrated in the case packer. Many closing options for tape or hot melt are available. The fast, easy and tool-less changeover ensure 100% format reproducibility resulting in a quick vertical restart – maximizing your uptime.
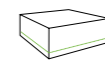

Products

Pre-packed products of food, non-food and pharmaceutical industries loaded into retail ready displays, RSC's (Regular Slotted Container) and HSC's (Half Slotted Container). Products can be packed in a flowpack, multipack, rollpack, bag, tray, carton and tube.
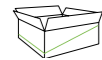
Pack styles
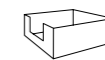
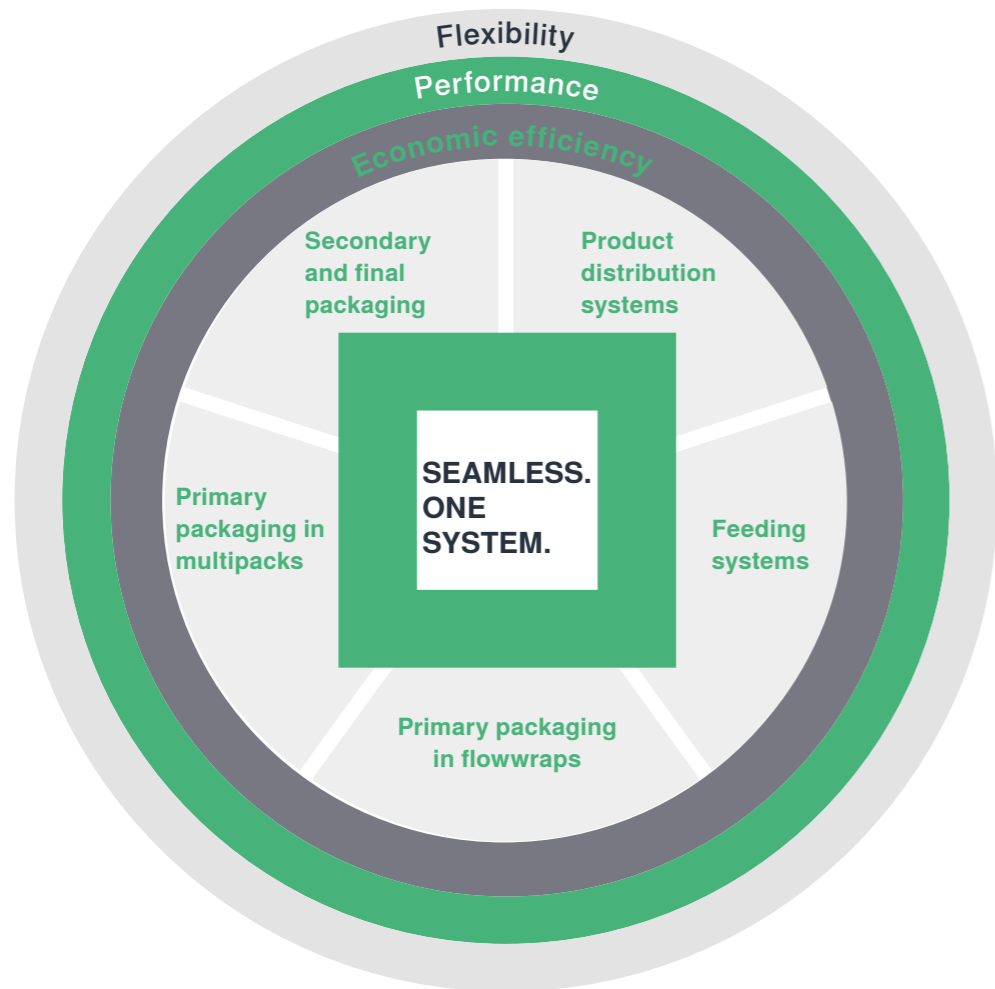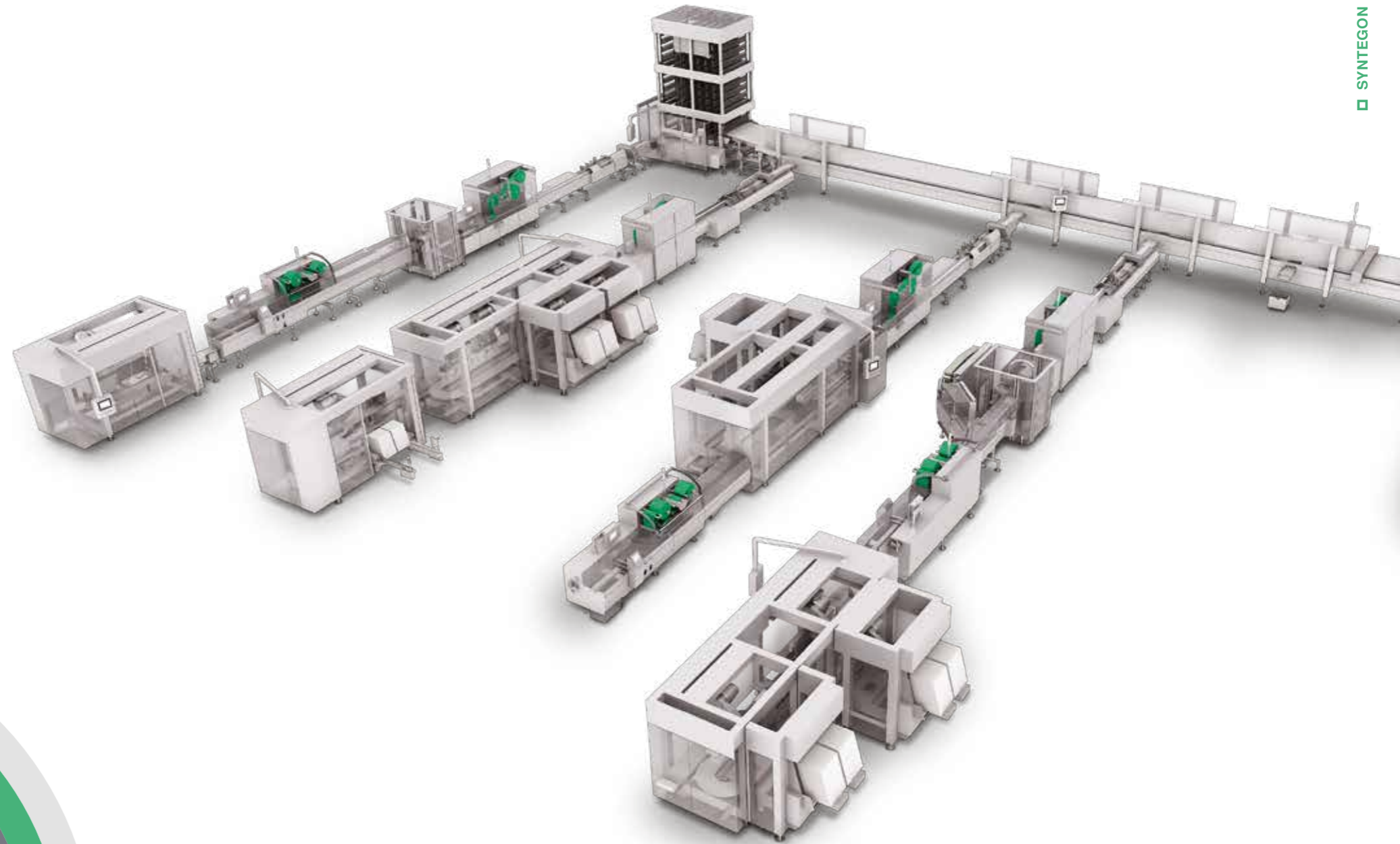Shelf / Retail Ready Displays | Half Slotted Containers (HSC) | Regular Slotted Containers (RSC)

Systematic success.

Faster and more flexible packaging.

Whether you are seeking a packaging system for a product that is tried and tested or completely new, Syntegon offers you state-of-the-art, reliable technologies with a focus on top efficiency, maximum performance, and the highest level of flexibility.

Flexibility

Performance

Economic efficiency

Secondary and final packaging

Product distribution systems

Primary packaging in multipacks

SEAMLESS. ONE SYSTEM.

Feeding systems

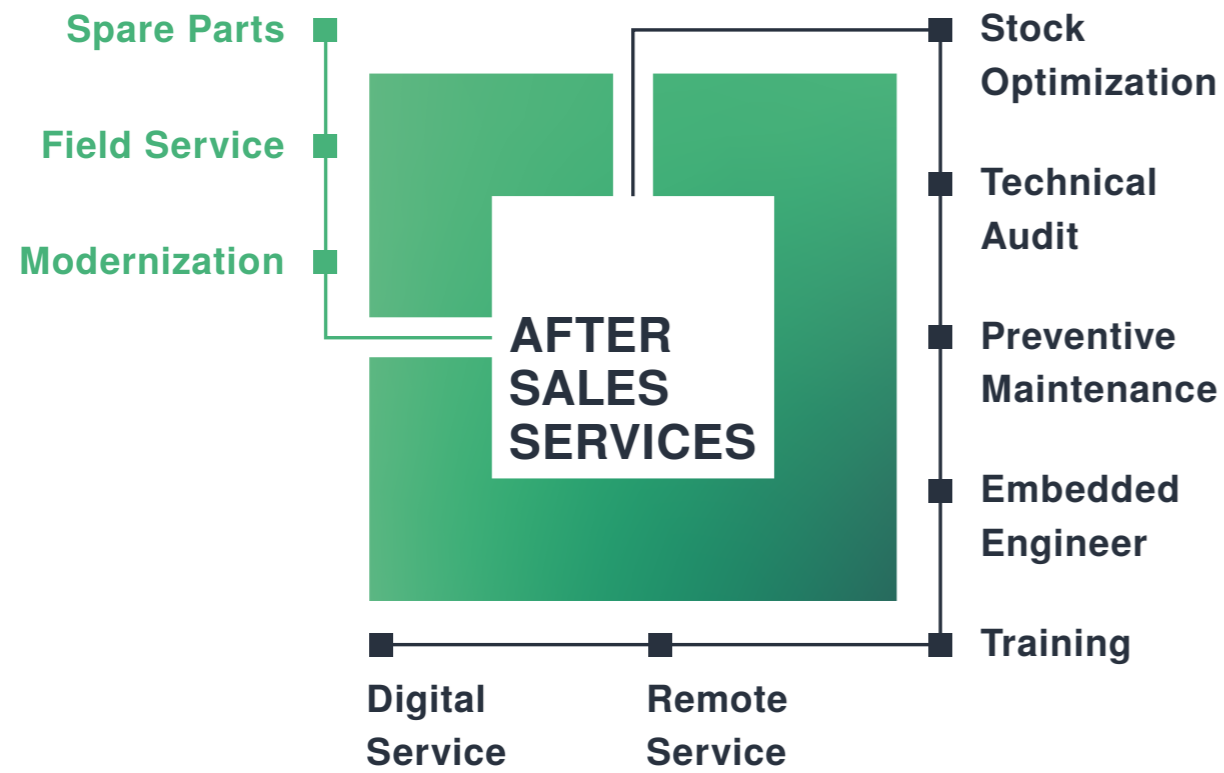Primary packaging in flowwraps

Seamless. One System.

Backed by our many years of experience in system integration, we help you to successfully implement your ideas and visions. We specialize in seamlessly integrated systems made up of perfectly coordinated components, always tailored specifically to your requirements. You receive a perfect overall solution consisting of product distribution systems, primary packaging in flow packs as well as multi packs and secondary packaging. The uniform control platform for the entire system ensures optimal operation and contributes significantly to overall equipment effectiveness (OEE).

Customized service solutions for the entire lifecycle of your machines.

By investing in a Syntegon packaging machine, you gain access to an extensive range of services. We are always there for you: providing reliable services from a single source, all over the world. It begins during the project phase with services such as packaging design, process consulting or system planning And it continues during operation: from

training spare parts and field service offerings to stock optimization, modernization, and preventive maintenance, all the way to remote and digital services. Whether it's a customized solution or a standard service – together with us you achieve maximum output with minimum downtime to optimize the profitability of your machines.

Spare Parts

Field Service

Modernization

AFTER SALES SERVICES

Stock Optimization

Technical Audit

Preventive Maintenance

Embedded Engineer

Training

Digital Service

Remote Service

For more detailed information please visit our homepage: www.syntegon.com

Compact
flexibility.