



Technologies & Manufacturing Equipment

# Advanced technologies for pharma manufacturing

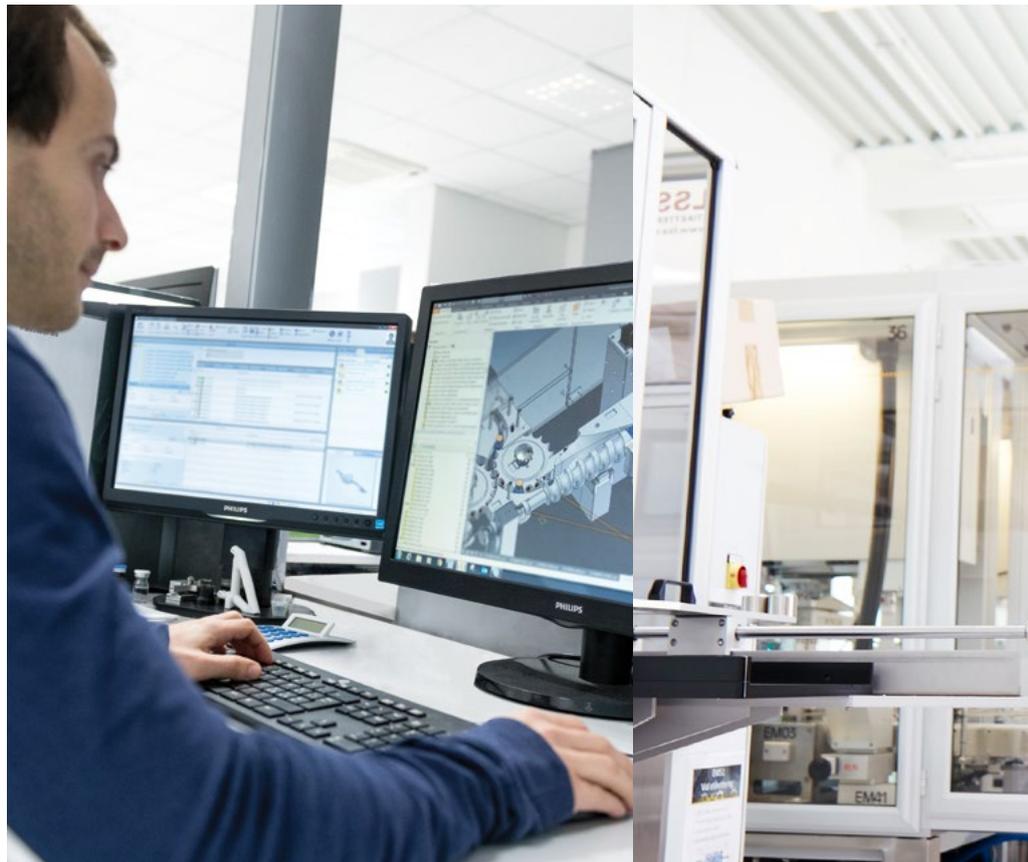


Stevanato Group

MANAGING COMPLEXITY, DELIVERING VALUE

## Streamlining your production

Stevanato Group supplies innovative, efficient and reliable automation technologies for the pharma industry. Our solutions include glass forming equipment, handling units, inspection systems, final assembly equipment, packaging machines and serialization solutions.



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Our mission is to streamline your production. With our **talented and dedicated employees around the world**, we offer **integrated solutions and services** to ease your production processes - **all through a single supplier**.

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We aim to exceed customers' expectations and contribute to their success through state-of-the-art solutions, professional project management and clear communication along the way.

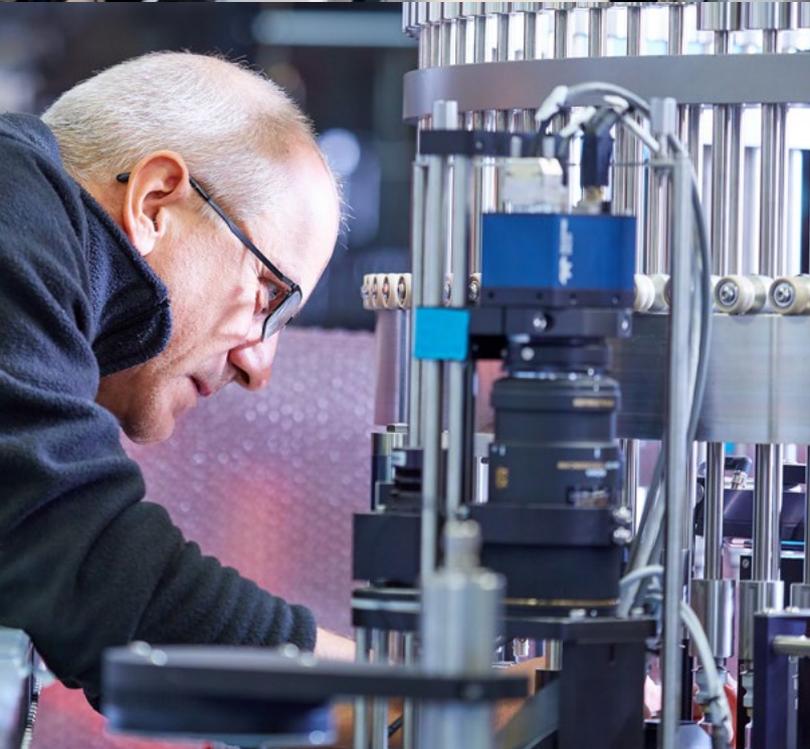
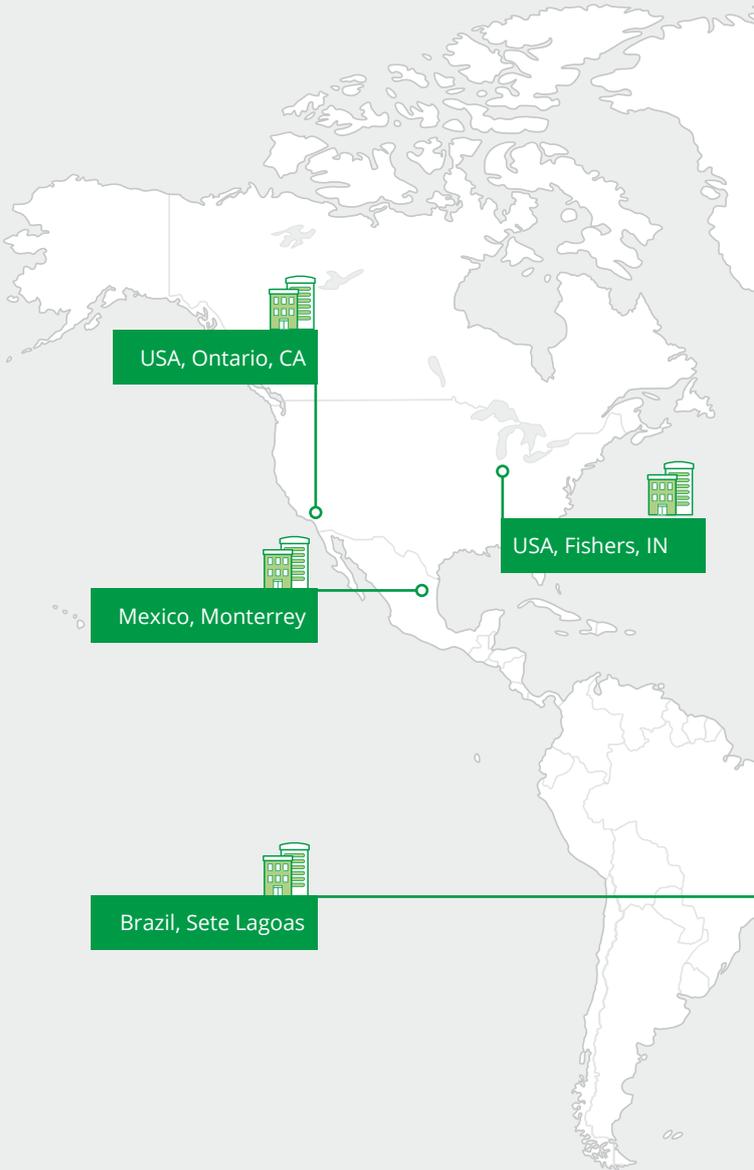
**We are at our customers' side throughout the entire product life cycle: from feasibility studies to dedicated after sales services.**

Through our expertise and technology we provide flexible solutions, specifically tailored to the requirements of our pharmaceutical and healthcare clients.





Passionate about customer care, supporting you anywhere needed



A trusted partner providing integrated equipment solutions to any pharmaceutical and healthcare company.



**Visual  
Inspection  
Systems**



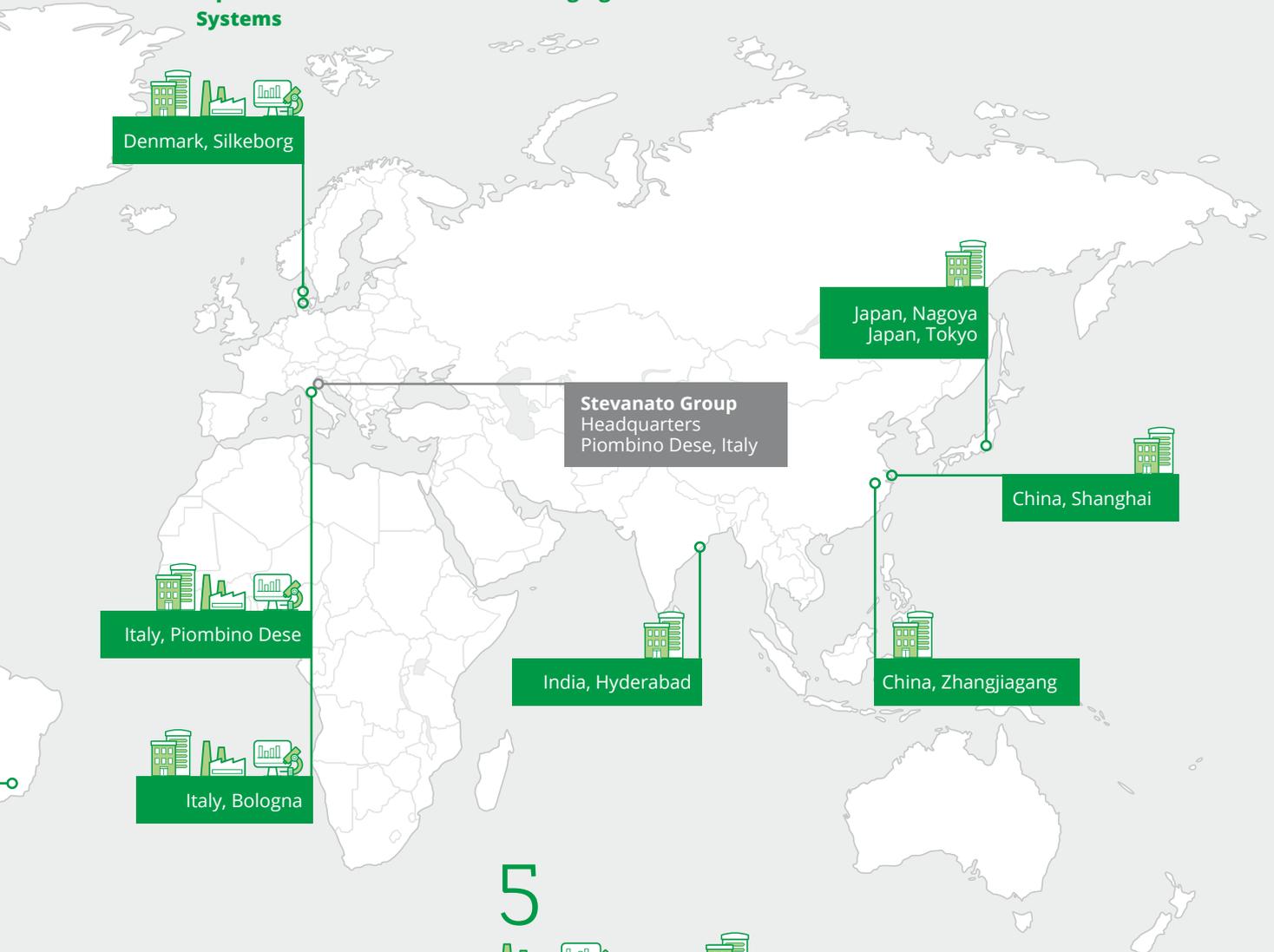
**Assembly  
& Packaging**



**Digitalization**



**Aftersales  
Services**



Denmark, Silkeborg

Japan, Nagoya  
Japan, Tokyo

**Stevanato Group**  
Headquarters  
Piombino Dese, Italy

Italy, Piombino Dese

China, Shanghai

India, Hyderabad

China, Zhangjiagang

Italy, Bologna



**Plants and  
R&D centers**



**Sales and  
Aftersales Offices**

## From product development to large-scale production



### Manual Equipment

A Bench Vision Unit has been developed to provide maximum flexibility, with the same software and component design as our automatic visual inspection equipment.

Our benchtop unit is designed to inspect different containers and products:

- Container range:  
ampoules, vials, cartridges, syringes
- Inspected products:  
water-like, viscous, suspensions



### Semi-automatic equipment

Our semi-automatic PWL Series inspection machines are designed to overcome the challenges associated with manual inspection processes, providing greater ease of use for operators. The PWL Series is designed for simple and effective inspection of vials, ampoules, cartridges, and syringes containing injectable liquids, powders, or freeze-dried products. Handling systems can speed up the inspection for smooth integration into the production line.



### VRU

The Vision Robot Unit (VRU) takes inspection to a new level. It is a robotic human-like inspection unit, combining flexibility with automation efficiency. It also features artificial intelligence (AI)-based machine learning capabilities. The VRU is a reliable, autonomous island machine, capable of fully automated inspection (cosmetic and particles) without human intervention.

## Visual Inspection

## Your product is in safe hands with us

We have a consolidated expertise in parenteral drug inspection, including liquid, powder and lyophilized products.

We can provide **inspection for any glass or plastic containers** filled with **clear or dark liquids, emulsions, viscous, gel-like products, suspensions and lyophilized products.**

We continuously innovate our processes and pioneer new technologies to offer our customers best-in-class solutions.

Our **portfolio** of visual inspection solutions can **cater for the needs** of small biotech firms who require maximum flexibility or **large manufacturers** producing “blockbuster” drugs.



**Automatic Equipment**

We offer a comprehensive range of automatic inspection machines for injectable pharmaceutical products contained in ampoules, vials, cartridges, syringes and bottles. Designed and

manufactured to meet the most demanding technical requirements, our solutions feature different production speeds and advanced vision standards for optimum performance.

**Easy and Plus Series**

Up to 400pcs/min

Easy Series are user-friendly vision inspection machines, easy to operate and to maintain.

Plus Series is the first choice for complex liquid or lyophilized pharmaceutical compounds. Large format glass and plastic bottles can be processed.

**MAVIS® platform**

Up to 400pcs/min

Mavis® Platform is an automatic vision inspection unit for syringes, vials, cartridges, and ampoules.

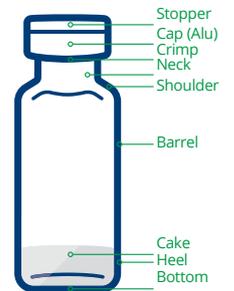
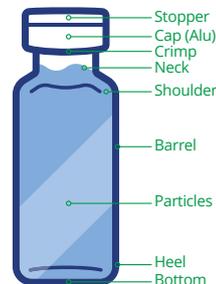
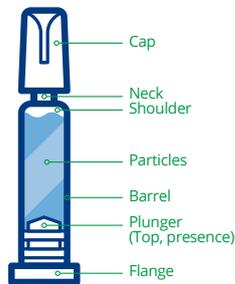
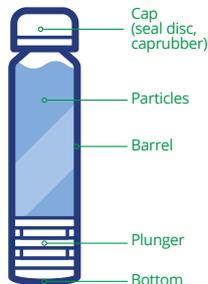
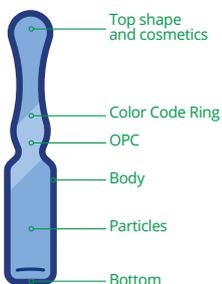
It guarantees superior inspection of particulates, cosmetic defects, and closure integrity. It combines advanced inspection performances within a small footprint.

**CVT Core and CVT Series**

Up to 800 pcs/min

A unique technology to achieve a market-leading performance in terms of high detection rate while maintaining a low false rejection rate thanks to the use of Line Scan Cameras, Matrix Camera and High-Voltage Leak Detection.

This line has been devised to process highly valuable drugs to the highest inspection speed.



**High Voltage Inspection**

Leak Detection, liquid products (HVLD)

Needle Shield Inspection (HVNSI)

**Laser Absorption Spectroscopy**

Leak Detection, lyo products (HSA)

## Visual Inspection

# Full range of advanced pharma visual inspection systems

# State-of-the-art technologies

We can offer you superior solutions to guarantee **the highest product integrity** and we provide **the best-suited technologies** for your product.

Thanks to the use of high-resolution

**linear and matrix cameras, container integrity controls and NIR technology**, we can ensure high-speed detection rates and low false-reject rates.

# Intelligent solutions

**Pioneering new frontiers is in our company's DNA.**

**Our Intelligent Solutions combine our experience and expertise with deep learning models** to deliver a bespoke solution that enhances the quality inspection process for every customer.

Stevanato Group Vision AI – a secure, cloud-based platform featuring deep learning models – helps deliver enhanced inspection performances, **increasing the detection rate** while **minimizing the false rejection rate**.

## Benefits of AI and Deep Learning for visual inspection



**Minimize the total cost of ownership**



**Increased detection rate for defects**



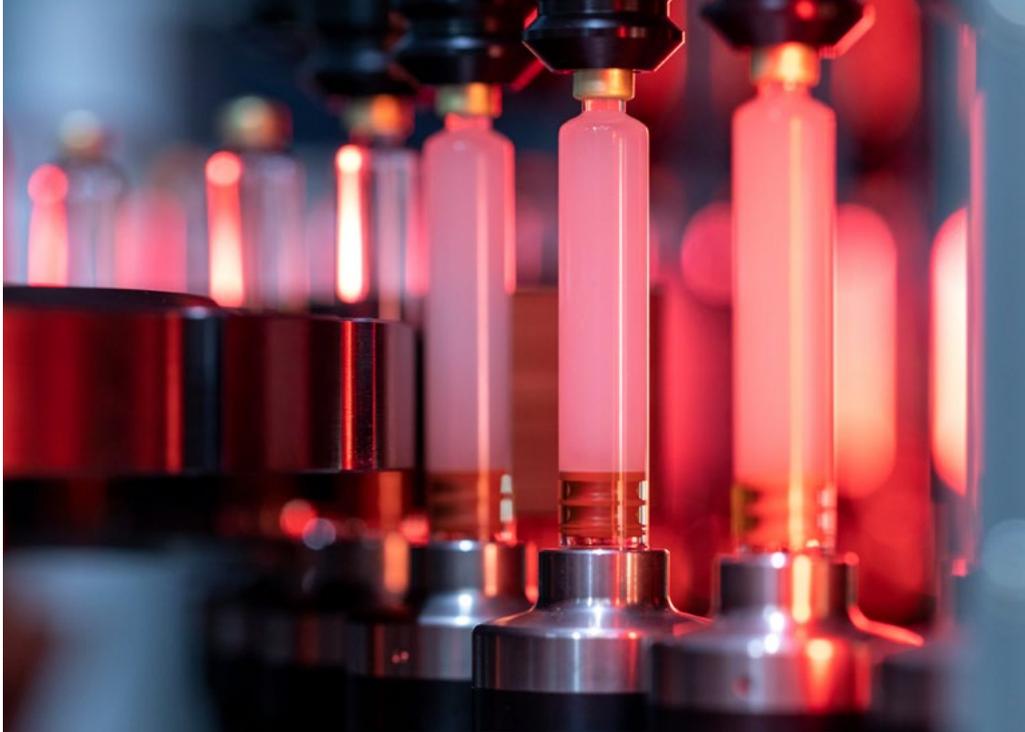
**Avoid re-inspection of grey items**



**Shift to a predictive model to monitor process flow**



**Increased control over defects classification**



**Assembly  
& Packaging**

**Customized  
assembly &  
packaging  
solutions**

We specialize in scalable and precision assembly and packaging systems that streamline the processing and packaging requirements of pharmaceutical companies and contract manufacturers.

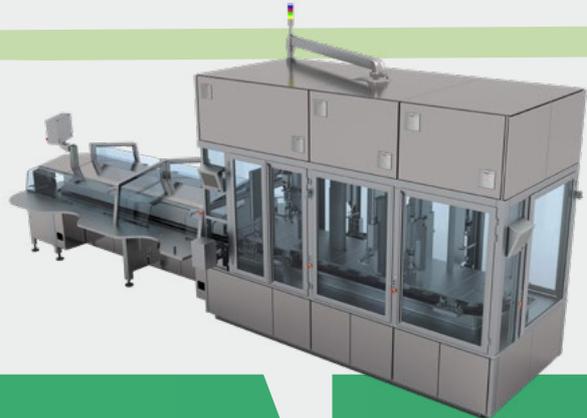
Experts in scaling processes and technologies for device assembly

**Benchtop unit**



**Design development FDA**

**Pilot line (GMP Compliant)**



**Clinical**

**Pilot production**

**Technology transfer from benchtop to high volume**

Our assembly and packaging solutions are as individual as your requirements: we create **modular and flexible production lines that can adapt to different manufacturing programs.**

We have a catalogue of standard frames and transport system we call **platforms** on which we can assemble units picked from our catalogue to

perform any desired operation. We call these units **modules.**

The combination of platforms and modules make it possible to supply a **tailor made machine based on standard components.**

## Applications

> **Assembly:** insulin pens, autoinjectors, inhalers, catheters, infusion sets, syringes, wearables, and other medical devices

> **Packaging:** glass or plastic containers, trays, injection pens and other similar products

Commercial line



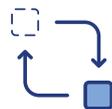
Medium to high volume production



Assembly  
& Packaging

# Linear platform: BasiQX XTV and XTH

This state-of-the-art platform creates an all-in-one assembly machine for drug delivery systems including pens, auto injectors, inhalers and wearables – on a single compact platform. Designed to reduce change over and validation times, this modular platform maximizes time-to-market.



## Modular

We complement our well-engineered, proven **standard platforms** with **individual modules** to offer **tailor made solutions**.

The tailor made equipment can be designed by assembling our standard modules on the desired transport platform.

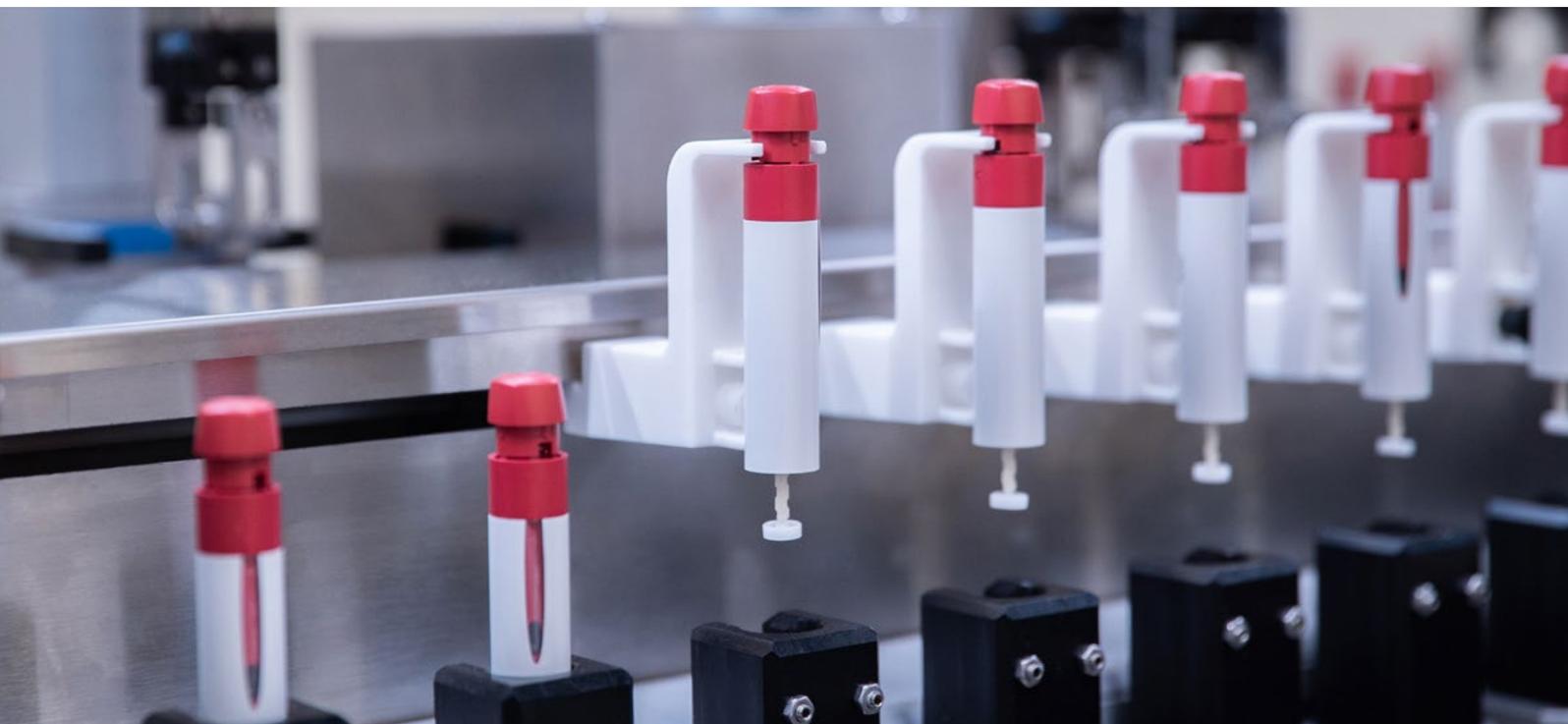


## Flexible

**Independent movement** is the foundation: **each carrier is servodriven** and **can be programmed** via the HMI to a customized performance.

They can move, group and accumulate in order to adapt to different operations performed by the machine. This approach **minimizes investments, operational costs and overall equipment dimensions**.

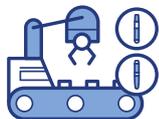
The smart transport system can handle various components with different sizes and shapes allowing for multiple programs on one line - reducing factory footprint and costs.



### Scalable

The **modular design is easily extendable**, enabling production lines to be designed and built according to current production needs and capital expenditure budgets.

The scalable approach allows to increase the capacity over years, upgrading the existing line with minor investment.



### Future-proof

With one-touch of a button, a **fully automated format change** enables customers to manufacture different products, of the same or different family, on the same machine.



### Combined processes

The line can easily be integrated with **additional value-adding features**, such as labeling, packaging, vision inspection, end-of-line cartoning - just to mention a few - for a turnkey solution.

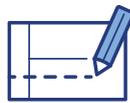
## Assembly & Packaging

# Our motto? Flexibility and easy operation

Packaging lines are modularly structured to offer customized and proven solutions for your product.

We provide compact and versatile lines that can perform multiple types of packaging, featuring:

- Extensive platform and technology options
- Automatic change over without operator intervention
- A wide range of standard feeding modules and handling systems
- Automated quality control with visual and sensor-type inspections
- Fully embedded or stand-alone equipment for serialization



### Tailor made solutions

For highly complex processes or limited space requirements, we offer **reliable and tested standard machinery combined with special modules** to meet your requirements and the processes of your product.



### One interface

By having assembly and packaging competences, we can combine assembly, labelling and packaging into one machine tailor made for the specific needs **with only one HMI, one documentation and one entry for service and support.**



### Turnkey lines

By connecting different machines, we supply **complete production and packaging lines.** Perfectly synchronized modules for sealing, labeling, printing and inspection guarantee efficient and economic processes.



## Digitalization

# Shaping the pharma of the future

For **inspection and assembly solutions** we are embracing the **true potential of digitalization** to deliver real-time improvements in productivity and quality while mitigating risks.



**Less time to market**



**Better performance**



**Cost savings**



**Improved connectivity**



**Elimination of data silos**

Pharma industry is evolving and the digitalization journey for pharmaceutical manufacturing can reap many benefits.

## Our solutions

### Digital Twin

**Digital Twin** is a **digital replica** of a physical entity and can be viewed as a game changer in the **simulation and emulation of mechanical and automated performance**. Applied to assembly equipment, it allows to incorporate process optimization in the design phase, thus accelerating implementation. While for inspection, it can also act as a virtual server machine that simulates physical computers where data can be aggregated in the virtual machine and used for test/data analysis **without interrupting production**.

### Data management

Data collection and utilization drive **quality and production efficiency** in pharmaceutical manufacturing. Our platform is an **optimized solution for data analysis**, featuring an easy interface, that can bring added value in the running-in phase, as well as for

### Artificial Intelligence

**Stevanato Group Vision AI** – a secure, cloud-based platform featuring Deep Learning models – **helps deliver enhanced inspection performances**, increasing the detection rate while minimizing the false rejection rate.

Customers can benefit from **cutting-edge tools** and a **qualified team** of vision and AI engineers, who provide data analysis along with **continuous support** throughout the process.

customer operations, maintenance and data analytics. Data monitoring and measuring can help drive more detailed root cause analysis, corrective actions and adjustments to product design and process optimization.



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**Global presence with operating units  
and commercial offices in 10 countries.**

**Visit our website to contact us.**



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