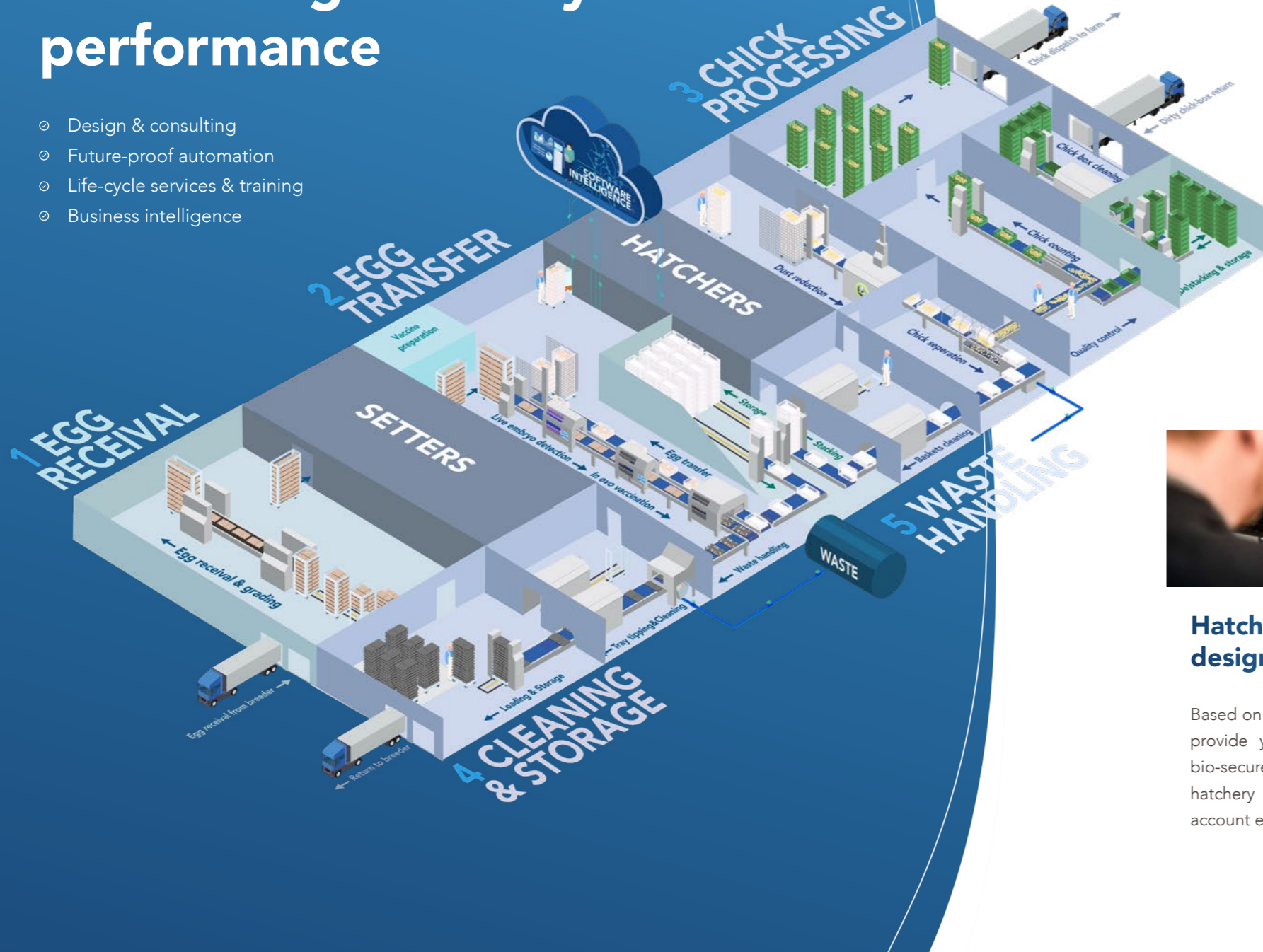


GENERAL BROCHURE

Hatchery automation

Maximizing hatchery performance

- Design & consulting
- Future-proof automation
- Life-cycle services & training
- Business intelligence



About

Founded in the 1990's, Viscon Hatchery Automation has grown and developed with the industry as one of the market leaders in intelligent automation solutions for broiler, layer and breeder hatcheries worldwide. Besides, we also supply solutions to the in ovo Gender Sorting segment, Turkey and other species industry.

With our pragmatic approach, outstanding engineering capacity and global service network, Viscon Hatchery Automation is geared to deliver standalone equipment, expand, renovate or modernize existing facilities or develop some of the world's largest greenfields hatcheries.



Hatchery layout design & consulting

Based on our expertise, we can provide you with most efficient, bio-secure and capacity-enhancing hatchery workflow. Taking into account ease of future expansion.



Future proof automation

Our automation solutions do not only improve operational efficiency and reduce costs, but incorporate animal welfare, bio-security, disease prevention and traceability.



Life-cycle services

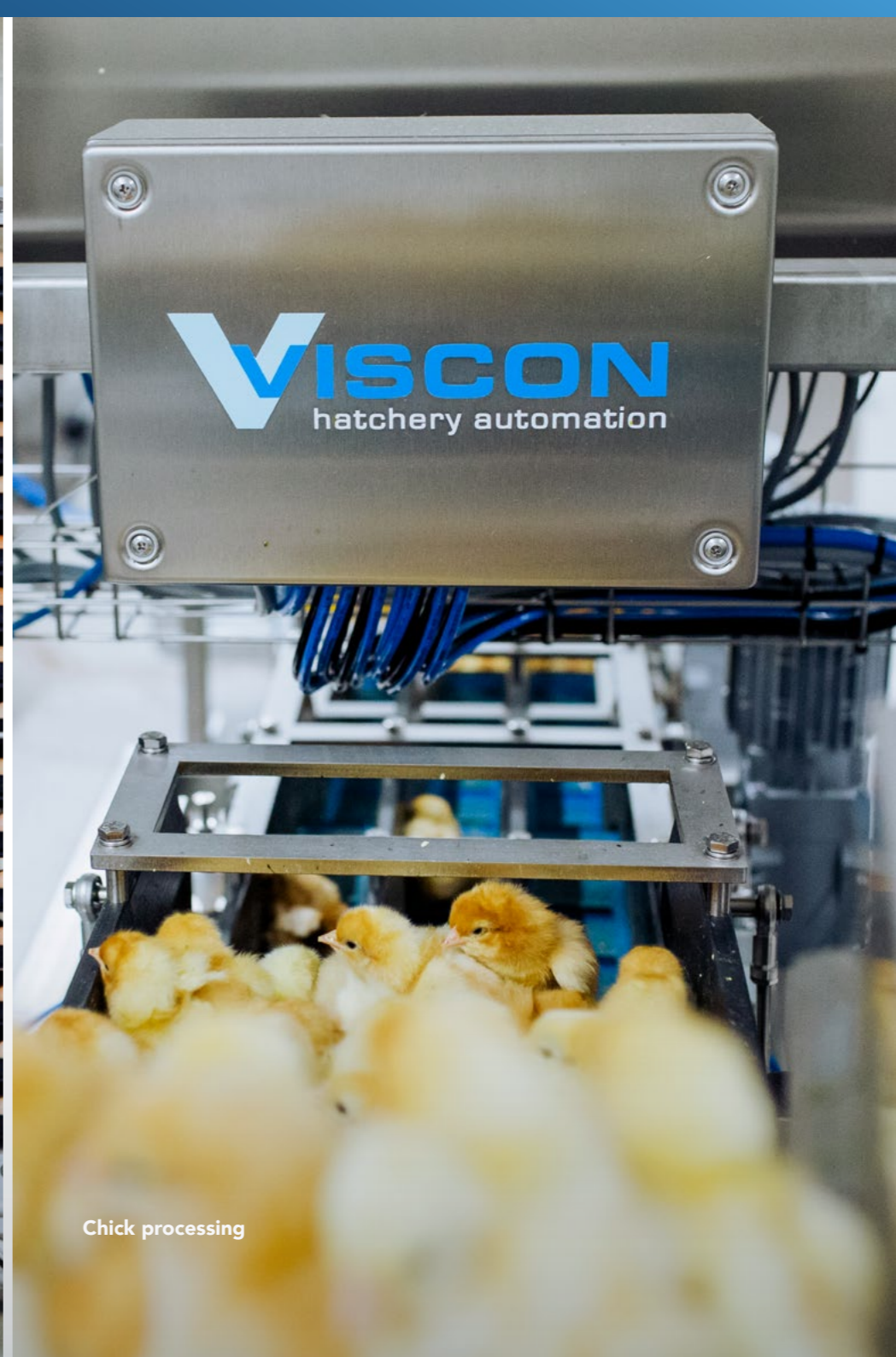
At Viscon, we continue to work with you throughout the life cycle of the system. It's all about maximizing the reliability, uptime and profit of your investment.



Factory Acceptance Test with Holo Lens



Incubators at hatchery



Chick processing

HATCHERY AUTOMATION

Egg handling

Every hatchery aims to fully utilize the hatching potential of the eggs that enter its facility. This can only be achieved when the incoming eggs are held under optimum conditions till the moment they are placed in the incubator. These optimum conditions are created by a proper hygiene level, good storage conditions and delicate handling in the egg room.

From the start we design the entire egg room to create an efficient and hygienic workflow. Based on the daily volume, we provide grading and labour saving machinery to quickly, efficiently and carefully process the eggs according to your specific needs. Our high quality washing machines ensure that trays and trolleys are optimally clean, before returning to the breeder farms.



Incoming egg inspection
ensuring incubation
of high quality eggs.



Our delivery program

- ⊗ Egg grading systems
- ⊗ Egg & tray transferring systems
- ⊗ Loading & unloading of trolleys
- ⊗ Incoming egg inspection and quality control
- ⊗ Upside down detection
- ⊗ Internal transportation
- ⊗ Waste discharge



HATCHERY AUTOMATION

Egg transferring

Egg transferring from setter tray to hatcher basket is a fast yet gentle procedure to avoid eggs cooling down or getting damaged. With the increase production volumes, labour costs and bio-security risks, reliable automation is essential to do this efficiently and safe. Our innovative Live Embryo Detection accurately indicates which eggs contain a living embryo and classifies the non-viable eggs as infertile, early or late dead embryos. These figures are summarized per flock and can be used to predict hatching numbers and monitor breeding and incubation performance. Exactly knowing the content of each egg, also enables selective processing during in ovo vaccination, egg transfer and waste discharge.

Our delivery program

- ⊙ Unloading of setter trolleys
- ⊙ Live Embryo Detection
- ⊙ In ovo vaccination
- ⊙ Selective or non-selective transfer systems
- ⊙ (Un-)loading & (de-)stacking
- ⊙ Weighing systems
- ⊙ Internal transportation
- ⊙ Separate waste processing
- ⊙ Waste discharge
- ⊙ Cleaning of product carriers

TREGG
hatchery software

Accurate prediction of hatchability for each flock through Live Embryo Detection™.

- ⊙ percentage of eggs with living embryos,
- ⊙ infertile eggs
- ⊙ eggs with early and late dead embryos
- ⊙ Line performance





Detect

living embryos through heartbeat technology



Deliver

vaccines at optimum hygiene only to the viable eggs



Monitor

vaccination consistency and quality in real-time



Separate

viable eggs from non-viable eggs.

VINOVO

In ovo vaccination

We believe bird health & safety begins before hatch. That's why Vinovo ensures precise identification and vaccination of viable eggs, making the in ovo process safe, traceable and transparent from start to finish. Our integrated *in ovo* vaccination solutions yield increased hatchery efficiencies to better support your business and provide greater peace of mind. Giving day-old chicks the best possible protection.

The infertile eggs and eggs with dead embryos (including rotten eggs / "bangers") remain untouched in the setter tray and are processed in a separate waste room. This technology gives you the maximum bio-security during in-ovo vaccination, transfer, hatching and chick processing.

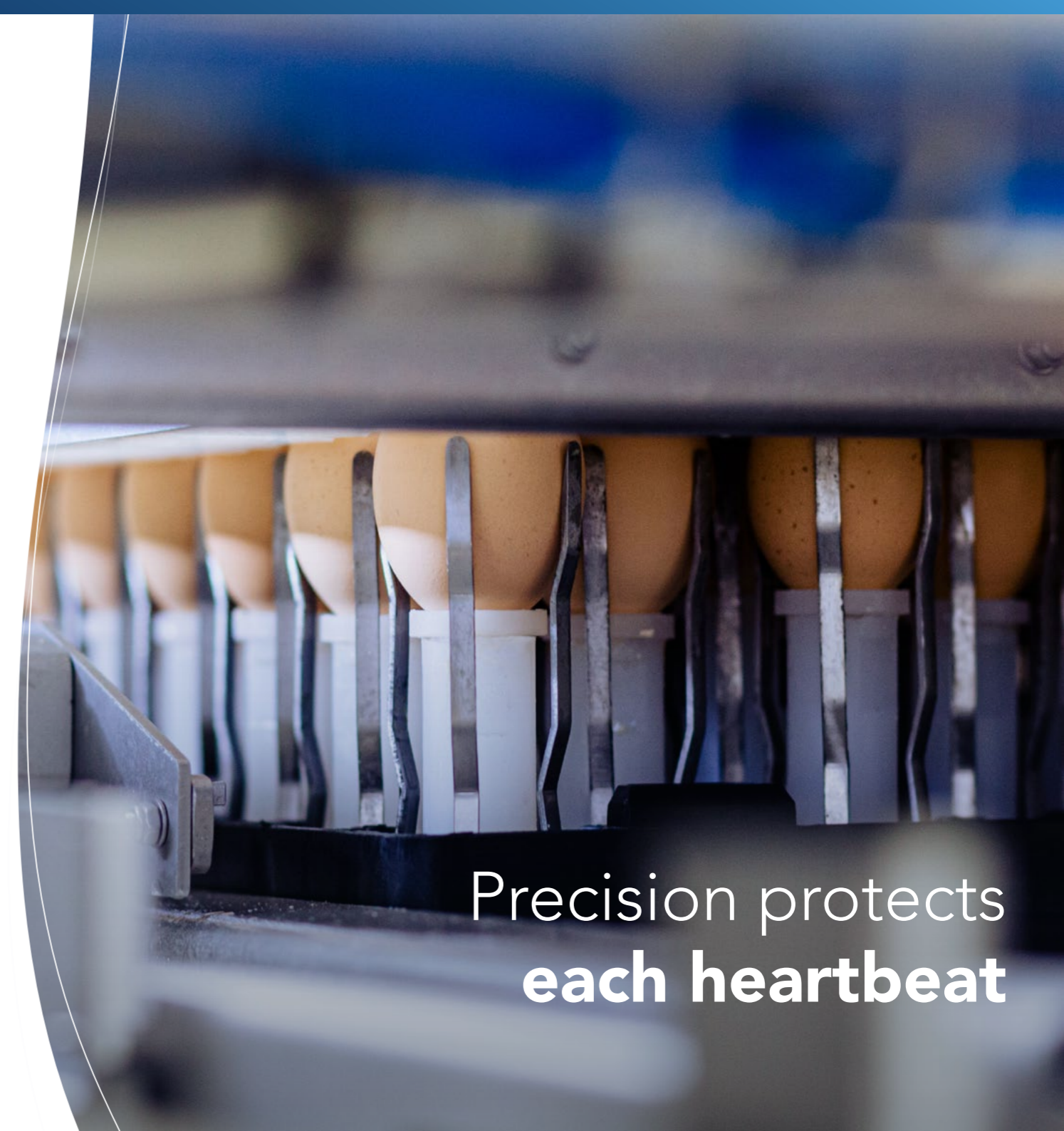


Our devices

The **Vinovo Select** Line, which can process up to 70.000 eggs per hour (depending on application), consists of three modules:

- ⊙ Live Embryo Detection™
- ⊙ Vinovo Select Inject™
- ⊙ Select Transfer™

The **Vinovo Flex** carries with it the advanced features of Vinovo while offering greater flexibility. Diverse in nature due to the ability to handle any setter tray configuration on the market. A dynamic setup means that it can act as a mobile and standalone solution or can be integrated into our **Select transfer** line.



Precision protects
each heartbeat

TECHNOLOGY

Vinovo key features



Dual needle system

A dual needle system, consisting of a punch to penetrate the eggs shell and an inside needle to dose the vaccine, ensures that each vaccination is given consistently and safe at the right location inside the egg. This is a proven technology that prevents damage or blockage of the needle and guarantees a durable and safe method of vaccine administration.



Automatic needle sanitation

Needles and injection tooling are automatically sanitized and disinfected after each injection. This ensures a bio-secure vaccine administration and reduces the risk of cross-contamination from egg to egg.



Selective Inject technology

This technology starts off with the highly intelligent Live Embryo Detection. With the accurate classification of eggs, the viable eggs only undergo the vaccination process which optimizes hygiene. The harmful, non-viable eggs remain untouched in the setter tray preventing the cross contamination across the surrounding viable eggs and vaccination equipment. This ensures a bio-secure *in ovo* vaccination process.



Vaccine saving technology

Accurate detection of living embryos ensures that only eggs with a living embryo receive an injection and not the non-viable eggs. In turn this means that vaccine is not wasted on the non-viable eggs, reducing vaccine wastage compared to traditional candling or egg remover systems.



Re-alignment technology

For our Select Inject, a better accuracy of vaccination is achieved by repositioning the viable eggs in a perfect straight position prior to injection. This is done by means of patented egg holders, lifting the viable eggs only, gently from the setter tray and re-aligns them individually underneath the injection tooling. Ensuring that each viable egg is punched at the top and center of the egg and the needle is moved to the correct compartment inside the egg (amnion cavity or embryo) to deliver the vaccine. Resulting in an effective vaccination.



Adjustable needle depth

With varying egg sizes per flock, so too can the injection tooling be configured to fluctuate with the flock egg size. The possibility to adjust the needle depth at our Select Inject device, improves the accuracy of vaccine placement and thus protection of the birds.



Pro-Vacc-Tive™

Pro-Vacc-Tive™ ensures that vaccine dosage is controlled and guaranteed and needle blockages are detected. This is all achievable through the means of real-time monitoring of each individual needle to quality control the vaccine, sanitation protocol and needle, overall improving on efficiency and productivity.

VINOVO SERVICE

Outstanding life-cycle service

High quality machinery requires a dedicated service team with Vinovo specialists. That's why we take our Vinovo service to a higher level with four key elements that will ensure optimal machine performance in your hatchery.

Local presence

We are providing full and comprehensive service in any country in the world. With our worldwide network of (local) specialists we are able to quickly and efficiently support our customers wherever necessary.

Preventive service visits

Our Vinovo service engineers will plan preventive service visits to make sure your devices are periodically checked and provided with everything needed, to ensure optimum vaccination conditions.

On-site audits

To maintain your hatchery operators performing at the highest level, on-site audits are planned by our Vinovo specialists. Focusing on bio-security, reporting and evaluating to improve production processes.

Spare parts

To maintain a high efficiency in your production process, we supply parts and tools to ensure down time is reduced to a minimum.





**Efficient, space-saving
& hygienic workflow for
animal-friendly chick handling**



HATCHERY AUTOMATION

Chick processing

When processing day-old chicks, many important factors need to be considered to maintain chick quality. Increasing daily production volumes require higher processing capacities. Nevertheless, delicate chick handling is required to conform high standards of animal welfare. Precision and accuracy during additional operations such as gender sorting and vaccination are key. Optimal working conditions and collecting production data are necessities in a modern hatchery. An efficient, space-saving and hygienic workflow combined with high quality automation increase the control of these factors and reduce the need for hatchery staff while improving chick handling. Ergonomic work positions and dust reduction systems create a better work environment and reduce labour absence.

Our delivery program

- ⊙ (Un)loading & (de-)stacking systems
- ⊙ Dust reduction
- ⊙ Chick & shell separation
- ⊙ Chick conveying, grading and counting
- ⊙ Gender sorting & vaccination
- ⊙ Hatch debris processing & separation
- ⊙ Humane chick culling
- ⊙ Animal friendly processing lines

TREGG
hatchery software

Collecting data from workstations and chick counters:

- ⊙ Flock production figures
- ⊙ Hatch of fertile percentage
- ⊙ Average chick weight
- ⊙ Line performance

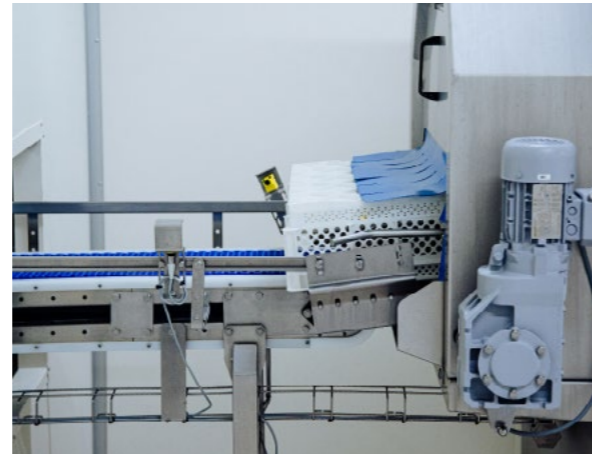


HATCHERY AUTOMATION

Cleaning & storage

After each production cycle, the product carriers (eg. setter trays, hatcher baskets, etc.) need to be cleaned, dried and stored to be re-used again the following production day. The prevention of cross contamination requires optimal cleaning and drying results as well as hygienic process flows. Energy and water usage are substantial cost factors in the daily operation of a hatchery in which an efficient cleaning solution can make a difference.

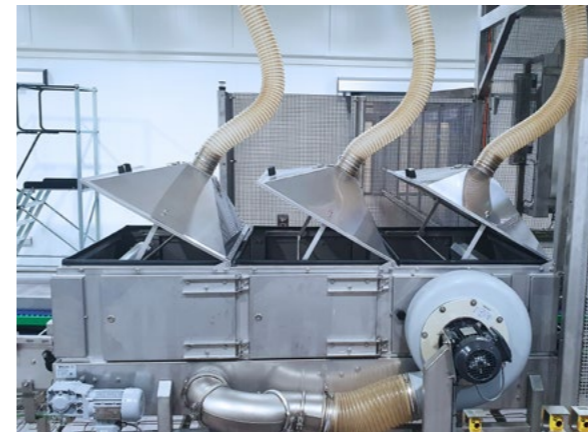
Our hatchery design avoids physical crossing of dirty and clean products by separating pre-soak, washing and clean storage areas. This reduces the risk of cross contamination. High quality industrial washing machines are available in various models with capacities up to 3.000 products per hour. Efficient heat exchangers and an optimal water re-circulation system gives the best washing result against the lowest usage of energy and water. We apply product specific air re-circulation dryers with water recuperation, which efficiently dries the products and reduces water usage.



Our delivery program

- ⊙ Automatic pre-soaking systems
- ⊙ Cleaning & drying of all hatchery products
- ⊙ Filtration systems
- ⊙ Water and energy saving options
- ⊙ (De-)stacking systems
- ⊙ Dynamic storage systems





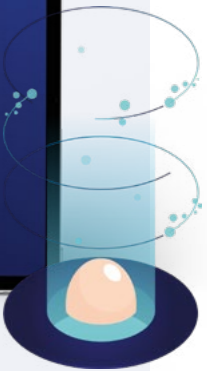
HATCHERY AUTOMATION

Waste handling

A sustainable, hygienic and cost effective handling of waste is an increasing challenge for a modern hatchery operation. We provide different solutions to discharge, separate and store the different types of waste for resource recovery or disposal.

Our delivery program

- ⊙ Collection of infertile eggs
- ⊙ Fluff/ dust reduction
- ⊙ Tray and crate tipping
- ⊙ Humane unhatched embryo and chick culling
- ⊙ Vacuum discharge of debris
- ⊙ Central storage of waste

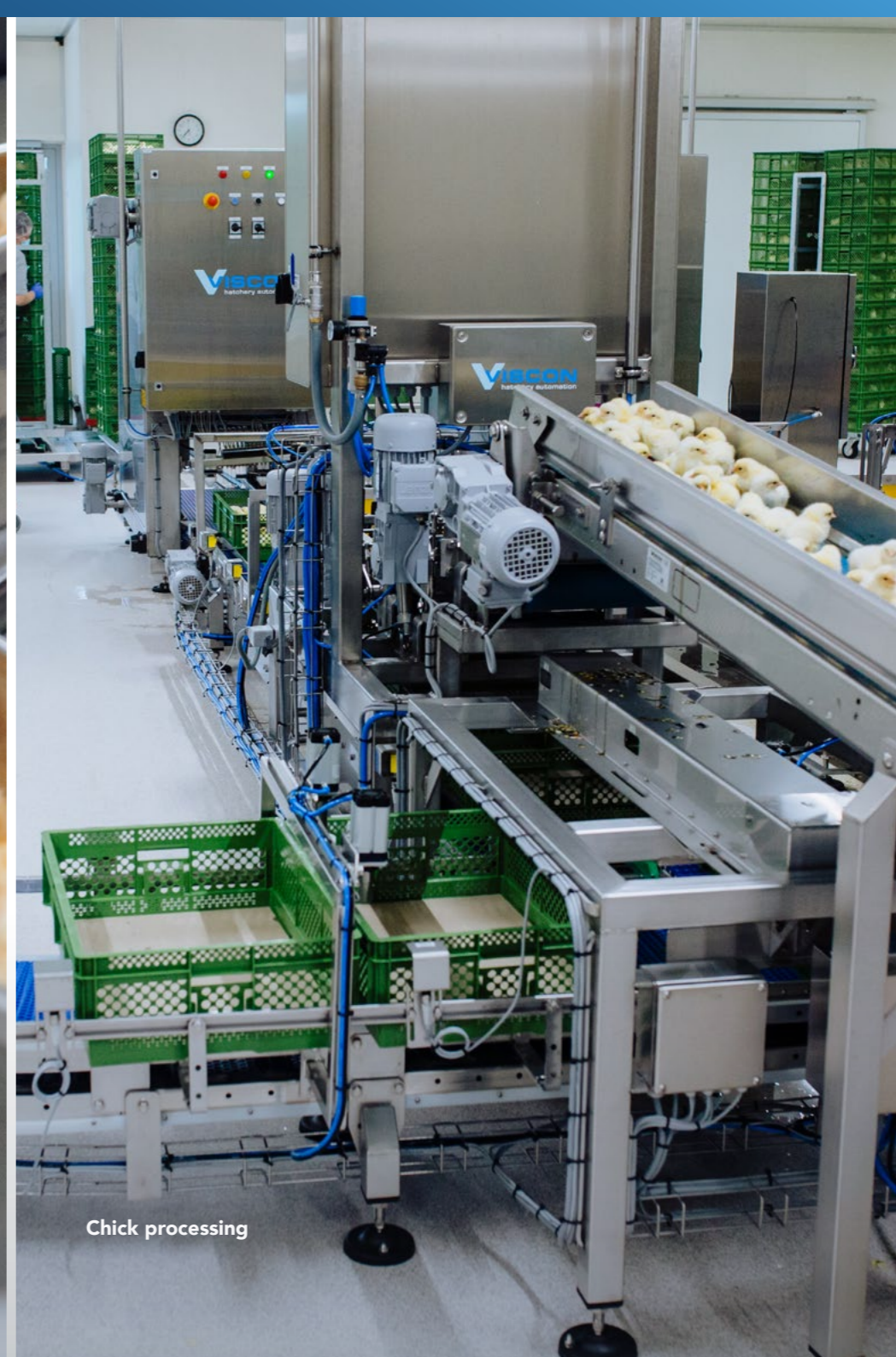




Egg transferring



Chick processing



Chick processing

Traceability & intelligence software

TREGG Intelligence Software is designed for greater hatchery and business intelligence. Aiding in the operational and strategic planning in real-time and to ensure reliability and oversight across the production floor. TREGG analysis of data provides the hatchery with 4 pillars of control:

- ⊗ Flock performance
- ⊗ Machine performance
- ⊗ Traceability
- ⊗ Serviceability

The collection and analysis of data can be more easily managed and shared through the possibility of integrating with other top-level software systems. The overall hatchery's performance will be improved and areas of improvement can be much more easily identified and greater awareness is achieved through the advanced capabilities of TREGG.



Machine performance

Providing real-time information on statistics such as the number of downtimes, machine efficiency, and average processing speed enables you to maximize hatchery efficiency and excel in operational planning.

Track & trace

Providing real-time information on statistics such as the number of downtimes, machine efficiency, and average processing speed enables you to maximize hatchery efficiency and excel in operational planning.

Flock performance

TREGG provides a precise and accurate overview of individual and group flock performances. It can accurately classify both viable and non-viable eggs, as well as other hatch performances such as the classification of dead and cull chicks. Flock performances can be expanded with average egg weight, chick weight, moisture loss at setting, etc.

POULTRY

Service & training

Scheduled servicing

By planning scheduled maintenance, our engineers are able to support your hatchery performance by carrying out preventative maintenance. This approach has been specially designed with you in mind to ensure that the hatchery equipment operates with minimal downtime to promote dependability and reliability. By subscribing to our improved initiative, you can be rest assured that our service engineers will be at your facility on a fixed basis to help you in your performance.

Training and support

Our specially designed training modules ensures a strategic balance between theory and practice is offered to your staff. The fundamentals learned in these modules allow for familiarity and appropriate accreditation to successfully operate the hatchery automation equipment. This results into not only ensuring that your staff can accurately identify and troubleshoot issues as they arise, but also that an indepth understanding is promoted, increasing the overall awareness of the in-ovo and hatchery operations.

TREGG information system

TREGG has been specially and specifically designed for you in that it gathers, manages and helps you analyse the processes in your hatchery. Information relating to individual and group flock performance, automation processes and hatching results can be collated to help improve your understanding of your hatchery's overall performance. Further to this, the functionalities from TREGG can be utilized to aid the servicing and support aspect to your hatchery environment.





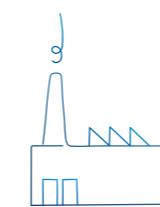
WHO WE ARE

Viscon Group

We are passionate about Agro and Food processes and the limitless possibilities technology has to offer. Our software, machinery, and solutions enable the world to produce, distribute and enjoy healthy fresh food, flowers and plants. Since its establishment in 1927, the family-owned company has grown into an international organization, active in various Agro & Food sectors.

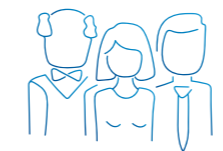
Our extensive experience in each market we operate in enables us to understand the operations, opportunities and challenges of our customers. This enables us to make the best production layouts for your company.

We design and build the entire process, combining Viscon automation with specific equipment sourced from carefully selected partners. This means you will always find the best solution. With Viscon you have access to a one-stop-shop. We design, we build and we fully integrate. We even add intelligent software to give you optimal control and management of your business.



2

Factories



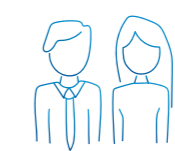
3

Generations of experience



77+

Countries with Viscon equipment



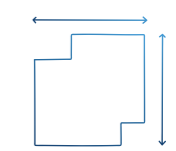
300

Colleagues



6,000

Cups of coffee a week



23,000

Square meters manufacturing facility

We keep innovating for the hatchery of tomorrow



Viscon Group

Mijlweg 18
3295 KH 's-Gravendeel
The Netherlands

+31 (0) 78 673 98 98

www.viscon.eu