

the All-In-One  
**PHARMA**

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logue





# PHARMA

## IMA PHARMA, THE ALL-IN-ONE SUPPLIER

FOR ITS PROCESSING AND PACKAGING LINES, THE PHARMACEUTICAL INDUSTRY IS IN SEARCH OF TECHNOLOGY, INNOVATION AND RELIABLE, TAILOR-MADE SOLUTIONS. THE ANSWER IS SIMPLE: A UNIQUE SOURCE WHOSE COMPETENCES STRETCH BEYOND THE SINGLE PROJECT, A PARTNER WHO LISTENS, UNDERSTANDS AND SHARES. A COMPANY THAT IS ALREADY ENGINEERING TOMORROW'S SOLUTIONS, PIONEERING DIGITAL AND GREEN TECHNOLOGIES, AND EQUIPPED TO SUPPORT YOUR BUSINESS OBJECTIVES AND SERVICE YOUR NEEDS.

THAT COMPANY IS IMA PHARMA, A TRUSTWORTHY PARTNER BOASTING OVER 60 YEARS' EXPERIENCE IN THIS INDUSTRY, WITH AN EXTENSIVE RANGE OF SOLUTIONS THAT COVERS THE MOST DIVERSE REQUIREMENTS. IMA PHARMA IS A TEAM OF CONSULTANT ENGINEERS QUALIFIED TO ASSIST IN THE PLANNING, DEVELOPMENT AND IMPLEMENTATION OF YOUR PRODUCTION FACILITIES. WITH A GLOBAL SALES AND SERVICE NETWORK, AND A CUSTOMER-CENTRIC APPROACH TO PROJECT MANAGEMENT ENABLING ONE PRIVILEGED POINT OF CONTACT. THIS IS A GROUP OF SPECIALIST DIVISIONS: IMA ACTIVE (SOLID DOSE SOLUTIONS), IMA LIFE (ASEPTIC PROCESSING & FREEZE-DRYING SOLUTIONS), IMA SAFE (PACKAGING SOLUTIONS), IMA BFB (END OF LINE SOLUTIONS), IMA AUTOMATION (FLAWLESS ASSEMBLY) AND ILAPAK (FLOW WRAPPING SOLUTIONS).

TOGETHER THEY COMBINE UNIQUE SKILLS AND KNOWLEDGE, INTERACTING IN AN ENVIRONMENT WHERE PEOPLE, EQUIPMENT AND TECHNOLOGY COME TOGETHER IN PERFECT SYNERGY. THEY CREATE THE CONDITIONS FOR THE NEXT INNOVATION, THE NEXT LEVEL OF FLEXIBILITY, SOLUTIONS DESIGNED TO ENHANCE THE VALUE OF YOUR PRODUCT AND THE EFFICIENCY OF THE ENTIRE PROCESS. ALL FROM A TRUSTED SOURCE, A SINGLE SOURCE: IMA PHARMA.





# the All-In-One **PHARMA**

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## Make It Real

A natural extension of our Digital Lympa, IMA Digital is the group's global project that aims to develop groundbreaking activities and services for the manufacturing world, by responding to disruptive innovation in the sector.

The initiative involves all the companies in the IMA Group and launches a series of projects, activities and efforts aimed at optimising internal and external processes. We are implementing 4.0 technology along production flows and training operators in the use of the most innovative digital tools, thus integrating technological know-how and new digital skills.

The project aims to generate more effective and efficient internal processes, creating value by using empowered machines and services designed to deliver predictive and personalised customer experiences throughout the value chain.

IMA believes that the way to reach higher standards in machine intelligence is by enabling the actual experience and expertise of the manufacturer to be embedded into their machines. The combination of machine sensors and IMA's knowledge of machine functions under different production conditions means we can gather useful information regarding machine status and life expectations. In turn, this allows prognosis services for fault detection and predictive maintenance plans.



# Connected machines

The manufacturing world is breathing life into increasingly connected machines that can produce and collect large amounts of information in order to detect problems early, carry out debugging or preventive maintenance and guide implementation or changeovers.

Discover Digital Products and Services to increase production efficiency:

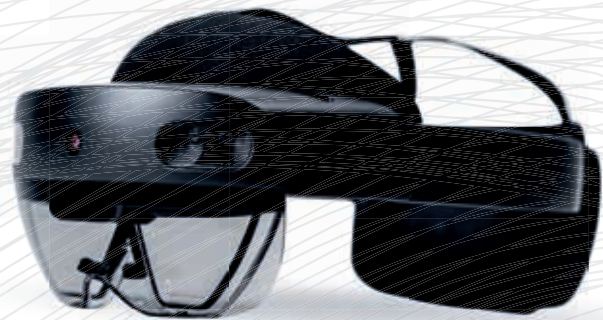
- **A4GATE**, the integrated hardware and software solution to protect data confidentiality, system operations and operator safety.
- **IMA Data Room**, the virtual space in-cloud where all information coming from the plants is collected and stored, and where the data analysis software programs reside.
- **IMA Sentinel**, the platform for continuous autonomous monitoring of the system's performance wherever it is needed.
- **IMA Control Room**, the set services, to improve production, based on detailed reports, specific alerts and general support 24/7.





## IMA Digital Services

IMA wants to offer the end user a series of ancillary tools to ensure an ever more integrated and easier production experience, with a view to continuous improvement. The IMA Customer Service Portal and IMA Smart Service Suite App are the tools that, combined, allow to obtain all the information and features for a better management of the installed base (digital interactive documentation, operating guidelines, requests opening), together with the e-commerce MYIMA Spare Parts. In case of need, the IMA Solutions for Assistance brings support from an IMA remote expert.



## IMA Digital Engineering

IMA Digital Project gave life to a series of services and project, specifically designed to support the digital life and coordinate the internal activities of a plant:

- **IMA Virtual Commissioning**, to create digital twin of an equipment to bring out design errors and improvements to be implemented before the effective realization.
- **IMA Lines Virtualization**, to simulate discrete events and obtain preventive performance line analysis, definition of plant layout, buffer and speed of the machines, and definition of the number of operators.
- **IMA Virtual Mockup**, that allows operators to digitally test ergonomics before a plant is actually built.
- **IMA Artificial Intelligence Anomaly Detection** and **IMA Preventive Maintenance**, able to prevent the occurrence of damage or malfunction through Machine Learning techniques thanks to deep data analysis.



# IMA Digital Training

IMA Group has created a wide range of solutions that integrate platforms and tools covering the needs of 360° training. The proposals aim to divide education into phases, designed to anticipate training where it is impossible to involve equipment, and exploit advanced technology where training can be carried out directly on the systems.

IMA Digital Classroom, traditional spaces intended for group training, in which students are guided by expert teachers and supported by latest-generation digital devices; IMA E-Learning, mode in which students train independently when and where they want; IMA Training On The Job, mode in which operators carry out training directly on the machine with the support of advanced digital devices.



## Introduction

IMA ZERO is the evolution of IMA's commitment to Sustainable Development, born many years ago with the annual publication of a sustainability report. It includes all practices already in place, plus those that are currently being implemented. Its ultimate goal is both minimising environmental impact in industrial manufacturing and promoting and creating a working and living habitat that always puts people and biodiversity at the centre.

Economic results and social benefits are complementary objectives through which IMA has always generated value for the company itself, its customers, employees, suppliers and for the entire community.

Under the IMA ZERO project falls the Group's commitment to the 17 Sustainable Development Goals outlined by the United Nations in the 2030 Agenda.

In particular, IMA supports those goals in line with its sector, hence the manufacturing industry, and it operates specifically in the following categories: governance and business integrity; product quality and liability; persons; communities & the development of knowledge; environment.

One of the Group's priorities is the reduction of carbon footprint and greenhouse gas emissions. To this purpose, in 2020 IMA S.p.A. launched a project together with Valle Morosina that certified that the Group has acquired sufficient carbon credits to offset all of its direct (due to the use of fuels and refrigerants) and indirect (due to the use of electricity) emissions.

This initiative represents a commitment and an important advantage for IMA, both in terms of reducing its environmental impact and when reporting and communicating with its stakeholders, principally within the CDP (Carbon Disclosure Project). Moreover, in 2021, once again IMA was successfully assessed by Ecovadis, which awarded it a "Silver Ecovadis Medal".

Starting from innovation, IMA ZERO is the Group's latest commitment towards creating products, production processes and services, benefitting from a renewed logic of sustainability and from the awareness that the efforts today will help to shape the world of tomorrow.

The logo features the word "ZERO" in a bold, sans-serif font, with a small square icon to the right of the letter "O". The text is centered within a large, stylized, grey, circular shape that resembles a thick letter "O" or a partial ring.

Z E R 



# The projects

IMA ZERO consists of 4 main projects: LOW (Low-Impact Program), NOP (No-Plastic Program), E-MOB (Sustainable Mobility) and YOU (Human-Centric Program).



## LOW

(Low-Impact Program) is the commitment to increasing IMA's sustainable practices to preserve resources.

Over the years, the Group has been incorporating this concept both in its organisation and development policies, for constant adoption and conception of innovative low impact technologies:

- The Company has started setting water and electric consumption standards for all new machines, developing innovative production methods.
- New IMA plants are designed to use renewable energy resources and to minimise waste and consumption.



## NOP

(No-Plastic Program) means the promotion of eco-friendly plastic substitutes for the packages manufactured on IMA machines.

Through the research and testing of alternative processes and materials, together with its partners, the Group fosters plastic-free and sustainable, compostable, biodegradable or recyclable packaging solutions. To this purpose, IMA OPENLab plays a central role.



## E-MOB

(Sustainable Mobility Program) is the commitment to investing in the search for new solutions and technologies for sustainable mobility.

Electric and hybrid vehicles can lead to emissions reduction and to the conservation of the environment. The Company's biggest investment ever is the acquisition of IMA AUTOMATION ATOP, an Italian excellence in manufacturing lines for the production of e-traction engines, supported by the latest acquisition of IMA AUTOMATION FASP that will complement the portfolio of high-tech solutions provided by IMA.



## YOU

(Human-Centric Program) means putting people at the centre of any initiative.

IMA promotes human rights and welfare, inside and outside the company. Made up of several different projects – social, equal opportunities and sustainable economy – the Group strives for better working and living conditions. In 2022, once again, IMA won the international "Top Employer Italia" award, which certifies the Group's maximum commitment to ensuring the welfare of its employees and collaborators.

IMA promotes inclusion, integration, equal opportunities and reciprocity, as elements that can enhance the value of diversity, removing the economic and social obstacles that restrict the freedom of the individual.

# IMA ZERO

## OPENLab

OPENLab is IMA Group's network of technological laboratories and testing area, dedicated to the research on sustainable materials, technologies and production optimisation processes.

Thanks to the implementation of the most modern digital infrastructures, together with think tank spaces, environments dedicated to the generation of ideas and the prototyping of materials, OPENLab aims to build a connection between knowledge and skills coming from machines, packaging manufacturing and customers. At the laboratories, new materials are analysed in order to find sustainable solutions in alternative to plastic, such as compostable, biodegradable, paper-based or ultra-thin films.

The offer also includes in-depth tests on new materials, from laboratory analysis to production tests that simulate real-life conditions.

## OPENLab's mission

OPENLab's objective is to create partnerships, finding new sustainable materials, sharing competences and creating synergy with packaging manufacturers and customers.

Thanks to its team of experts with a specific background in packaging materials, machines and processes, the laboratories aim at maximising equipment's efficiency, reducing waste whilst maintaining pack presentation and seal integrity, testing in advance new and more eco-friendly packaging materials.





# OPENLab's numbers

In the period 2017-2021, over 3,800 film structures were analysed in the laboratory and over 400 films were tested.

# OPENLab's operational sites

OPENLab has 4 operational sites:

## **Bologna (IT)**

OPENLab Bologna is a laboratory dedicated to research and testing with an area of 100 m<sup>2</sup>. The Lab is built with green building materials and incorporates the latest digital infrastructures. It is divided into a think tank space devoted to generating ideas and to the prototyping of materials, and a test area to carry out laboratory analysis and production tests that simulate real-life conditions. OPENLab Bologna is located at the headquarter premises in Ozzano dell'Emilia (Bologna, Italy). In this way and thanks to the geographical proximity of most of the production sites of various IMA divisions, it is possible to quickly perform tests on dedicated machines on site, facilitating the whole network and analysis process.

## **Arezzo (IT)**

OPENLab Arezzo boasts a test area of 200 m<sup>2</sup>, where vertical form fill seal lines are available both for internal analysis and for customers' tests. Further to this area, the OPENLab is also equipped with a 50 m<sup>2</sup> cold room test area (minimum temperature 0°C product continuous feed), where IMA's experts carry out tests on machines at very low temperatures.

## **Lugano (CH)**

With over 400 m<sup>2</sup> of total surface, OPENLab Lugano is equipped with an analytical lab integrated into a testing area/show room. In the testing area, different horizontal form fill seal machines are available, which are fully dedicated to conduct tests and supervised by a skilled IMA technician. In particular, they are available for internal experts' activities such as prototyping, R&D and technological innovation; for clients, to perform tests on new materials or new upgrades; for packaging producers, to carry out processability tests on new packs before entering the market. The laboratory also has a dedicated showroom area, where the displayed machines change regularly to allow clients to find out more about IMA's latest developments.

## **Lowell (USA)**

The OPENLab in Lowell is still work in progress, but it will be characterised by a strong focus on the USA market. It will be equipped with a lab and a test area. The laboratory will aim at finding new sustainable materials that will be specifically suitable for the American market, thereby guiding IMA's partners towards materials' evolution.



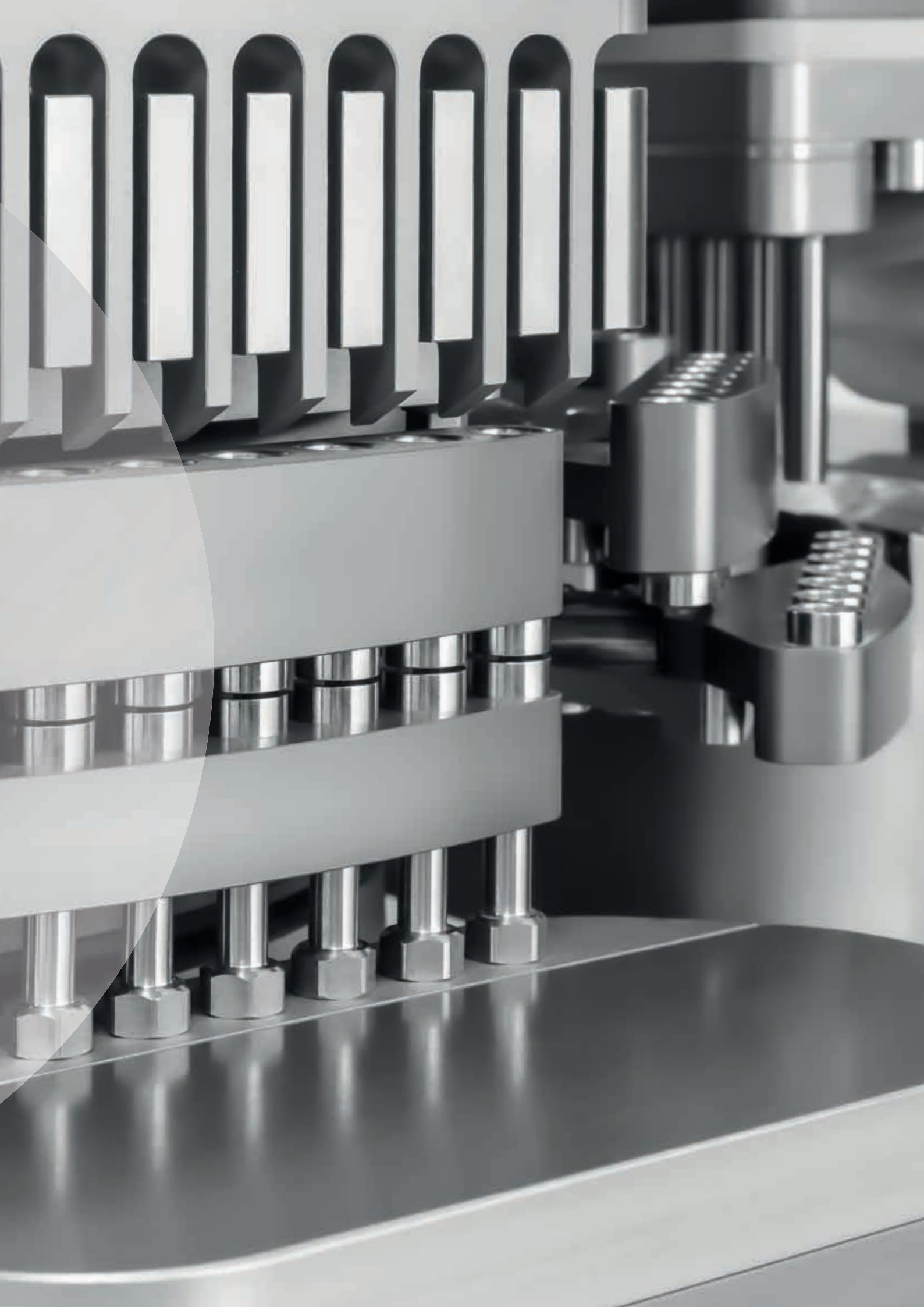
# IMA ACTIVE

## A protection that is always active

The effectiveness of a drug's active ingredient is what determines the success of a pharmaceutical product on the market, so it is important to protect it through all of the phases of production and packaging in solid form.

Our Solid Dose processing solutions are based on dedicated experience and technology, and take advantage of the know-how of experts specialised in individual product lines, but also capable of using this knowledge to work together with others as part of a team.

This is why IMA Active is the ideal partner for excellence, not just for integrated equipment but also for specific installations.



# R&D Laboratories

IMA Active provides assistance for process development and optimisation for technology transfer scale-up for each step of your manufacturing process, while the R&D team explores opportunities about Continuous Manufacturing which is acknowledged to be a key enabler for innovation in the Pharmaceutical industry. IMA Active Laboratories include testing rooms with a controlled environment, staffed by qualified process experts and skilled engineers at your disposal for testing at IMA facilities or for support at customer's site.

## Main activities

- Formulation optimisation.
- Process development and optimisation.
- Scale-up support with pilot and industrial equipment.
- Process training both at IMA and at customer's site.
- Troubleshooting both at IMA and at customer's site.
- Customer's trials for dedicated projects.





ROTO CUBE 60

IMA ACTIVE



## GRANULATION

IMA can offer a wide range of equipment for wet granulation, including high shear mixer granulators, fluid bed processing equipment for top spray granulation and drying, as well as the well known ROTO CUBE, the first single pot high shear mixer granulator and dryer launched on the market. Equipment modularity ensures maximum flexibility in terms of installation and easy integration into complete processing lines, while careful geometry scalability and accurate control of process parameters make for easy scale-up and greater efficiency.



DEVELOPED IN 1984, ROTO CUBE IS THE BENCHMARK FOR SINGLE-POT GRANULATION. ACCURATE DETECTION OF THE WET GRANULATION END-POINT DURING VACUUM DRYING ENSURES HIGH PROCESS EFFICIENCY AND PREMIUM QUALITY GRANULES.



# CAPSULE FILLING

IMA Active's expertise in this sector goes back to the first automatic capsule filling machine in the world produced in the 1950's. This tradition combined over the years with a constant commitment to innovation makes IMA Active world leader in this sector. A wide range of filling systems giving excellent results with all kinds of products, in and off-line production control technology and high automation are the hallmarks of IMA Active proposals, together with an unrivalled experience in high containment.



THE ADAPTA'S DNA HAS ITS ROOTS IN IMA'S 60 YEARS OF EXPERIENCE AND MORE THAN 6,000 CAPSULE FILLERS WORLDWIDE. MULTI PRODUCT DOSING AT HIGH SPEED, FLEXIBLE CONFIGURATION, 100% WEIGHT CONTROL ARE THE HALLMARKS OF A MACHINE WHICH IS UNIQUE IN THE MARKET.





# TABLETING

IMA Active offers high efficiency tablet presses with centrifugal or force feed die filling systems. PREXIMA is the best solution to handle all production volumes. Based on the COMPRIMA concept, PREXIMA ensures complete separation between processing and mechanical areas thanks to the use of specially designed seals and protections. Maximum reliability with pre-compression and main compression forces up to 100 kN is possible thanks to the exceptionally sturdy structure. Clever design also enables excellent accessibility.



EVERYTHING GAINED IN YEARS OF EXPERIENCE AND EXPERTISE IN THE INDUSTRY HAS BEEN CAREFULLY CHANNELLED INTO THE PREXIMA SERIES OF TABLET PRESS MACHINES. AVAILABLE IN THREE MODELS, PREXIMA IS THE BEST SOLUTION TO HANDLE ALL PRODUCTION VOLUMES.



All the strengths of the PREXIMA series have been channelled into DOMINA highly automated tablet press. Following the lead of Industry 4.0 digital transformation, the control system is one of the hallmarks of DOMINA, in order to enable better control of the process. In DOMINA, servomotors are widely applied in order to reduce operator intervention to almost nothing. In addition, DOMINA features MAX, the new corporate HMI which improves operator efficiency and prompt responsiveness, enhanced predictability and easy learning.





# COATING

Over 40 years of experience and over 2,000 successful installations worldwide are proof of the process technology and quality of IMA coating equipment. IMA Active's know-how, together with constant research, close collaboration with raw material suppliers and universities, allow the development of high quality equipment for an optimal production process. The IMA Active product range includes both solid wall and perforated pans featuring the same high efficiency mixing system allowing the highest flexibility in terms of workable batches.



CONCEIVED TO PROVIDE THE HIGHEST EFFICIENCY IN THE FIELD OF AUTOMATIC COATING EQUIPMENT, PERFIMA GUARANTEES REMARKABLE PERFORMANCE WITH ALL PROCESSES. ALSO SUITABLE FOR CONTAINMENT INSTALLATIONS, THE MACHINE REDUCES OPERATOR EXPOSURE WHILE WORKING WITH HAPI.





# HANDLING AND WASHING

Smart design, compact dimensions, accurate finishing. IMA Active handling and washing systems ensure optimal performance with maximum resistance. The handling systems include a wide range of equipment and technical solutions: dispensing and feeding systems, bins and drums, tumblers, lifting columns and high containment valves.

Flexibility is the hallmark of IMA Active's washing stations: the smart solutions for enhancing efficiency while minimising water and detergent consumption.



HIGH EFFICIENCY WITH MINIMUM CONSUMPTION. ATLANTIS ENSURES OPTIMAL PERFORMANCE WITH MAXIMUM FLEXIBILITY IN TERMS OF MACHINE CONFIGURATIONS AND WASHING CYCLES.

## Sensitive to life

To preserve the integrity of pharmaceutical products, ensuring the maximum level of sterility and protection to the operator and to the environment through highly specialised enclosed and aseptic processing systems.

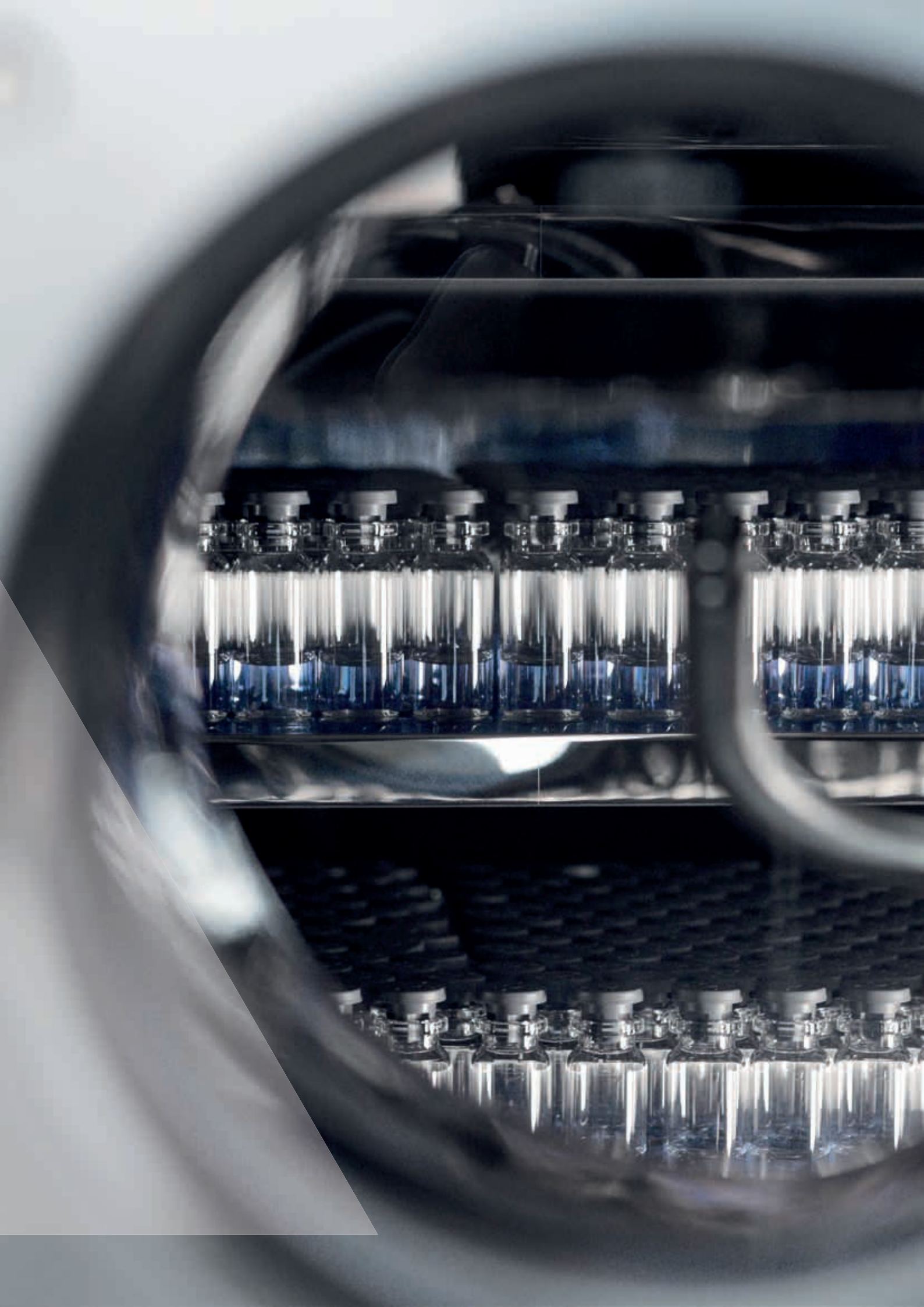
IMA Life's aseptic and pharmaceutical products are intended for applications requiring equipment of high scientific and technological content, where the industry must comply with very strict standards.

In this market, the company can either manage large-scale projects designing and manufacturing customised solutions to meet special end-user requirements, ensuring that deadlines are met.

IMA Life's product range includes washing equipment, depyrogenating tunnels, liquid filling and closing in aseptic environments of vials, ampoules and "Ready-To-Use" components, microdosing and macrodosing filling of aseptic powders, isolation systems and containment solutions as well as industrial, pilot and laboratory freeze-dryers, which can be combined with the industry's widest range of automated loading and unloading systems. Lyophilisation process developments, continuous aseptic spray freeze-drying technology complete the array of machines on offer.

IMA Life also offers filling and closing machines of non-aseptic pharmaceuticals and cosmetics, syringe assembly and labelling machines, labellers for vials, ampoules, BFS (Blow Fill Seal), shaped containers and cartons, blowing machines, depackers, tray loaders and other ancillary equipment.

For innovative solutions with the highest technical standards.





# R&D Laboratories

IMA Life counts on two R&D Laboratories staffed by highly skilled professionals, with extensive experience gained in the field of parenteral product and process development.

## ISOTECH LABORATORY

Located in Bologna (Italy), at the IMA Life facility, the IsoTech Lab is made up of the microbiological laboratory and isolator pilot room where we conduct R&D and customer required tests. This enables us to increase decontamination process efficiency ensuring aseptic production quality in regulatory compliance. All tests are performed using sophisticated and highly sensitive instruments also in collaboration with Italian universities and with the major industrial measurement companies.

## LAB4LIFE LABORATORY

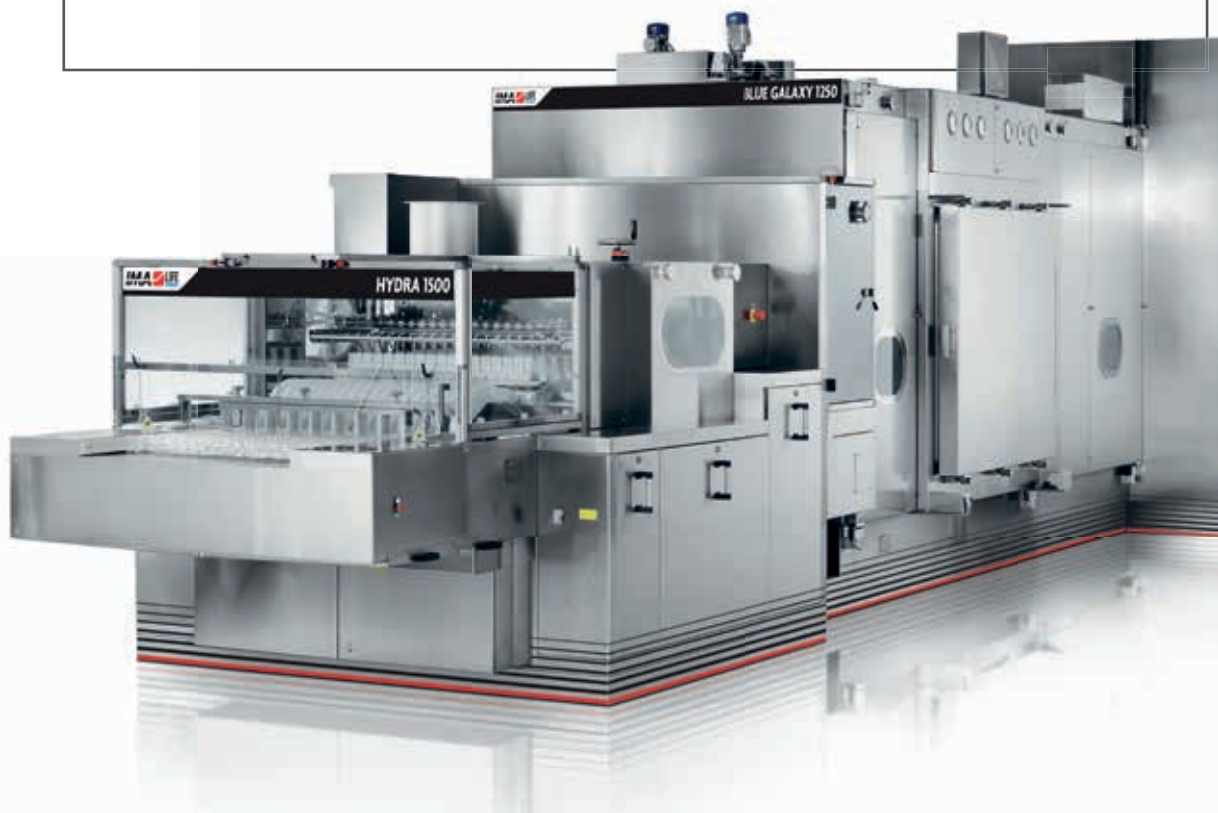
Located in Tonawanda (USA), at the IMA Life North America facility, it consists of a certified clean room, analytical support laboratory, product formulation, filling and full-size freeze drying equipment necessary for the development of pharmaceutical and biopharmaceutical products in batch sizes up to 20 litres. It includes a highly skilled team of professionals who provide assistance to our customers worldwide with product development, scale up and qualification. The team is also dedicated to discovering innovative processes and technologies and is ready to share new developments.





# BLOWING, WASHING AND DEPYROGENATING

IMA Life offers the pharmaceutical industry specially designed blowing, washing and depyrogenating equipment, which are the result of years of research and experience. The blowing machines are suitable for the dry cleaning of bottles and containers in general, that do not need cleaning with water or detergents but rather the removal of solid granular or dusty solids by a sterile air jet. Washing the containers is becoming a crucial part of the processing of drugs, where a strict decontamination of vials is requested. That is why IMA Life developed both linear and rotary washing machines. The IMA Life's washing equipment range comes complete with the external vial washers which responds to increasingly popular requests of filled and capped vial decontamination. The depyrogenating tunnels are designed to satisfy any production requirement and are suitable for any kind of application: they come both in the standard and in the dry heat sterilisation version. For this reason, these tunnels can be easily integrated into lines designed to handle high-toxic compounds and/or in lines with isolators.



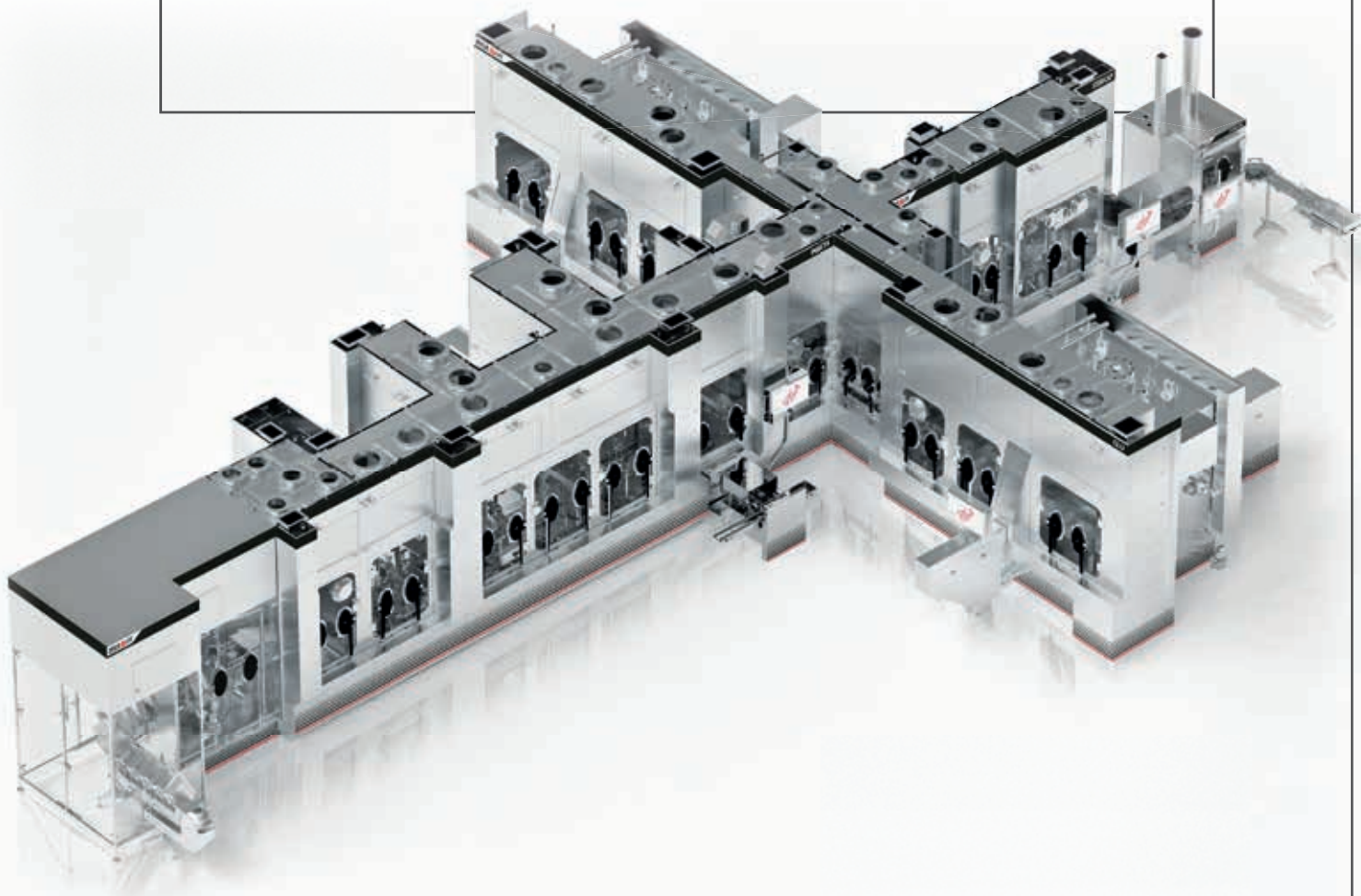
ALL IMA LIFE WASHING MACHINES AND DEPYROGENATING TUNNELS ARE DESIGNED TO BE INTEGRATED IN COMPLETE PRODUCTION LINES. THE WIDE RANGE OF MODELS AVAILABLE RESPONDS TO ANY PRODUCTION REQUIREMENT WHILE THE TOP-LEVEL TECHNOLOGY ALLOWS ANY KIND OF APPLICATION.





# FILLING AND CAPPING OF LIQUIDS IN AN ASEPTIC ENVIRONMENT

IMA Life machines for aseptic filling are distinguished by their rigorous detail design and are the result of careful research in fluid dynamics, to guarantee maximum product protection of all aseptic filling environments (such as traditional clean rooms, isolation technology or other containment solutions). Compact and ergonomic design ensures great flexibility for all types of layout. Statistical and 100% IPC control of filled weight along with very advanced CIP/SIP units allow the machines to reach a very high standard in product quality. Aseptic processing of vials, ampoules, single-dose containers and of "Ready-To-Use" containers is certainly one of the most critical activities in primary drug packaging. Capping can be performed either downstream or by direct integration in the machine frame as a module. In the latter instance, a separate containment area is foreseen.



INJECTA HANDLES PRE-STERILISED READY-TO-USE CONTAINERS (SYRINGES, VIALS OR PRE-CAPPED CARTRIDGES), PRE-ORIENTED VIALS IN TRAYS AS WELL AS STERILISED VIALS FROM THE DEPYROGENATION TUNNEL, ALLOWING HIGH PROCESS FLEXIBILITY AND ADAPTABILITY.

INJECTA 36 IS IMA LIFE'S LATEST VERSION BUILT TO MANAGE 36,000 SYRINGES PER HOUR, COMPLETE WITH ADVANCED ROBOTIC TECHNOLOGIES, READY TO ADDRESS THE NEED TO ENHANCE PRODUCTIVITY AND REDUCE LEAD TIMES FOR INJECTABLE MEDICINES.



# FILLING AND CAPPING OF POWDERS IN AN ASEPTIC ENVIRONMENT

More than 50 years of experience have made IMA Life the undisputed leader in powder microdosing. The advanced technologies developed in the field have led to innovative solutions such as, XTREMA PWD and SMART PWD Series, our powder filling and stoppering machines for aseptic environments respectively suited to high batch production and small to medium batch production ranges. With a positive in-line transport system, the XTREMA PWD machines are conceived to process simultaneously different types of powders into the same vial, efficiently and reliably, preserving also all current safety and handling requirements. The possibility to install up to three powder dosing units and to dispense at once two or three different powders inside a vial is, amongst other advantages, one of the keys for processing a new generation of antibiotics and powder drugs. IMA Life microdosing machines are equipped with vacuum-pressure technology. Auger system is also available on Smart PWD Series and on our latest solution, the SMART 300 PWD AUGER, which has been developed around a new powder processing concept. Output of the 6 augers reaches 300 pcs/min also enabling multiple dosing of two pharmaceutical powder types inside the same vial, and CIP/SIP of the auger system. High level of dosing accuracy is the distinction of IMA Life powder microdosing machines thanks to a sophisticated 100% checkweighing system (IPC) capable of performing, during production process, a net checkweighing of each vial. All series are pre-arranged to be integrated with CONTAINMENT or ISOLATION technology.



THE CONTINUED EMERGENCE OF MULTI-DRUG RESISTANT BACTERIA IS A GLOBAL ISSUE. THE DEVELOPMENT OF NEW ANTIBIOTICS, ESPECIALLY THOSE WITH NEW MODES OF ACTION, IS IMPERATIVE TO HELP TREAT NEW INFECTIONS. THIS IS THE SCENARIO FOR WHICH XTREMA PWD AND SMART 300 PWD AUGER HAVE BEEN DESIGNED.



# ISOLATION TECHNOLOGY AND INTEGRATED SOLUTIONS FOR PROCESSING EXCELLENCE

Isolation technology is now used with increasing frequency. Combined with automated filling systems for liquid or powder products, isolation technology minimises direct human intervention in the processing area and is now a technology that is being rapidly adopted by the pharmaceutical industry. The use of this technology on filling machines offers obvious economic advantages as well as operating benefits while assuring greater product sterility. Fitting an unlimited number of modular layout configurations, our isolated fill-finish solutions ensure the necessary versatility to adjust the production process according to customer needs and maximise line performance up to 600 units/min. with 100% In-Process Control. Incomparable flexibility, and cutting-edge technologies featuring advanced robotics enable us to manage, via accurate no-touch transfer methods, a wide range of toxic and biological risk product types.



THE PROPOSALS RANGE FROM ISOLATORS FOR LIQUID AND POWDER PRODUCTION LINES (ASEPTIC AND TOXIC), ISOLATORS FOR LYO LOADING/UNLOADING SYSTEMS (HERE AGAIN ASEPTIC AND TOXIC), STERILITY TEST ISOLATORS, FORMULATION AND COMPOUNDING ISOLATORS, AND DISPENSING ISOLATORS. INTERNATIONALLY RECOGNISED AS AN EXPERT IN ADVANCED ASEPTIC PROCESSING APPLICATIONS, IMA LIFE HAS GAINED A WEALTH OF EXPERIENCE IN CROSS CONTAMINATION CONTROL AND CAN OFFER A SOLID UNDERSTANDING OF THE RISKS ASSOCIATED WITH THE HANDLING OF POTENT AND CYTOTOXIC COMPOUNDS.





# FREEZE DRYING AND AUTOMATIC LOADING AND UNLOADING SYSTEMS

For more than half a century, IMA Life has provided the benchmark for freeze drying solutions to the pharmaceutical and biotech industries. Created for configure-to-order applications using modular design technology, IMA Life freeze dryers can be designed, manufactured and qualified to meet any requirement. Thanks to a guaranteed superior quality, reduced lead-time, lower costs and a simplified validation process the IMA Life range of freeze dryers can be considered a real flexible solution for industrial freeze drying processes. The IMA Life freeze drying range includes industrial, pilot and laboratory freeze dryers, thus offering comprehensive product lines for bench-top, routine and specialised freeze drying procedures. Lyophilisation process developments and continuous aseptic spray freeze drying technology complete the array of machines on offer. IMA Life's attention to the ever-changing market requirements related to the minimisation of human intervention to reduce contamination exposure, led to the development of automatic and semi-automatic loading and unloading systems. Numerous design criteria have been developed as the basis for our solutions, including fixed, flexible or mixed systems and Da Vinci, which is the latest generation of wireless loading and unloading systems.

Current IMA Life developments include innovative ecofriendly refrigeration. KryoAir is a new 100% green technology using air as the refrigeration fluid used in freeze dryers. The system is based on a series of compression/cooling/expansion steps of AIR, which can be cooled to a temperature as low as -100° C.



THE LYNFINITY SPRAY FREEZE DRYING TECHNOLOGY IS THE WORLD'S FIRST CONTINUOUS ASEPTIC PROCESS FOR SPRAY FREEZE DRYING WITH AN EYE TOWARD ACHIEVING HIGH THROUGHPUT AND HIGH CYCLE EFFICIENCY. THE LYOMAX SERIES OFFERS THE MOST COMPREHENSIVE RANGE OF CUSTOM-BUILT FREEZE DRYERS FOR THOSE WHO REQUIRE MORE THAN A STANDARD SOLUTION. LYOMAX CAN PROVIDE THE ANSWER FROM 1 M2 TO 100 M2 APPLYING STATE-OF-THE-ART ENGINEERING IN VACUUM, REFRIGERATION, STOPPERING AND HEAT-TRANSFER TECHNOLOGY.



# FILLING AND CLOSING OF PHARMACEUTICAL PRODUCTS

IMA Life's experience and background is well consolidated in the multipurpose liquid and powder filling and closing field. Particularly versatile, very compact and ergonomic, either intermittent or continuous motion, both the MULTIFILL and the FLEXIFILL series have been conceived to offer high flexibility in terms of liquid drugs as well as container and closure shape and type (ophthalmic preparations, intranasal products, suspensions, oral drops, drinkables, sugary syrups, detergent/disinfectant solutions, etc.). IMA Life's expertise in powder microdosing was harnessed to develop a machine for the macrodosing of bottled powders for syrup preparations, the MACRO PWD. With more than 200 different applications implemented, the pharmaceutical customers can find in IMA Life the ideal partner.

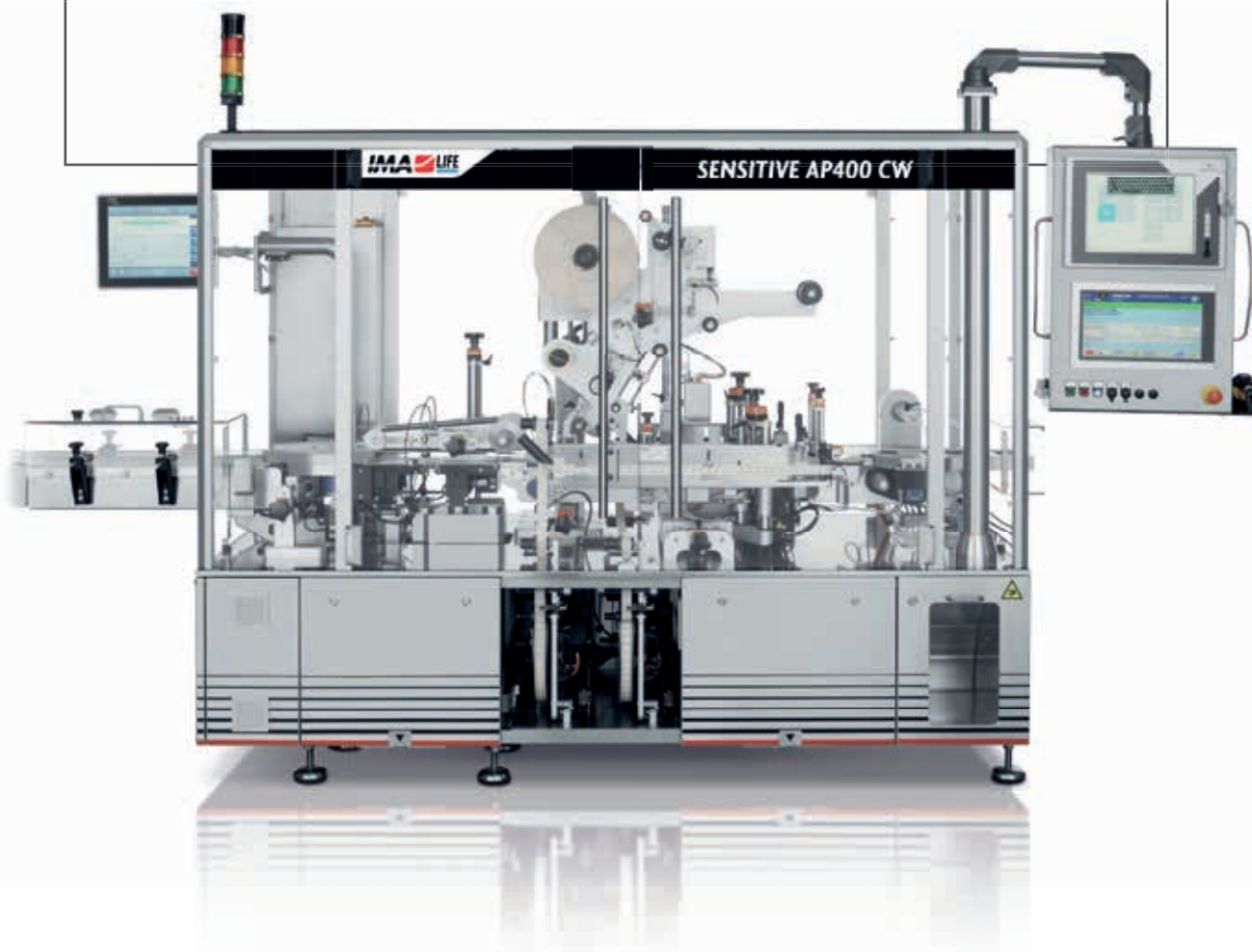


IMA LIFE FILLING AND CLOSING MACHINES ARE THE IDEAL SOLUTION FOR PHARMACEUTICAL PRODUCTS RANGING FROM EYE DROPS, CONTACT LENSE SOLUTIONS, DETERGENTS, ORAL AND TOPICAL SOLUTIONS, PHARMACEUTICAL POWDERS, ETC. DESIGNED FOR LOW TO HIGH OUTPUTS, THEY ARE ABLE TO HANDLE BOTH PLASTIC AND GLASS CONTAINERS AS WELL AS ALL KINDS OF CLOSURES.



# LABELLING FOR VIALS, BOTTLES, BFS AND CARTONS

IMA Life production includes the SENSITIVE Series, a wide range of labelling machines which can be an integral part of complete packaging lines or serve as stand-alone machines. This wide range comprises highly flexible and high performance labellers, specifically designed to meet the demands of the pharmaceutical market. Easy to use and designed according to the latest cGMP standards, IMA Life labelling machines can cover all the requirements typical of pharmaceutical processing, handling glass and plastic containers, vials, ampoules, cartridges, syringes, BFS (Blow Fill Seal) containers, and containers with irregular shapes.



THE RANGE OF LABELLING MODELS CAN RESPOND TO VARIOUS REQUIREMENTS, SUCH AS WRAP-AROUND LABELLING OF ROUND CONTAINERS, FRONT/REAR LABELLING OF ELLIPTICAL OR RECTANGULAR BASED PRODUCTS, APPLICATION OF VIGNETTE LABELS OR SELF-ADHESIVE TAMPER-EVIDENT SEALS ON FORMED CARTONS.





# SERIALISATION AND TRACK & TRACE

IMA Life labellers today offer the highest reliability and the possibility to install different kinds of printing systems, such as hot foil, inkjet, thermal transfer, laser and all the state-of-the-art control units: as a matter of fact, the mass serialisation of the pharmaceutical products is a very important, topical issue for the pharmaceutical industry worldwide, in order to avoid drug counterfeiting and to guarantee the safety and traceability of each single product back along the entire supply chain.



ALL MACHINES OF THE RANGE ARE OPTIMISED TO RESPOND ALL REQUIREMENTS NEEDED IN THE FIELD OF TRACK AND TRACE OF PACKAGED PRODUCTS.

# IMA SAFE

## The value of safety

Protecting your products is our job. IMA Safe has inherited IMA's esteemed knowledge and technology. It is the only manufacturer that offers complete primary and secondary packaging line solutions to the pharmaceutical, nutraceutical and cosmetic industries.

Our machines incorporate the latest developments in technology, electronic and mechanical engineering and are designed to ensure high production efficiency and low maintenance at the same time. A result we have achieved thanks to our unceasing research, professional standards and highly qualified personnel.

IMA Safe division, includes the production range of IMA Safe Swiftpack, IMA North America (IMA Safe Nova), IMA Safe Comadis, Perfect Pack and IMA Safe PG.

We take responsibility for your complete line as "The Turn-Key-Supplier" in the market.







## BLISTER PACKAGING

Thanks to the choice of our customers, we are one of the biggest and most innovative suppliers for blister technology. Our growth is based on innovation we have developed together, and thanks to this, we offer today the widest range of blister machines in the world, from the clinical trial blister machines to the super high speed ones (1,300 blisters/minute), with or without integrated cartoners (500 cartons/minute). A specific department is dedicated to the design of dedicated feeding systems and includes also several test rooms conforming to GMP guidelines for those products under controlled environmental conditions.





## BLISTER FEEDING SYSTEMS

IMA feeding systems are the result of 50 years' experience in the blister packaging industry with more than 10,000 feeding units supplied worldwide for handling every kind of product shape, all packaging materials. What characterises the IMA feeding systems is the total continuous motion that allows the product to be controlled and perfectly managed without trauma during the entire production process. This type of operation makes it possible to reach the highest efficiency on the market, guaranteeing at the same time extremely high speeds.

The wanted simplicity of their design is a guarantee of durability and ease of use.

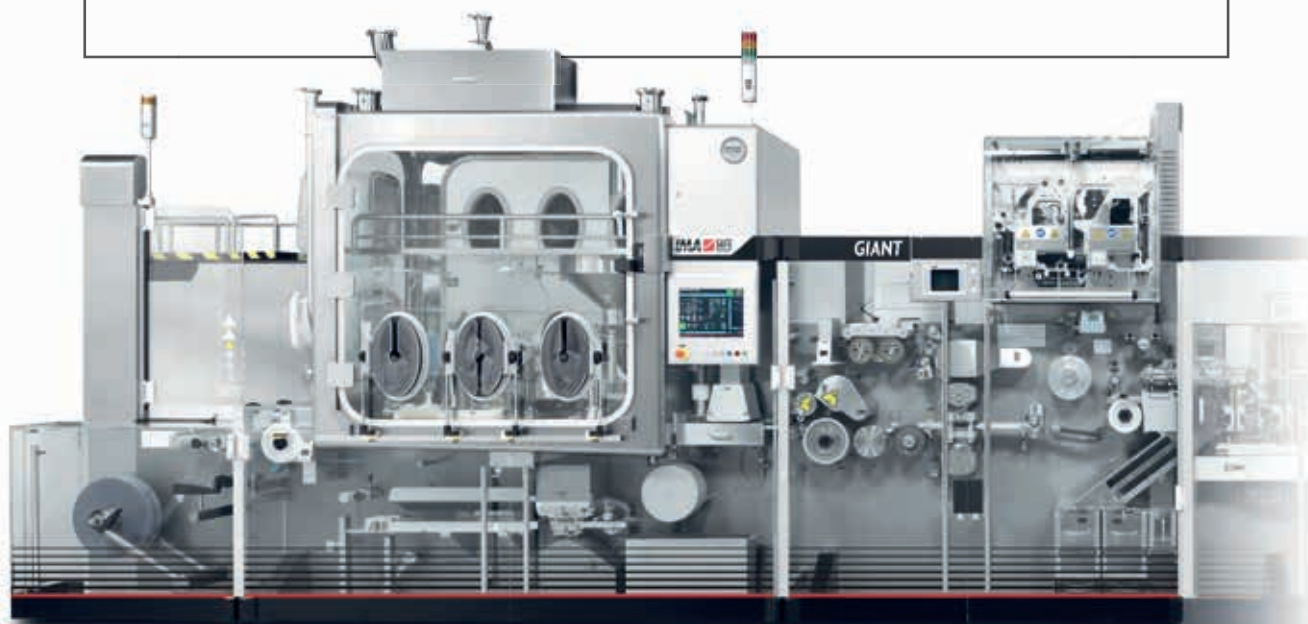
Each solution is custom-designed according to the customer's product and tested several times in a dedicated department conforming to GMP guidelines under controlled environmental conditions.





# CONTAINMENT SOLUTIONS

IMA Safe offers the advantage of being able to capitalise upon the experience of the other IMA Pharma divisions, Solid Dose and Aseptic Processing & Freeze Drying Solutions, satisfying all the requirements for containment of solid pharmaceutical products in blister packaging, with 100% in-house solutions. Containment solutions reduce technicians' exposure to highly active products therefore protecting the operator's health maintaining a controlled atmosphere conditions for the product. Moreover, IMA's patented universal feeder SOMBRERO, is the unique system to reach the highest level of containment reducing to the minimum the intervention of the operator within the cabin of containment.





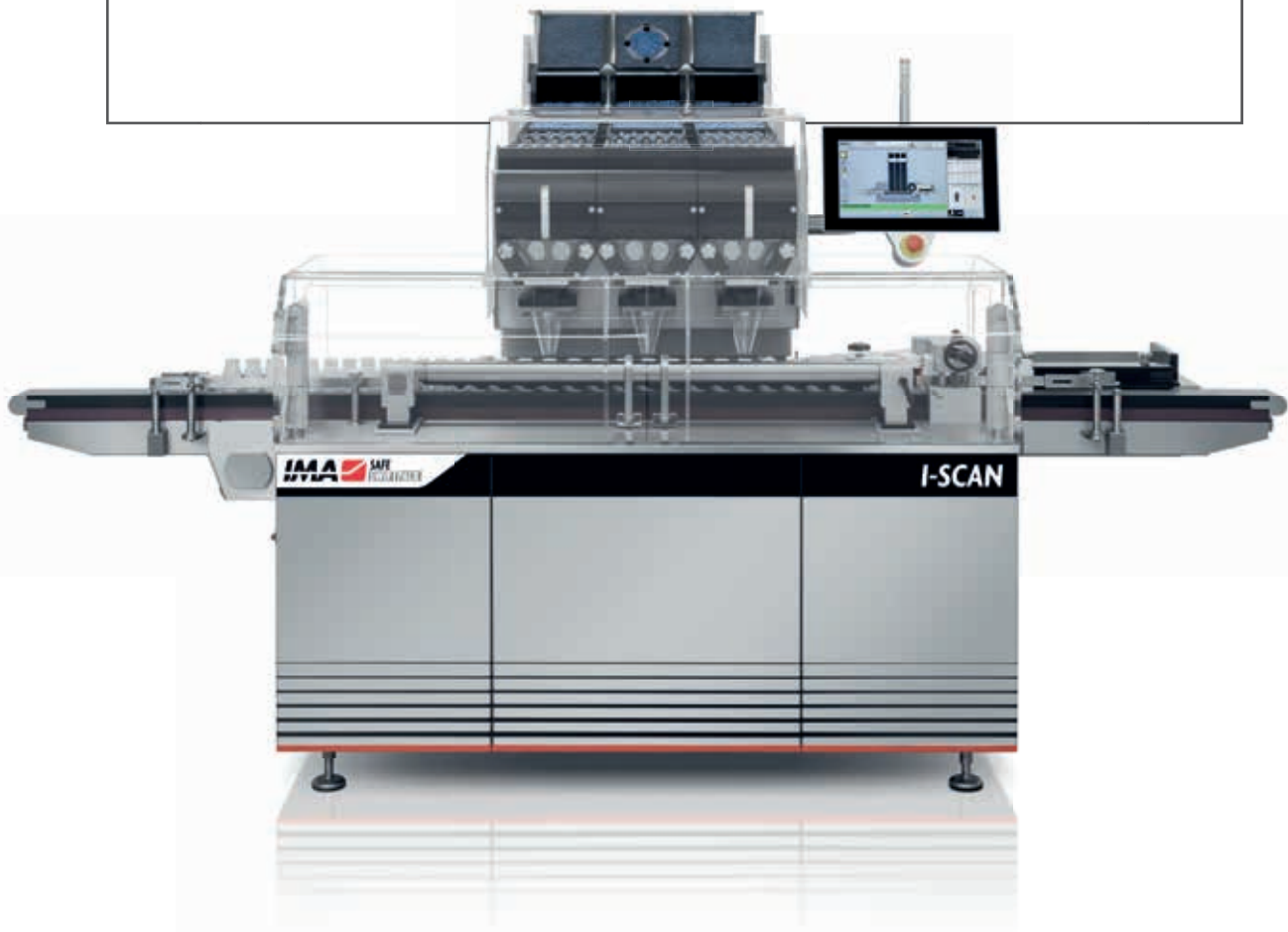


## COUNTING

IMA is unique in this field as there is no other supplier who is really offering the full range of machines necessary for a counting line.

From traditional slat counters up to full-camera controlled electronic machines – from flexible lines with single-machines up to monobloc-solutions – from desiccant feeders up to cotton inserters, it is almost impossible to find a machine not in our range. The highest level of count accuracy is granted by different counting technology solutions available (Optical sensor and E.F.S. - Electronical field sensor) which are able to work also in difficult conditions.

With thousands of machine installations in hundreds of locations throughout the world we are, also in terms of references, the biggest player. Our branches IMA Safe Swiftpack and IMA North America, which include IMA Safe Nova brand, have demonstrated their ability to integrate both low and high-speed lines at your sites with well experienced teams.





# TUBE FILLING

It was in 1970 that COMADIS launched the first of a successful series of tube fillers. Since then, more than 3,000 machines have been supplied all over the world, as a result of continuous technical commitment coupled with a rewarding operating mentality - always oriented to customer feedback and satisfaction. Since the beginning, COMADIS tube filling machines have been marked by simplicity in changeover sequences, quick dismantling of contact parts and an intuitive operator interface. Handling between 1,500 and 15,000 tubes per hour, our machines are the result of continuous improvements and technological progress. Over the years, continuous growth has provided COMADIS with extensive knowledge in the field, gained through its relationship with customers, both large and small. Proud of such a reputation, we approach each new project with this legacy of experience.

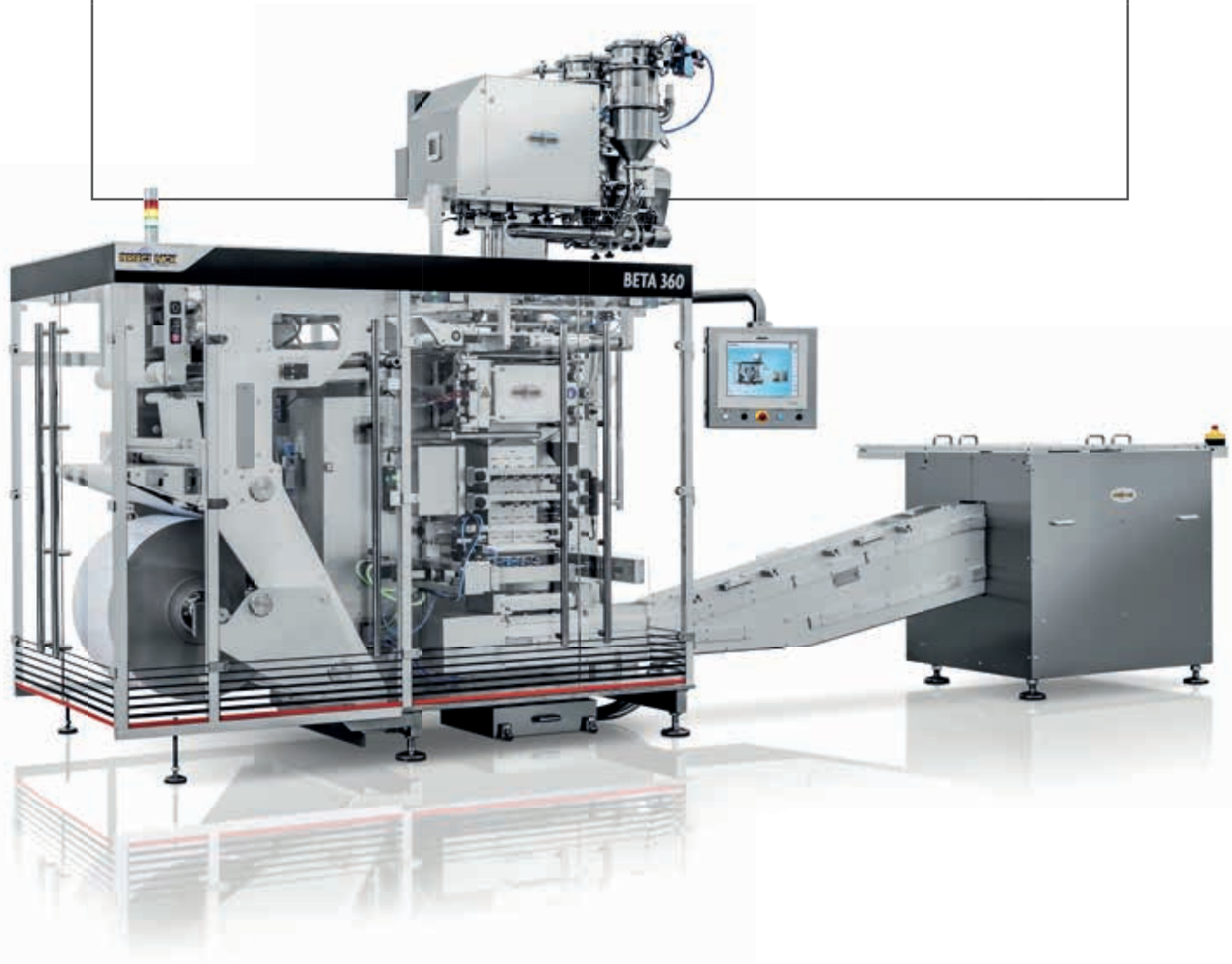




## SACHET AND STICK PACKAGING

Sachet and stick packaging machines by Perfect Pack have been developed to meet any kind of requirement from the pharmaceutical market.

All the machines in the portfolio work with intermittent systems and can be equipped with a wide range of dosing systems for any product and accessory to pack. Thanks to the advanced technology we have developed, we are able to guarantee a high level of production efficiency and extreme ease of changeover and cleaning. Both sachet and stick packaging machines can be easily connected with different downstream machines. Different layout solutions are available thanks to the CLA stacking and transfer systems, between primary and secondary packaging.







# TRAY PACKAGING

The IMA Safe range of thermoforming machines and paper tray packaging lines reaches high speeds while preserving design and ergonomics, making them easy to use.

The secondary packaging of parenteral products such as vials, ampoules, syringes, insulin pens and inhalers is a highly complex process in terms of managing product, packaging and production flexibility. IMA Safe has invested in innovation to develop technologies that can meet all these requirements. Working with IMA Safe means you can count on a trusted partner, capable of providing comprehensive support in finding the most suitable solutions to safely pack your product.



DEEP DRAW THERMOFORMING



PAPER TRAY PACKAGING



## TRAY FEEDING SYSTEMS

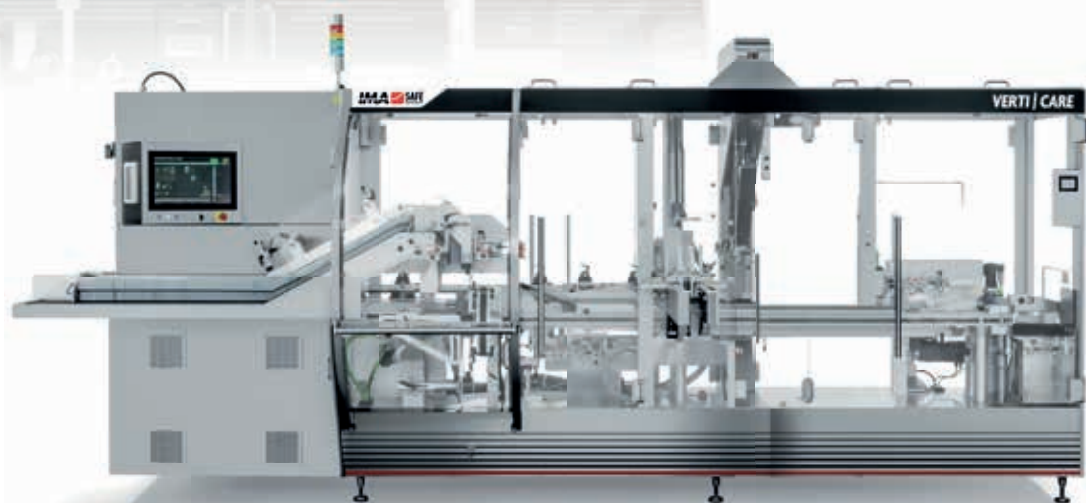
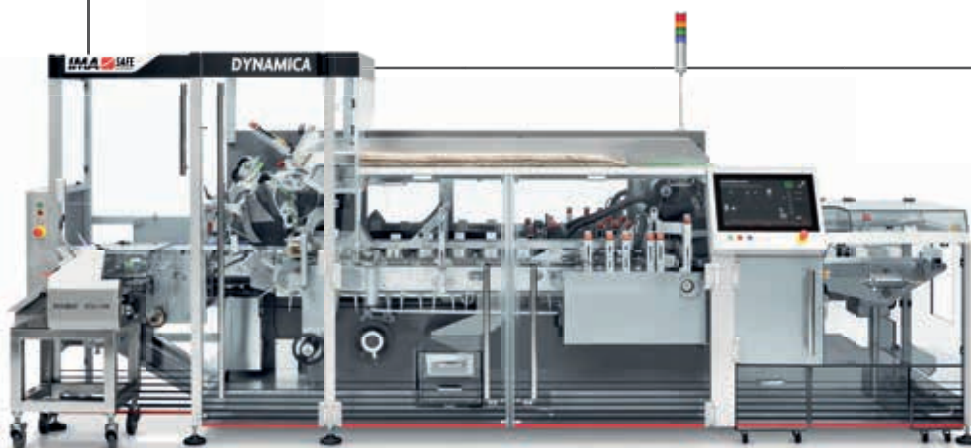
A vast choice of products can be packed such as ampoules, vials, syringes and many others thanks to the application of robotic systems in the feeding and connection areas. The modular design of the lines enables a highly compact footprint and guarantees maximum layout flexibility, which can be designed entirely according to customer requirements.





# CARTONING

In a very competitive environment IMA was able to grow to become one of the leading suppliers in this field thanks to the integration of state-of-the-art servo- and robot-technology. Efficiency, cleanability and accessibility were major aspects for the design of the new generation. Furthermore we respected your request for fast size-change-over for all horizontal and vertical cartoning machines at speed levels from 60 to 500 cartons/minute. Also secondary packaging solutions for wallets, top-loading and other specialties are part of our group-portfolio. Finally the success of cartoning is related to the feeding system, where IMA provides not just the standard solutions available on the Pharma market. Due to the size of the IMA Group we have access to all developments designed for applications for Pharma, Food, Cosmetics and Confectionery.







# CARTONING FEEDING SYSTEM

Flexibility as a key feature: IMA Safe is the market specialist in terms of cartoning feeding systems for pharma and extra pharma fields.

A wide range of solutions, that includes both mechanical and robotised feeders, has been developed to facilitate modular feeding concepts, necessary to meet the market's needs as well as product variants that are increasing over time.

Many IMA feeding systems are patented and provide feeding efficiency which cannot be reached by others in the market.



## End of line solutions

The design and manufacturing standards of our end of line solutions take into account specific devices in terms of quality, cleaning and safety required by the pharmaceutical industry and make IMA BFB the ideal partner for the logistic integration.

Long experience combined with state-of-the art production technology enables us to offer many varied solutions including overwrapping, stretch-banding and shrink wrapping, tray packing, case packing, palletizing equipment and robotised handling solutions.

The link-up of each single machine is expressly designed to reduce the overall length of the line and minimise the production waste.







# OVERWRAPPING

BFB Division has always focused heavily on these processes and has created specific film winding, conveyor, cutting and sealing systems to ensure that the film is always cut with a geometrically precise fold and sealed without wrinkles, air bubbles or other blemishes.

The flexibility of these machines enables transverse sealing underneath the bundle or lateral sealing. Our overwrappers can run with thermo-sealable film (OPP, BOPP, etc.), paper, recyclable and compostable films.





# STRETCH & SHRINK WRAPPING

Sealing is essential to guarantee secure wrapping; the fume-free cutting and sealing group of our stretch banding and shrink wrapping machines is ideal for processing polyethylene while avoiding burning or blemishes. BFB Division offers a range of machines that can cover different speeds, with dedicated solutions for products whose shape tends to vary widely.

The machines can always be combined with a heat-shrink tunnel with lower power consumption which is easily accessible and tends to avoid damage to the product.





## CASE PACKING

Whichever type of case packing you are looking for, we have it for you!

From wrap-around to side or top-loading, all our models are conceived with reduced footprints, however assuring ergonomics and easy operator access for any type of cleaning or maintenance operations.

All of our solutions are devised to ensure total control throughout all stages of the serialisation process. All of our case packers can be stand-alone or easily integrated with palletizing solutions in a very compact structure.



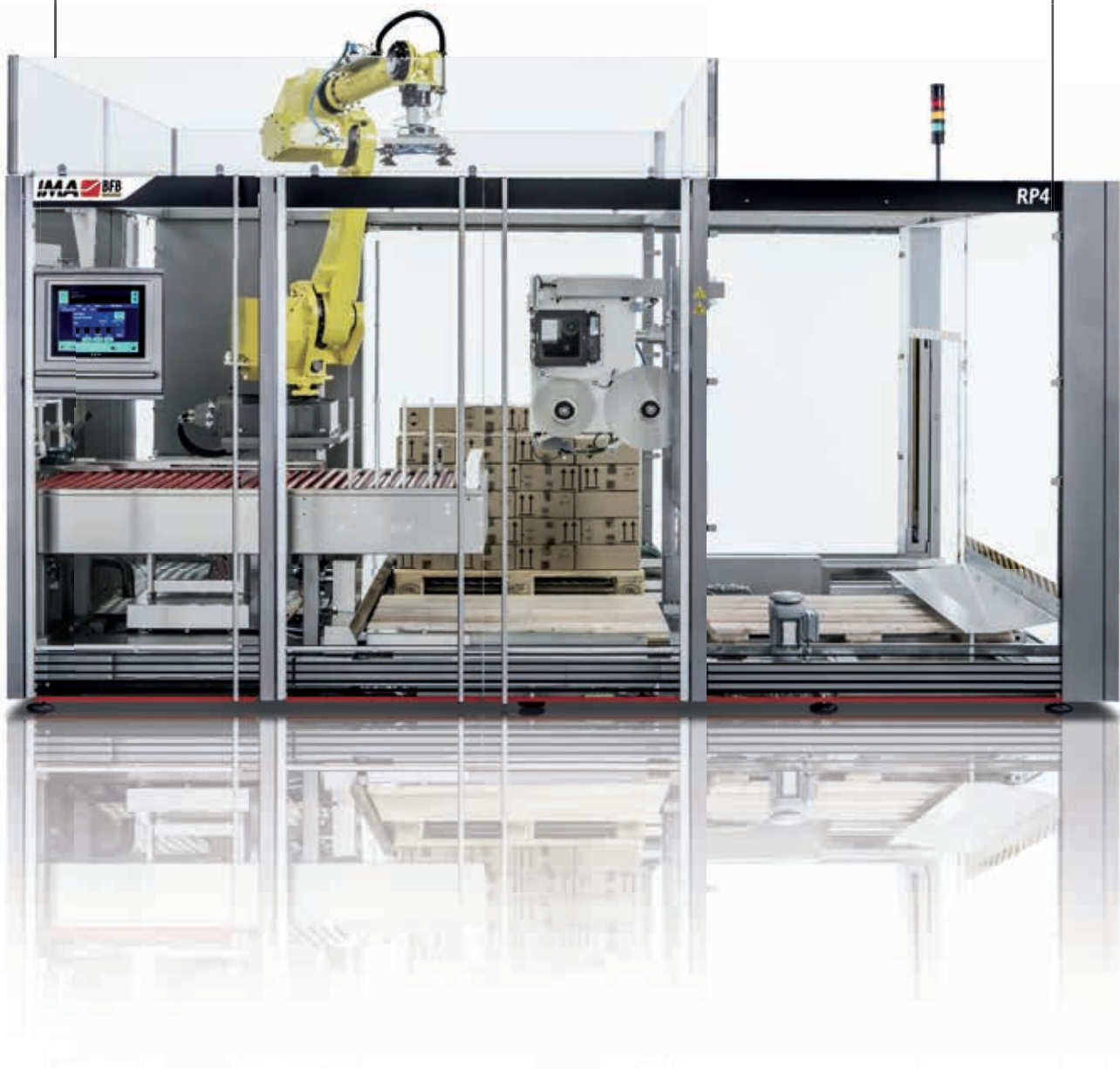




# PALLETIZING & DEPALLETIZING

Available in several versions ranging from basic applications, such as manual pallet loading, up to more sophisticated solutions, such as automatic feeding of empty pallets and unloading of full pallets, IMA BFB palletizers and depalletizers have a solid structure and use precise, rapid multi-axis robotised systems for accurate positioning of products on pallets.

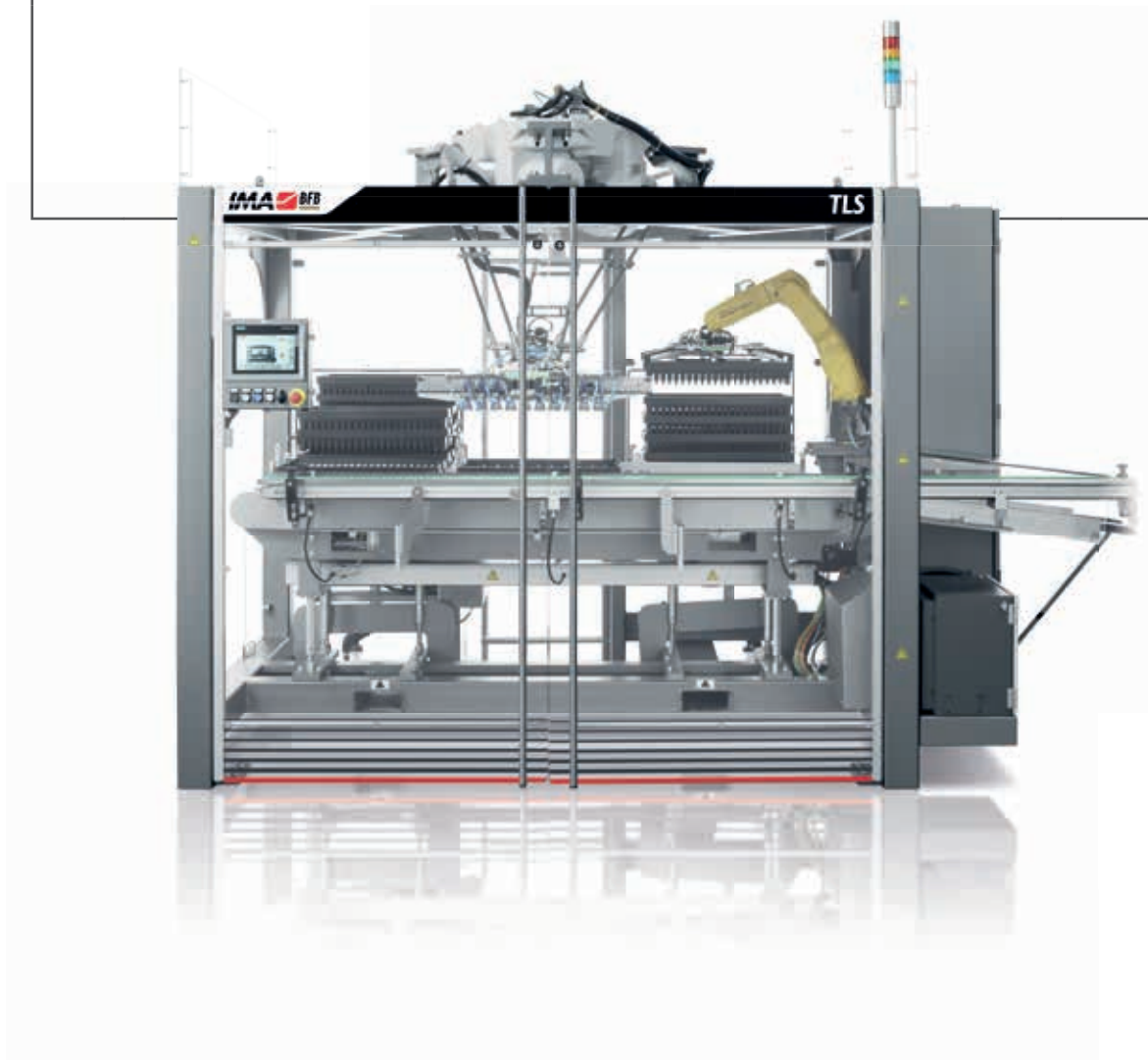
These solutions have been conceived to be stand-alone or integrated with case packers or product handling systems thanks to their extremely easy plug-in connection.





## FEEDING & MANIPULATION

IMA BFB can provide handling systems to treat blow fill seal containers, inhalers, pens, auto-injectors and other highly sensitive pharmaceutical components at the beginning or at the end of the line. These systems can also be converted into a buffer for product accumulation during line stops.





# TRACK & TRACE: SOLUTIONS FOR END OF LINE

Track & Trace is a complex process requiring accurate inspection of the products during the entire production flow. Thanks to successful partnerships with main Vision System Suppliers, IMA BFB has developed a wide range of tailor-made solutions applying the three different reading methods (single code reading, row by row, layer) to all machine technologies: overwrapping, shrink wrapping, case packing and palletizing.

These solutions are designed to minimise all possible interference during the aggregation process. Our wide experience, confirmed by the sale of more than 400 T&T Systems including both new machines and retrofits, makes us the ideal supplier for end of line machines with T&T.





# IMA AUTOMATION

## Flawless Assembly

IMA AUTOMATION is the IMA Group sector composed of leading companies in the assembly industry, which designs and manufactures advanced technology lines for handling and assembling parts for different application fields, with a long experience in the medical industry.

By continuously drawing on innovative technologies and on its comprehensive knowledge of validation processes, IMA AUTOMATION can provide engineered solutions that support medical device projects at every stage of product development.

- DRUG DELIVERY: Inhalers and Injectables
- DIAGNOSTICS: Point of Care and In Vitro
- WEARABLES: Delivering and Monitoring Devices
- TUBING SETS: Infusion and Extension Sets
- SURGICAL INSTRUMENTS: Sutures

IMA AUTOMATION hub is a perfect addition to the already consolidated packaging experience of IMA, allowing a synergy in the sharing of clients and widening our offer of technological solutions.





## PILOT MED LOW VOLUME

An entry point for assembly automation, the PILOT MED Low Volume platform is the highly flexible answer for customers seeking efficiency and cost-effective assembly operations, with the chance to merge manual, semi and fully automatic work stations. The key reason behind this platform's ultimate flexibility is its ability to integrate manual work stations and/or feeding positions, as well as semi and/or fully automatic stations. Tooling can be manually operated, cam-driven, pneumatic and/or servo-controlled, and can operate at speeds identical to those required for high-volume production, thus transferring de-risked validated technology directly to high-speed lines.



OUTSTANDING FLEXIBILITY FOR COST-EFFECTIVE ASSEMBLY OPERATIONS.





## ROTARY MED HIGH VOLUME

The ROTARY MED machine is comprised of a servo-driven dial table unit designed to allow complete flexibility of the system configuration, including servo-controlled pick and place mechanisms. Assembly of between 2 and 5 components can be achieved through basic machine configuration. The unit can be merged with a second one by adding a specific transfer module which allows the pre-assembled parts to be transferred from one module to the other. On board, the electrical cabinet enables fast dismantling and installation of the system.



UNENDING ASSEMBLY OPPORTUNITIES.



## LINEAR MED HIGH VOLUME

A flexible platform for countless assembly requirements, the Linear MED indexing platform is a modular concept conceived for medical device assembly, compliant with the strictest norms and manufacturing standards. With its unique, modular design enabling easy fixture access from 3 sides, the Linear MED indexing platform is based on one-metre modules, allowing the chassis to be set up with 2, 3 or 4 sections. Reconfigurable and easy to maintain, the assembly platform complies with all applicable GMP and GAMP5 norms, as well as manufacturing standards for ISO 7 clean room environments.



SMOOTH ASSEMBLY, FULLY COMPLIANT, FOR MEDICAL DEVICES.



## SUTURE CRIMPING MACHINE

The SCM continuously produces a stable quality of sutures from start to finish and reliably guarantees a cost effective production in multi shifts of up to 24/7. During the machine operation, the needles can be loaded in bulk and the finished production unloaded without interruption. A machine standstill is required only to change the thread spool of the product variant. Despite the high degree of automation, the machines are very flexible and suitable for almost all common surgical sutures. This core advantage of the SCM leads to a minimum downtime and a maximum efficiency in production.



FLEXIBLE LINE FOR CRIMPING AND ASSEMBLING OF SURGICAL SUTURES.



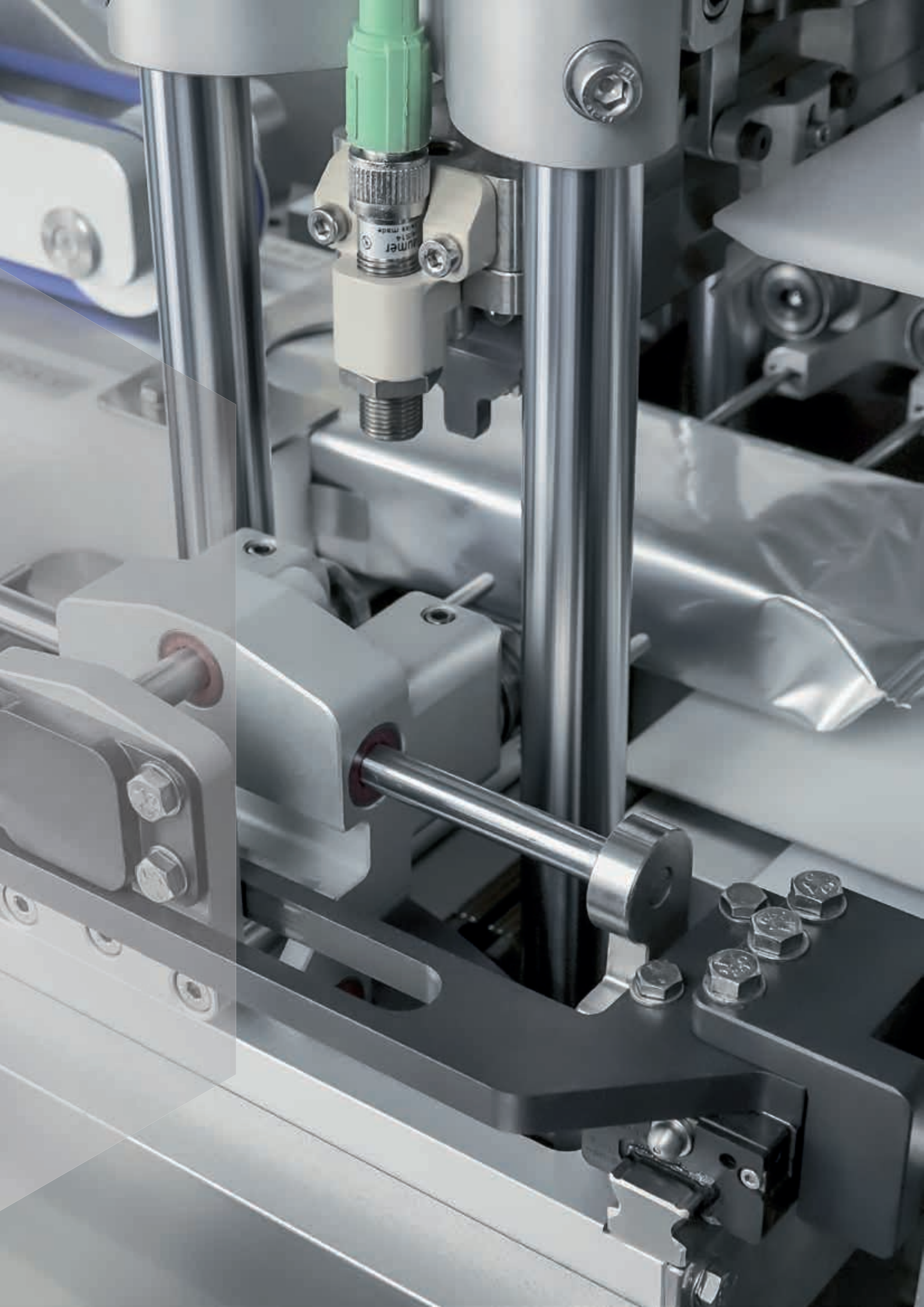
# IMA ILAPAK

## The flowpack, an additional level of protection

The pharma & medical industry has very stringent requirements for hygiene, quality control, hermetic seals, and product tracking. To further preserve product safety and hygiene, an additional level of protection, the flowpack, is often required.

In response to the critical needs of pharmaceuticals and medical device wrapping, IMA Ilapak's team of specialists have applied their 10 years of hands-on experience in this industry, gained thanks to the synergies and integrations with IMA Group companies, to design and manufacture a new dedicated range of high-speed hermetic flow wrapping platforms.

This growth path has allowed IMA Ilapak to establish itself in this sector and to be recognised by today's market as a consolidated and reliable reality.





# FLOW WRAPPING SOLUTIONS

Products ranging from blisters, BFS, syringes, inhalers, IV bags, mono-dose applicators, cartridges and medical devices, all require the highest degree of care to ensure pack integrity and ease of use. To further preserve the safety and hygiene of these products, an additional level of protection, the flowpack, is often required. IMA Ilapak offers established and perfected systems for high-speed hermetic flow wrapping of pharmaceuticals and medical devices. Every solution is available in different configurations with an extensive range of optional add-on modules. IMA Ilapak's flow wrappers can be tailored to match each customer's specific needs and deliver maximum production flexibility and efficiency at each performance level. The heavy duty and reliable design combined with a high level of flexibility allows these platforms to run both as stand-alone solutions and to be integrated into IMA's automatic packaging and process lines.



IMA ILAPAK'S DELTA 6000 PHARMA IS A FULLY MODULAR DESIGN FLOW WRAPPING MACHINE THAT OFFERS HIGH-SPEED LONG DWELL SINGLE JAWS UP TO 200PPM AND MULTIPLE JAWS UP TO 400PPM. THE RANGE FEATURES A HYGIENIC DESIGN WHICH ALLOWS A HIGH DEGREE OF MACHINE CLEANING AND THE POSSIBILITY TO INSTALL THE MACHINE IN HARSH ENVIRONMENTS.

THIS FLOW WRAPPING PLATFORM CAN BE INTEGRATED INTO AUTOMATIC PACKAGING LINES AND THANKS TO ITS MODULARITY, CAN BE CONFIGURED AND CONNECTED TO DIFFERENT FEEDING SYSTEMS.





# THE NEW FLOW WRAPPING PLATFORM FOR PHARMA AND MEDICAL APPLICATIONS

IMA Ilapak recently launched the PH 3000, a brand-new dedicated flow wrapping platform for Pharma & Medical applications offering superior performance in speed and sealing tightness with complex wrapping materials such as aluminum films.

The minimal footprint and the new architecture make the PH3000 extremely compact, robust and ergonomic. Hygienic and balcony style design allow the film and product path to remain visible and accessible at all times. This solution is featured with in line by-pass, containment & clean-room compliance and also offers a wide selection of features such as printing OCR/OCV, automatic feeding and 21 CFR Part 11.



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