

**With you every step of the way**

GETINGE 



**Passion for life**

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## Passion for life

At Getinge, we believe that saving lives is, without question, the greatest job in the world.

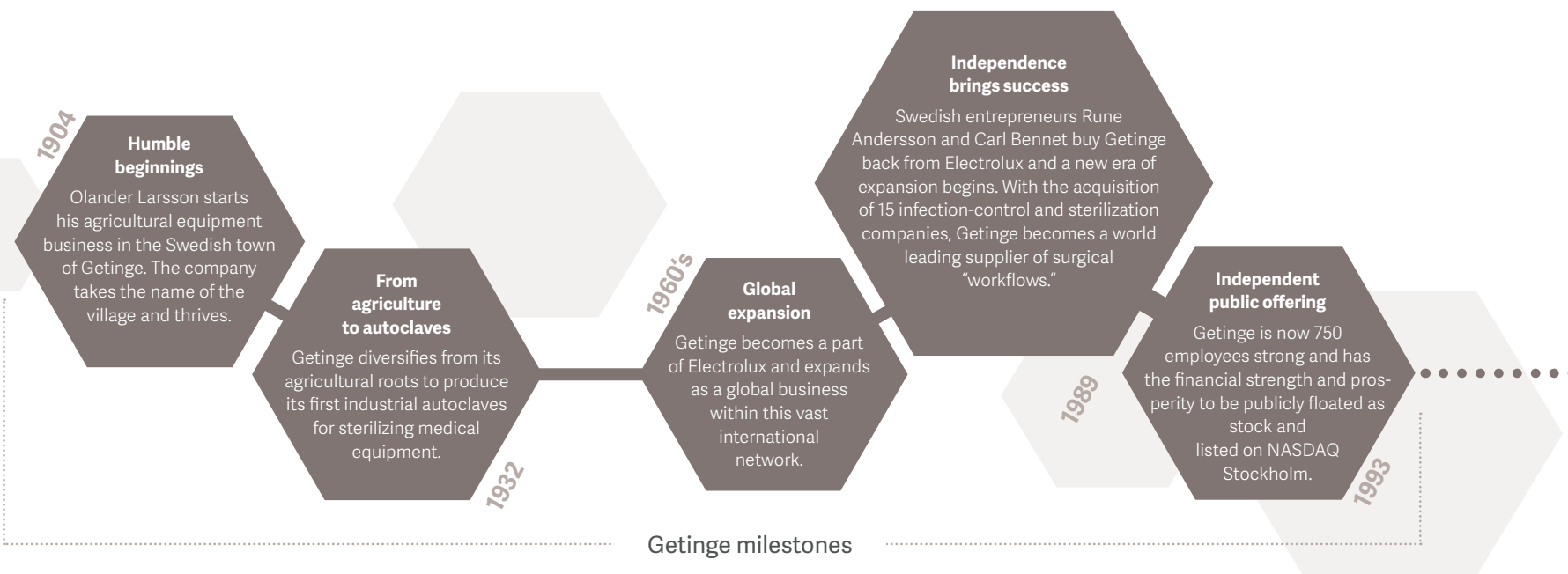
It is our belief that every person and community should have access to the best possible care. That is why we provide hospitals and life science institutions with products and solutions that aim to improve clinical results and optimise workflows.

For more than a century, and with the acquisition of many companies, we have expanded our knowledge, technology and resources.

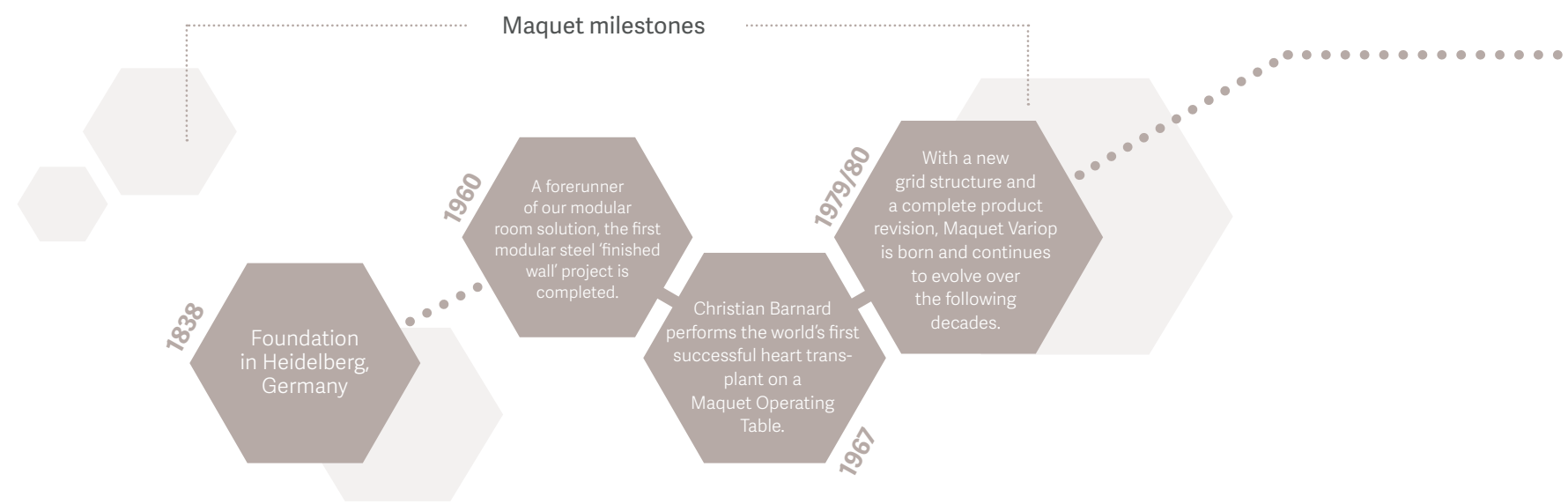
As your partner, we are by your side every step of the way.

»Together as one.«

1



Geringe milestones



Maquet milestones



# Highlights of a history dedicated to life

A glance at the past reveals careful choices that have made us what we are

Our focus on growth as a business has been framed around making the choices that complement and expand our ability to contribute meaningfully to the preservation of life in the hospital setting. This is the story of Geringe, from humble beginnings to a global medical technology leader.





## What drives us

### **Inspired by life's precious possibilities.**

We are committed to innovate towards better ways of saving lives. That is why we strive to bring new innovative approaches to the clinical environment. No matter if it comes to equipping operating rooms with high technology products, building sterile environments to prevent contaminations, or installing IT solutions that optimise patient workflows, we use all of our expertise to increase today's standards for safe, efficient and sustainable healthcare.

»Because in the end, it's all about saving lives.«



# In touch with tomorrow

A passion for life drives our very purpose, helping us to reach forward

While we cannot see into the future, it is clear to us that the world is moving in a predictable direction, with changing demographics, macroeconomics, and technology. We have to stay ahead of that change.

The pace of change of technology is relentless. This is as evident in the field of medicine as in any other. Getinge works hard to be mindful of this ever-evolving environment, recognising where and how the world is changing and understanding the needs of future generations. Putting our customers in a position where they are always being served.

Whether it is IT solutions to help streamline and optimise mechanical processes, or the very latest equipment, we manufacture our solutions to tomorrow's needs, while solving today's. When you have little time to make life-or-death decisions, we want to be there at your side, providing the very best for your patients.

»We want to continue to turn today's life-saving challenges into tomorrow's routine procedures.«





## Integrated workflows

Planning and workflow experience, IT solutions, project competence, and deadline adherence are what Getinge stands for. We support your project from beginning to end.

The patient, personnel, and instrument flows are subject to intensive analysis. In this way, resources can be employed more efficiently and cost-effectively. What begins with intelligent and forward-thinking planning results in comprehensive solutions that optimise the long-term workflow.

Getinge is therefore able to offer its clients workflow designs that not only keep up, but also stay ahead.

Selecting the right partner is crucial when it comes to the smooth implementation of sensitive areas in a hospital, such as central sterile supply departments, operating rooms, or intensive care units.

2.1 Designed for the future

2.2 Integrated Workflow Solutions





# Designed for the future

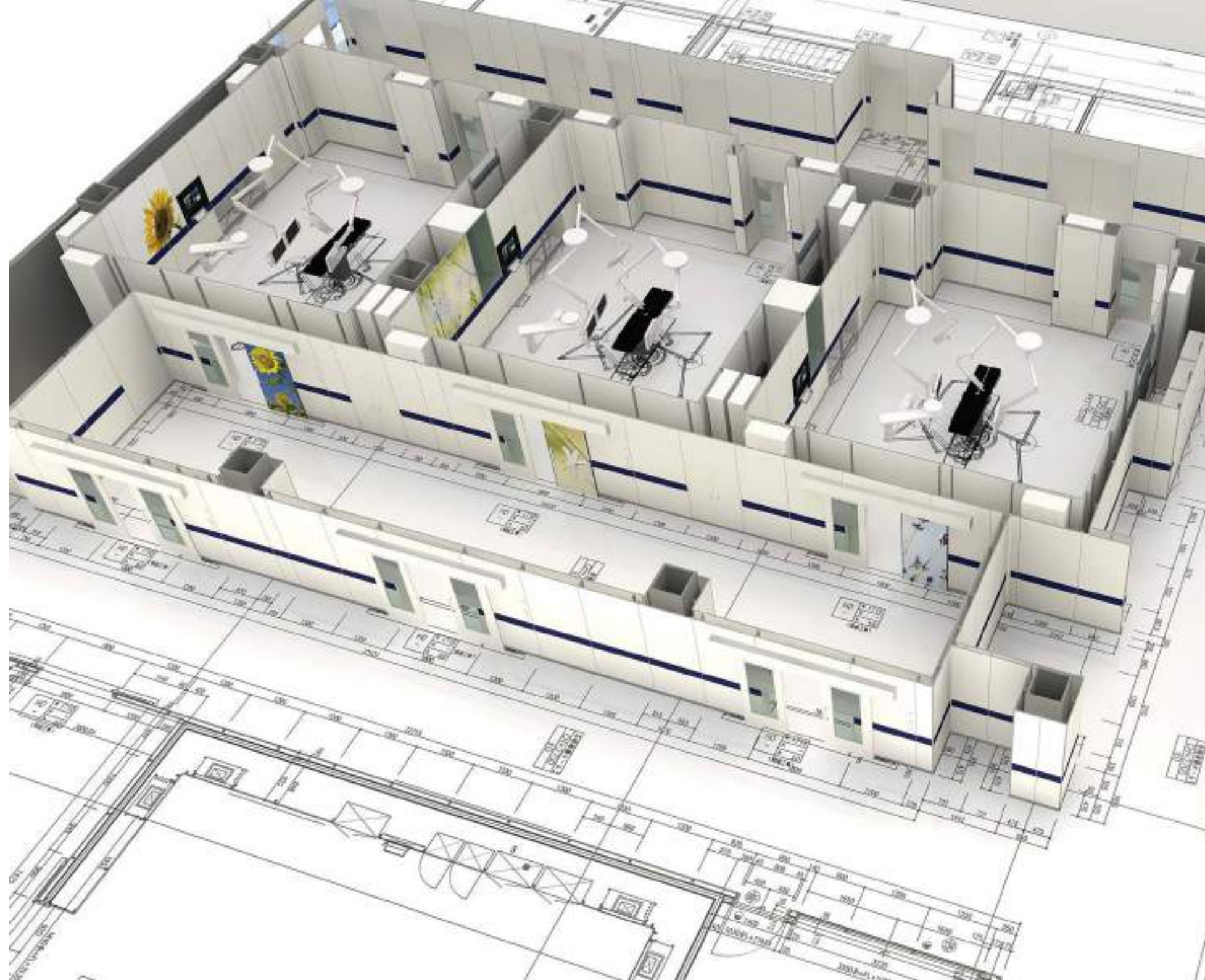
When planning a project for an average period of use of two decades, it's obviously crucial to get things right from the start. With the right architectural planning, it's possible to maximise workflow efficiency, employee productivity, hygiene, and workplace comfort.

Planning is a shared process that combines collective vision, intention, direction, and clearly defined outcomes. Every minute gained by optimised processes causes less stress to staff and allows them to dedicate more time to what is important: providing the best possible care for patients.

By combining careful planning and professional products, we help you to lay the foundation for future-proofing your investment, while including designs that are economical and flexible. This means you are always in a position that allows you to respond quickly to trends, new technologies, and requirements.

Your design can be easily visualised and understood with photo-realistic walk-throughs. Hospital staff can get an accessible picture of the design proposals, giving them the opportunity for accurate and relevant feedback on the project.

Getinge offers complete concepts from a single source, tailored precisely to your technical and economic requirements. Hospitals, planners and architects all benefit from the expertise we have gained.



Designed for the future

# 2.1





Designed for the future

## Bringing a hospital to life

# 2.1

### **From the initial idea to the first patient arrival, we were there every step of the way.**

In Värmland, Sweden we realised a new operation unit building as well as a renovation of an existing part of the Centralsjukhuset Karlstad. 15 operating rooms, including one Hybrid Operating Room, preparation rooms, corridors, scrubs, a recovery area as well as a CSSD department were updated with Getinge products.

In close collaboration with both—the hospital and the contractor, Getinge developed a patient-centric tailored room concept that is characterised by functionality and appealing designs, supporting a calming, comforting ambience for patients and a pleasant working environment for staff.

Right from the start, hospital employees were involved to capitalise on valuable ideas and create individual OR environments that both patients and staff can identify with. The use of different wall colors and motifs from the Värmland County allowed easy orientation while providing a sense of familiarity.

As a result of fruitful and sincere discussions with all involved parties, a unique concept was created. It allows the surgeons to perform almost any kind of surgery in any operating theatre, enabling more flexible patient scheduling and increased efficiency.

This project is just the beginning of a long-term partnership and provides proof of what can be achieved through the power of close collaboration between a small but highly involved group of parties.



# Integrated Workflow Solutions (IWS)

## Optimise your hospital workflows for the best care possible

**Getinge provides IT expertise to maximise efficiency, when saving lives is your dedication.**

With IWS, we aim to offer you an integrated and better utilised facility that supports greater consistency and efficiency, enabling healthcare professionals to focus on delivering the best possible care for patients.

Excellent hospital management ensures the best possible quality of care for patients while optimising resource utilisation in and across operating rooms and departments. Getinge gives hospitals the ability to maximise organisational and operational efficiencies and thus realise potential cost savings through greater resource utilisation, shorter length of stay, faster turnaround time, and reductions

in complexity. Moreover, enhanced patient and staff safety in the hospital can reduce the risk of costly hospital-acquired infections and work-related injuries.

Over the years, Getinge has invested heavily in building internal competencies to ensure we are at the forefront of the market technologies. Our solutions are designed to be a perfect fit to our customers, today and in the future.

Getinge analyses your workflow processes to detect improvement potential and create tailor-made solutions for your individual needs and requirements.

Patient Flow Management



Sterile Supply Management



T-DOC

INSIGHT

**IWS  
core offering**

OR Scheduling



Torin

OR Integration



Tegris

## When software helps save lives

Hospital healthcare professionals and the fire department in Taipei, Taiwan reaped the ultimate benefit of their INSIGHT pilot installation. The improved overview and fast visual communication between the hospital and ambulance service helped save a man's life.

An ambulance was summoned for a patient suffering from what turned out to be an acute myocardial infarction. As the ambulance electrocardiography (ECG) revealed his critical condition, the patient was flagged in the INSIGHT system. This immediately notified the hospital staff of the inbound patient and the severity of his condition.

With the timely notification, the available ECG from the ambulance, and the patient information already entered in INSIGHT, the hospital staff were given valuable time to prepare for his arrival, and the patient could be transported directly to the cardiology department where staff was ready to treat him immediately.

The patient survived due to the incredible effort of the paramedics and healthcare professionals. They reacted and worked efficiently and were supported by visual INSIGHT notifications, improved information flow, and faster communication.

The INSIGHT installation in Taipei is a pilot project, developed and launched in close collaboration with the fire department. This department is in charge of the ambulance operation in the city, handling all acute patient transports to the hospitals.

Fire departments across Taiwan are highly interested in the INSIGHT solution and the benefits to be gained from linking the ambulance service to the emergency hospitals.



“With this new solution patients are treated better and more efficiently. The complete collaboration and seamless convergence between the ambulance service and the hospital is a blessing to the public.”

Dr. Bin-Chou Lee, Director, Department of Emergency Medicine, Taipei City Hospital, Chung-Shaw Branch, Taipei, Taiwan.

Dr. Bin-Chou Lee in front of the INSIGHT screens at Taipei City Hospital





## We make a difference

Getinge has the capability to equip the important areas in a hospital.

When you take a macro view of our complete product portfolio, you will realise that we can have a life-saving impact where it really matters.

Our equipment and services can help you manage the patient through the operating room, into the ICU or surgical ward and to an expedited discharge.

The need for integrated solutions and access to knowledge is essential. As technology evolves and therapies become more sophisticated, having a full-service partner is critical.

We at Getinge offer you ongoing full support of infection control, surgery and therapy, as well as intensive care. This level of support will allow you to continue to provide excellent care, without ever compromising on quality and safety.

- 3.1 Infection Control
- 3.2 Surgery & Therapy
- 3.3 Intensive Care



# Reducing complexity Adding value

Getinge products and solutions aim to make a real difference; adding value to every process and making every step more efficient, and more rewarding.

		Assurance	Accomplishment	Performance	Satisfaction		
Infection Control	Workflow solutions	Consistent tracking, documentation, and a rigid barrier system throughout instrument reprocessing	Continuous availability of sterile instruments enables right-on-time surgery	Automated processes, scalable solutions, and on-time support	Processes designed to reduce workload, whilst adhering to local standards	Workflow solutions from planning and design to installation and setup, from small to large hospitals	Based on true understanding about our customers' key challenges, we provide innovative products and solutions that enable better patient outcomes while enhancing health economics.  "Saving lives is without question the greatest job in the world"
Surgery & Therapy		Seamless integration of imaging into the OR provides real-time information	Diagnostics and surgery in the same place	Versatility of the tailored Hybrid OR gives flexibility in utilisation	Innovative OR suites attract leading experts which patients and physicians benefit from		
	Therapy solutions	Fine-tuned solutions designed to lower the risk of complications	An advanced therapeutic setup gives access to customised treatment options	Scalable concepts aims to reduce lengths of hospital stays	Patients benefit from comprehensive care and dedication of hospital staff	Therapy solutions that are designed to make handling easier, and healing more individual	
Intensive Care		Specific products designed to meet the needs of vulnerable patient groups	Fast and effective support in critical conditions	User-friendly ergonomics and handling	A pleasant hospital environment, intuitive product design, and easy-to-access information  A predictable and transparent information flow, combined with a modern and appealing ward design		



# Spread the word, not the bacteria

Infections acquired in a healthcare setting are the most frequent adverse event in healthcare delivery, leading to significant mortality and financial losses for health systems.

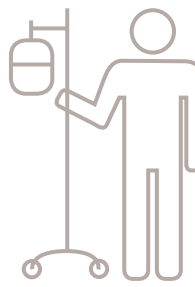
At any given time, 7 out of every 100 hospitalised patients (in developed countries)<sup>1</sup> will be affected with at least one hospital-acquired infection (HAI).

As a global player—providing solutions for sterile reprocessing, Getinge is your dedicated partner in the field of infection control. Thanks to our comprehensive range of products for cleaning, disinfection, and sterilization, we offer tailored solutions for your specific needs within the CSSD.

## The impact of hospital-acquired infections

Infection Control

# 3.1

**>100M patients**   
affected per year worldwide<sup>1</sup>



  
**16M extra days**   
of hospital stay in Europe<sup>1</sup>

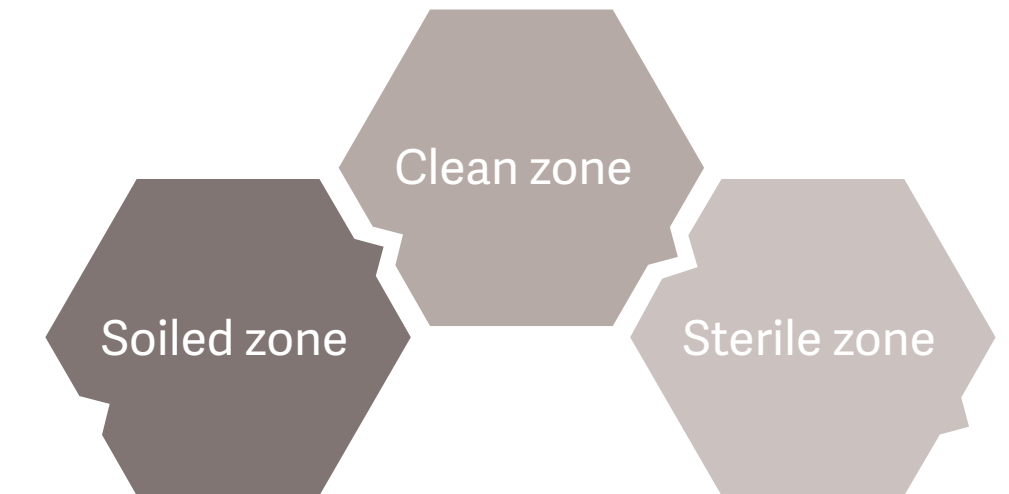
**7B Euros**   
of financial losses across Europe<sup>1</sup>





## A consistent barrier system to avoid cross-contamination

Getinge's designs are based on the barrier principle, ensuring clear separation of soiled, clean and sterile zones. The zones are divided by pass-through washer-disinfectors and sterilizers. Our experts are happy to support you in tailoring a solution that will fit your needs.





# T-DOC – Sterile Supply Management

## Take control of your sterile supply workflow



T-DOC is a sterile supply management and traceability solution that brings complete overview and integration to the instrument supply chain.

### Optimise the sterile supply chain.

T-DOC supports an accurate and consistent workflow by providing complete overview and traceability of all patient-to-instrument interactions as well as detailed, continuous information regarding the sterile supply workflow to support better planning and utilisation.

### Simplify and optimise the sterile process.

T-DOC simplifies processes, including traceability and registration tasks in sterile supply reprocessing and in the operating room. By identifying which instruments and trays to use first based on expiry date, T-DOC can reduce time-consuming and costly resterilization.

### Right quality at the right time and place.

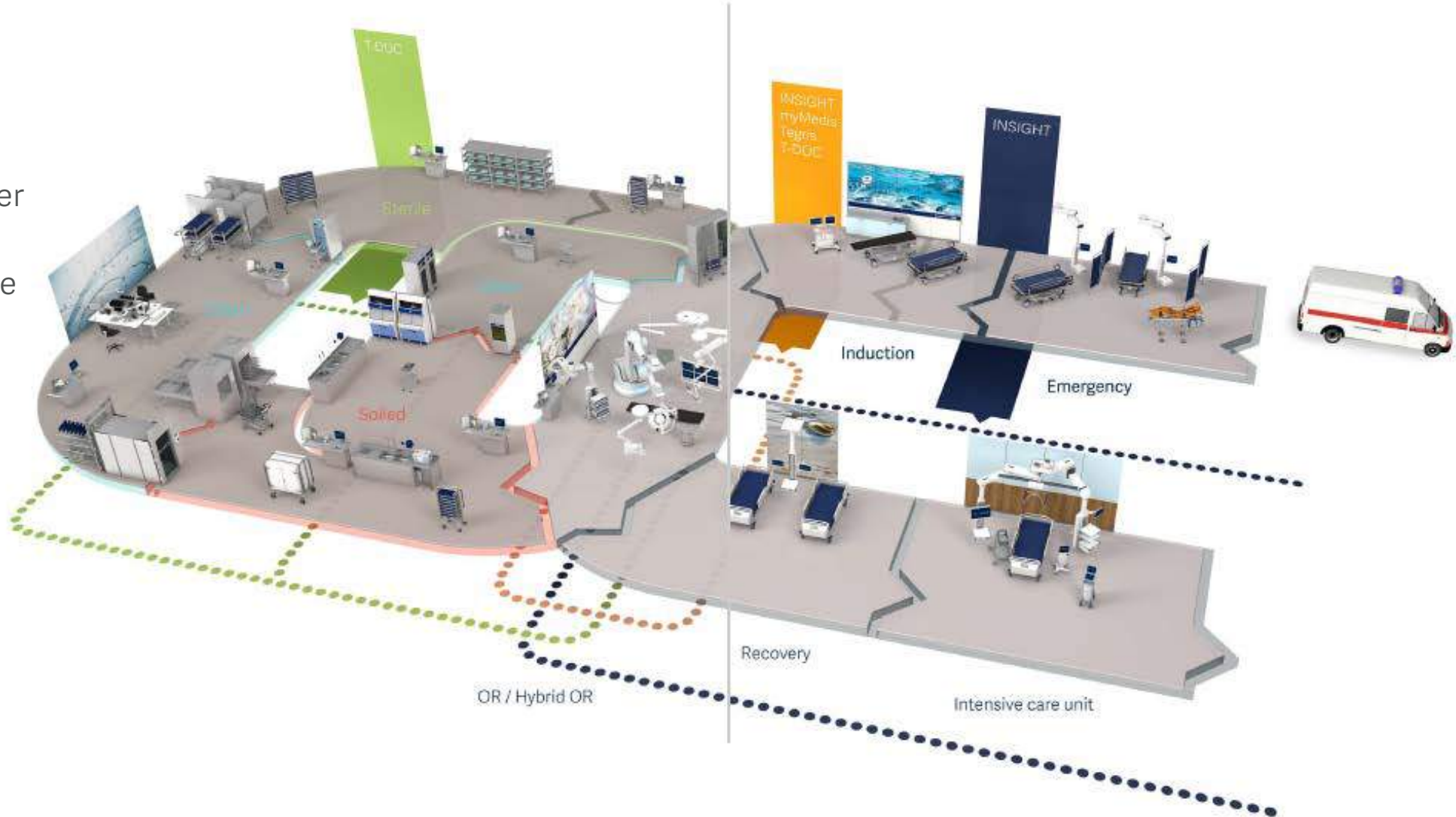
T-DOC empowers the CSSD with operational, statistical and production data that assists with compliance to AS/NZS 4187 standards. The clear and auditable data can be quickly accessed anytime and can be used to make data-driven decisions, document the sterile workflow and perform recall if necessary. In any T-DOC-enhanced hospital, patients can feel confident about production quality and adherence to infection control standards.

# 3.1

## Getinge's Traceability Solutions

Leading the way in traceability, with 1,100 customers

Getinge is the leading provider of traceability solutions. In Australia and New Zealand we have over 1,100 customers, over 16 years extensive experience and a large dedicated local team making Getinge the largest provider of traceability solutions.



PiWe provide the expertise to evaluate and offer the optimum solutions to meet our customer's needs, coach our customers step by step through the implementation process.

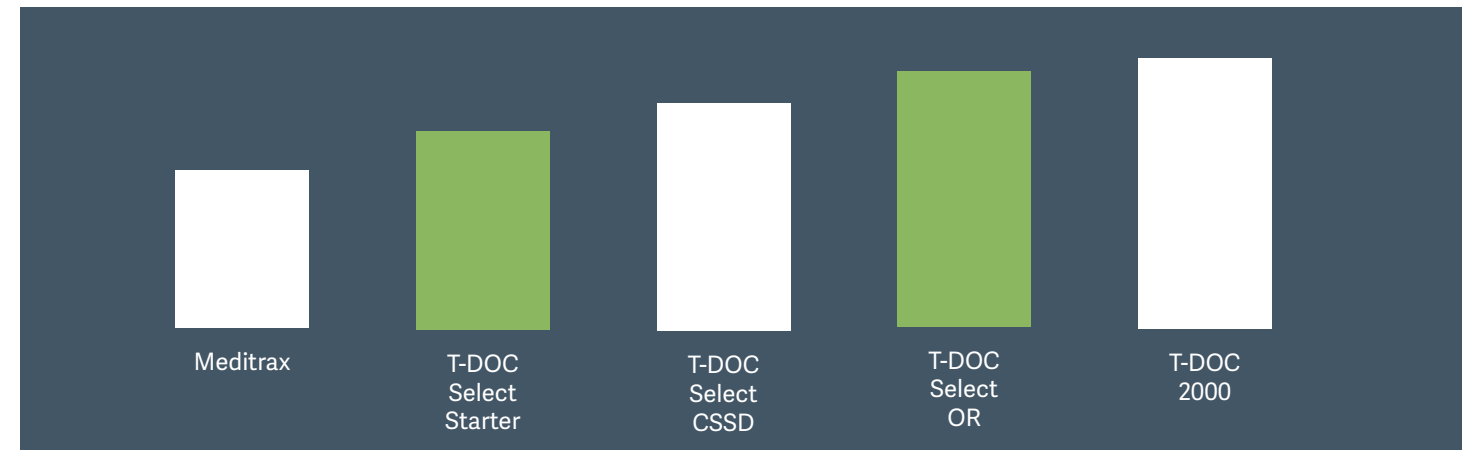
With Getinge, you are supported by an experienced local team to guide you through the implementation process and provide ongoing support, across Australia & New Zealand.

Getinge are committed to advancing our traceability solutions to future technologies. As health facilities strive to become more efficient, whilst at the same time ensuring a safe working environment for all of their staff, the utilisation of automation and robotics is becoming more prevalent in healthcare facilities around the world.



# Your traceability partner in the sterile workflow

When it comes to the sterile workflow, Getinge offers a complete range of traceability solutions to enhance the sterile workflow from our Meditrax range to T-DOC 2000 which offers robotics and automation functionalities. As your dedicated partner for traceability, we enable you to select the best solution for your facility.



# 3.1

The modular functionality of each solution gives you flexibility to develop and adapt your system over time. We have designed our solutions to allow your department a gradual and smooth transition throughout your traceability journey. Whether this be from manual tracking to electronic tracking, or through to an advanced robotic solution.

- Getinge supports a **seamless transition** from manual to electronic tracking
- Each of our tracking solutions enable **conformance** to AS/NZS 4187 standards
- **Modular solutions** can be easily upgraded and expanded
- Getinge now offers **subscription model payment plans** which create flexibility and are designed to minimise upfront capital costs while reducing the manual ordering processes for your facility.

# 3.1

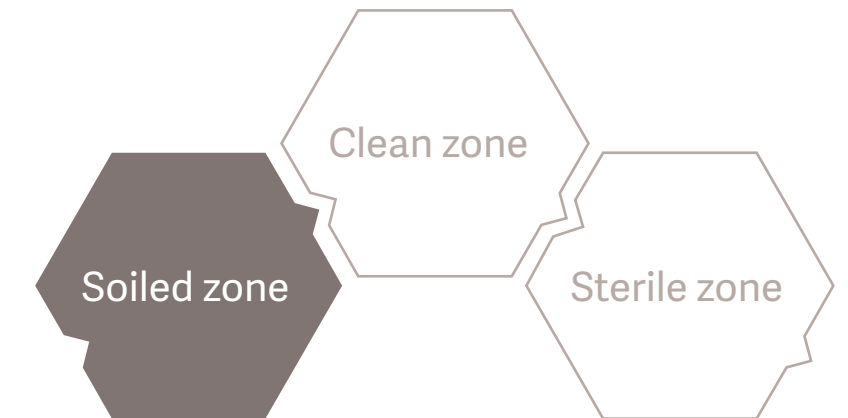
## Soiled zone

### The first step in reprocessing

Cleaning is considered the most important step in instrument reprocessing. The purpose of cleaning is to remove visible soil, reduce biological matter, and prepare the equipment for disinfection.

Getinge offers a range of precleaning solutions, from sink units, ultrasonic cleaners, wash monitors and smart detergent dosing systems to ergonomic transportation trolleys.

When combined, our prewash portfolio prepares your items for the next zone of the process.



Sink unit



Ultrasonic cleaners



Wash monitors



Detergent dosing systems



Transportation trolleys





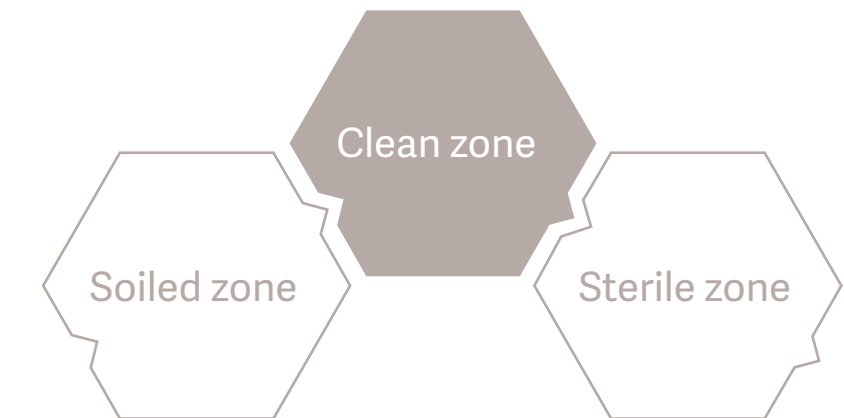
# 3.1

## Clean zone

### The second step towards sterile

In this area we offer a wide range of high-grade, intelligent washer-disinfector solutions, designed to increase throughput and keep staff safe and productive.

The clean and disinfected goods can be unloaded manually or by an automated system. Once sorted, inspected and packaged, the items are ready for the next step: sterilization.





## Getinge 86-Series A smarter washer-disinfector



Getinge 86-Series is a washer-disinfector specifically designed to meet the challenges faced by CSSDs, TSSUs, and clinics worldwide.

The variety of available programs, time-saving features, and integrated process monitoring functions ensure standardised cleaning. Thanks to the user-interface, all relevant information is shown on large, high-resolution screens so your progress status can be monitored from a distance.



### **Truly connected**

Getinge 86-Series is connected 24/7 to Getinge Online – a unique encrypted service that makes information from your equipment accessible from online computers or smart-phones.



# Getinge Automation System Productivity

The Getinge Automation System is especially useful where space is at a premium and freeing up time for the staff instead of moving each wash cart into place is key.

## Customised to your needs using the space you have.

The system saves space and is the solution when time is critical. The high level of flexibility makes it possible to place washer-disinfectors even closer to walls, pillars, and other predefined parameters. What used to be a limitation for expanding existing installations is no longer an issue.



Infection Control / **Clean Zone**

# 3.1

## Getinge da Vinci Solution Complex system – simply clean

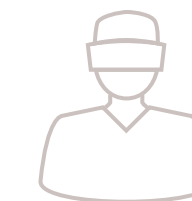
As minimally invasive procedures continue to grow, we developed the Getinge da Vinci Solution\* to support you in the challenge of reprocessing MIS instruments.

## The Getinge da Vinci Solution consists of four cornerstones.

When used together, washer-disinfectors, special detergent, smart wash racks - alongside a unique customised processing program - provide you with a standard solution for the cleaning of reusable instruments.

The Getinge da Vinci Solution is approved by Intuitive Surgical to be used as a part of the reprocessing instructions of EndoWrist instruments.

\* da Vinci and EndoWrist are registered trademarks from Intuitive Surgical, Inc., California USA.



Intuitive Surgical verified



5 mm and 8 mm validated

## Getinge 9100E Cart Washer-Disinfectors

From utensils to operating tables, Getinge 9100E helps to deliver the reliable cleaning and disinfection required to prevent cross-contamination.

With the Getinge 9100E Cart Washer-Disinfectors, you can choose from multiple modes of environmentally aware operation: standard water and detergent use or efficiency mode. Our most efficient cart washer, thanks to the availability of multiple water re-use tanks, heat exchangers, and, faster cycle times.



## Getinge CMS Your central dosing system

Getinge Clean Management Systems (CMS) is a central dosing system that can be linked to washer-disinfectors, ultrasonic cleaners, and manual cleaning stations to maintain the level of detergent in each of the department's units.

The system is highly flexible, and can be adapted to tailored configurations to meet departments' individual needs. It also can provide online monitoring for status, alert, and alarm purposes.





## Getinge Clean Detergents Range

### Maximise cleaning performance

Getinge has been supplying cleaning and disinfection agents for nearly 80 years. Today, Getinge Clean is a complete and comprehensive range of cleaning detergents, designed for maximum performance along with efficient and economical throughput.

The Getinge Clean detergent range is an integrated part of Getinge Customer Solutions, aiming to provide better outcomes at a lower cost. We offer a complete, comprehensive range of instrument cleaning detergents and maintenance products to meet your department needs. The range includes formulations to handle the most challenging of instrument cleaning obstacles such as: pretreatment, complex minimally invasive instrumentation and biofilm.



## Inspection and packaging solutions

The Getinge line of tables are designed with flexibility, ergonomics and functionality in mind. The packaging tables can be used in their fixed setting or they can be height-adjusted to suit and adapt to the personal needs of each member of staff.





## Sterile zone

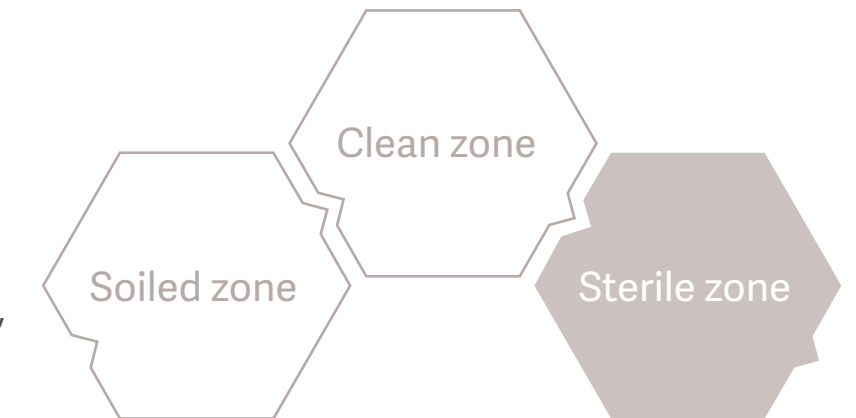
### The final step to peace of mind

# 3.1

Within the sterilization zone we have a broad selection of built-in pass-through sterilizers in suitable sizes and models, to adapt to their CSSD's reprocessing needs.

When it comes to sterilization, Getinge aims to provide solutions within the hospital. Getinge's sterilization range consists of sterilizers with steam, low-temperature processes, and cycles for fluid production.

Besides capital equipment, our sterilization indicators are designed to ensure your sterilization process is complete.





# Getinge GSS67H

## High-capacity steam sterilizer


We've designed the Getinge GSS67H Steam Sterilizer to be environmentally friendly, without compromising the high-quality sterilization that your hospital relies on.


The Getinge GSS67H Steam Sterilizer offers an efficient system to help support your CSSD and life science sectors. It includes clean steam capabilities built on technology that helps to reduce water and energy consumption.



Infection Control / **Sterile Zone**

# 3.1

up to  
**40%**   
reduced energy\*

up to  
**95%**   
reduced water  
consumption\*



protects your  
budget and the  
environment

### **Automised process, less effort**

The Getinge Automatic Loader/Unloader GL64 is an automised system. It optimises the handling of goods without the need for direct supervision from a user. It also enables an ergonomic workflow for the staff as manual handling of goods is reduced to its minimum.

\* Based on Product Specification of water consumption

# Low temperature sterilization

## For highly sensitive instruments

Getinge offers a range of low-temperature sterilization solutions to meet the requirement of sterilization requirements of heat and moist-sensitive medical instruments.

The low-temperature portfolio provides sterilization technologies that address the most challenging requirements of CSSDs. The portfolio seeks to improve patient and user safety, allow for high throughput, speed and compatibility.



### Getinge GSS67F

This steam sterilizer also offers the possibility to perform low temperature processes from 55°–80° with a combination of steam and formaldehyde. It has great benefits with a minimum foot-print, material compatibility, and the possibility to sterilize long flexible scopes.



### Stericool A-Series

A low-temperature sterilizer system that utilizes vaporised hydrogen peroxide (H<sub>2</sub>O<sub>2</sub>) and plasma to achieve terminal sterilization of heat- and moisture-sensitive medical instruments. With three different programs and H<sub>2</sub>O<sub>2</sub> concentration technology, it helps your CSSD to meet the high turnover requirements in the OR.



## Getinge Assured Indicators

### Added assurance - for clean and sterile goods

Getinge offers comprehensive range of indicators for wash monitoring and sterility assurance.

The Getinge Bowie-Dick Type Test Monitor is used for the daily validation testing of the mechanical function of your vacuum-assisted steam sterilizer. The Getinge Bowie-Dick Type Test Monitor ensures that your steam sterilizer's air removal system is working to standard\*.



\*Kyle, RL. (2014) Getinge Assured Bowie-Dick Test Pack 121 degrees Celsius. Getinge No. 504052200. Geneva Laboratories Report For the Medical Industry Worldwide JN12D0900.

## Let's start a clean partnership

From planning and design to installation and setup, from cleaning and disinfection to sterilization, from small to large hospitals – Getinge's goal is to give you peace of mind. Our unique portfolio and the barrier system will help you to keep your instruments clean and your conscience clear.

Over decades, numerous clients have established trusted long-term partnerships with us – which is the best proof of the quality of our solutions.

# From empty shell to CSSD

The new Central Sterile Supply Department (CSSD) at Hospital Clinico De Valladolid in northern Spain is a unique “shell-to-showroom” project managed entirely by Getinge. The new CSSD showcases the very latest sterilizers, washer-disinfectors, and integrated systems.

Many newly-built hospital facilities in Spain have stood empty since government funding for equipment dried up after the 2009 financial crisis. An improvement in economic conditions in the past few years has meant a release of funds to equip “empty shell” hospitals.

Part of a new extension completed at Hospital Clinico De Valladolid in 2013 had been earmarked for the hospital's new CSSD but was left empty for two years. Now, Getinge has transformed the empty space into a complete CSSD, which will replace the current decentralised washing and sterilization facilities later this year to serve the hospital's 22 new operating rooms. All of them are equipped with Getinge OR tables.

One main thing that made Getinge's bid stand out was a very different layout – following the barrier system. The key difference was a central corridor, which separated processing on one side – washing, packing, sterilization, and dispatching – and all the support functions on the other.



## The Getinge installation included:

- 4 x 8668 Washer-Disinfectors with automatic loading system
- 6 x height-adjustable packing tables with built-in T-DOC stations
- 3 x Proseal rotary sealers
- 4 x GSS67H Steam Sterilizers with automatic loaders/unloaders



## Take control of your flexible endoscopes

The growth in endoscopic procedures along with the continued development of complex flexible endoscopes has created new difficulties and challenges for cleaning and disinfection.

Getinge introduced the pass through concept to the market which is designed to reduce cross-contamination. Our line of AERs can assist with consistency and accuracy and overall aim to be a cost-effective operation.



### Getinge ED-Flow – a true physical pass-through barrier

Getinge ED-Flow AER is equipped with two asynchronous chambers for smarter and faster processes. These chambers act as a barrier system separating the dirty and clean areas. The interlocked doors ensure that only scopes that have run through a complete and approved cycle can be unloaded from the clean side. If an error occurs, the AER will only open up on the dirty side. The AER consumable containers can only be placed in the machine in particular manner to ensure high level disinfection is reached.



### Getinge EDS8 – quick drying prevents bacterial growth

Microorganisms can grow to dangerous levels within a few hours, so a fast drying and sealed storage solution is required to store each endoscope correctly. The Getinge EDS8 drying and storage cabinet ensures up to eight disinfected flexible endoscopes are always available for immediate use.

## Our endoscope reprocessing suite comfortably processes 100-150 endoscopes per day

The Countess of Chester Hospital, United Kingdom, was in a fix. Its aging endoscope reprocessors sitting in a tiny, overheated room were frequently failing on the job, and the hospital was paying out for rental machines to cover the shortfall in capacity. In a hospital serving nearly half a million patients, this was an unsustainable situation.

A long-term, permanent solution was needed, and Getinge rose to the challenge.



Today the hospital has a large, light-filled suite that features a comprehensive solution from Getinge, including six dual-chamber ED-Flow Automated Endoscope Reprocessors, the T-DOC tracking and traceability system, a variety of Drying and Storage Cabinets, the Vac-a-Scope Packaging System<sup>8</sup> and a Reverse Osmosis (RO) Water Purification Plant.

The suite is now comfortably processing 100 endoscopes each day and has the capacity to process 150 per day. The Getinge ED-Flow AERs, with two asynchronous chambers per machine, allows the department to process up to 12 scopes at the same time in a fast, efficient 23-minute cycle.

Once processed, the scopes are unloaded and transferred to one of four Getinge Drying and Storage Cabinets, where they can be stored for a maximum of 60 days. Scope storage is completely centralised.

Dry scopes can be quickly vacuum-packed using the Vac-a-Scope System and placed in the storage area ready for collection for the next procedure, following a strict "one scope, one room, one patient" approach.

\* Vac-a-Scope is only available in specific countries; refer to your sales rep to know more.





## At the heart of the hospital

The modern OR is the core of the hospital, the intersection of many professional disciplines, each with unique needs. Multifunctional, cross-disciplinary surgical suites can improve efficiency, enhance patient care and keep costs under control.

To provide the best care for your patients and a working environment for your staff, while at the same time acknowledging the financial reality, you need a partner that understands your needs and supports you every step of the way. At Getinge, we offer equipment, workflow management, and clinical therapies that help hospitals and clinicians achieve the best possible outcomes for their patients.

On the following pages you will see how our workflow solution in a Hybrid OR setting can help to improve effectiveness and efficiency.

In addition, using the example of a coronary artery bypass grafting (CABG) procedure, we demonstrate how we improve clinical outcomes and reduce length of hospital stay.<sup>2</sup>

# Tegris – OR Integration

## Full integration at your fingertips



Tegris is the OR integration system that delivers video and data integration for a more streamlined working environment, enabling OR staff to focus on the best possible care for patients.

### Support a streamlined working environment.

Tegris manages the operating room – including surgery video routing, music, data management, device operation, and customisable settings – through one single system that assists with the working environment.

### Maximise utilisation of the operating room, equipment and resources.

With an easy-to-use interface and patient administration system (PAS) integration, Tegris offers surgeons and supporting staff quick, easy access to data and information before and during the surgical procedure.

### Enhance staff and patient safety.

Through ergonomic setups and standardised video connectivity, Tegris can help reduce the risk of work-related injuries among OR staff. This is achieved by reducing the amount of equipment and cables in the operating room.



# INSIGHT – Patient Flow Management

Complete transparency, collaboration and overview



# 3.2

INSIGHT is the patient flow management solution that is designed to provide complete transparency, collaboration, and overview in and across departments.

**Manage the hospital flow.**

INSIGHT optimises staff and resource utilisation, for a complete overview of the patient flow and enabling better hospital-wide decisions by making real-time data available to hospital management.

**Provide better care.**

INSIGHT promotes dynamic communication within each department by centralising real-time patient, ward, and interdepartmental information. Through INSIGHT, staff are able to tailor and implement predefined treatment plans, ensuring standardised patient care.

**Ensure a calm care environment.**

By making relevant real-time treatment and care information readily available on dedicated screens throughout the hospital, INSIGHT offers assistance with staff communication to patients and their relatives.

**INSIGHT enables staff to tailor and implement predefined treatment plans, ensuring standardised and streamlined patient care.**

**4%**  
productivity  
gain per year

**15%**  
increase in  
time-efficiency

**39%**  
reduction in  
phone calls

Proven results from INSIGHT installations in Denmark\*  
\*Getinge case study

# Getinge Hybrid OR Solutions

## Welcome to tomorrow

Today's cutting-edge image-guided surgical procedures will soon become the standard of care. Getinge Hybrid OR Solutions offer a single surgical workspace that combines imaging equipment with a multifunctional surgical table - allowing clinicians to diagnose and treat in a single location. A Hybrid OR is a major financial investment, tailored precisely to your technical and economic requirements, making your investment truly future-proof.

# Why Hybrid ORs are on the rise

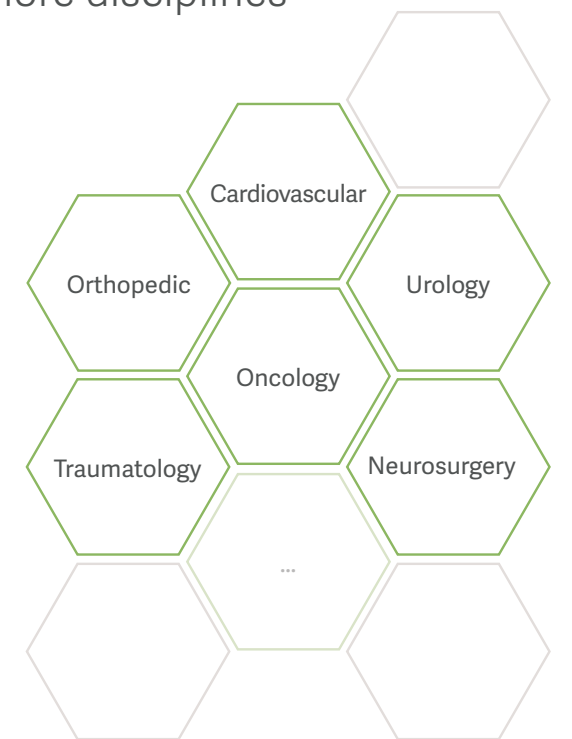
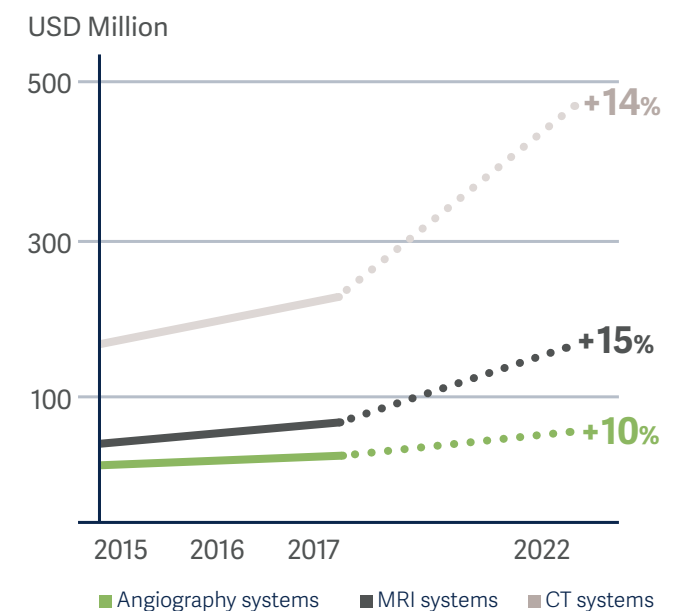
# 3.2



Aging population puts pressure on hospitals<sup>3</sup>

Intraoperative imaging is a health trend<sup>4</sup>

Image-guided surgery is expanding to more and more disciplines





# Maquet Magnus Operating ahead

Core of the Getinge Hybrid OR is the Maquet Magnus Operating Table System. Featuring interchangeable carbon fiber and universal table tops, Maquet Magnus can be quickly configured to accommodate a range of image-guided surgical procedures. Designed to work in full harmony with leading imaging system suppliers as partners, including Philips, Toshiba, Canon and General Electric.



## Flexibility positioning

Maquet Magnus design provides flexibility for imaging access and workflow ergonomics.

## Modular design

Maquet Magnus is versatile. Quickly interchangeable radiolucent table tops allow for seamless transition between surgical procedures and disciplines.

## Partnership integration

In close cooperation with leading imaging partners we have developed integrated solutions for angiography systems, CT and MRI.



# Maquet PowerLED II

## Lighting the way in surgical efficiency

We believe that positive outcomes rely heavily on surgeons' vision and the ability to clearly identify the problem, assess the situation, and safely treat the patient. In short, good lighting in the OR plays a major role in achieving positive patient outcomes.

This light is the evolution of the Maquet PowerLED technology, trusted in worldwide operating rooms for more than a decade.



### Maquet PowerLED II is Getinge's premium surgical lighting solution.

The OR light brings constant, clear, shadow-free illumination to the surgical suite for precise tissue visualisation.

### Light your Hybrid OR the way you want to.

We developed the Maquet PowerLED II Surgical Light for the Hybrid OR when including:

- X-ray shield: seamless integration with the latest hybrid imaging technologies
- Longer suspension arm: move the Maquet PowerLED II out of the way to make room for imaging equipment

### Seeing is believing.

- Flux Stability Program (FSP): no matter the length of the procedure, Flux Stability Program (FSP) applies an automatic compensation, cancelling out the drop in intensity that is inherent to LED technology.
- Automatic Illumination Management (AIM): AIM automatically compensates for obstructions to deliver consistent and automatic illumination, without readjustment
- Boost function: an additional 20,000 lux in reserve illumination boosts visibility during severe bleeding, but minimises radiant heat during normal operation
- Adjust the light patch to the incision size: the light patch is electronically adjustable from 13 to 27 cm / 5.11" to 10.6" to meet the incision size, preventing peripheral glare



# Flow-i Anaesthesia Machine

## Anaesthesia for all procedures

Flow-i is our most advanced anaesthesia system, capable of managing patients of all sizes and ages. Flow-i can provide a fully automated and programmable lung recruitment maneuver at the touch of a button to help avoid atelectasis, while maintaining and controlling respiratory demand.

Its precision aims to support all types of patients, from neonates to the morbidly obese. Flow-i is designed to be powerful, reliable, at the same time easy to use and allows the clinician to continuously adapt and improve the procedure to the situation at hand while maintaining stable respiratory conditions.

References can be found in MX-0671 rev07.



### Keeping patients' lungs healthy.

Atelectasis, or collapsed lungs, affects over 90% of patients\* undergoing surgery. The lung recruitment function on Flow-i is designed to prevent these complications with just two touches on the display.

### Unique O<sub>2</sub>Guard helps reduce risk of hypoxia.

Flow-i is equipped with O<sub>2</sub>Guard. While conventional guard systems only trigger an alarm if the inspired oxygen level drops below 21%, the O<sub>2</sub>Guard will actively intervene. The oxygen and fresh gas flow increases automatically to make sure that the patient does not receive hypoxic mixtures.

### Concerned about the risks of low-flow anaesthesia? We are, too.

Automatic Gas Control (AGC). AGC enables low-flow anaesthesia by automatically adjusting the fresh gas flow and anaesthetic agent supply to a minimum while maintaining the anaesthetic target level. Additionally AGC enables a low-flow anaesthesia by using less anaesthetic agent, thereby reducing the cost for expensive agents\*\*.

### Supporting your workflow

Flow-i is designed to be easy and intuitive to use, designed for an ergonomic and uncluttered interface that helps minimise the risk of information overload. It helps adapt to the staff's needs via an adjustable height function, rotatable arm, and tiltable screen.

\* Kelkar KV. Post-operative pulmonary complications after non-cardiothoracic surgery. Indian J Anaesth. 2015;59(9):599-605. doi:10.4103/0019-5049.165857

\*\* Carrette, Rik & De Wolf, Andre & Hendrickx, Jan. (2015). Automated gas control with the Maquet FLOW-i. Journal of clinical monitoring and computing. 30. 10.1007/s10877-015-9723-6.

# Advanta V12

## Expand your treatment options

When clinicians require a low-profile balloon-expandable covered stent for treatment of iliac and renal occlusive disease, Advanta V12 Covered Stent is an ideal solution. The V12 Balloon-Expandable Covered Stent offers clinicians a fully encapsulated, customisable solution for complex renal and iliac anatomy.

Over 450 clinical publications give proof of evidence since launch in 2003.



Surgery & Therapy / Hybrid Operating Room

# 3.2



Trusted. Reliable. Proven.

78

### Advanta V12 advantages

- 316L stainless steel
- Flexible, open-cell design
- Low profile
- Encapsulated in one piece of PTFE
- Premounted on a PET balloon catheter (non-compliant)
- Customisable (ability to post-dilate)\*

### Improved clinical outcomes

- Significantly reduces neointimal hyperplasia<sup>5</sup>
- Superior patency advantage over bare metal stents long term<sup>6</sup>
- Dramatically lower TVR rates compared to bare metal stents<sup>6</sup>

\* Post-dilation should always be done following the guidelines within the Advanta V12 Covered Stent IFU.



# ePTFE Vascular Grafts

## Flixene - providing a durable<sup>2,3,4</sup> vascular access option

Flixene is a unique 3 layer ePTFE graft designed for use in both vascular bypass and AV Access graft applications. The 3 layer construction provides Flixene significantly improved strength and durability over previous Getinge (formerly Atrium) single and double layer ePTFE grafts. To address a broad number of patient needs, Flixene grafts are offered in a variety of configurations.



## VXT

The Advanta VXT vascular graft is a synthetic vascular prosthesis made from expanded Polytetrafluoroethylene (ePTFE). It is comprised of a reinforced two-layer design to offer greater strength to that of Getinge's single layer ePTFE grafts. The Advanta VXT vascular graft is available in straight and tapered configurations offering the ability to match or alter vessel flow dynamics.



# Cardiac and Aortic Grafts

## HEMAGARD Knitted

- Proprietary textile design: reverse locknit knitting technique produces burst strength, radial tensile strength and suture pull-out strength characteristics which are significantly greater than corresponding material, which utilise a tricot knit\*
- Hemagard locknit construction: designed to have a long term stability and resistance to post-operative dilatation<sup>1</sup>

## INTERGARD Woven and Aortic Arch

Intergard Woven collagen coated grafts utilise low twist, highly filamentous yards and INTERGARD proprietary collagen coating process. This process produces a woven graft which handles and sutures like a knit and is designed for exceptional strength.

INTERGARD's Aortic arch has pre-sewn branches designed for total replacement of all diseased segments. Anatomically correct angle of branches is designed for suturing to the host vessels and aimed to prevent graft kinking.

## HemaBridge

The INTERGARD HemaBridge is designed to help allow for an easier, more reliable, and less time consuming technique during surgery.

2. Schild AF, Schuman ES, Noicely K, et al. Early cannulation prosthetic graft (FLIXENE) for arteriovenous access. J Vasc Access. 2011 Jul-Sep;12(3):248-52

3. Hinojosa CA, Soto-Solis S, Olivares-Cruz S, Laparra-Escareno H, Gomez-Arcive Z, Anaya-Ayala JE. Early cannulation graft Flixene™ for conventional and complex hemodialysis access creation. J Vasc Access. 2017 Mar 21;18(2):109-113. doi: 10.5301/jva.5000550. Epub 2017 Feb 6

4. Berard X, Ottaviani N, Brizzi V, Deglise S, de Precigout V, Ducasse E, Combe C, Midy D. Use of the Flixene vascular access graft as an early cannulation solution. J Vasc Surg. 2015 Jul;62(1):128-34. doi: 10.1016/j.jvs.2015.02.002. Epub 2015 Mar 12

\*Data on file

1. Swartbol, P et al, Dilatation of aorto bifemoral knitted Dacron grafts after a mean implantation of five years. Int Angiol, 1996.15 (3): p.236-9

# Cardiothoracic Surgery

## A full complement of advanced chest drainage products

Explore the complete family of Atrium Chest Drains with different functionalities and accessories.

From admission to discharge, Getinge's portfolio of Atrium brand thoracic drainage products provides all of your therapeutic device needs. Providing everything for initiation, collection, and transition for the changing needs of the patient during therapeutic treatment in the ER, OR, ICU, at bedside, and in transport.





# Maquet Variop

## Designed to grow with its tasks

Keeping up with medical trends means constant change and requires a future-proof investment. Maquet Variop responds to emerging technologies and changing spatial requirements with a wide range of versatile, prefabricated wall elements for your cutting-edge Hybrid OR – today and tomorrow.



Surgery & Therapy / Hybrid Operating Room

# 3.2

### Adaptable, fast, and flexible installation, designed for an ever-changing environment

- Substructure, wall, and ceiling elements are all prefabricated
- Reduced installation and retrofitting downtime

## 40 – 60%

faster retrofitting\*<sup>7</sup>

### Aesthetic approach to workflow efficiencies

- Individually printed wall and glass elements are designed with patients and practitioners in mind
- Virtually unlimited selection of custom motifs and colors for comforting ambience

### Designed to meet the highest standards of hygiene and safety

- Easy cleaning due to large and smooth surfaces ensures highest hygiene standards of Hybrid ORs\*\*
- Radiation protection options available to guarantee a secure working environment

\* In comparison to average conventional construction.

\*\*Refer to Technical Rules for Biological Agenst 250 (TRBA 250, as of 2007).



# The story of a Getinge Hybrid OR

## From planning to implementation

# 3.2

This is the Yuanlin Christian Hospital, one of the newest and most modern hospitals in Taiwan, with nine conventional operating rooms and two specialised Hybrid OR configurations. They sought out Getinge as a leading manufacturer that can plan a complex Hybrid OR environment and deliver it as a turnkey solution.

At the renowned Changhua Christian Hospital, Getinge was engaged to install a complete Hybrid OR suite. The major challenge was to adapt the Maquet Variop Modular Room System to the existing room layout. Part of the Changhua Christian Healthcare System, the hospital needed a cutting-edge hybrid operating block to incorporate a double sliding gantry CT, an angiography system, and a navigation system, all within a relatively narrow space.

The hospital chose the Maquet Variop Modular Room System for the new space including imaging equipment from Siemens Healthineers. The Hybrid OR includes Maquet PowerLED lights with integrated HD video camera for high resolution, streaming images and accurate colour representation. This solution is designed to be viewed on monitors in the Hybrid OR to make precise decisions on the treatment.

The rooms include Maquet M-Lifting pendants to raise the Flow-i C40 Anaesthesia System off the floor, and a Tegriss OR integration management system.

Getinge was involved in managing the entire project, from the earliest stages of planning to the final installation and training of surgical staff with regards to new equipment and workflows.

To date, Getinge has completed thousands of operating room installations in more than 50 countries worldwide – of which more than a thousand are Hybrid ORs – so there are not many problems we haven't already overcome.



# CABG

## Supporting you every step of the way

With more than 800,000 procedures per year<sup>8,10</sup>, CABG (coronary artery bypass grafting) is the gold standard for complex patients suffering from coronary artery disease. More than 50 years after the first surgery<sup>9</sup>, CABG has evolved with the help of technological advancements that enable clinicians to successfully treat complex patients. Getinge is committed to CABG and the successful management of the most challenging patients with products that are designed to improve on the metrics that matter most to healthcare systems: quality of care; clinical and operational efficiency; and patient satisfaction. Getinge is always at your side with therapeutic solutions from preoperative care to postoperative patient management.



# CABG

## Current recommendations

CABG is the preferred treatment option to improve survival in patients with unprotected left main coronary artery stenosis.<sup>8</sup>



CABG is also the preferred option in patients with complex three-vessel coronary artery disease.<sup>8</sup>



**>800,000**  
procedures per year<sup>8,10</sup>

# Getinge Heart-Lung Perfusion System

## Keep the system running

Advanced surgical perfusion components are used successfully for millions of cardiopulmonary bypass procedures worldwide each year.

The Getinge Heart-Lung Perfusion System is part of an established, comprehensive cardiac surgery suite portfolio, ensuring compatible solutions.

The Getinge Heart-Lung Perfusion System is designed to be easy to use, with complementary documentation systems that streamline reporting and allow the perfusionist to focus on the patient instead of paperwork. And the design reduces the risk of infection and complications, minimising the length of stay in the ICU.

HL 20



Heater-Cooler Unit 40



# Heartstring III

## Reduce embolisms<sup>11</sup> and risk of stroke<sup>12\*</sup>

The Heartstring Proximal Seal System is used during CABG procedures to maintain hemostasis and facilitate the completion of a proximal anastomosis without the application of an aortic clamp. The Heartstring device includes a proximal seal, a delivery device, and an aortic punch which creates a hemostatic seal designed to enable either vein or arterial proximal anastomosis to be sewn.



\*When compared to partial clamp.



### **Minimise cerebral emboli**

The Heartstring III Proximal Seal System has been shown to minimise the occurrence of solid cerebral emboli compared with use of a partial occlusion clamp.<sup>11</sup>

### **Ease of use**

The loading device aims to make placement fast and easy.

### **Patency**

The device allows a hand-sewn venous or arterial anastomosis at an angled take-off for optimal patency and for procedural flexibility.<sup>13</sup>

# Vasoview Hemopro 2

## Cut and seal simultaneously

Vasoview Hemopro 2 is the latest generation of Vasoview Endoscopic Vessel Harvesting Systems, with simultaneous cut-and-seal technology.

HP2 optimises harvesting of both the saphenous vein and the radial artery, with jaws that provide cut and seal capability in one smooth motion. The endoscopic system is designed to allow for exceptional visualisation and maneuverability. This helps to improve efficiency, precision, safety, and the highest conduit quality.



1. Endoscopic vein harvest in patients at high risk for leg wound complications: A cost-benefit analysis of an initial experience. Luckraz H, Kaur P, Bhabra M, Mishra PK, Nagarajan K, Kumari N, Saleem K, Nevill AM; Am J Infect Control. 2016 Aug 30

2. Endoscopic vein-graft harvest is safe for CABG surgery. Dacey LJ. JAMA. 2012 Aug 1;308(5):512-3.11

# Over 2 Million procedures to date

Our Vasoview Haemopro 2 system, with its product design and a history of surgical procedures, aims to provide the most advanced and effective EVH solutions available. Vasoview Haemapro 2 has been designed with the input of clinicians who perform EVH procedures on a daily basis.

### Key features

- Device characteristics enable harvesters to position the jaws while protecting the main conduit\*
- Designed for enhanced sealing and cutting capability
- Device design aims to enhance the efficiency and safety of vessel harvest
- The spot cautery feature aims to allow harvesters to respond quickly and easily to help maintain clear working tunnels and aims to ensure hemostasis

\* When used in accordance with Instructions for Use.





# Maquet Moduevo

## Support from above

Maquet Moduevo Ceiling Supply Units make use of space as well as resources and provides effective cable management. They also ensure that vital utilities and equipment are readily accessible, streamlining workflows and promoting efficiency. Maquet Moduevo's broad range of accessories are used across diverse surgical disciplines.

In a CABG case, with many staff and pieces of equipment as well as heater-cooler units and heart-lung machines in the room, space is very limited. This is where a space-saving ceiling supply system shows its true strengths.



### Effective coordination of resources

- Power, anaesthesia, and other essential utilities remain readily accessible at all times
- High load capacity (up to 350 kg)
- 330° rotation and intuitive positioning

### Maneuverability and versatility

- The new "Grab & Move" control system for ergonomics
- Pioneering electromagnetic brakes operate silently
- Wide range of modules and beams
- Components and accessories can easily be added, moved, and subtracted as desired

### Safety and efficiency

- Maquet Moduevo eliminates trip hazards by running gas tubes and high- and low-voltage cables through the beam



# Maquet Meera

## Performance meets flexibility

The mobile operating table Maquet Meera offers flexibility to support a variety of procedures and high load capacity. The SFC (Soft Foam Core) cushions include a double layer of padding that improves weight distribution to minimise the risk of pressure ulcers. The cushions also help to protect against complications from perioperative hypothermia, reflecting body heat and keeping patients warm.

Maquet Meera supports the patient without breaking your budget for your capital equipment.



Surgery & Therapy / **Operating Room**

# 3.2



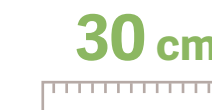
**250 kg**

of load capacity  
in all positions



**35°**

of reverse  
Trendelenburg  
for improved  
access in  
bariatric surgery



**30 cm**

motorised  
longitudinal shift

### For CABG procedures, Maquet Meera offers

- Stability through retractable wheels and a three-point stance
- Double SFC padding
- Hand controlled ergonomic working environment



Increasing demand  
will create a  
**35% shortfall**  
of intensivist hours  
**by 2020**<sup>14</sup>



## ICU

### When time is crucial and care is critical

Intensive Care

# 3.3

An improved life expectancy, a larger aging population, and improvements in the delivery of healthcare have increased the demand for critical care services. On the other hand, the long-standing shortage of nurses, clinical pharmacists, and respiratory therapists continue to make it increasingly difficult to meet patient demand and consistently deliver high-level care. Research indicates that the demand will create a 35% shortfall of intensivist hours by 2020.<sup>14</sup>

That's why Getinge is committed to providing solutions to make workflows in the ICU more seamless in order to improve handling and increase time-efficiency. Our goal is to save your time for what truly matters: your patients.

In the following, we have outlined specific scenarios and product solutions for those patients who need an extra bit of attention – patients suffering from cardiogenic shock as well as ARDS patients and neonates.

# ARDS

## Facing the challenge together

ARDS refers to acute widespread pulmonary inflammation due to causes such as trauma, infections, pneumonia, and sepsis. The mortality rate for patients with ARDS ranges from 27% to 45% and depends on the patient's age and the presence of other underlying medical conditions.<sup>15</sup>

»In the modern ICUs, when facing ARDS patients, there is a package of possibilities in order to adapt to the different conditions and severity for a high percentage of success.«

Professor Massimo Antonelli, Chair, Department of Anesthesiology and Intensive Care Medicine, A. Gemelli University Hospital of Rome, Italy.

Intensive Care /ARDS

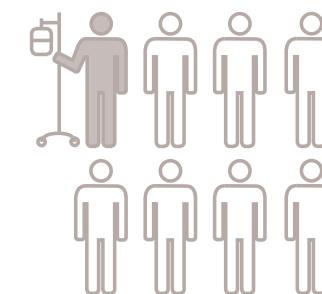
# 3.3

# ARDS

## Life-threatening with high prevalence

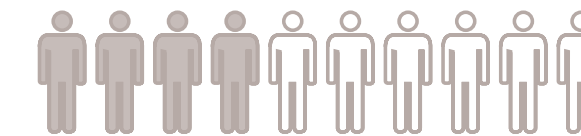
### 10 – 58 persons

per 100,000 people affected<sup>15</sup>



### 27 – 45%

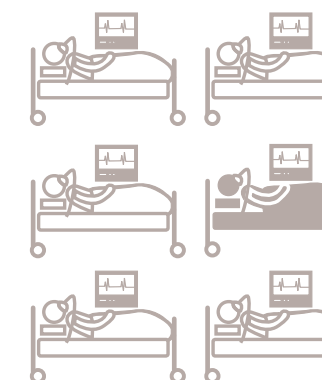
mortality rate of ARDS patients<sup>15</sup>



### 10.4%

of all ICU admissions  
develop ARDS

if longer than 24 hours in  
intensive care<sup>16</sup>



Recovery needs time.

### Up to 5 years

are necessary for complete recovery<sup>15</sup>





# Servo-u

## Designed to help wean earlier with an active diaphragm

If there's one thing you can be certain of in the ICU, it's that a patient's situation can change in a matter of seconds. The best way to deal with the unexpected?

– Be prepared for everything

Servo-u gives you personalised options for protective ventilation in routine patient care. The Servo-u Ventilator uses powerful tools to protect patients. Servo Compass helps you detect changes to parameters associated with mortality.

The Open Lung Tool helps you assess lung mechanics and gas exchange during your intervention. A selection of protective ventilation modes helps you keep the lung open with low tidal volumes.

Diaphragm weakness is prevalent (23 – 84%) in patients breathing spontaneously and consistently associated with poor outcomes<sup>1</sup>. Servo-u designed to help you monitor the patient's diaphragm activity (Edi) to personalise ventilation aimed for successful weaning.

Mechanical ventilator with added automatic lung recruitment and transpulmonary pressure monitoring functions.



### In good hands:

- The right protection, for each patient, at the right time
- Invasive and non-invasive functionality for personalised lung protection and weaning
- A flexible and modular platform ready to adapt to your changing needs, supported by a global service organisation

Dres M, Goligher EC, Heunks LMA, Brochard LJ. Critical illness-associated diaphragm weakness. Intensive Care Med. 2017 Oct;43(10):1441-1452.

# The Cardiohelp System

## Giving the organs time to heal

Acute respiratory failures have become the most common indications for ECMO therapy in adults<sup>1</sup>. As more specialised centres adopt ECMO, there are an increasing number of reports<sup>1</sup> available that show improved outcomes for adult patients with ARDS. The Cardiohelp System ensures an effective oxygen supply and/or the reduction of blood CO<sub>2</sub> levels in intensive care patients suffering<sup>2</sup> from ARDS, sepsis, or other conditions associated with acute respiratory failure.



**Reference** <sup>1</sup> Kozinn J, Wrisinger WC. ECMO for Adults with Severe Respiratory Failure. *Mo Med*. 2019 Jan-Feb;116(1):58-62. PubMed PMID: 30862988; PubMed Central PMCID: PMC6390783.

<sup>2</sup> Extracorporeal Membrane Oxygenation for Severe Acute Respiratory Distress Syndrome Clinical Document. MCP\_SC\_10146\_EN\_1 A. Combes, D. Hajage, G. Capellier, A. Demoule, S. Lavoué, C. Guervilly, D. Da Silva, L. Zafrani, P. Tirot, B. Veber, E. Maury, B. Levy, Y. Cohen, C. Richard, P. Kalfon, L. Bouadma, H. Mehdaoui, G. Beduneau, G. Lebreton, L. Brochard, N.D. Ferguson, E. Fan, A.S. Slutsky, D. Brodie, and A. Mercat, for the EOLIA Trial Group, REVA, and ECMONet

The Cardiohelp System is designed to facilitate protective ventilation strategies even in severe cases of acute respiratory failure when the lung needs to be put on rest.

To find out about how Cardiohelp can help in cardiogenic shock, see Chapter 3.3.3., p. 108.





## Maquet Variward Contributing to a healing environment

Maquet Variward is a modular ICU room concept designed to establish a healing environment for early mobilisation and faster recovery.

Getinge has developed a new modular concept for intensive care units to address the clinical requirements of the unit while mitigating the anxiety and disorientation that ICU patients and their families often experience. It meets the special requirements of this sensitive area regarding room layout, design, and hygiene, all within a comfortable and stress-reducing environment.

With the physical and emotional needs of your patients in mind, Maquet Variward uses natural colors, wooden decorations, and warm materials with superior acoustic characteristics. Variward is made of durable, moisture-resistant wall elements and is available in a variety of colours and styles. This supports an improved hospital experience of the patient and quieter working environment for ICU staff.

Illuminated windows and the sky ceiling panel create a sense of open space in rooms without access to daylight. Smart glass or venetian blinds provide privacy when needed. Intelligent room layouts also facilitate observation of several critical patients at a time.

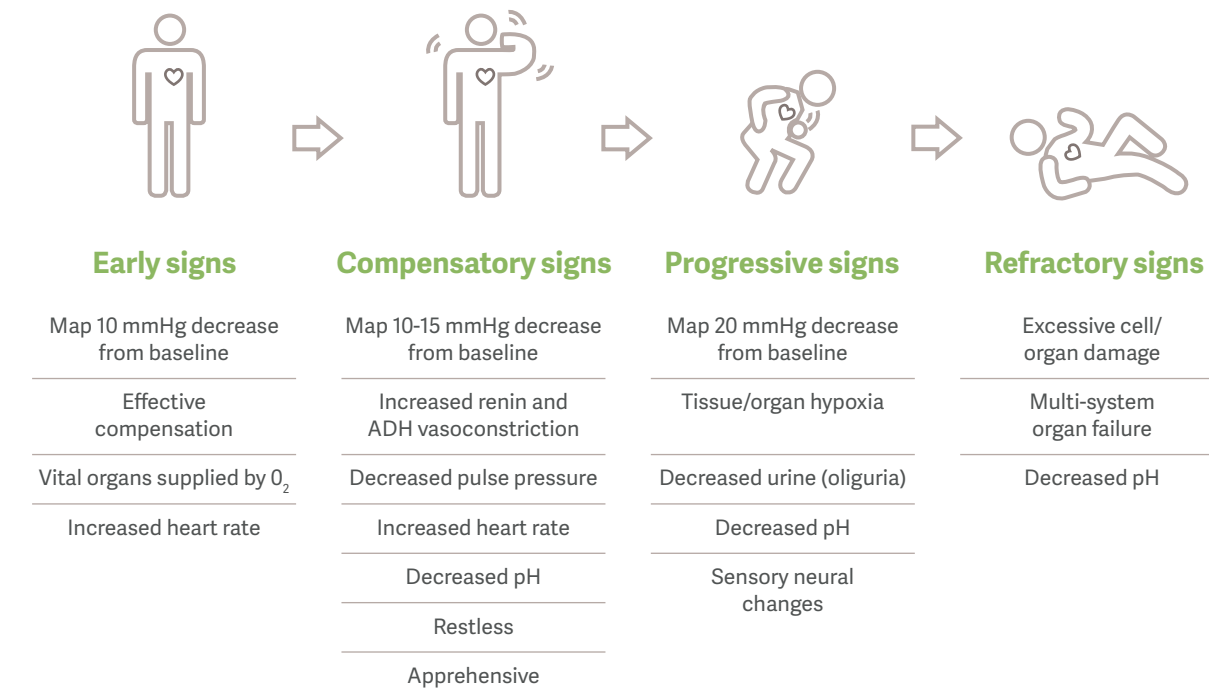
Modularity is key to a cost-efficient adaption of your ICU to ever-changing requirements. You are thus best equipped for adapting your ICUs to cutting edge technologies, with the ability to always modify in the future.

With the Maquet Variward Modular Wall System your specific requirements will be met by a tailor-made solution:

# Cardiogenic shock

## The unresolved clinical challenge

What are the signs of cardiogenic shock?

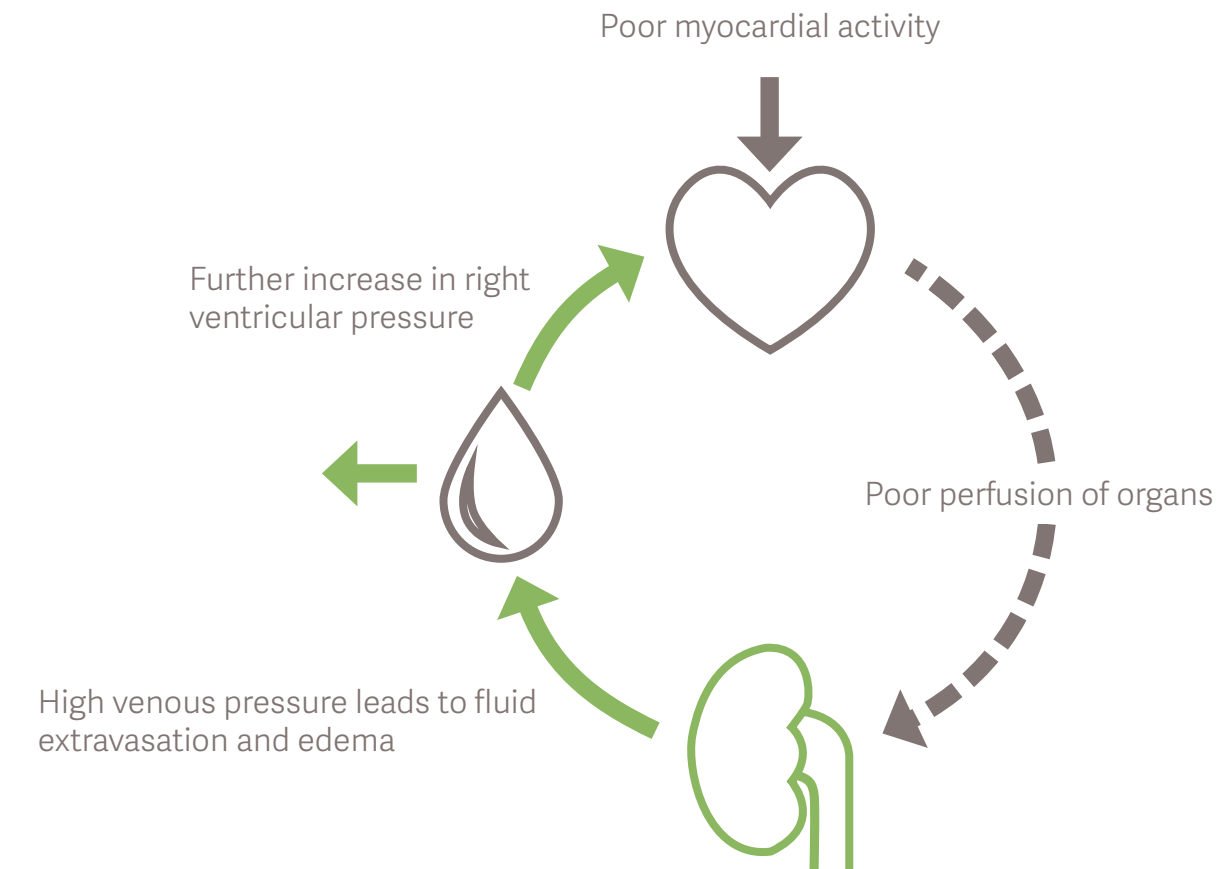


»Early detection of first symptoms of acute heart failure, starting of inotrope medication, early revascularisation, and on top a consistent counterpulsation using Cardiosave in combination with Cardiohelp as an ECLS can be vital for improving outcomes.«

Dr. Tilmann Schwab, Chief Physician, RKK-Klinikum St. Josefskrankenhaus, Freiburg, Germany.

# Cardiogenic shock

## A vicious circle





## PiCCO

### Advanced monitoring drives informed decisions

PiCCO is a multiparametric advanced haemodynamic monitoring technology revealing haemodynamic insights especially in cardiogenic shock patients. Based on parameters such as extravascular lung water content, fluid responsiveness indexes, and cardiac output retrieved at the bedside, therapy can be optimised and adjusted immediately.



PiCCO uses sophisticated algorithms and is easy to handle – the measurements taken by two catheters (standard CVC/arterial PiCCO catheter) provide highly detailed data in patients with unstable hemodynamics and unclear volume status.

With the real-time measurement of cardiac output and its determinants (preload, afterload, contractility), PiCCO renders an immediate and interactive view of all crucial hemodynamic parameters. In the PiCCO monitor, you have smart visualisation tools presenting the hemodynamic conditions of your patients at a glance. In addition, PiCCO determines the extravascular lung water index (ELWI) and already detects an increase in lung water at early stages of 10–20%.<sup>17</sup>

Also, PiCCO provides a differential diagnosis of circulatory function and pulmonary edema to guide optimal fluid management, especially helpful in patients with septic shock, ARDS, cardiogenic shock, severe trauma, burns, and neuro surgery.

Overall, PiCCO has consistently been associated with a significant reduction in ventilation days and ICU stay.<sup>18</sup>



# Cardiosave

## When you need urgent haemodynamic support

Cardiosave works on counter-pulsation therapy designed for functionality and versatility while aiming to deliver the performance and intuitiveness of our earlier generation IABPs you know and trust.

### Enhanced algorithms for easier management of the most complex patients

- Enhanced pacer detection
- More sophisticated management of lead faults
- Advanced triggering performance

### Enhanced pneumatics optimise diastolic augmentation

- Faster pneumatic speed allows the balloon to stay inflated longer during diastole
- HR 80 –10.0% faster than CS300 (normotensive patient)\*
- HR 150 –16.4% faster than CS300 (normotensive patient)\*

### Improved user interface for ease of use

- Backlit monitor display
- Backlit touchscreen control
- Improved help screen navigation

### Improved patient interconnects for ease of use

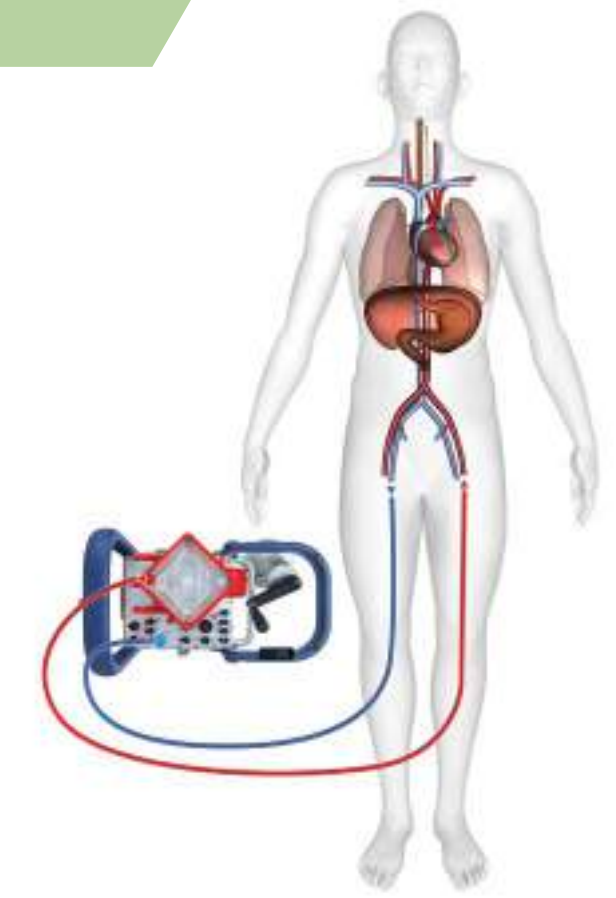
- Better organised patient interface connections
- Easier access to connection panel
- Color-coded and keyed connections





# 3.3

To find out about how Cardiohelp can help in acute respiratory distress syndrome (ARDS), see Chapter 3.3.2., p. 98.



## The Cardiohelp System

### Providing stability in a state of shock

During cardiogenic shock, the heart is not able to provide adequate circulation of blood throughout the body to supply the vital organs and tissues with oxygen. This can rapidly lead to organ failure and death. The Cardiohelp System provides extracorporeal life support (ECLS) during cardiogenic shock.

ECLS has become a therapy option to stabilise blood circulation of affected patients. With its Cardiohelp System, Getinge offers a portable heart-lung support system providing mechanical extracorporeal assist to support or replace a patient's blood circulation. Thanks

to the sufficient levels of organ perfusion and oxygenation generated by the system, it is possible to avoid end organ damage and break out of the vicious circle in time – or even prevent such a situation from arising in the first place.





# Neonatal ICU

Dedicated intensive care  
for the most delicate of lives

# 3.3

Our aim is to provide a healing environment for neonates that allows even the tiniest and most fragile patients to breathe, sleep, and grow – so they can focus all their energy on the maturation of lungs and brain.

Life support for neonates requires the most gentle respiratory support, a delicate balance between over- and under-assisted ventilation. Getting this balance right by carefully monitoring the neonate’s individual physiology allows you to adjust treatment to the needs of each baby. This in turn helps you to protect and develop the tiny patient’s lungs, brain, and other organs.

Some neonates have a lot of catching up to do, under the most fragile circumstances. With Servo-n, our dedicated neonatal ventilator, you can help them breathe, sleep, and grow. A standard of care centered around the needs of the most vulnerable patients we know.

References can be found in MX-5946 rev06.



# Servo-n

## Supports neonates through their first life-giving breaths

Servo-n can provide protective ventilation at every step of respiratory support, from delivery to discharge. With Neurally Adjusted Ventilatory Assist (NAVA), Servo-n allows personalised assistance for each baby: their own physiology drives the ventilation, breath by breath.

With the baby's diaphragmatic activity displayed on screen, you can monitor the breathing function and choose the right time to wean.

This also improves comfort and allows for better sleep quality. It potentially reduces the need for sedatives, which can suppress respiratory drive and prolong the need for ventilation support.

Personalised ventilation can allow babies to rest more, so their energy can be spent on growing and maturing, rather than fighting the ventilator.



### Assess

Diaphragm monitoring (Edi) aids you in providing the most appropriate support to neonates while managing sedation and monitoring apnea.

### Prevent

When High Flow or Nasal CPAP is not enough, NIV NAVA offers a viable alternative. It increases the chance of NIV success and reduces the need for intubation and deep sedation.

### Protect

Pressure Regulated Volume Control assures low tidal volumes for controlled and assisted breaths, while the superior synchrony of NAVA lowers pressures and oxygen need during weaning.

### Rescue

With all modes needed on the same ventilator, you can switch to any therapy with the touch of a button, including HFOV. This reduces the stress on you and your patients and helps neonates breathe, sleep and grow at every step of the respiratory care.

### Wean

There are several modes to help you wean with Servo-n. Most innovative is NIV NAVA, which will help patients to wean themselves.

## We listen to those who care

“NAVA was surprisingly easy. It was one of those things where you immediately see the benefits, which makes it easier to accept as a new method or tool. Nurses and parents see the babies sleeping more comfortably and for all of us seeing how some of our babies need less medication makes us feel this is the right thing to do.”

Prof. Liisa Lehtonen, Director of the Neonatal Intensive Care Unit of Turku University Hospital.

### About NAVA

Neurally Adjusted Ventilatory Assist (NAVA) is a mode of ventilation where the patient's own respiratory drive controls timing and assist delivered by the ventilator.



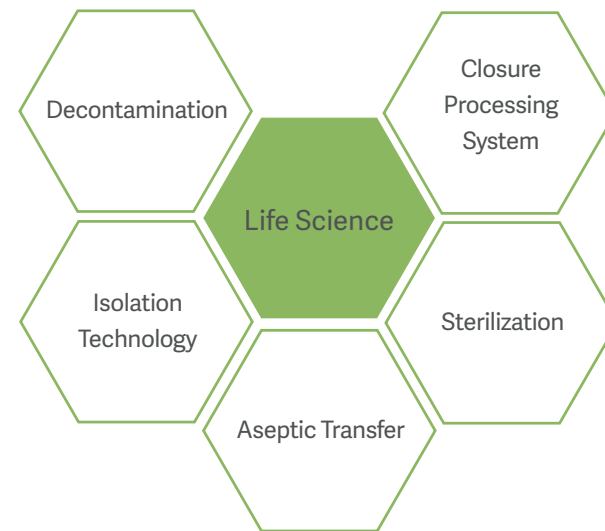


# Life Science

## The final step to peace of mind

Whether you are producing the cures of today or discovering the cures of the future, preventing contamination from occurring is the common challenge. We are there to support you in ensuring a productive and contamination-free research or production environment.

Discover our products and solutions within biopharmaceutical production, biomedical research, heat sensitive goods manufacturing, and laboratory applications.



## Biopharmaceutical Production

### Striving for the highest quality outcome

In pharmaceutical production we offer the knowledge and technology to provide customised solutions that meet each facility's specific needs.

Our combined offering of Good Manufacturing Practice (cGMP)

washers, sterilizers, closure processing systems, isolators, and sterile transfer systems ensures efficient and end-to-end contamination-free processes, while fulfilling the strictest compliance requirements.

## BioMedical Research

Design a safe and protected research environment

For medical research Getinge provides systems and solutions that are adapted to each customer's unique needs.

Together with our customers, we design and implement the appropriate facility with equipment and process workflows that guarantee the integrity of the scientific data produced.



## Laboratory

A wide range of analytical research in Life Science

Getinge can support your lab operations with laboratory washers, sterilizers, chemicals and loading accessories to efficiently ensure contamination-free experiments and tests.

Our wide range of equipment aims to deliver reliable and repeatable results to provide accuracy in lab experiments and tests.

This allows you to focus on experiments and tests without worrying about cross-contamination.



# The big picture

## Infection Control

- Automation systems for washers and sterilizers
- Cart washer-disinfector
- Consumables
- Detergents
- Detergent management system
- Getinge da Vinci solution
- Indicators
- Inspection and packing
- Loading equipment for washers and sterilizers
- Low-temp sterilizers
- Modular room systems
- Pre-treatment and cleaning area
- Steam sterilizers
- Sterile supply management
- Transportation and storage
- Trays and baskets
- Wash monitors
- Washer-disinfectors
- Water pretreatment
- Automated endoscope reprocessing (AERs)
- Drying and storage
- Modular room systems
- Sterile supply management
- \*

## Surgery & Therapy

- Advanced patient monitoring
- Anaesthesia delivery systems
- Assist systems for OR tables
- Balloon-expandable covered stents
- Beating heart surgery
- Ceiling supply units
- Endoscopic vessel harvesting
- Extracorporeal life support
- Hernia repair
- Hybrid OR
- Infusion transfer solution
- Intra-aortic balloon pumps
- Medical furniture
- Modular room systems
- OR integration
- Surgical lights
- Multimedia equipment for surgical lights
- Anchoring systems for surgical lights
- OR table systems and mobile OR tables
- Patient flow management
- Patient transfer solutions
- Surgical perfusion / on-pump cardiac surgery
- Sterile supply management
- Thoracic drainage
- Vascular surgery
- Vascular therapy
- \*

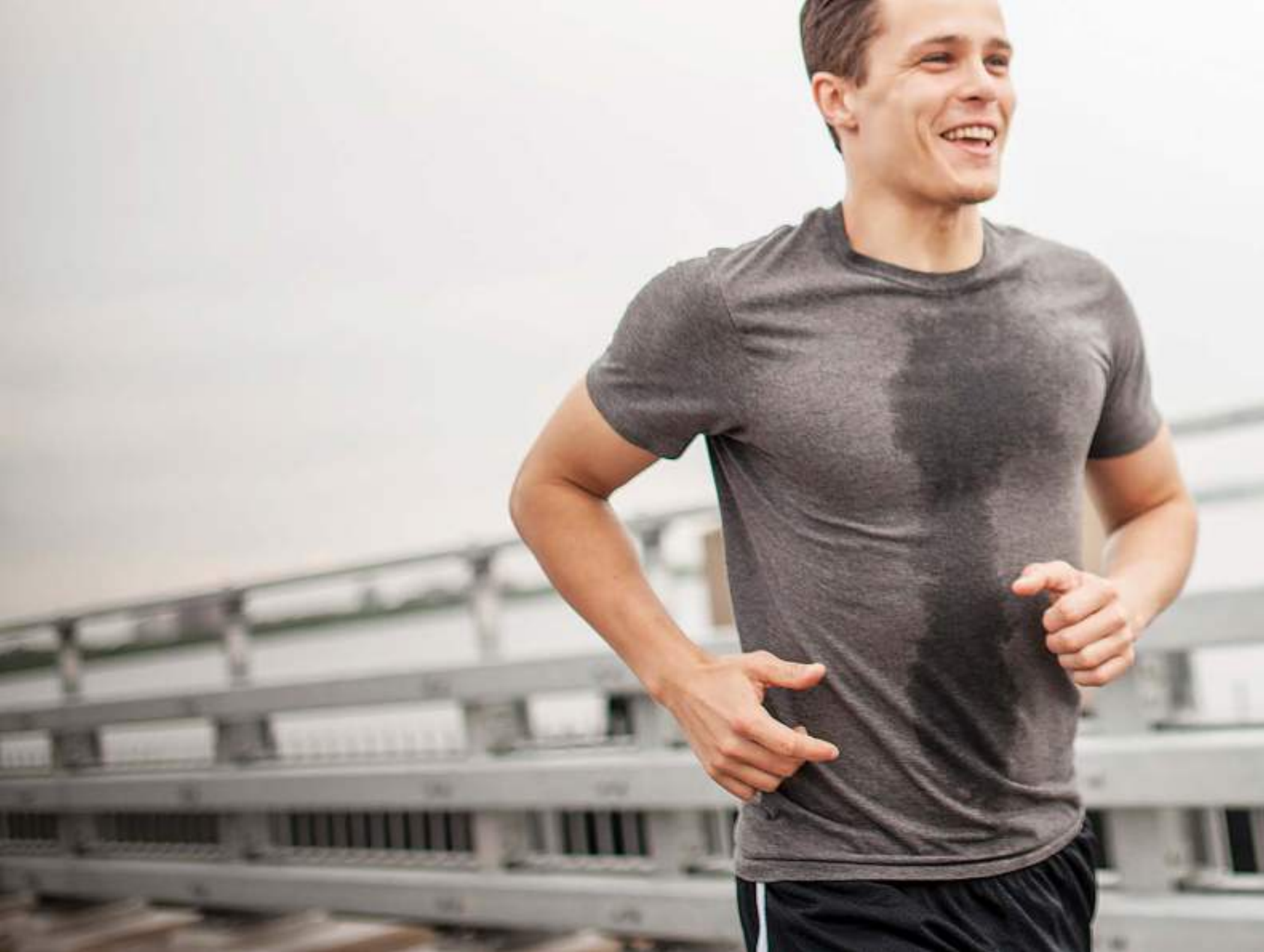
## Intensive Care

- Advanced patient monitoring
- Ceiling supply units
- Examination lights
- Extracorporeal life support (ECLS) / extracorporeal membrane oxygenation (ECMO)
- Infusion transfer solution
- Intra-aortic balloon pumps
- Mechanical ventilator
- Medical beds
- Medical furniture
- Modular room systems
- Patient flow management
- Patient transfer solutions
- Thoracic drainage
- Vascular therapy
- \*

## Life Science

- GSS sterilizers
- GEB biocontainment sterilizers
- GEV/GEC sterilizers
- GEE Ethylene Oxide (EtO) sterilizers
- GMP and laboratory washers
- CPS (Closure Processing System)
- Isolation technology
- Glove leak testers
- DPTE® sterile transfer
- 9122EW Cage and rack washer
- Automation
- \*

\* List not exhaustive; not all products are available for sales in all markets



## Service beyond the products

Our service offering goes beyond traditional models of product-focused after-sales support. It supports the entire value chain from pre-sales to the whole lifecycle of our products. Whether it's post-sales training and support or after-sales

servicing of contracts: we try to ensure that you get the very best from your Getinge equipment and installation from the day it's planned for years to come.

- 4.1 Training
- 4.2 After-Sales Support
- 4.3 Hospital Partnerships  
And Consulting

# 4



# Training

## Helping you to be the best

Being a clinician requires focus and adaptability, as products, technologies and therapies evolve. Our goal is to offer the highest level of after-sales training and support to help you deepen your expertise and ultimately deliver the best in patient care. Our belief is that excellence in appropriate training and guidance is paramount for the success of our products and the patients you support with them.

Whether through e-learning programs online, on-site customer education programs in the field, or clinical symposia and workshops on a national or international scale, we consider the process of training a critical activity for all personnel working with our equipment and solutions.

The main objective is to ensure a user-friendly experience. As part of our train-the-trainer approach, we closely collaborate with our customers to incorporate their specific needs and expectations to develop a "super user" group.

We developed educational programs for clinical applications including extracorporeal life support, endoscopic vessel harvesting, and ICU patient management. Opportunities are globally available through conferences, workshops, training simulations and panel discussions. These programs create an immersive environment that encourages discussion and a deeper level of understanding among attendees; all this to establish an ideal partnership between clinicians and our specialised therapies.

»The EVH Meeting was, in my opinion, exceptional. The lectures, case presentations and discussion were extremely valuable for both beginners as well as very experienced harvesters and this is exactly the type of training needed to drive the adoption of this therapy across Europe.«

Prof. Dr. med. Yeong-Hoon Choi, University of Cologne, Germany.

Training

# 4.1



# Getinge Care



## After-Sales Support Protect your investment

After-Sales Support

# 4.2

Optimising the service setup is often an untapped opportunity to maximise productivity and reduce costs. At Getinge, we aim to have your equipment performing at peak level with the longest life possible. With a reliable partner and full cost control, your focus can stay on what is important – saving lives.

### **Getinge Care – a service commitment to fit your needs.**

Getinge-certified professionals, together with our range of smart services, assure maximised uptime and minimised total cost, thus contributing to the success of your operation. Choose from different service packages and complement with any additional services you may require.

By following a routine preventive maintenance schedule, Getinge Care keeps things running smoothly, and if something should need urgent attention, our certified field service representatives will be there to promptly support you and resolve the issue.

Each day, your clinical staff relies on our equipment to deliver exceptional care for their patients. With Getinge Care, our aim is to ensure that your equipment is operating safely and reliably – every time.

»As a result, we have very rare unscheduled interruptions in our operating theatre, and the life span of our equipment significantly increased.«

Gerhard Gschwill, Head of the Engineering Department, Klinikum Landsberg am Lech, Austria.



# Value Creation Partnership

## Our expertise is your expertise

The drive towards value is relentless. Hospitals are facing increasing pressure due to this shift in operational focus, in a climate of growing demand and budget constraints. With decades of experience in integrated workflow solutions for architectural process and treatment pathways, we have an expert knowledge base that can be exploited to your advantage.

Whether you are planning a new building, a modernisation or an expansion, individual solutions are always necessary to cover all aspects of complex logistics and medical technologies. Selecting the right partner is critical when it comes to the smooth implementation of sensitive areas of a building, such as operating rooms, intensive care units or central sterilization departments.

Getinge's expert management consultants can assess your spaces and workflows and propose individual solutions to increase efficiency, reduce costs and ultimately meet the needs of the most important people in your hospital – the patients. A Value Creation Partnership team has been formed at Getinge to successfully respond to this vision. We deliver on your organisation and process improvement needs and guide you through the design and development of new solutions.

Our ambition is to partner and work closely with you to leverage existing technologies and services. We strive to jointly develop new solutions to achieve better clinical and efficiency outcomes.



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With a firm belief that every person and community should have access to the best possible care, Getinge provides hospitals and life science institutions with products and solutions aiming to improve clinical results and optimise workflows. The offering includes products and solutions for intensive care, cardiovascular procedures, operating rooms, sterile reprocessing and life science. Getinge employs over 10,000 people worldwide and the products are sold in more than 135 countries.

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