



Management of loads and paths  
within the CSSD

# CSSD AUTOMATION DEVICES



Benefit from our many years of experience in manufacturing, consulting, sales, project planning, service and state-of-the-art equipment technology so that you can concentrate on your core tasks



CSSD

# WELCOME

With more than 45 years of experience in the field of medical and laboratory technology, the second generation of SCHLUMBOHM Medizin-Labor-Technologie-Hamburg GmbH is already successfully meeting the demanding requirements of the market. As early as 2014, company founder Hans-Joachim Schlumbohm retired from day-to-day operations and handed over the management to his son Tobias Schlumbohm. Schlumbohm Senior continues to be responsible for research and development in the company.



As a manufacturer of steam sterilizers, washer disinfectors, care combinations, stainless steel furniture, and systems for the treatment of medical waste, we supply hospitals and laboratories worldwide with our medical and laboratory technology. We have over 120 highly qualified employees working at our production sites in Germany and Italy.

The correct determination of requirements and the preparation of planning proposals are an absolute must. Professional project support, right up to installation and commissioning, is just as important as seamless customer service. With our solutions, you not only receive technically mature systems but also the assurance that you have a professional partner taking care of your functional processes.

An important key to our long-term success and market acceptance is ensuring quality, operational reliability, and functionality in day-to-day operations while harmonizing these features with economic aspects.

In this context, we have a team of over 20 service technicians available to you 365 days a year, 24 hours a day, providing immediate service throughout Europe. The management in Hamburg handles accepting orders and the scheduling of all field employees

Tobias Schlumbohm  
CEO

Hans-Joachim Schlumbohm  
Shareholder

## CSSD AUTOMATION PRODUCT INFORMATION

- 02 WELCOME
- 04 DEVICES FOR AUTOMATION OF CSSD
- 08 MULTIPLE AUTOMATIC LOADING / UNLOADING
- 10 SMART LOAD MANAGEMENT
- 15 RANGE OF PRODUCTS
- 18 SERVICE + CONTACT



### INNOVATIVE NEW PRODUCTS PRESENTED IN BRIEF THE NEW GENERATION OF OUR DEVICES FOR AUTOMATION OF CSSD





Internal trolley for SHS.6



External trolley fixed height for SHS.6



External trolley variable height for SHS.6



Internal trolley for SHS.4



External trolley fixed height Series 4



External trolley variable height Series 4



Surgical Instruments Trolley for SWD



Container Trolley for SWD



Anesthesia Trolley for SWD

The inner trolley, carried on the external trolley, is loaded manually inside the chamber.

Once the cycle finishes the unloading operations are performed manually.

All devices are made entirely of stainless steel AISI 304. All welds are invisible and the edges are rounded.

This type of instrumentation involves the following disadvantages:

- Human error risk
- Workload entirely on staff
- Creating Wait Queues
- All workload (loading and unloading) weighs on the operator.



External Trolley for SWD



Glassware Trolley for SWD



Shoes Trolley for SWD

## Single automatic loading-unloading



The inner trolley, carried on the external trolley, is positioned in front of the automatic loading device by the operator.

The loading device, as soon as the device becomes available for loading, automatically picks up the trolley and places it inside the chamber.

At the end of the cycle the unloading device automatically picks up the trolley inside the chamber and places it on the external trolley, previously placed in the unload position by the operator.

- A part of the workload still weighs on the operator.
- The presence of the operator is still necessary, but in small quantities.
- The load of the machine is carried out following the manual positioning of the external trolley in front of the unloading device.

## Examples



Automatic Loading Device  
SHS Series 4



Automatic Unloading Device  
SHS Series 4



Automatic Loading Device  
SHS Series 6



Automatic Unloading Device  
SHS Series 6



Automatic Loading Device  
SWD



Automatic Unloading Device  
SWD



Automatic Loading Device  
WDC

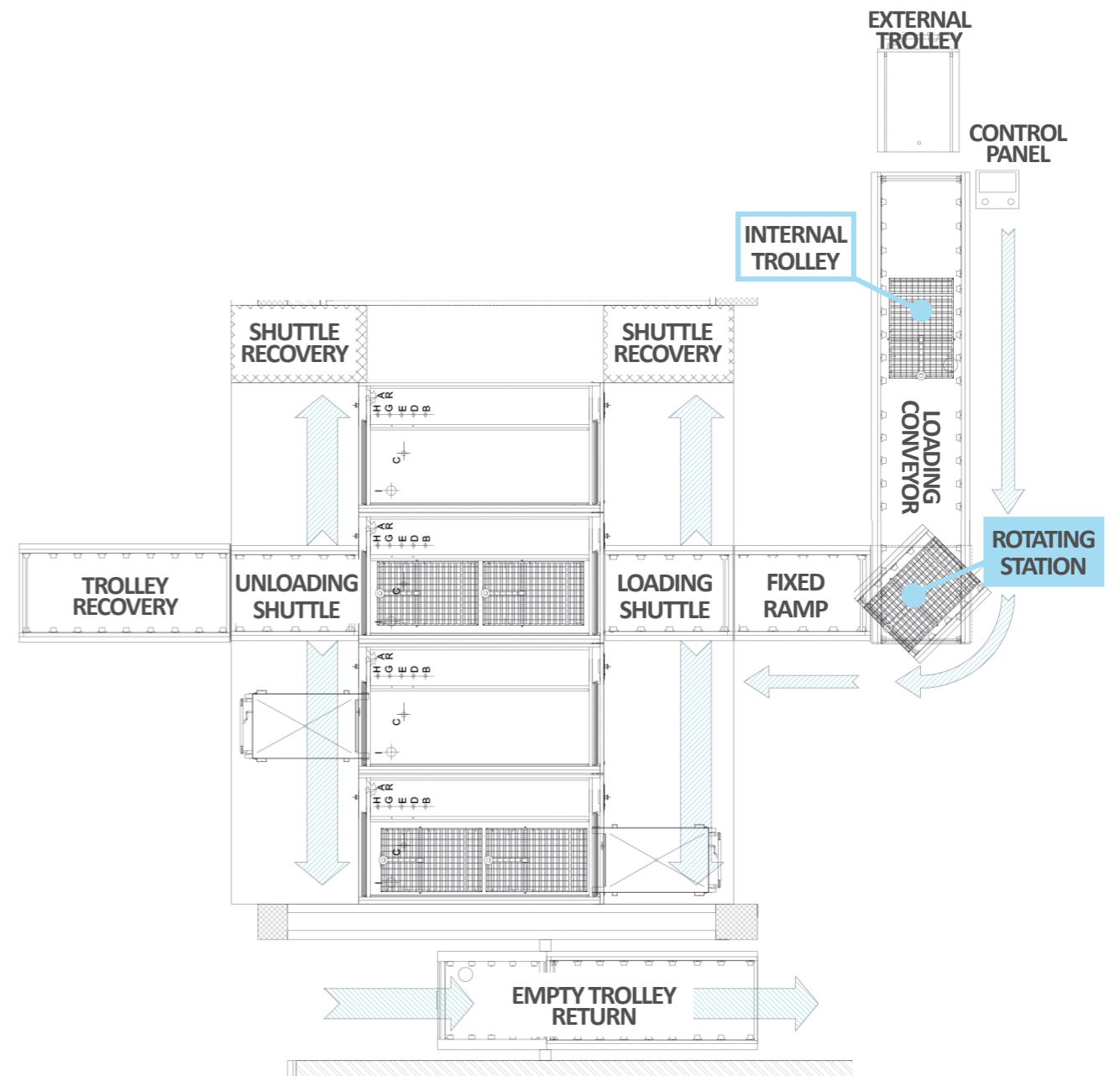
The device allows the automatic loading or unloading of the internal trolley, depending on whether it is placed on the loading side or on the unloading side of autoclaves, washer-disinfectors, ex.

The device allows the internal trolley to be placed on the loading surface and then pushed inside the chamber by an automatic pneumatic piston until it is fully inserted and closed. It is made entirely of stainless steel AISI 304 and consists of:

- Top consisting of a sliding surface and side guides for the containment of the internal trolley
- Hooking device for the external cart
- Supporting structure in AISI 304 stainless steel
- Series of sensors and encoders for checking, checking positions and giving load logic
- Automatic pneumatic device for horizontal movement with safety device
- Electrical panel complete with components for management, operation and safety.
- Reversibility of the movement of the trolley; in practice, from the sterilization chamber it will be possible to recharge one or two carriages on the automatic load.
- Manual control for loading the trolley.
- Reversibility of movement allowing the return of the internal carriage on the loading floor.



## Multiple automatic loading-unloading



Automatic conveyor system designed to connect several single-chamber washers or compatible multi-chamber washers/disinfectors in a closed circuit system that allows management without direct intervention on the baskets and accessories used to process material.

The system enables the washing and disinfection processes to be carried out on a number of carts (the number is defined by the project) located on the preload area (optional: a pre-wash area can be set up).

One by one the carts are inserted inside the washing circuit from the rotating station directly inside the "shuttle" which automatically starts to charge the first free infrared detector.

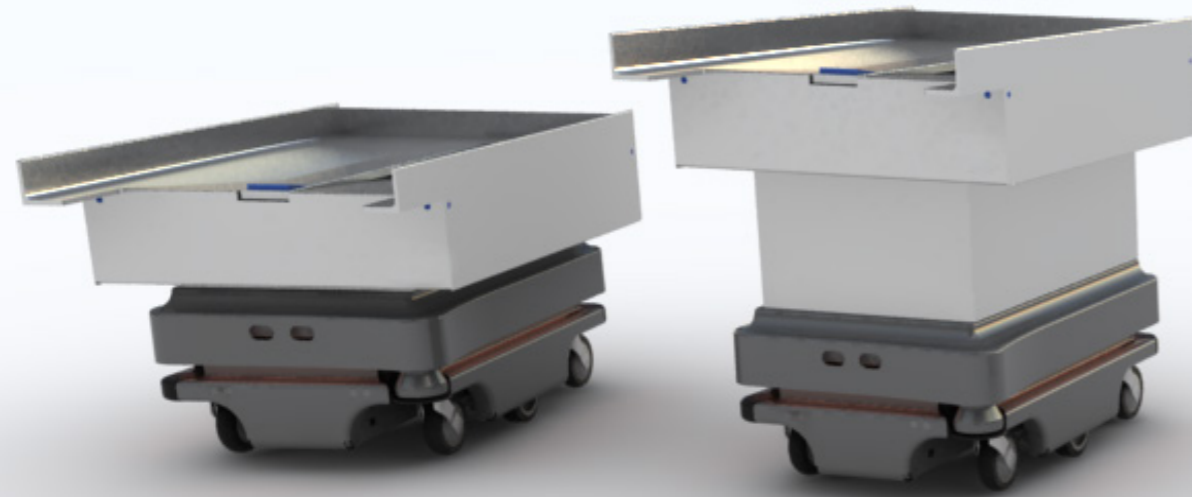
Once the first thermoisinfectant is loaded, the shuttle returns to the rotating station to load the next carriage.

These operations are repeated for the number of drum units in the drum and for the number of trucks in the pre-loading / pre-washing station.

It is possible to install a second shuttle and a storage system on the clean side.



## Shuttle4.0 for sterilization area



Shuttle4.0  
STM HSD

Shuttle4.0  
STM VSD

## Shuttle4.0 for washing area



## Robotic system for the handling, loading and unloading of the trolleys for autoclave and washing-disinfector.

Fully automated, **Shuttle4.0** is able to handle all the loading and unloading operations of the equipment.

The loading stations located at the nerve points of the work areas allow **Shuttle4.0** to retrieve and deliver the carts where it is needed, eliminating the workload that is incumbent on the staff.

**Shuttle4.0** recharges its battery independently, reaching, when required, one of the loading and unloading stations.

Once the necessary electrical charge has been recovered, **Shuttle4.0** automatically resumes the work from where it was interrupted.

**Shuttle4.0** is interfaced with the traceability system present in the CSSD, it is able to communicate independently with all the installed equipment, it can move from one working area to another through the systems of interlocked doors already present inside the CSSD.

**Shuttle4.0** is able to store different paths of use. During movement the device automatically avoids both fixed and mobile obstacles.

On the four sides of **Shuttle4.0** there are RGB LED strips that show, changing color, in which phase the device is located.

The compact size and generous charge autonomy allow **Shuttle4.0** to operate even in tight spaces.

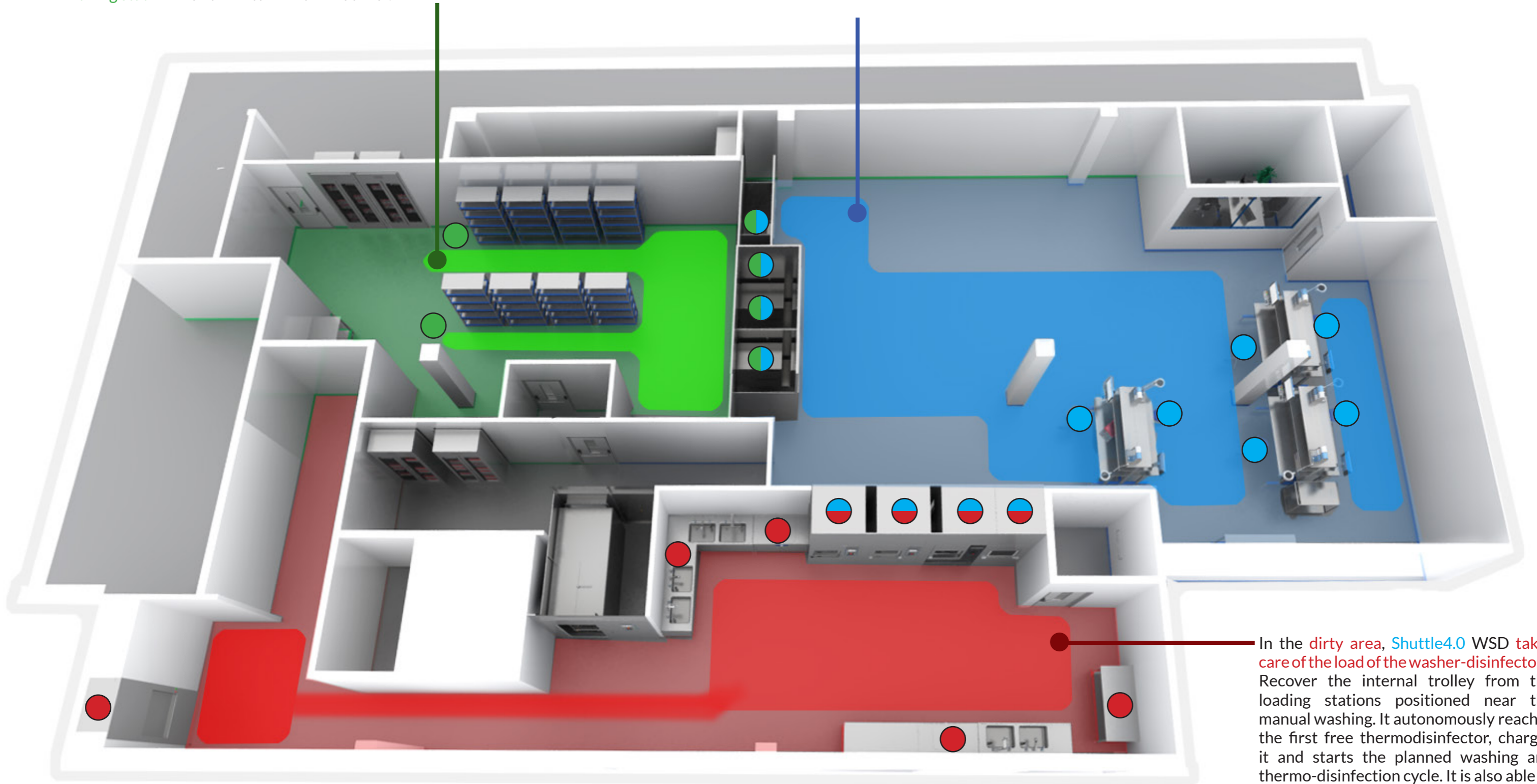
**Shuttle4.0** is available in different versions, depending on the intended use. The WSD version is able to interface with up to 6 washer-disinfectors.

The STM version is able to interface with up to 6 autoclaves. The HSD models operate with devices with horizontal sliding of the doors, while the VSD models operate with devices with vertical sliding of the doors.



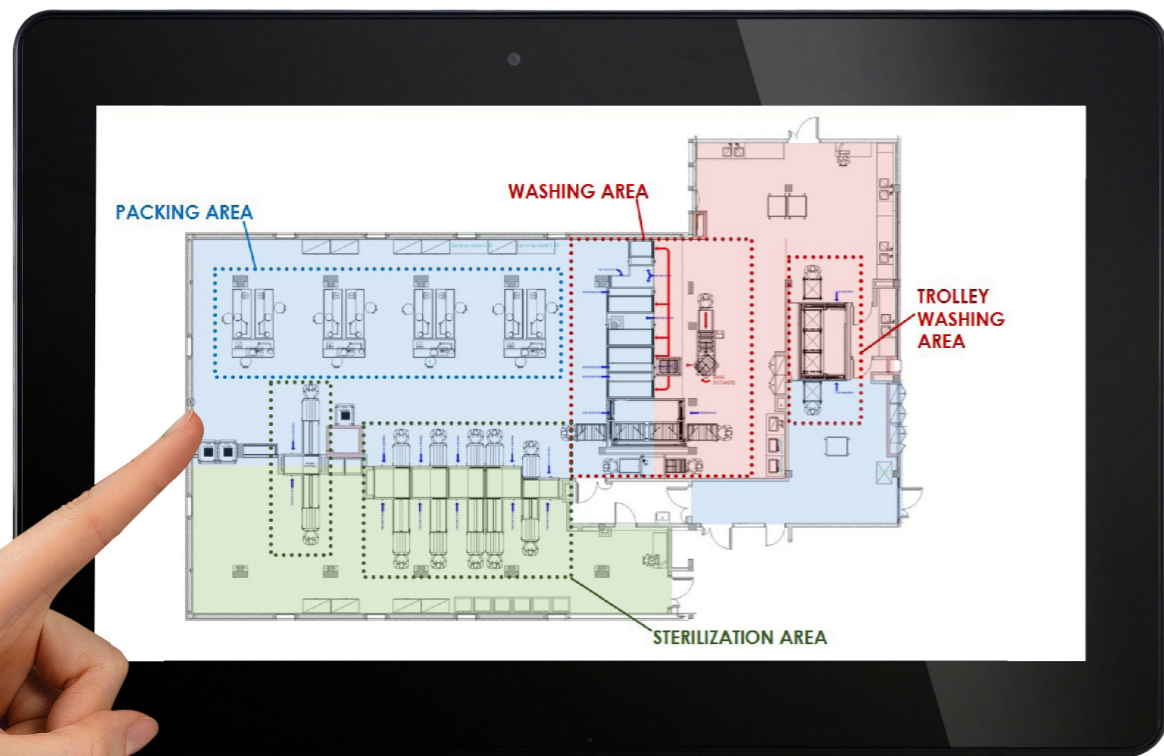
In the **sterile depot Shuttle4.0 STM** recovers the sterilized load from the autoclaves and places it in the **loading station** near the return of the material.

In the **packaging area, Shuttle4.0 WSD** recovers the clean material exiting the washer-disinfectors and delivers it to the designated **loading station** in the packaging area. Once the containers have been prepared for sterilization, Shuttle4.0 STM **recovers the internal trolley**, inserts it inside the **first available autoclave** and starts the pre-established sterilization cycle.



In the **dirty area, Shuttle4.0 WSD** takes care of the load of the washer-disinfectors. Recover the internal trolley from the loading stations positioned near the manual washing. It autonomously reaches the first free thermodisinfectant, charges it and starts the planned washing and thermo-disinfection cycle. It is also able to **recover the dirty material on arrival and deliver it to the manual washing staff.**





With the appropriate application you can define on your tablet the paths that will be followed by Shuttle 4.0. You can define the off-limits areas and set up the operations that will be carried out without the aid of the healthcare staff. Between one operating phase and the other Shuttle 4.0, if required, will enter the battery recharge mode autonomously at the nearest free charging station (⚡), and then resume its tasks when the recharge is completed.



The precise automation guarantees maximum safety during all phases provided by the operator.

The Shuttle 4.0 WSD model easily transports up to 100 Kg of load, the STM model can reach up to 200 Kg.

The compact size, the quietness, the multicolored LED communication system make Shuttle4.0 the perfect helper for CSSD and Laboratories.

### Range of products

Series	Model	Type	Load (Kg)	Trolleys Max
STM	SHUTTLE 4.0 WSD HSD	Load unload system for washer disinfectant	up to 100 Kg	1 x 16 DIN
STM	SHUTTLE 4.0 WSD VSD	Load unload system for washer disinfectant	up to 100 Kg	1 x 18 DIN
WSD	SHUTTLE 4.0 STM HSD	Load unload system for steam autoclave	up to 200 Kg	1 x 6 STU
WSD	SHUTTLE 4.0 STM VSD	Load unload system for steam autoclave	up to 200 Kg	1 x 4 STU



**You want to know more about this product?**  
 ... please contact our sales department.  
 We are looking forward to your inquiry.  
 Your SCHLUMBOHM Team

vertrieb@schlumbohm-medlab.com



# Range of services



## STEAM STERILIZERS + AUTOCLAVES

### SHS Series + SLS Series

The new generation of fully automatic SCHLUMBOHM steam sterilizers/autoclaves of the SHS + SLS series is the product of cutting-edge development work and proven, advanced equipment technology for everyday use in the medical field. An easy User-interface, energy and resource-saving technology, and optimal accessibility for maintenance and service were key considerations in this pioneering development.



## MEDICAL + LABORATORY WASHER DISINFECTORS

### SWD Series + SWD LAB Series

The devices of the SWD + SWD LAB series are the ideal washer disinfectors for the safe and efficient reprocessing of surgical instruments, minimally invasive instruments, anesthesia materials, containers, surgical shoes, and laboratory utensils. In addition to an appealing design and compact size, innovative features to enhance process reliability and compliance with DIN EN ISO 15883 were prioritized during their development.



## LARGE-CAPACITY WASHER DISINFECTORS

### WDC Series

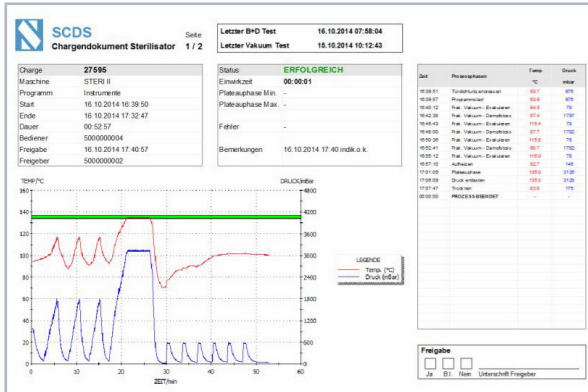
Large-capacity washer disinfectors are designed for the reprocessing of medical devices, as well as large-volume goods such as transport trolleys, containers, surgical shoes, and more. The development of these washer disinfectors took into account aspects such as safety, hygiene, durability, reliability, low maintenance, and resource-saving usage. These devices ensure a high level of operator safety while delivering optimal cleaning results.



## STEAM DISINFECTION SYSTEMS

### SHD Series

Large-scale disinfection systems utilizing the VSV process are designed for the effective disinfection of large-volume goods, primarily for infection prevention purposes. These systems are particularly suitable for economically disinfecting substantial quantities of solid and porous items such as mattresses and pillows. The latest generation of high-tech solutions has been developed with a focus on economy, resource conservation, and user-friendliness, ensuring maximum operator safety and achieving optimal disinfection results.



## BATCH DOCUMENTATION

### SCDS

The SCDS batch documentation system provides a comprehensive system solution for complete sterile material documentation. It has been specifically developed to enable fast, simple, and secure documentation that fulfills all legal requirements. All work steps in the treatment process are meticulously recorded, documented, and stored. As a result, the time needed for documenting processes in the sterile material supply department is significantly reduced.

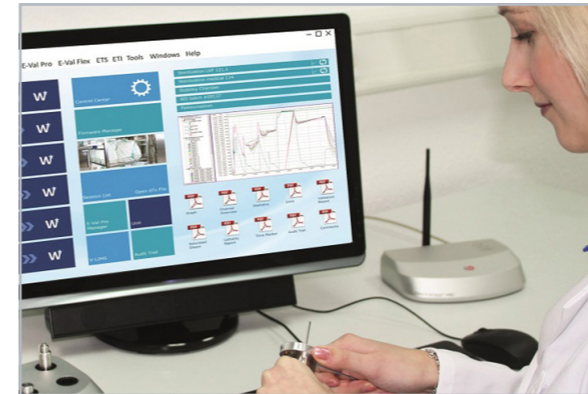
# Range of services



## MEDICAL WASTE TREATMENT

### Truster T-Series

Truster: a technology to be trusted for "biohazard" waste treatment in total safety and respecting eco-sustainability. The purpose of biohazard waste treatment must be to sterilize them and make them unidentifiable and non-reusable. A combined process of mechanical grinding and saturated steam sterilization without any risk of aerobic pollution and of bad smell emission.



## VALIDATION

### Quality assurance during reprocessing

Due to our high professional standards in the fields of cleaning, disinfection, and sterilization, we have a team of qualified application engineers available to assist you. When validating treatment processes, our focus is on implementing quality assurance measures and ensuring the requirement of reproducible processes in the treatment of medical devices. We are here to help you analyze and optimize your treatment process.



## CARE COMBINATIONS

### AF2 Series

Bedpan washers and care combinations are designed for fully automatic emptying, cleaning, and thermal disinfection of bedpans, urine bottles, and other vessels used for human excreta. These systems fully comply with the requirements of the German Medical Devices Act (MPG), the Medical Devices Operator Ordinance (MPBetreibV), DIN EN 15883 Parts 1 and 3, and the recommendations of the Robert Koch Institute (RKI) on "Requirements for hygiene in the reprocessing of medical devices".



## STAINLESS STEEL FURNITURE

### Functional furniture

Our medical functional furniture, crafted with high-quality materials and excellent workmanship, is renowned for its adherence to the highest hygiene standards, extensive functionality, and individual adaptability. The use of stainless steel grade 1.4301 ensures not only resistance to disinfectants but also a prolonged lifespan compared to other materials.

## OR-TABLES / OR-LIGHTS



## TABLE TOP STERILIZERS



## CSSD AUTOMATION



... and more. Please contact our sales department. We will find the right solution for you.

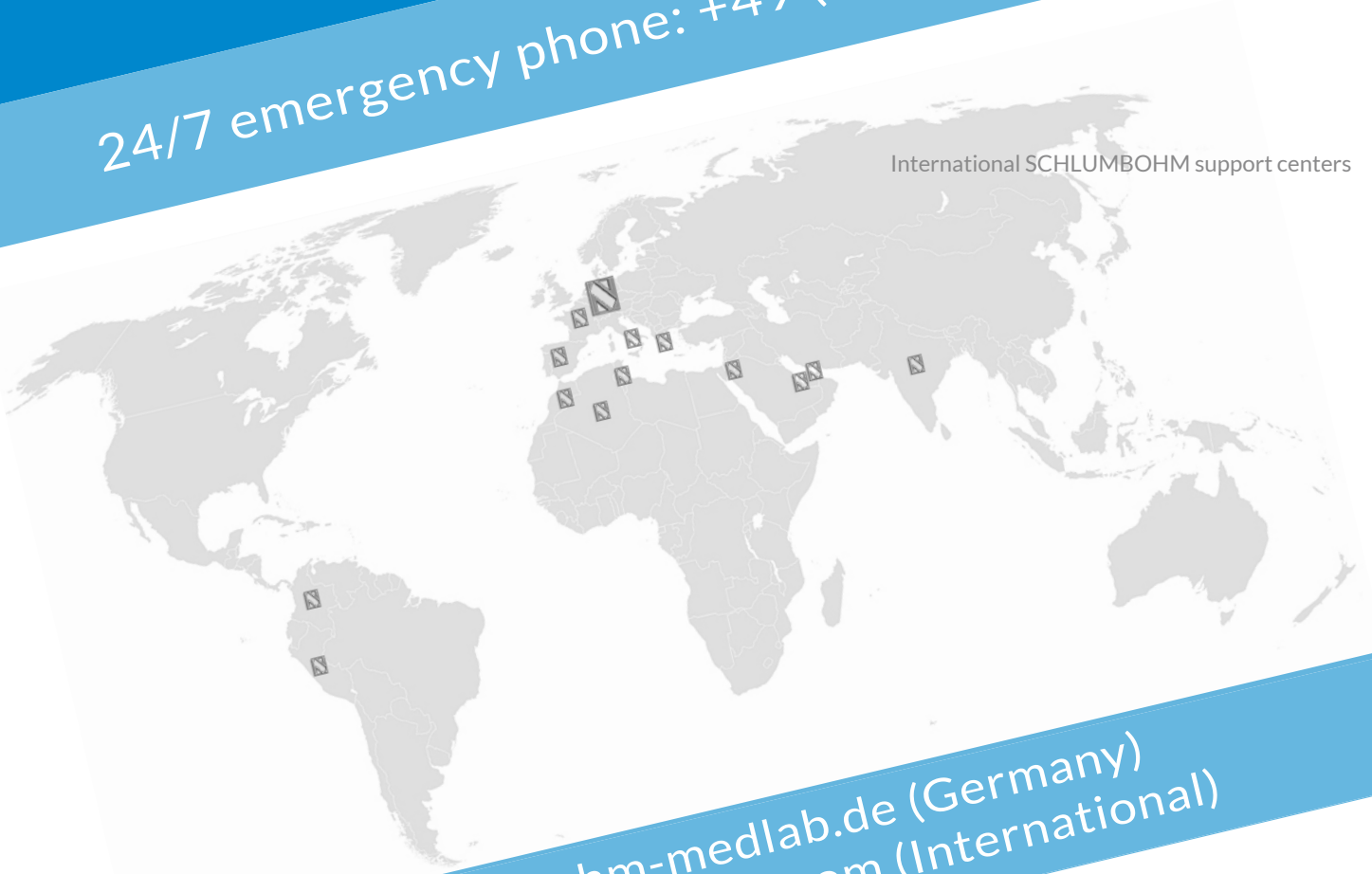
# Europe-wide 24-hour emergency service

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STAMP



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International SCHLUMBOHM support centers

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[www.schlumbohm-medlab.com](http://www.schlumbohm-medlab.com) (International)



Rev. 12 - 11/2022



*goes green!*

**EN ISO 14001 CERTIFIED**

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