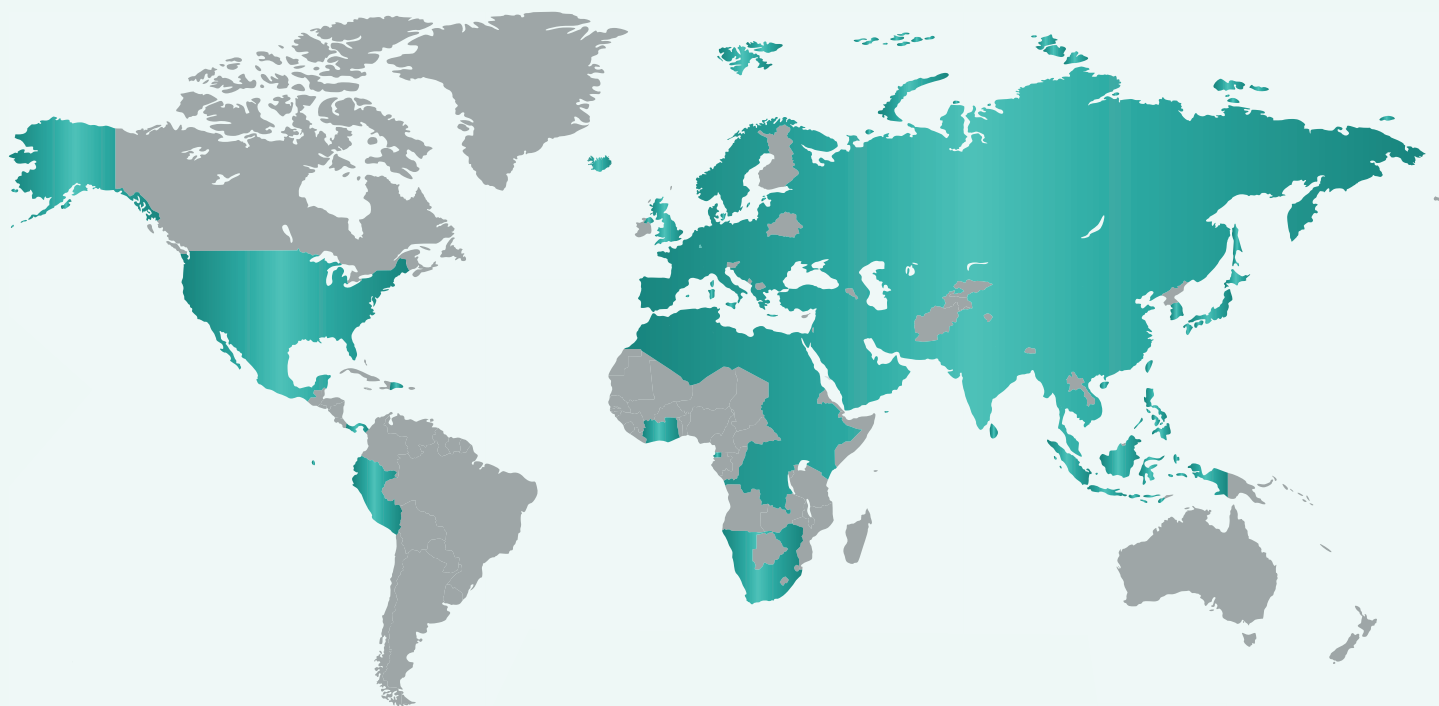




ALVO Modular OR

Modular operating rooms

30 years of experience



over
2500
modular
rooms

over
150
thousand
m²

over
90
countries

Mission

We exist to provide better healing conditions. For everybody. Everywhere in the world.

Core values

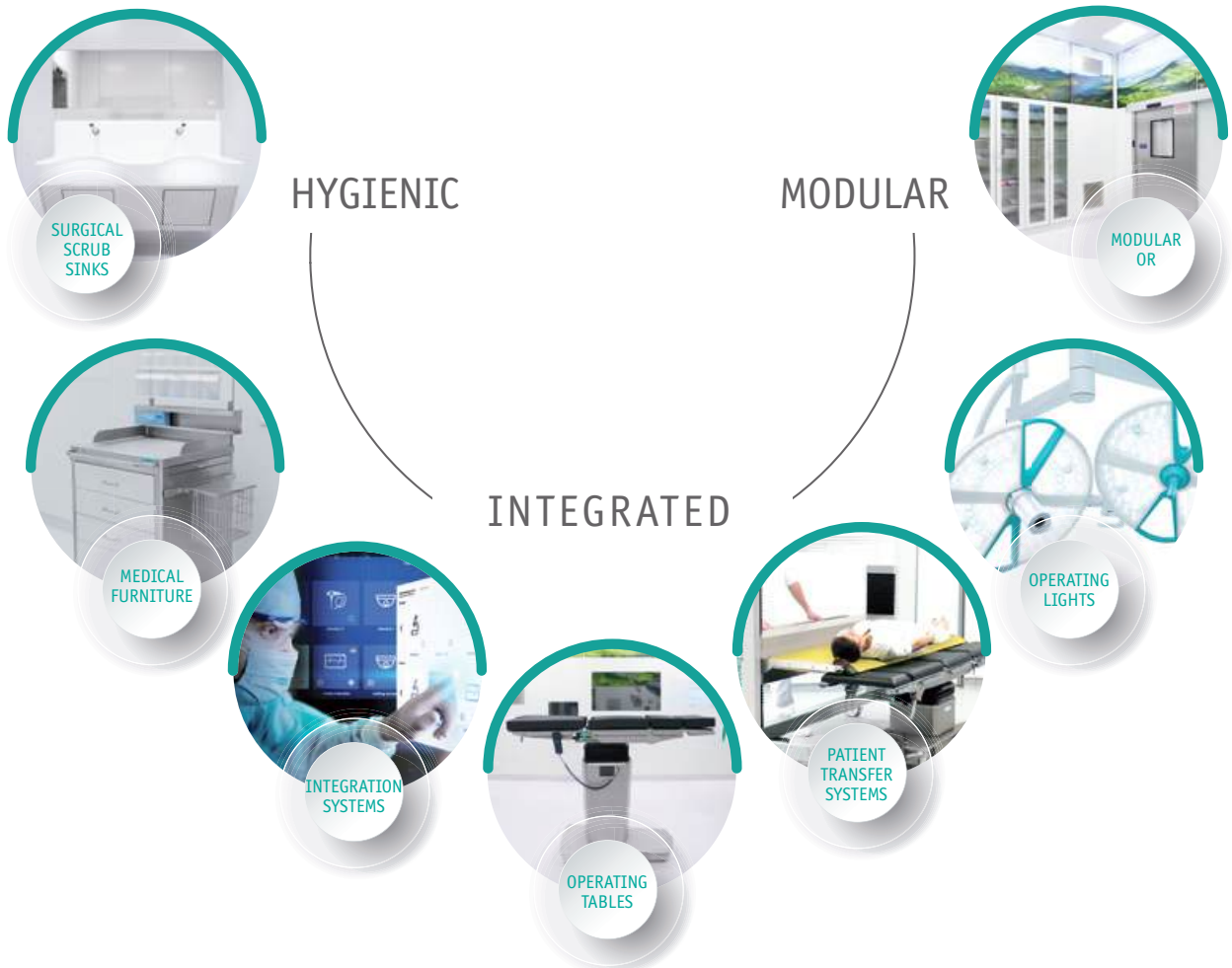
Our values concentrate on human life. Each and every product manufactured by ALVO Medical reflects the focus on reaching better clinical outcomes. ALVO Medical modular hygienic and integrated operating rooms are safe and friendly to their users, patients and natural environment.

Our company

ALVO Medical, a Polish family-owned company established in 1993, is one of the most attractive employers in the Wielkopolska Region.

ALVO Medical installs operating rooms and manufactures medical equipment for hospitals around the world, including operating tables, OR integration solutions, modular walls and ceilings, doors and windows, art panels, floor covering, surgical scrubs, lamps and operating lights, medical furniture, and patient transfer systems.

INNOVATIVE SOLUTIONS FOR OPERATING ROOMS



EFFECTIVE
INFECTION PREVENTION



ENHANCED
OR WORKFLOW



PATIENT AND
PERSONNEL SAFETY

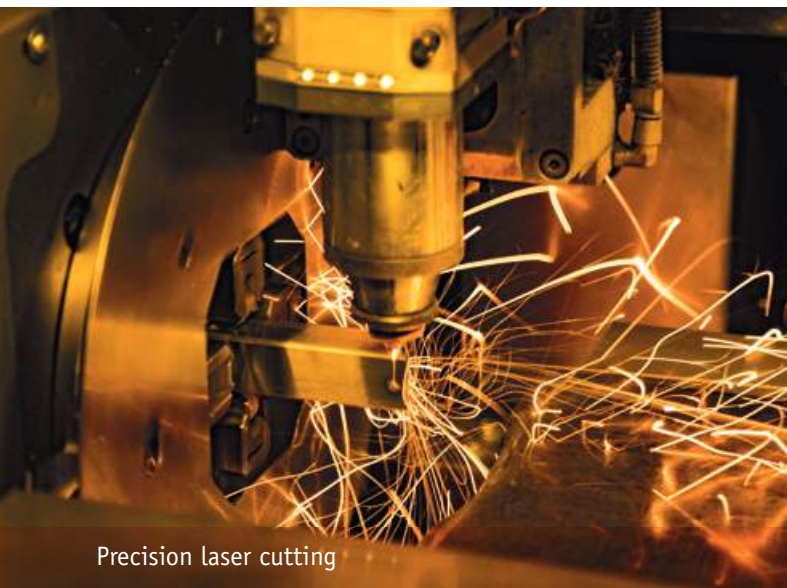


TURNKEY
SOLUTIONS

PRODUCTION QUALITY

ALVO Medical has its own modern machine park, so we have full control over the production process, and the solutions we provide are of the highest quality.

State-of-the-art robotic welding and laser fibre cutting technology, a fully automatic powder coating line and five-axis machining centers guarantee the high quality of the manufactured products. Thanks to its own production line, the solutions offered by ALVO Medical can be quickly and flexibly adapted to the high requirements of the medical market and the needs of its customers.



Precision laser cutting



High precision bending

ALVO Medical is ISO 9001 certified - the international standard that defines the requirements to be met by a quality management system.

CUSTOMER EXPERIENCE CENTERS

In our global medical training centers users, architects and planners work together with experts from ALVO Medical and our partners to plan and design ergonomics in the operating room in realistic conditions. Surgical teams can experience how easy and quick it is to set up their OR for surgery in a completely integrated video-over-IP environment.



ALVO[®]
MEDICAL

The dialogue with surgeons, operating rooms personnel, hospital managers, investors and architects brings us new ideas resulting from adjustments to medical technology development, design challenges but also sanitary and epidemiological requirements.

Contact us to find out
about current events: aic@alvo.pl

MODULAR OR TAILORED TO YOUR PROJECT



approx. **40%**

***shorter installation** – the operating room can be started up faster, generating profits more quickly.

approx. **50%**

***faster service**, e.g., replacement or exchange of modular elements, replacement of monitors with newer ones, etc., without stopping the operation of the operating room. Work can be performed after operating room working hours.

approx. **30%**

***shorter set-up time** in the operating room – optimisation of cleaning and disinfection processes.

approx. **30%**

***cheaper replacement or upgrade** of modular elements.

* in relation to conventional technology

ALVO® Modular OR

Modular operating rooms from ALVO Medical are tailor-made, comprehensive solutions designed to improve functionality of the room, support the workflow of the medical staff, and - most of all - amplify hygienic conditions within operating area.



ventilation systems

doors

windows

monitors and OR
integration systems
flush with panels

Modular OR consists of ready-made, pre-fabricated elements - wall panels, ceiling panels, medical cabinets, doors, and windows - which are used to create a ready-to-use operating room. The construction of this type of facility allows matching modules to be quickly joined together.

The modular technology is fast, accurate and project-specific. The construction elements are precisely manufactured in the factory in controlled conditions. All elements are designed to create an integrated and hygienic operating room.

MODULAR OR COMPREHENSIVE APPROACH



The work starts with project analysis, assessment of the client's needs and process planning, in order to propose the best-fitting solution that meets technical and aesthetic requirements.

ALVO Medical team performs three-dimensional measurements of objects using an imaging laser scanner. On the basis of these measurements, a detailed technical drawing is created, which is the basis for the design work.



The 3D visualisation representing the proposed solution is prepared based on collected data and drawings, and in line with customer's preferences.



ALVO® Modular OR



After the analysis of the project and the client's approval, ALVO Medical engineers start to work on the technical documentation of each element; such detailed documentation is the basis for production. The products are manufactured and painted in the ALVO Medical factory.

Manufactured components are packed and dispatched to the site, then assembled by experienced installation team.



ALVO Medical provides service support for the entire life cycle of the modular operating room.

MODULAR



ALVO Medical modular OR consists of prefabricated, compatible elements, ready for assembly: wall panels, ceiling panels, medical cabinets, doors, windows.

We can ensure a smooth installation and up to 40% shorter than traditional assembly time, thanks to the modular elements.

The compatibility of the parts and the fact that they come from a single supplier guarantee seamless transition between components and smooth installation.

Modular technology also makes it easy to expand the room in the future, add elements more easily and make the necessary changes. Should any part need to be changed, it can be easily removed and replaced with another.

INTEGRATED



Modular walls and ceilings combined with video-over-IP technology significantly tidy up the surgical environment, remove redundant cables and adapters, save money, and increase collaboration between specialists to achieve better clinical outcomes. Doors, cabinets, windows, monitors and technical connections are built in, forming one seamless unit with the room's built-ins.

HYGIENIC



Modular technology contributes to the hygienic design of the room. Equipment elements (monitors, cabinets) are flush with the walls and form large, flat surfaces. The limited number of joints and the possibility to design them in a rounded shape make the surfaces easy to clean, and their form prevents dust from settling. The products are designed to ensure optimal hygiene. Materials used to produce built-in elements (stainless steel, tempered glass) and the surface enriched with silver ions also protect against microorganisms' development.

Sanitized[®] antimicrobial protection, based on silver ion technology, used in the production of ALVO Medical modular walls and ceilings provides permanent, laboratory-confirmed protection against the growth of bacteria, fungi and moulds (including *Staphylococcus aureus* and *E. coli*). Hygienic touchless door activation is also part of the ALVO Medical solution.



MODULAR OR

IMPORTANT PARAMETERS

AIRTIGHTNESS

ALVO Medical modular OR can be extra-insulated, providing high level of airtightness and room hermeticity. This is important for maintaining microbiological purity and adequate pressure in the operating room. The airtight installation supports the ventilation in the room.

Airtightness is achieved by a special connection of the substructure with a layer of plasterboard, airtight doors and construction elements, seals between parts of the construction, and a tight connection of ceiling and floor with wall elements.

Assumptions for the execution of operating room in ALVO Medical system in airtight version - achieved tightness of the room: the level of air outflow from the room does not exceed 3 air changes/h. Converted to numerical values (2.88 m³/hm² or 0.8 l/sm²).

SAFETY

Fire resistance: The modular wall can be made in fire resistance class EI30 and EI60, which provides fire protection for 30 and 60 minutes respectively.

Radiological protection: The modular wall with built-in components can be equipped with radioprotection, in which case an appropriate thickness of the lead coating is built into the system wall.

Seismic tests: The ALVO Medical Modular OR model has passed seismic testing at a research centre in Japan.



MODULAR OR MATERIALS

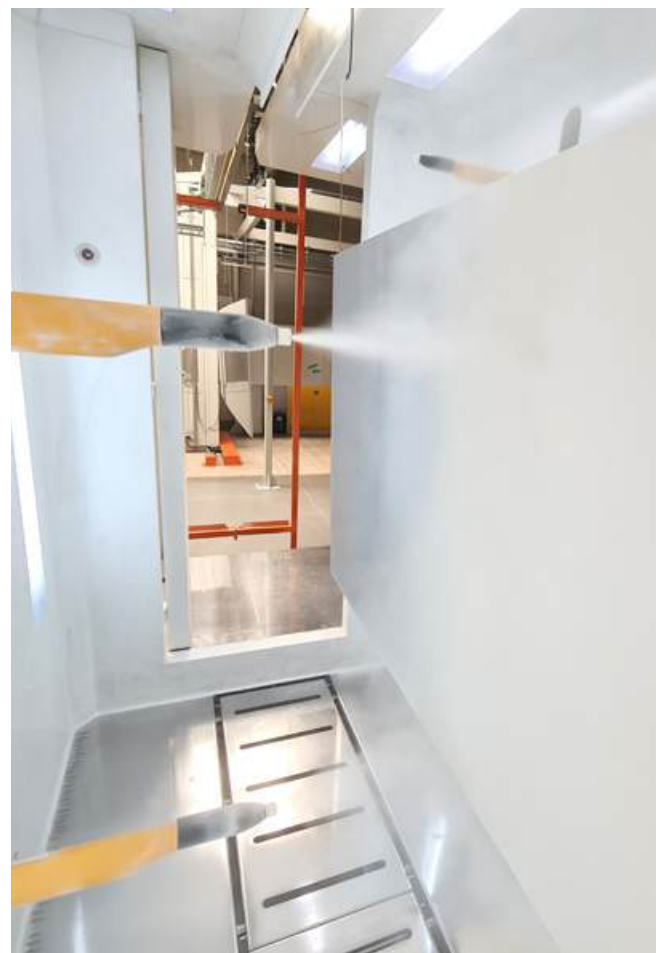
ALVO® Modular OR

Stainless steel shows very high corrosion resistance and is easy to clean. It has low porosity, so dirt can be easily removed; it is also characterised by high resistance to chemicals and exceptional aesthetics.

Galvanised steel is steel protected by a layer of zinc, which has anti-corrosive properties.



Powder coating makes it possible to obtain a perfectly smooth and uniform surface. The resulting coating is exceptionally smooth and durable, and its thickness is identical over the entire surface. The surface created by powder technology has anticorrosive properties. It is also resistant to physical and chemical influences. The colour is evenly distributed. The painting process is carried out internally in the ALVO Medical powder coating shop, allowing the use of any RAL colour and controlling the uniformity of colour throughout the operating room.



Tempered glass looks no different from ordinary glass and provides the same visual comfort but is estimated as at least eight times more resistant to mechanical and thermal damage.



MODULAR OR

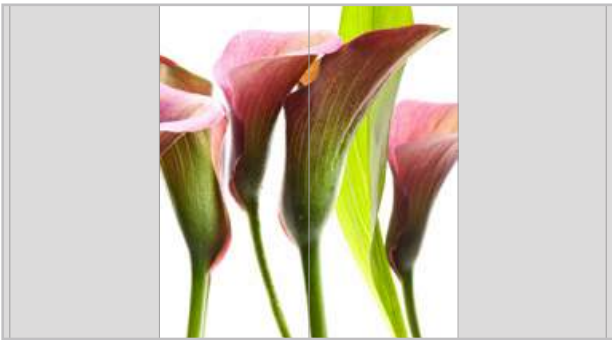
MODULAR WALLS VARIETY

Modular walls are made of steel or glass panels, with a variety of colours and design options to give a prestigious look and high-tech atmosphere typically associated with modern OR design, while the appropriately selected colour scheme promotes focus and visualisation of the data.

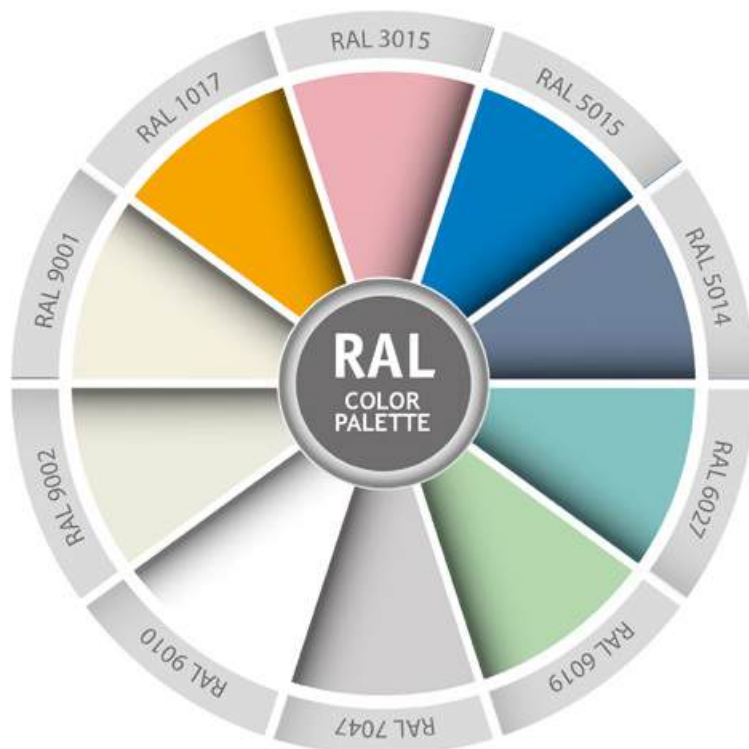


ALVO® Modular OR

example: 2-graphics layout



example: 3-graphics layout



MODULAR OR HEALING DESIGN



Decorative glass and steel panels with graphics have become a very desirable material in operating rooms due to their soothing effect on the environment and high hygienic properties. The ALVO Medical photo catalogue contains over 200 graphics by the world-renowned artist Leszek Szurkowski. These are mainly photographs inspired by nature. ALVO Medical designers help the customers arrange the chosen graphics and harmonise them with the room's colour.



ALVO® Modular OR



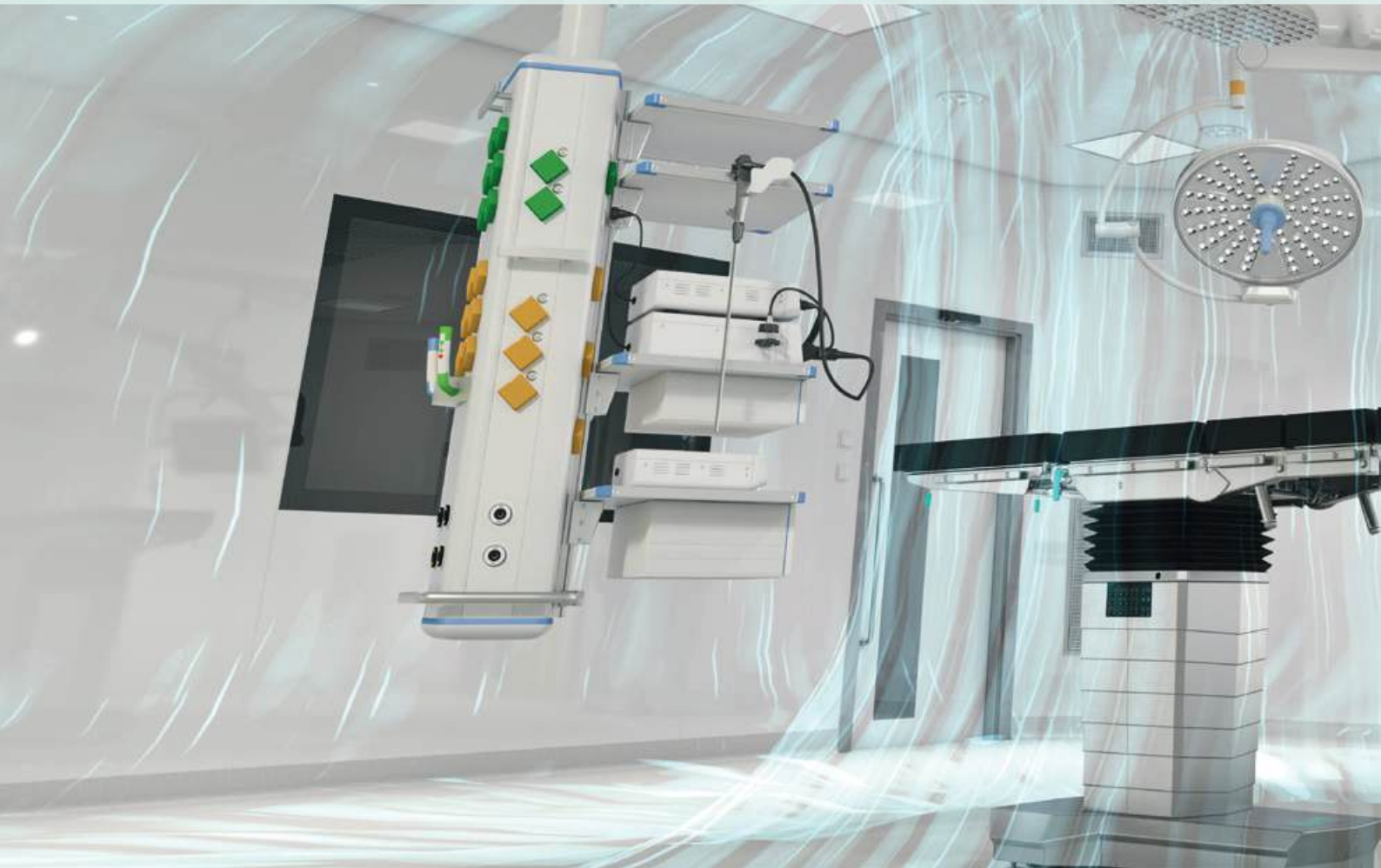
An experienced design studio and modern machine park with its own powder coating shop are a guarantee of high quality and aesthetics of ALVO Medical products. We offer our customers projects with elements of visual identification of an operating suite or a hospital ward.

The colour of the panels, doors, and other elements may be adjusted to each other, and the graphics superimposed on each element of the modular, passing smoothly so that the image forms a whole.

ALVO Medical also offers graphics with children's motifs, for example, for rooms in paediatric hospitals.



MODULAR OR CLEAN CAPSULE



Clean Capsule is a turnkey solution that includes a controlled-dilution ventilation system in addition to the project-specific modular construction. This innovative Halton ventilation system provides an ultra-clean environment throughout the operating room space, increasing patient safety and reducing the risk of surgical site infections. The system simultaneously provides thermal and acoustic comfort for the medical staff. The air flow rate is individually adjusted to each project.

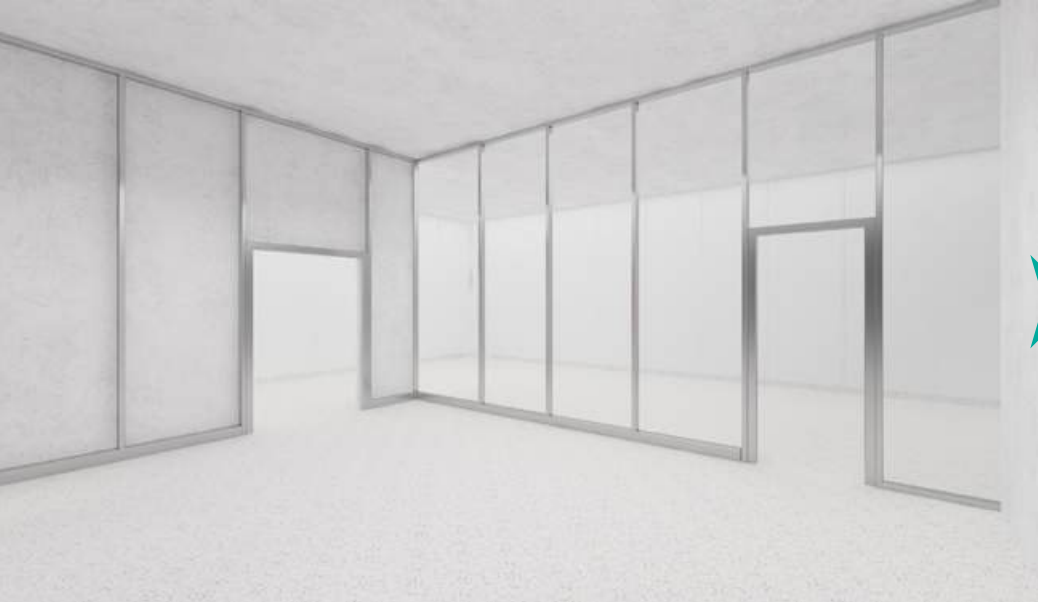


ALVO® Modular OR



The airflow for operating room is designed based on maximal microbial load - maximum number of personnel. Moreover, due to the peripheral distribution of the air supply, the system leaves the central part of the ceiling free for medical technology installations – the air supply comes out of the diffusers located around the OR ceiling, which is only 60 cm wide, giving an absolute priority to installing medical devices right in places where they are most needed.

MODULAR OR STRUCTURE



The structure allows the operating room to remain independent from other parts of the hospital, which means that the operating room can be assembled regardless of the stage of work in adjacent rooms.



ALVO® Modular OR

The basis of ALVO Medical modular OR is a self-supporting structure of partition wall.

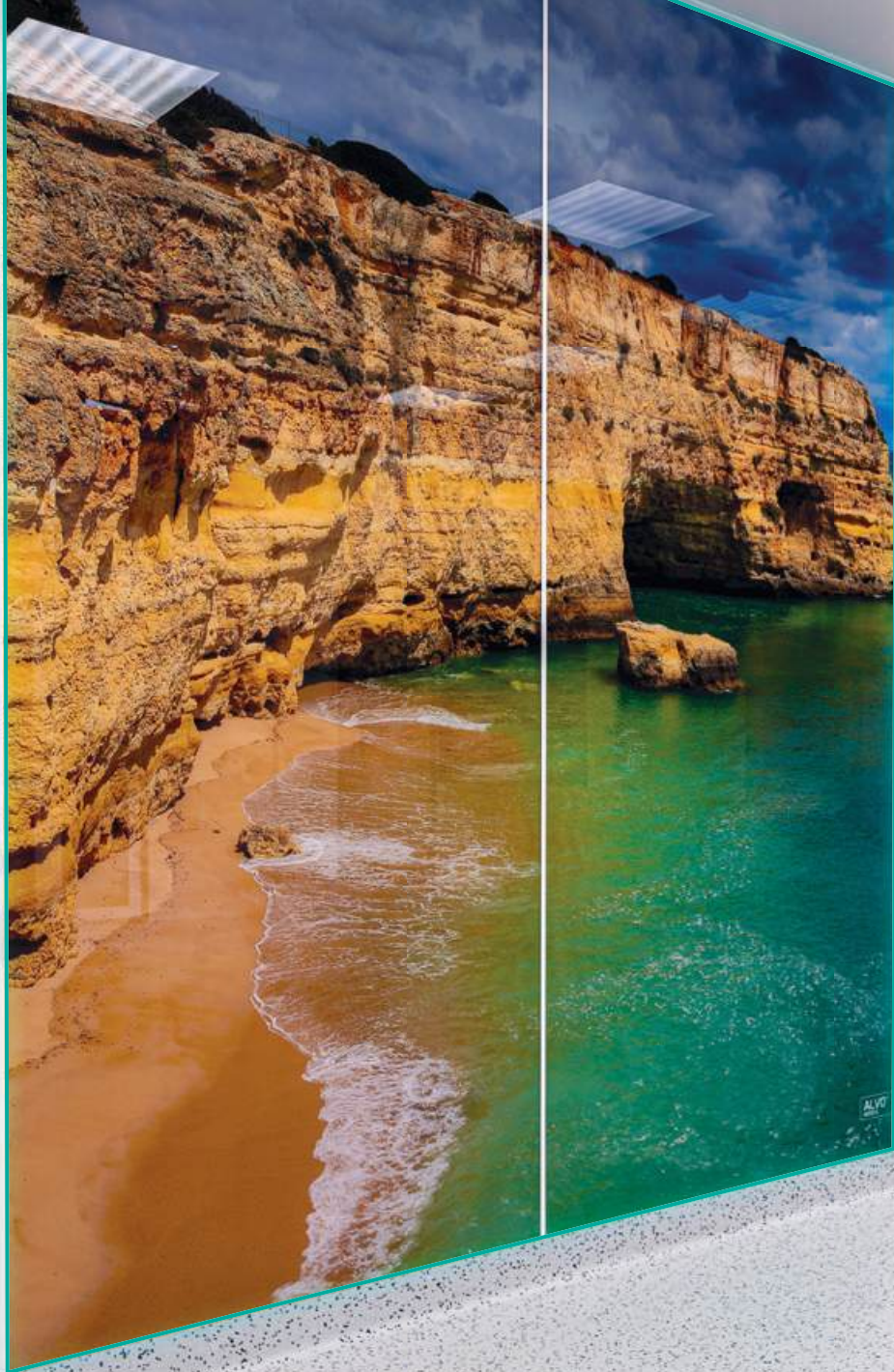


Space in the structure behind the panels hides cables and adapters. It also allows for adding more installation and cables in the future.

The wall construction preserves the original appearance of renovated buildings and offsets the cost of traditional walls in new buildings.



MODULAR OR WALL PANELS



ALVO® Modular OR

Wall panels with a smooth surface are one of the main elements of hygienic modular OR. The panels can be made of stainless or galvanised steel - in both cases optionally faced with tempered glass. A wide choice of colours, graphics and backlighting options means that the appearance of the panels can be tailored to each individual project, creating a unique character for the room. The spaces between the panels (approx. 6 mm) are filled with a hermetic silicone gasket protected with silver ions, resistant to UV rays, detergents, germicides, water, and steam.



Wall panel



Wall panel with division



Wall panel with service belt



Wall panel with radiological protection



Tight connection of ceiling, floor and wall elements

MODULAR OR TYPES OF WALL PANELS



Backlit
wall panels



Painted
wall panels



ALVO® Modular OR



Wall panels with graphics



MODULAR OR DOORS

ALVO Medical has a wide range of automatic, manual, swing, sliding, stainless steel, powder-coated or glass doors. It is possible to adapt the doors' colours and graphics to the rest of the room, including graphics running through several modular elements. ALVO Medical can also supply doors with acoustic insulation, airtight or with radiological protection. The doors can be also powder coated with additional option of using silver ions in the patented Sanitized® Technology which guarantees yet another level of the surface hygiene.



ALVO® Modular OR

When producing modular ORs, ALVO Medical attaches great importance to the quality of the construction elements. The in-house production line allows details to be fine-tuned in every door model.



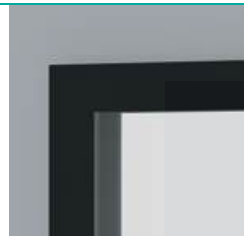
Sensors protect against accidental door impact, in accordance with ISO 16005 requirements



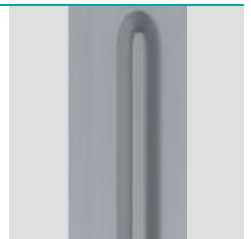
Touchless sensors for hygienic door opening



Buttons located in the door frame to activate the door in different modes



Glazing, flush with the door surface, without visible fasteners



Ergonomic handle with recessed or rounded stainless steel grip



High-quality stainless steel hinges to meet the requirements of load and load bearing capacity

MODULAR OR DOORS COLOURS



Painted steel door with inscription and numbering with painted door frame



Painted steel door with stainless steel unpainted frame



Steel door with graphics, and stainless steel unpainted frame



Painted steel door with painted door frame

ALVO® Modular OR

ALVO Medical modular doors can be personalised in colour and graphics according to customer and project requirements. Thanks to our own powder coating plant, we can produce doors in any colour, both RAL and NCS. Door and frame colours can also be varied according to the customer's wishes. The wide choice of graphics gives you the freedom to create the atmosphere of the rooms, and the precision of the workmanship guarantees that applied graphics will flow seamlessly through every element of the room.



Painted steel door with painted door frame



Painted steel door with painted door frame, lettering and numbering



Painted steel door with painted door frame and graphic passing smoothly from wall to door

MODULAR OR DOORS



7-100-2

Hinged single leaf
manual door
with glazing



7-102-2

Hinged single leaf
automatic door
with glazing



7-221-2

Hinged double leaf
manual door
with glazing



7-222-2

Hinged double leaf
automatic door
with glazing

ALVO® Modular OR



7-310-2

Hinged double leaf
manual asymmetric door
with glazing



7-312-2

Hinged double leaf
automatic asymmetric door
with glazing



7-400-2

Sliding single leaf
manual door
with glazing



7-402-2

Sliding single leaf
automatic door
with glazing

MODULAR OR DOORS



7-520-2

Sliding double leaf
manual door
with glazing



7-522-2

Sliding double leaf
automatic door
with glazing



7-602-2

Sliding single leaf
automatic hermetic door
with glazing

DOORS VARIANTS



Steel door



Steel door with glass surface finishing



Transparent door



Door with glazing
500x600



Door with vertical glazing
250x1800

MODULAR OR WINDOWS



ALVO® Modular OR

The ALVO Medical offer includes fixed, tilt and turn windows and sluice gates. Depending on type, the windows can be equipped with a falling or opening lock. The windows can also be equipped with blinds or electric glass.



7-015

Fixed window



7-013

Single leaf
tilting window



7-014

Double leaf
tilting window



7-016

Guillotine
pass-through window



7-017

Tilting
pass-through window



7-018

Pass box
with electric locking
mechanism

Glazing and blinds



ELECTRIC GLASS

Perfect solution to quickly provide privacy to the patients - with the touch of a button the surface of the glass changes from transparent to milky. Electric glazing can be installed in doors, windows and cabinets.



ELECTRIC BLINDS

Electric blinds are advanced shading systems that guarantee high comfort of use. They allow precise regulation of the amount of light entering a room. They are controlled with buttons or a remote control. Blinds can be controlled at almost any angle, and they can also be completely lifted up. High-quality materials guarantee a long-lasting and comfortable use of the product. Blinds can be build-in between the glass panes or mounted on the windows.

MODULAR OR CABINETS



ALVO® Modular OR

Modular cabinets for operating rooms improve storage quality and workflow in the surgical environment. Closed-profile shelves and a uniform front surface are beneficial for safety and hygiene. The cabinets are equipped with a type C handle, and can be made of stainless steel or steel combined with glass.



2-254

Single leaf cabinet
with glass door
in upper part



2-251

Single leaf cabinet
with glass door



2-269

Double leaf cabinet
with glass doors
in upper part



2-282

Single leaf hanging
cabinet with glass door



2-284

Double leaf
hanging cabinet



2-285

Double leaf hanging
cabinet with glass

MODULAR OR CABINETS



2-250

Single leaf cabinet



2-260

Double leaf cabinet



2-265

Double leaf cabinet with glass doors



2-276

Single leaf pass-through cabinet with glass and electronic locking mechanism



2-277

Double leaf pass-through cabinet with electronic locking mechanism



2-276-N

Single leaf pass-through cabinet with glass and electronic locking mechanism

MODULAR OR CABINET with LED backlight

Modular cabinet for operating rooms improves surgical workflow, storage quality in surgical environment.

Rounded corners of the inside storage space and flushed front surface with single piece leafs improve hygiene without sacrificing storage efficiency and safety. Closed profile shelves, height-adjusted for ergonomic workflow, lower shelves with drawer system ensure OR staff comfort of use.

The front interface of the cabinet can incorporate the hospital's logo or name of surgical department, which will be visible only when backlit (LED).

Gentle LED lighting (RGB) is especially important in minimally invasive surgery rooms, where dimmed light hinders orientation.



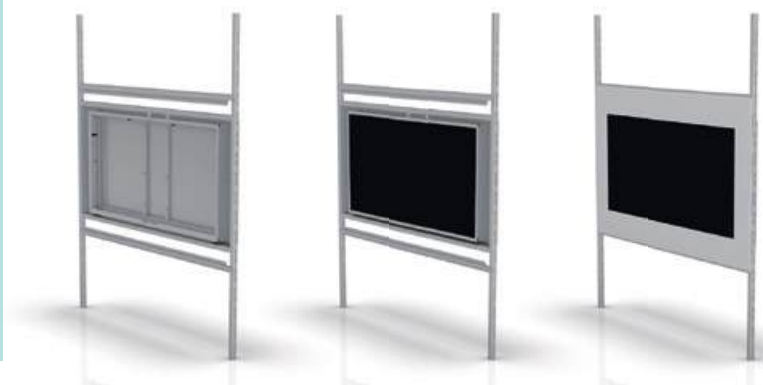
WALL CLOCK

An important accessory in the OR. Clock settings are changed from a wireless remote control. It can be integrated with ALVO Integra. Clock's wall mounting solution is a part of the ALVO Modular OR system.



MONITOR FIXING

Monitors of all kinds can also be included in the modular system. They are fixed to the panel structure and are flush with the walls.



MODULAR OR CEILING PANELS AND LIGHTING

ALVO Medical suspended ceilings with Clip-In technology are a natural addition to the modular OR system. The structure of the ceiling consists of load-bearing profiles connected with brackets to transverse profiles. All parts of the base structure are made of galvanised steel, and the panels can be painted with silver ion paint.



As an accessory to the ceiling, ALVO also offers Clip-in LED lamps with IP65 protection class with full RGB option. The lamps are available in two dimensions: 600x600 or 1200x600. Colour temperature 4000 K.



7-91

Stainless steel ceiling panel

7-92

Galvanised steel ceiling panel

MODULAR OR FLOORING

ALVO® Modular OR



ALVO Medical offers a homogeneous vinyl lining for modular installation, either permanently conductive or non-conductive, depending on requirements. In the case of the conductive lining, its properties are achieved through the use of carbon particles embedded in the vinyl and a carbon backing.

MODULAR OR VENTILATION SYSTEMS

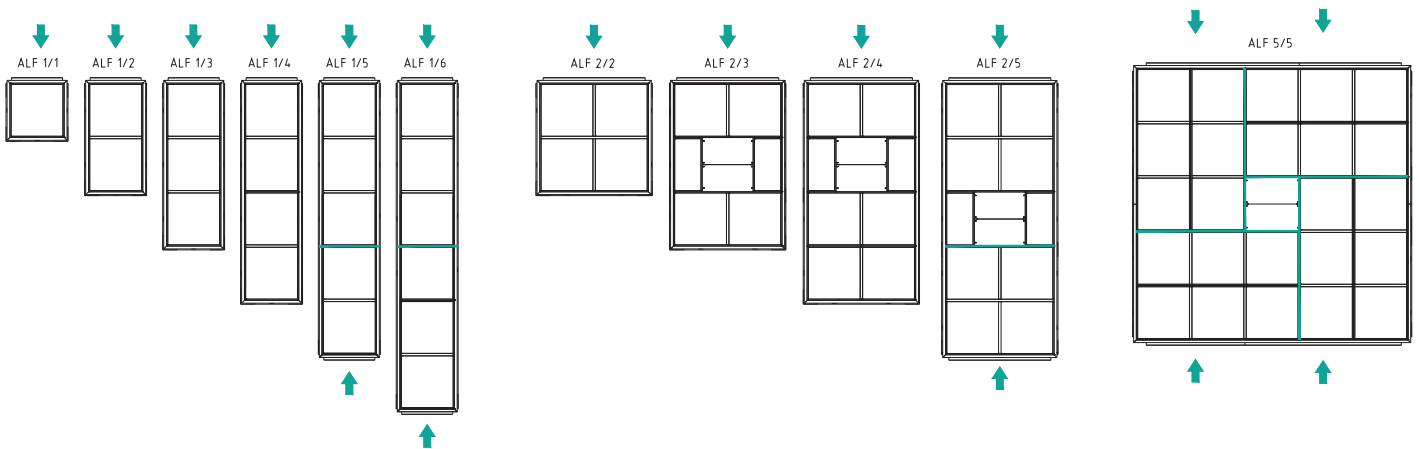


ALVO® Modular OR

The ALF laminar ceiling made of stainless steel has smooth surfaces facilitating disinfection. There are HEPA filters inside and the structure is designed to meet the quality requirements of EN ISO 14644-3. The use of an ALVO Medical laminar ceiling in the operating room enables an ISO cleanliness class 5 in accordance with EN ISO 14644-1.



Laminar ceiling ALF 3/3



Exhaust diffuser and ventilation duct

Check also a controlled-dilution ventilation system included in Clean Capsule turnkey solution -> [go to pages 18-19](#)

MODULAR OR OTHER APPLICATIONS

INTENSIVE CARE UNITS AND NEONATAL
INTENSIVE CARE UNITS



EMERGENCY ROOMS,
PREP ROOMS AND HOSPITAL LOBBIES



CORRIDORS



ALVO® Modular

ALVO Medical modular system is a perfect fit for areas where hygiene is important, such as intensive care units, preparation rooms, hospital corridors and emergency rooms. Graphic elements in the fittings further add variety and a soothing character to hospital spaces.



MODULAR OR DELIVERED PROJECTS

Prince Faisal Bin Khalid
Cardiac Center Abha, Saudi Arabia



Mandala Beauty Clinic,
Poland



South General Hospital,
Sweden



ALVO® Modular

Greater Poland Children's Health Center, Poland



Military Medical Academy, Bulgaria



Taichung Veterans General Hospital, Taiwan



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