



#### CLEANROOM SOLUTIONS FROM VIESSMANN TECHNOLOGIES

## HEALTHCARE



We have built the U-building in Mikkeli, Finland while the hospital continued operations. Viessmann Technologies was the ideal partner for this sophisticated project: They are reliable to work with, offer premium quality, and are flexible with the solutions they offer. We received ten modularly designed cleanroom systems that can be flexibly adapted to the changing needs of the surgery rooms. The product quality far exceeded our expectations, and the smooth collaboration was indispensable for the successfully completed project.

Matti Mylliymäki | Production Engineer at Lujatalo





Lujatalo is specialized in renovation work and energy-efficient construction. They relied on the expertise of Viessmann for the new surgery buildings at the Mikkeli Central Hospital.

# Special requirements — Uncompromising expertise

## Cleanroom, hygiene and refrigeration solutions for healthcare

Special standards for both cleanliness and hygiene apply in the areas of a hospital. The greatest-possible monitoring of the condition and quality of the air is required in areas with exceptional medical requirements like the modular operating theatre (MOT) or ICU. Innovative solutions, comprehensive expertise in cleanroom and refrigeration, and responsible action:

Viessmann is your partner at the service of medicine. For the health and well-being of future generations.



## Operating rooms

## Accurate monitoring of air quality and room climate



Using intelligent, modularly designed air conditioning and air treatment systems, you can ensure smooth operation procedures and deliver comprehensive protection for patients and staff.

- Tailor-made cleanroom solutions for any medical usage scenario
- Hybrid surgery rooms
- Operating rooms for minimally invasive procedures
- Suitability for laser and radiation protection
- Patient induction and anaesthesia rooms, integrated washrooms
- Surgeries with low-turbulence displacement flow (LTDF)
- Designed according to EN ISO/DIN or HTM
- \_ Integrated wall heating
- Surgery control modules for all functions
- Viessmann Technologies' comprehensive hospital expertise from more than 145 projects worldwide

## Cleaning and disinfection thanks to tested microbicidal surfaces

All Viessmann cleanrooms guarantee simple cleaning and disinfection.
Disinfectant-proof surfaces ensure regular and repeated disinfection.
Thanks to microbicidal surfaces on the cleanroom elements in operating rooms, microorganisms are killed off directly on the surface, preventing cell reproduction.

## Intensive care and quarantine

Efficient and secure protection of patients, staff and the environment



## High standards in intensive care

There is no other place where protecting patients from the harmful effects of the environment is more crucial: In intensive care units, monitoring central room parameters constitutes a key element of hospital operation. Smart solutions that protect patients and make the staff's work easier are even more important.

#### Application case: Quarantine

Isolation ward and quarantine: Our solutions are precisely what's needed wherever maximum protection from germs, pathogens, and environmental influences is required. Patients, staff, and the environment always receive flexible, efficient, and safe protection.

- Monitor the climate, pressure ratios, temperature, and air quality
- Flexible adaptation to required cleanroom parameters
- Exhaust air management and room separation
- Integrated monitoring and documentation

For two decades, Viessmann has been part of the internationally recognised equipment suppliers in leukaemia therapy.

"Life Isle", our bone marrow transplant centre, helps to save and preserve lives.

# GMP pharmacies, safety laboratories and blood banks

Production under laboratory conditions and storage with precise temperature monitoring: Viessmann develops the right solution for each requirement. Using our expertise in air conditioning and cleanrooms, we combine both worlds to deliver seamlessly intertwining safety.

Viessmann sets standards for creating application-specific cleanroom laboratories for manufacturing pharmaceuticals that are customized for a patient, such as Zytostatika.

## Hospital pharmacies for manufacturing custom formulations for a patient

highest standards in product and staff protection and have been installed in leading clinics worldwide.

We are experienced in creating a suitable environment for manufacturing artificial nutritional solutions, from sterile manufacturing and filling to targeted cooling under ultra-pure conditions.

Our GMP pharmacies meet the

#### Application-oriented laboratory systems with the highest safety standard

Two decades' experience in designing typical hospital laboratories for every discipline ensures that the user receives the utmost operational security. We develop laboratory solutions for all of a hospital's needs. Our portfolio includes forensic laboratories, stem-cell, and plasma laboratories, as well as the entire field of analytics and quality assurance.







## The range of services for your needs



Viessmann Technologies' modular cleanroom systems enable personalised solutions that meet all technical and hygienic needs.

Despite customisation, industrial pre-production of cleanroom components and system integration prepared at the factory ensure fast installation times.

- 1 ystem walls
- 2 Seiling systems
- 3 oor systems
- 4 Wall heating
- 5 ir intake / air circulation systems
- 6 Integrated exhaust systems
- 7 urgery ambient lighting

- 8 leanroom area lighting
- 9 urgery control panel
- 10 Integrated functional furniture
- 11 latches and lock systems
- 12 Medical wall monitors
- 13 htegrated media routing
- 14 Doctors' washbasins

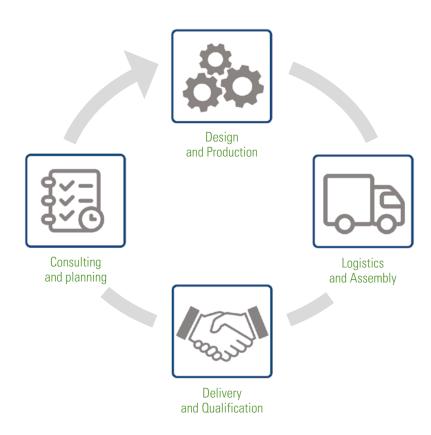
# All-in-one service provider for clinical cleanrooms

### Consulting and planning

- \_ Optional needs-based consulting and design
- Technical execution planning for cleanrooms and hospital functional rooms
- Individual project consulting from the start by a personal project manager
- Individually hand-picked project team

### Design and production

- Development of individual solutions based on modular
   Viessmann components and precise technologies
- Certified "Made in Germany" quality
- Modular design for fast and easy assembly and flexible adjustments in case of changes in medical technology and room layouts
- \_ Flush-mounted installation of diagnostics technology



### Logistics and assembly

- Professional employees with practical experience and our logistics partners ensure fast and seamless delivery processing
- Our experienced assembly teams quickly install premium cleanrooms with consistent quality around the world
- Expert in handling a project from logistics packaging and customer clearance

### Delivery and qualification

- Complete verification of physical and microbiological parameters
- Professional commissioning and handover

# Innovation, expertise, flexibility: It's our responsibility.

Viessmann Technologies is part of the family owned Viessmann Group. The Viessmann Group was founded more than 100 years ago in 1917 in Hof by Johann Viessmann and is now owned by the fourth generation of the Viessmann family. Our innovative strength, comprehensive expert competence, and intelligent, customer-oriented processes guarantee the following:

#### TAKE ADVANTAGE OF THESE BENEFITS

- + "Made in Germany" quality proven and seamless.
- + Delivery reliability You can take our word for it!
- + A local market presence in Europe
- + In-house industry knowledge and technical expertise We have completed numerous hospital projects around the world.
- + Hospital experts, architects, engineers, and technicians ensure the expertise and quality of our products
- + Collaboration and joint research projects with the Chair for Hygiene and Cleanroom Technology at Albstadt-Sigmaringen University
- + Certifications according to:
  - \_ DIN-EN-ISO 9001 2008
  - DIN-EN-ISO 14001
  - \_ GMP appraisal
  - \_ DRRI (German Cleanroom Institute)
  - \_ Fire protection
  - Noise protection
  - \_ Surface hygiene and impermeability

ViTec is an all-in-one provider for cleanroom technology with 20 years of know-how and special expertise.











We are your expert contact person for any industry-specific applications for cleanroom technology – life science, healthcare, industry, e-mobility, aerospace and indoor growing. Our tailor-made cleanroom solutions make us one of the leading companies in the industry.

Energy-optimised system walls with a consistently modular design create the greatest-possible flexibility in designing sensitive areas. Depending on customer needs, Viessmann offers a comprehensive portfolio of active locks, workstations for precision weighing, and even sampling cabins for exposed product protection.

Our application-oriented air circulation systems – enhanced with active filter elements and thermodynamic air treatment – round off our range of services and meet the highest standards.

Viessmann stands for sustainability in terms of economic, ecological and social responsibility as well as the use of long-lasting and reusable materials.

Viessmann Technologies has a team of more than 40 proven, highly motivated experts who are at your service world-wide. Positioned across disciplines and possessing a sense of responsibility as well as professional and cultural expertise, architects, engineers and technicians work on reliable, powerful cleanroom and refrigeration solutions with the assistance of every department at Viessmann.



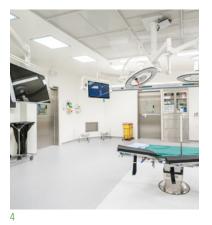
Viessmann Technologies realised more than 1300 cleanroom projects in more than 30 countries since 2003



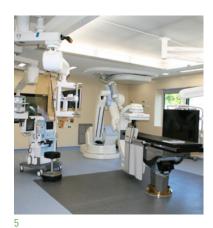


- **1** Al Quassim Hospital, Saudi Arabia
- **2** Blood bank, Graz, Austria
- **3** Red Cross Bloodbank, Linz, Austria
- **4** Mikkeli Central Hospital, Finland
- **5** Rheydt hospital, Germany
- **6** S-Cape Showroom, Germany
- **7** GEHE Pharmahandel, Germany
- **8** GMP pharmacy at Mannheim University Hospital, Germany















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