
PPG
CLEANROOMS

PPG Cleanrooms (POLI PANEL GROUP) specialises in Cleanroom Supply and Technology, with offices in Turkey, North Macedonia and Slovenia; with highly skilled employees across all operations.

We are a general Turn-Key Cleanroom Contractor and a Leading Partner for every aspect of a potential Cleanroom project.

Our staff have many years of extensive experience in Cleanroom Design, Construction, Installation and Validation. We work with the most advanced Cleanroom Technologies.

“We continuously set challenging high standards for ourselves in order to achieve and provide the best end results for our clients”

MIROSLAV TONOVSKI
CEO & Senior Partner

“As a company, our aim is to continuously adapt to change and bring fresh new ideas and solutions to the Cleanroom industry”

YÜCEL KANER
COO & Senior Partner

OUR MISSION

BECOMING AN INDUSTRY LEADING, END TO END TURN-KEY CLEANROOM PROVIDER

DELIVERING THE BEST CLIENT EXPERIENCE & SERVICE TO ENSURE
MAXIMUM CLIENT SATISFACTION

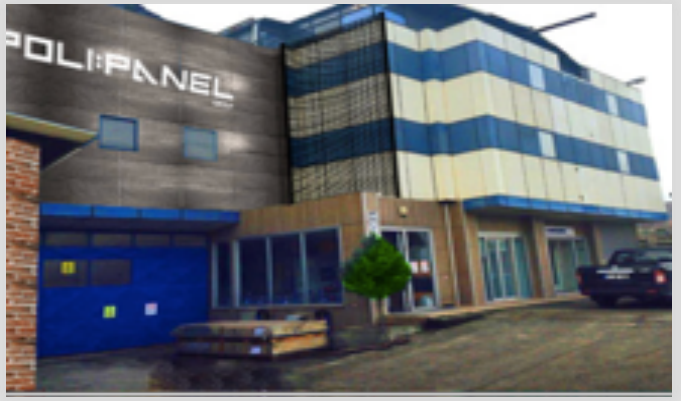
PROVIDING & USING THE HIGHEST QUALITY PRODUCTS & MATERIALS,
AT THE MOST COMPETITIVE PRICES

TO HIRE, WORK WITH & DEVELOP THE MOST CAPABLE & SKILLED WORK-FORCE

PPG Cleanroom Production Facilities:

- 4000m2 Dilovasi, Turkey
- 4500m2 Gebze, Turkey

PPG Cleanrooms also has Engineering offices in Istanbul, Skopje and Brezice



International Qualifications & Certificates

- Medical Quality Management System Certificate (ISO 13485:2016)
- Environmental Management System Certificate (ISO 14001:2015)
- Quality Management System Certificate (ISO 9001:2015)
- Occupational Health and Safety Management System Certificate (ISO 45001:2018)
- CTCB-I Cleanroom Testing and Certification Board - International
- Members of Academy for Cleanroom Testing (ACT - UK)
- Members of Contamination Control Society of North Macedonia (CCSNM)

EU GMP Consultancy & Cleanroom Validation Certified Experts

CLEANROOM TESTING AND CERTIFICATION BOARD - INTERNATIONAL

ICEB Accredited Course

CTCB-I

Irish Cleanroom Society

Miroslav Tonovski

has passed theoretical and practical examinations in

CLEANROOM TESTING

Level attained: **Professional, with Distinction**

Susan Stephenson
Course Convenor, UK/CTCB-I

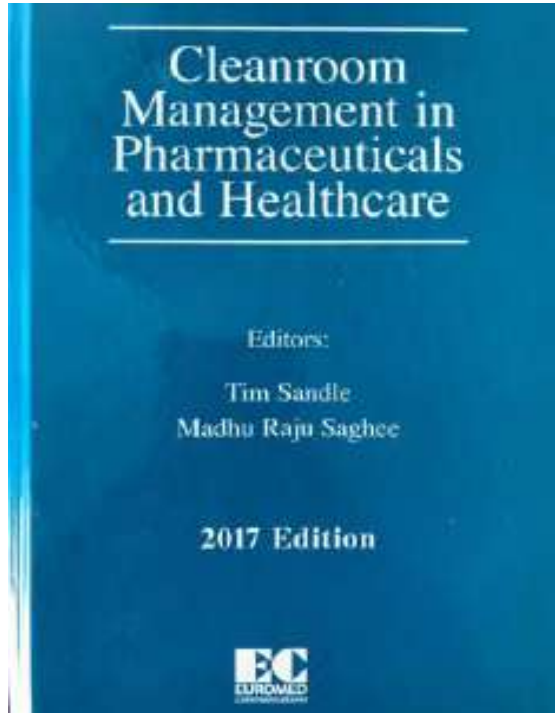
Ed Brown, MSc, BSc,
Chairman, CTCB-I

Conor Murray BE(Elect),MIE, Chairman,
Irish Cleanroom Society

Peter Fernie BA
Secretary, CTCB-I

Certificate No. UK 0153 **June 2014**

This certificate is specific to the above mentioned candidate to test & validate cleanrooms. It is not an endorsement of any particular Company



Miroslav Tonovski
Author of Chapter 7 - “Commissioning and Qualification Cleanrooms”
CLEANROOM MANAGEMENT IN PHARMACEUTICALS AND HEALTHCARE

ONE RELIABLE PARTNER

POLI:PANEL GROUP

TURN-KEY

OUR BUSINESS IS TO TAKE CARE OF YOUR BUSINESS

Whether you want a build a new production plant or to modify your facility, having a RELIABLE PARTNER with extensive knowledge is crucial to allow you focus on your job routine while the project is being coordinated and taken care of by a team of professionals.

Polipanel Group (PPG) is a SPECIALIST in Cleanroom Technology. Acting as a General Turn-key Conractor and as a Leading Partner, we have over 30 YEARS of experience in Cleanroom Design, Management, Construction and Validation and in working with Advanced Cleanroom Technologies.

WE UNDERSTAND YOUR NEEDS

The pharmaceutical cleanroom industry is heavily regulated and cleanroom environments are subject to strict regulations and accurate measurements to enable high achievements and sustainability.

Our proven cleanroom construction capacities make us confident in meeting all requirements; therefore, we look forward to finding the best solutions for your next project!

People with goals succeed because they know where they are going
Earl Nightingale

ONE TEAM OF PROFESSIONALS

TAKES FULL RESPONSIBILITY FOR THE COMPLETION OF YOUR CLEANROOM

We GUARANTEE the compliance and performance of every cleanroom delivered by Polipanel Group. We are committed to delivering your project on time and in accordance with the performance requirements.

Unlike most of the cleanroom manufacturers, we do not rely on any third party suppliers. Since we manufacture the entire clean room in our own plant, we control every aspect of the manufacturing process.

Our outstanding in-house manufacturing capacities, competent team of people and our culture of caring, enable us guarantee the delivery time, the product quality and the performance of our cleanrooms.

Great things in business are never done by one person, they're done by a team of people
Steve Jobs

ONE SOLUTION FOR ALL YOUR CLEANROOM NEEDS

You can sit back and relax knowing our experienced and dedicated cleanroom management team is perfectly positioned to guarantee successful achievement of all project phases.

CONCEPT and PLANNING

Our cleanroom engineers work closely with your staff to meet your project requirements. This is how we identify the saving potentials in the early stages of your project.

DESIGN

Our goal is to design and construct cleanrooms to enhance your business productivity. With over 30 years experience in architectural, mechanical and control systems, our engineers match the customer needs with the applicable international standards in order to achieve the desired cleanroom design.

TRAINING & AFTER SALES SERVICE

PPG offers full training for your staff to maintain cleanliness protocols, proper operation of mechanical systems, overall operation of the cleanroom and use of any control systems installed. Service agreements are also available to ensure the environmental performance of the cleanroom while extending the life of the mechanical equipment.

VALIDATION

Having designed and built your cleanroom, that's not the end of the job as far as we're concerned. As the final phase of the process is the testing and validation of the cleanroom to ensure it's proper functioning.

INSTALLATION

The key components for a successful installation are EXPERIENCE and EXECUTION. Having installed over 100 cleanrooms, we guarantee your cleanroom installation meets all requirements.

WE ARE YOUR SINGLE SOURCE

PROJECT MANAGEMENT

PPG's construction team consists of a Project Manager and Operations and Construction Managers. With us you can easily track the status of your project, as we provide regular progress reports to our clients.

PRODUCTION

The quality of our manufactured products is subject to regular production controls; we manufacture world-class products, with full guarantees of QUALITY, FUNCTIONLITY and RELIABILITY.

If you think good design is expensive, you should look at the cost of bad design
Dr. Ralf Speth

FUNCTIONAL PERFECTION

FUNCTIONILITY IS ONLY HALF OF THE STORY

The interaction between products and users creates meaning and that is our ultimate concern when it comes to the mechanical works of Polipanel Group's cleanroom projects.

HVAC

HVAC stands for Heating, Ventilation and Air Conditioning. It is a general term for indoor environmental comfort, which provides indoor air quality (air change per hour, CFM, temperature and humidity). When it comes to cleanrooms, HVAC means a lot more than comfort.Cleanroom's performance and compliance are directly related to the ventilation.

The experience team of Polipanel Group and it's project partner Denco Happel (Formerly GEA Air Treatment) will take into account all HVAC aspects prior to designing and building a compliant and comfortable cleanroom for your needs.

Denco Happel is a leader in air treatment on the European market, working in 50 different countries and climate zones and having over 100 years of experience in different sectors and applications.

AIR DUCTS

All ductwork is fabricated and assembled without gaps at the corners and joints utilizing the bolted flange duct joining system, providing flanged and gasketed joints for low leakage and ease of disassembly for any future requirement.

AIR RETURNS

The cleanrooms' air returns are engineered within the wall panel cavity.

AIR RETURN GRILLS

Our air return grilles provide full integration in partition cut-out. The surface is powder coated galvanized steel, available in all RAL colors or stainless steel.

DIFFUSERS

Polipanel's diffusers provide industry leading performance and high quality features suitable for critical environments such as cleanrooms, hospitals, operating rooms and laboratory type applications.

DAMPERS

We offer Variable Air Volume dampers (VAV), Constant Air Volume Dampers (CAV), manual dampers and fire dampers.

Perfection is lots of little things done well
Fernand Point

EVERY THING IS UNDER YOUR CONTROL

BMS & EMS SOLUTIONS

"Where environmental conditions could reasonably be expected to have an adverse effect on product quality, the manufacturer shall establish and maintain procedures to adequately control these environmental conditions. Environmental control system(s) shall be periodically inspected to verify that the system, including necessary equipment, is adequate and functioning properly. These activities shall be documented and reviewed."

FDA 21 CFR Part 820.70 Production and Process controls section C

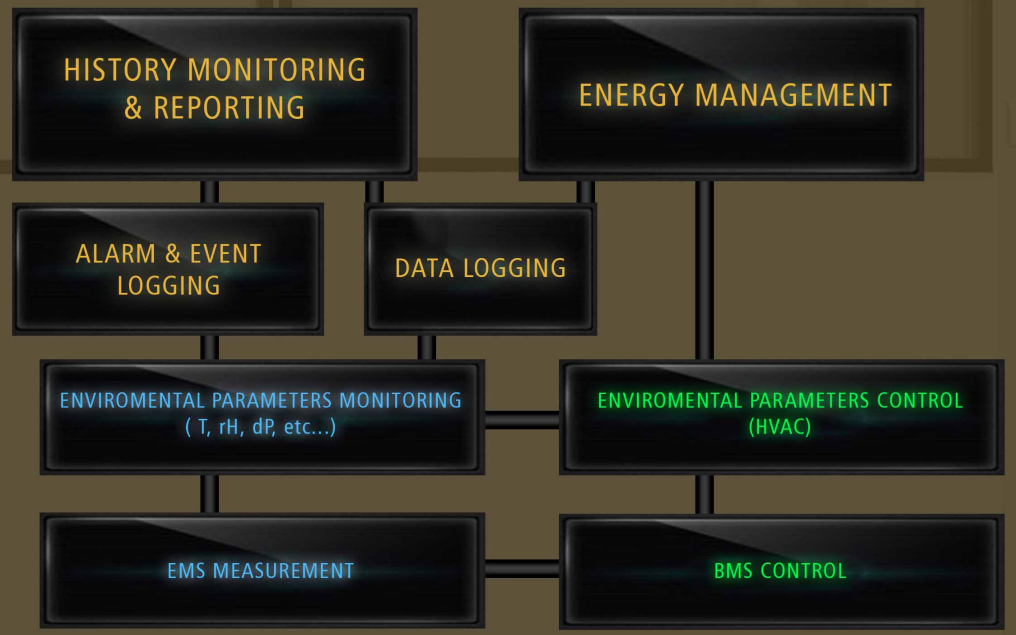
Controlling and monitoring of storage and production environments became an important process and as a consequence, the Pharmaceutical Industry has been urged to install two types of control systems ;

-A building management system (BMS)
-An environmental monitoring system (EMS)

The building Management System (BMS) plays an important role in control and monitoring of all areas of the facility.
The Environmental Monitoring System (EMS) is very different from the Building Management System (BMS) – an EMS monitors the environment of a facility, whereas the BMS controls the environment.

As Polipanel Group, we provide a range of Building Management Systems and Control Solutions, using the most up-to date, filed-proven control and monitoring technologies.
Our aim is to offer turn-key cleanroom services with engineered control solutions, tailored to meet every client's requirement and budget.

*All systems comply with CFR 21 CH 11,following the prescribed requirements for all GMP where Euro or US Manufacturing Certification are required.



Perfection is not attainable but if we chase perfection we can catch the excellence
Vince Lombardi

AT THE END, WORDS DON'T MATTER BUT RESULTS DO...

TRUST BUT VERIFY

We provide our customers with valid proof that our cleanroom meets all the regularity requirements. Qualification/validation of cleanrooms is done according to the prevailing international standards. Once the cleanroom is installed and prior the start of operations, the cleanroom must be validated and certified to ensure ;

- The design is consistent for its intended purpose
- The equipment, facility and environment created meet the User Requirement Specifications (URS)
- The equipment, facility and environment work together smoothly as a system

DID WE BUILD THE RIGHT SYSTEM ?

Qualification can be performed in the presence of a client appointed witness while we fully guarantee the results.

- **Design:** Certify that the design is fit for its intended purpose
- **Installation:** Confirm that the components and equipment installed meet all user and design requirements
- **Operational:** The Cleanroom operates consistently within a range of variable conditions
- **Performance:** The Cleanroom produces the desired environmental outcome
- **Monitor and Control:** : The Cleanroom meets ISO 14644-2 compliance requirements during ongoing monitoring

Hold the vision, trust the process
Unknown

Pass Boxes

PPG CLEANROOMS PASSTHROUGH AND PASS BOXES ARE SPECİALLY DESIGNED FOR SAFE TRANSFER OF MATERIALS classified area to classified area or classified area to a non-classified area.

They are manufactured for the most demanding controlled environment applications. All components are designed for maximum chemical resistance and enhanced durability for a long service life.

Germicidal treatment is provided inside the Passthrough box by direct irradiation with UV-C lamps, ensuring all surfaces and surrounding air is sterilised. An important advantage of this physical (not chemical) disinfection procedure is that all bacteria, viruses, spores, fungi, molds and mites, which are all sensitive to UV-C radiation, are eliminated.
Our Passthrough boxes are designed to offer an efficient and elegant solution for every possible requirement. They are compliant with all major quality standards; provide good ergonomics, ease of use and modular design enabling various configurations to suit the requirements of each particular client or process.

Currently we have two models; the PB – B which is ideal for use in biotech and other similar demanding cleanroom environments.
There is also the PB – D which has all the main features of PB – B, as well as having dynamic capabilities such as connecting to the AHU supply for example.

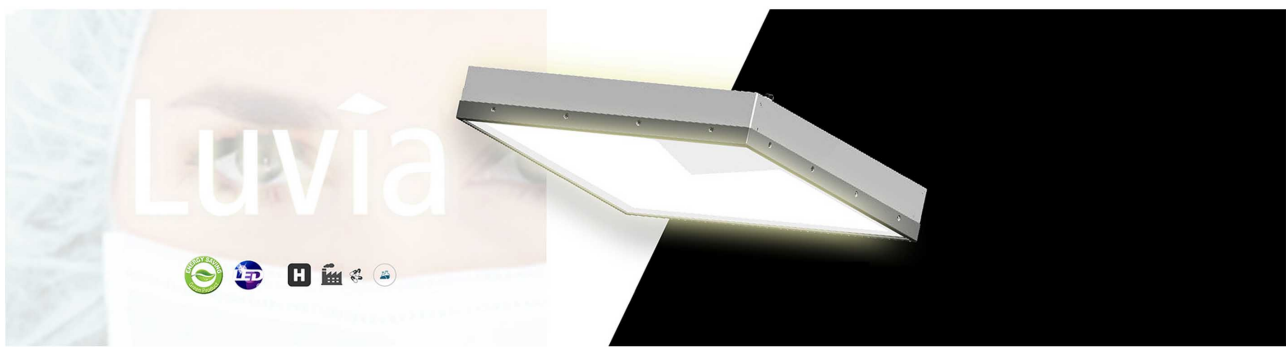
Bergher Control Systems

Manufactured in-house, our interlock control systems can operate a number of functions depending on each client's needs

The 5" touchscreen performs interlock functions for the doors, which can have Card or Fingerprint access readers added for authorised access scenarios, it can communicate with all BMS and EMS systems, including
– various alarm and emergency functions,
– light controls,
– as well as provide environmental information from the BMS & EMS systems such as pressure, relative humidity and temperature.
We are constantly working on adding upgrades and new functionality to this product so please make sure to speak to us regarding your specific use requirements and we are confident of meeting your needs.

At PPG we design and manufacture our own luminaries – to an IP65 specification – which ensures that ingress of dust and moisture is prevented. Our luminaries are intended for use in areas where maintaining a clean atmospheres is essential. Maintaining room integrity is our first concern when producing cleanroom lighting.
Combining our cleanroom knowledge, design expertise and in house manufacturing capabilities, we are able to produce lighting solutions to the most exacting requirements. We can also offer custom modifications to existing product ranges to suit our clients' specific needs.

Luvia Led Lighting



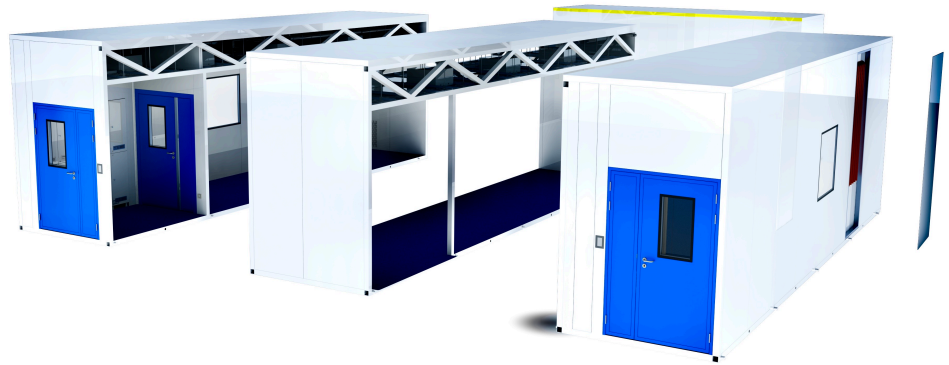
certilabo Cleanroom qualification software

Software Solutions for Validation Data

Certilabo is a strategic tool that focuses on the concept of Cleanroom Validation in accordance with international standards. This unique software is the first of its kind and it enables validation professionals and engineers in the pharmaceutical, healthcare, electronics and food industry to perform, approve and complete cleanroom validation protocols electronically at different locations and facilities. Finally a software solution that brings the Cleanroom Validation process to the 21st Century!

Multi-purpose Convertible Cleanroom Module

NAYA®
CONVERTIBLE
CLEANROOM



For use as ;
Isolation or Intensive Care Unit, Operating Theatre, Laboratory or a Production Facility

- Can be modified/extended for future requirements
- Cleanliness level Grade B, C, D according to EU GMP
- Minimal installation required on-site
- Global shipping options
- 2 weeks Production Time

UNIT MODEL	UNIT CODE	OUTER DIMENSIONS			INNER DIMENSIONS			EFFECTIVE AREA
		Width (mm)	Length (mm)	Heigth (mm)	Width (mm)	Length (mm)	Heigth (mm)	m^2
NAYA STANDARD UNIT	NAYA - S - 6600x9900	6600	9900	3400	6400	9740	2600	61,00
NAYA EXPANSION UNIT	NAYA - X - 2200x9900	2200	9900	3400	2200	9740	2600	21,50
NAYA TECHNICAL UNIT	NAYA - T - 2200x9900	2200	6600	3400	2040	6440	3200	13,00


PPG

THANK YOU

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CLEANROOMS