

INNOVATIVE SOLUTIONS

FOR BLOOD BANKS, MEDICAL
AND PHARMACEUTICAL INDUSTRIES



SCAN ME or CLICK ME



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M2M TEAM CERTIFICATIONS

High quality of our products and services is the top priority of our company. We always give great attention to the effectiveness of our cooperation with our partners and clients. We are one of the few companies on the market offering innovative solutions for the blood bank industry, developed according to strict medical standards. Our dedication to excellence is reflected in certification of **M2M sp. z. o. o.** to the standards of:

PN-EN ISO 13485: 2016
PN-EN ISO 9001: 2015

We also aim to be a top-tier supplier, which is further proven by our certification to the standards of:

ISBT 128



WHO ARE WE?

Since 2010, we have been pioneers in the dynamic market of the **Internet of Medical Things (IoMT)**, blending innovative engineering solutions to set new standards in wireless monitoring of temperature, humidity as well as room mapping and device validation. Through continuous development of our products, we have worked with Regional Blood Donation Centres for over a decade and equipped them with Automated and Manual Plasma Storage Systems, Drainage Tube Sealing and Labeling Robots, comprehensive Temperature Monitoring Systems, and more. We also undertake extensive projects, from modifying existing buildings to constructing new facilities to accommodate our state-of-the-art systems.

OUR MISSION

We combine modern technology with the creativity and commitment of our staff to address every business need of our clients. This allows M2M Team to offer its customers comprehensive and modern solutions of the highest quality, providing them with continuous support in effective operation.

Our team consists of highly qualified specialists, equipped with practical knowledge and many years of engineering experience. This allows our staff to take on even the most demanding challenges from every business branch, from medical to industrial.



GRZEGORZ PIESTRAK
CEO



PIOTR JAROSZ
BOARD MEMBER

About Us

Hungry for innovation

M2M Team is composed of enthusiast engineers with an insatiable hunger for innovation. Through our fascination with modern technology, we are able to turn ideas into reality. Skilled and experienced in process automation, robotics, machine communication, software and building design, we chose an uncanny focus for our business - the blood bank industry.

Since its founding in 2010, our company completed numerous projects on the Polish market, servicing the blood bank industry, hospitals and other medical facilities. In 2020, the founders decided to expand their activities outside of Poland. Hence, we created the CoolSystems brand to represent our technologies on international markets.

Our company's flagship products are automatic storage systems for medical material, such as the Automated Plasma Storage System, and automated medical coolers and freezers used in hospitals and blood bank shipping centers.

Automatic freezers allow storage of human plasma at a very low temperature, ensuring maintenance of its high quality. What's innovative about our products? Various technological components, including mechanical, electronic, automatic and structural, operate at a temperature under -32° C, unhindered by such extremely adverse conditions. Most of the standard systems available worldwide are based on cooling compartments with a manual plasma inventory process - that is, people carrying out warehouse operations in arctic-like conditions.

The automated plasma storage system allows storage and managements of the stock without the necessity to enter the freezing compartment, with the operation of the equipment performed from the outside by the medical person-



nel. The capacity of the storage system can be adjusted to the customer's needs, ranging from 7,000 to 25,000, or even 40,000 plasma units, depending on the system version. Automatic plasma warehouses can be adapted to fit any existing location, with their modular structure allowing the solution to be adapted to the specificity of the building and the available space.

As for today, the total capacity of the warehouses installed by CoolSystems exceeds one million plasma units!

The CoolSystems portfolio also includes cobots that assist process automation. For example, a robot can be used for the preparation and labelling of red blood concentrate samples, used for the crossmatching of recipient and donor samples prior to transfusion. This process is fully automated and can be completed in as little as 20 seconds.

At CoolSystems we actively participate in international trade fairs, collaborate with the Polish Investment & Trade Agency, and engage in global missions to establish and strengthen international partnerships.

INDUSTRY 4.0

Due to the steady influx of new projects and business development, in 2022 we have invested in the expansion of the factory. The plant area was tripled, with a new automated production line launched. The machine park was equipped with two welding robots, an automatic laser cutting machine equipped with a rotating workspace, as well as modern welding and bending machines. Further improvements also included the expansion of service stations, FAT test stations, and storage space.

In 2020, the total capacity of the warehouses delivered by us has exceeded

ONE MILLION plasma units

WORLDWIDE INNOVATION

Automated plasma storage is a unique system, allowing for efficient use of existing space and performing warehouse operations with little to no participation of human personnel. This characteristic makes this technology a perfect fit for the blood bank and hemotherapy facilities.

2021-2023

OUR HISTORY

RCKiK Warszawa - construction of a new building. Three MC freezers with a combined capacity of 41k donations. Equipping the dispatch department and laboratory with our new product WK automatic freezer and refrigeration storage systems with the combined capacity of 3500 RBC and 500 Plasma.

RCKiK Warszawa departments in Garwolin and Siedlce - construction brand new buildings, dispatch departments with a WK automatic freezer and refrigeration storage systems.

RCKiK Rzeszów expansion - renovation of the building center and dispatch department, two MK freezers with a combined capacity of 50k donations. Four WK automatic freezer and refrigeration storage systems for 2600 RBC donations and 500 Plasma donations and three manual display cases.

RCKiK Łódź - MK freezer and MC freezer with a combined capacity of 58k donations. New dispatch department with eight manual refrigerators display cases and two freezer display cases. Preparation department renovation while maintaining proper workflow.

RCKiK Kielce - Two MK freezer with a capacity of 14k Plasma donations. Renovation of the preparation department.

RCKiK Szczecin - MC freezer with a capacity of 32k donation.

WCKiK Gdańsk - MK freezer with a capacity of 7k donations.

RCKiK Katowice - 4 MC cold stores with a capacity of 140k donations.

Installation in Vietnam - hospital, MK freezer with a capacity of 7k donations.

Obtaining MEDICAL ISO PN-EN 13845:2016.

Opening of our factory.

Obtaining PN-EN ISO 9001:2015.

Start of production of the TSR 2.5.

RCKiK Olsztyn - MC freezer with a capacity of 20k donations.

WCKiK Wrocław - MK freezer with a capacity of 7k donations.

RCKiK Wrocław - Two MK freezers with a combined capacity of 50k donations and 3 traditional freezers.

RCKiK Gdańsk - MK freezer with a capacity of 25k donations, traditional freezer, RBC warehouse, clotting factor warehouse with the site structure, and waste warehouse.

RCKiK Warszawa - Two MK freezers with a combined capacity of 36k donations, MC freezers with a capacity of 60k donations, and traditional freezers.

RCKiK Białystok - Two automatic freezers. MK freezers with a combined capacity of 56k donations.

Company's launch. Creation of the Monitor M2M System.

2010-2020

COMPREHENSIVE SOLUTIONS FOR THE BLOOD DONATION SECTOR

Our company provides a broad range of innovative solutions for Blood Donation Centers. Our services include implementation of comprehensive projects for the automation of freezing rooms for blood plasma storage, red blood concentrate tube sealing and labeling robots, temperature monitoring systems, and solutions for the transport of blood and its components.

PROCESS AUTOMATION



Automated plasma freezers

Ensuring GMP compliant high storage standards.

Automated warehouses operating in extremely low temperatures (down to -40° C) are an **innovation on a global scale**, guaranteeing quick and safe access to the stored materials.

Modern technological solutions **prevent heat loss** during loading and unloading and allow the warehouse operation to be supported by a state-of-the-art management system. This allows to maintain a detailed records of goods and eliminate errors in the preparation of deliveries.

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Automated display-style medical coolers and freezers

Floor plan optimization in blood storage and handling departments.

The system is **individually designed** and adjusted to the client's needs and floor space. The integrated refrigeration systems manufactured in our factory are not bound by ready-made designs. Our technological park allows us to customize each solution according to the user's vision. The integrated cold storage and freezer system is an in-house designed **proprietary solution** dedicated to storage and handling departments at Regional Blood Donation and Treatment Centers.

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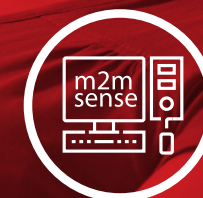
Collaborative robots

Production process optimization.

The cooperation of personnel and collaborative robots is a **pioneering solution** resulting in a multi-level efficiency increase. These robots are a perfect fit for processes that require repetitive activities, or in places where working conditions are hazardous to humans. **M2M Team** is the official integrator of **Universal Robots**.

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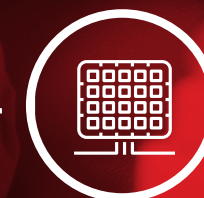
COLD SUPPLY CHAIN



Temperature monitoring

A modern system for remote measurement of conditions in temperature-controlled rooms and devices.

The system integrates temperature and humidity monitoring to enable measurement of temperature distribution and validation. This allows to quickly and efficiently examine sensors readings, with the collected data stored on the **Monitor M2M** online platform.

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Temperature mapping

The process of temperature distribution measurement in warehouses, handling stations or small cooling devices.

Our technology and resources make it possible to perform measurements at several hundred points at a time. The temperature mapping process is carried out automatically, allowing to decrease the duration of the entire procedure and limit interruptions to our client's operation to a minimum. **M2M Team** performs mapping using the **M2M Monitor**, a validated professional temperature monitoring system.

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Transportation systems

Safety and full control of temperature-sensitive medical product transport conditions.

We produce and adapt all forms of vehicles and containers used to maintain **temperature-controlled conditions**. Our products can be used to transport blood and its components, organs or any other medical cargo. The system is equipped with full monitoring of the transport process, enabling remote control, alert generation, as well as preparation of reports and process logs.

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AUTOMATED PLASMA STORAGE SYSTEM



Our proprietary solutions allow to maximize the use of warehouse space, speeding up work and eliminating the potential for errors.

Automated plasma storage is a unique solution, allowing for efficient use of existing space and performing warehouse operations with little to no participation of human personnel. This characteristic makes this technology a perfect fit for the blood bank and hemotherapy facilities.

M2M Team engineers designed the concept of automatic ware-

houses, operating in extremely low temperatures (down to -40°C), which were successfully implemented in blood donation and blood therapy facilities. Our innovative system allows for plasma storage without the need to enter the freezer. Medical staff can remain in room temperature, operating the warehouse from the outside through an access window.

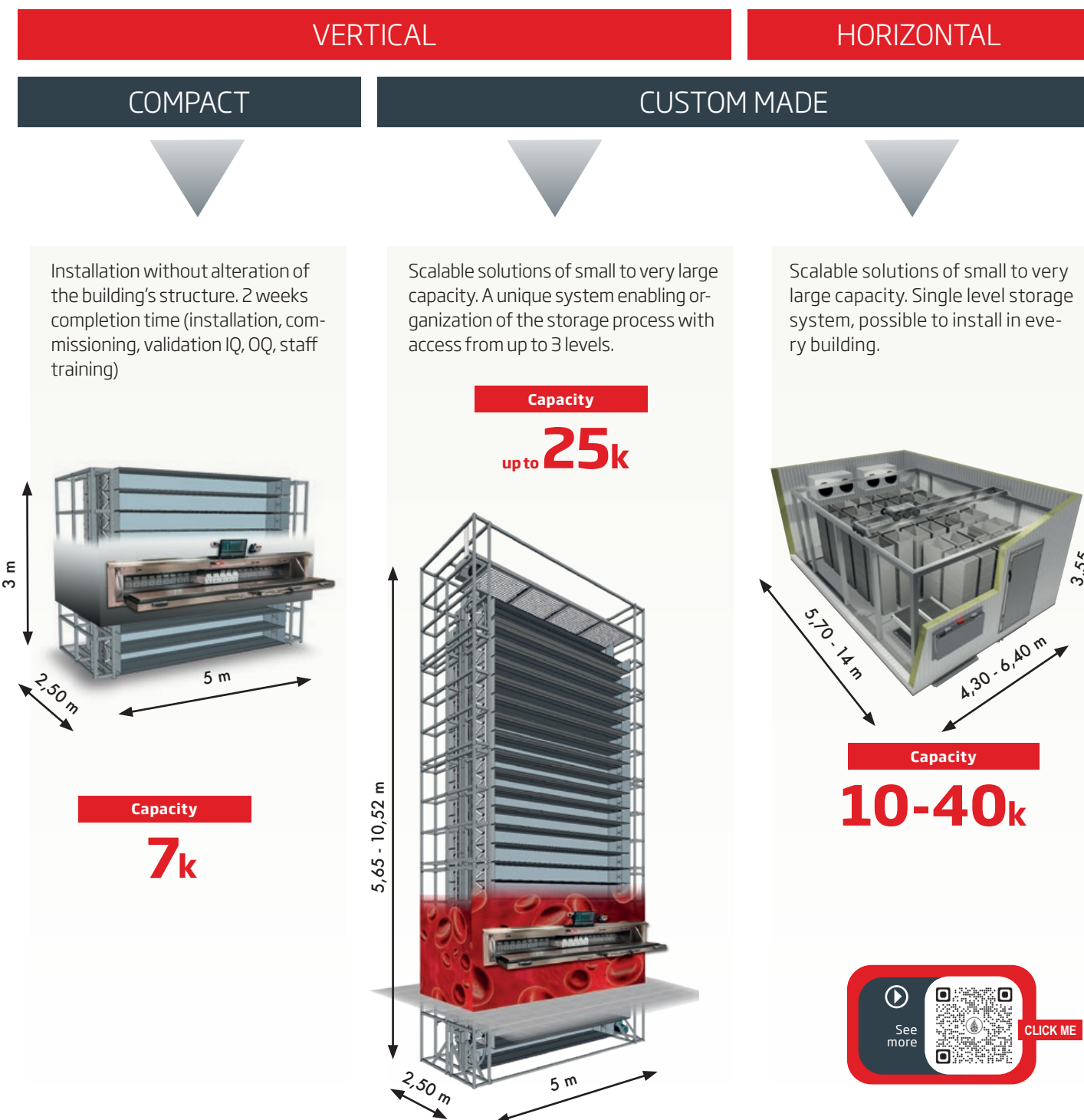
Automation allows to shorten the daily time of material exposure from several hours to several minutes. We offer both vertical and horizontal solutions, facilitating maximum reduction of space used for sample storage. Our automated warehouses are fully integrated with our **Monitor M2M** telemetry platform.

ADVANTAGES OF OUR SOLUTION

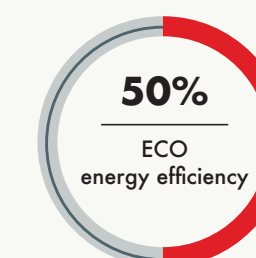
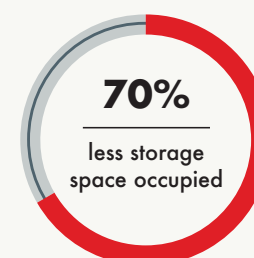
- Every sample accessible in less than 2 minutes.
- Allows to maximize the use of storage space.
- Precise product records, eliminating errors in order preparation and packaging.
- High energy efficiency and low handling-related heat losses due to the use of innovative cooling solutions.
- Intuitive touchscreen navigation.
- Specific product storage conditions tracking.

Did you know?

Process automation ensures safe, quick access to high-quality material, and comfortable working conditions for the medical personnel.



Advantages of the automatic plasma storage

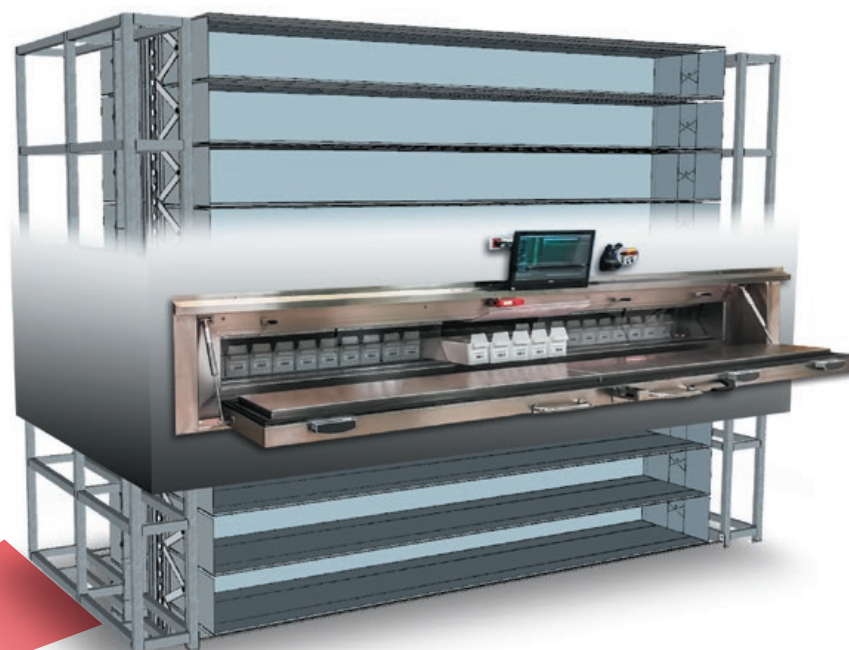
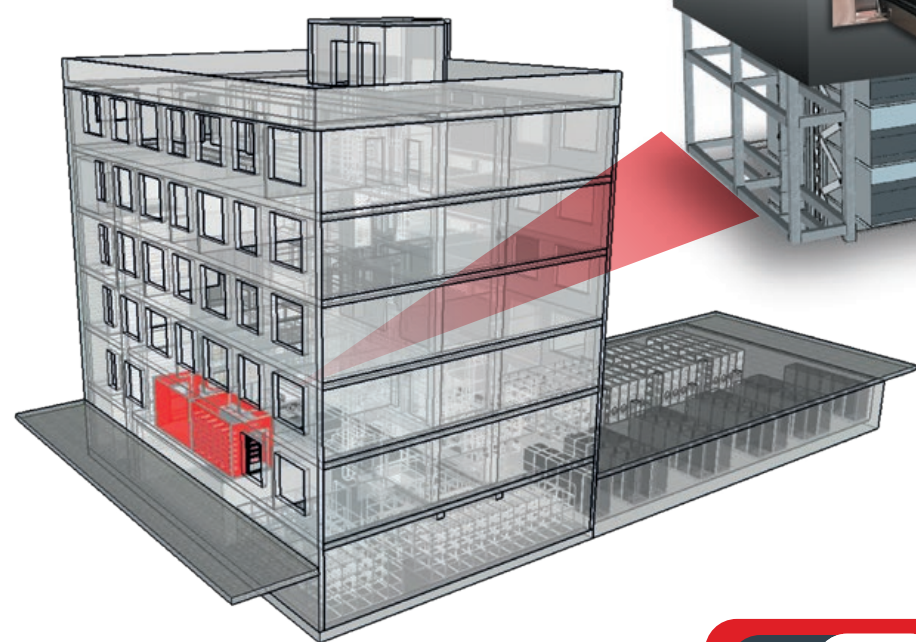


AUTOMATED PLASMA STORAGE SYSTEM VERTICAL - READY MADE MK TYPE

7-12 thousand plasma units.

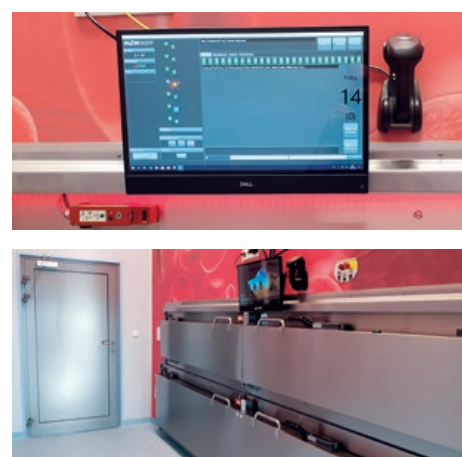
Who is this solution best for?

A compact solution that does not require any alterations to the building structure. Ideal if there is a need to install one or more ready-made freezers next to each other. Ease and speed of installation is its biggest advantage.



Installation completed in two weeks.

This automatic vertical plasma freezer ready-made device that does not require alterations or modifications of the building. It can be installed in any room with an appropriate floor to ceiling height. It is a ready-to-mount device that is easy to install, does not require additional design stage, and can be installed in a designated location on a moment's notice.



AUTOMATED PLASMA STORAGE SYSTEM VERTICAL - CUSTOM MADE MK TYPE

25 thousand plasma units.

Who is this solution best for?

This solution offers a very large storage capacity, as well as a possibility of access from up to 3 floors. It requires relatively little space for installation and ensures efficient organization of plasma production, storage and dispatching processes.

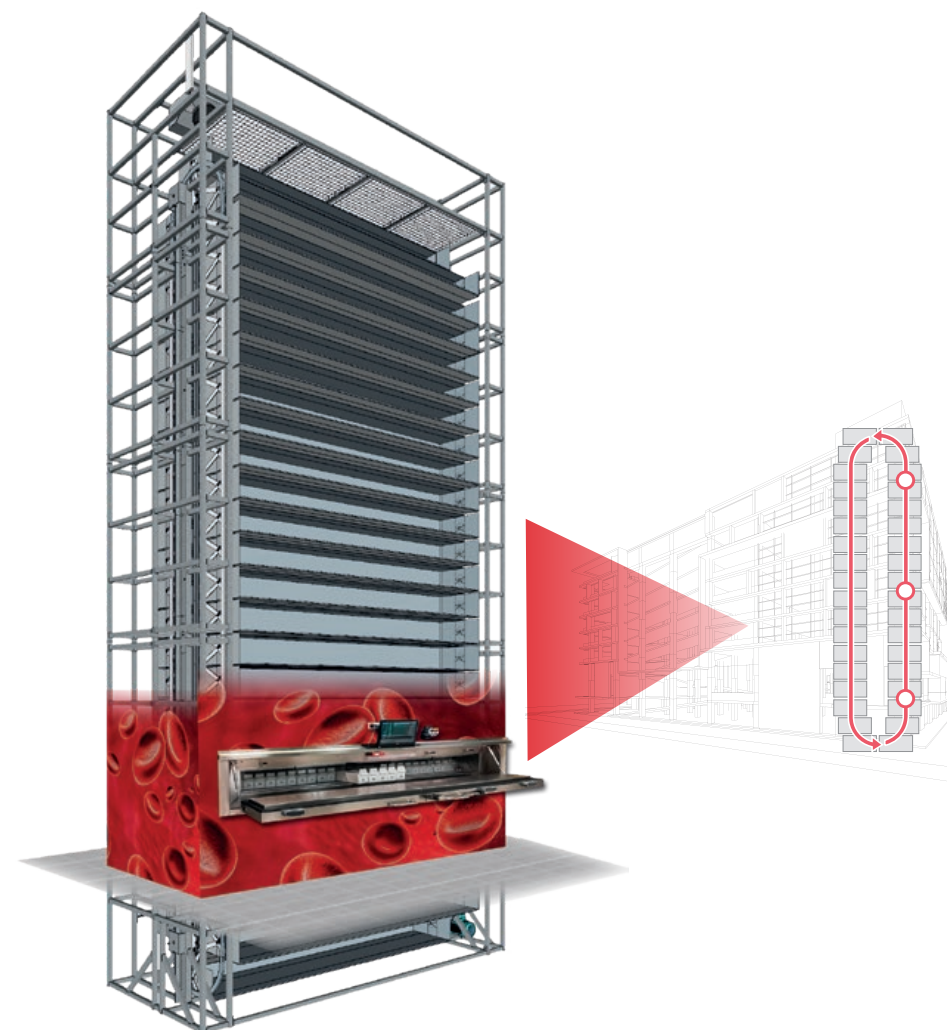
PROCESSING DEPARTMENT



HOSPITAL DISPATCHING

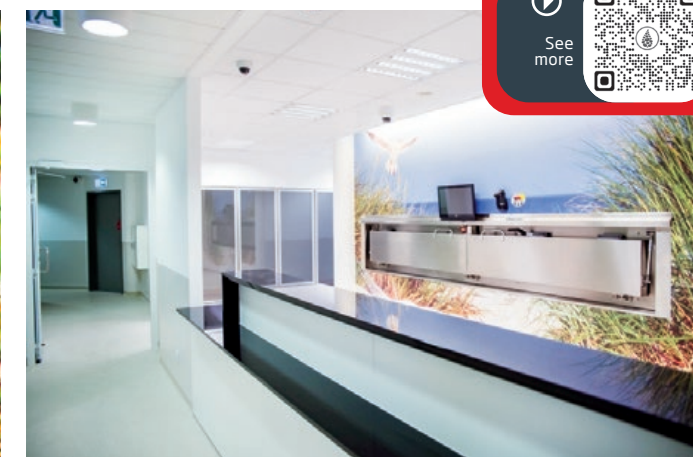


BULK SHIPMENTS TO FRACTIONATION PLANTS

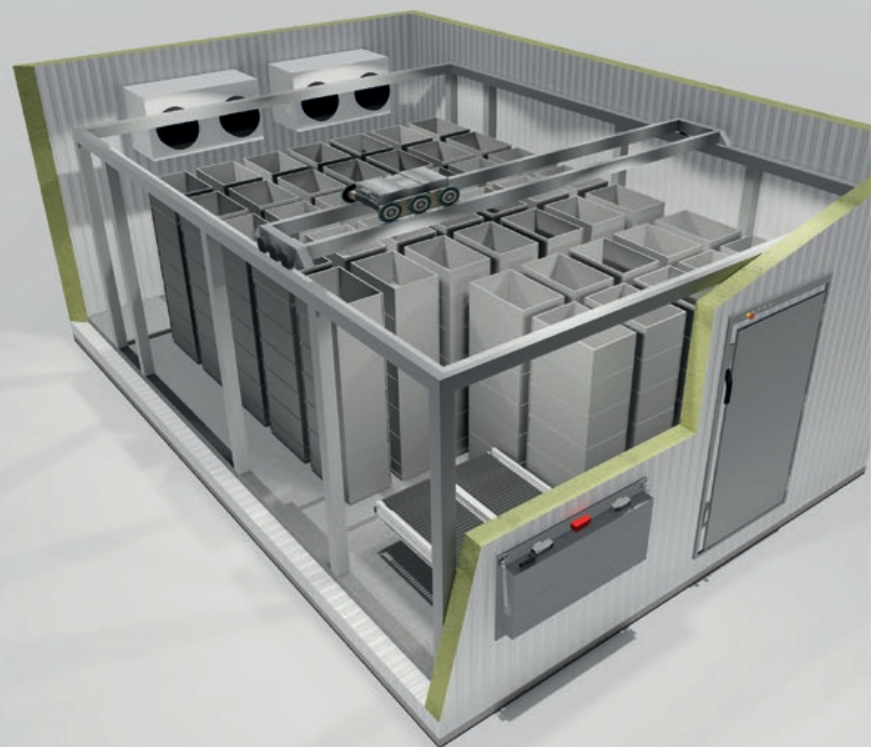


The solution you need

We can adapt to the customer's needs regarding the amount of plasma stored. We will provide our expertise to help you choose the best solution depending on the specificity of the building, the possibility of device installation, as well as possible construction, reconstruction, and/or expansion of the building. The scalability of this solution allows the plasma to be accessed from up to 3 floors, with such implementation allowing to significantly improve the operational flow of your facility.



AUTOMATED PLASMA STORAGE SYSTEM HORIZONTAL - CUSTOM MADE MC TYPE



A system facilitating storage of 10-40 thousand plasma units at -32°C . Designed for installation on one floor, allowing placement in most existing facilities. The system does not require alterations or reconstruction of the building structure, requiring only a room with an appropriate cubature. Ease of installation combined with a relatively large capacity are the main advantages of this system. In addition, full automation of the storage process and ease of operation ensure a high comfort of work for the medical personnel.



AUTOMATED PLASMA STORAGE SYSTEM HORIZONTAL - CUSTOM MADE MC TYPE



Automated horizontal freezers are installed on one floor, which significantly reduces the scope of preparatory construction works and shortens the total installation time. In practice, freezers can be installed in any room that meets the basic requirements of the floor to ceiling height and the floor load-bearing capacity.

The widely modifiable structure of the mechanisms and the frame of the device allows it to be adapted to various room sizes used in the construction of cold stores.

The total capacity of the plasma storage can be adjusted to the size of the room and ranges from 10 to 40 thousand plasma units (250 ml).

Plasma samples are stored in bulk containers made of a special material, with a capacity of 45 - 55 plasma units, depending on their packaging method.

Inside the freezer, there is a device designed to transport the plasma containers and deliver them to the access window.

The mobile gripper of the robot moves in the freezing compartment space, transporting and arranging the containers into columns and delivering them to the access window.

The system improves the comfort of the personnel, allowing work without exposition to extremely low temperatures. A robot working in the freezer takes care of all the warehouse operations, controlled from the outside via a touchscreen.

A WMS class (warehouse management system) computer system is used to manage the freezer warehouse stock and perform individual warehouse operations, tracking each movement of every plasma unit.



AUTOMATED MEDICAL COOLERS AND FREEZERS MODULAR SOLUTION WK TYPE



Multipurpose automated storage system WK is a flexible solution for Blood Bank's dispatch department, laboratories, and other medical facilities. Comes as a refrigerator (2-6 °C) as well as a freezer (-32 °C) depending on the needs.

Compact solution with a great capacity of 18 drawers per machine can store **864 units of red blood cells or 540 plasma units or 7956 test tubes (10ml)**. Thanks to its relatively small size, the machine can be placed in an ordinary room, replacing the noisy standard solutions for cold storage.

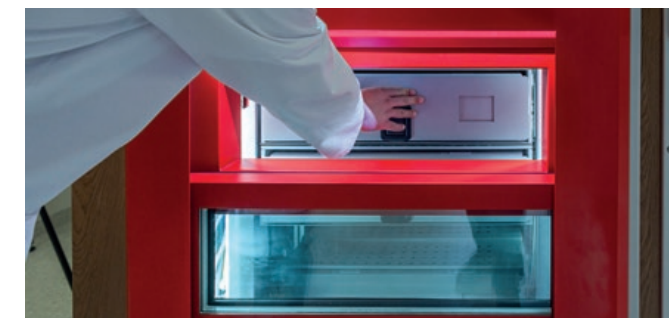
Mix and match a modular WK solution. It is possible to combine refrigeration and freezing devices into one set, with the chambers of individual modules being combined within a given temperature range. The entire set of devices is powered by redundant cooling systems, whose external systems are installed outside the room, ensuring comfortable and quiet working conditions for medical personnel.



AUTOMATED MEDICAL COOLERS AND FREEZERS MODULAR SOLUTION WK TYPE

Integrated WMS (Warehouse Management System) not only with our **Monitor M2M** but also with other systems. It can be customized depending on the needs. Enables continuous tracking of product introduced which is in compliance with the **GMP**.

Wireless operations. Each system comes with a barcode scanner and systems that can be operated from your computer on a desktop, and tablet.



The system has a significant impact on everyday operations, improving their comfort through:

- easy access to individual medical products
- quiet operation of cooling devices
- no heat emission from refrigerators inside the room, eliminating large and noisy indoor air conditioning systems
- automatic access window with a pull-out drawer placed at an ergonomic height
- automatic drawer labeling system, indicating the contained product groups
- fast operation of mechanisms recalling the selected drawer

ADVANTAGES OF OUR SOLUTION

- A modular solution that can be used in any room
- Quiet work and friendly working conditions for medical staff
- A functional and aesthetic built-in solution
- Maximized use of medical warehouse space
- Built-in temperature monitoring system



Did you know?



Multifunctional medical coolers and freezers, both manual and automatic, are designed from ready-made modules. A range of glass displays can be selected to suit the specificity and storage needs of a blood donation center, hospital or laboratory.



OUR EXEMPLARY PROJECT

Well thought-out solutions

Gdansk Regional Center for Blood Donation and Blood Treatment

As one of our flagship projects, this example shows the comprehensiveness of the services we provide to our customers, guaranteeing them peace of mind and safety at each of 6 project stages. In this case, we had the opportunity to participate in all stages of creating a new facility completely from scratch, continuously refining all the details throughout the duration of the project. The feedback we received after the completion of the project convinced us that our process was ready to be used in small and large-scale investments in Poland and all over the world.

CoolSystems staff is involved in the project at all stages to ensure that the Automated Plasma Storage System addresses the problems of our client.

The Automated Plasma Storage System redefines the concept of plasma storage in blood banks. It is a completely new approach that guarantees an unseen before level of safety.

EACH OF OUR PROJECTS IS CARRIED OUT IN ACCORDANCE WITH OUR 6-STEP PROCESS

1 AUDIT



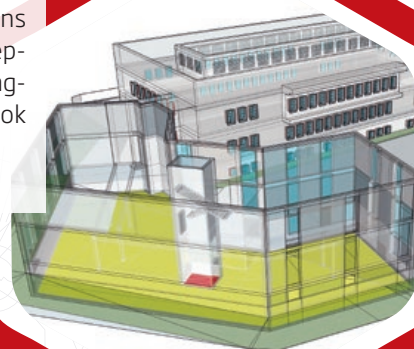
This initial step features analysis of the needs, on-site recognition of the current conditions, and already implemented solutions.

2 CONCEPT



The concept serves as a guiding blueprint, providing a clear direction and a creative foundation upon which all subsequent work will be based.

3 VISUALISATION



Involves creating detailed designs and models that bring the conceptual ideas to life, and help to imagine how the final project will look and function in real life.

4 DEVELOPMENT



This includes detailed planning, specification of materials and technologies, and the preparation of documentation necessary for execution.

5 PRODUCTION AND CONSTRUCTION



In this phase, the actual building or creation of the project takes place.

6 IMPLEMENTATION



Implementation include the integration of the project with existing systems, the training of personnel, and the validation of the system to ensure functionality.



See more

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COLLABORATIVE ROBOTS

M2M Team delivers complete robotics solutions through the introduction of cobots at our clients' sites - collaborative robots interacting with humans in everyday operations.

TSR 2.5 - blood bag tube segment sealing and labeling robot

The TSR 2.5 robot is an advanced automated tube sealing and labeling device engineered especially with blood donation and hemotherapy centers in mind. The complete process takes up to 30 seconds, offering even a 6-fold increase in work efficiency. The LCD touchscreen supports easy and intuitive navigation.

Safer and more efficient

Advanced robotics and computer science technology enables automatic labeling and sealing of the tube segments.

Efficiency of the product preparation process is significantly increased, maintaining the highest standards of safety and repeatability.

Integration with donation recording systems ensures error-free printing and labelling.

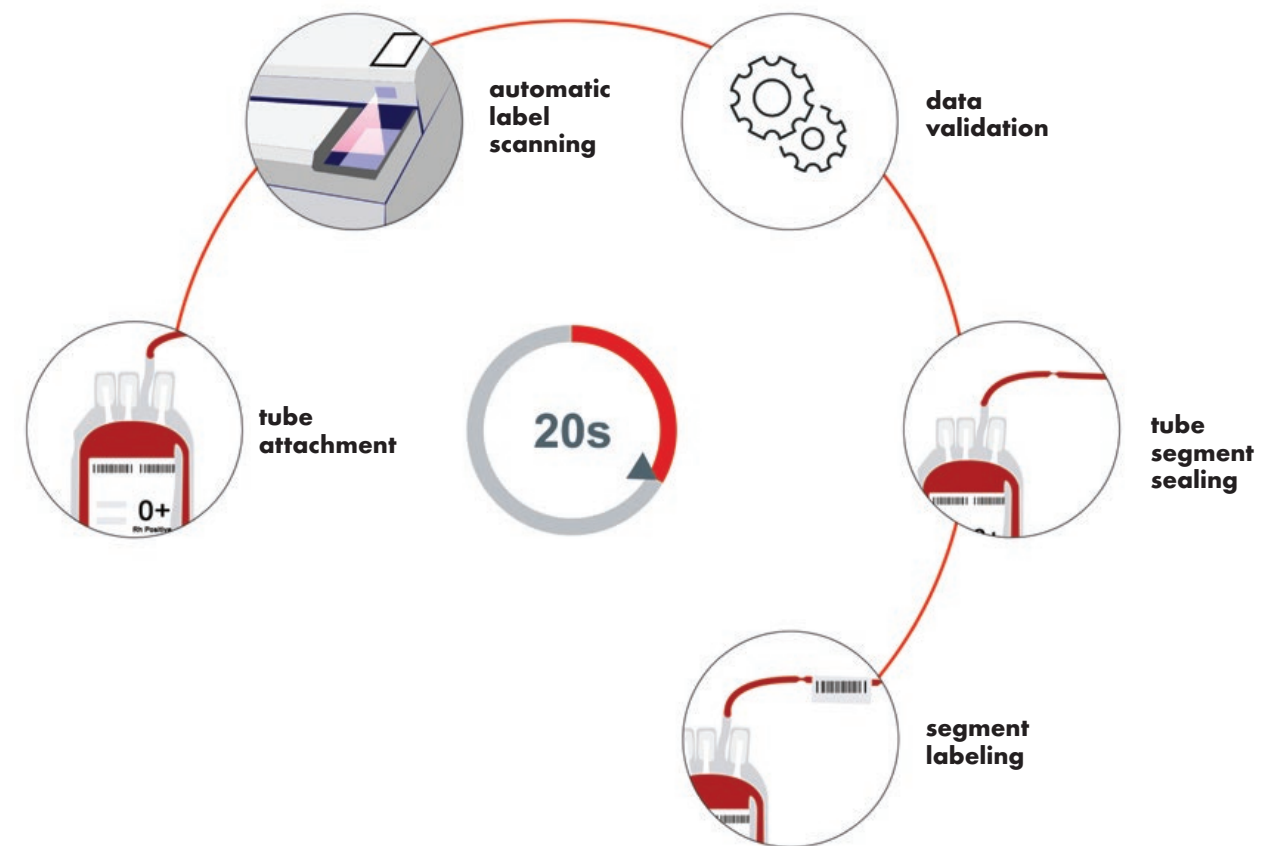
Precisely applied labels eliminate scanning and reading difficulties.



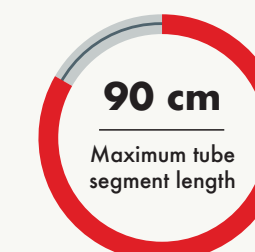
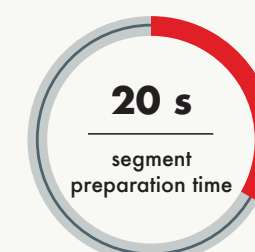
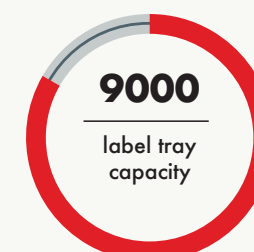
The robot automates the processes of sealing and labelling of blood sample tube used for pre-transfusion cross-testing. The key advantages of the device include streamlining of human operation, convenience of use, and minimization of concatenation-related risks.

20 seconds is the time needed to prepare and validate up to 6 tube segments sealed blood samples, with one person being able to operate two machines at the same time. These solutions have been successfully implemented at Blood Donation Centers across Poland.

Tube segment sealing and labeling automation



Advantages of the TSR 2.5 - the tubeg segment sealing and labeling robot.



TEMPERATURE MONITORING

An integrated Temperature Monitoring System for Blood Donation Centers and Hospitals. The **MonitorM2M platform** allows you to view, collect and store the data you receive from a variety of real-time cooling equipment types.

Reliable **GMP** and **GDP** compliant system for monitoring and reporting of the entire cold supply chain process, including blood and drug storage and transport.

The system allows detailed temperature monitoring, measurement of temperature distribution, and validation, which facilitates quick temperature sensors reading. The collected data is stored on the **MonitorM2M** online platform.

The MonitorM2M platform allows to view, collect and store data from various cooling devices in real time.

The **MonitorM2M platform** allows integration of a range of devices

- from simple sensors to biological reactors.

System algorithms continuously process and analyze data, compiling ready-made reports. The event log allows to accurately trace all alarm situations.

Access to ready-made **MonitorM2M** reports and summaries is possible via a web browser or a dedicated Android application.

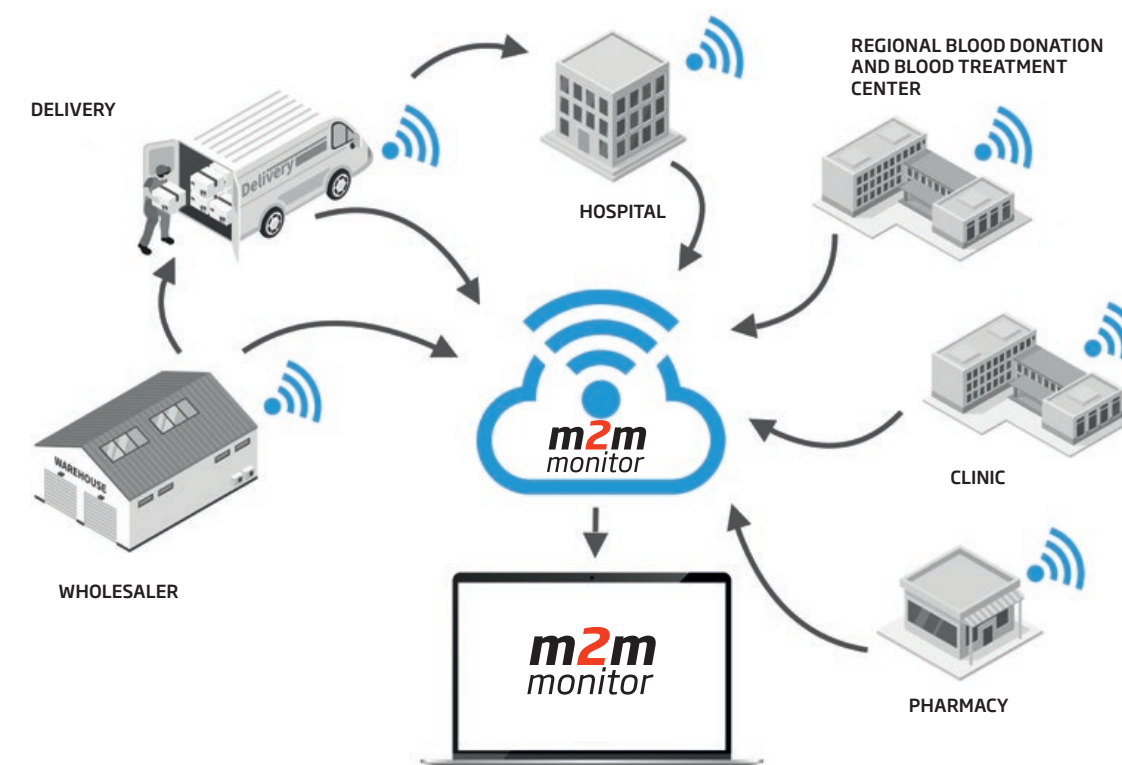
Our offer also includes warehouse modules that allow you to link specific products with the history of their storage conditions.



Validated, DPD and GMP compliant system



Temperature monitoring system



Why choose us?


Online monitoring via our proprietary MonitorM2M platform


Comprehensive advice on planning and implementation of the solution


Solutions customized to the Customer's needs


Service support

ADVANTAGES OF OUR SOLUTION

- Possibility of integration with a range of devices.
- Quick and simple system implementation.
- User-friendly platform with a transparent GUI and data display.
- Event log and alarm event analysis.
- Automatic report generation.
- Easy system expansion.



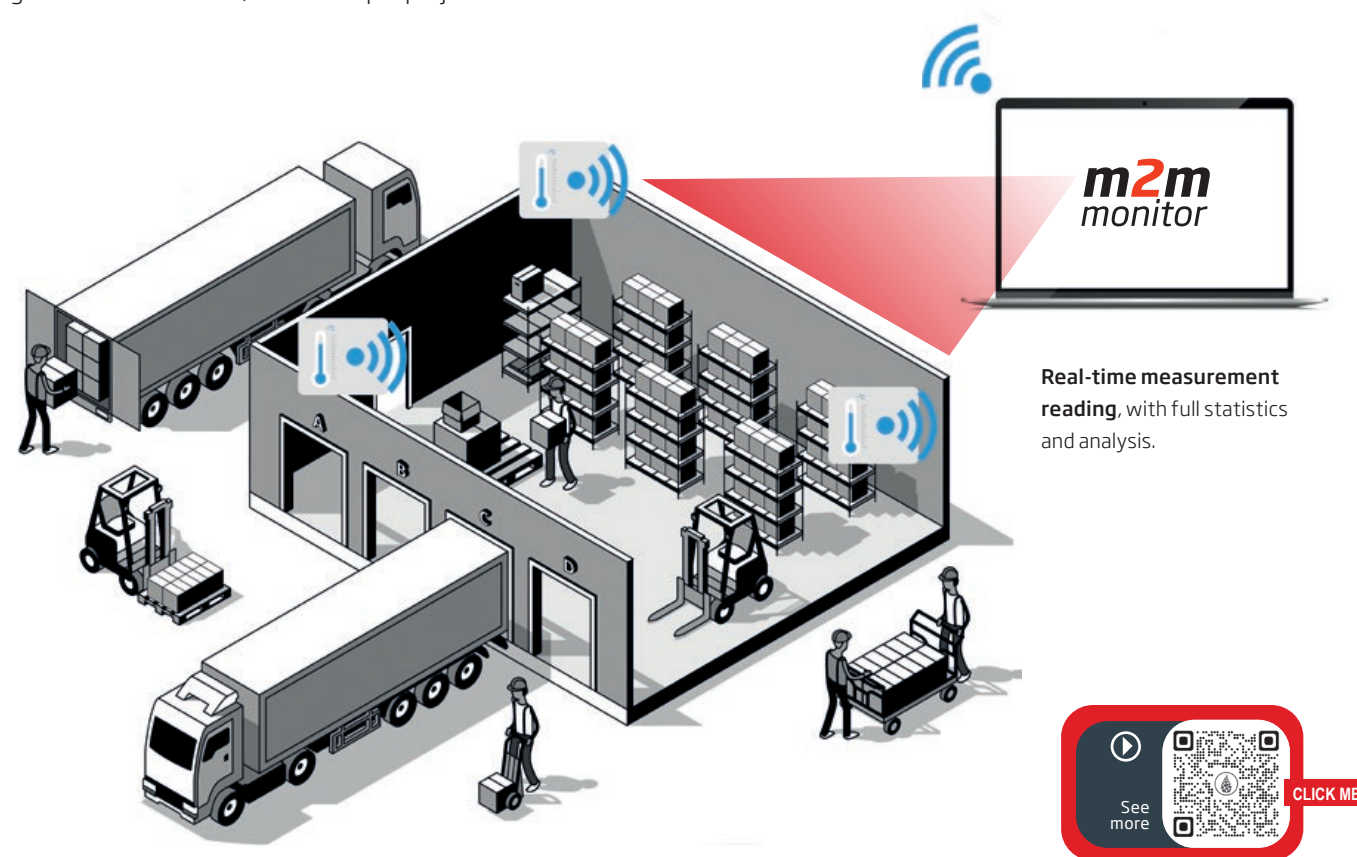
TEMPERATURE MAPPING

Control of parameters such as humidity or temperature becomes possible with knowledge regarding the distribution characteristics of these parameters in the monitored facility. Such distribution characteristics can be obtained through the mapping process, based on a series of measurements conducted in a set area and time period. The obligation to regularly collect mapping data is regulated by local and European law, and is mentioned in a number of independent publications. Mapping is the process of determining the temperature distribution (temperature map) in a particular zone and determining the spots of minimum and maximum temperature. The purpose of mapping is to confirm that the appropriate temperature is maintained throughout the tested zone and to indicate points where it should be constantly monitored. In the case of cooling devices or vehicles, mapping may even be an obligatory element of their validation.

Warehouse space mapping

Temperature and humidity distribution analysis in warehouses subject to strict climate conditions (e.g., 15-25°C for Pharmaceutical Wholesalers) allows to determine the number and location of permanent monitoring points, check for spots where goods cannot be stored, or suggest alterations of the existing air conditioning, heating or air flow. We can map both small and large-scale warehouses, with multiple projects based on 10 to

several hundred measurement points already present in our portfolio. To meet the requirement of mapping in representative conditions, we offer both summer and winter mapping.



M2M Team performs mapping based on a validated professional temperature monitoring system - the **M2M Monitor**. Thanks to wireless sensors, the service is completely non-invasive, with no operational downtime needed for installation. All our sensors are calibrated in a Polish Centre for Accreditation certified laboratory. The automated system facilitates quick preparation of reports, in an average time of 5 working days. Each analysis is preceded by a breakdown of client requirements and expectations, based on which the risk analysis team determines the mapping duration and the number of points tested.

Vehicle mapping

We can create a map of vehicle cargo space temperature distribution, both when parked and during normal transport procedures. The results allow to detect and eliminate any potential deviations in the cold supply chain, allowing to identify critical spots for continuous temperature monitoring. The analysis can be expanded by operational tests - performed during e.g., door opening or power failure, and tests of the time necessary to achieve the set temperature. Such an extensive service provides complete knowledge of the environmental conditions during transport, serving as a basis for compliance with the Good Distribution Practice.



As-built documentation contains the mapping report with supplements. The contents of the report include:

- detailed information on the measurement method used;
- technical specification of the measuring devices used;
- description of the tested object;
- diagram of sensor arrangement;
- measurement results (temperature graphs, humidity over time, as well as mean kinetic temperature (MKT) and metrological coefficients);
- conclusions and recommendations.

We perform mapping in accordance with the new requirements of Good Distribution Practice (GDP), the Regulation of the Polish Ministry of Health and internal procedures.

Cooling device mapping

The examination of temperature distribution in individual parts of cooling devices allows to determine the spot(s) at which constant monitoring should be conducted. The results serve to determine the correct compressor settings, ensuring maintenance of the appropriate temperature range - e.g., 2-8°C - across the temperature-controlled area. Refrigerator mapping may be an element of its validation / qualification to comply with the Good Distribution Practice. The module is integrated with the M2M Monitor platform, which enables immediate extraction of finished reports.



ADVANTAGES OF OUR SOLUTION

- A fully wireless system that does not require "permanent" installation.
- A simple and automated process.
- On-line data access, allowing to monitor processes on an ongoing basis and make eventual corrections.
- Access to the full process history, allowing easy comparisons between subsequent tests.
- All data processed by the system, providing ready-made conclusions.
- Possibility to print a ready-made certificate.

Why choose us?



A large sensor resource. The best technical facilities enabling the implementation of large projects.



Short lead times. Start the mapping process within 48 hours of placing an order.



Short deadlines for preparing documentation, even within 2 working days after the measurements are completed.



We provide a proprietary method of determining hot and cold spots, the quality of which has been repeatedly confirmed.



Orders fulfilled across the country.



We provide personalized customer service.

TRANSPORT SYSTEMS

Pharmaceutical products are an extremely sensitive cargo that requires special care during transport. Drug transport services must comply with both pharmaceutical law and the Good Distribution Practice, as they need to be protected against damage, contamination, and mutual contamination. To meet the applicable standards, a transport company wishing to transport medicinal products must implement a range of specialized solutions.



ACTIVE SMART TRANSPORT CONTAINERS

Our **M2Mbox smart** transport containers are equipped with both cooling and heating functions, ensuring that the specified temperature is actively maintained. Our containers meet all the requirements to be used as coolers for transport of not only medicines, but also blood, organs for transplantation, and samples for laboratory tests.

The specialized **M2Mbox smart** transport containers are adapted to maintain a constant temperature during the transport of blood, blood products, drugs and other materials

sensitive to temperature change. All our containers come with a validation certificate.

M2Mbox basic and **M2Mbox smart** transport containers with cooling and heating functions are designated for the transport of whole blood, plasma and other blood products.



M2Mbox smart55 transport container



M2Mbox smart31 transport container



M2Mbox smart45 transport container

Did you know?



M2Mbox smart containers allow cooling down to down to -22°C, heating up to 36°C, as well as fast or slow cooling or heating. The containers are equipped with systems that allow online monitoring of the conditions in which temperature-sensitive materials are transported.

BASIC INSULATED THERMAL CONTAINERS

Basic M2Mbox transport containers are adapted to maintain a constant temperature range during the transport of blood, drugs, vaccines and other materials sensitive to temperature change. All our containers come with a validation certificate.



M2Mbox basic22 transport container



M2Mbox basic13 transport container

Did you know?



M2Mbox basic containers can maintain the temperature in the range of 20°C - 8°C for up to 16 hours. The containers are equipped with systems enabling online monitoring of conditions in which temperature-sensitive materials are transported.

Advantages of our containers



Easy-to-read LED display for controlling the internal temperature settings



Bluetooth Low Energy technology sensors



Portable printer ports for printing temperature reports at the time of delivery



Optional temperature displays inside the driver's cabin



Online monitoring via our proprietary MonitorM2M platform

FROM A RENTED TOYOTA YARIS TO A ROBOTIC PRODUCTION FACILITY

In the year 2010, we were meeting with partners to discuss the activities of our future company, were making plans to earn a fortune on electricity meter systems. Life, however, wanted otherwise. My father's sudden illness and death tied me with the blood donation field, which since then has become a type of a true calling. We started with the implementation of a monitoring system for the storage of blood and its components, based on two technologies that were very innovative at the time, data transmission over the building's power grid building and a cloud-based IT system.

This innovative project was the beginning of our long-term partnership with the Regional Blood Donation and Treatment Centers. Despite our completely different initial business plans, we decided that this will be our way forward, mostly because participation in such an important effort provided us with a large sense of mental comfort. I remember the first projects, when we drove a rented Toyota Yaris around the entire Podlasie region and one by one connected the individual blood donation centers to work together in an entirely new system.

I think it was our enormous commitment and extraordinary ideas that allowed us to build such an extensive client base. It is worth noticing that we have been implementing innovative solutions practically with every new project. This label has stuck to us so firmly, that more conservative customers were not fully ready for all our innovations. Almost 10 years have passed since we implemented the first automatic plasma storage facility, which turned out to be the world's first warehouse of this type, so in a way we've become pioneers in the field of plasma storage automation in the blood bank industry. Over the next 10 years we have completed more than 40

projects, which proves that full commitment to this sector was a good decision. Through constant expansion of our know-how and the scope of our activity, we have attracted a range of specialists from various fields, resulting in a truly multidisciplinary approach to business.

Nowadays, we are proud to be the authors of several large projects, comprising the design of advanced structures, internal installations, and automation systems.

To ensure top quality of our products, we have implemented the ISO 9001 and ISO 13485 quality management systems, which guarantees professional approach and high quality of services to our clients.

All our successful projects on the Polish market encouraged us to introduce our products to a worldwide audience, which quickly turned out that to be a bullseye. We've successfully implemented our solutions in one of the largest blood donation stations in Vietnam, followed by several projects in the Middle East, Africa, South America and Europe. Once we have created the CoolSystems brand, we became known in the entire blood bank industry as a bold, inventive and innovative company from Poland - a country proud to be known for educating excellent engineers. In this way, what started from our Toyota Yaris trips thirteen years ago led us to a modern production facility equipped with state-of-the-art robotics. Nonetheless, our heads are still full of ideas that will undoubtedly lead to further breakthroughs for the industry, and you can be sure that **we haven't said our last word yet.**

Gregorz Piestach



COMPLETED PROJECTS INVESTOR FEEDBACK

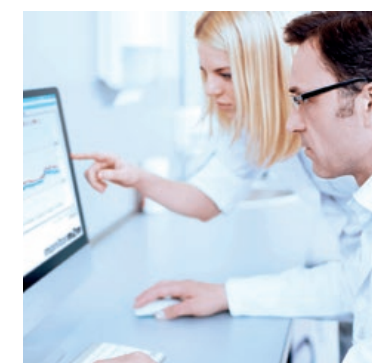
// Gdansk Regional Blood Donation and Treatment Center - comprehensive overhaul / freezer

We struggled with a number of problems related to, among others, and increase in blood production, which was then organized in the basement of the building and was mostly manual.

The M2M Team designed and built a new wing of the facility from scratch, adapted to the needs of the production and supply of blood components. The heat generated by the cooling systems is used to power the building's technical equipment.

The three-story Automated Plasma Storage has become the center of the new facility, and an integral part of a new blood component production process. This innovative solution reduced the number of cooling installations to a minimum and resulted in vast improvements of work quality. The warehouse is fully integrated with the production systems of blood donation stations.

Currently, the building is self-sufficient in terms of heating and domestic hot water production. The project exceeded our expectations, and the comprehensive solutions implemented will surely satisfy our needs for a very long time.



// Bemowo Medicine Centre - Monitoring

*We have been using the M2M Team temperature monitoring system for several years. The system solved our problems with unreliable thermometers and the need to manually record temperatures in vaccine refrigerators. It also ensured that we are alerted in the event of exceeding the permissible temperature ranges. Instead of manual saving, we have access to an **extensive reporting module**, which we use only when necessary. The system noticeably reduced the time associated with temperature control in our refrigeration appliances. Satisfied with the functionality of the system and service support, we extend our maintenance contract with M2M Team for subsequent periods.*

// Bialystok Regional Blood Donation and Treatment Centre

During the whole blood collection process, medical personnel had to spend considerable time manually sealing and labelling tube segments. To avoid incorrect labelling, multiple checkpoints were necessary.

The TSR 2.5 robot has automated the process and reduced the number of labeling errors to zero, making medical staff more efficient, safer, and more comfortable.



// Warsaw Regional Blood Donation and Treatment Centre

A significant portion of our budget was spent on storing plasma in external warehouses. To reduce costs and optimize the process, we decided it is necessary to provide an in-house storage space.

M2M Team was responsible for the design and conversion of the old coal-fired boiler room into a modern plasma storage facility and additional rooms for the blood dispatch department.

As a result, we received an innovative warehouse for 60 thousand containers and additional rooms equipped with modern cooling systems.

The incredible improvement in the working conditions of our staff, who do not have to enter the freezer anymore, as well as the speed, efficiency and cost-effectiveness of the process are the perfect proof of well-invested funds.

A photograph of two female scientists in white lab coats working at a computer in a laboratory. One scientist is seated and typing on a keyboard, while the other stands behind her, looking at the monitor. The image is framed by a red and white geometric border.

SCAN ME or CLICK ME



www.coolsystems.pl