MDS — TEMPORARY SHELTER FOR CIVILIAN POPULATIONS

Civilian protection. In every community.

One module. Many possibilities. Protection closer to residents.



01 / 12 m MODULE

Mobile container without windows, clad with protective panels.

Configuration tailored to local needs and project requirements.

SINGLE MODULE • MOBILITY • PROTECTION • ADAPTABILITY



02 / CONNECTED MODULES

Combining units into larger assemblies.

Phased expansion and capacity tailored to community needs.

SCALABILITY • MODULAR CONNECTION • EXPANSION

APPLICATION: CIVILIAN PROTECTION

A concept for local authorities and communities, including dual-use applications.

Concept visualizations. MDS status and protection performance require separate verification.

LOCAL ACCESS TO PROTECTION.

T-Genius modular protection systems for communities.

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ONE TECHNOLOGY. MULTIPLE LAYERS OF PROTECTION.

Advanced protective systems using ballistic ceramics and technical composites, integrated with structures, infrastructure and equipment as one coherent system.



INTEGRATED PROTECTION ARCHITECTURE
protective layers • structure • infrastructure

FOUR PROTECTION AREAS

01 FIRE & THERMAL

02 BALLISTIC & FRAGMENTATION

03 CRITICAL INFRASTRUCTURE

04 SPECIALIST SYSTEMS

The scope and specifications of each layer are tailored to the function, threat and operating environment.

DESIGN PRINCIPLE

LAYERS TAILORED TO THE THREAT

We do not claim a universal configuration.
The design depends on the required protective function.

01 FIRE & THERMAL PROTECTION

Protecting structures, equipment and infrastructure against fire and high temperatures.

02 BALLISTIC & FRAGMENT PROTECTION

Multilayer systems using ballistic ceramics, composites and metal layers.

03 CRITICAL INFRASTRUCTURE

Solutions for energy, industry, telecommunications, technical facilities and defence.

04 SPECIALIST SYSTEMS

Modular protective solutions for demanding environments and special applications.

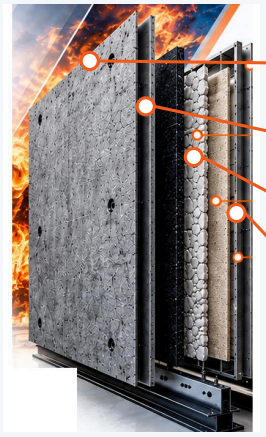
PROTECTION IS NOT AN ADD-ON.
IT IS PART OF THE SYSTEM ARCHITECTURE.

T-GENIUS

Integration of materials, structures and functions in one solution.

FIRE & THERMAL PROTECTION.

Protective systems for infrastructure, fixed facilities and mobile solutions using materials based on magnesium, aluminium and geopolymers. Functional layers are integrated into multilayer panels.



OUTER LAYER
Resistance to fire, weather and physical damage

FIRE PROTECTION LAYER
Non-combustible materials based on magnesium, aluminium and geopolymers.

THERMAL INSULATION LAYER
Limits heat transfer to the protected part of the facility.

TECHNICAL COMPOSITES
Provide system stability and mechanical properties at high

LOAD-BEARING STRUCTURE
Transfers loads and stabilises the entire protective panel.

MULTILAYER PROTECTIVE BARRIER
fire protection • thermal insulation • structural stability

KEY FUNCTIONS

01 FIRE RESISTANCE
Limiting fire spread and protecting the structure.

02 THERMAL INSULATION
Reducing heat transfer and stabilising temperature.

03 STRUCTURAL STABILITY
Maintaining mechanical properties at high temperatures.

04 FACILITY SAFETY
Protecting people, equipment and critical infrastructure.

DESIGN PRINCIPLE

PROTECTION COMES FROM THE ENTIRE LAYER SYSTEM

Material selection and thickness depend on project-specific requirements.

01 MODULAR FACILITIES

Containers, temporary and permanent buildings requiring fire and thermal protection.

02 CRITICAL INFRASTRUCTURE

Server rooms, data centres, energy and telecommunications facilities.

03 INDUSTRY & DEFENCE

Production plants, technical facilities, shelters and operational posts.

04 MOBILE SYSTEMS & TUNNELS

Specialist containers, vehicles, field systems and underground infrastructure.

SAFETY. STABILITY. OPERATIONAL CONTINUITY.

FIRE PROTECTION
Functional layers integrated into one system.

APPLICATIONS OF PROTECTIVE SYSTEMS.

One protective architecture can be configured for different environments: from critical infrastructure and industry to military facilities, modular solutions and mobile systems.

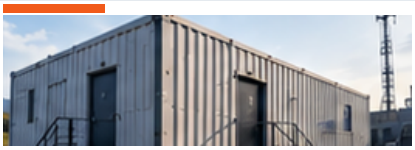
COMMON TECHNOLOGY PLATFORM

PROTECTION TAILORED TO THE THREAT AND FACILITY.

Layer configuration, load-bearing structure and integration are selected according to the protective function, environmental conditions and the protected infrastructure.



PROTECTED INFRASTRUCTURE
protection as part of facility architecture



01 MODULAR FACILITIES

Containers, temporary and permanent buildings. Ballistic, fire and thermal protection.



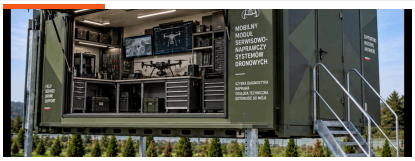
02 CRITICAL INFRASTRUCTURE

Server rooms, data centres, energy, telecommunications and technical nodes.



03 INDUSTRY

Manufacturing plants, halls, process installations and protection of equipment and operations.



04 MILITARY APPLICATIONS

Bases, shelters, command posts, storage facilities and personnel protection.



05 ENERGY SYSTEMS

Energy storage, batteries, substations and power infrastructure.



06 MOBILE SYSTEMS

Specialist containers, technical modules, field systems and mobile solutions.

APPLICATION MODEL

ONE PLATFORM. MULTIPLE PROTECTION CONFIGURATIONS.

The scope of protection is tailored to individual project requirements.

FROM CRITICAL INFRASTRUCTURE TO MOBILE SYSTEMS.

APPLICATIONS
modularity • integration
scalability • protection

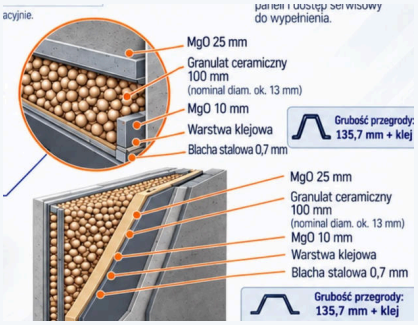
PROTECTED OPERATIONS MODULE. DESIGNED AS ONE SYSTEM.

Container structure, protective layers, equipment and mobility are designed together to meet the needs of a specific mission, operating environment and deployment method.



COMMAND CONTAINER — CONCEPT SECTION
operator stations • communications • technical equipment

EXAMPLE LAYER CONFIGURATION



MgO 25 mm • ceramic core 100 mm
MgO 10 mm • bonding layer • steel 0.7 mm

REFERENCE FORMAT

20' ISO **6058 × 2438 × 2591 mm**

Reference dimensions from the conceptual design.
Weight and protective properties depend on the final configuration.

01 LAYERED PROTECTION

MgO, ceramic core and metal layers are integrated into the designed protective barrier.

02 MODULAR MAINTENANCE

The concept allows panel replacement and service access to protective components.

03 FUNCTIONAL INTEGRATION

Command, communications, HVAC, power and technical equipment can be incorporated into one unit.

04 OPERATIONAL MOBILITY

The container format can be combined with T-Genius lifting, transport and relocation systems.

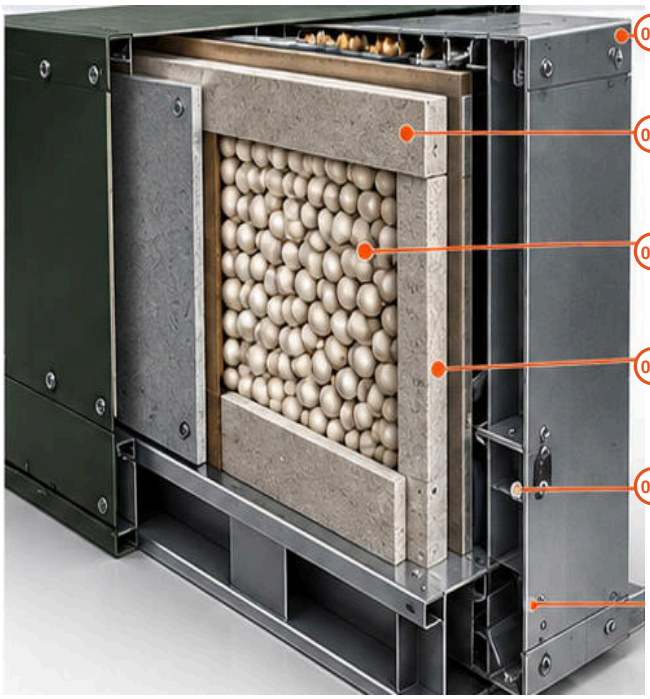
PROTECTION IS NOT AN ADD-ON TO THE CONTAINER.
IT IS PART OF ITS ARCHITECTURE.

DEVELOPMENT CONCEPT

Final protective performance, weight and configuration require validation of the complete system.

MULTILAYER BALLISTIC PROTECTION.

Ballistic ceramics, technical composites and steel components form an integrated protective system. Configuration depends on the threat, facility structure and required performance.



PROTECTIVE BARRIER CROSS-SECTION
Illustrative diagram of the layer configuration

LAYER ARCHITECTURE

01 OUTER CLADDING
Surface protection and structural integration element.

02 CERAMIC LAYER
Ballistic ceramics as part of the energy-dissipating system.

03 TECHNICAL COMPOSITES
Layers supporting protection and reducing impact effects.

04 STRUCTURAL LAYER
Steel elements and fixings transferring loads.

05 FACILITY INTEGRATION
Adaptation to a container, building or installation.

DESIGN PRINCIPLE

PROTECTION IS TAILORED TO THE THREAT.

Layer thickness and arrangement require verification for each project.

01
MODULAR FACILITIES

Technical containers, protected modules and shelters.

02
CRITICAL INFRASTRUCTURE

Energy, telecommunications, data centres and industry.

03
SPECIALIST FACILITIES

Defence facilities, operational posts and equipment.

PROTECTIVE PERFORMANCE MUST BE VERIFIED BY TESTING THE COMPLETE SYSTEM.

COMMAND CONTAINER.

MODULAR MgO PROTECTION WITH CERAMIC FILL

20-foot container concept with a modular protective barrier, operator stations, communications and IT equipment.



20' CONTAINER / CONCEPT VISUALISATION



BARRIER CROSS-SECTION

BARRIER LAYERS

01 MgO 25 mm
02 Ceramic granules 100 mm
03 MgO 10 mm
04 Adhesive layer
05 Steel sheet 0.7 mm

20' CONTAINER DIMENSIONS

Length: 6058 mm

Width: 2438 mm

Height: 2591 mm

Barrier thickness: 135.7 mm + adhesive

PRELIMINARY WEIGHT ESTIMATE

Ceramic granules: 130–140 kg/m²

MgO 25 mm: 25 kg/m²

MgO 10 mm: 10 kg/m²

Steel 0.7 mm: approx. 5.5 kg/m²

Total: approx. 170.5–180.5 kg/m²

INDICATIVE PARAMETERS

Wall and roof area: approx. 58.80 m²

Layer weight: approx. 10.0–10.6 t

Roof layers: approx. 2.52–2.67 t

Excluding frame, doors and equipment.

TECHNICAL STATUS / CONCEPT

Resistance parameters require testing and validation of the complete system.
Load capacity, sealing, joints and gross weight require detailed engineering.

PROTECTION IS PART OF THE SYSTEM ARCHITECTURE.

MODULAR PROTECTION SYSTEMS
FOR CRITICAL INFRASTRUCTURE

Protective systems for energy, oil, gas and industrial infrastructure. Modular walls with MgO and ceramic fill, configured to facility requirements and identified threats.



01 OIL PUMPING STATIONS

Protection for pumps, valves, control systems and operator stations.



02 GAS COMPRESSOR STATIONS & PIPELINES

Protection for compressors, filters, valves and process infrastructure.



03 ELECTRICAL SUBSTATIONS

Protection for transformers, switchgear and critical infrastructure equipment.



04 REFINERIES & PETROCHEMICALS

Modular protection for process installations, pipelines and service stations.

KEY BENEFITS

PROTECTION
Reducing the impact of mechanical threats

MODULARITY
Assembly, expansion and relocation of barriers

ENVIRONMENTAL RESILIENCE
Adapted to climate and operating conditions

INTEGRATION
Adaptation to installations and infrastructure

APPLICATION

System configuration depends on threats, installation location and operating conditions. Protective performance requires testing and validation of the complete system.

PROTECTING CRITICAL INSTALLATIONS
IN THE MOST DEMANDING ENVIRONMENTS.

T-GENIUS
Modular systems protecting strategic infrastructure

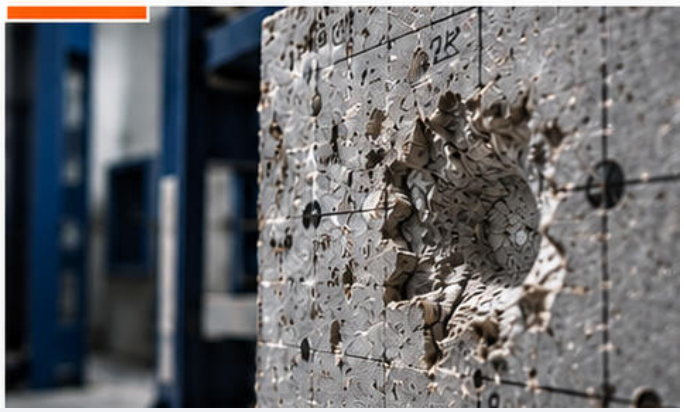
TESTING & VALIDATION OF PROTECTIVE SYSTEMS.

Validation covers materials, joints and complete protective barriers.
Testing is tailored to the threats and operating environment of each system.



01 BALLISTIC TESTING

Assessment of the tested barrier under specified ballistic threats. Results apply to the tested configuration.



02 FRAGMENTATION TESTING

Assessment of damage, penetration and delamination of materials and joints; entire system response.



03 FIRE & THERMAL TESTING

Assessment of material and barrier resistance using an established test method.



04 MATERIAL TESTING

Verification of formulations, mechanical properties, joints and component durability.

KEY VALIDATION ELEMENTS

TEST FACILITY

Controlled conditions for conducting tests.

COMPLETE SYSTEM

Verification of layers, fixings and joints.

REFERENCE DATA

Results for a specific specimen configuration.

CERTIFICATION STATUS

Formal classification requires confirmation.

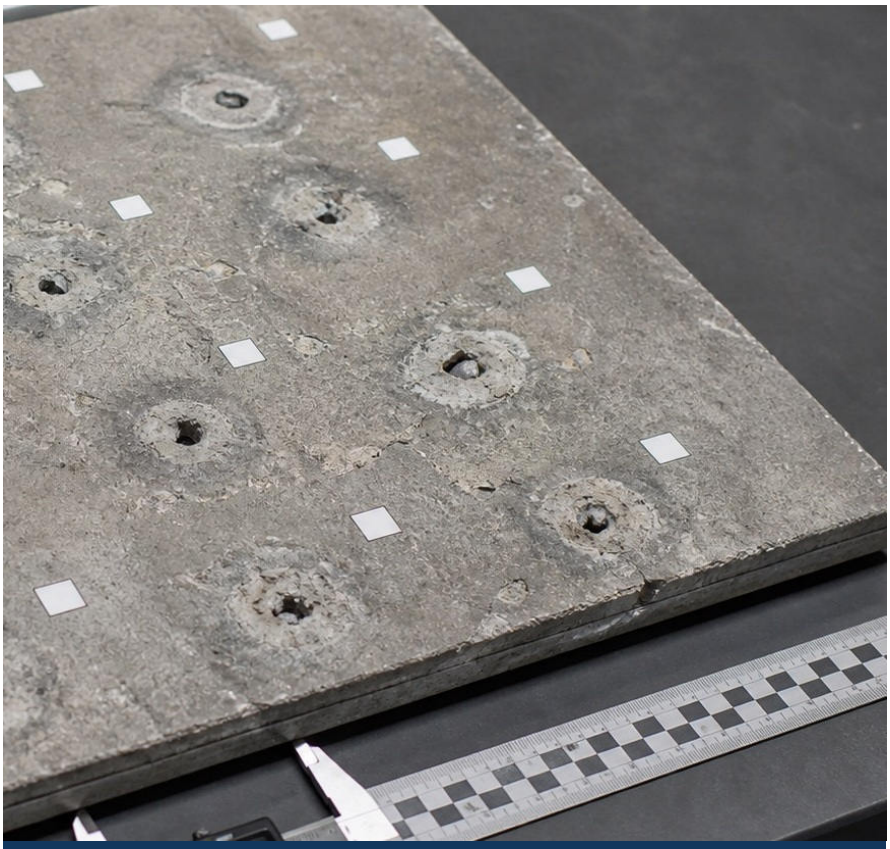
APPLICATION Energy, industry, critical infrastructure and defence facilities.

VERIFIED IN PRACTICE.
DATA-DRIVEN PROTECTION.

T-GENIUS
Modular protection systems
for strategic infrastructure.

BALLISTIC TEST RESULTS.

RGN Tech reference data relate to tests on a specific demonstrator configuration.
The listed energies and calibres do not constitute a certified protection rating.



PANEL AFTER LIVE-FIRE TESTS

TEST PROGRAMME SCOPE

5.56 × 45 mm	up to 1775 J
7.62 × 39 mm	1991 J
7.62 × 51 mm	2890–3430 J
7.62 × 54 mm	2920–4466 J
.30-06	2295–3299 J
7.92 × 57 mm	3700–4500 J

RESULT REPORTED BY RGN TECH

According to the documentation, no penetration occurred in the tested configuration.
This description relates to the demonstrator and RGN Tech's reported test scope.

TECHNICAL INTERPRETATION

Test results do not constitute a formally certified resistance classification.
The protective performance of a complete T-Genius solution requires separate validation of geometry, fixings, joints and operating conditions.

PROTECTION VERIFIED THROUGH TESTING.
PERFORMANCE TAILORED TO THE THREAT.

T-GENIUS
Protective systems for
strategic infrastructure.

CONSTRUCTION / STRATEGIC INFRASTRUCTURE

Protection of Strategic Industry

Partition and shielding systems for facilities of high operational importance.

APPLICATIONS

Armoured vehicle production and maintenance halls, defence industry facilities and restricted-access sites. Solutions include prefabricated partitions, mineral cladding and localised reinforcement.



Armoured Vehicle Production
Assembly halls, workshops and technical zones



Strategic Industrial Facilities
Building enclosures, partitions and protected areas

BENEFITS FOR THE INVESTOR

Existing facilities can be upgraded and protection adapted to the function of individual zones, without claiming universal hall-wide resistance.

Ballistic, fragmentation and fire protection must be verified for each specific system, joint configuration and installation method.

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CONSTRUCTION / STRATEGIC INFRASTRUCTURE

Fire Protection for Infrastructure

Mineral-based solutions for energy facilities and tunnels.

APPLICATIONS

Industrial boiler rooms, combined heat and power plants, high-temperature installations, and road and rail tunnels. Structural protection, wall and ceiling cladding, technical partitions and selected equipment shielding.



Boiler Rooms and CHP Plants

Partitions, equipment enclosures and thermal shields



Transport Tunnels

Wall and ceiling cladding, structural protection

BENEFITS FOR THE INVESTOR

Systems can be selected for refurbishment or new construction, taking account of fire scenarios and operating requirements.

RGN reference tests include RWS exposure up to 1350°C. The final assembly, fasteners and joints require separate verification.

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CIVIL CONSTRUCTION / CIVILIAN PROTECTION

Modern Construction and Civilian Protection

Two systems. Two solutions. One objective — civilian protection.

APPLICATIONS

New residential developments and upgrades to public buildings.
Prefabricated facades in a range of colours and textures,
with individually designed protective systems available for integration.



New Residential Developments
Prefabricated walls and facades



Schools, Government Offices and Hospitals
Modernisation and additional protection

TWO SYSTEMS — ONE OBJECTIVE

01 NEW BUILDINGS: attractive prefabricated facades for developers,
with protective requirements incorporated at the design stage.

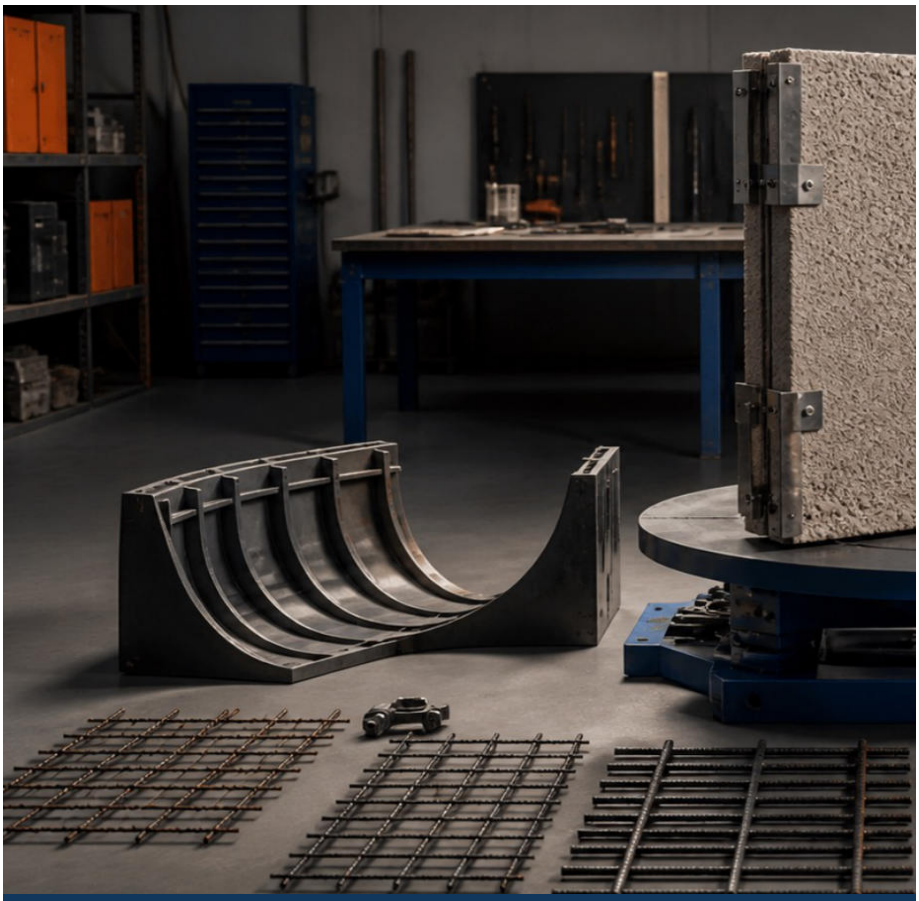
02 PUBLIC BUILDINGS: refurbishment of existing facades and the option
to add protective layers in selected areas.

Ballistic and fragmentation protection requires system-specific design
and verification of the complete assembly, including fixings and substrate.
Concept visualisations — not photographs of completed projects.

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FROM TECHNOLOGY TO DEPLOYMENT.

T-Genius combines the selection of protective technologies with structural integration, supply coordination and preparation for operational applications.



TECHNOLOGY • INTEGRATION • APPLICATION
Illustrative protective system components

ONE PARTNER. ONE COHERENT PROCESS.

01 REQUIREMENTS ANALYSIS

Threats, operating environment and project parameters.

02 SOLUTION SELECTION

Materials, configuration and protection architecture.

03 INTEGRATION & SUPPLY

Coordination of components, production and logistics.

04 DEPLOYMENT & ACCEPTANCE

Preparation for installation, validation and handover.

PARTNERSHIP MODEL

CUSTOMISED SOLUTIONS

System configuration tailored to the facility, mission and operating environment.

RESPONSIBLE DEPLOYMENT

Protective performance verified through testing of the final configuration.

T-GENIUS
INNOVATION • DEVELOPMENT • DELIVERY

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