EMPOWERING DEFENSE.
CONNECTING FORCES.

G7X-RAVEN-SHIELD · PROTECTIVE STRUCTURAL SYSTEM

PROTECTION AGAINST ONE-WAY ATTACK UAVS

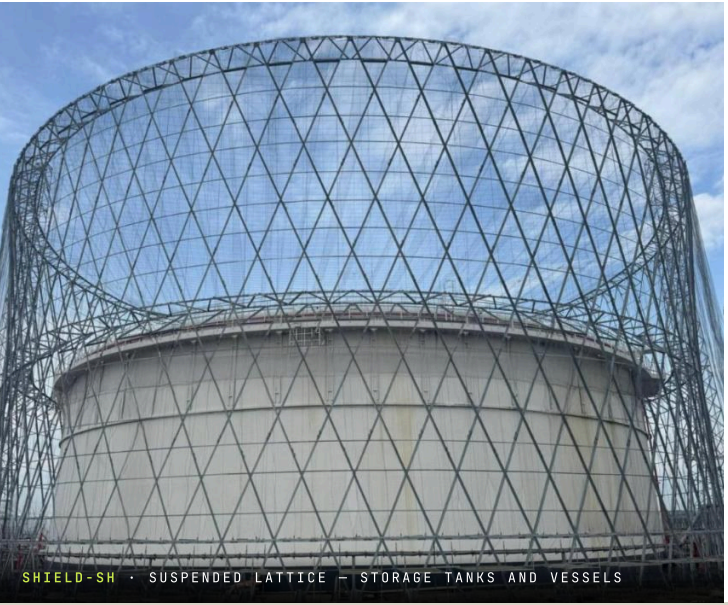
How do you protect a fixed industrial asset against a one-way attack drone?

SYSTEM
RAVEN SHIELD

ISSUED BY
G7X DEFENSE W.L.L. · BAHRAIN

RAVEN SHIELD — PROTECTIVE STRUCTURAL SYSTEM

Suspended UAV protection structure.
Two configurations, one dual barrier.


SHIELD-SH · SUSPENDED LATTICE — STORAGE TANKS AND VESSELS


SHIELD-P · PORTAL FRAME — SUBSTATIONS AND PROCESS EQUIPMENT


MULTI-TANK SITE


MESH BARRIER

Complete **overhead and lateral** protection — a steel frame carrying a dual barrier of cable and gabion mesh over the protected asset.

THE SCALE OF THE FIXED-WING UAV THREAT

What a sustained one-way UAV campaign costs an industrial economy

40–50K

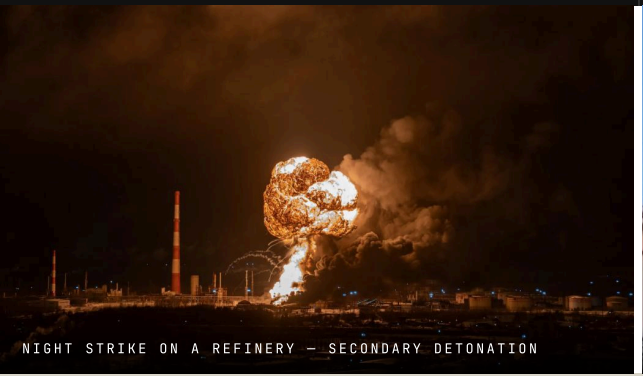
LARGE FIXED-WING UAVS INTERCEPTED OVER ONE TERRITORY, 2022–2026

100s

INFRASTRUCTURE FACILITIES DAMAGED — PLANTS, REFINERIES, SUBSTATIONS, FUEL DEPOTS

$90–100B

MINIMUM ESTIMATED DIRECT DAMAGE, EXCLUDING LOST REVENUE, REPAIRS, LOGISTICS AND PAYROLL



NIGHT STRIKE ON A REFINERY — SECONDARY DETONATION

STORAGE TANK FULLY ENGULFED AFTER A DIRECT HIT

POST-STRIKE AERIAL — BURNT-OUT PROCESS UNITS

Direct losses only. Indirect cost — interrupted production, emergency repair, re-routed logistics and idle payroll — is carried on top. **Every one of those facilities is a fixed, mapped, immovable target.**

EXISTING MARKET SOLUTIONS FOR COUNTER-UAV PROTECTION

Most offerings stop at the net.
RAVEN SHIELD covers the full class.

THREAT CLASS	OTHER COMPANIES	RAVEN SHIELD
Small UAV — up to 30 kg, 60 km/h	COVERED	✓
Light UAV — up to 100 kg, 120 km/h	PARTIAL	✓
Medium UAV — up to 200 kg, 200 km/h One-way attack class	NOT COVERED	✓
Complete overhead *and* lateral protection	RARE	✓

Light net and cable systems are built for small rotary UAVs. **RAVEN SHIELD is engineered for the medium class** — 200 kg arriving at 200 km/h.

EXISTING OFFERINGS – LIGHT NET AND CABLE SYSTEMS, PARTIAL ENVELOPE

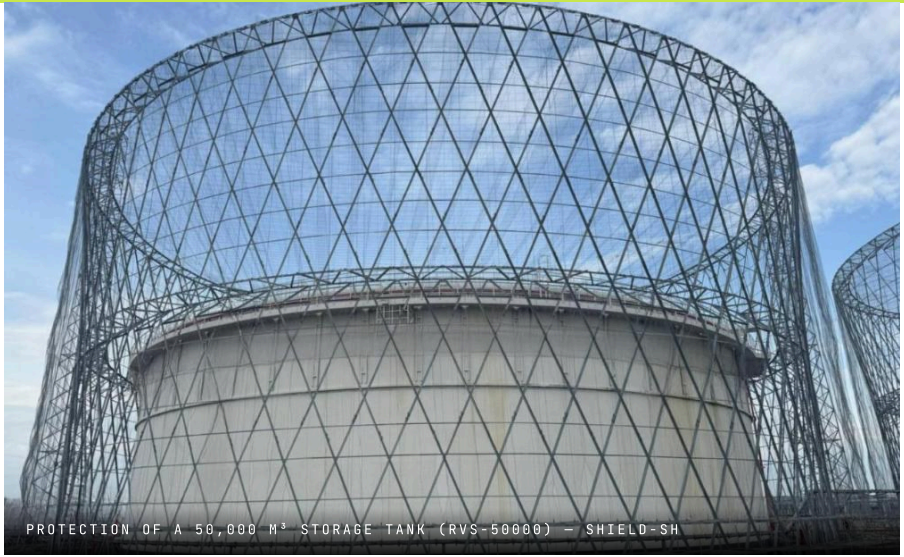
PROVEN OPERATIONAL EXPERIENCE UNDER REAL THREAT CONDITIONS

Three UAVs impacted one structure. The tank kept operating.

The structures have demonstrated positive real-world performance, including **confirmed fixed-wing UAV attacks at two facilities.** These incidents validated the system's effectiveness in minimising damage risk and ensuring continuity of technological operations.

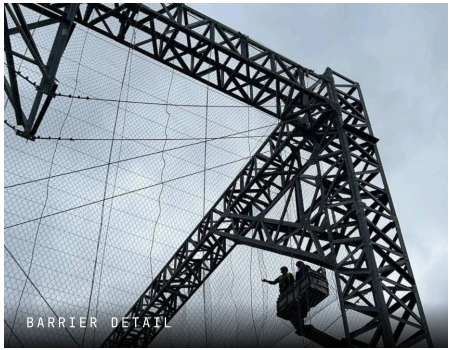
Three UAVs impacted a SHIELD-SH structure, where a significant number of structural elements were cut or removed.

A substantial structural safety margin and load-bearing redundancy.



PROTECTION OF A 50,000 M³ STORAGE TANK (RVS-50000) — SHIELD-SH

TWO PROTECTED TANKS



BARRIER DETAIL

FIELDED ON CRITICAL INFRASTRUCTURE

Implemented at strategic facilities of national energy and grid utilities

154

STANDALONE STRUCTURES ON TANKS FROM 400 M³ TO 50,000 M³

30

FACILITIES COMPLETED PILOT INDUSTRIAL OPERATION, INCL. WINTER

2

FACILITIES DEFENDED IN REAL-WORLD FIXED-WING UAV ATTACKS

LISTED

IN A NATIONAL CODE OF PRACTICE FOR PROTECTION OF CRITICAL FACILITIES

PROTECTED ASSET CLASSES

- Crude and product storage tanks — 400 m³ to 50,000 m³
- Oil & gas facilities, process equipment and pumping stations
- 110–500 kV substations and transformer yards

Confirms suitability for critical infrastructure and compliance with operational reliability and industrial safety requirements.


TANK FARM

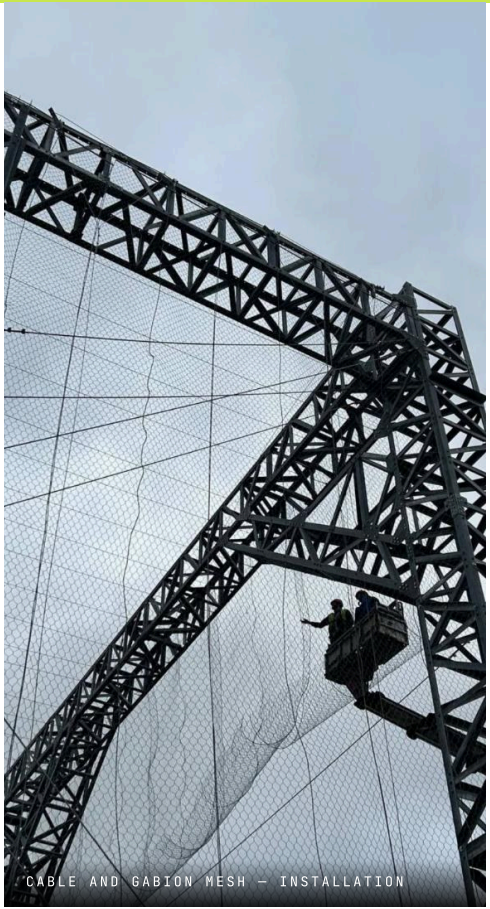

SUBSTATION

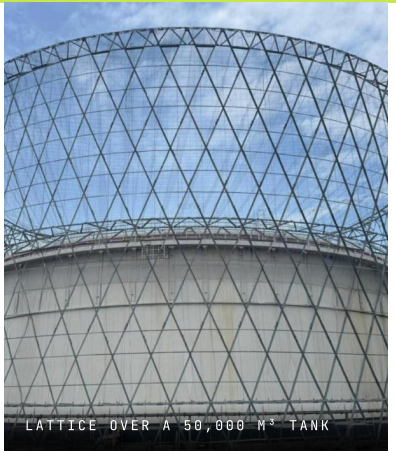

GAS PROCESS SKID

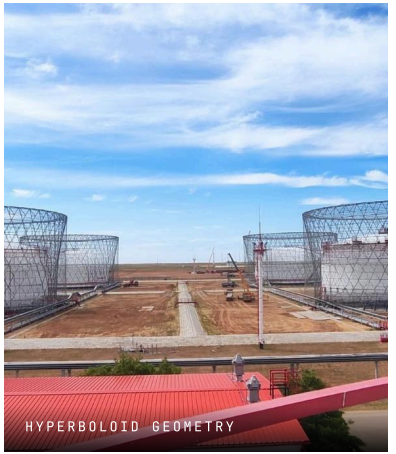
SHUKHOV SPATIAL LATTICE STRUCTURE

Hyperboloid geometry.
Maximum rigidity, minimum steel.

- **Single-sheet hyperboloid geometry** — a lightweight yet rigid lattice that minimises steel consumption
- **High-strength galvanised steel** structural elements
- **Dual protective barrier** — cable and gabion mesh, overhead and lateral
- **Sacrificial protection concept** — frame and barrier absorb the UAV impact, preserving the integrity of the tank and equipment without progressive structural failure


CABLE AND GABION MESH — INSTALLATION


LATTICE OVER A 50,000 M³ TANK


HYPERBOLOID GEOMETRY

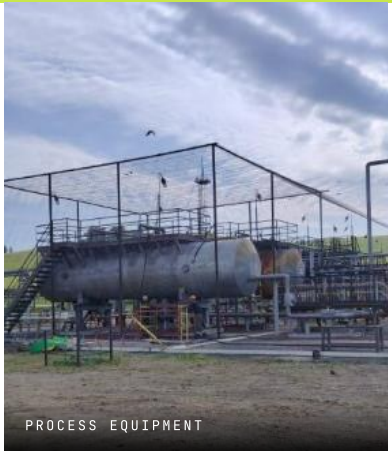
PORTAL FRAME STRUCTURE

Non-permanent.
No guy wires required.

- **Vertical columns and horizontal beams** interconnected with cable bracing and trusses
- **Protection system** — cable and gabion mesh with integrated steel cables on the sides and overhead
- **Provision for vehicle access openings** — the facility keeps operating
- **Full release of the entire side mesh** — quick-release ensures rapid access for firefighting in emergencies

Area of application: 110–500 kV substations · oil & gas facilities and equipment · critical infrastructure assets


PORTAL FRAME OVER AN ENERGISED SUBSTATION


PROCESS EQUIPMENT


HORIZONTAL VESSELS

DYNAMIC AND STATIC TESTING

Qualified at a certified test site.

The structures have successfully undergone **dynamic and static testing** at a certified test site.

The mesh system successfully passed dynamic testing at a national rescue-service test centre, in accordance with the testing programme and methodology developed by the responsible state technical institute.

- Dynamic impact — barrier energy absorption and retention
- Static load — frame capacity and load-bearing redundancy

DYNAMIC IMPACT TEST SEQUENCE — MESH BARRIER

STATIC LOAD TEST

TEST RIG ASSEMBLY

WINTER CONDITIONS

READY TO START DESIGNING, MANUFACTURING AND INSTALLING — IMMEDIATELY

Three steps from survey to a protected asset.

STEP 01

3D scanning of the facility

Laser survey of the asset produces the as-built point cloud the structure is designed against.

STEP 02

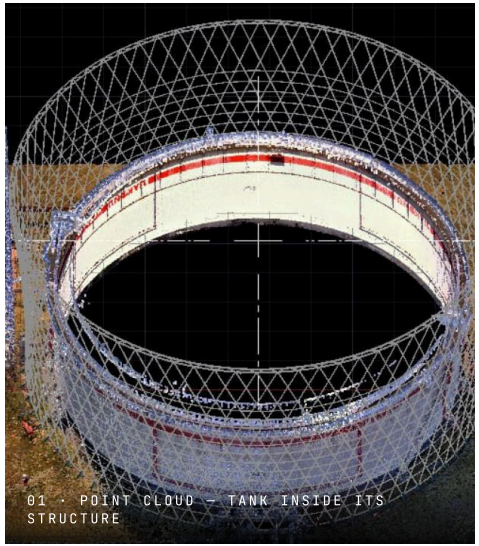
Engineering, manufacturing and construction in parallel

The three phases run concurrently rather than in sequence, compressing the schedule.

STEP 03

Installation of the actual model

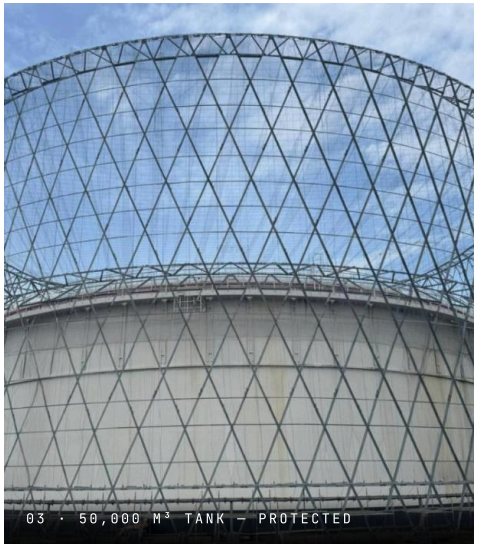
Erected on the live asset — reference case: a 50,000 m³ storage tank.



01 · POINT CLOUD — TANK INSIDE ITS STRUCTURE

01 · AERIAL PHOTOGRAMMETRY OF THE ASSET

02 · FABRICATION AND ERECTION IN PARALLEL



03 · 50,000 M³ TANK — PROTECTED

EMPOWERING DEFENSE.
CONNECTING FORCES.

READY TO PROCEED

We are ready to design, manufacture and install — immediately.

RAVEN SHIELD is delivered by G7X as a single-source package: site survey, structural design, fabrication, delivery and installation.

CONTACT
ARM@G7XDEFENSE.COM · +973 6668 8444

OFFICE
SEEF PLATINUM TOWER, MANAMA, BAHRAIN