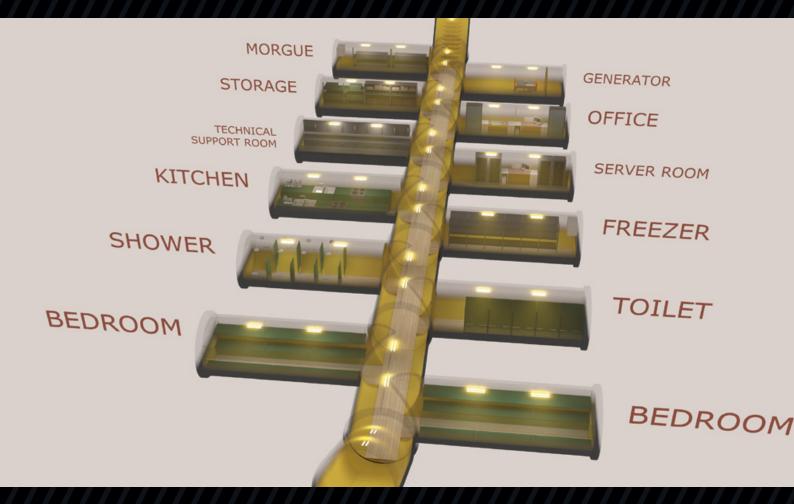


# **MOBILE UNDERGROUND CITY**



# IT'S NOT A DREAM, IT'S REALITY!

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# **GENERAL INFORMATION**

Present brochure gives you an overview of an underground shelter system, designed to protect people from attacks by heavy weapons.

The shelters are manufactured from a material, that ensures water tightness, durability and lightweight. Material is suitable for use in almost any environment – safe handling temperatures range from -80 to +60 degrees Celsius. The products have been successfully tested for the use in seismologically active areas. The material is completely safe for human contact.

Defensive properties of the shelter depend mainly on three factors – the material used for the construction, used wall profile and the installation depth. Real life tests have shown that installation depth of 2m is enough to protect against 155mm shells. Thus the shelter is a great choice for the usage in all – civil, war and crisis areas. The Estonian Defense Forces carried out testing with different types of heavy weapons during 2014. The results are represented in a detailed report, issued by the work environment laboratory of the University of Tartu Testing Centre.

Our scope of supply of the shelters include special purpose modules of which every one is designed for a certain purpose, for example including but not limited to sleeping module, kitchen, washing room, toilets, warehouse, coldroom/freezers, technological support room etc. In addition to that a completely new special purpose module can be designed according to the customer requests. Each module is usable as a separate shelter or it can be used as a part of a larger shelter system, compiled according to the requests of the customer. In addition to standard equipment auxiliary systems like CBRN protection, air and water purification systems etc., can be installed into the shelter system.

All standard modules can be transported using regular trucks – the outside dimensions and the weight of the modules correspond to all legislative norms on regular road transportation. The weight of the standard modules is 2-3 tons, so even excavators used for digging the installation trench, can be used for loading and unloading the modules. It takes about 1,5h to install one standard module, this includes all the operations from arriving to the construction site and leaving from there.

The standalone shelter module or the more complicated shelter system can be easily relocated, when the services of the system is not required any more in a certain location. The possibility to repeatedly use the shelter in different locations is one of the advantages of this type of system. The number of the installation cycles is not limited.

The advantages of our shelter system are:

- · Water tightness
- Lightweight
- Mobile
- Fast installation
- Fast relocation after usage
- · Repeatedly usable
- · Vast number of choices when compiling the shelter system

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### OFFICE MODULE



#### Outside dimensions: 6 x 2,4 m

Weight: Approximately 2 t

Price: Starting at 23 000 EUR

**The price includes:** Shelter module itself, readiness to be connected to electrical, data and ventilation networks, lighting, basic office furniture for 2 working stations.

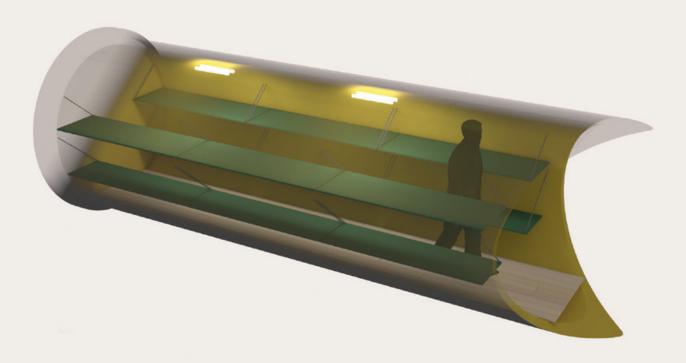
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### BEDROOM MODULE



#### Outside dimensions: 6 x 2,4 m

Weight: Approximately 2 t

Price: Starting at 18 000 EUR

**The price includes:** Shelter module itself, beds, readiness to be connected to electrical and ventilation networks, lighting, weapon bracket for each person.

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## SHOWER MODULE



#### Outside dimensions: 6 x 2,4 m

Weight: Approximately 3 t

Price: Starting at 35 000 EUR

<u>The price includes:</u> Shelter module itself, readiness to be connected to electrical, water, sewage and ventilation networks, lighting, humidity proof door.

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### TOILET MODULE



#### Outside dimensions: 6 x 2,4 m

Weight: Approximately 3 t

Price: Starting at 27 000 EUR

**The price includes:** Shelter module itself, readiness to be connected to electrical, water, sewage and ventilation networks, lighting, door.

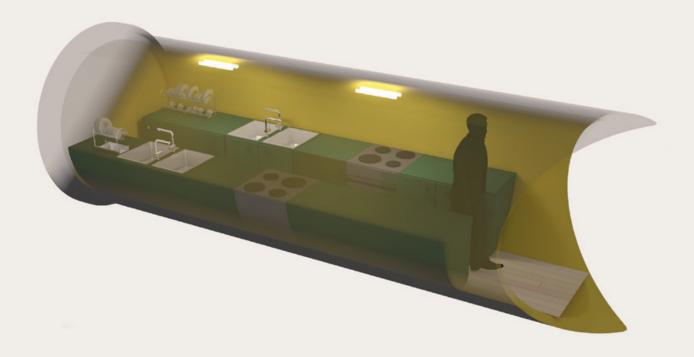
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# **KITCHEN MODULE**



#### Outside dimensions: 6 x 2,4 m

Weight: Approximately 3 t

Price: Starting at 35 000 EUR

**The price includes:** Shelter module itself, readiness to be connected to electrical, water, sewage and ventilation networks, lighting, 2 stoves and hot plate systems, 4 sinks, basic furniture.

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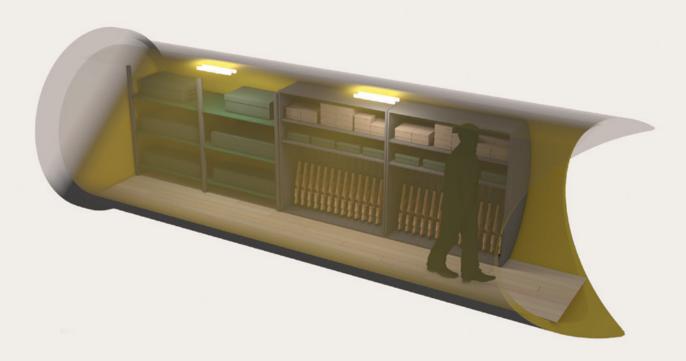
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### STORAGE MODULE



#### Outside dimensions: 6 x 2,4 m

Weight: Approximately 2 t

Price: Starting at 18 000 EUR

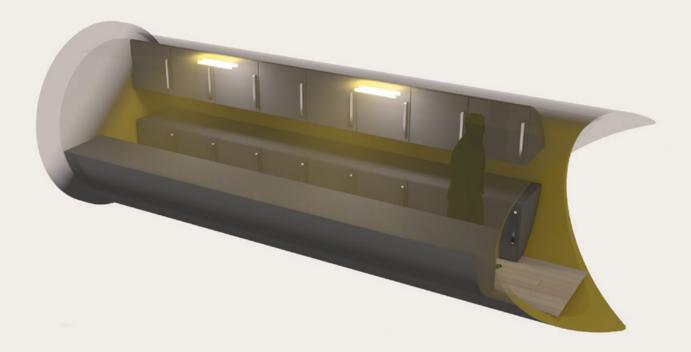
**The price includes:** Shelter module itself, readiness to be connected to electrical and ventilation networks, lighting, shelves.

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# **TECHNICAL SUPPORT MODULE**



#### Outside dimensions: 6 x 2,4 m

Weight: Approximately 2 t

Price: Starting at 19 000 EUR

**The price includes:** Shelter module itself, readiness to be connected to electrical, water, sewage and ventilation networks, lighting.

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### **GENERATOR MODULE**



#### Outside dimensions: 6 x 2,4 m

Weight: Approximately 2 t

Price: Starting at 35 000 EUR

<u>The price includes:</u> Shelter module itself, 10kWh generator, fuel tank, readiness to be connected to electrical and ventilation networks, lighting, sound proof door, enclosure.

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### SERVER MODULE



#### Outside dimensions: 6 x 2,4 m

Weight: Approximately 3 t

Price: Starting at 20 000 EUR

**The price includes:** Shelter module itself, readiness to be connected to electrical, data and ventilation networks, lighting, armored door, basic office furniture for 1 working station, cooling system.

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### COLDROOM/FREEZER MODULE



#### Outside dimensions: 6 x 2,4 m

Weight: Approximately 2 t

Price: Starting at 25 000 EUR

<u>The price includes:</u> Shelter module itself, refrigerator, readiness to be connected to electrical network lighting, insulated door.

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# MORGUE MODULE



#### Outside dimensions: 6 x 2,4 m

Weight: Approximately 2 t

Price: Starting at 25 000 EUR

<u>The price includes:</u> Shelter module itself, refrigerator, readiness to be connected to electrical network, lighting, insulated door.

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### **CORRIDOR MODULE**



#### Outside dimensions: 6 x 2,4 m

Weight: Approximately 2 t

Price: Starting at 25 000 EUR

<u>The price includes:</u> Corridor module itself, readiness to be connected to electrical, ventilation, water, sewage networks, lighting, up to 2 connections to special modules.

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### **OTHER PRODUCTS**



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# ANTI-ARMOR MINE PK-14

Explosively Formed Penetrator PK-14 is a high performance munition combining small mass, operational simplicity, accuracy and affordability.

PK 14 is specifically effective against all types of armored vehicles, protected transports and installations. It is quick and easy to install and operate in all weather and jamming conditions.





Diameter
Depth
Net Explosive Quantity, kg
Type of explosive material
Insensitive munition
SmartRail© Mounting Standard
Penetration, minimum mm at 50m
Aiming distance, 1m Ø, minimum, m
Safe distance 290° rear, m
Operation t <sup>o</sup>
Initiation
Mass (full set box of 8), kg
Dimensions (box) mm

160mm 110mm 1.5 PBX YES YES 50, steel 50 25 -35°... +50°C



The design holder and manufacturer of the PK-14 and its variants is Eesti Arsenal Ltd.

130 m nonelectric, two-hand, double safety ignitor43 (contains EFP, initiation, mounting equipment)799 x 375 x 355

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### VERTICAL METAL FIRING NEST WITH ROTATING DOME



- Diameter: 1,6 m
- Height: 1,9 m

Weight: 700 kg

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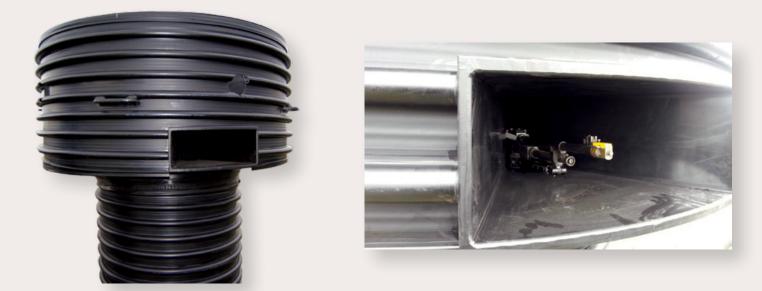
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# VERTICAL PLASTIC FIRING NEST





- Diameter: 1,4 m (base); 2,4 m (dome)
- Height: 2,5 m (base and dome combined)



Weight: 195 kg

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# HORIZONTAL FIRING NEST



Length:	3 m
<u>Height:</u>	1 m
Width:	2 m

#### Weight: 140 kg

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# FASCINE

A product for making a path across uneven or wet terrain for all kinds of vehicles, including heavy machinery.





- Diameter: 1,8 m
- Length: 4 m
- <u>Weight:</u> 4000 kg

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# WATERTIGHT STORAGE CONTAINER



Diameter: 0,8 m

Weight: 20 kg

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# ROTATING FLOAT FOR PORT & SHIP PROTECTION

This purpose developed and manufactured float helps to protect (cargo) ships and ports from piracy. It is made from high quality polyethylene plastic and stainless steel. Sharp rotating steel jaws will keep the enemy at a distance, giving the crew time to react and plan further defensive measures. A long chain of floats can also be run some distance away from the port entrance, giving security forces the ability to channel all vessels into a specific area and help thwart attacks on moored vessels.

The float cutters are designed to move away from the vessel they are attached to. Therefore the floats will not damage the ship they are protecting. If a vessel is moving at 20 knots, the float rotates 200 turns per minute. The faster the vessel goes, the faster the float rotates.

The solutions differ by their drag coefficient and by the security level they provide.

Multiple drags

of floats

A long chain of floats

Made of:

polyethylene (PE) and steel

Areas of use: inland water bodies and open sea

<u>Weight:</u> dependent on final design + accessories

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