

# BATTLE OF RESOURCES

PERSISTENT AND RESOURCEFUL DEFENCE

"In the deepest forests and on the shores of hundreds of thousands of lakes lives a small, resilient nation called Finland.

Through times they have defended their homeland against aggressors - learning how to be prepared, persistent and resourceful.

This Legacy is for Us to sustain.

## Based on this **Legacy**

we at the FMG always pay attention on how to optimize the resources to create maximum final value.

That is the core of the FMG engineering in their products for Counter Mobility, Mobility and Logistics."





# Value creation

In battles it's essential to create situations, where minimal resources are needed in order to wear maximum amount of opponents' resources. Designing a product to work flexibly in multiplatform and by small user requirements is one way to optimize the resources and create the efficiency. Not to forget performance for maximizing the value of the use.



## RESOURCES



Financial



Materiel



Human



Mental

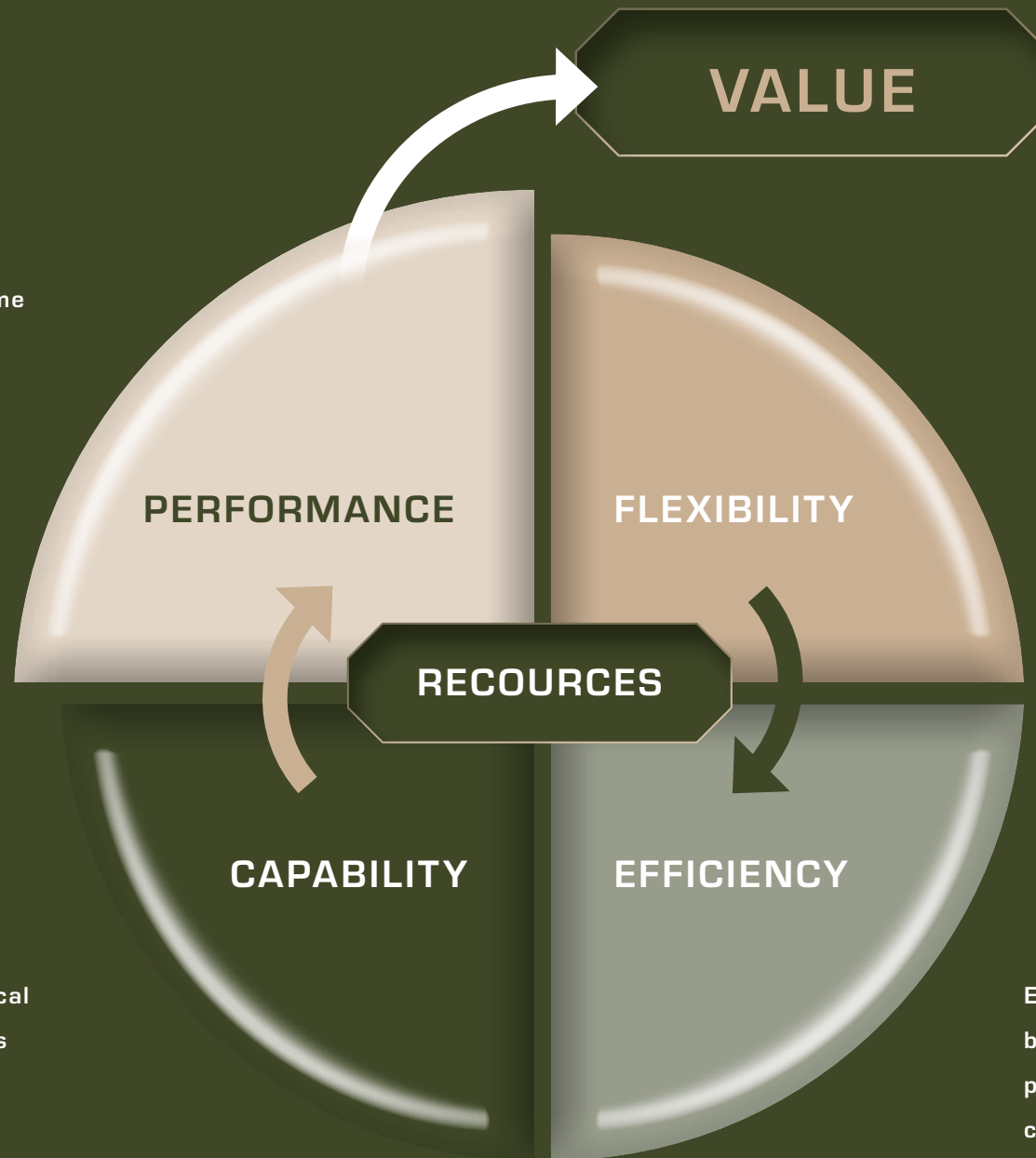


Energy



Time

Performance is an outcome from the efficient use of capability, which creates the maximum final value



High flexibility enables efficient and innovative use of resources

### RECOURCES

- Financial
- Materiel
- Human
- Mental
- Energy
- Time



Capability is the theoretical performance of resources

Efficiently used resources both last longer and create possibilities for better capability

# New era of the counter mobility

Modern warfare is using a lot of high technology solutions, but still conventional anti-tank mine obstacle can be very efficient way to slow down, direct or stop the aggressors' movement. FMG Sleeper solutions combine traditional minelaying knowledge with a modern concept of resource optimization, efficiency and performance.

FMG sleeper series can be used to create hidden and/or visible anti-tank mine obstacles, which ever suits best to the strategy. Even in modern battlefield every emplacement on the ground is still a substantial threat as aggressors must tie their resources to investigate and react on each emplacement or obstacle before proceeding. So, a great threat for aggressors can be done by using Sleeper series with variable amount or type of anti-tank mines and emplacements. For an example Kaera -unit can penetrate on asphalt or other hard surface roads, to meet the requirements of different needs.



## RESOURCE ADVANTAGES:

- **Anti-tank mine obstacle wears aggressors' resources:** material, manpower, time, financial, mental.
- FMG Sleeper series **saves own resources:** material, manpower, time, financial, mental.



**The Washington Post**  
*Democracy Dies in Darkness*

**War in Ukraine**

[Live briefing](#)

[Verified videos](#)

[Donbas region](#)

[Russian combat capabilities](#)

[HIMARS](#)

EUROPE

# The biggest obstacle to Ukraine's counteroffensive? Minefields.

Areas in front of Russian defensive strongholds in the south and east have been densely mined

By [Isabelle Khurshudyan](#) and Kamila Hrabchuk

July 15, 2023 at 3:39 p.m. EDT

# 3 operators in 30 minutes = 30 anti-tank mines in the road

Traditionally on anti-tank minelaying, time and manpower has a strong correlation. Advantage on the full FMG Sleeper series is efficiently fast minelaying: troops can keep up the speed for longer with a small group.

Sleeper series is created to help the troops on machine assisted emplacement drilling (Kaera -unit) for antitank mines on hard surfaces and a compact mine logistic solution (Kiosk- and MIL-Cage -units).

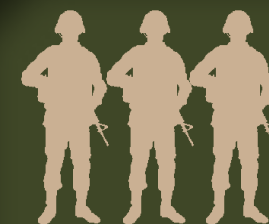
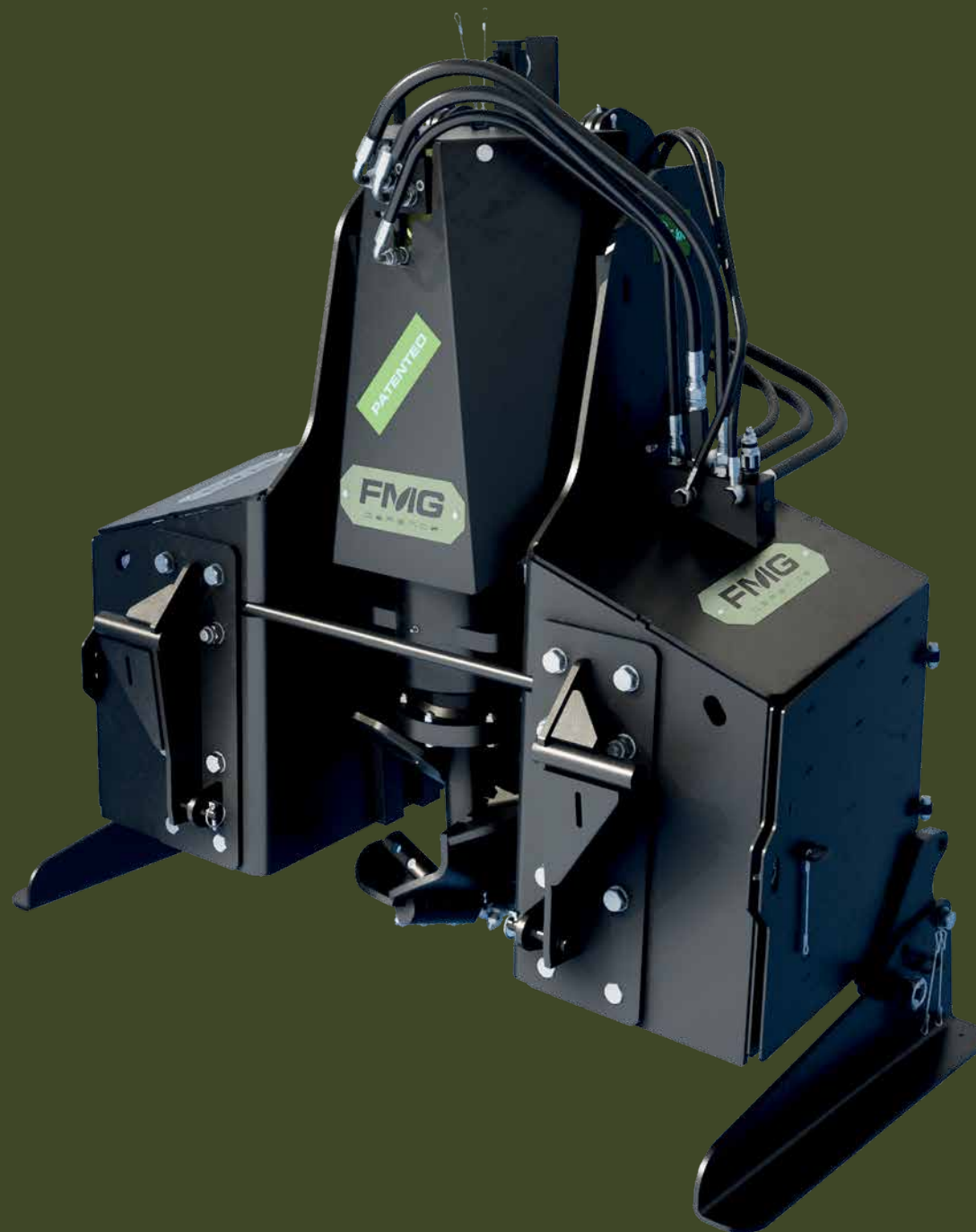
**THE SLEEPER SERIES FORMS FAST AND MOBILE SOLUTIONS, WHICH OPENS POSSIBILITIES FOR NEW STRATEGIES AND TACTICS ON COUNTER MOBILITY.**



## RESOURCE ADVANTAGES:

- High efficiency and performance  
with minimal resources

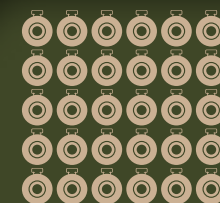




**3**  
operators



**30**  
minutes



**30**  
anti-tank mines

# Flexible Counter Mobility

Sleeper series can be fit on several platforms, so the customer can select the usable vehicle by their own preferences or availability.

Flexibility means also that customer does not necessarily need to invest on new vehicles. Instead, they can reutilize the existing vehicle resources for counter mobility use. Patented Kaera -unit is an add-on implement: it can be easily stored, attached, or removed when needed. When Kaera -unit is attached on a front loader, loader implements (e.g. bucket or pallet fork) are still usable at the same time.

Kiosk- and MIL-Cage -units are based on double FIN pallet dimensions, to fit the logistics chain. Packages are optimized for warehousing and transportation by several details, which makes each step of handling the products easier for the operators.



## RESOURCE ADVANTAGES:

- **Multiplatform system:** tractors, trucks, wheel loaders, back hoes, telehandlers etc.
- **Bolt fitted attachment brackets:** over 15 different bracket types available.
- Fits both MIL and civilian vehicles.
- **Drill part can be used on various surfaces:** asphalt, gravel, ice etc.



**3**  
operators



**30**  
minutes



**30**  
anti-tank mines

# Kaera

Kaera -unit is the **patented** main part of the Sleeper series.

In practice it drills mine emplacements on the ground.

Kaera can make an emplacement on asphalt or other hard surfaces and removes one of the most physical phases of the minelaying. Kaera is simple to use and therefore fast to master. Vehicle operator controls semiautomatic drilling sequence: one motion steers drilling speed and down pressure, related to the hardness of the surface.

By its' multiplatform system Kaera -unit can be attached to any vehicle which can hold the weight and can provide hydraulic pressure. FMG can provide external hydraulic unit or lift if needed.



## RESOURCE ADVANTAGES:

- Implement concept **requires low capital**, number of units can be increased.
- **Fast to learn and use**, multiple units increase total performance.
- **Implement can be used on different platforms**.
- **Requires less manpower** and reduces the physical stress on the task.



**3**  
operators



**30**  
minutes



**30**  
anti-tank mines

# Kaera maintenance

Kaera -unit is easy to maintain. Structure allows operator to do basic services on site, saving time and resources. Kaera includes not only two toolboxes with all the needed tools but also spare wearable drill spikes and an extra drill head with spikes.



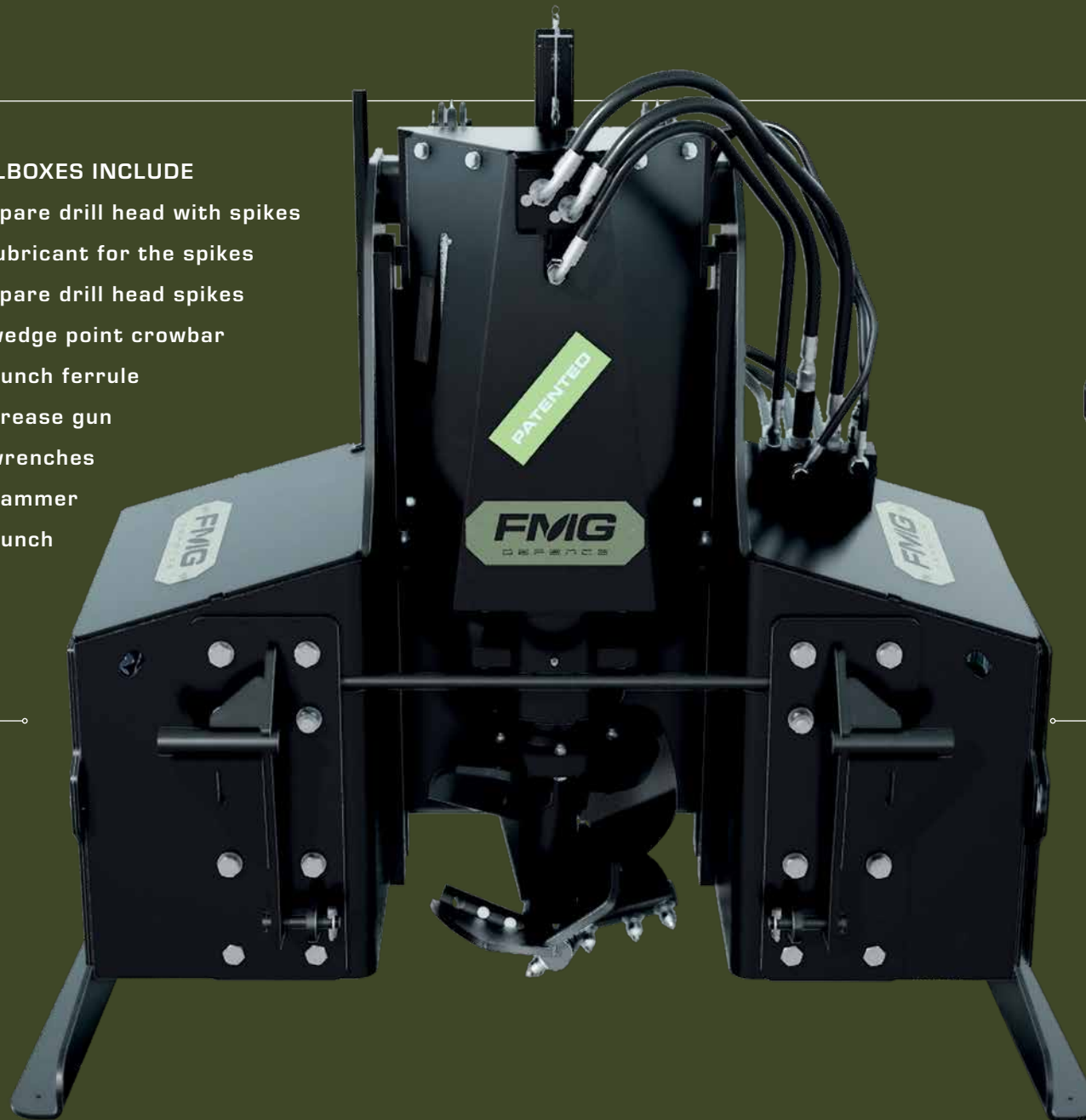
## RESOURCE ADVANTAGES:

- **Self-sustained daily service**, oil level indicator outside of the casing, easy to monitor and avoid malfunction.
- **Low down time** when service can be done onsite.
- Standard spikes, **security of supply**



#### TOOLBOXES INCLUDE

- spare drill head with spikes
- lubricant for the spikes
- spare drill head spikes
- wedge point crowbar
- punch ferrule
- grease gun
- wrenches
- hammer
- punch



# Kiosk and MIL-Cage

Kiosk is the basic logistics package. Kiosk carries different mines in a safe manner. It has an integrated 3-point linkage attachments: Kiosk be attached directly on the vehicle with the linkage eg. on the rear of the agricultural tractor. Pallet style construction enables also the use with pallet forks. The structure allows also the use directly from vehicle's cargo space. Easy access to the mines makes minelaying faster and lighter, which enables efficient performance.

## KIOSK 3.0 WITH FMG MINE RACKS

Sliding mine racks can increase the mine carrying capacity and make the handling of the mines faster and easier.

Mine rack is an optional equipment.

When vehicle is carrying the weight for most of the time, the physical and mental resources are saved for the later needs.





KIOSK &  
MIL-CAGE 2.0



KIOSK &  
MIL-CAGE 3.0

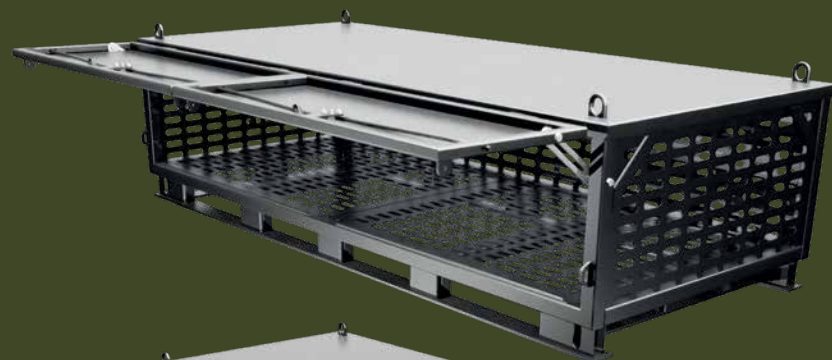
MIL-Cage -unit is placed and locked on the top of the Kiosk, as an additional space for cargo. It can be opened with full width, so longer tools, posts or other equipment can be carried along. Removable hooks can be placed on the mesh wall to create hanging space for the bags or other accessories. This way the operators need to carry only the necessary equipment for the minelaying task.

FMG Kiosk- and MIL-Cage -units have lockable latches to give the possibility to restrict the access to the goods. Lower latch on Kiosk works also as a working bench or a step (up to 200kg). MIL-Cage latches open upwards providing a small shelter for the weather.

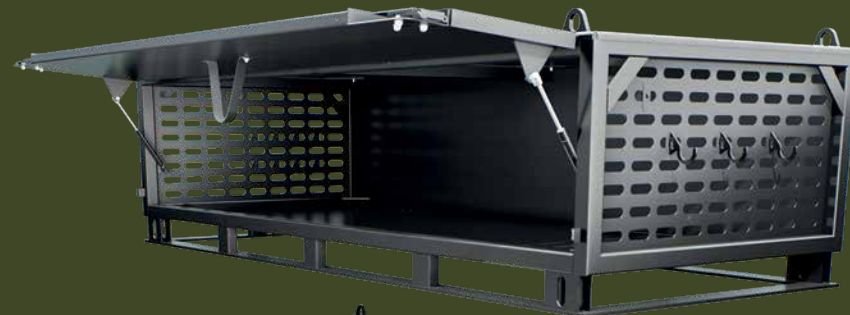


#### RESOURCE ADVANTAGES:

- **One durable, ready to go, system from the storage to the use at the battlefield;**  
Can be placed or transported on standard vehicles.  
Multiple mounting and lifting points.
- When **physical stress is minimized**, stamina increases and helps to maintain the mental readiness.



KIOSK &  
MIL-CAGE **2.0**



KIOSK &  
MIL-CAGE **3.0**



## Kaera

Weight	835 kg
Dimensions	w 163 x h 155 x d 75 cm
Auger Ø	40 cm
Mine emplacement depth	0 - 40 cm
Stroke length	50 cm
Depth indicator	Included
Implement attachment	Included

### Hydraulics requirements

Number of connections	One double action hydraulic block + tank line (2 hydraulic pressure hoses and 1 tank line)
Hydraulic output	min 50 l/min
Dual acting hydraulic lift	retrofit kit available

### Other features

Two toolboxes with all the tools and spare auger included.  
Can be serviced on site.

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## MIL-Cage

### 2.0

Weight	276 kg
Dimensions	w 246 x h 72 x d 110 cm

- Stackable hoist rings with Kiosk 2.0 or MIL-Cage 2.0
- Can be forklifted from four directions
- Several mounting points
- Two lockable latches
- Full width cargo space
- Removable hooks can be placed inside or outside on the mesh wall
- Latch works as a weather cover



### 3.0

Weight	310 kg
Dimensions	w 251 x h 72 x d 110 cm

- Stackable hoist rings with Kiosk 3.0 or MIL-Cage 3.0
- Can be forklifted from four directions
- Several mounting points
- Full width cargo space for needed accessories
- Removable hooks can be placed inside or outside on the mesh wall
- Solid bottom and back plates
- One lockable latch opens up with gas struts
- Latch works as a weather cover

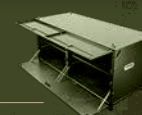


## Kiosk

### 2.0

Weight	590 kg
Dimensions	w 246 x h 120 x d 110 cm

- Stackable hoist rings with Kiosk 2.0 or MIL-Cage 2.0
- Narrower design
- Several mounting points
- Four lockable latches (lower latches work as a bench, or a step, max. load 200kg)
- Secure storage and transport



### 3.0

Weight	960 kg
Dimensions	w 251 x h 135 x d 110 cm

- Stackable hoist rings with Kiosk 3.0 or MIL-Cage 3.0
- Wider body design allows more mine capacity
- Several mounting points
- New two folding latches (work as a bench, or a step, max. load 200kg, lockable)
- Secure storage and transport
- Sliding FMG mine racks, max. 10 racks/ Kiosk (optional)
- Rear lights (optional)



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