



# ST1

UNMANNED AERIAL MINE DETECTOR



- Ukraine is one of the most mine polluted countries **in the world**
- Officials estimate the area polluted by mines and other explosive objects as **470K ha**
- Under current pace it will require about **10 years** to fully clean the affected territories
- Estimated cost to survey and clean the affected area is **\$50B+**



STI can fully **automate the process of mine detection**, which can significantly speed up the process and avoid personnel losses. Unlike caterpillar ground solutions **it is cheaper, faster, more manoeuvrable and can be used on any terrain.**

Features:

- Visual detection of above-the-ground mines (**MON, POM-2, PFM**) and artillery shells using computer vision algorithms and machine learning
- Reliable detection of buried mines with metal detector **on a depth up to 50 cm (TM62, OZM-72)**
- Detecting mine position with **10 cm precision**
- Digital mine field map generation in **2D and 3D formats**
- Powerful onboard microcomputer to process signals in **real time**

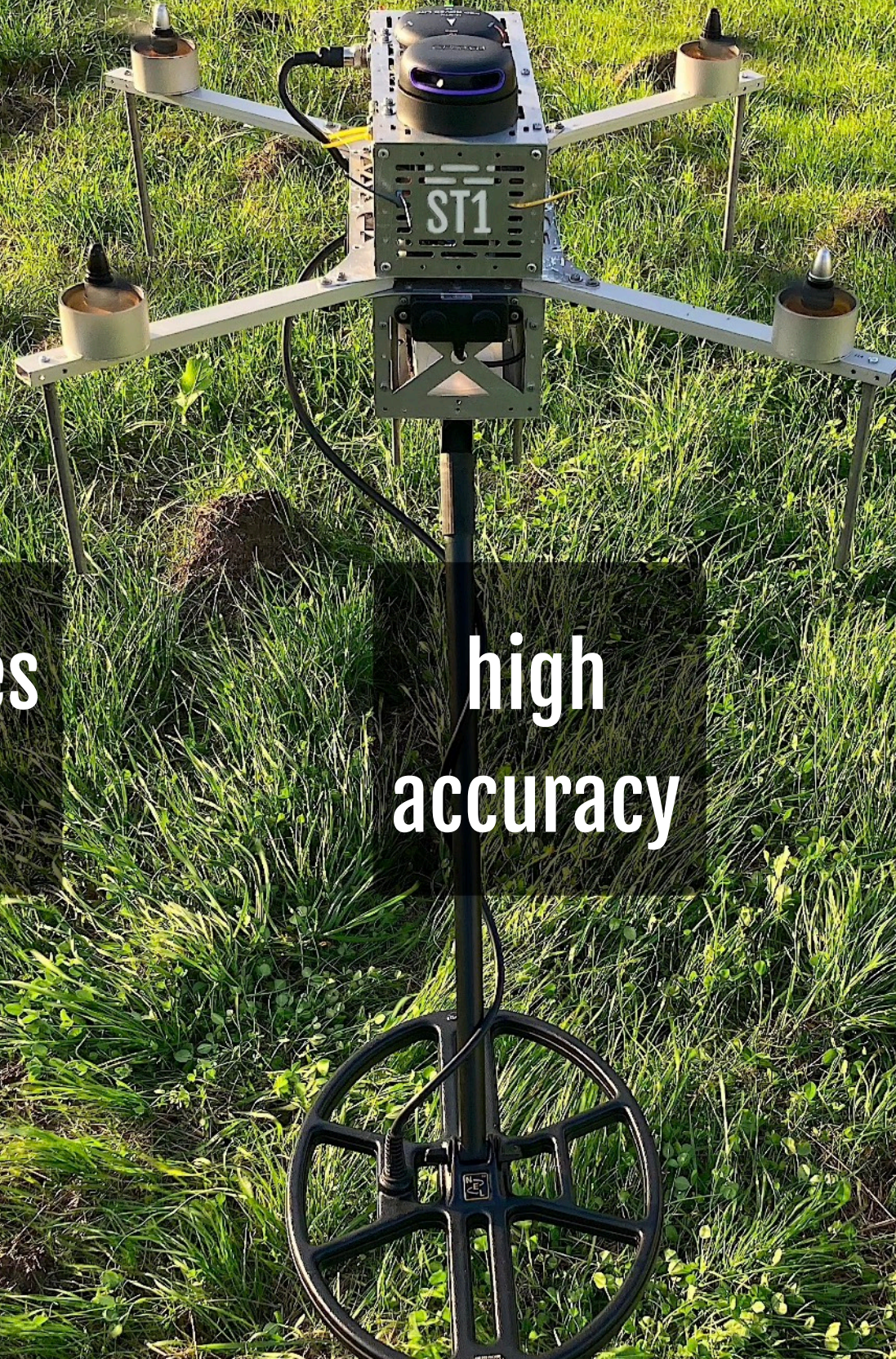




**x4 times  
faster**

**high  
accuracy**

**fully  
autonomous**





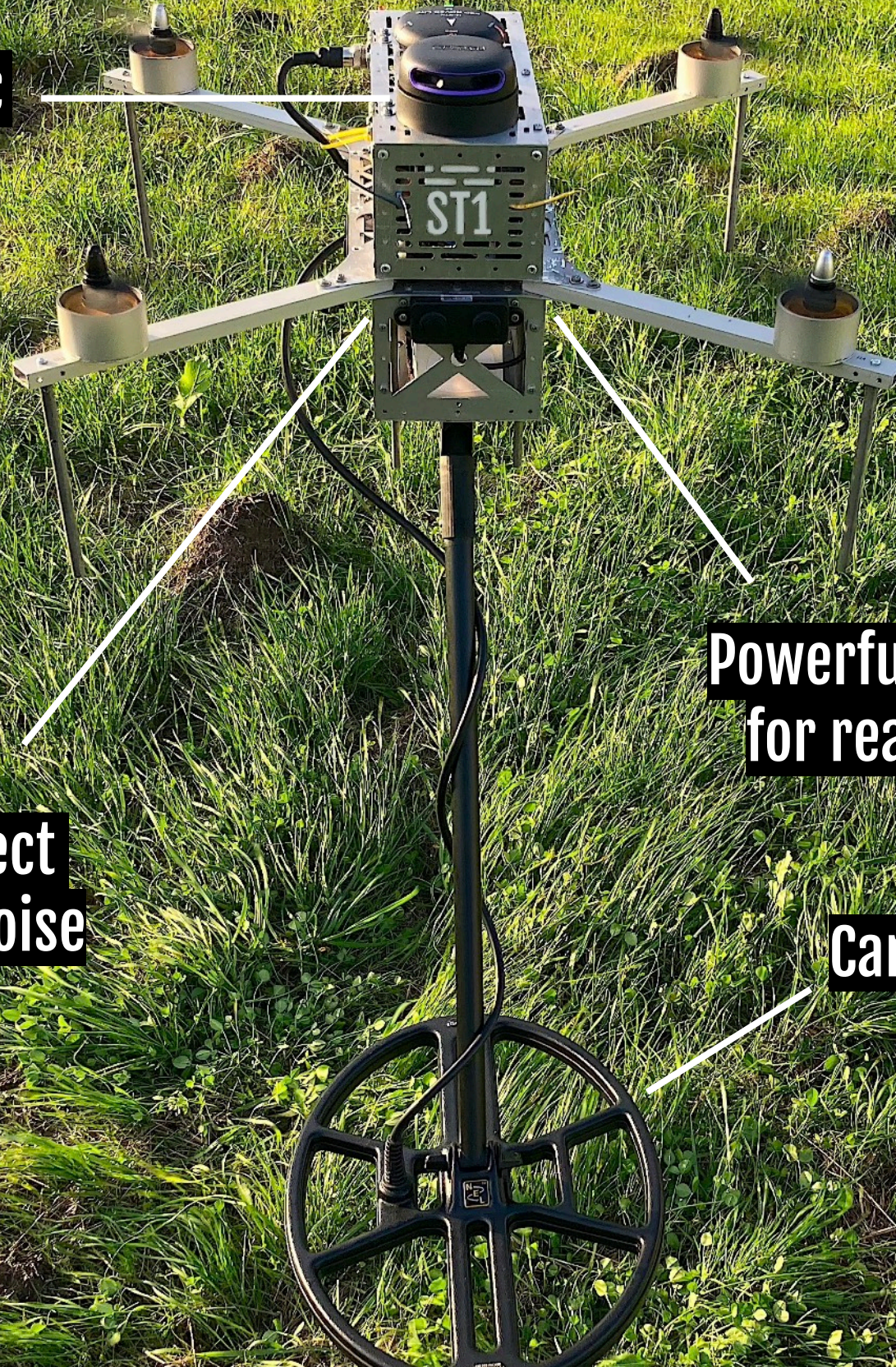
**Sensors for automatic  
obstacle avoidance**

**AILAND  
SYSTEMS**

**Body is shielded  
to eliminate the effect  
of electromagnetic noise**

**Powerful microcomputer onboard  
for real time signal processing**

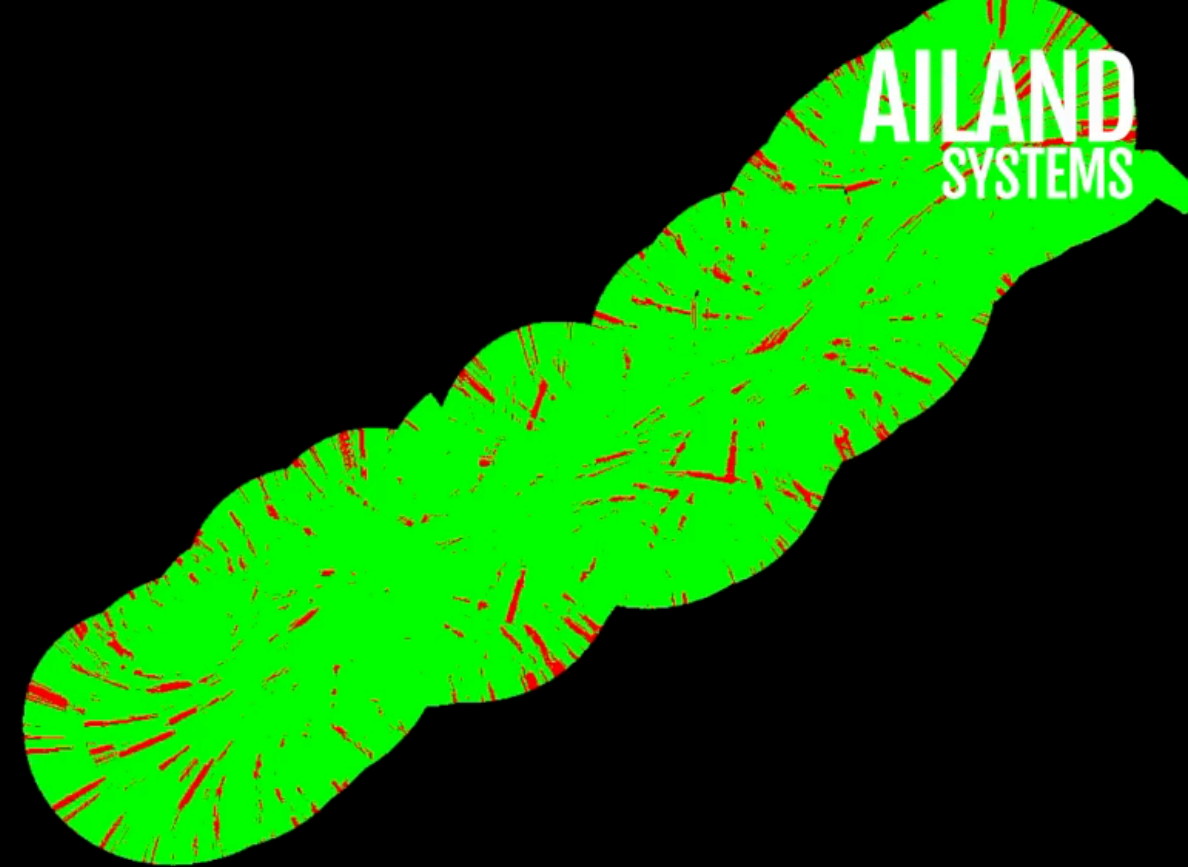
**Can carry up to 4 search coils  
at the same time**







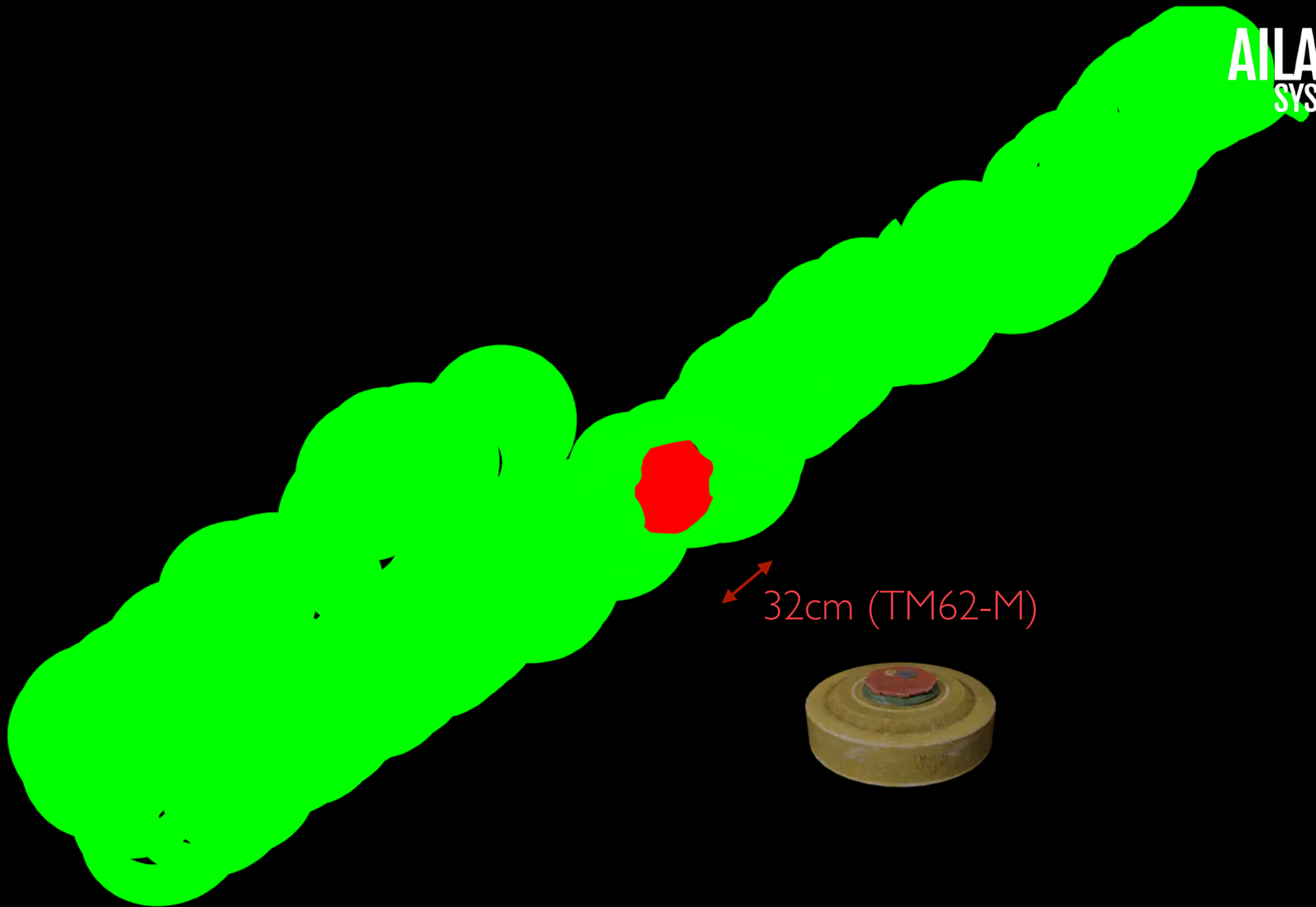
**SPINNER: PROPRIETARY SCAN ALGORITHM**



**AILAND  
SYSTEMS**

<https://youtu.be/ncCZZ1H03rM>





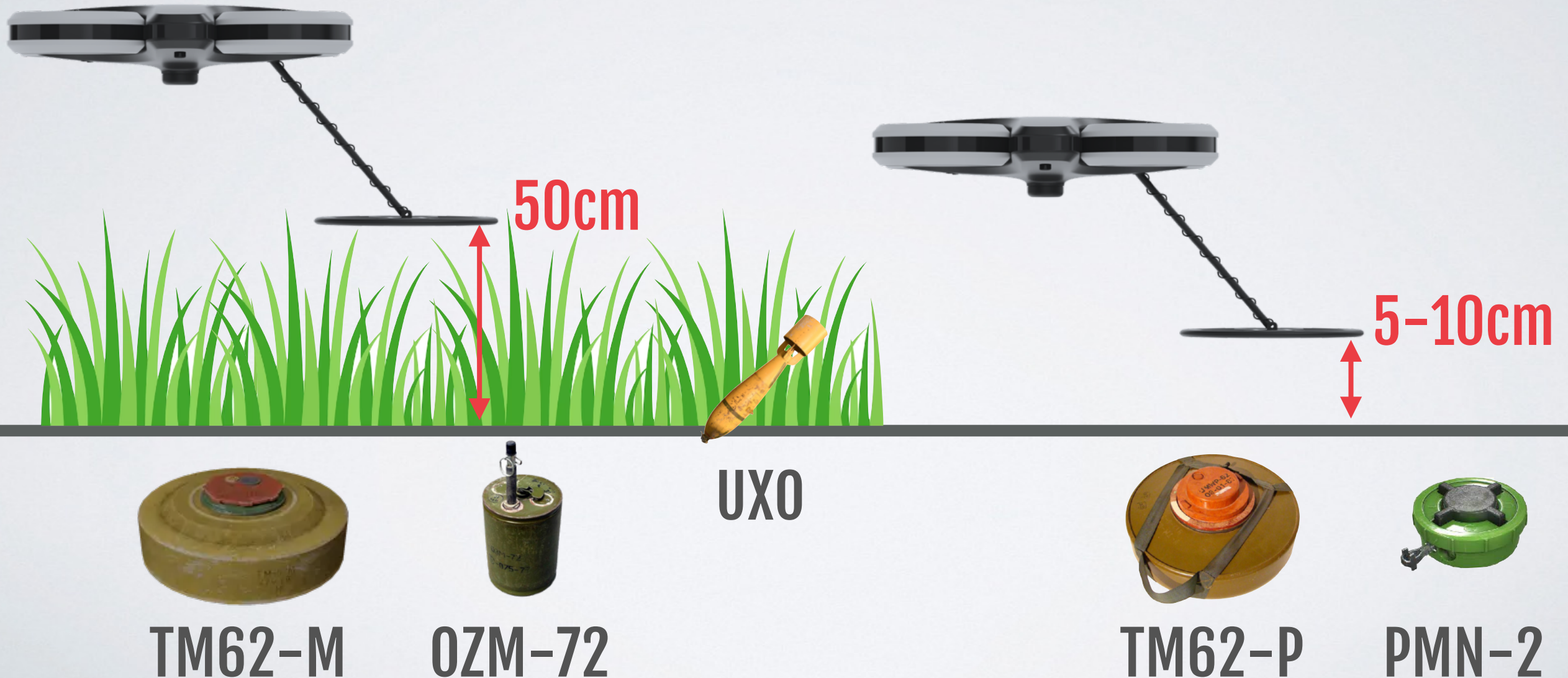
32cm (TM62-M)





## DETECTION DEPTH

Detection depth is greatly depending on soil properties and mine type. We are constantly working on increasing the depth. Current values for the most popular mine types are given below.





# ROADMAP

VI (PoC) prototype	SEP 2022	COMPLETED
Won Ukraine government grant	DEC 2022	COMPLETED
Partnership with largest demining operators in Ukraine	MAY 2023	COMPLETED
<b>Pre-seed round from D3 Fund, LP</b>	AUG 2023	COMPLETED
V2 prototype	OCT 2023	COMPLETED
Field trials	DEC 2023	IN PROGRESS
MVP	Q1 2024	IN PROGRESS
Manufacturing	Q1 2024	<b>RAISING \$1M</b>



## ST1 EVOLUTION



**v1**  
(lab tests)



**v2**  
(field trials)



**v3**  
(MVP)



## COMPETITORS

There are few other drone projects built for mine detection purposes but their detection accuracy is low and price is significantly higher comparing to our solution.

	ST I	Draganfly	MagDrone R3
SENSOR	Metal Detector	GPR	Magnetometer
ACCURACY	<90%	<30%	<30%
PRICE	< \$30K (TBD)	\$100K	\$45K



## EXPORT POTENTIAL

We partner with STE (SpecTechnoExport), state-owned foreign trade enterprise. The product is interesting outside of Ukraine, because there are many other countries that need help with demining, like:

Egypt. Affected area: 25,000 km<sup>2</sup>. Estimated demining cost: \$75B.

Iran. Affected area: 14,000 km<sup>2</sup>. Estimated demining cost: \$42B.

Angola. Affected area: 12,000 km<sup>2</sup>. Estimated demining cost: \$36B.

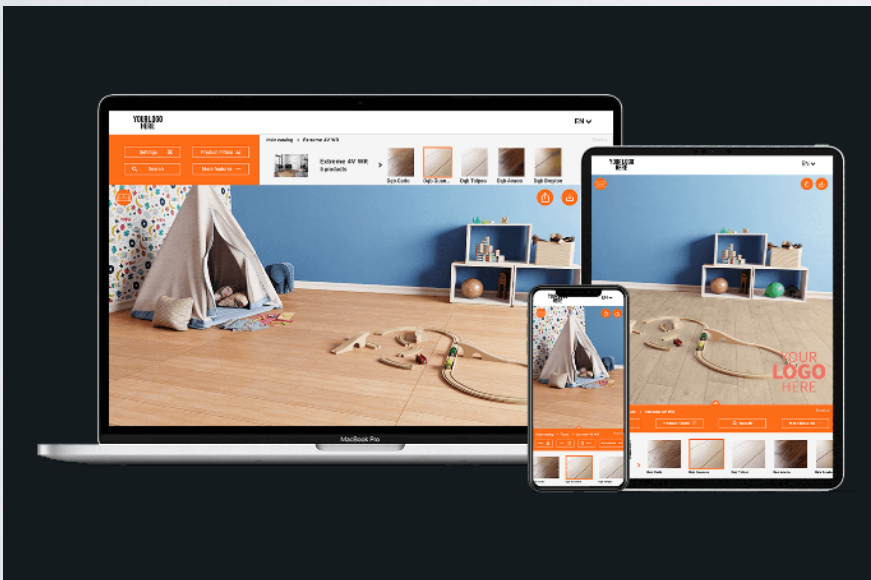
China. Affected area: 10,000 km<sup>2</sup>. Estimated demining cost: \$30B.

Source: <https://www.landminefree.org/2017/index.php/support/facts-about-landmines>



## THE COMPANY

Our key expertise is computer vision. We have worked on many world class projects related to computer vision, AR/VR and auto pilots as a servicing company



**FLOORI**



**METTLE SKYBOX**

Acquired by Adobe Systems



**DECAGEAR**



## FOUNDERS



**Dmytro Titov**  
**CEO**

15 years of professional experience in IT.  
Main expertise: 3D and computer graphics, machine learning.

Directed engineering of Mettle Skybox - 360/VR product acquired by Adobe Systems in 2017.



**Heorhii Shakula**  
**CTO**

8 years of professional experience in IT.  
Main expertise: 3D, image and signal processing, computer vision.

Worked on cutting edge products in several big companies:

- NVIDIA
- AMD
- Leia Inc



**Andrii Nych**  
**Senior R&D Engineer**

20 years of professional experience in science, PhD in physics.  
Main expertise: math, physics, simulations, data analysis.



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Dmytro Titov, CEO



Team worked on a product  
acquired by Adobe Systems in 2017



Winners of Ministry of Digital  
Transformations grant program

Thank you!



Members of Brave1  
defence-tech cluster



Members of 1991  
acceleration program