PHOENIX STORM

Approved by General Staff of the Ukrainian Armed Forces

PART OF BRAVE1 UKRAINIAN DEFENSE INNOVATIONS

PITCH DECK

AUTONOMOUS COMBAT DEMINING

WITH DRONES AND AI

Minefields are the main factor stopping the progress of the defenders of Ukraine in their counter-offensive in 2023

there is no safe method for personnel and equipment to quickly pass through the heavily danced minefields while under attack during counteroffensives

PROBLEM

SCOPE OF THE PROBLEM

By mining vast areas of Ukraine, Russia created the largest minefield in the world — around 250,000 km². It's almost like the territory of Poland or Italy and bigger than the United Kingdom / *State Emergency Service of Ukraine*

the minefields could be 1000 meters deep with a high density of mines (up to 400 per 1000m) / *47th Separate Mechanized Brigade "Magura"*

Scale

Density

Phoenix Storm enables autonomous clearance of safe corridors through heavily mined areas with drones, minimizing risks to personnel and equipment. Built for fast deployment, it adapts to any minefield density or size.

SOLUTION

Phoenix Storm employs a drone with multispectral sensors to quickly and accurately map minefields. A swarm of kamikaze drones then targets and neutralizes detected mines efficiently.

Fast identification

mother drone equipped with an array of sensors including optical/ thermal/ multispectral

analysis and recognition

landmines recognition based on ML

demining corridor planning

optimal corridor proposal & real-time planning/ adjustment

deployment of a kamikaze drone swarm

easy scalibility to install different amount of drones depending of the corridor depth

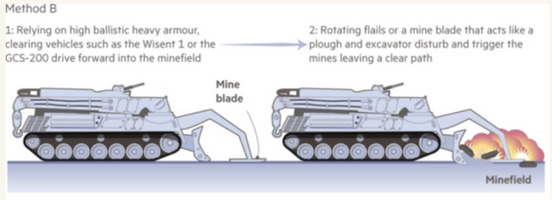
boom

boom

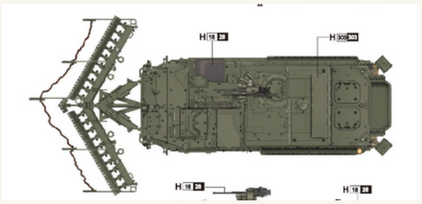
boom

HOW PROBLEM IS SOLVED TODAY

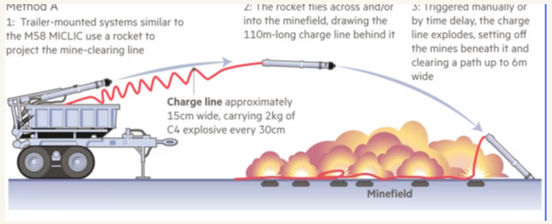
Expansiveness of use



Mine-clearing Vehicle



Weight Mine Rollers (LWMR)

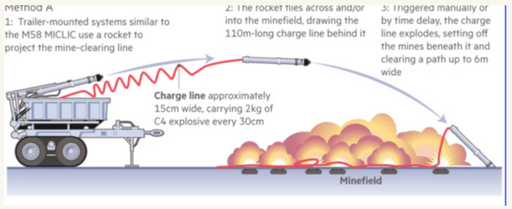


Mine Clearing Line Charge (~150 meters)

Mine-clearing vehicles, Weight Mine Rollers, and Mine Clearing Line Charge (MICLIC) — the first two cannot withstand a high density of mines. The last is too expensive and unsafe due to the close working range. All of them are a perfect target for the enemy at the front line.

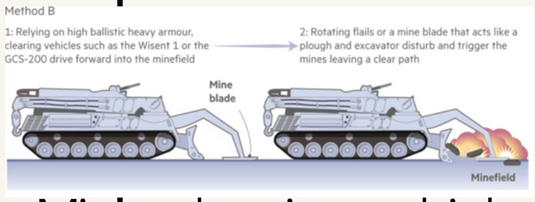
COMPARISON CHART

Mine Clearing Line Charge (~150 meters)

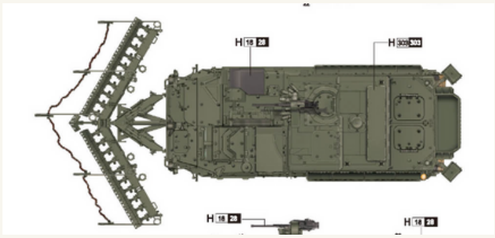


Easy to destroy

Less risk for people and equipment



Mine-clearing vehicle



Weight Mine Rollers (LWMR)

Mine Clearance Rate

(number of mines cleared per minute)

ROADMAP

The problem addressing today

- Achieving mine detection rate >92%

- Increasing mine scanning speed to 5 mins per 1 km corridor (8 meters width)

- Solving the problem of accurate positioning of demining UAVs with the help of a local coordinate system

In the next [8-12] month

- Achieving mine detection rate >98%

- Testing in the military firing field

- Testing in real front-line conditions, working with customer feedback

In [2] years

- Scaling development for the wider Ukrainian Army needs

- Transform the product into an autonomous assistant for infantry and vehicles that accompanies the team in real-time, detecting and neutralizing mines as they advance

MINE DETECTION
RATE > 98%

SCANNING SPEED
< 5 min / km

LANDING
ACCURACY ~99%

INTERNAL TECHNICAL KPIS

FUTURE VISION

ZERO mine-related casualties
during military operations:

autonomous guardian Drone
scan & following mode
voice commands
real-time recognition and display via XR glasses
automatic landmines demolition
new landmines types recognition
with continual updates

10 YEARS AS ONE TEAM

Founder & CEO

Viktor Shkurba

Having founded a creative technology shop over 20 years ago, Viktor has transformed it into a leading digital production powerhouse in the region, boasting offices in Kyiv and Hamburg. His engineering background and an **MSc in Technical Cybernetics** enable him to tackle complex technical projects where creativity meets technology. His leadership has driven his company to regional acclaim and positioned it as a pioneer in adopting and advancing new technologies in AI/ML and AR/XR domains.

Founder & CTO

Andrew Sergeev

With over two decades in technology and leadership, Andrew has led more than 100 projects to successful outcomes, demonstrating his deep commitment to innovation and excellence. His education in **Intelligent Software and Robotic System**s has provided a solid foundation for mastering the latest technologies. Andrew's extensive experience includes guiding software developers and engineers, always at the forefront of technological advancements.

Founder & COO

Svetlana Mironchuk

For over a decade, Svetlana has been crucial in driving innovation and execution in the technology shop founded by Viktor and Andrew. Her expertise in navigating the intricacies of product development from inception to market has been vital. As COO, she's elevated her role from leading technical project teams to managing multiple layers of management, guaranteeing operational efficiency and seamless execution of projects.

IN A COLLABORATION WITH COMBAT DEMINING UNITS

THE 47TH BRIGADE 'MAGURA'

Learn more about the 47th brigade

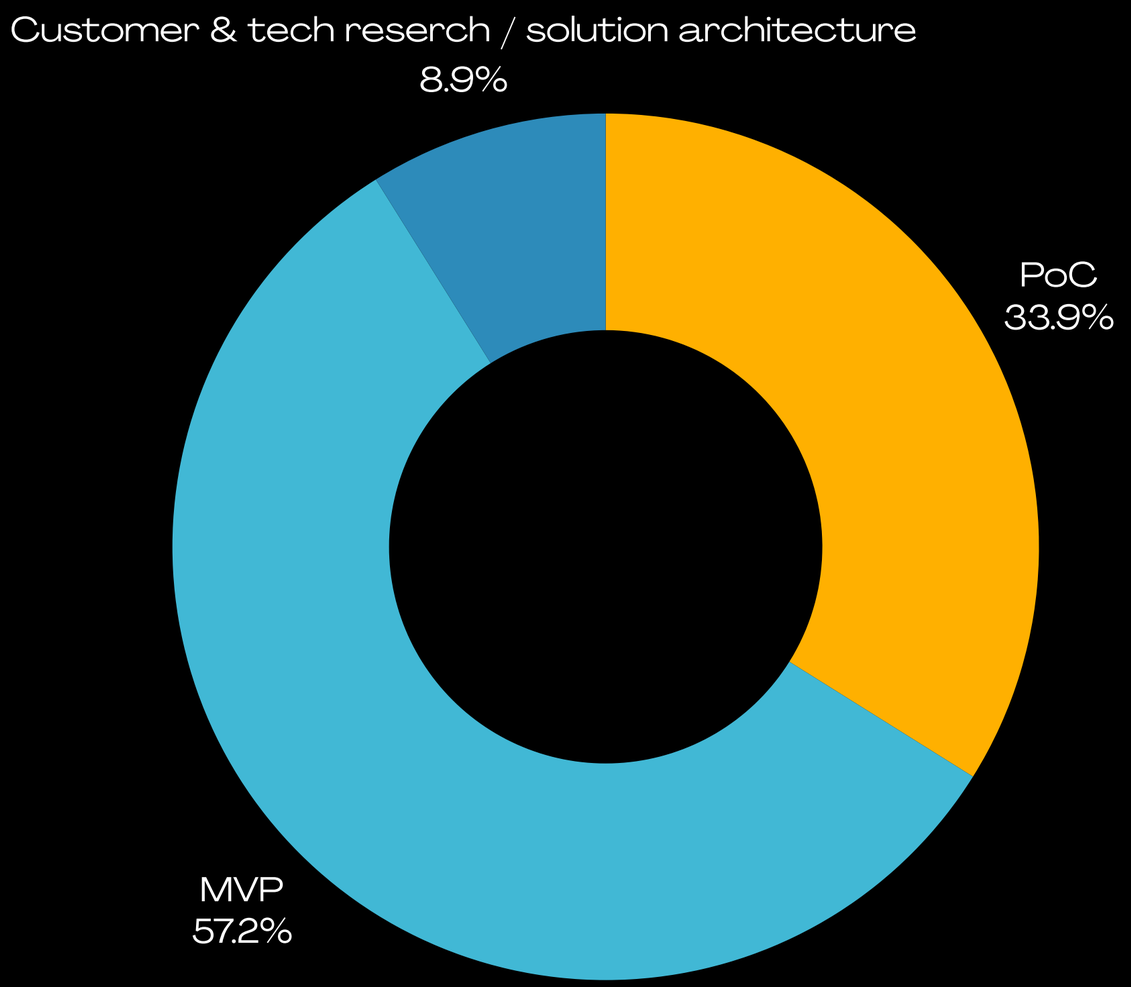
The 47th Brigade, formed as a startup at the onset of the war and equipped with state-of-the-art weaponry, suffered significant losses during the summer 2023 counteroffensive due to the incredibly high density of minefields.

PRE-SEED FUNDING

team investment

pre-seed investors

Customer & tech reserch / solution architecture	~~$ 21 000~~	closed
Proof of Concept	~~$ 27, 000~~ + $ 52,000	partially closed
Minimum Viable Prototype	$ 135,000	fundrising
Total fundraising costs	$ 187,000+	for 6 monthes



Approved by
General Staff of the
Ukrainian Armed Forces

Scored 6 out of 9 points
for the level of scientific
innovativeness by General
Staff evaluation

BRAVE1
UKRAINIAN DEFENSE
INNOVATIONS

Part of Defence
Innovations cluster

PHOENIX STORM

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