# C2GRID

Battlefield Awareness Reinvented

PRESENTED BY

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On the frontline, thousands of drones record videos to search for possible threats.

With the lack of Manpower on the frontline

Who can analyise all of the footage?

◊ To detect the threats

◊ Execute counter-measures

2D maps, aerial photos, and slow 3D solutions limit battlefield situational awareness, delaying decisions and putting soldiers at risk.

◊ Current battlefield 3D solutions take 1-2+ hours.

◊ Limited enemy discovery in urban and concealed areas.

◊ Manual and slow threat detection reduces operational

effectiveness.
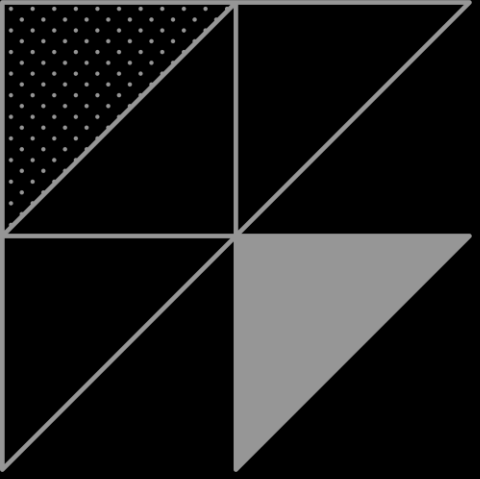
# 3D view of battlefield in RGB, thermal and other layers

# Unique values

◇ Tactical planning of operations

◇ Fast map updates, especially in urban areas.

◇ Fusion of multiple data sources (multi-layers and filtering)

◇ Agnostic to hardware used

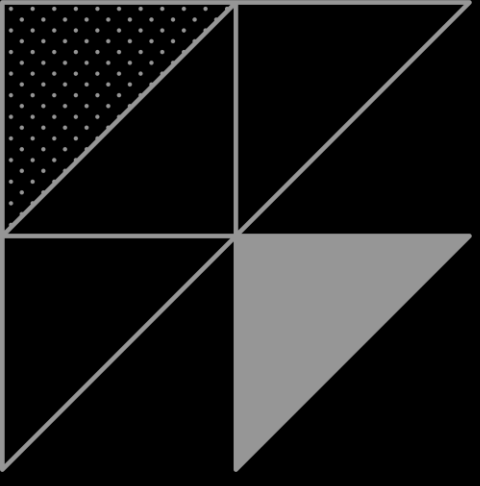◇ Integrations with C2 software (TAK)
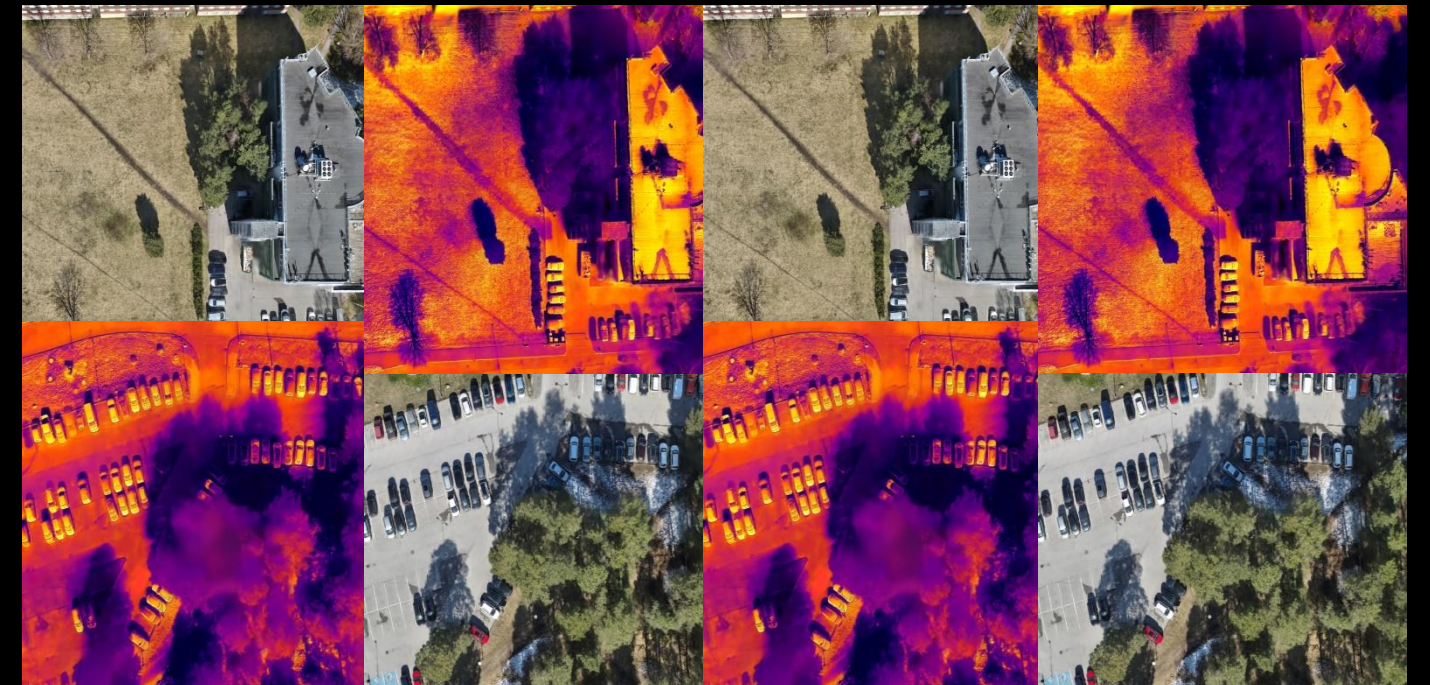
# Ongoing Battlefield Test

Product developed together with

front-line soldiers:

- ◊ Collaboration with 13th BDE

  Khartiia (UA) is ongoing.

- ◊ Roadmap constantly

  redefined based on the

  current needs.

# Cooperation in Estonia

◊ Tailored video streaming and automated ENY detection solution for the Estonian Defence Forces

◊ Pilot projects with the Estonian Defence League to support small unit mission planning and situational awareness

◊ Drafting plans for AI-based automated terrain analysis for IPB
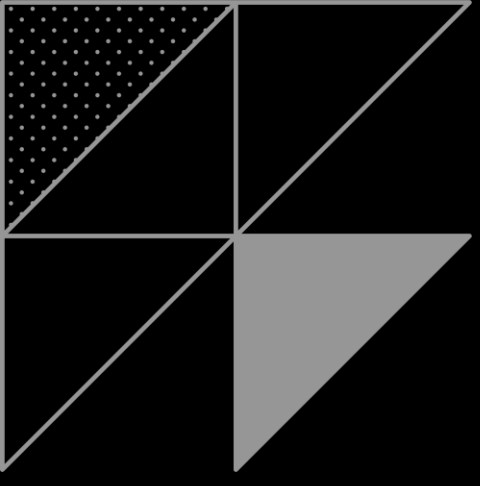
# Possible Civilian Applications

◊ Hotspot detection for forest and large fire events.

◊ Rapid 3D mapping for rescue operations in disaster-stricken areas.

◊ Instant crime scene reconstruction for law enforcement investigations.

◊ Construction planning, energy efficiency, and infrastructure

assessment.

# Roadmap

## 2025

### Q2       Q3       Q4

- MVP delivery
- Real-time 3D reconstruction engine
- Initial AI models: object, threat & change detection
- Pilots: UA 13th Brigade, EDL
- Intelligence dashboard (MVP)
  - 3D module integration with map provider

- Video upload & management dashboard
- Law enforcement pilot launch
- Enhanced AI inference: vehicles, landmarks
- Pilots with defence hardware companies and other military units

- Stream explorer dashboard for intel units
- API gateway for interoperability
- Backend scaling for modular AI
- Integration with smart wearable platforms
  - Human-Robot collaboration interfaces

## 2026

- Participation in NATO CWIX
- Testing in ISR, MILGEO, CYBER, C2 domains
- Toward NATO Secret (NS) accreditation
- Broader NATO/EU deployment path

**And a lot of other crazy things we have in mind!**
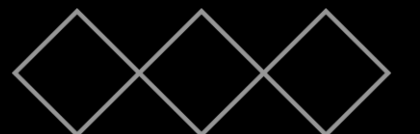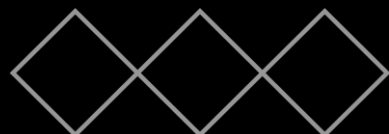
# Meet the Team Advancing 3D Intelligence

## Prof. Vladimir Kuts
PhD in Engineering and MBA with extensive experience in technology and strategic planning. Professor of Digital manufacturing, Head of VR&AR Lab, R&D expert, and Estonian Defense League member.

## Ivan Symotiuk
Software Engineer at Final Assembly Technology Equipment Development team at Ericsson; Project Specialist at TalTech Industrial VR&AR lab of Smart Industry research

## Heiti Kruusmaa
25+ years experience in IT and information security. Currently developing a NATO capability. Reserve officer in intelligence and communications roles. Active Estonian Defense League member.

## Rostyslav Boychuk
Project specialist at TalTech Industrial VR&AR lab of Smart Industry research. Previously Mechanical design engineer at ABB Drives Estonia,

## Saamuel Stepanov
Marketer with a background in the defense industry and agricultural startups. Formerly involved in the area of government under MOD of Estonia. Area commander in the Estonian Defense League.

## Daniil Rõbnikov
Software Developer at Laboratory of Language Technology at TalTech, specializing at audio signal processing and speech synthesis; R&D specialist in Robotics at VR&AR Lab
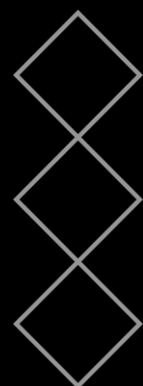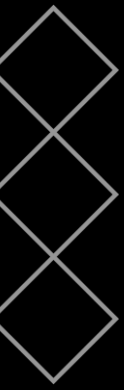
### Mentor

## Villiko Nurmoja
COO and Co-founder at SensusQ.

## Yevhen Bondarenko
Early-stage researcher at TalTech Industrial VR&AR Lab; experienced in computer vision, AI and immersive technologies; technical co-founder of several startups.

# With C2GRID, you'll always be aware.

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# Additional slides

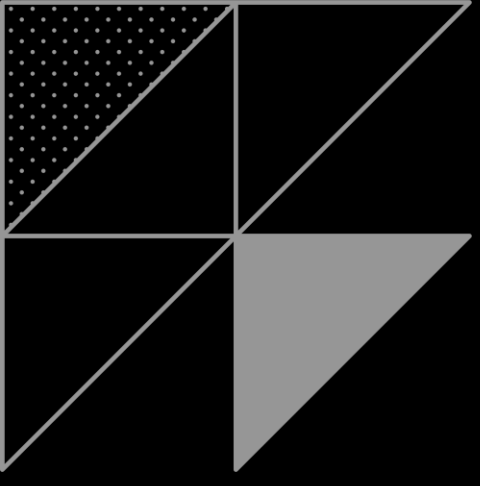C2GRID Transforms Footage into 3D Situational Awareness.

https://youtu.be/9X2rGIBHR1A

C2GRID

Enables multi-layer views, including thermal imaging.

# We do AI-Powered 3D Situational Awareness

C2GRID uses AI solutions (based on Gaussian Splatting) to create an instant 3D battlespace from any video source in 5 to 20 minutes:

◊ Combining RGB, thermal, hyperspectral, and acoustic layers enables automated threat detection.

◊ AI-based segmentation of objects: add/remove buildings, vegetation, and vehicles.

◊ Interoperability with C2 systems like TAK.