

# COMPANY PRESENTATION

# Company profile

## About Pro Patria Electronics Ltd.

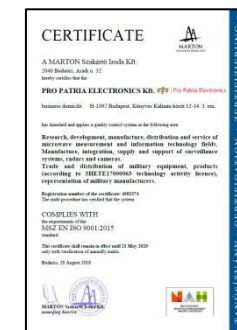
- Founded in 2000
- 65 experienced engineers and technicians
- Located in the city center of Budapest, Hungary

## Business Profile

- Strong experience in high frequency applications
- Software, RF, Antenna, Camera R&D and Sensor Integration center
- Defense-related Electronics and Precision Mechanics

## Certifications

- ISO 9001:2015 and AQAP 2110:2016 standard Quality Management Systems
- Hungarian, EU and NATO Secret Grade
- Registered NATO Supplier



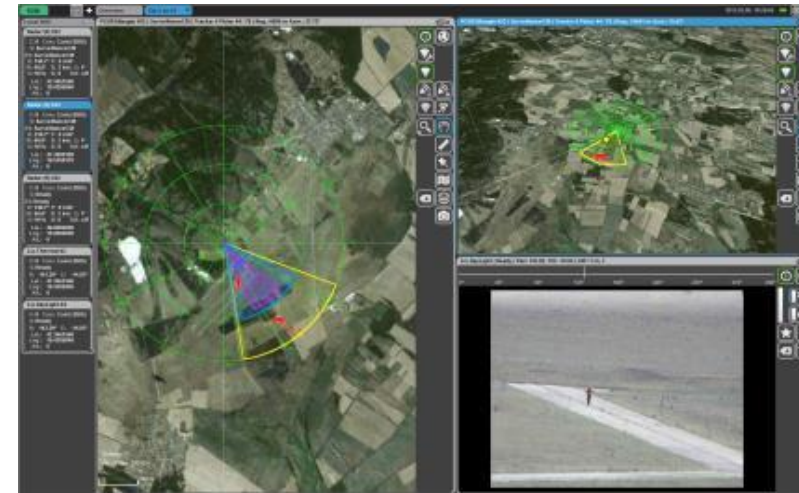
## Our Main References

- Systems of PGSR-3i 'Protector Beagle' Portable Ground Surveillance Radars for a **Middle Asian Army**
- PGSR-3i 'Beagle' Portable GSR Systems for **West-European NATO and Middle-Asian armies**
- Integrated PGSR-3i 'Beagle' Portable Ground Surveillance Radar and Uncooled Camera Systems for the **Elite Commando – Indo-China region**
- **NATO-member country** project with C2 integration (Armored Personnel Carrier)
- **Police of East-European Country** (Border Guard Service) PGSR-3i 'Beagle' Radar and MGS3 'Scout' surveillance vehicle
- National border project in **Eurasia** (fix deployment, integration) – biggest outside of USA in 2015
- **Eurasia Border Service** - (as a Lockheed-Martin subcontractor)
- MGS3 'Scout' vehicle deployment in an **Eurasian country**
- Antenna development and OEM projects (**Leonardo-Airborne**)
- Uncooled Camera with PGSR-3i 'Beagle' GSR for the **Hungarian Defense Force** (several border protection projects)
- Shortlisted in a substantial **North African country** with complete sensor solution as main contractor

# ADAMS – Sensor Integration Management Software

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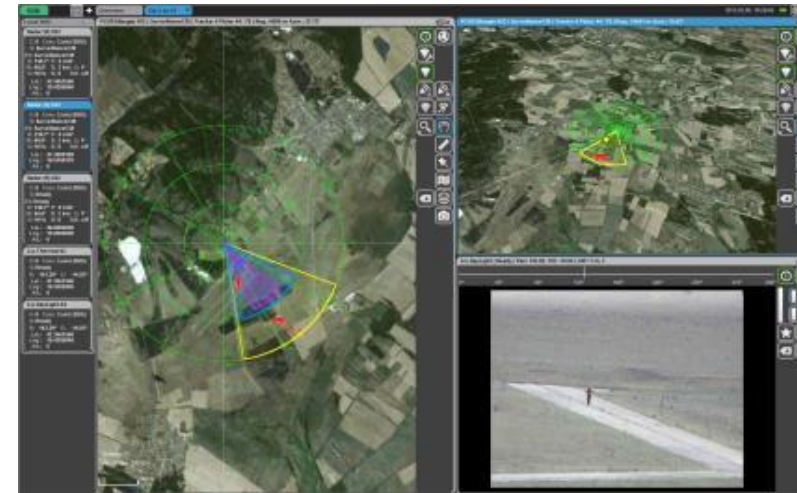
- **Open architecture** for future expansion and integration (for existing sensors and C2-C4I systems as well)
- **Integrates and operates** surveillance sensors - radars, cameras, UGS (Unattended Ground Sensor) etc.
- Modular, **cost effective** solution (from stand-alone sensor to multi-sensor network)
- Regular **updates** offer
- **Customer tailored** configuration:
  - Language
  - Map integration
  - Appearance



# ADAMS – Sensor Integration Management Software

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- **Integrated** communication
- **Intuitive** user interface, **short** training time
- **Continuous recording** of all sensor data, replay at any time
- **Unlimited number** of alarm zones, triggered by user set target conditions
- **Advanced** target and environment **analysis tools**
- **Option to integrate** 3rd party sensors (current and future)



# PGSR-3i 'Beagle' Mk II. – Portable Ground Surveillance Radar System

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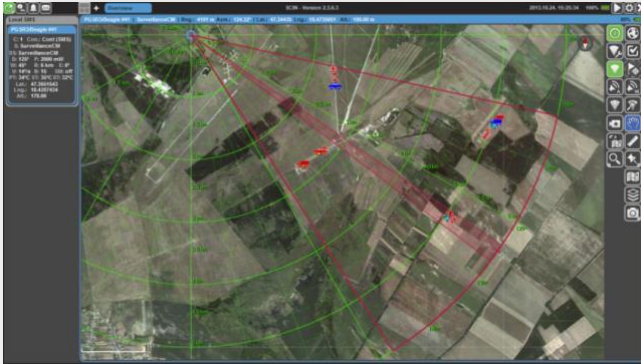
- **Light weight** man-portable FMCW GSR with **auto** target **detection and tracking**
- **Mechanically** scanning
- Detection (at **minimum 1.0 km/h** radial speed) ranges:
 

– Soldier	RCS 1 m <sup>2</sup>	<b>10 Km</b>
– Road vehicle	RCS 5 m <sup>2</sup>	<b>15 Km</b>
– Helicopter	RCS 10 m <sup>2</sup>	<b>18 Km</b>
– Large vehicle (e.g.:tank)	RCS 50 m <sup>2</sup>	<b>24 Km</b>
- Target **classification** (Automatic, Doppler audio, Spot window)
- Modular, Compact, Rugged design (**MIL-STD-810G**)
- **Portable** in 2 backpacks



# PGSR-3i 'Beagle' Mk II. – Portable Ground Surveillance Radar System

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- Integrated **GPS** and **compass**
- Targets are displayed as icons on **Digital map (GIS)**
- **Effective, intuitive** user interface
- **Easy to learn, easy to use;** records everything
- Max. Output Power: **3.5 W**  
(No practical safety precautions required)
- **X Band, 20 Channels, Automatic hopping**
- Good **LPI capability, jamming resistance**

# PGSR-3i FT 'Beagle' Mk. II. – Tower-Mounted Ground Surveillance Radar System

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- **Typhoon** proof
- **Hermetically sealed**
- **Hot desert** environment, passive **cooling**
- **Sensor integration**, networking
- Sectorial scanning or **continuous 360° rotation**
- **Proven, reliable** system
- Up to **4 W** output power
- **Maintenance free, low cost** operation
  - Maintenance window
- PGSR-3i FT 'Beagle' Mk. II. ranges:
 

– Soldier	RCS 1m <sup>2</sup>	<b>10 Km</b>
– Road vehicle	RCS 5m <sup>2</sup>	<b>15 Km</b>
– Helicopter	RCS 10m <sup>2</sup>	<b>18 Km</b>
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# PGSR-3i FT 'Beagle' Mk. II. – Tower-Mounted Ground Surveillance Radar System

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- Operates on 24 VDC with **very low power consumption**
- It requires **Ethernet IP connection**
- **One tower** is usually equipped with **1 radar** and **1-2 camera** units
- Standard mounting – all **mechanical tools** are **supplied** to the installation team
- **Standard tool for** exact **installation** data collection: direction and position
- Final **transport** and **installation** is possible **with man-power**
- It has **perfect surveillance range** for the most practical tower size (cost, feasibility)
- Local connection for **Level 0 access** to camera + Radar with ADAMS™ software **for the local maintenance team**

# Bordercam-225 – Uncooled Electro-Optical Camera System

## MAIN TECHNICAL FEATURES

### THERMAL CAMERA

Resolution	640x512	
Wavelength	LWIR	
Target	1.8x0.6m Human	2.3x2.3m NATO/vehicle
Detection range*	11200m	21600m
Recognition range*	5600m	7200m
Identification range*	2800m	3600m

### Full HD DAYLIGHT CAMERA

Resolution	1920x1080	
Optical zoom	30x	
Target	1.8x0.5m (human)	2.3x2.3m NATO
Identification range*	13600m	17400m

### LRF SPECIFICATION (Optional)

Maximum range	8000m
Accuracy (80% range)	1m
Wavelength	1550nm
Divergence	0.5 mrad

- **Uncooled** Thermal Camera Systems with precious pan and tilt unit
- **Compact** design
- **Balance** between performance and price
- **ADAMS integrated**
- **Low** maintenance
- **Man-portable** version available (integration with 'Beagle' Mk. II. Radar)



\*Maximum value, may be limited by the atmospheric conditions

## MBR-3D – Ground & Air Surveillance Radar System

- Continuous **Drone & UAV** (Unmanned Aerial Vehicle) **detection** in 3D and ground target detection
- **DBF** (Digital Beam Forming) and unique **Tx AESA** technology
- **Compact** and **light weight**
- **No moving parts**, fully solid state
- **LPI** due to **low transmission power** and continuously changing frequency
- **Advanced operation software**
- **Fully integration** ready (into C2/C4I; with EO)
- Detection ranges\*:
 

Drone	<b>3 km</b>
Pedestrian	<b>6 km</b>
Soldier/UAV	<b>7 km</b>
Vehicle	<b>12 km</b>

\* Tested with DJI Phantom 4 drone



## MGS3 'Scout' – Mobile Ground Surveillance Vehicle

<https://www.youtube.com/watch?v=5Rnmgj0BW14>

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- **Autonomous** (silent) operation
- **Quick** location change
- **Rapid** response
- Additional man-portable, PGSR-3i Beagle radar integration – **commander station**
- **Integration** into C4I systems
- Retractable **masts**
- **Armoured** (option)





## MGS3 'Scout'– Mobile Ground Surveillance Vehicle

<https://www.youtube.com/watch?v=5Rnmgj0BW14>

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- The system is operated using **ADAMS software**
- **Taylor made design** according to the operational needs
- Carrier **vehicle** is **selected by the customer**
- **Power subsystem** (battery + generator+ charge while in move)

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