TERRA HEXEN
DRONE, ANTIDRONE, NEUTRALIZATIONS

APS advanced protection systems

APS
CUAS & 3D Radar Technology

TERRA HEXEN is the official sales representative of APS

SKY ctrl

FIELD ctrl

APS Company

Dr Maciej Klemm,
CEO & Co-Founder

Dr Radosław Piesiewicz,
COO & Co-Founder

Innovative high-tech company designing and manufacturing systems and electronic products for security and defence markets.

Offices in the UK and USA. HQ/R&D: Poland.

Clients: Europe, GCC, South-East Asia and East Asia.

Focus on critical infrastructure, law enforcement and military.

Conducting world class R&D activities – 100% proprietary IPR in 3D MIMO radar technology and jammers technology; ITAR free; produced locally.

Company videos:

https://www.youtube.com/watch?v=XePnKe3sZk8

https://www.youtube.com/watch?v=cSzzLThYbK0

Certificates

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MINISTER SPRAW WEWNĘTRZNYCH I ADMINISTRACJI

KONCESJA

Nr B-087/2018

Na podstawie art. 6 ust. 1 oraz art. 7 ust. 1 ustawy z dnia 22 czerwca 2001 r. o wykonywaniu działalności gospodarczej w zakresie wytwarzania i obrotu materiałami wybuchowymi, bronią, amunicją oraz wyrobami i technologią o przeznaczeniu wojskowym lub policyjnym (Dz. U. z 2017 r. poz. 290, z późn. zm.)

udzielam

ADVANCED PROTECTION SYSTEMS
SPÓŁKA AKCYJNA
z siedzibą: 81-350 Gdynia, Plac Kaszubski 8 lok. 311
KRS 0000580215, NIP 5862300694

Prezes Zarządu: Pan Maciej Bartłomiej KLEMM
Członek Zarządu: Pani Ewa ZYSNARSKA – uprawniona do kierowania działalnością gospodarczą objętą zakresem koncesji
Prokurent: Pani Małgorzata PIESIEWICZ
Pełnomocnik uprawniony do kierowania działalnością gospodarczą objętą zakresem koncesji:
Pani Liliana Maria WIERCIŃSKA-STĘPIEŃ

Koncesji
na wykonywanie działalności gospodarczej

w zakresie:

- wytwarzania i obrotu wyrobami o przeznaczeniu wojskowym lub policyjnym określonymi w pozycjach: WT II ust. 2, WT V ust. 8, WT VI ust. 1, ust. 3 i WT VIII oraz obrotu technologią w tym zakresie określoną w pozycji WT XIII Załącznika Nr 2 Wykaz wyrobów i technologii o przeznaczeniu wojskowym lub policyjnym – WT – do rozporządzenia Rady Ministrów z dnia 3 grudnia 2001 r. w sprawie rodzajów broni i amunicji oraz wykazu wyrobów i technologii o przeznaczeniu wojskowym lub policyjnym, na których wytwarzanie lub obrót jest wymagana koncesja (Dz. U. Nr 148, poz. 1625, z późn. zm.)

Miejsce wykonywania działalności: 84-230 Rumia, ul. Sobieskiego 47
Czas ważności koncesji: 10 lat
Data rozpoczęcia działalności: data doręczenia koncesji

0000410

MILITARY CONCESSION

CENTRUM CERTYFIKACJI JAKOŚCI
QUALITY CERTIFICATION CENTER

CERTIFICATE

This is to certify that quality management system in

Advanced Protection Systems S.A.

Plac Kaszubski 8/311, 81-350 Gdynia

complies with the requirements of

ISO 9001:2015

Scope of certification:

Manufacturing, installation, sales and maintenance of counter-UAS systems and sensors. Design of counter-UAS systems.

Certificate No 1453/S/2020 is valid from 28.12.2020 to 27.12.2023, under condition of fulfilment of the requirements contained in the confirmation, which is an integral part of this certificate. Initial certificate issue: 28.12.2020. Information about the certificate is available at www.ccj.wat.edu.pl. Edition: A, date of issuing: 28.12.2020.

MILITARY UNIVERSITY OF TECHNOLOGY
QUALITY CERTIFICATION CENTER
gen. Sylwestra Kaliskiego 2 St., 00-908 Warsaw

IAF

PCA

AC 057

ISO 9001:2015

CENTRUM CERTYFIKACJI JAKOŚCI
QUALITY CERTIFICATION CENTER

CERTIFICATE

Based on the certification of

INTERNAL COMPLIANCE PROGRAMMES

with the requirements of PN-EN ISO 9001:2015, was confirmed that the organization

Advanced Protection Systems S.A.

Plac Kaszubski 8/311, 81-350 Gdynia

meets the requirements defined in article 11 paragraph 2 of the Act of 29.11.2000 on foreign trade of goods, technologies and services of strategic importance for national security, as well as for maintenance of international peace and security (as amended)

Scope of certification: Turnover of strategic importance goods.

Certificate No 1452/W/2020 is valid from 28.12.2020 to 27.12.2023, under condition of fulfilment of the requirements contained in the confirmation, which is an integral part of this certificate. Initial certificate issue: 28.12.2020. Information about the certificate is available at www.ccj.wat.edu.pl. Edition: A, date of issuing: 28.12.2020.

MILITARY UNIVERSITY OF TECHNOLOGY
gen. Sylwestra Kaliskiego 2 St., 00-908 Warsaw
DEPARTMENT OF MANAGEMENT AND QUALITY SYSTEMS
Nowowiejska 29 St., 02-010 Warsaw
since 01.07.2014 - QUALITY CERTIFICATION CENTER

STRATEGIC GOODS EXPORT

NATIONAL SECURITY AUTHORITY
OF THE REPUBLIC OF POLAND
INTERNAL SECURITY AGENCY

NATO FACILITY SECURITY CLEARANCE CERTIFICATE
NO. 5/2018/NATO

1. This is to certify that:

Name of facility: Advanced Protection Systems Sp. z o.o.

Address of facility: Plac Kaszubski 8, lok. 311, 81-350 GDYNIA

has been granted NATO facility security clearance in accordance with the provisions of the Directive on Classified Project and Industrial Security supporting Enclosure "G" to the NATO Security Policy - up to and including:

NATO SECRET

2. The validity of this certificate will expire not later than: 20.08.2025

3. The National Security Authority of the Republic of Poland confirms that the facility:

[X] possesses NO storage capabilities approved for the safeguarding of NATO classified information

[ ] possesses storage capabilities approved for the safeguarding of classified information up to the _____ level;

[ ] possesses capabilities to generate, store and transmit in IT systems and network classified information up to the _____ level.

Signed:

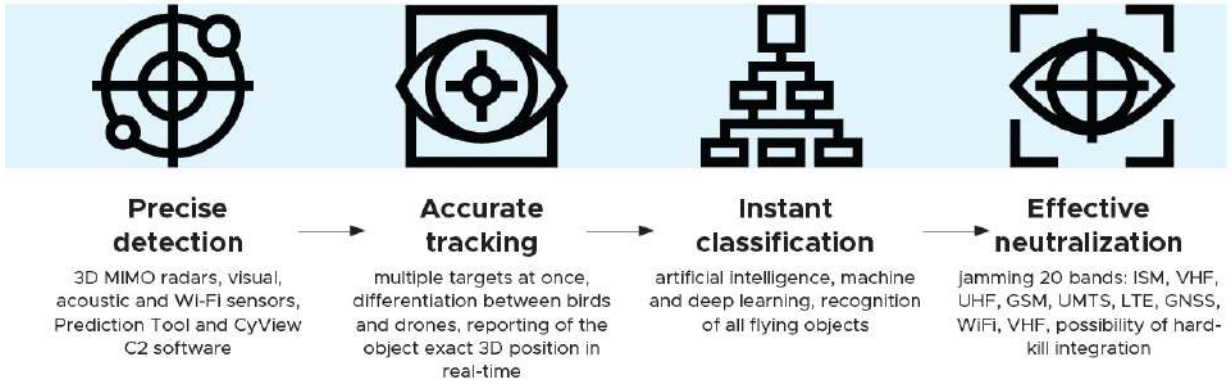
Title: DIRECTOR/DEPUTY DIRECTOR OF THE DEPARTMENT FOR THE PROTECTION OF CLASSIFIED INFORMATION, THE INTERNAL SECURITY AGENCY

Date: 22.08.2018

National Security Authority of the Republic of Poland
Internal Security Agency
Rakowiecka 2 A
00 - 993 Warszawa
e-mail: nsa@abw.gov.pl
fax: 148 22 58 57 443

NATO SECURITY CLEARANCE

SKYctrl CUAS system - USPs



- Modular, configurable and network-centric system,
- 3D MIMO radar technology for precise detection of LSS targets,
- Radar tracking based on MHT algorithms with excellent targets classification,
- Fully integrated and automated multi-band jammer,
- Dedicated Command & Control App with data fusion and easy control,
- Open API for integration of 3rd party systems and hard-kill,
- Operates under harsh weather conditions, night and day,
- Easy to mount and operate,
- Detects all kinds of drones – also GPS programmable and fully autonomous.

Products – **FIELDctrl radars**

FIELD ctrl

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ACCESS

Instrumented range:	7 km
Minimum detection range:	1 m
Maximum detection range:	
Nano UAVS - RCS 0.01 m²:	2 km
Pedestrian – RCS 0.5 m²:	3 km
Light vehicle – RCS 2.0 m²:	5 km
Boat – RCS 5.0 m²:	7 km
Low-level helicopter – RCS 5.0 m²:	7 km
Range accuracy / Range resolution:	10m/6m
Minimum / maximum target altitude:	1m/7km
Coverage, azimuth / elevation:	90°/45°
Frequency:	X-Band
Technologies:	AESA/MIMO

ADVANCE

Instrumented range:	30 km
Minimum detection range:	1 m
Maximum detection range:	
Nano UAVS - RCS 0.01 m²:	3 km
Pedestrian – RCS 0.5 m²:	5 km
Light vehicle – RCS 2.0 m²:	8 km
Boat – RCS 5.0 m²:	10 km
Low-level helicopter – RCS 5.0 m²:	10 km
Range accuracy / Range resolution:	3m/6m
Minimum / maximum target altitude:	1m/30km
Coverage, azimuth / elevation:	90°/60°
Frequency:	X-Band
Technologies:	AESA/MIMO

RANGE

Instrumented range:	50 km
Minimum detection range:	1 m
Maximum detection range:	
Nano UAVS - RCS 0.01 m²:	5 km
Pedestrian – RCS 0.5 m²:	7 km
Light vehicle – RCS 2.0 m²:	12 km
Boat – RCS 5.0 m²:	15 km
Low-level helicopter – RCS 5.0 m²:	15 km
Range accuracy / Range resolution:	3m/10m
Minimum / maximum target altitude:	1m/50km
Coverage, azimuth / elevation:	90°/30°
Frequency:	X-Band
Technologies:	AESA/MIMO

FOLLOW

Instrumented range:	50 km
Minimum detection range:	1 m
Maximum detection range:	
Nano UAVS - RCS 0.01 m²:	10 km
Pedestrian – RCS 0.5 m²:	15 km
Light vehicle – RCS 2.0 m²:	25 km
Boat – RCS 5.0 m²:	30 km
Low-level helicopter – RCS 5.0 m²:	30 km
Range accuracy / Range resolution:	1m/3m
Minimum / maximum target altitude:	1m/50km
Coverage, azimuth / elevation:	20°/10°
Frequency:	X-Band
Technologies:	AESA/MIMO

Products - **Jammers**

NEUTRALISATION JAMMERS

20 bands: ISM, VHF, UHF, GSM, UMTS, LTE, GNSS, WiFi, UKF.
Reactive, barrage, sweep and hybrid jamming modes.

RF output power from 10 W to 140 W, depending on band range.

VISUAL SENSORS

Pan–tilt–zoom with manual or autogain control.
Day and night vision.

Variable zoom options.
Up to 360 degrees coverage.

WI-FI SENSORS AND DISCONNECTORS

Range up to 5 km.
Power consumption 60 W.

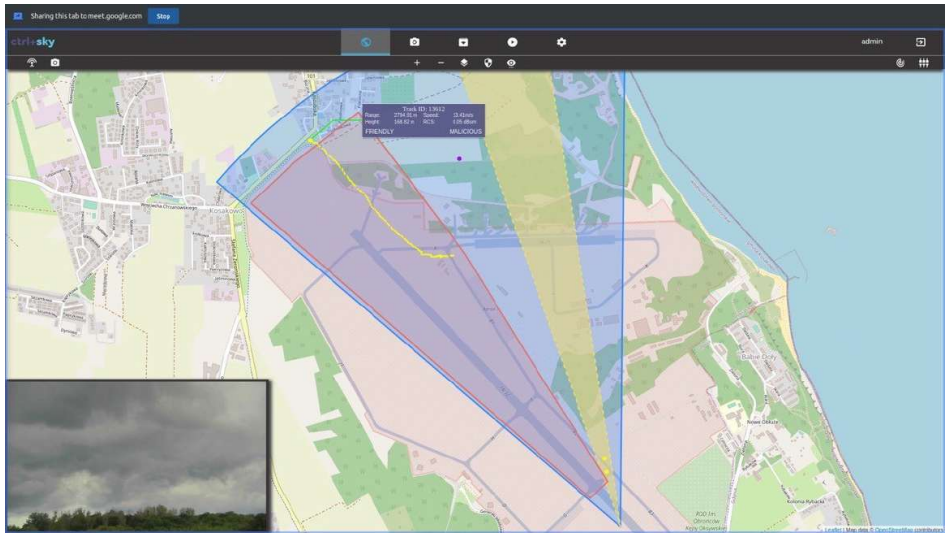
Frequency 2.4 GHz and 5.8 GHz.
Omni-directional or sectorial angle coverage.

ACOUSTIC SENSORS

Range up to 200 m.
Digital beamforming technology for direction finding.

Robust operation in urban environment.

Products - **CyView C2**



- CyView app tracks all the aerial objects with their location, altitude and speed as well as direction of flight.
- Excellent classification algorithms allow to differentiate between birds and drones and detect all kinds of drones, including copters and fixed wings.
- Data fusion from diferent sensors is clearly presented on one screen for enhanced situational awareness. Jamming is directly operated from the app.
- Interface integrates all control options, configuration is directly managable while archiving option allows to replay the incidents.
- Maps are available off-line, different traget classes are clearly visualized with different track colors, while target data is clearly displayed.

Prediction Tool – Deployment Optimization

Deployment Example

PRISON in Tallinn, Estonia

CyView C2 system protects 24/7 with deployed:

- FIELDctrl 3D Radars,
- Directive Jammer,
- Camera,

Deployment Example

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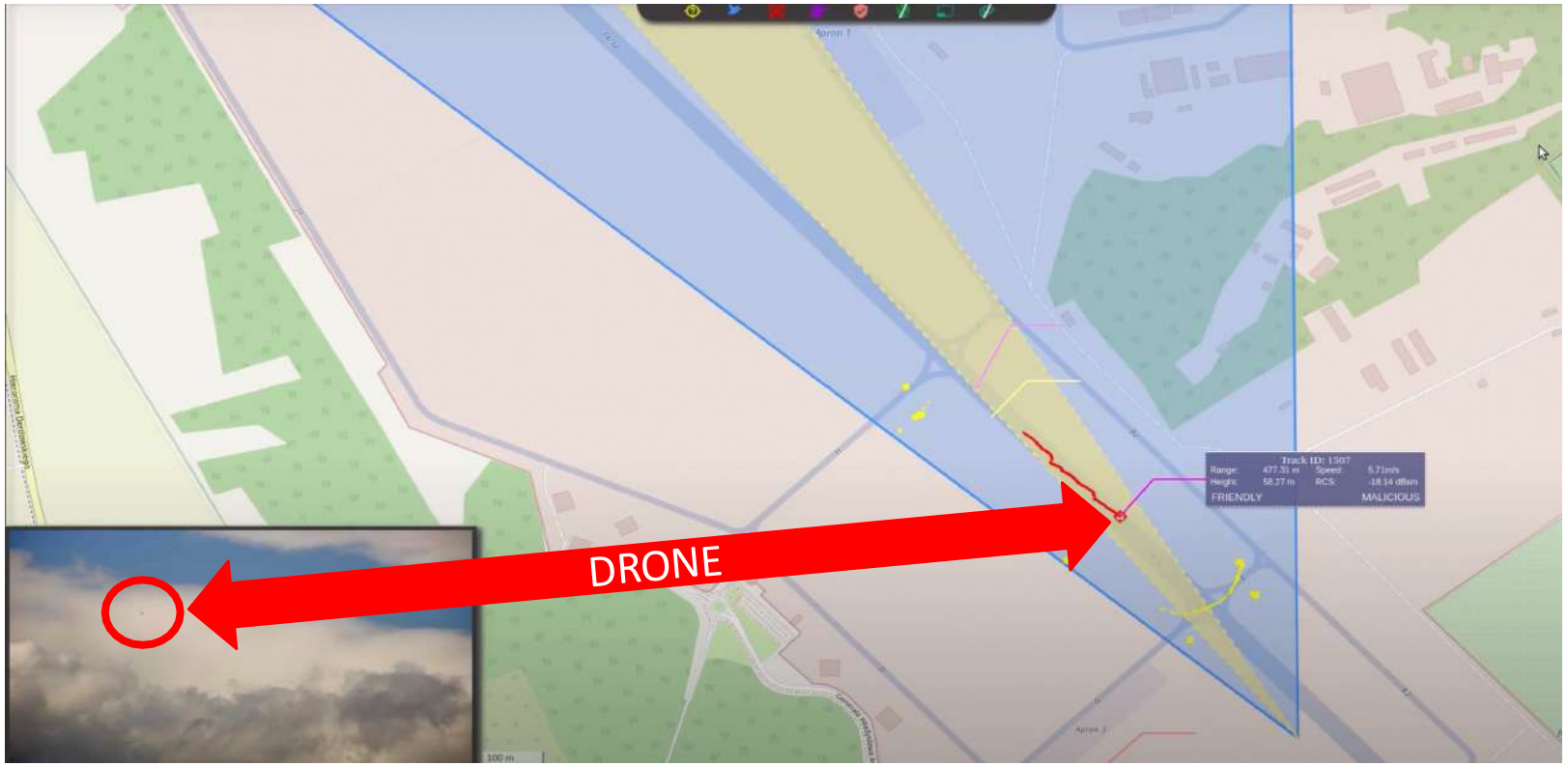
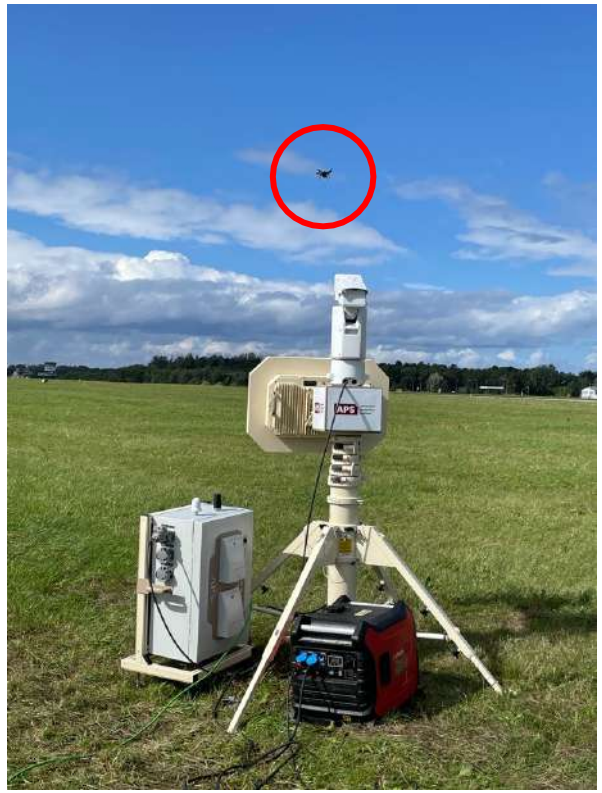
LOTOS GDYNIA AEROBALTIC 2021 AIRSHOW

Lotos Gdynia Aerobaltic Airshow 2021 – Military Airport





Deployment Example

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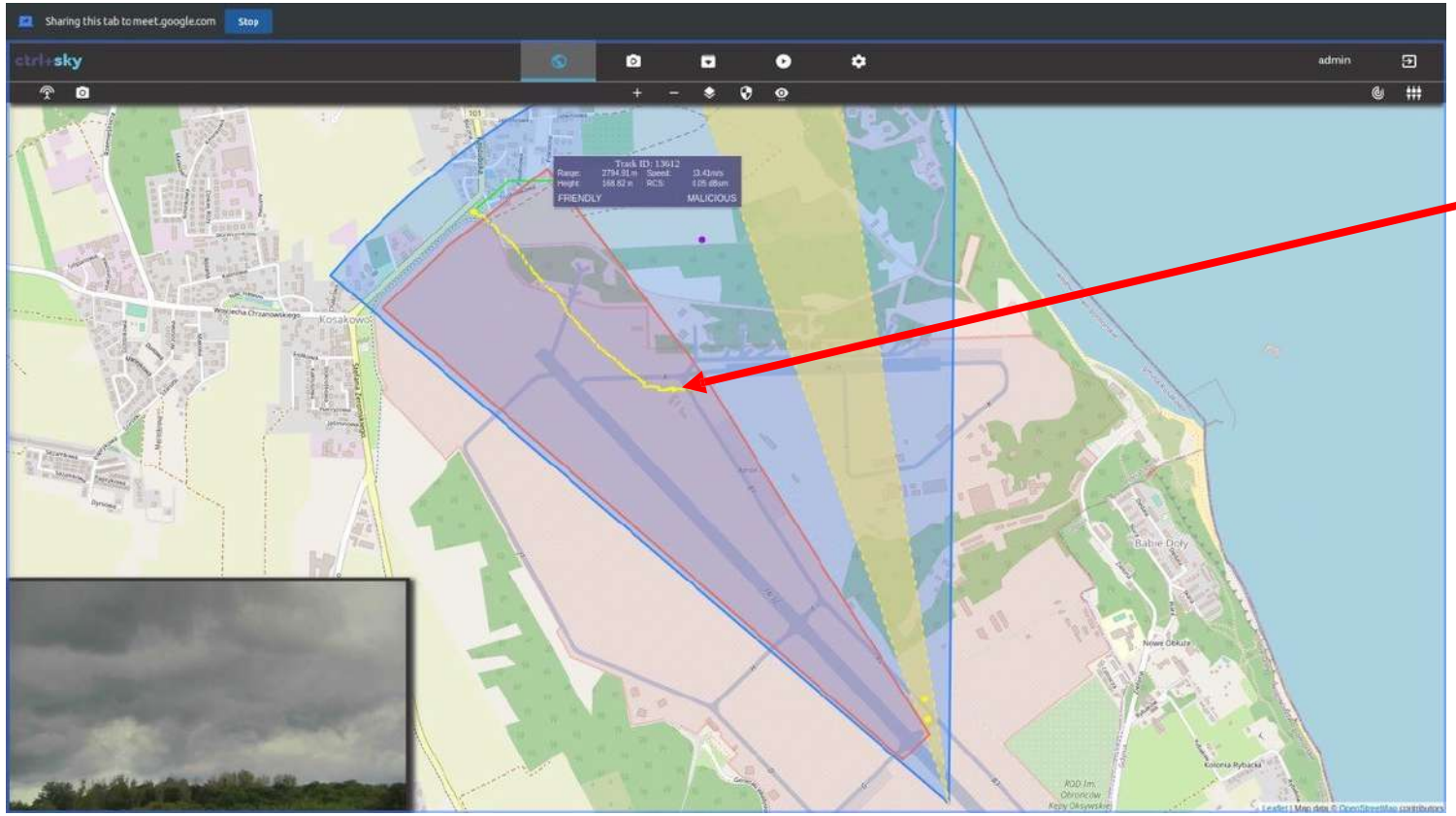
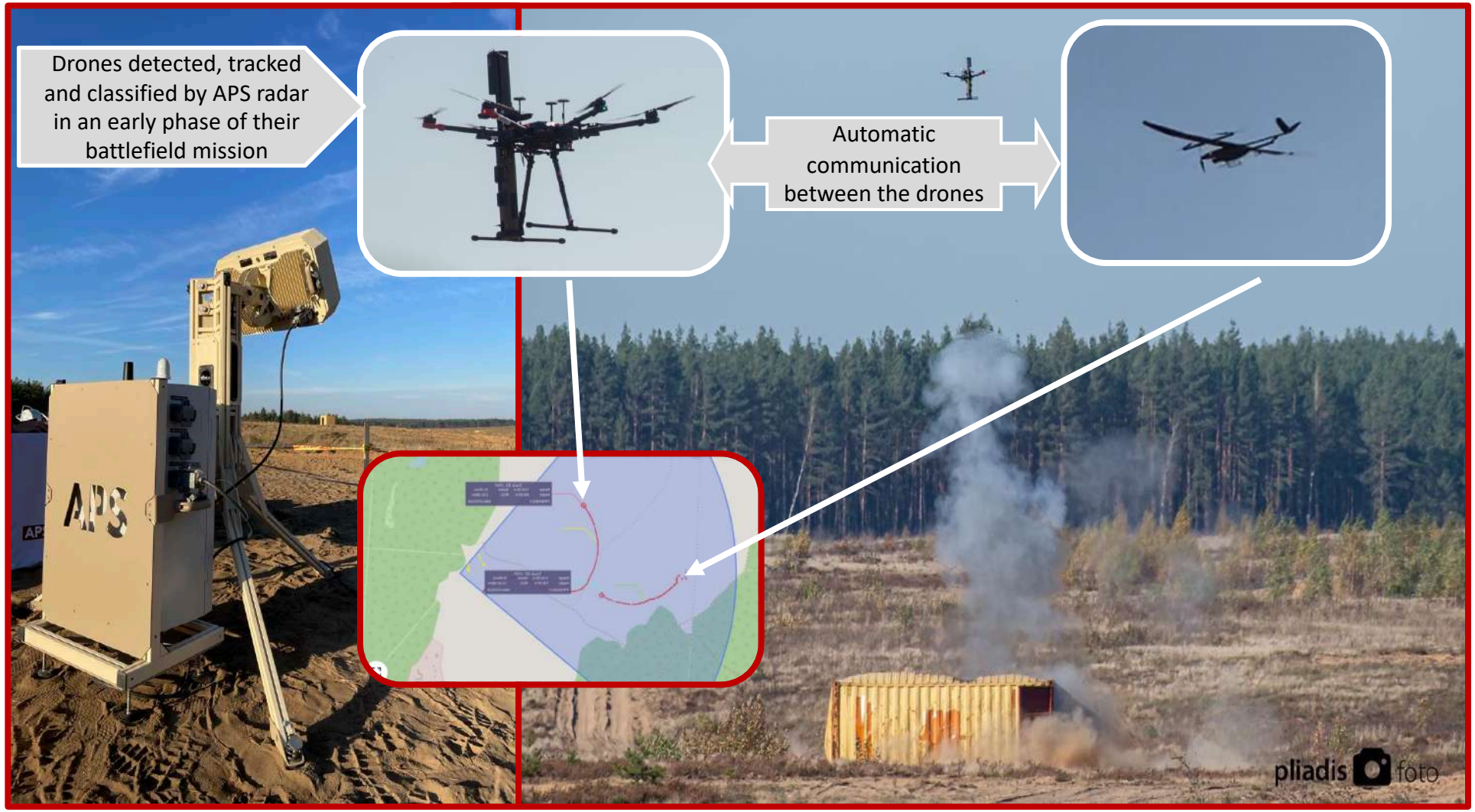
LOTOS GDYNIA AEROBALTIC 2021 AIRSHOW

Lotos Gdynia Aerobaltic Airshow 2021 – Military Airport



Deployment Example

Life Firing Show 2021, Military Test Range, Generalo Silvestro Zukausko, Lithuania



Deployment Example

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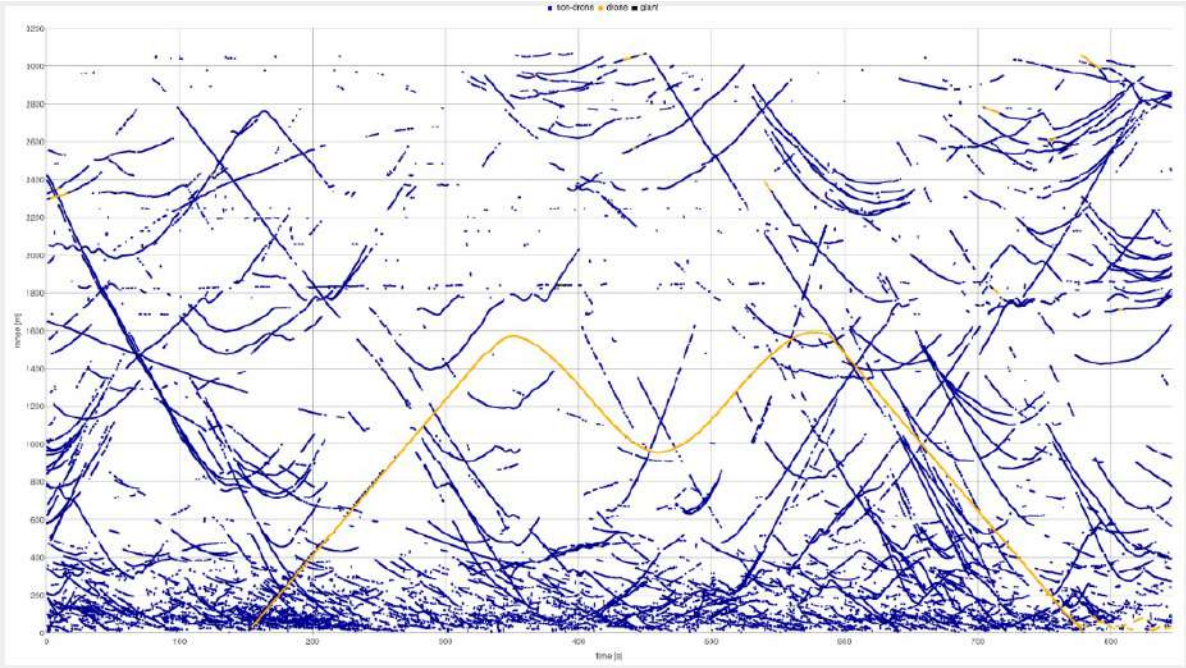
Training on force protection, Military Test Range Drawsko Pomorskie, Poland

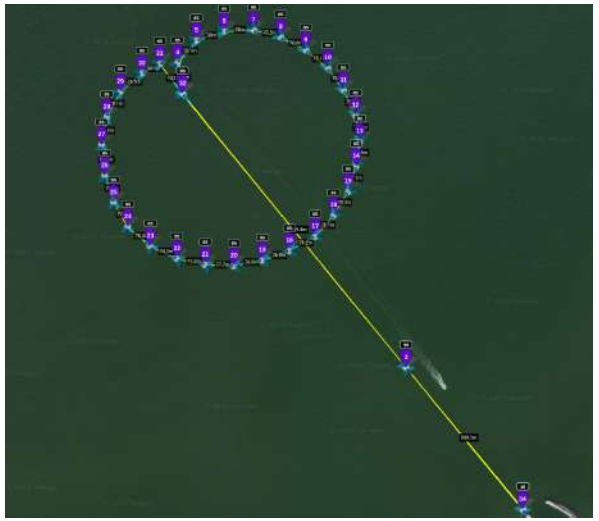
Deployment Example

WE PROTECTED

BNP PARIBAS WTA 250

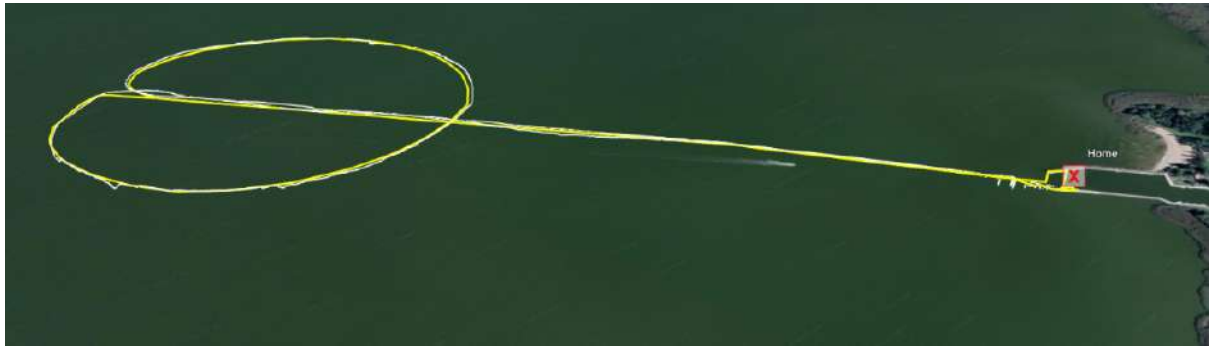
Deployment Examples – Radar Accuracy & Classification



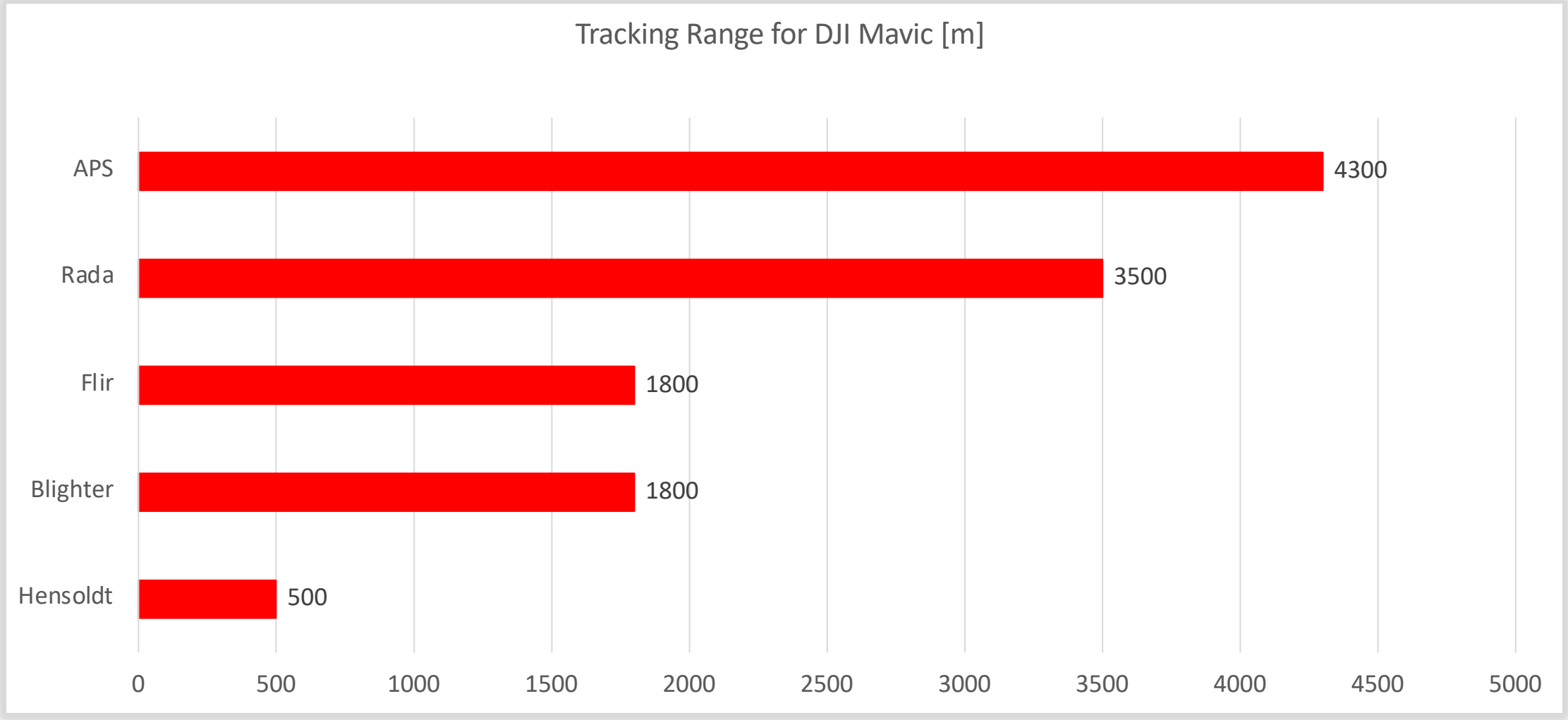


Drone true position vs. radar tracks accuracy (azimuthal ⬆ and altitude ⬇)

Excellent radar classification under harsh EM deployment environment
– Blue (different targets as birds, vehicles, etc.)
- Yellow (drone)



Tests of Effective Tracking Range of Drones conducted by Polish Operational Command



Thank you for your attention

TERRA HEXEN
DRONE, ANTIDRONE, NEUTRALIZATIONS

Let's talk and find out what we can do for you..

E-mail us at Robert.Fintak@terrahexen.com
or call at **+48 505 17 60 31** (European Union, CET).