



PANEL 6: Regulatory framework in the EU

UAV operations in Poland challenges for 2016+

MR. TOMASZ RÓŻYŃSKI

DIRECTOR OF AIRSPACE MANAGEMENT AND OPERATIONS PLANNING BUREAU
ATM SYSTEM DEVELOPMENT

PANSA

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POLSKA AGENCJA ŻEGLUGI POWIETRZNEJ
POLISH AIR NAVIGATION SERVICES AGENCY

Regulatory framework in Poland

SPECIFIED REGULATIONS SINCE 26.03.2013 FOR VLOS OPERATIONS UP TO 25KG MTOM
LATEST AMENDMENT ON 07.09.2016

New regulations for VLOS operations up to 150kg MTOM for:

- ✓ sport & recreational use
- ✓ other use (commercial)

Specified description of:

- ✓ Flight/operation rules
- ✓ Safety rules
- ✓ Operator responsibilities

BVLOS operations conducted only in prior segregated airspace - TSA's/TRA's.

Specified regulations for operator's certificate of competency (UAVO)
required for flights other than sport and recreational
Beyond 3500 CAA authorized RPAS operators in Poland



Rules for performing UAV operations within the Polish airspace

Flexible airspace structures - active according to airspace use plan (AUP)

Permanent airspace structures

✓ CTR - Control Zone - or when ATIS provided

✓ TMA - Terminal Control Zone

✓ AWY - Airway

✓ P - Prohibited

✓ R - Restricted

✓ VLOS operations:

➤ CTR (Control Zone) available after prior permission from PANS

➤ Segregated Airspace: prohibited or available after prior permission from PANS

(civil/military);

➤ Uncontrolled airspace: available without additional requirements

✓ Temporary Segregated Area;

✓ Temporary Reserved Area;

✓ Danger Area;

✓ MATZ - Military Aerodrome Traffic Zone;

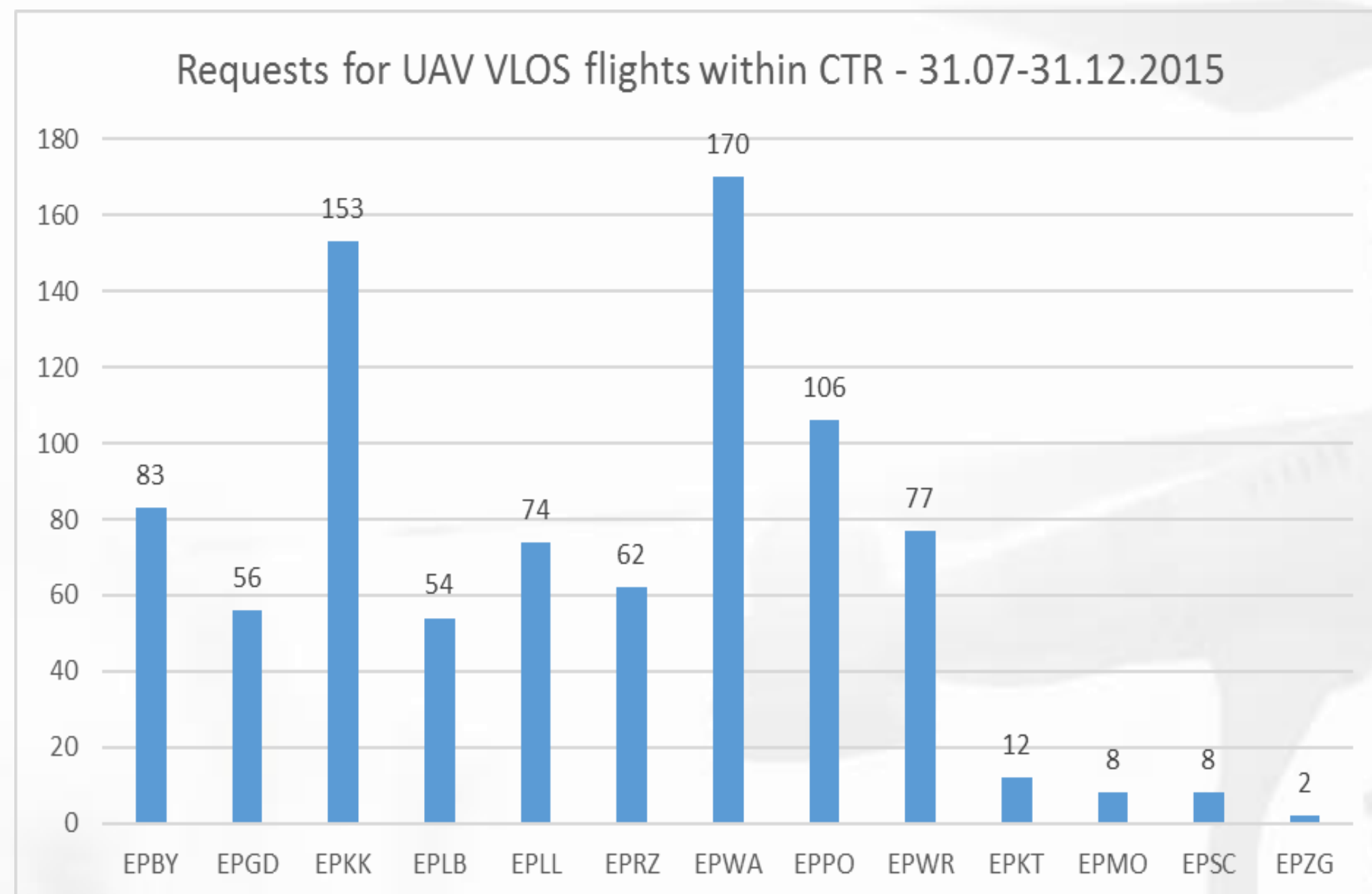
✓ ATZ - Aerodrome Traffic Zone;

✓ MRT - Military Low Flying Route;

✓ TFR - TSA/TRA Feeding Route

✓ RFL - Restriction Area/Excercise

Requests for UAV VLOS flights within controlled airspace (CTR)



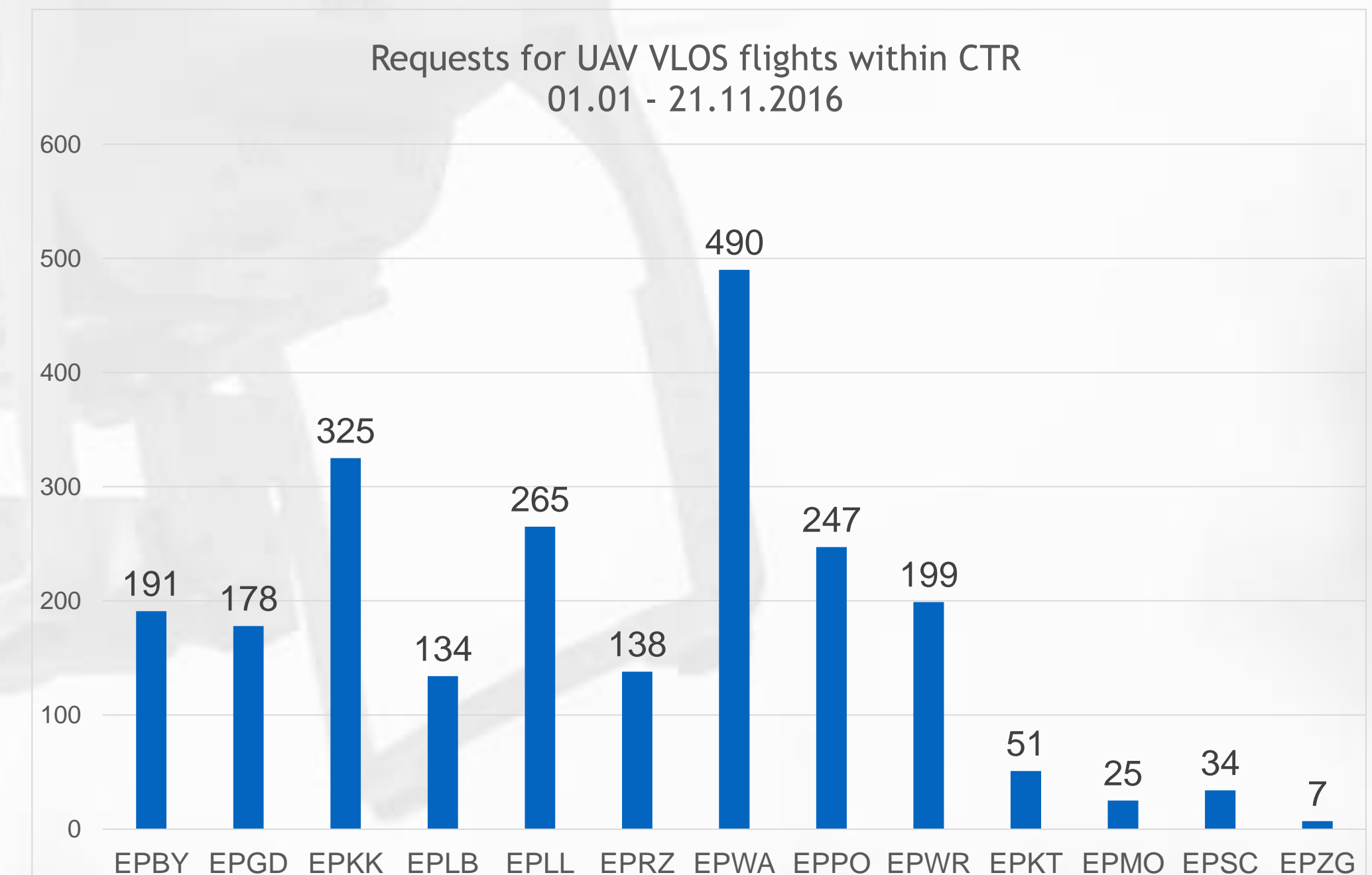
865 flights in 5 months
2015

173 flights/month



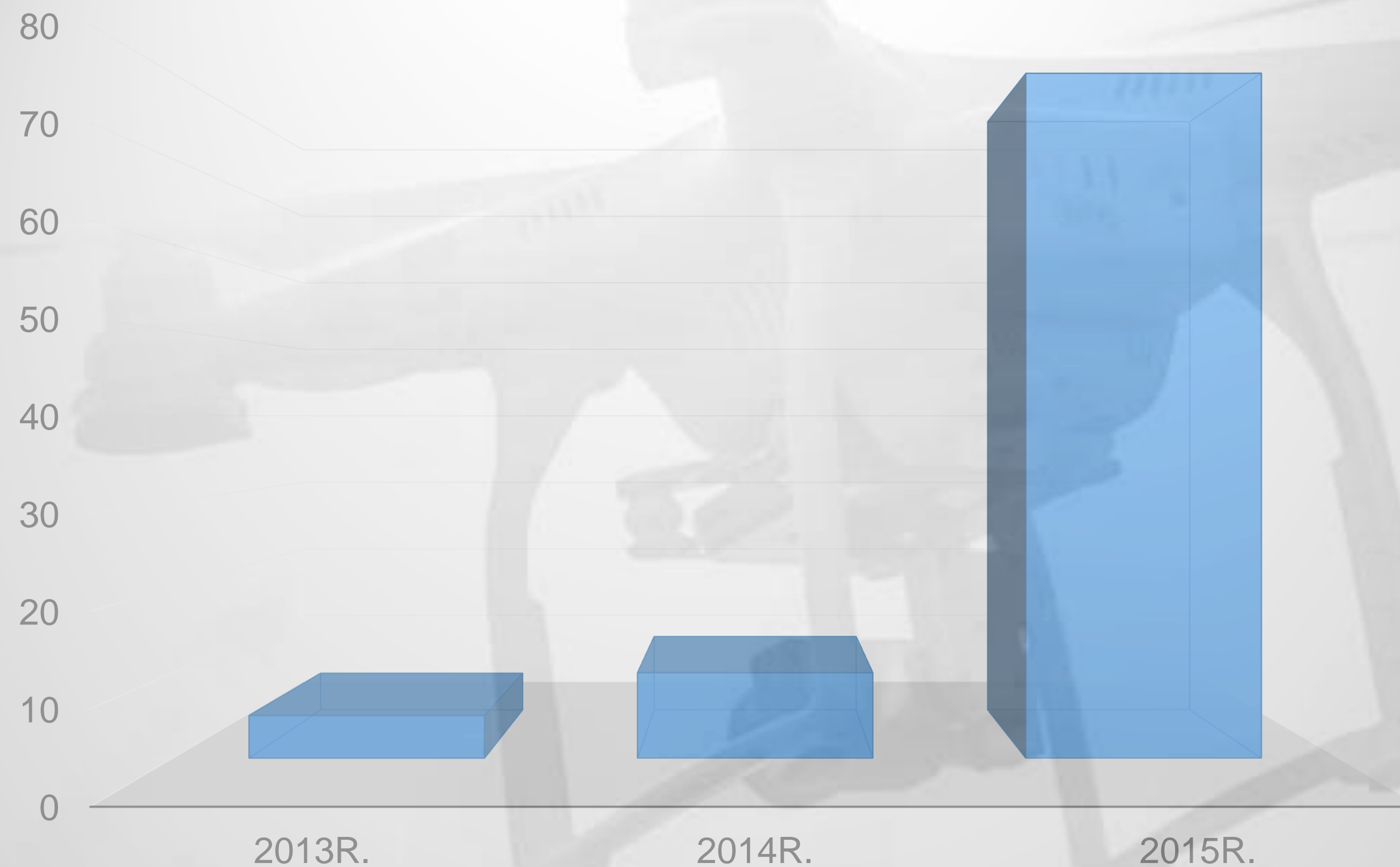
2311 flights in 11 months
2016

210 flights/month



BVLOS operations within the Polish airspace

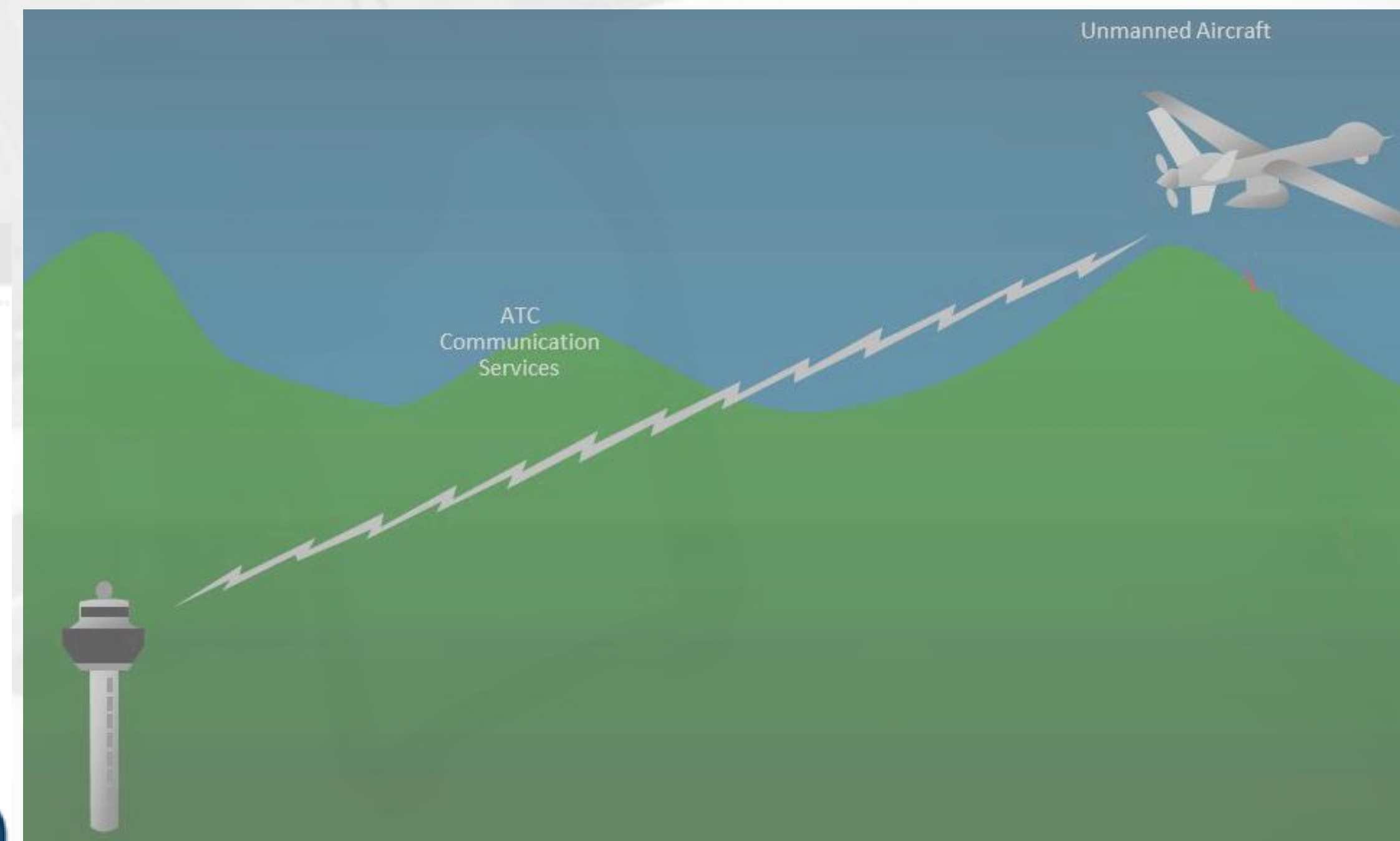
Conducted only in prior segregated airspace – TSA's/TRA's



Challenges for 2016 +

PROVIDE TWO WAY COMMUNICATION BETWEEN UAV OPERATORS AND ATS
(NOT NECESSARILY RADIO COMMUNICATION)

PROVIDE ATS WITH VISUAL REAL TIME LOCATION OF UAV OPERATIONS



DroneRadar integration with PANSA

SPECIFIED REGULATIONS SINCE 26.03.2013 FOR VLOS OPERATIONS UP TO 25KG MTOM
LATEST AMENDMENT ON 07.09.2016

DroneRadar is a easy to use (GYR) integrated into ANSP platform,
for airspace visualization which enables the registration and
monitoring of areas where RPAS flights take place

Integration with ANSP allows two way “non-verbal communication”
between ATS and RPAS operator with the use of a notification of
requests for flights, start/end times, loss of control, emergency
situations and many others

Statistics

- ✓ more than 20 000 downloaded apps (only in Poland)
- ✓ 100 real Check-Ins daily
- ✓ ca. 45 000 airspaces checks monthly



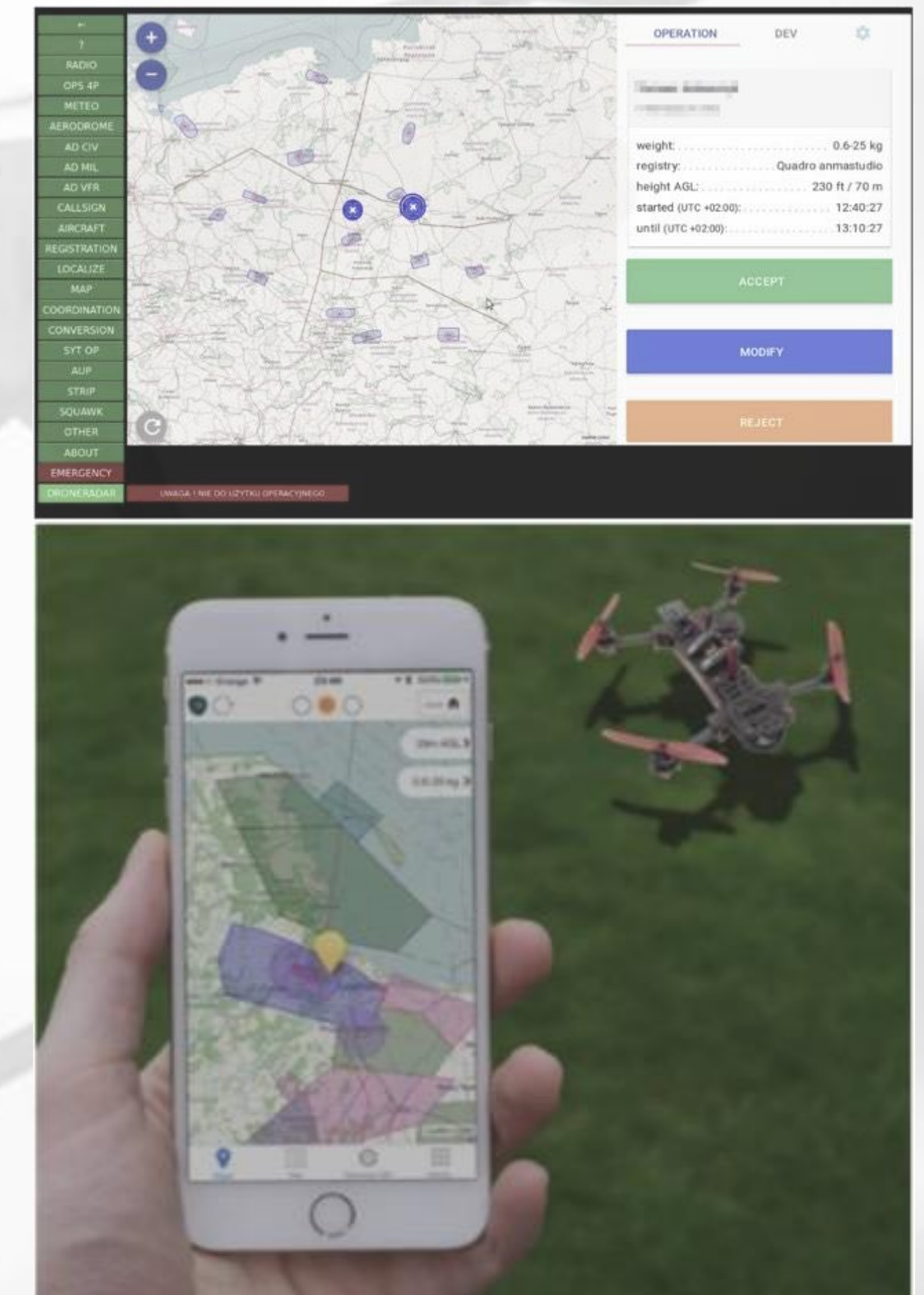
ATS perspective and tests results of DroneRadar

DRONERADAR INTEGRATION WITH PANSA'S AIR TRAFFIC MANAGEMENT SYSTEM (PANDORA)

Compliant (by architecture) solution, with multilevel user privileges mapped into different roles (FIS, TWR, Military, SAR) and airspaces

DroneRadar and Pandora tests conclusions:

- ✓ PANSА noticed educational character of DroneRadar and increasing awareness even through amateur RPAS operators
- ✓ userfriendly software tool
 - It creates and sets the trends in UAV management
- ✓ high usability and agility in RPAS management
- ✓ facilitating communication between ATS and RPAS operator



DronHouse Group - UAV monitoring system

AIMS OF THE PROPOSED SOLUTION

- ✓ Real-time monitoring of drone traffic in the Polish airspace
- ✓ Air traffic safety
- ✓ Identification of UAV operators
- ✓ Identification of non-authorised flights
- ✓ real-time display of no-fly zones or of air traffic restrictions

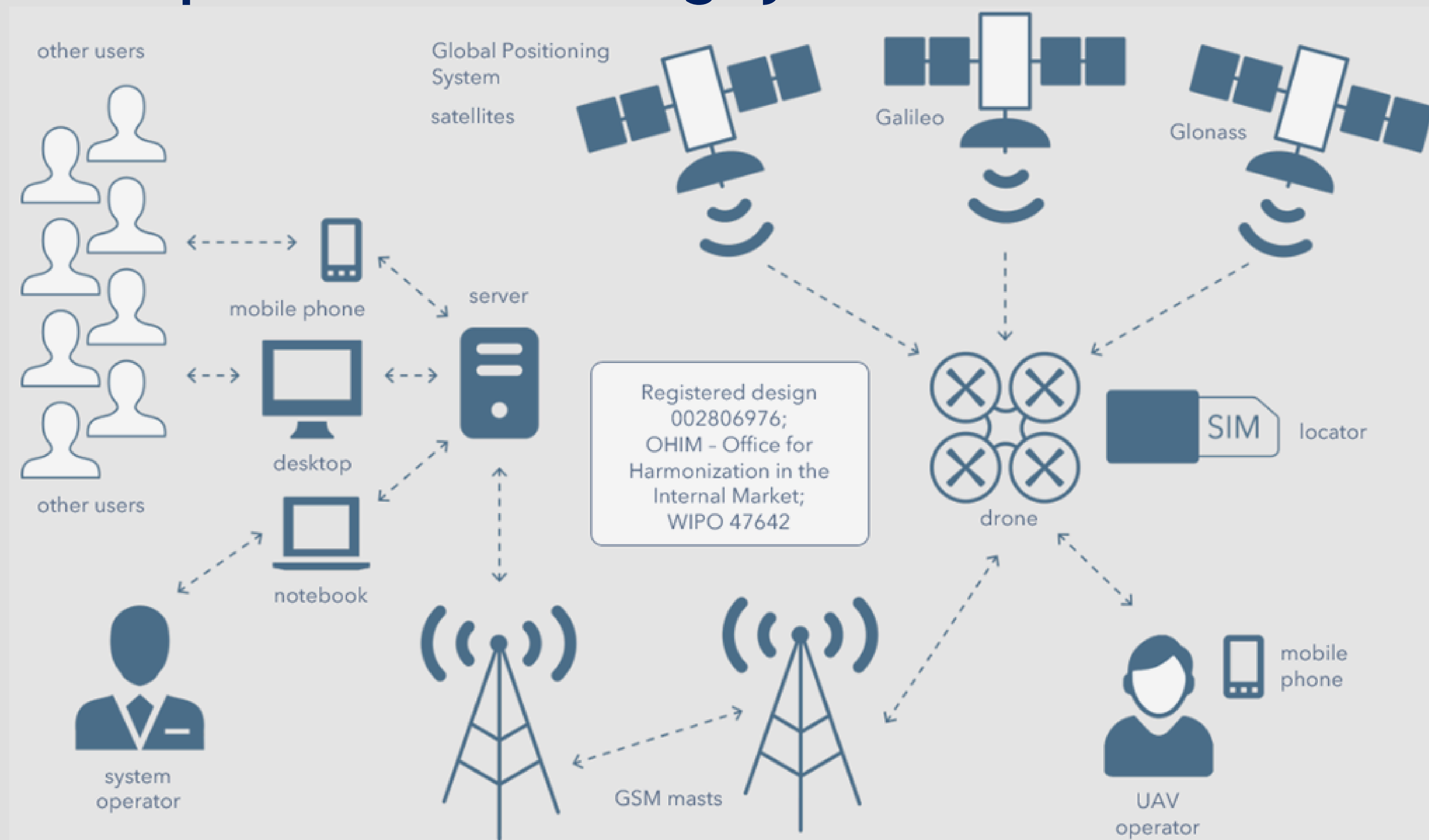
BASIC ELEMENTS of the UAV MONITORING SYSTEM

- ✓ **An independent monitoring device installed in each UAV in Poland** - one-way data transfer in real time, providing the Operating Center with information on the drone's position.
- ✓ **A monitoring module integrated with an autopilot installed in all drones available in Poland** and enabling two-way data transfer: sending information on the drone's position to the Operating Center and allowing the System Operator to take control over emergency procedures involving returning and landing
- ✓ **An Operating Center responsible for constant supervision over the drone air traffic**, activating and deactivating no-fly and restriction zones, updating the map of air zones, giving warnings concerning zone violation (implementation stage I), identification of UAV operators in the air, giving return commands to drones infringing the restriction zones (implementation stage II) and contacting preventive authorities
- ✓ **A customer app for a wide group of recipients**



DronHouse Group - UAV monitoring system

System scheme



Conclusions/Actions to be taken...

- ✓ UAS Traffic Management - top priority for all ANSP'S
- ✓ Drone industry is one of the fastest growing and most promising in the world
- ✓ accommodating UAV's to the European aviation system by implementing common (complex) rule/procedures may slow down the industry - One size does not fit all
- ✓ provide UAV operators with **information and tools, than enforce the law**
- ✓ set up an EU-wide harmonised rules for UAS Traffic Management



A balance should be retained between safety which is top priority for ANSP's and opportunities for further development the drone industry

...and a wish

- ✓ Law and ethics should keep pace with technology





Thank you for your attention

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