

“RPAS for European Border Surveillance”

“Challenges of introducing RPAS technology in an operational context”

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OUTLINE

- ◇ Frontex
- ◇ Development of the EUROSUR
- ◇ Possible RPAS roles for European border surveillance
- ◇ Challenges of introducing RPAS technology in an operational context
- ◇ Conclusions

FRONTEX

- *EU agency*
- *Independant legal body with management board of MS 'border chiefs'*
- *304 staff and growing*
- *Operational in Warsaw since Oct. 05*

Council Regulation (EC) 2007/2004/ (26.10.2004, OJ L 349/25.11.2004)

Mission

”While considering that the responsibility for the control and surveillance of external borders lies with the Member States, the Agency shall facilitate and render more effective the application of existing and future Community measures relating to the management of external borders.”

“...contributing to an efficient, high and uniform level of control on persons and surveillance of the external borders...”

MAIN ROUTES TO EUROPE

- Main migratory routes into the EU / land & sea**
- Western Mediterranean route
 - Central Mediterranean Route
 - Eastern Mediterranean Route
 - Eastern Land Borders Route
 - Western Balkans Route
 - Western African Route
 - Circular Route from Greece and Albania
- Schengen area
■ Schengen associate countries



Source: Frontex Annual Risk Analysis 2012

Current main challenge:

Detection & tracking of small boats, used for cross-border crime & irregular migration, causing an unacceptable death toll of migrants at sea



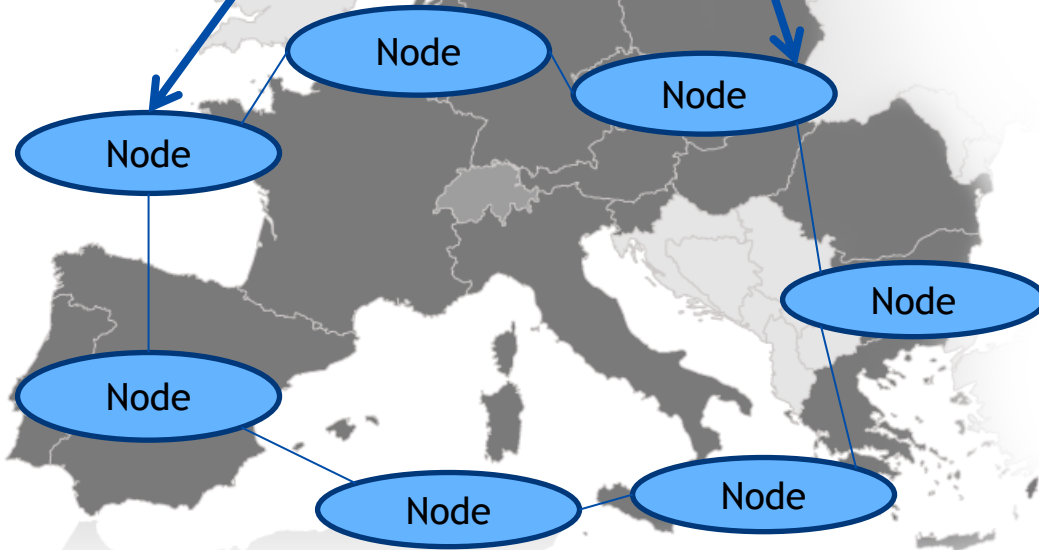
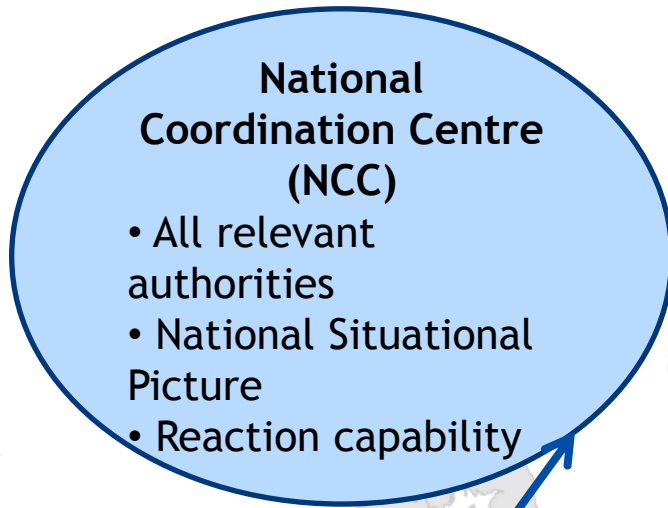
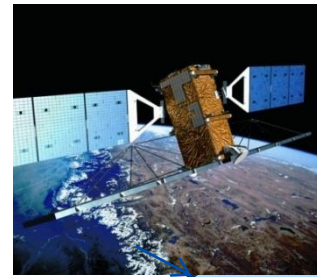
EUROSUR

SYSTEM OF SYSTEMS
TO PROVIDE
SITUATIONAL
AWARENESS OF
BORDER AREAS -

DG JLS/HOME

Communication in Feb
2008, Roadmap with 3
phases and 8 steps

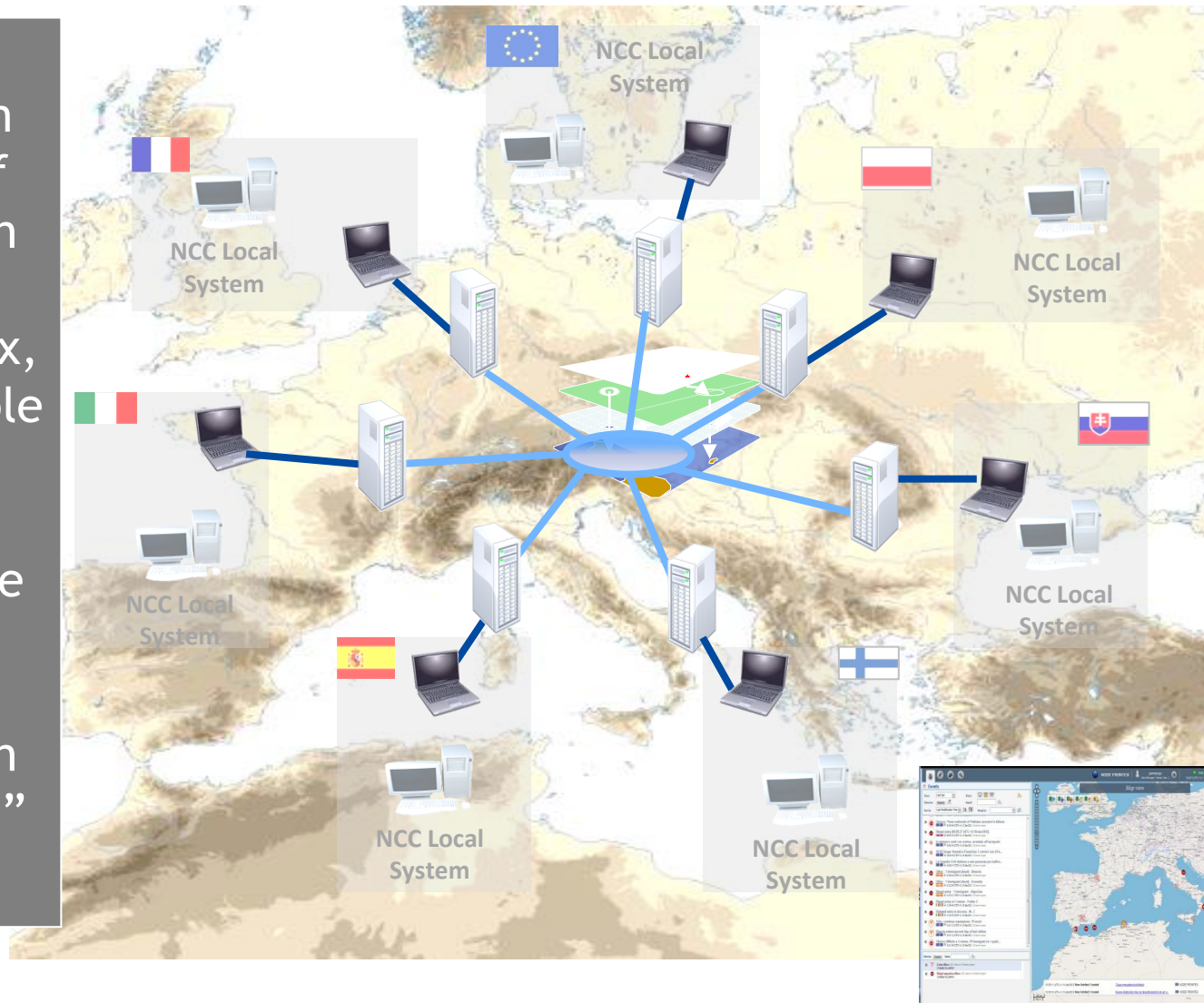
Legislative Proposal by
Dec11 aiming to make
EUROSUR operational
in 2013 - COM(2011)
873 final, 12/12/2011:
EUROSUR regulation
proposal



EUROSUR

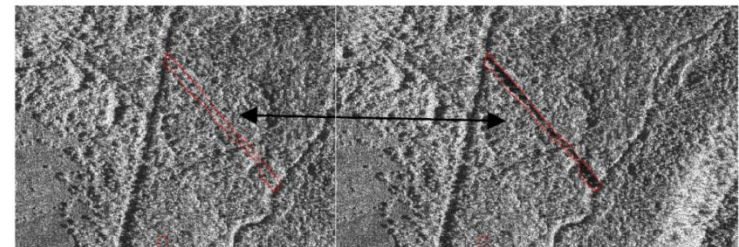
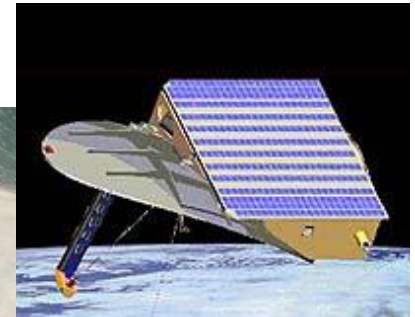
The Network project

“...to create a persistent connection between a number of National Coordination Centres of IT, FI, FR, PL, SP, SL and Frontex, using a fully extensible information sharing system, which supports secure „information trade“ between connected National Coordination Centres and Frontex.”
+ 12 MSs 2012



Satellites and RPA for border surveillance

- Satellites with imaging radar (SAR) or optical sensors are useful for intelligence gathering, but not for real time tracking
- RPA have potential but must prove :
 - ◇ cost effectiveness compared to manned flights
 - ◇ integration into normal airspace



PRAS - Challenges and roles

Sea and Land surveillance missions

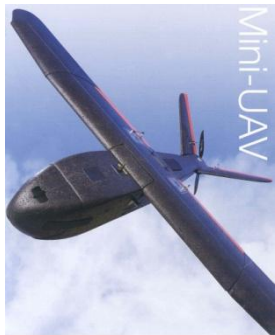
- Persistent surveillance of large areas
- All weather conditions
- Identification of suspect vessels and human presence
- multi-sensor integration
- providing real- and near real- time operational data
- integration with other existing surveillance networks (radars, satellite ..)

- Reaction to events land/sea
- Saving human life (SAR)

- Potential use at European level
 - ◇ Procurement of services?

Demonstration of mini RPA and Aerostats

Workshops «RPA and Land Border Surveillance»
2009 & 2010 Imatra, Finland



PATRIA "MASS"
LIVE DEMO



SELEX "ASIO" + HYDRA
"SENSORINTEGRATION"
LIVE DEMO



"LIVE VIDEO FROM MOBILE
TO MOBILE OVER IP",
AHORTEC LTD LIVE DEMO



AERONAUTICS
SKYSTAR 180
Tactical aerostat
All weather conditions



SIM SKYEYE" + QUATTRO
VIDEOTRANSMISSION SYSTEM



RAFAEL "ORBITER" LIVE DEMO
+ AERONAUTICS AEROSTAT SYSTEM, NOT
LIVE DEMO



RPAS Demonstration sessions Greece and France 2011

Participants

20 MSs and 16 companies



- SkyLite B - Altus (Altus + Bluebird)
- Fulmar - Thales + Aerovision
- DA42 Guardian + optionally piloted mode
Lockheed Martin; Diamond Airborne Sensing Austria;
Diamond Aircraft Austria; SCOTTY Group Austria;
FLIR Systems UK; FAST Protect AG Switzerland;
L-3 Communications - CSW USA; Inmarsat UK
- PUMA AE- AeroVironment, Inc USA
- Heron 1 Israel Aerospace Industries Ltd. (IAI) - Malat Division;
ELTA
- Patroller - SAFRAN Group - Sagem

RPAS Workshop Demonstration sessions Aktio and Istres 2011



ISTRES, FRANCE

PATROLLER



GBS + Remote Video Terminal (RVT)



AKTIO, GREECE

DA-42 OPA with EO/IR



FULMAR



PUMA AE



HERON 1



SkyLite



Frontex RDU RPA/OPA activities

- 2012 October - Aerial border surveillance trials LAND and SEA - optionally piloted aircraft (*1 Month 2 systems*)
- 2012 Implementation of the Study on RPA for Border Surveillance - performance & efficiency - Isdefe, Spain
- 2013 Maritime domain - operational assessment of Medium Altitude Long Endurance RPAS platform and sensors capabilities (cost effective compared to manned flights)

Frontex

Remotely Piloted Aircraft Systems Study 2012

PROJECT PURPOSE

- To provide the EU Member States with technical, operational, and market information concerning RPAs for their use in Land and Maritime Border Surveillance
- To assess the feasibility and cost-efficiency of using RPAs for land and sea border surveillance purposes, taking into consideration the operational needs of the end users;
- To provide an insight into the future developments of RPAs.



Conclusions

- Frontex works closely with the Commission and MSs in the development of EUROSUR
- RPAS could play a significant role in EUROSUR
- RPA have potential
 - Maritime and land surveillance
 - Long range and long endurance
- RPA critical nudles
 - Cost-effectiveness
 - Integration into normal airspace



FRONTEx

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