European Global Navigation Satellite Systems Agency

HORIZON 2020

General aviation **R**escue capacity **IM**provement for the worldwide **A**doption of a **S**afe **S**olution based on **E**uropean GNSS

General aviation user's needs collection workshop

1 – Welcome & introduction

Barcelona
January 31st 2018

ThalesAlenia Space a Thales / Leonardo company

ECA GROUP ELTA

PildoLabs move smart

AOPA

L'AEROCLUB

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1 – Welcome to the workshop

Why are we here today?

- This project takes place in the context of the development of MEOSAR system.
- MEOSAR system is developed in the frame of C/S international group, built on the heritage of GEOSAR and LEOSAR systems.
- Early Operational Capability service since 13th Dec 2016
- Full Operational Capability (FOC) expected for end 2018:
  - Homogeneous MEOSAR service worldwide
  - New functionalities:
    - Moving beacon (e.g. aircraft) can be detected (previously it was not possible)
    - Reception of SGB for improved detection, message content and independent localization accuracy
      - Indicates the position < 10min (versus 2 h of LEO/GEO generation)
      - Position accuracy improves to 200 m (vs. 5km previously)

1 – Welcome to the workshop

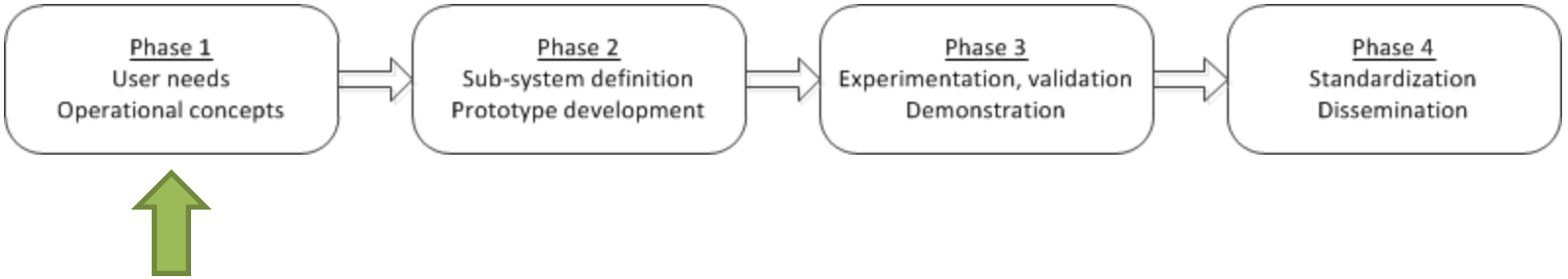
Why are we here today?

- European GNSS agency funded, under H2020 programme, 2 projects to our consortium: GRICAS and GRIMASSE
- **GRICAS (Jan 2016- April 2018):**
  - Main objective: Innovate operational procedures for in-flight activation of SAR beacons onboard aircrafts taking benefit of the unique Galileo SAR service (and the RLM)
  - Answer ICAO requirements for the implementation of the Global Aeronautical Distress and Safety System (GADSS)
  - Strong consortium: TAS and CNES in Cospas-Sarsat
  - Meolut developed by TAS within GRICAS
  - ELTA developing New Generation aircraft Beacon
  - Flight testing platform developed by PILDO
  - Strong representation at ICAO and RTCA level to push for the adoption of the concepts (DGAC, ASECNA)

1 – Welcome to the workshop

Why are we here today?

- **GRIMASSE (Sept 2017- June 2019):**
  - Follow-up of GRICAS but focused on General Aviation and Helicopters
  - Development of a low-cost easy-to-use SAR beacon
  - Development of operational standards, procedures and tools in SWIM environment
  - Flight tests and worldwide dissemination of the results
  - Four steps approach methodology:



Today's workshop

2 - GRIMASSE Consortium

3 – Pildo Labs

Engineering Company created in 2001

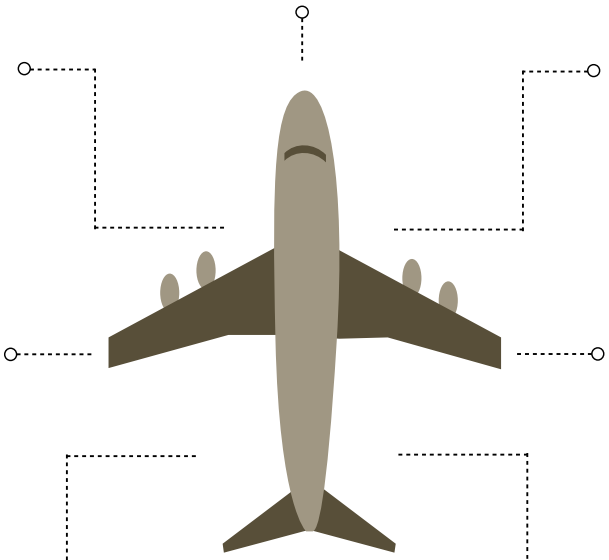
Aeronautics and Aerospace

From Technology to a more efficient Service

Pioneering the implementation of new operations based on Satellite Navigation

SOLUTIONS for a more SUSTAINABLE TRANSPORT

3 – Pildo Labs



11 EGNOS procedures VALIDATED since 2012

LEADER
EGNOS Business Jet procedure at Mielec

53
Approach procedures DESIGNED since 2005

33
Successful project track

Support first Airline Approval in Europe:
AURIGNY

More than
30
COUNTRIES
creative, qualified, international

PINS
Leading rotorcraft implementation

Since 2001 involved in
EGNOS
introduction in Aviation

Leading the Implementation of SATNAV technology in Aviation

3 – Pildo Labs

SERVICES based on innovative PRODUCTS

CDO Implementation
TMA re-organization

PBN implementation

Flight Validation & Inspection

Avionics Firmware

GNSS validation and monitor

Rotorcraft 24/7 operation

International Cooperation

4 – Today's agenda

Morning

9:00 – 9:30	Welcome and Introduction	Mercedes Reche (PILDO)
9:30 – 10:00	GRIMASSE overview: • Context (GADSS and ADT) • GRICAS outputs • GRIMASSE objectives • Operational scenarios	Pauline Martin (Thales Alenia Space)
10:00 – 11:00	General Aviation user experience in SAR (I/II): • Present solutions. Pros & cons. • Operation and distress scenarios. • Involved bodies and reaction time.	Martin Robinson (AOPA)
Coffee Break & Group picture		
11:15 – 11:45	UK SAR experience	Mark Lawson (UK Maritime Agency)
11:45 – 12:15	Difficulties to implement SAR in Africa	Theodore Tchuisseu (ASECNA)
12:15 – 12:45	General Aviation user experience in SAR (II/II): • Features to be improved. • Approach to move forward	Martin Robinson (AOPA)

4 – Today's agenda

Afternoon

13:45 – 15:00	General Aviation beacon: • PLB vs ELT. Pros & cons. • Improvements in features and operation.	Christophe Chatain (ELTA)
15:00 – 16:00	Communications between GA operators and rescue teams: • Present solution used. Pros & cons. • Improvements in features and operation.	Mercedes Reche (PILDO)
16:00 – 17:00	Wrap-up & Way forward	All
17:00 End of workshop		

Thanks for your attention