European Maritime Safety Agency

Kick-Off meeting P/12/2016

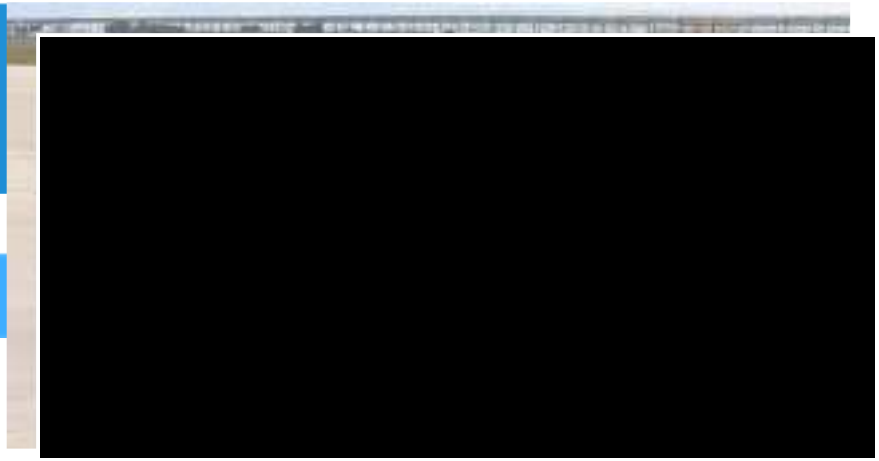
LOT 3 : Contract introduction

[redacted] Senior Project Officer
Department C: Operations / Unit C.3

Lisbon / 14 March 2017

EMSA

Contract introduction



OP/12/2016 LOT 3

Objective: Maritime Surveillance

- Multi-purpose activity
- Maritime Safety (incl. S&R, Maritime pollution)
- Maritime Security (border control)
- Fishery Control
- Vessel surveillance and identification
- Behaviour monitoring

Lot 3 Framework contract

- Sets out
  - Procedure to order services
  - Provisions applied to services
  - Obligations of Parties
- Duration: 2 Years + up to 2 renewals of 12 months

Contract introduction

OP/12/2016

FWC implemented by Specific Contracts

- Services divided in Specific Contracts:

  - ✓ Set-up (Module 1)
  - ✓ Operations (Module 2-4: Mobilisation, on-site activities, missions)
  - ✓ Additional SC for Interfacing (Module 6)

Contract introduction

OP/12/2016

User service request defines deployment

One SC for each deployment

Timings for various modules

[redacted]

- Set-up: [redacted]
- Mobilisation alert: deployment planned (at least [redacted] days notice- time to obtain permit to fly starts)
- Mobilisation: T3 SC signed only once have permit to fly, after obtain permit to fly -maximum [redacted] to mobilise
- On-site activities and missions: flights

Contract introduction

EMSA EXPECTATIONS: 3 MAIN PILLARS

Pillar 1: RPAS Capabilities/Performances

All requirements in EMSA/OP/12/2016 ⇨ fulfilled on time

- RPA performances
- Payload & Sensors
- Communications
  - C2
  - Payloads
  - ATC
- Staff/Operators

EMSA EXPECTATIONS: 3 MAIN PILLARS

Pillar 2: Service Reliability

- No service interruption/delays due to tech/human failures
  - Operator training
  - Acceptance test/flight
  - Change management/Configuration control
  - Operations/Maintenance procedures
- Worst case scenario: Loss/crash of RPA

Contract introduction

[redacted]

EMSA EXPECTATIONS: 3 MAIN PILLARS

Pillar 3: Data Exploitation/Visualisation

- User orientated:
  - A complete maritime picture
  - Direct user decision-making
- Flexible
- User friendly
- Secure and reliable

[redacted]

Payments (1)

- Set-up: fixed fee
  - ✓ One payment at end of the set-up
  - ✓ Conditional on acceptance of "minimum capabilities" and final acceptance test witness by EMSA
  - ✓ Final Report produced to show tests performed.

Contract introduction

[redacted]

Payments (2)

- Mobilisation: fixed fee and variable fee per 500 km
  - ✓ Included in quarterly invoice (also with any on-site costs and FHs)
- On-site/Missions: minimum 2 months
  - ✓ Included in quarterly invoice (incl. mobilisation)
    - On-site costs: [redacted]
    - Flight hours [redacted]
- Quarterly payment based on mobilisation and service report (and if FHs not flown non-flight report)-Section 8 TS

Payments (3)

- Interfacing: fixed fee at end of work
  - ✓ One payment at end of work
  - ✓ Based on report indicating what has been done and acceptance of interfacing based on tests
  - ✓ Partial acceptance possible

PENALTIES (1)

Failures & non-compliances ⟹ Affecting the service

- Mobilisation: Tender Spec. 6.3.1.10 and Art I.11 FWC
  - FWC may be terminated

- On-site/Missions: Tender Spec. 6.5.2 and Art III.4.1 SC
  - Number Contracted FHs not reached
    - Only performed FHs paid
    - Proportional reduction of On-site costs

PENALTIES (2)

PERMIT to FLY

Tender Spec. 7.1.5.3: The contractor is obliged to provide all documentation necessary in a timely manner and to support the process of receiving flight approval. …

Contract introduction

[redacted]

EMSA FOLLOW-UP (1)

Email: [redacted]

- We will receive all requests from Member States, Agencies, questions on our service etc.
- To be used by MS/Agencies and EMSA

Contract introduction

[redacted]

EMSA FOLLOW-UP (2)

Email: [redacted]

- All discussions on a particular operation. For example:
  - ✓ [redacted] peration for next 3 months
  - ✓ Operational procedures
- To be used by MS/Agencies, EMSA and contractors

Contract introduction

[redacted]

EMSA FOLLOW-UP (3)

Email: [redacted]

- All questions for contractors providing RPAS service including contractual issues, payments, details on how we start a service, any contract management issues.
- To be used by MS/Agencies, EMSA and contractors

Contract introduction

EMSA FOLLOW-UP (4)

ALL EMAILS

- To include OP12 and LEONARDO in the subject.

Contract introduction

[redacted]

EMSA Contact Persons

Contract Manager/finances: [redacted]

Initial Set-up: [redacted]

Operations/Services: [redacted]

[redacted]

Data Visualisation/GUI: [redacted]

Head of Unit: [redacted]

Head of Dept: [redacted]

This is for telephone/task purposes & for your information however all emailing should be done through the 3 main email boxes.

Contract introduction

[redacted]

Teamforge

No Email needed as user account is already available:

- Tasks
- Minutes from Conference Calls
- Ongoing actions
- All Tender documentation including deliverables
- RPAS documentation
- Etc.

Questions?

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European Maritime Safety Agency

Kick-Off meeting OP/12/2016

Module 1: Set-up

[redacted] Project Officer for RPAS

Department C: Operations / Unit C.3

Lisbon / 14 March 2017

Module 1: Set-up

Set-up objective: System ready for deployment

Inputs

1. Tender documents EMSA/OP/12/2016
2. Module 1: Specific Contract
3. Proposal
4. Actions agreed during KoM

Outputs

1. System configuration and flight procedures frozen & validated
2. Operations team trained
3. Data handling, dissemination & GUI developed & validated
4. Documentation for "permit to fly"

Module 1: Set-up

Set-up objective: System ready for deployment

Module 1 updated Management Plan

- Work Breakdown Structure
- Gantt chart: tasks, time, staff
- Risks and mitigation plan
- Test/Acceptance plan

Module 1: Set-up

Contracts/Payments

- Set-up activities are covered by Specific Contract for Module 1

- Single payment after acceptance of the Final Test Report

Remark

High probability of mobilisation alert during the Set-up

Module 1: Set-up

Follow-up

- Periodic reporting & monitoring of service: Monthly status teleconferences / working teleconferences every two weeks
- Visits: EMSA
- Testing: EMS
- EMSA shall b
    - deviations & changes: capabilities / configuration, schedule, staff…
    - as soon as the contractor detects a risk that could impact the deadline of the SC

SET-UP MANAGEMENT PLAN (GANTT)
TELECONFERENCES EVERY 2 WEEKS

Module 1: Set-up

Milestones and Deliverables in Tender Spec.

Date	Milestone	Deliverables
T0	Signature of SC Module 1	▪ Detailed WBS
T0+1 Week		▪ KoM minutes ▪ Updated Project Management Plan ▪ Updated Module 1 Management Plan
T0+6 Weeks		▪ On-site Requirements (Logistic requirements) ▪ GUI Description ▪ Data handling and dissemination test plan
T0+8 Weeks	Data handling and dissemination (*)	▪ Final acceptance flight test ▪ Configuration management
T0+10 Weeks		▪ Updated Project Management Plan ▪ Updated Operational Plan (***) ▪ Updated Emergency/Contingency Plan ▪ Updated Quality Plan
T0+11 Weeks	Final Acceptance Flight test in Ready for Service configuration (**)	
T0+12 Weeks (Maximum)	End of SC Module 1	▪ Final flight test Report ▪ RPAS ready for service

(*) In tender was said T0+10 Weeks

(**) Flight test with RPAS in final configuration and monitored from EMSA premises. No non-segregated Air Space required.

(***) It must also include ATC strategy and means. It corresponds to Modules 2,3 and 4

Module 1: Set-up

Milestones and Deliverables

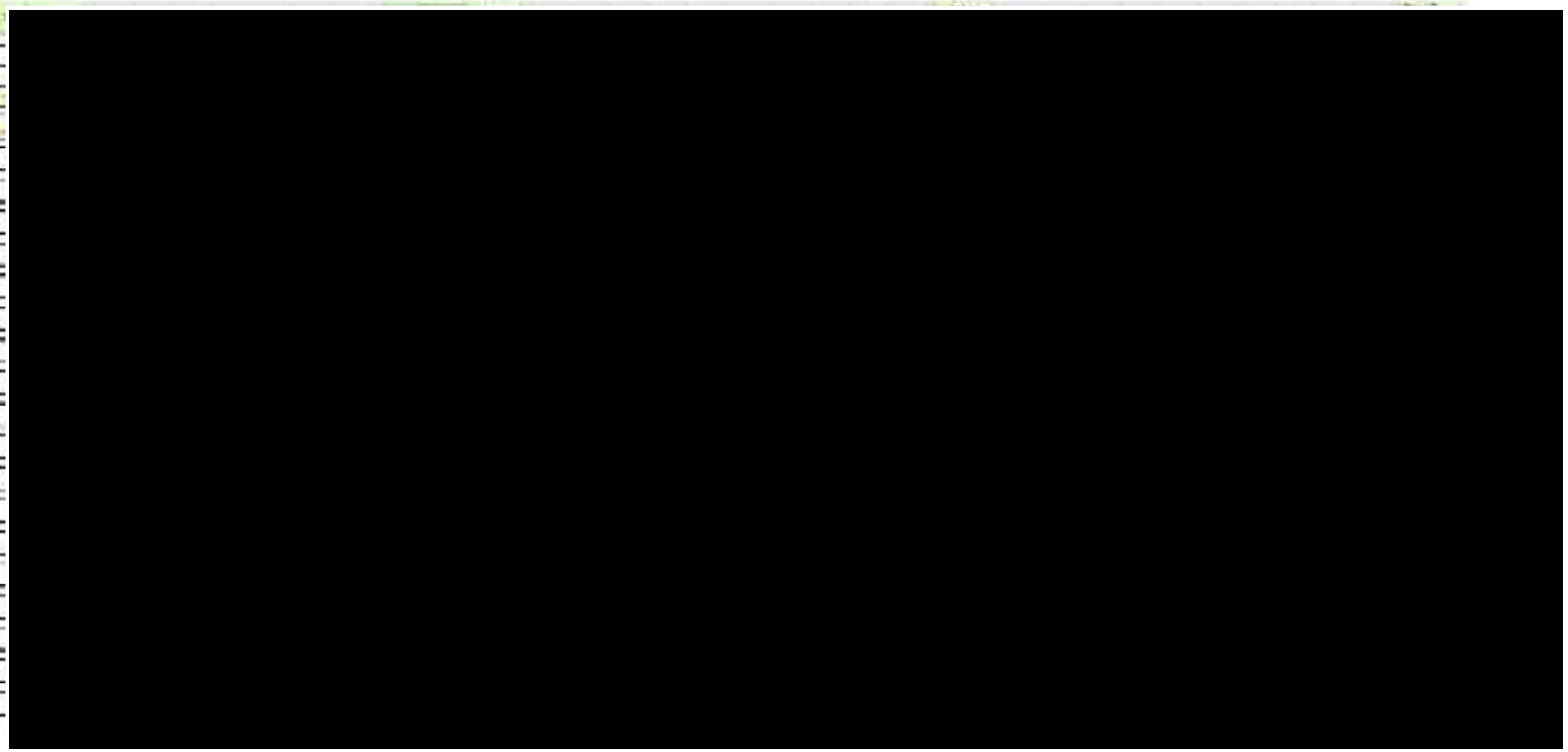
Updated Module 1 management plan including:

- Description of the configuration (Platform + Payloads)
- Description of the current status of the project
    - Status of the platform
    - Status of the payloads
- Detailed description of all activities
    - Platform available
    - Payloads available
    - System adaptation (HW and SW)
    - Documentation production
- Implementation risk assessment and mitigation plan
- Internal fight tests and acceptance flight tests approach

Module 1: Set-up

Milestones and Deliverables

SIGNATURE OF SPECIFIC CONTRACT
Kick-Off Meeting
Update Project and Set-Up Planes
Platform Available
Payload Available
Platform Adaptation
Ground Test
Flight Test
Satellite I/F Equipment
Spares & Ground Support Equipment
Support Plans Available
Personnel Training
Test Report Complete
EMSA Acceptance of the Set-Up
Delivery of Set-Up documentation (TBA)
Final Acceptance of RPAS with Reports
Service in Full Operation
SERVICE YEAR 1
Distress Sensor & AIS Data Relay
SERVICE YEAR 2



Milestones and Deliverables

Documentation to be updated during set-up phase to obtain permit to fly:

- Operations Manual, including:
    - Description of the system (drawings, list of components)
    - Description of Operation: including checklist
    - Nominal procedures
    - Emergency procedures
    - Operational Limits
    - Flight envelope
- Maintenance Manual
- Logbook: configuration, part list, deviations, changes, flight hours, main events….

Module 1: Set-up

Mandatory configuration & performances to be validated

1. Performance/capabilities to be validated/accepted with the configuration above through dedicated tests

Endurance: [redacted]

Range: [redacted]

Min/Max Altitude: [redacted]

Cruise speed: [redacted]

All operational modes (patterns, loiter, tracking etc.)

Day and Night operations

Handling data from all sensors

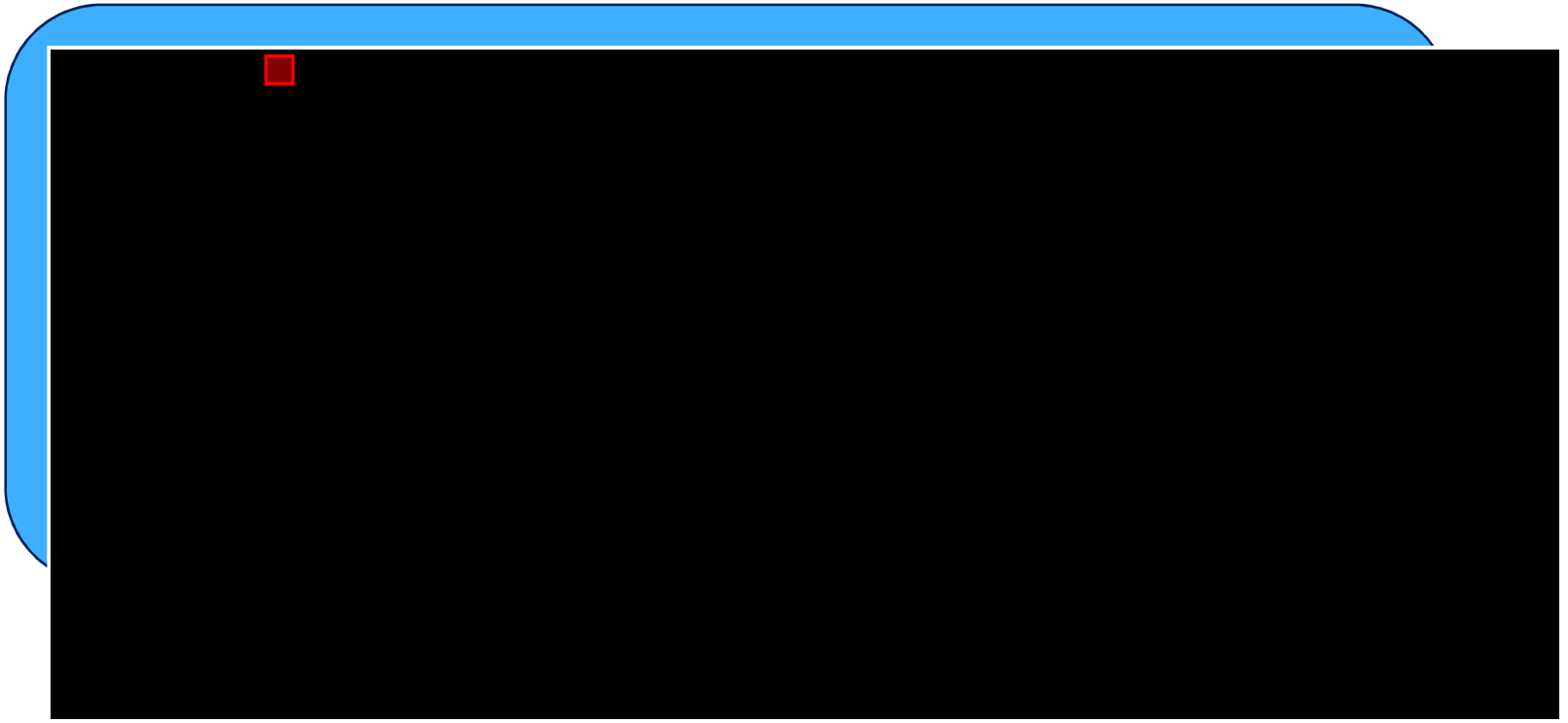
Safety procedures (handover, loss of link etc.)

Module 1: Set-up

Mandatory configuration & performances to be validated

2. Configuration:

All these sensors/equipment must be integrated simultaneously and in compliance with the performances stated in the offer



Mandatory configuration & performances to be validated

3. Radar sensor:

Requirements

Maritime radar	360° coverage with multimode capabilities: Maritime modes: • Detection and tracking of vessels (up to 100 km) • Detection localization and tracking of small targets in High Sea States Other modes: • Detection and localization of aircraft • Detection and localization of rainy zones • Interrogation/Detection of Search and Rescue beacons With a resolution of up to 50cm depending on the mode	Mandatory A range more than 50 km is an advantage
Synthetic aperture radar (SAR)	X or C band Range > 30km preferably 360 degree or otherwise each side of the aircraft With the detection capability of oil on water and of vessels With a resolution of up to 50cm depending on the mode	Mandatory if not covered by the maritime radar

Module 1: Satellite Communication

Mandatory configuration & performances to be validated

4. SatCom:

… to be detailed

Communication	RLOS communication between RPAS and vessel ground segment	Mandatory	*Compliant.*
	BRLOS communication between RPAS and vessel ground segment would be a key advantage of the system	Advantage	
	Between ground segment on vessel (or directly from RPAS) and central ground segment: BRLOS with satellite Data Down Link capabilities for payload data.	Advantage	

Module 1: Configuration management

Elements to be addressed by the configuration management (<u>per aircraft!</u>)

- Unique part identifier (serial number, part number) including RPA
- Technical specification per unique part
- Change requests / approval (incl. EMSA) / implementation processes
  - Documentation of the changes
  - Reasoning and advantages
  - Implications on the RPAS
  - Security concerns
- Consisting referencing and numbering (document identifiers, pages, titles, …)
- Version control

Tests

- Objective: show system, staff and procedures are ready for service
- Set-up management plan: including detailed test plan
- Final test report: tests carried out, results, capability & performance validated including:
    1. Data handling & dissemination test (after [redacted])
    2. Final acceptance flight test (after [redacted])

Tests

1. Data handling & dissemination test

- Objective: Validation of data dissemination & GUI
- Description: generate & send data (Payloads, sensors and RPA navigation data) in the same manner as during an operational flight
- Location: Operational data will be received and visualised in EMSA premises
- Test procedure: produced by the contractor and approved by EMSA (including acceptance criteria)

Tests

2. Final acceptance flight test

- Objective: validation of RPAS configuration and performances
- Description: RPAS shall perform flights in order to show that the CONOPS for maritime surveillance can be performed
- Location: Contractor choice
- Test procedure: Produced by the contractor and approved by EMSA

The test plan may include additional flight tests for complete validation/acceptance of RPA performances and procedures

Informal meeting EASA with EMSA RPAS contractors

- Objective:
  - to pursue certification of EMSA contracted RPAS, which would be of great help in the process to obtain a permit to fly
  - to explore which documentation would be required for such certification on how this process could be organised.
- When and where: [redacted]
- Who: EMSA, EASA and the EMSA RPAS contractors having a platform around [redacted] kg
- Information "package": The contractors are invited to prepare, i.a.:
  - [redacted]

Questions?

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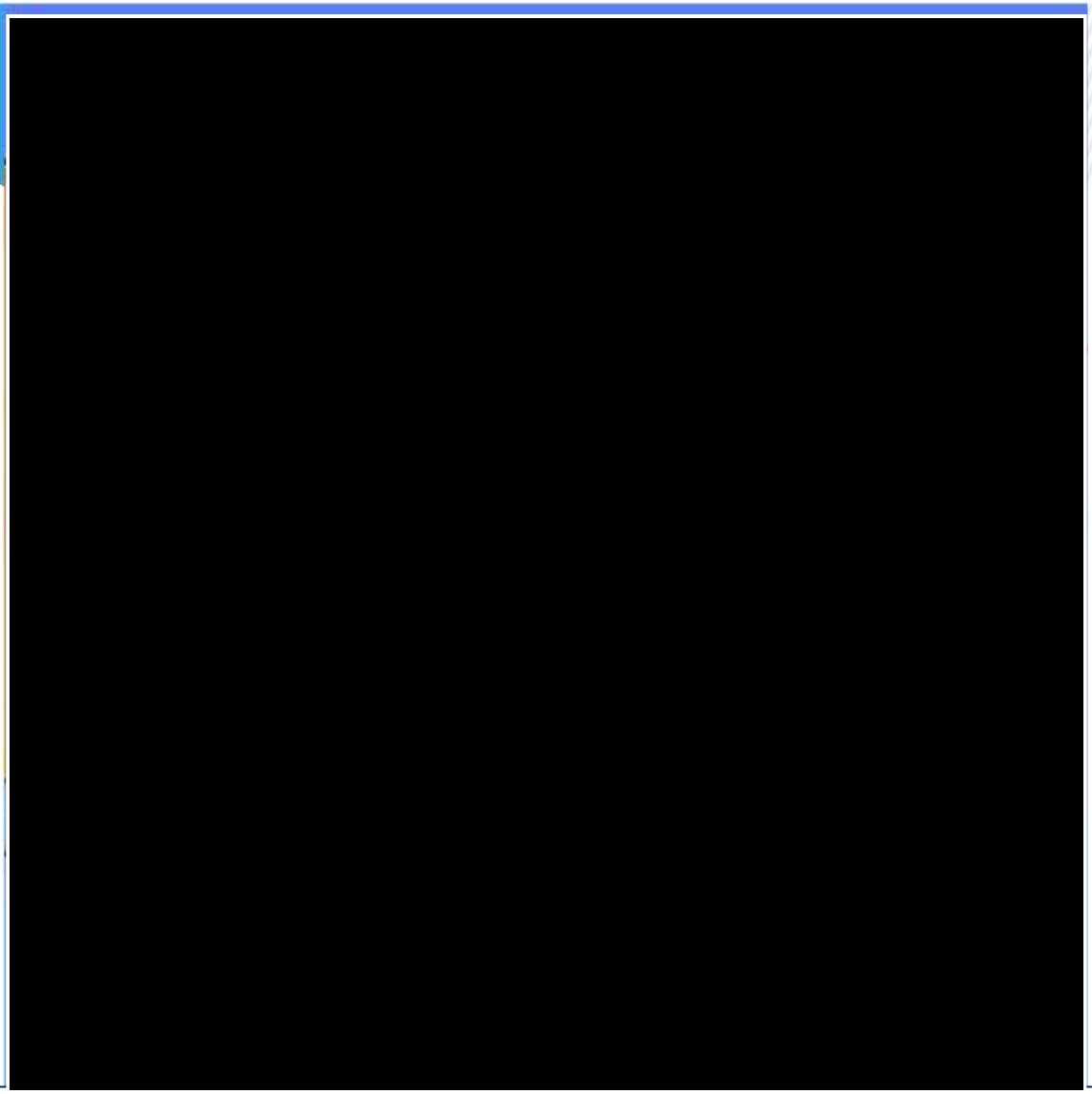
Kick-Off meeting OP/12/2016

Module 2,3 and 4: Mobilisation, On-site activities & Missions

[redacted] / Senior Project Officer
Department C: Operations / Unit C.3

Lisbon / 14 March 2017

EMSA



User communities

Module 2,3 and 4: Mobilisation, On-site activities & Missions

Module 2: Transport of the RPAS and the STAFF to the deployment location
Set-up for the beginning of Missions

Module 3: Activities to keep the RPAS in ready to fly configuration during the entire deployment

Module 4: Flight operations/Missions

DEPLOYMENT

Module 2,3 and 4: Mobilisation, On-site activities & Missions

Contract

- Every deployment covered by one Specific Contract
  - Trigger: User request.
    Contractor informed at least [redacted] days notice.
    This period is intended to obtain the permit to fly.
  - Start: Signature of SC (directly after reception Permit to fly)
  - Duration: Mobilisation: Maximum [redacted]
    On-site activities: Minimum [redacted]

[redacted]

Module 2,3 and 4: Mobilisation, On-site activities & Missions

Setup

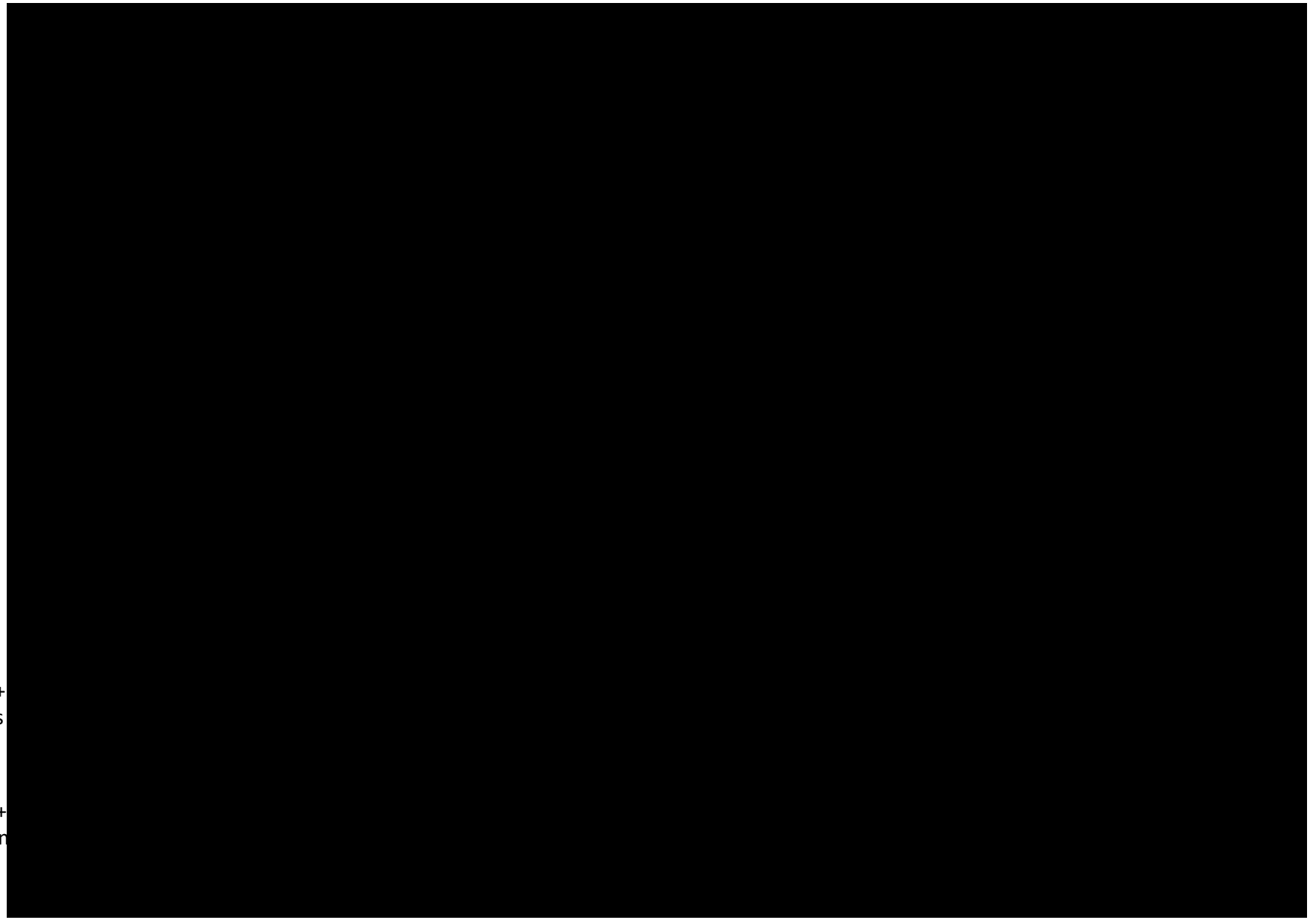
T0-4

Deployment

T0

T0+
Firs

T0+
Min



Module 2,3 and 4: Mobilisation, On-site activities & Missions

Description

- After receiving a request of service from User, EMSA will inform the contractor: Description of service
- Contractor to acknowledge the request

PERMIT TO FLY

- Deployment request: signature of specific contract

Mobilisation

- Missions tasked: sent by EMSA on a weekly basis.
- Flight orders: sent by EMSA at least [redacted] before the flight.
- Weekly operations report: produced by the contractor.

Module 2,3 and 4: Mobilisation, On-site activities & Missions

Permit to fly

Main requirements to be considered:

1. [redacted]

[redacted]

Module 2,3 and 4: Mobilisation, On-site activities & Missions

Permit to fly

	Roles to Obtain the Permit to Fly
Authorities: [redacted]	To approve the frequencies to be used To define the operational procedures (including restrictions and limitations) To approve the permit to fly
Users: [redacted]	To define the operational scenario based on its needs (deployment definition) Responsible for obtaining the permit to fly
Service provider: EMSA	To support all actors
RPAS provider: Contractor	To provide all the documentation required by the Authorities* To comply with the operational procedures imposed by the Authorities

(*) see Tender Enclosure II Article II.18.1 b

Module 2,3 and 4: Mobilisation, On-site activities & Missions

RPAS Passport

(development in cooperation with [redacted])

- RPAS characterisation
- Existing Certifications
- Communication characteristics
- Possible flight modes
- RPA control modes
- Safety equipment and procedures
- Insurances available

Module 2,3 and 4: Mobilisation, On-site activities & Missions

Templates (chronologically)

1. Request template from Users
- EMSA responsibility; issued by Users

2. Mobilisation Alert form for Contractor
- issued by EMSA
- High level

3. Mobilisation Request form (linked to specific contract)
- issued by EMSA
- detailed

Templates (cont.)

4. Weekly Mission Schedule template

- It represents a reserve of flight hours & Airspace for a week: Take-off time, duration, Area of interest, Comments.

5. Mission Order template

- Flight orders define in detail what the user intends to do with the reserved FHs and in the reserved Airspace.
- Flight orders are basis to produce the Flight plan for NAA.

Module 2,3 and 4: Mobilisation, On-site activities & Missions

Templates (cont.)

5. Mission Order template (emergency case)

- Provided at least [redacted] before the take-off :
  - Not linked to reserved flight hours
  - Into the reserved Airspace
  - Take-off ASAP. Not required detailed flight definition

6. Weekly mission report

  - Detailing all flight undertaken
  - Overview of flight hours consumed

ALL THESE PROCEDURES (FORMAT, TIMINGS, ETC…) WILL BE DEFINED AND AGREED WITH THE NAA DURING THE PROCESS OF OBTAINING THE PERMIT TO FLY

Module 2,3 and 4: Mobilisation, On-site activities & Missions

Preparation of the operation

- Contact with Users: will go exclusively via EMSA, except that EMSA decides differently (but EMSA always in copy).
- One operational briefing: held at the end of the mobilisation phase at the place of deployment.
- Mission schedule risks: EMSA to be informed as soon as contractor detects any risk.
- Change management procedures: EMSA to be informed of any change in configuration and/or operational procedures. Change management procedure to be provided to EMSA.
- Incident & Accident: EMSA to be informed immediately. Contractor make every incident or accident available to EASA (procedure TBD with EASA).

Module 2,3 and 4: Mobilisation, On-site activities & Missions

Milestones, Deliverables and Actions

Date	Milestones	Deliverables/Actions
[redacted]	• Service Request from User	• User delivers Deployment Definition • User requests the permit to fly to NAA
	PERMIT TO FLY	
	• Signature SC for deployment • Start mobilisation module	
		• EMSA delivers the first weekly Operations Schedule
	• End of mobilisation phase • Start of the On-site activities/missions	• Operational meeting at the deployment • Contractor delivers the mobilisation report
	• End of On-site activities/missions	• Contractor delivers the service report • Contractor delivers the non-flight report (*)

(*) In case the contractor was not able to perform the mission

Responsible	Weekly actions
EMSA & user	Operations Schedule will be produced [redacted] days before the start of the weekly missions. Flight orders will be produced at least [redacted] before the mission.
CONTRACTOR	Flight plans will be produced based on Flight orders Weekly operations reports will be produced

Module 2,3 and 4: Mobilisation, On-site activities & Missions

Operations

- RPA will follow the Flight Plan
  - User/EMSA may request via chat:
    - [redacted]
    - [redacted]
    - [redacted]
    - [redacted]
    - [redacted]
      - [redacted]
      - [redacted]
  - RPAS operator shall inform User & ATC and shall command return-home mode when needed

Module 2,3 and 4: Mobilisation, On-site activities & Missions

Data exploitation & visualisation

- User/EMSA access to operational data via [redacted]
- Includes [redacted] for communication between User & RPAS operator.
- Recorded data available for at least [redacted]
- Operations description
  - RPA will follow the Flight Plan
  - User/EMSA may request via [redacted]
    - [redacted]
    - [redacted]
    - [redacted]
    - [redacted]
      - [redacted]
      - [redacted]
  - RPAS operator shall inform User & ATC and shall command return-home mode when needed

Module 2,3 and 4: Mobilisation, On-site activities & Missions

Data and data analysis to be provided for lot 2

- [redacted]
- [redacted]

Module 2,3 and 4: Mobilisation, On-site activities & Missions

Boundary conditions for operations

Questions?

Contact:

[redacted]

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European Maritime Safety Agency

Kick-Off meeting OP/12/2016

Module 6: Interfacing

- [redacted] Project Officer
  Department C: Operations / Unit C.3

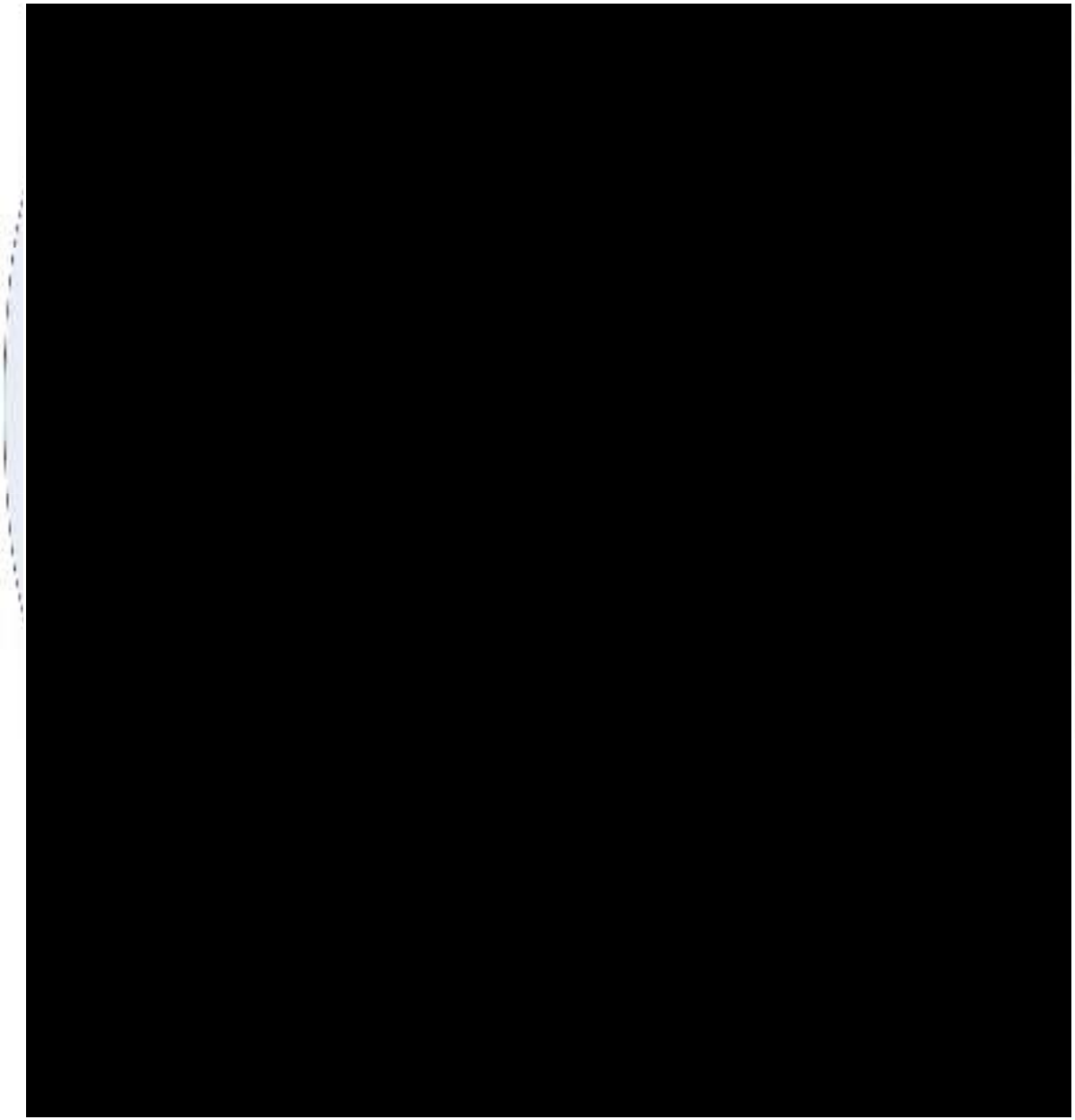
- Lisbon / 14 March 2017

EMSA

Module 6: Interfacing

Scope of Module 6: Interfacing

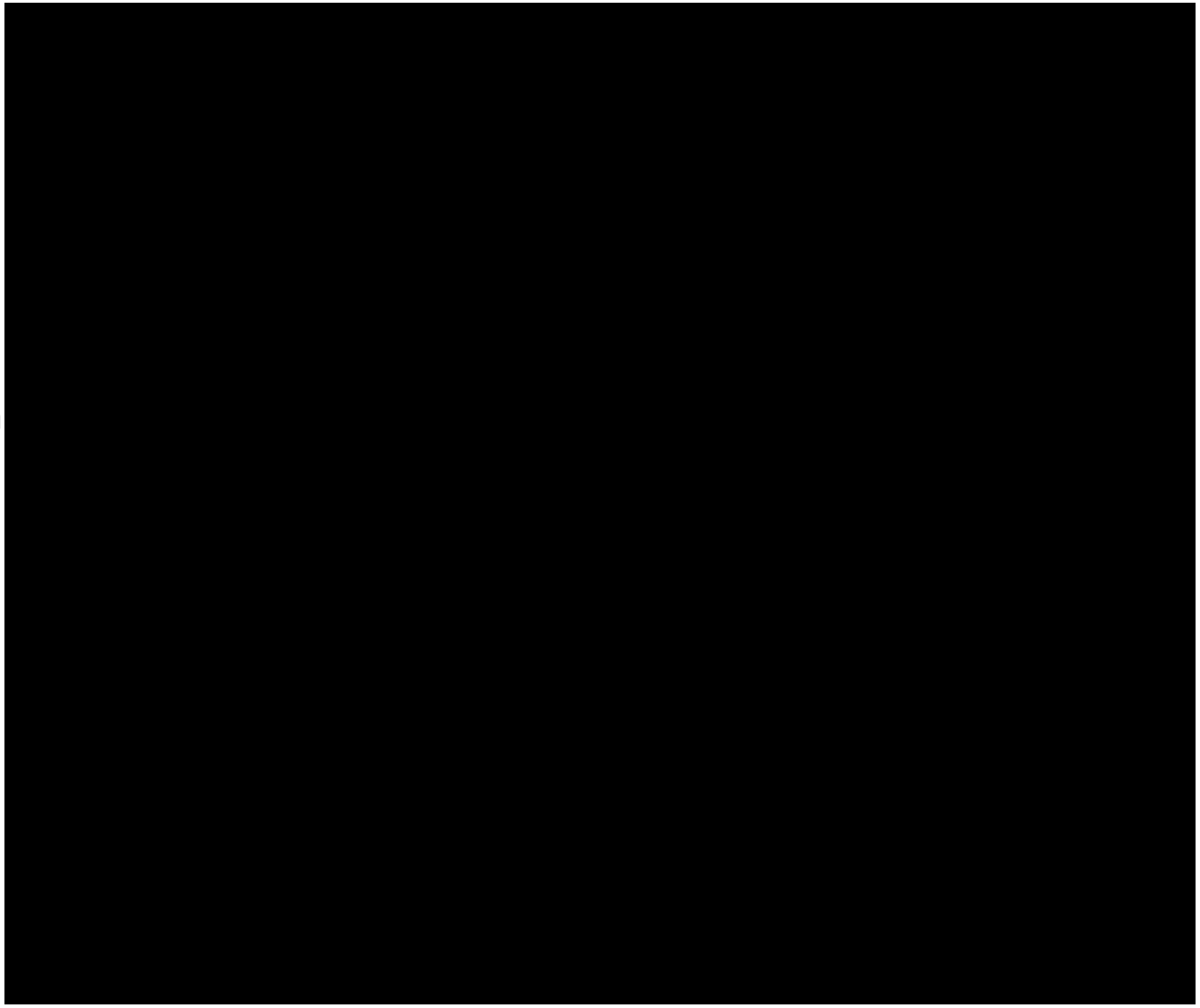
- **Purpose**: Integration of RPAS Data into EMSA Systems
- **Scope**: Any developments needed to interface with EMSA Systems
- **Contract**: on-demand request by EMSA, signature of Specific Contract



Module 6: Interfacing

Links to EMSA Visualization Solution

- EMSA will setup its **own solution** (RPAS-DC)
- Service Providers solution needs to be setup anyhow
- EMSA will provide a detailed ICD when activating Module 6



Module 6: Interfacing

EMSA Expectations

- Contractors setup their own Visualization Solution which is kept available during the FWC (Possibly reflecting Appendix A RPAS-DC)

- Acceptance of Contractors Solution is done during Module 1. What is currently available?

- Contractors ready to connect to EMSA's solution in mid-2017 (Module 6)

Questions?

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EMSA

Kick-off with EMSA

Lisbon, 14th March 2017

LEONARDO HELICOPTERS

AgustaWestland Products

Kick-off with EMSA

Table of content

[redacted]

Executive Summary Leonardo

Our Business

DIVISIONS

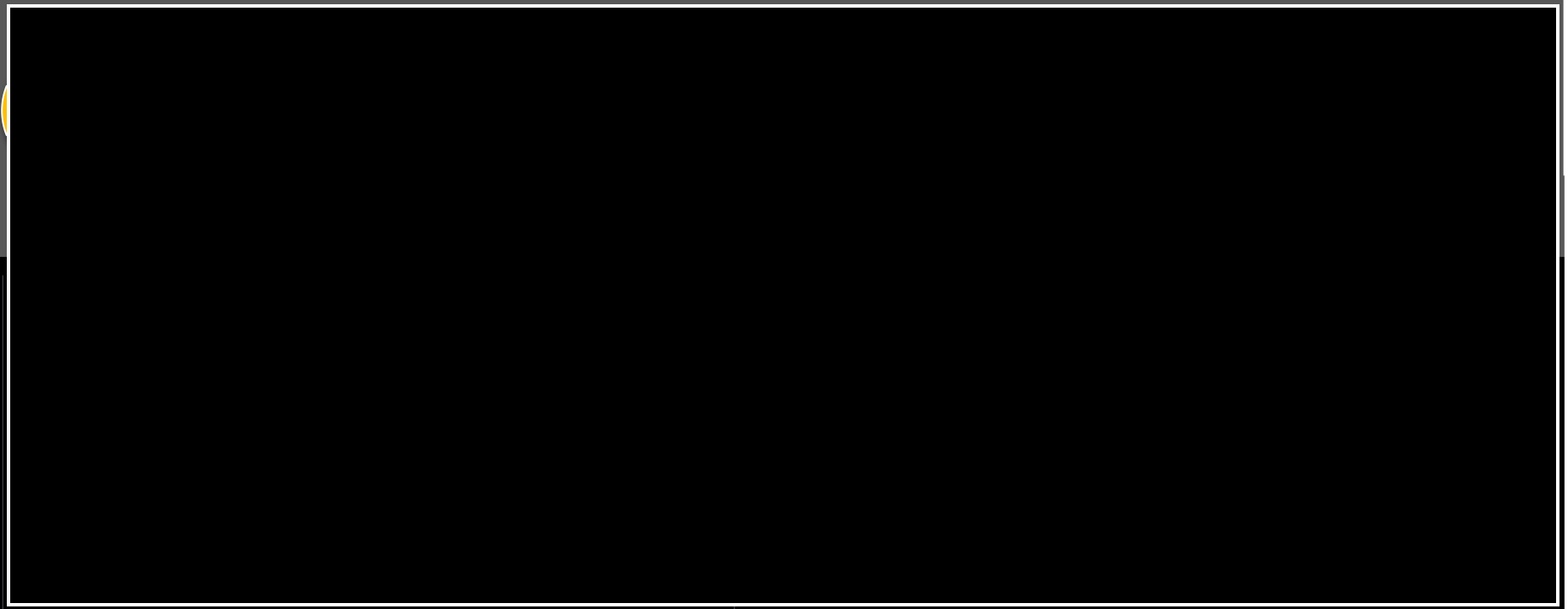
HELICOPT

SUBSIDIARIES AND JOINT VENTURES

SPACE

Executive Summary Leonardo

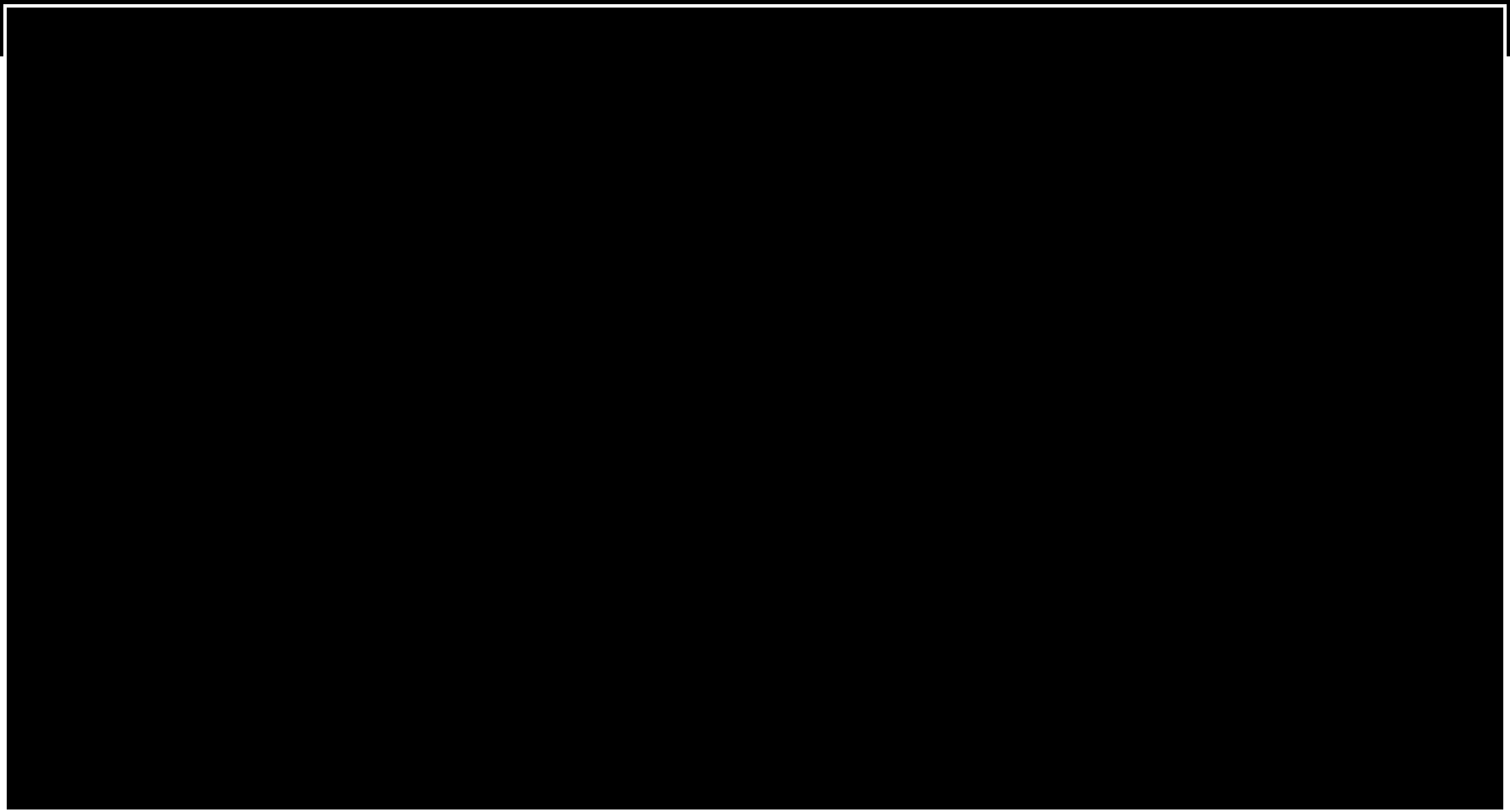
Key Figure 2015



The subdivision by sectors reflects the Company's organisation in 2015.

Executive Summary Leonardo Helicopters

Industrial Footprint



Executive Summary Leonardo Helicopters

AgustaWestland Products

[redacted]

Executive Summary Leonardo Helicopters

AW Products for all Commercial Applications

Executive Summary Leonardo Helicopters\

Customer Support & Training

[redacted]

Global Training Network

[redacted]

[redacted]

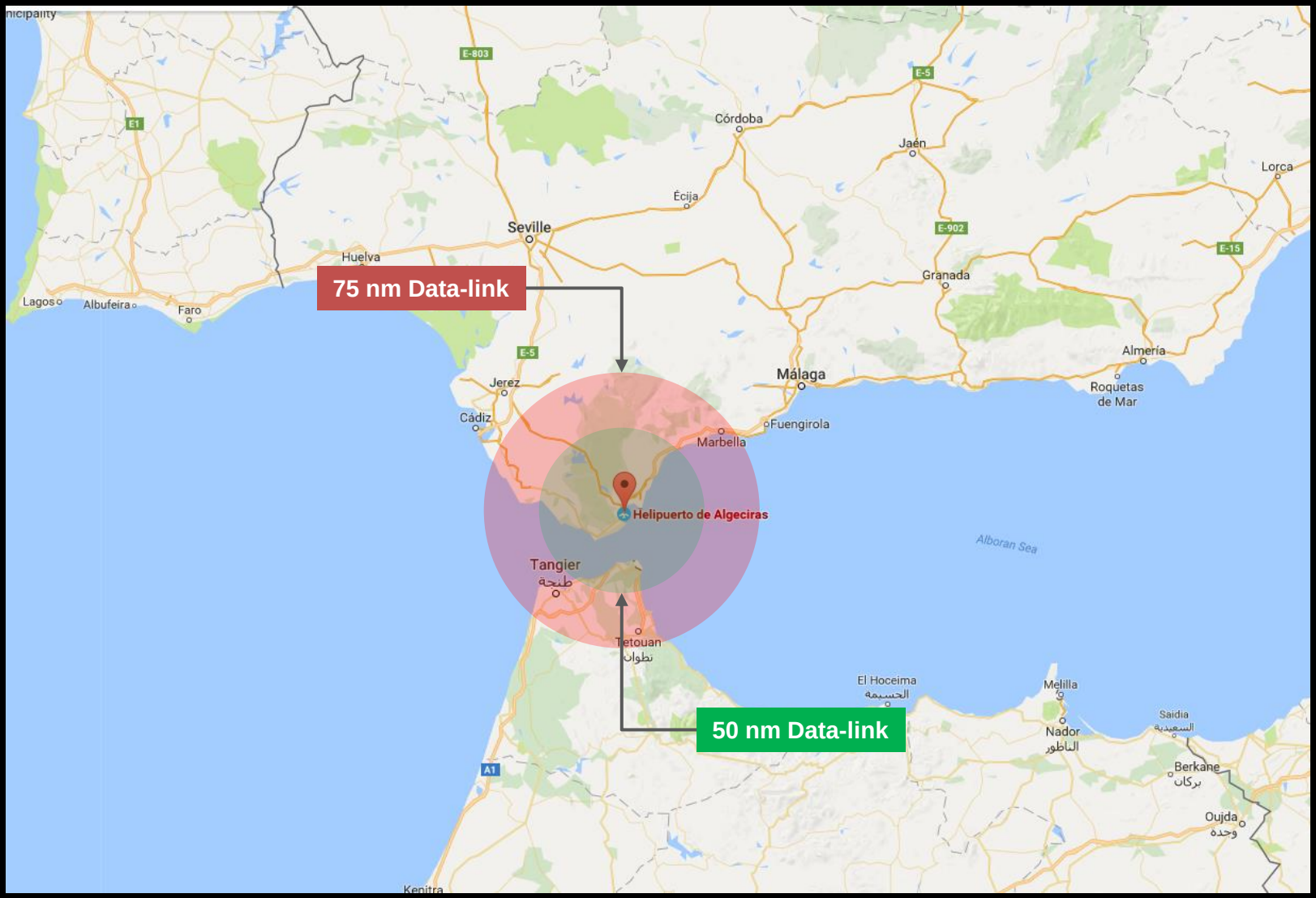
[redacted]

[redacted]

[redacted]

[redacted]

Example of data-link range



Introduction & Welcome

[redacted]

Program Management Plan Contents

1. Purpose
2. Milestone List
3. Deliverables
4. Program Schedules
5. Project Team & Organization
6. Risk Management Plan
7. Configuration Control Management Plan
8. Quality Management Plan
9. Communication and Reporting

Program Management Plan

Purpose

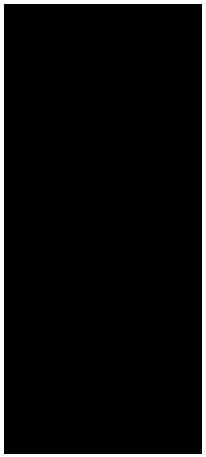
Purpose: provision of VTOL RPAS services in the civil maritime surveillance domain in support of executing Coast Guard functions which includes:

1. **Maritime Safety**
   - Detection of survival crafts and human at sea
   - Safety of the environment against marine pollution
2. **Maritime Security**
   - Border Control
3. **Fishery Control**
4. **Vessel Surveillance: Detection, Monitoring and Tracking**
5. **Vessel Identification**
6. **Behaviour Monitoring**

Program Management Plan

[redacted]

Data-Link



Proven multi-payload capability

GCS

MTOW	
EOW	
Useful Load (Fuel + Payload)	
Endurance	
Range	
Data-link Radius	
Hovering OGE	
Service ceiling	
Max Speed	
Power plant	

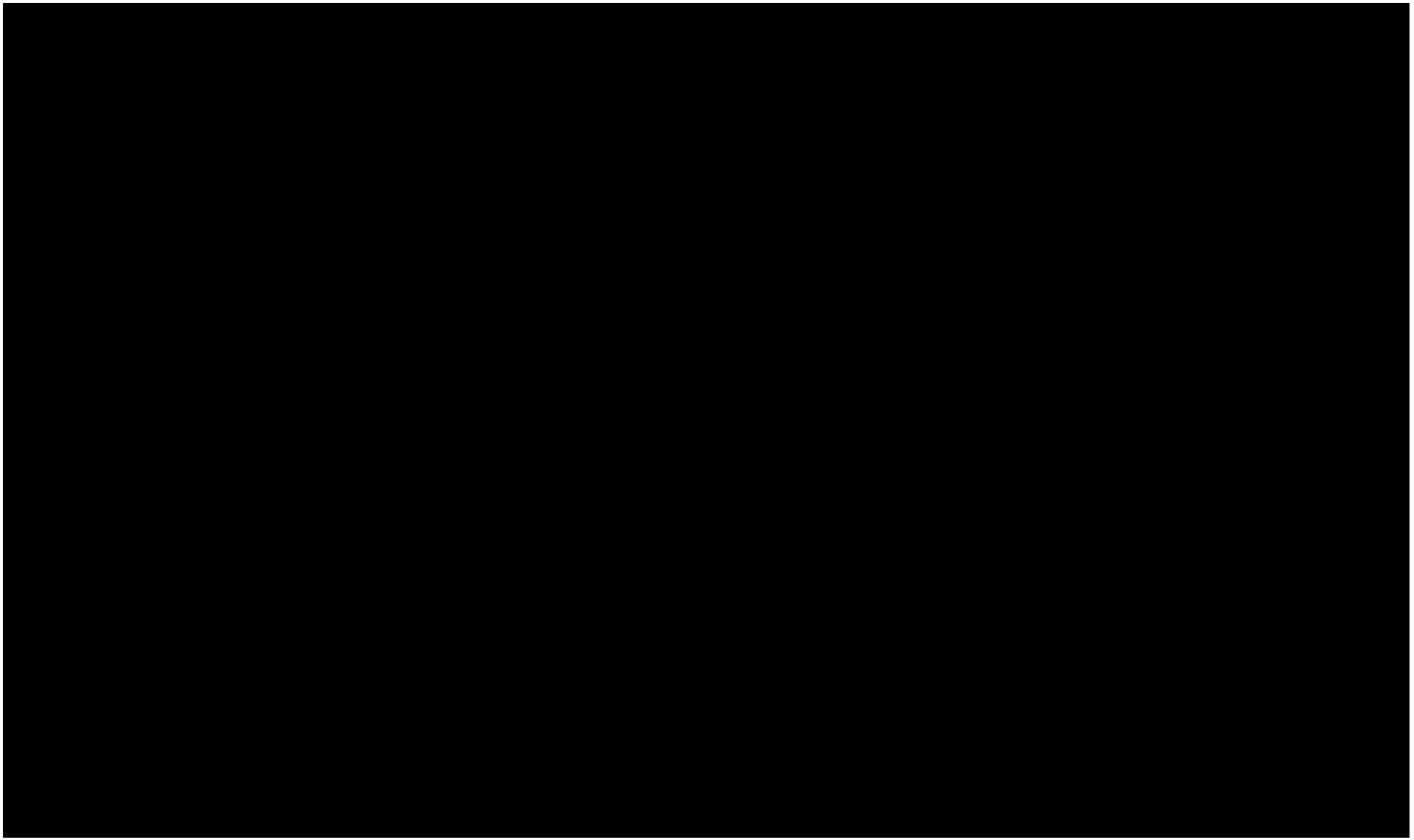
[redacted]

[redacted]

[redacted]

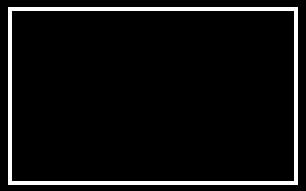
The Ground Control Station

Common Solution



Program Management Plan

Project Team



Program Management Plan

Risk Management Plan - Regulations

International Standards:

- AS/EN 9100:2009 – Aerospace Standard – Quality Management Systems – Requirements for Aviation, Space and Defence Organisations
- UNI ISO 31000– Risk Management. Principles and guidelines
- ISO/IEC 31010:2009 – Risk Management – Risk assessment techniques

Company documents:

- [redacted]

Program Management Plan

Risk Management Plan – Risks (example)

Risk	Mitigation Action
[redacted]	[redacted]

Kick-off with EMSA

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[redacted]

Module 1: Set-up

Current System Configuration

Module 1: Set-up

Compliance with operational Requirement (1/2)

Requirements		Mandatory/Advantage	Compliance	Notes
Area	Areas of operation can be all sea areas surrounding the European Union with an EU or EFTA country.	Mandatory	[redacted]	
	If requested by governmental users, the service could be extended outside EU adjacent sea basins.	Mandatory		
	Cross border operations will be included. Starting point can be any EU/EFTA country.	Mandatory		
Endurance	An endurance of 4 hours with the full set of sensors.	Mandatory		
	A longer endurance above 4 hours is a key advantage of the system	Advantage		
Frequency of flights	Capability to operate one flight every day with the maximum endurance.	Mandatory		
	Capability to operate total flight operations of longer than 8 hours every day. This might require multiple RPAs. It is with the Bidder to define the appropriate fleet.	Advantage		
Daytime	Day and night operation capability	Mandatory		
Environmental conditions / Flight stability	Operation in strong and turbulent weather conditions incl. crosswind (> Bft. 6 or 22-27 knots)	Mandatory		
	Capability to vertical take off and landing on vessels at sea	Mandatory		
	Operation in heavy precipitation situations and reduced visibility	Advantage		
	Operation in icy conditions	Advantage		

Module 1: Set-up

Compliance with operational Requirement (1/2)

Requirements		Mandatory/Advantage	Compliance	Notes
Modes	Monitoring mode: Flying in order to detect vessels, pollution, humans in distress, and other human activity at sea	Mandatory	[redacted]	
	Loitering: Supporting actions (e.g. pollution response, search and rescue, rendez vous at sea) at different flight levels	Mandatory		
	Adaptation of the flight track and sensor operation according to last user request upfront and during the flight operation	Mandatory		
Flight altitude	Up to 400m (or approx. 1200 feet)	Mandatory		
Range	> 50 km in RLOS operation	Mandatory		
	> 100 km in BRLOS operation (if available, see next point)	Mandatory		
Communication	RLOS communication between RPAS and vessel ground segment	Mandatory		
	BRLOS communication between RPAS and vessel ground segment would be a key advantage of the system	Advantage		
	Between ground segment on vessel (or directly from RPAS) and central ground segment: BRLOS with satellite Data Down Link capabilities for payload data.	Advantage		
Take-off and landing	The RPAs shall allow automatic take-off and landing	Advantage		
Flight mobilisation time	Scheduled tasking: The missions will be tasked on a weekly basis. However the flight operations can be detailed up to 1 hour before the start.	Mandatory		

Module 1: Set-up

Activities to update the RPAS: Sensors Integration

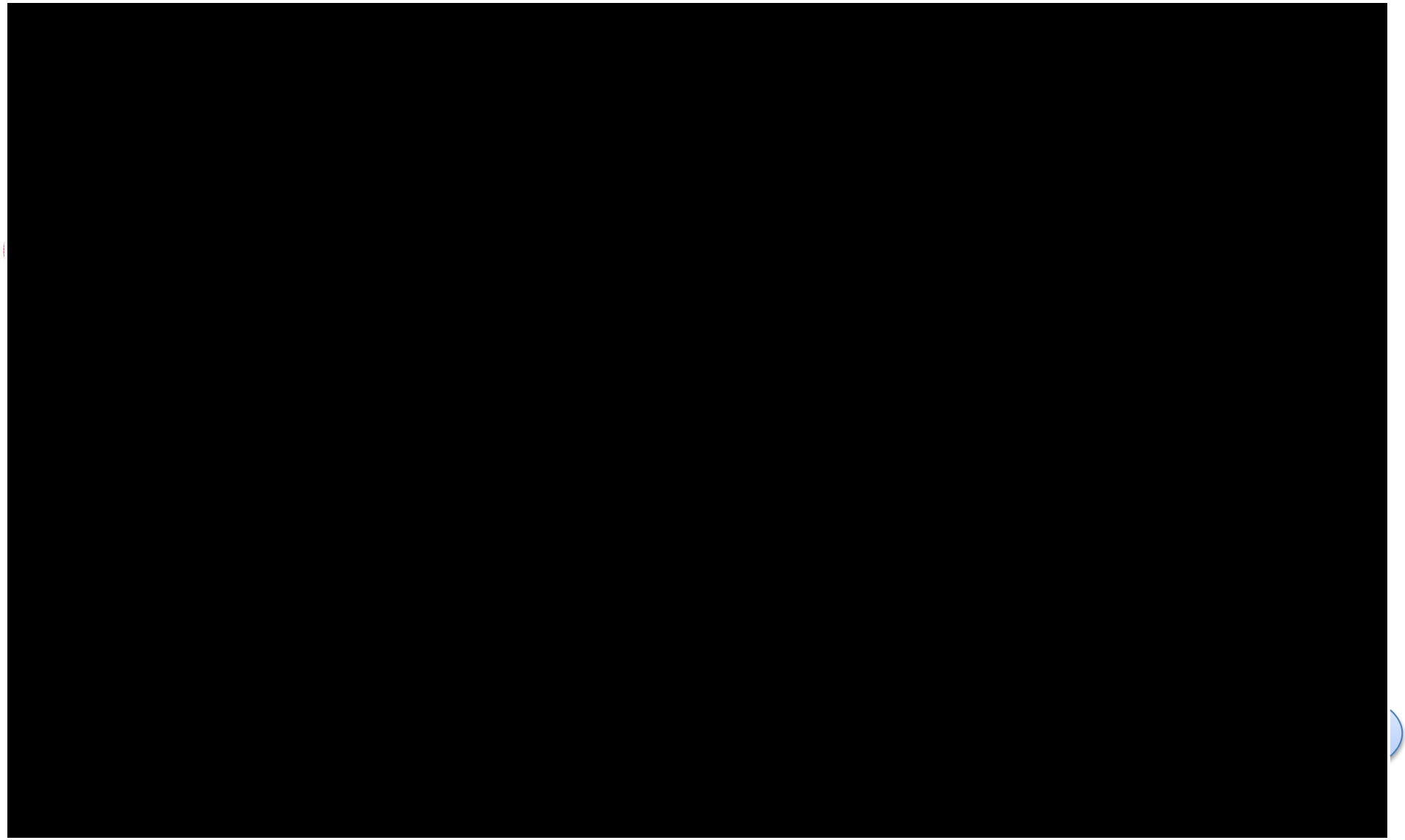
[redacted]

Module 1: Set-up

Activities to update the RPAS: Sensors Integration on vessel

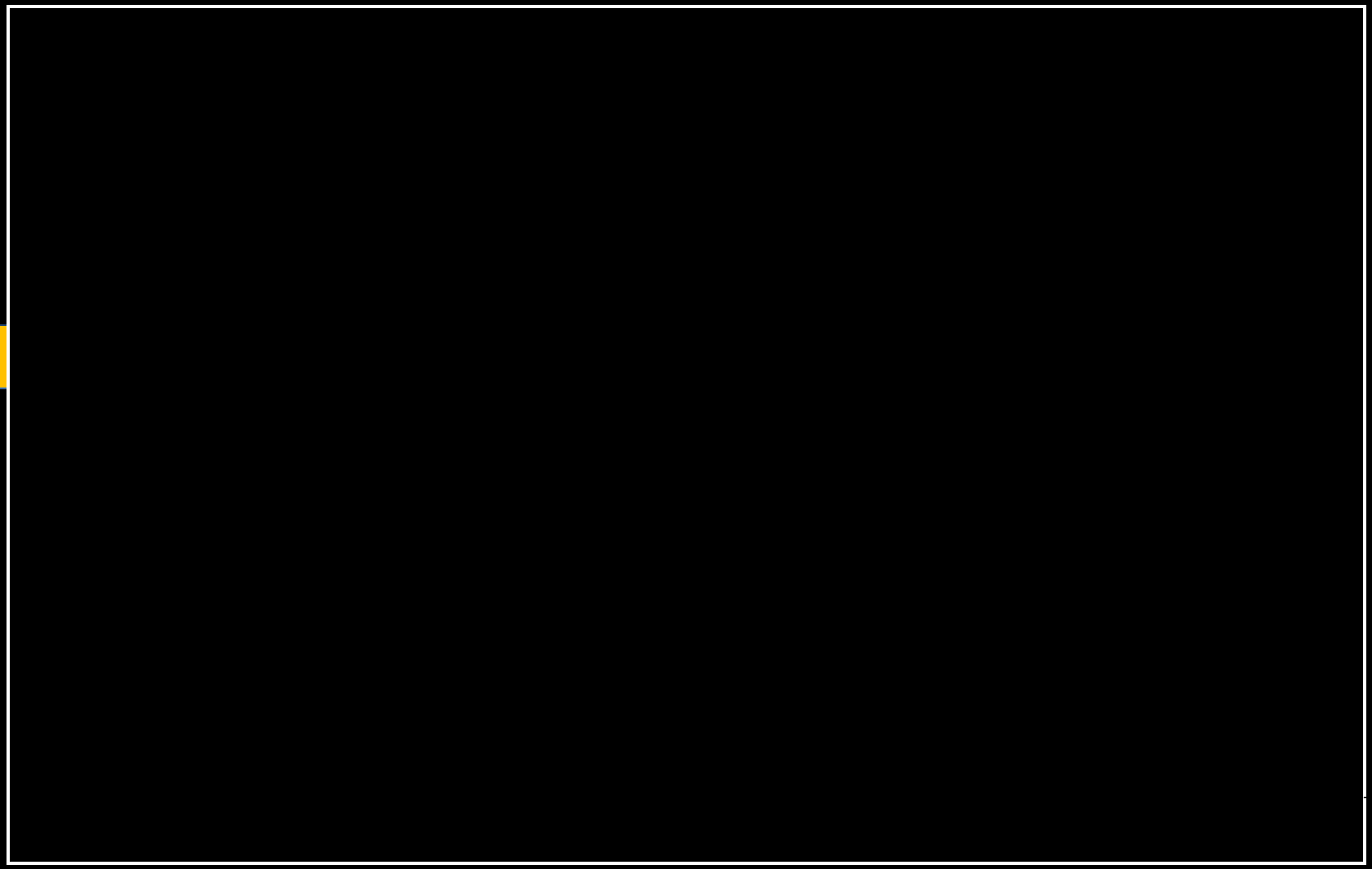
Module 1: Set-up

Activities to update the RPAS: Data Provisioning



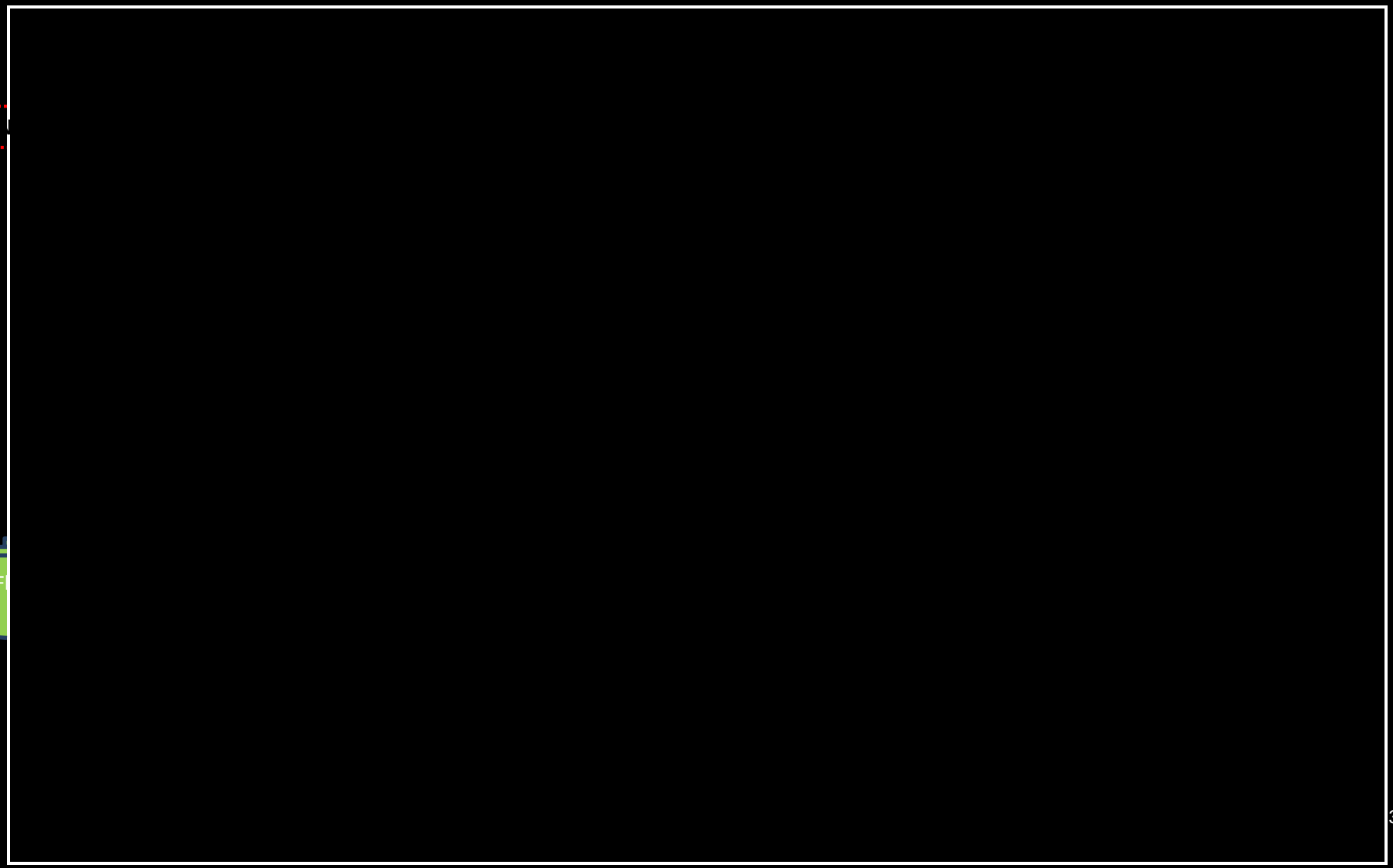
Module 1 Set-up

Configuration Management – Structure view



Module 1 Set-up

Configuration Management – Process Flow (Change Control mgt.)



Kick-off with EMSA

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Mobilisation, On-site activities and Missions

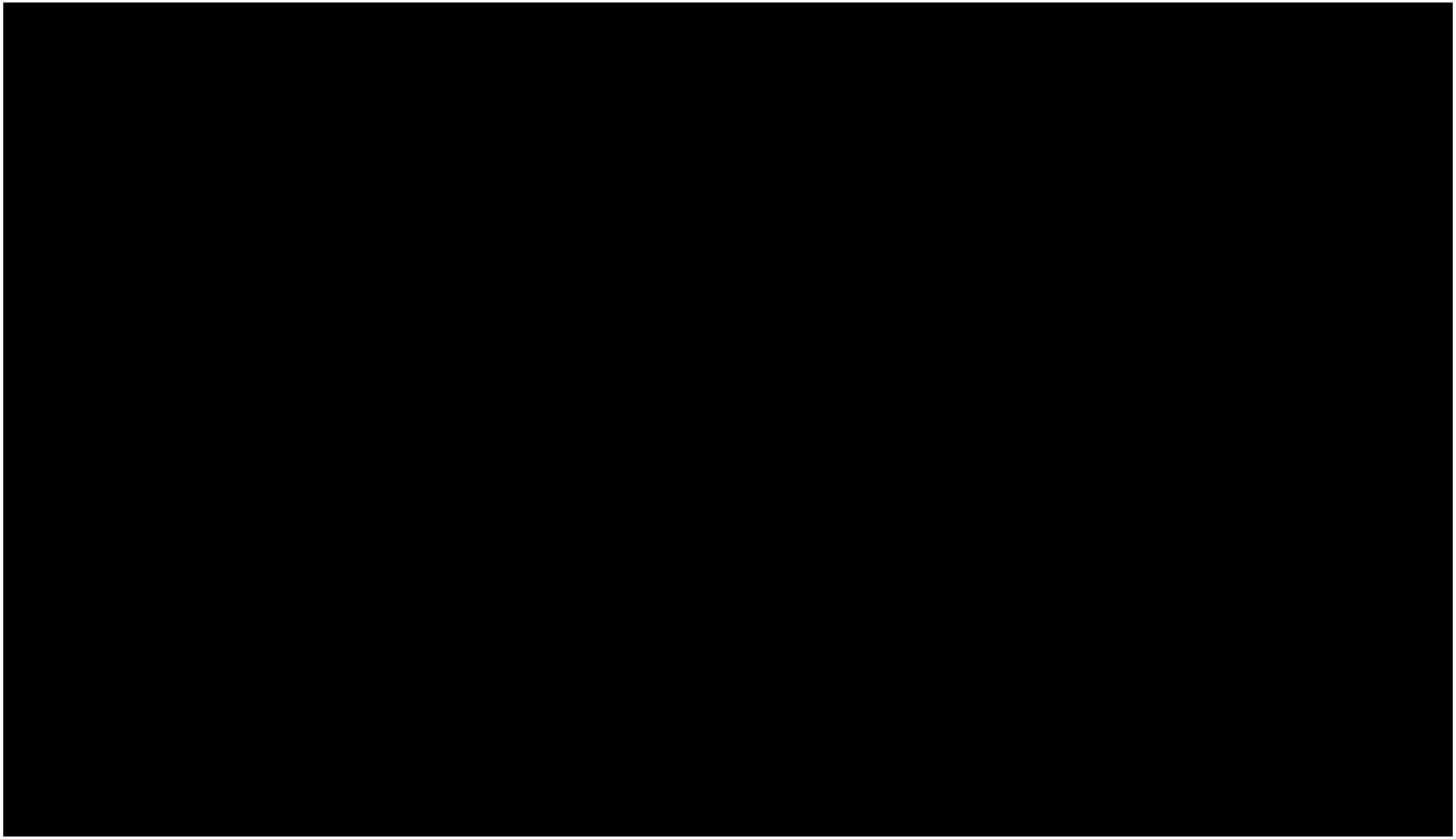
Permit to flight (1/3)

Mobilisation, On-site activities and Missions

Permit to flight (2/3)

Mobilisation, On-site activities and Missions

Permit to flight (3/3)



Mobilisation, On-site activities and Missions

PTF:Operational conditions and limitation (1/2)

[redacted]

Mobilisation, On-site activities and Missions

Status of documentation (1/2)

Mobilisation, On-site activities and Missions

Status of documentation (2/2)

[redacted]

- Technical Panel Flight output documents

Mobilisation, On-site activities and Missions

Customer Service and Training: Leonardo's Experience

TO DELIVER A BETTER CUSTOMER EXPERIENCE

GLOBAL PRESENCE
BE CLOSE TO OUR CUSTOMER

INNOVATIVE SOLUTIONS
TO MAKE IT BETTER

LATEST TECHNOLOGY
INVESTING FOR CUSTOMER SUCCESS

AFFORDABILITY

DELIVERY CAPABILITY
ENABLE TO DO MORE

Mobilisation, On-site activities and Missions

Spare Parts: spare units of RPA, LGCS, Subsystems

[redacted]

Kick-off with EMSA

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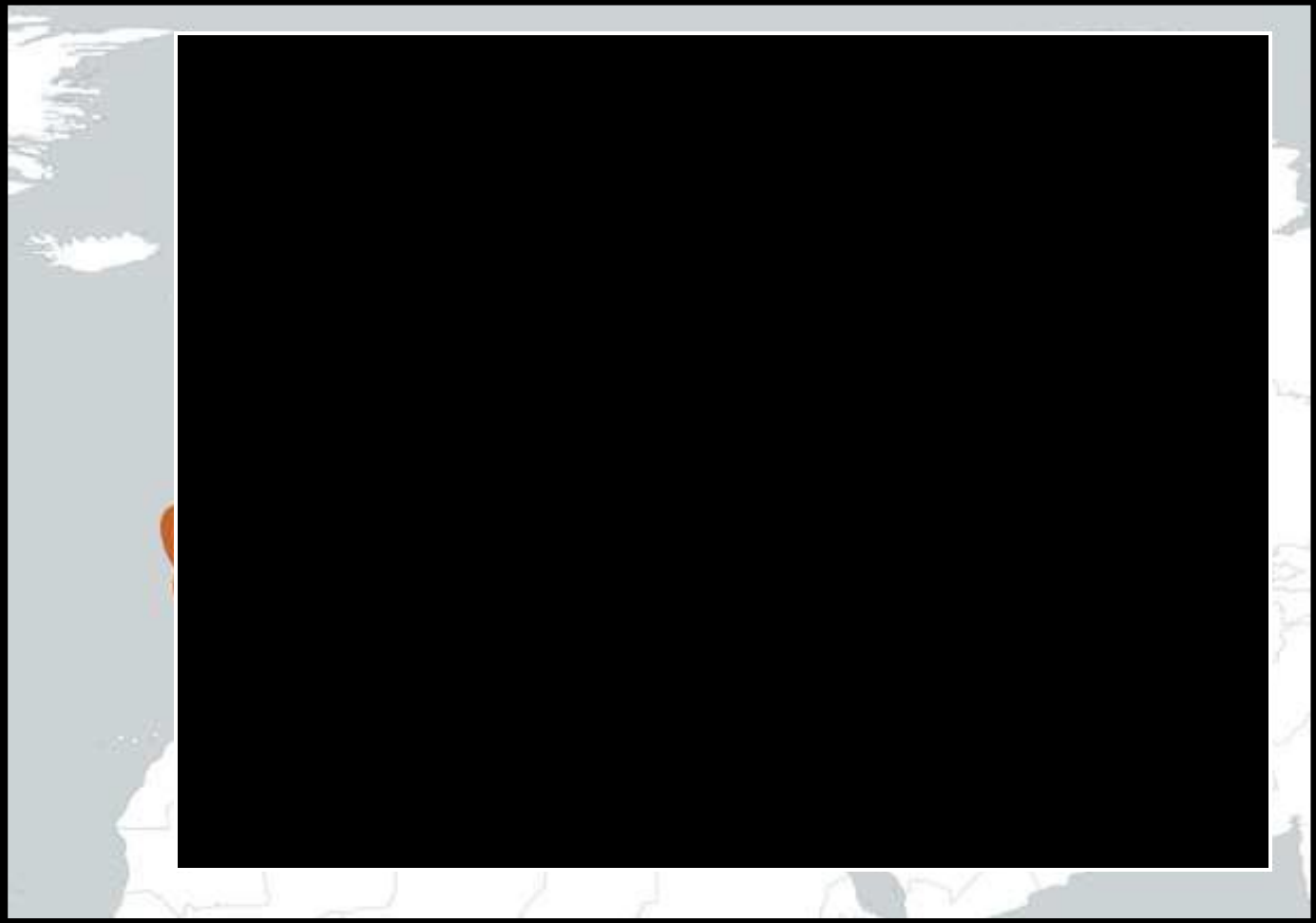
Interfacing

FullSAT Coverage



Interfacing

Solution: Network Layout Concept

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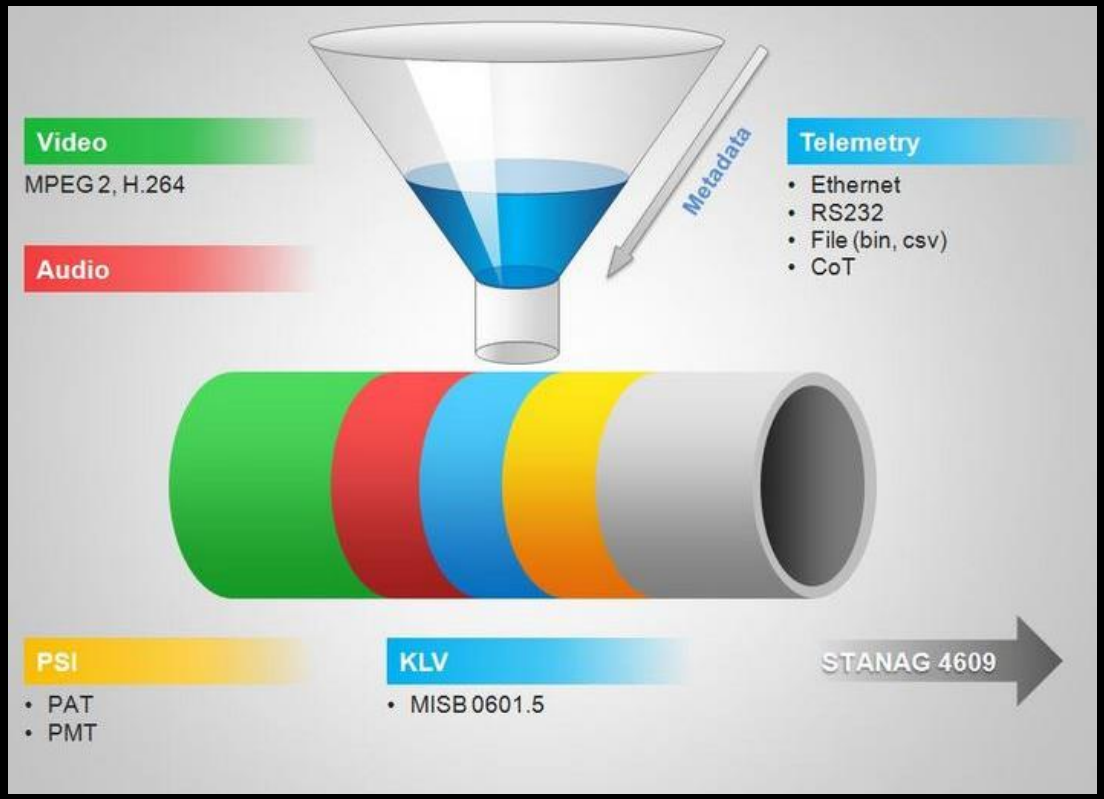
Interfacing

Solution: Data & Video Merger



Interfacing

Main Features DV Merger

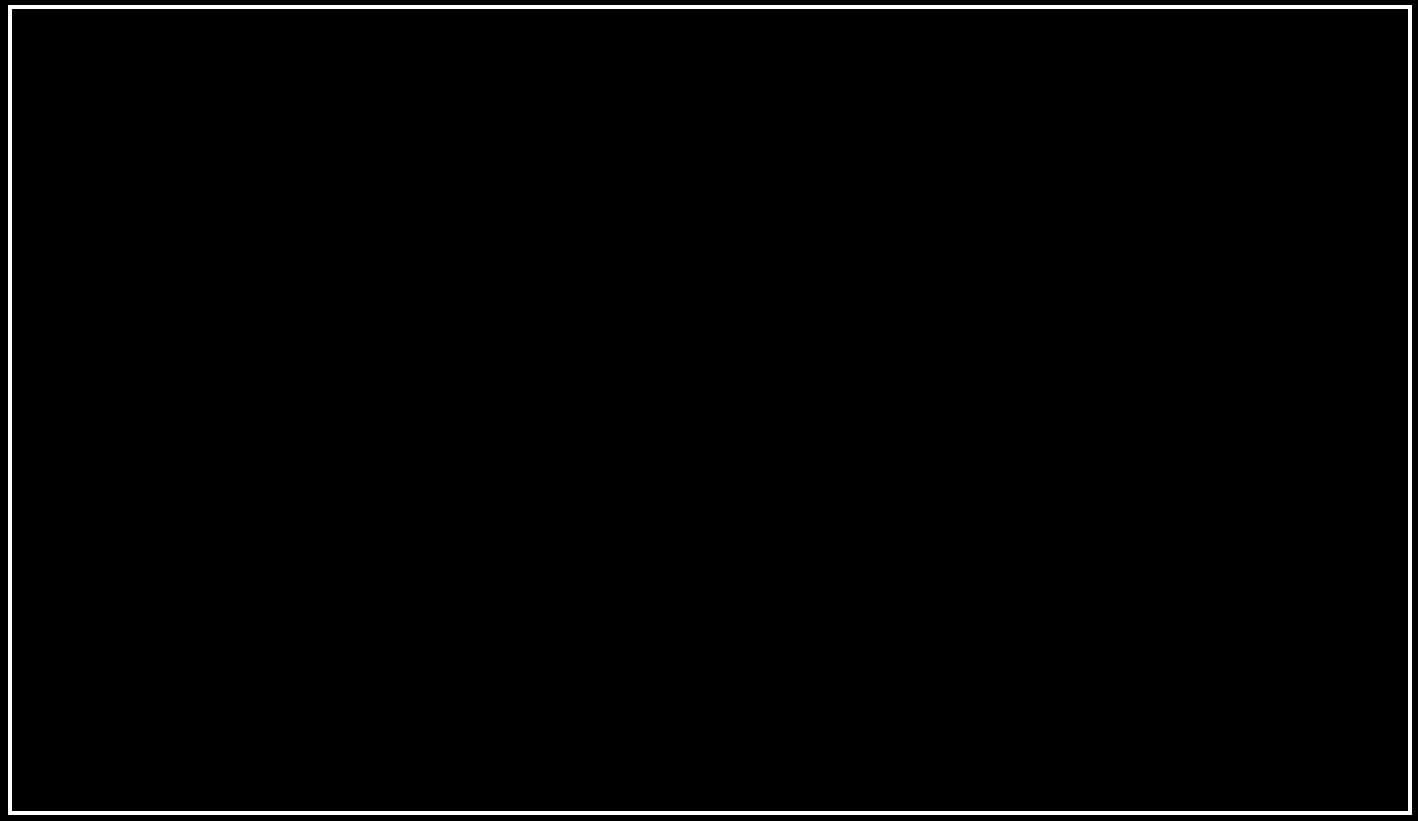
[redacted]

Interfacing

Stanag on demand server

Interfacing

Main Features – Stanag on demand server (1/2)



Interfacing

Main Features – Stanag on demand server (2/2)

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