

TAUPE

**Global Presentation of the Project
April 2009**

<http://www.TAUPE-Project.eu>

1. Global presentation of the project
2. Work Breakdown Structure & RTD planning
3. Organisation of the project Management
4. Dissemination

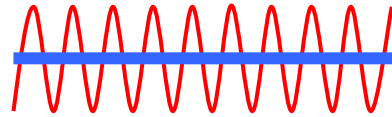
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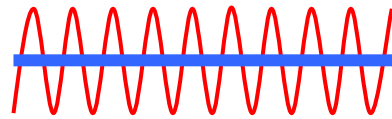
Rationale of the project



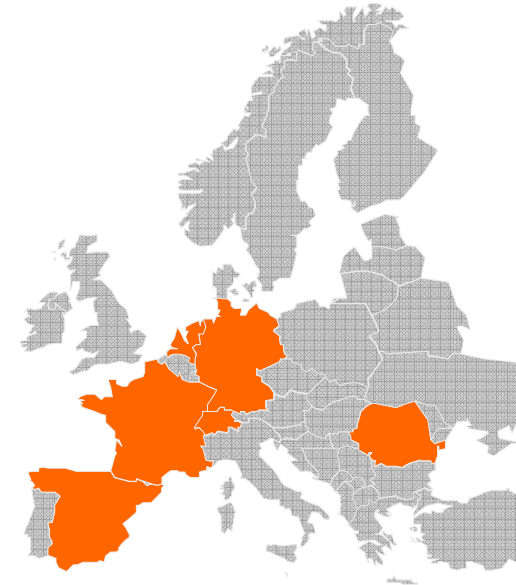
- 3 important tendencies in the aeronautic sector are:
 - The More Composite Aircraft
 - **The More (or even the All) Electric Aircraft**
 - **The Integrated Modular Avionics evolutions**
 - This evolution leads to several changes and innovation needs, especially:
 - Replacement of hydraulic and pneumatic energy sources by electrical ones, which leads to:
 - Higher electrical power
 - Changes in the voltage levels
 - **Increase in the wires mass**
 - Increase data communication exchanges on A/C which leads to:
 - **Increase in the wires number**
 - **Increase system complexity**
- Solutions has to be found to decrease the number of wires used & simplify the architectures of the systems

- **Merging of the power and communication networks using:**
 - **PowerLine Communication (PLC) technology**
 - **Power over Data (PoD) technologies**

Project identity card



- Name: TAUPE (Transmissions in Aircraft on Unique Path wirEs)
- T_0 : September 1st 2008
- Duration: 3 years
- Number of partners: 17
- Number of nationalities represented: 6
- European framework: FP7
Theme 7: Transport (including Aeronautics)
- Overall budget: 5 454 K€
- Overall financing by the European Commission: 3 630 K€



TAUPE logo

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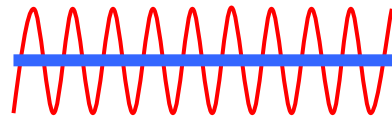




Main objectives of the project

- Main objectives related to the ACARE SRA:
 - Weight reduction
 - Simplification of the cabling maintenance
 - Simplification of the cabling system
 - Cost effective retrofit
 - Strengthening competitiveness of European stakeholder
- Main project internal objectives:
 - Demonstrate a **TRL of 4** (“Component and/or breadboard validation in laboratory environment”), using:
 - **2 SIB** (System Integration Benches): the Copper Bird, the Cabin Mock-up
 - **2 reference applications or systems**: the Cabin Lighting System (CLS) and the Cockpit Display System (CDS)
 - Provide **fully optimised avionic architecture** for power and data transmission in terms of topologies (PLC and PoD), EMC, security and integrity of data, etc

Partners involved in TAUPE



Coordinator

WP Leaders

Labinal
SAFRAN Group

AIRBUS

EADS

Lucerne University of Applied Sciences and Arts
HOCHSCHULE
LUZERN

NLR



Other partners

ARTTIC
INTERNATIONAL MANAGEMENT SERVICES

DIEHL
Aerospace

DS2

ONERA
THE FRENCH AEROSPACE LAB

EPFL
ÉCOLE POLYTECHNIQUE
FÉDÉRALE DE LAUSANNE

heig-vd
Haute Ecole d'Ingénierie et de Gestion
du Canton de Vaud

Hispano-Suiza
SAFRAN Group

Hortec
ahead in innovation

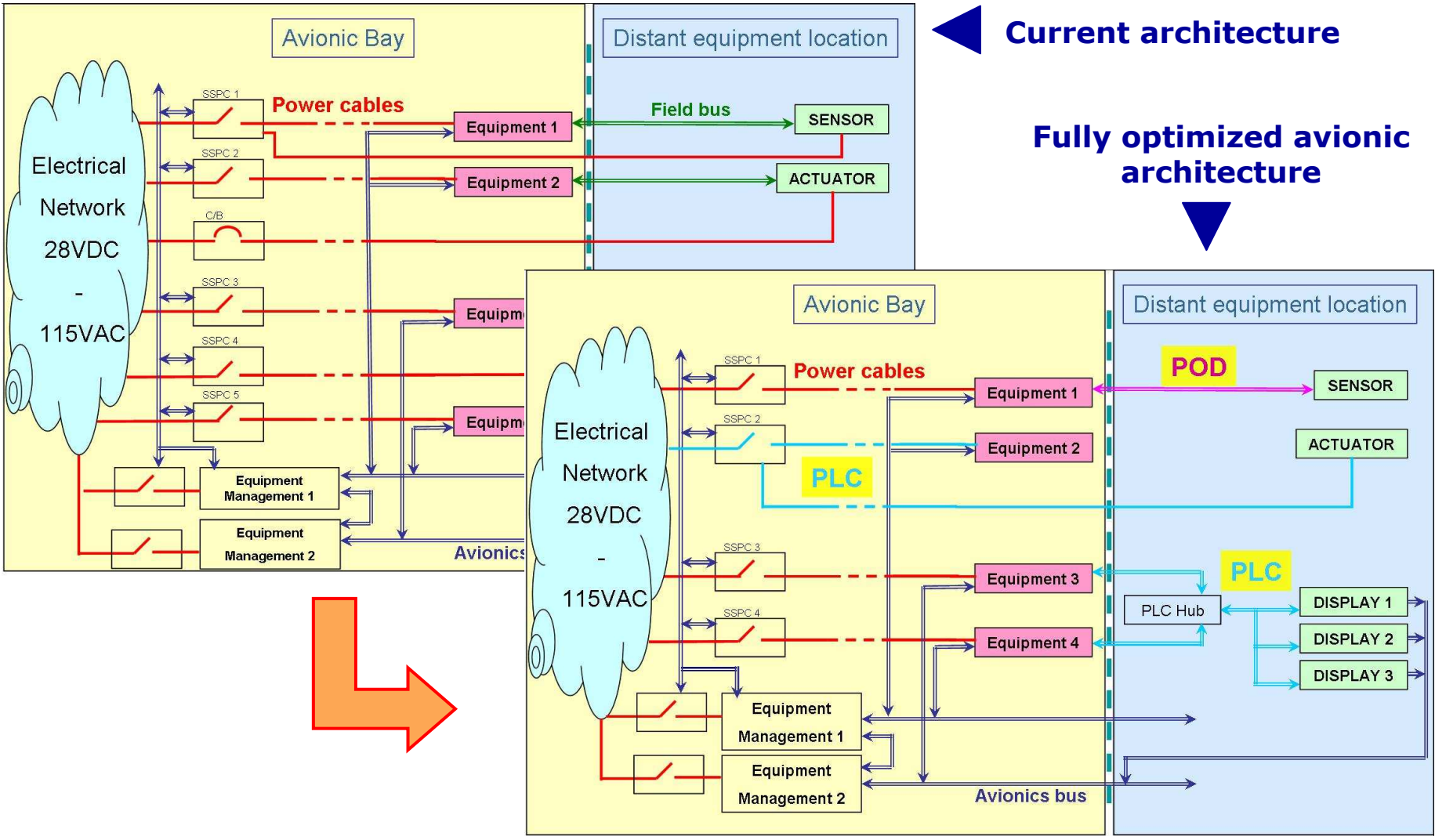
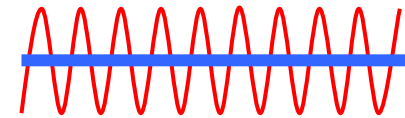
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Architecture evolution objective



Current architecture

Fully optimized avionic architecture

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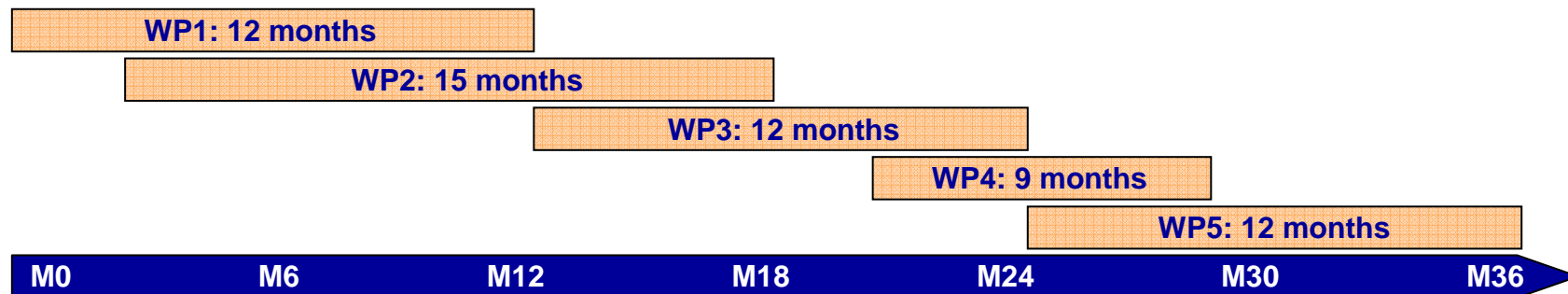
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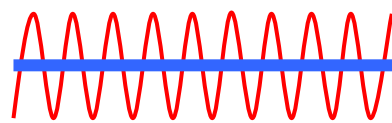
4. Dissemination

Project Work Breakdown Structure

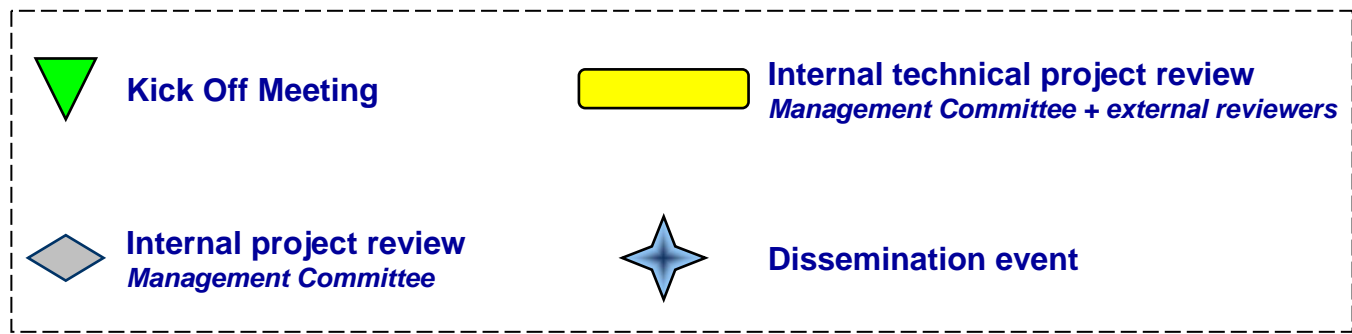
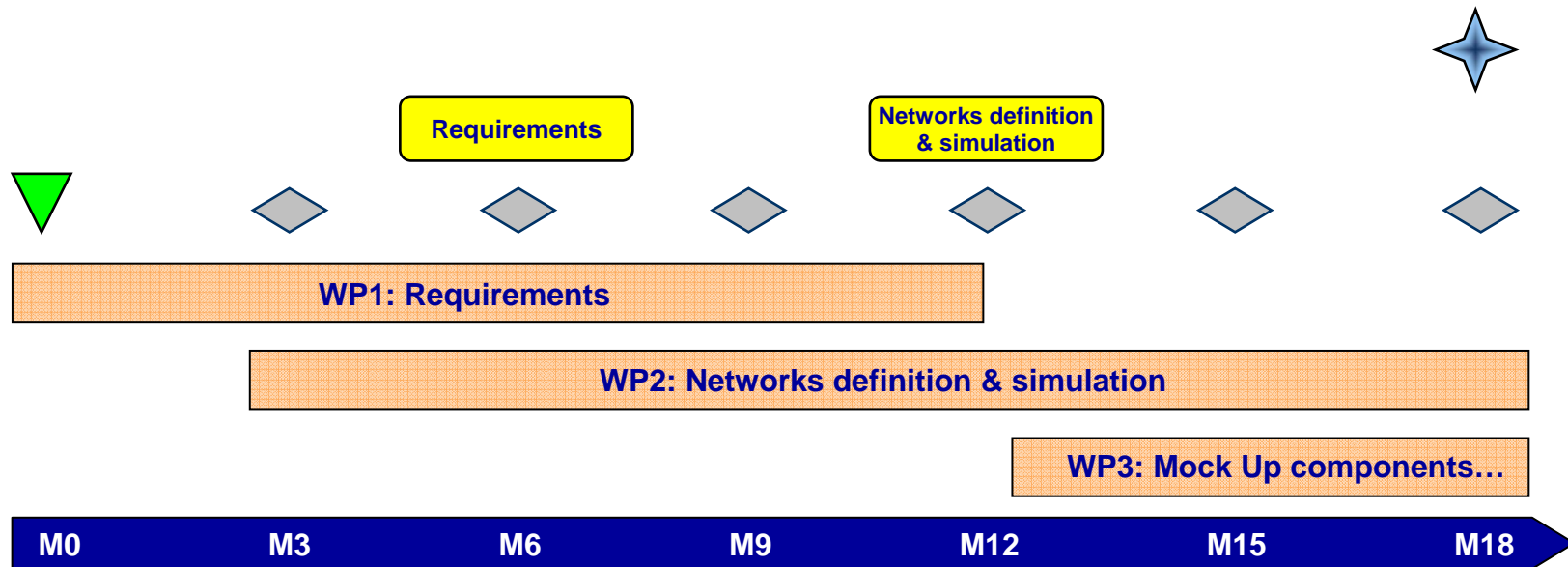
WP	WP title	WP Leader	Main Outcome
0	Project Management	LABINAL	<ul style="list-style-type: none"> Coordination between the different WP Interface with the EC
1	Requirements	AIRBUS-F	<ul style="list-style-type: none"> Architecture concept rules and requirements V&V test requirements
2	Networks definition and simulation	LABINAL	<ul style="list-style-type: none"> Numerical model of the future network using PLC or PoD
3	Mock Up components design & adaptation	EADS – IW	<ul style="list-style-type: none"> Adapted chipset integrated into specific modem Adaptation specifications for the existing SIB
4	Mock Up integration	HSLU	<ul style="list-style-type: none"> Adapted SIB integrating the PLC modem, ready for testing
5	Verification & Validation tests	NLR	<ul style="list-style-type: none"> V&V of the adapted technology on the SIB
6	Dissemination	LABINAL	<ul style="list-style-type: none"> Dissemination events scheduled at M18 and M36
7	Exploitation	LABINAL	<ul style="list-style-type: none"> Collaboration with JTI CLEAN SKY IPR survey and management

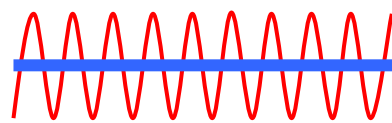
RTD WPS



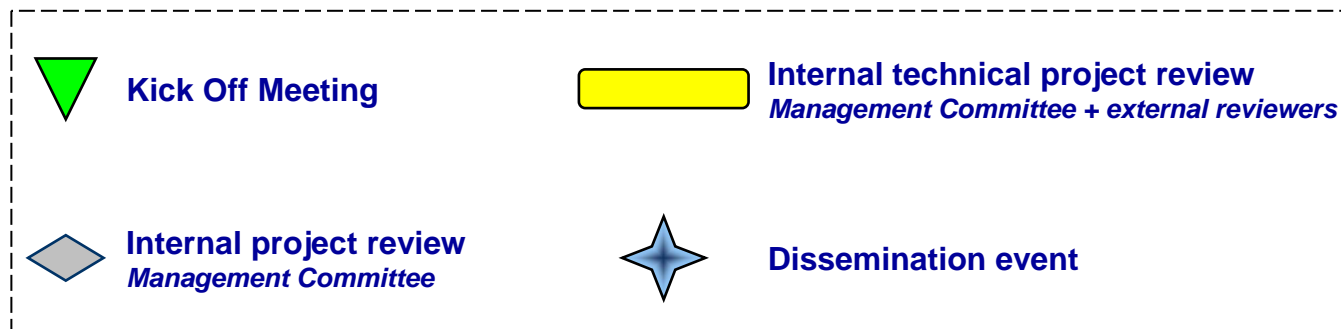
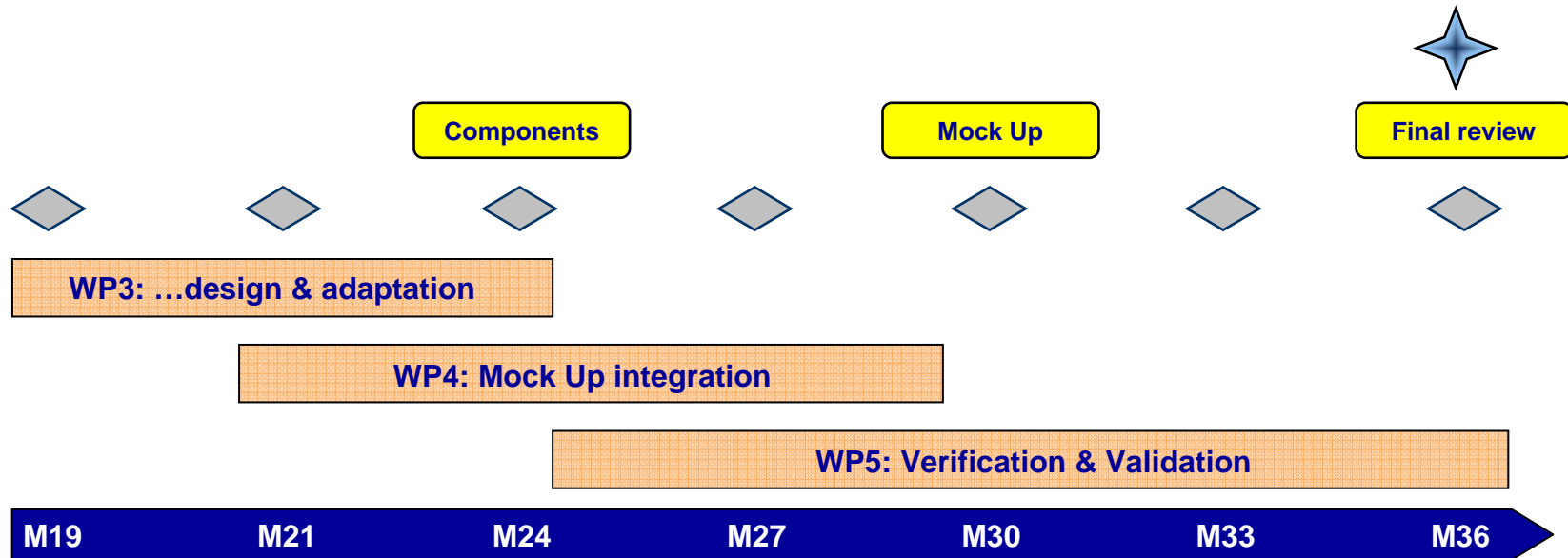


RTD planning & key milestones: M1 → M18



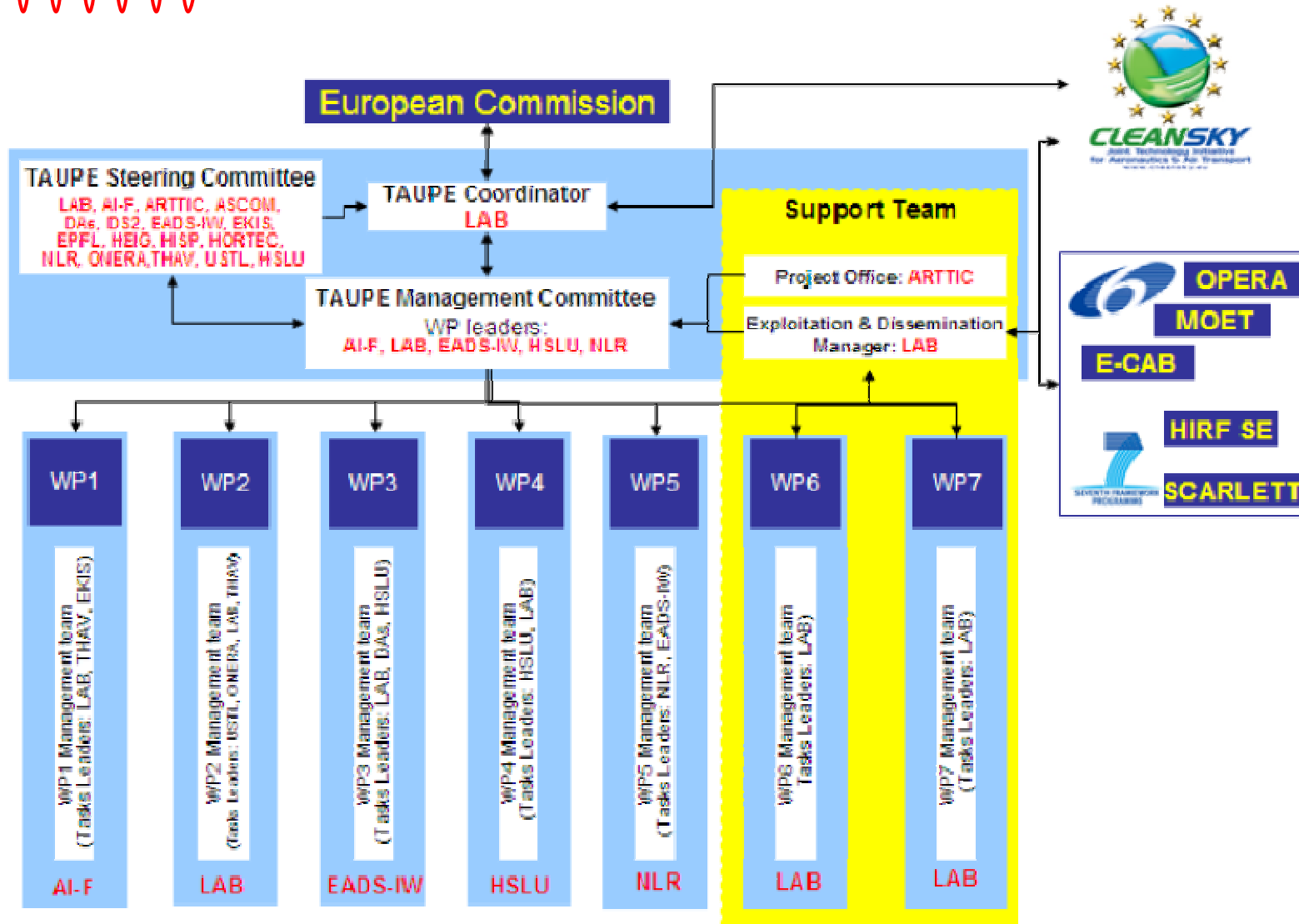


RTD planning & key milestones: M19 → M36



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Organisation of the project management



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Dissemination: why and how?

- Main objectives of the dissemination activities:
 - Ensure TAUPE resulting technology will reach TRL 6-7 after the project
 - Strengthen competitiveness of European Aero-system industry and strengthen academics and Research centres awareness and knowledge
- ➔ **Dissemination is part of the project and is of cardinal significance**
- Inside the project, dissemination is mainly secured through WP6
- Many tools will enable us to have an efficient dissemination activity:
 - **Exchanges** with stakeholders
 - **TAUPE dissemination events:** @ M18 and M36
 - **Scientific publications** and presentations in key journals and conferences
 - Participation to **workshops** organised by other European project and to European and International **conferences** when relevant
 - **TAUPE public web site:** <http://www.TAUPE-Project.eu>
 - **Communication materials** prepared for dissemination in workshops

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