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**iNTeg-Risk Conference
2-3 June 2009, Stuttgart**

**Alternative fuels and biofuels
for aircraft development
Project overview**

**Elements of context
Description of the project**

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Elements of context

- **Air traffic growth ? and market evolution ?**
- **Fluctuation of the fuel prices and availability of feedstock for bio / alternative fuels**
- **Technical constraints for aircraft fuels, for the supply chain**
- **Several options: alcohols, esters, HVO, furanics, GTL, CTL, XTL...**
- **Strict regulation / certification process for new fuels is heavy**

Basic ideas and main objectives

ALFA-BIRD aims at developing the use of alternative fuels in aeronautics.

In a context where the price of oil is increasing and with impact of fossil fuels on climate change, the sustainable growth of the civil aviation is conditioned by the respect of the environment.

In this context, using biofuels and alternative fuels in aeronautics is a great challenge, since the operational constraints (e.g. flight in very cold conditions) are very strict, and due to the long lifetime of current civil aircraft (almost 50 years).

Basic ideas and main objectives

The main objective of ALFA-BIRD is to develop the use of alternative fuels in aeronautics with a long-term perspective, and therefore to help

- improving each country's energy independence,
- lessening global-warming effects,
- and softening the economic uncertainty of crude oil peaking.

ALFA-BIRD will investigate new approaches and new alternative fuels to power aircrafts with the possibility to revisit the fuel specifications and reconsider the whole aircraft system composed by the triplet: fuel, engine and ambience.

Basic ideas and main objectives

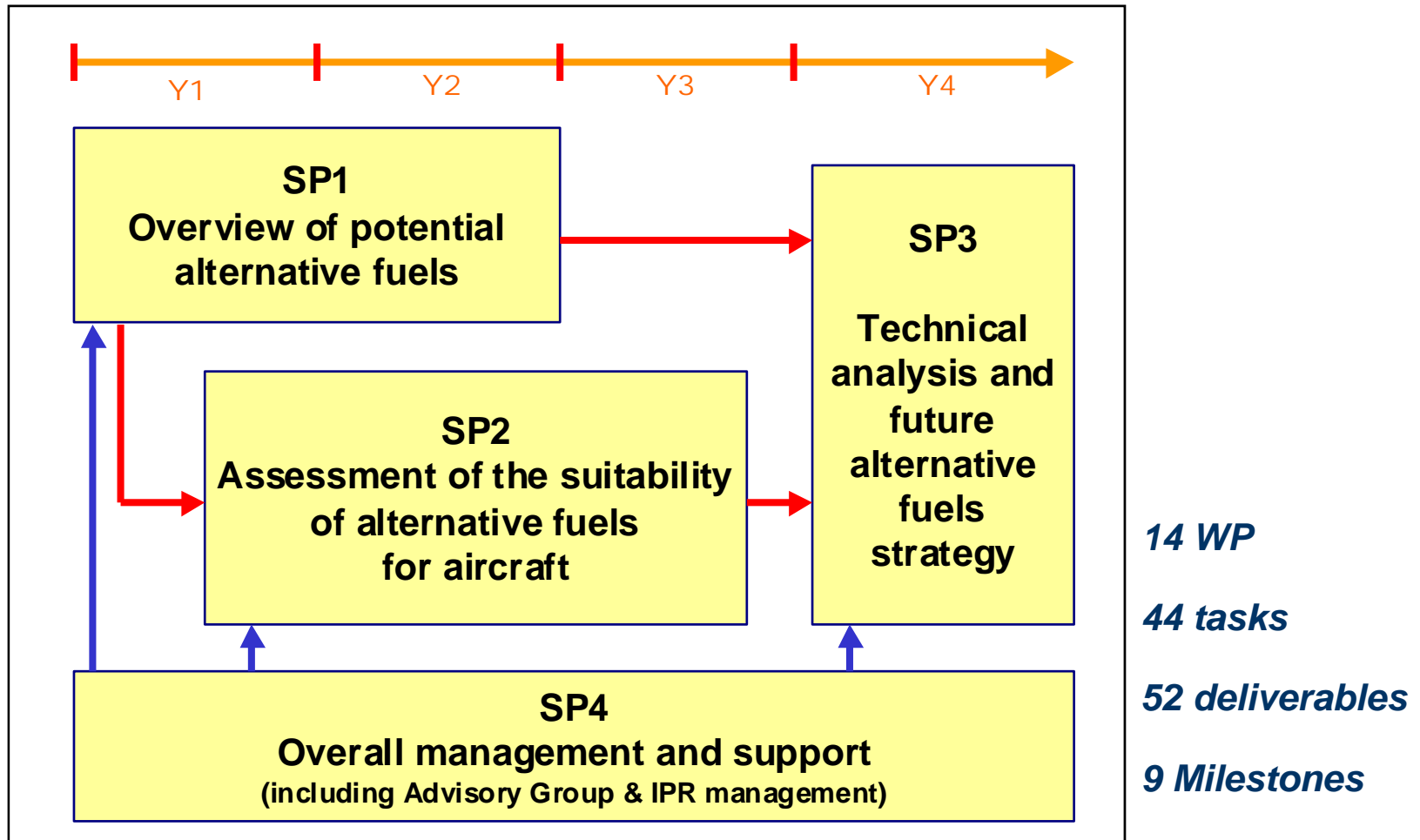
In operational terms, ALFA-BIRD addresses the following objectives :

- To identify and evaluate possible alternative fuels to petroleum kerosene, considering the whole aircraft system;
- To assess the adequacy of a selection of up to 5 alternative fuels with aircraft requirements, based on series of tests and experiments ;
- To evaluate the environmental and economical performance of selected alternative fuels ;
- To set the path towards industrial use of the “best” alternative fuels.

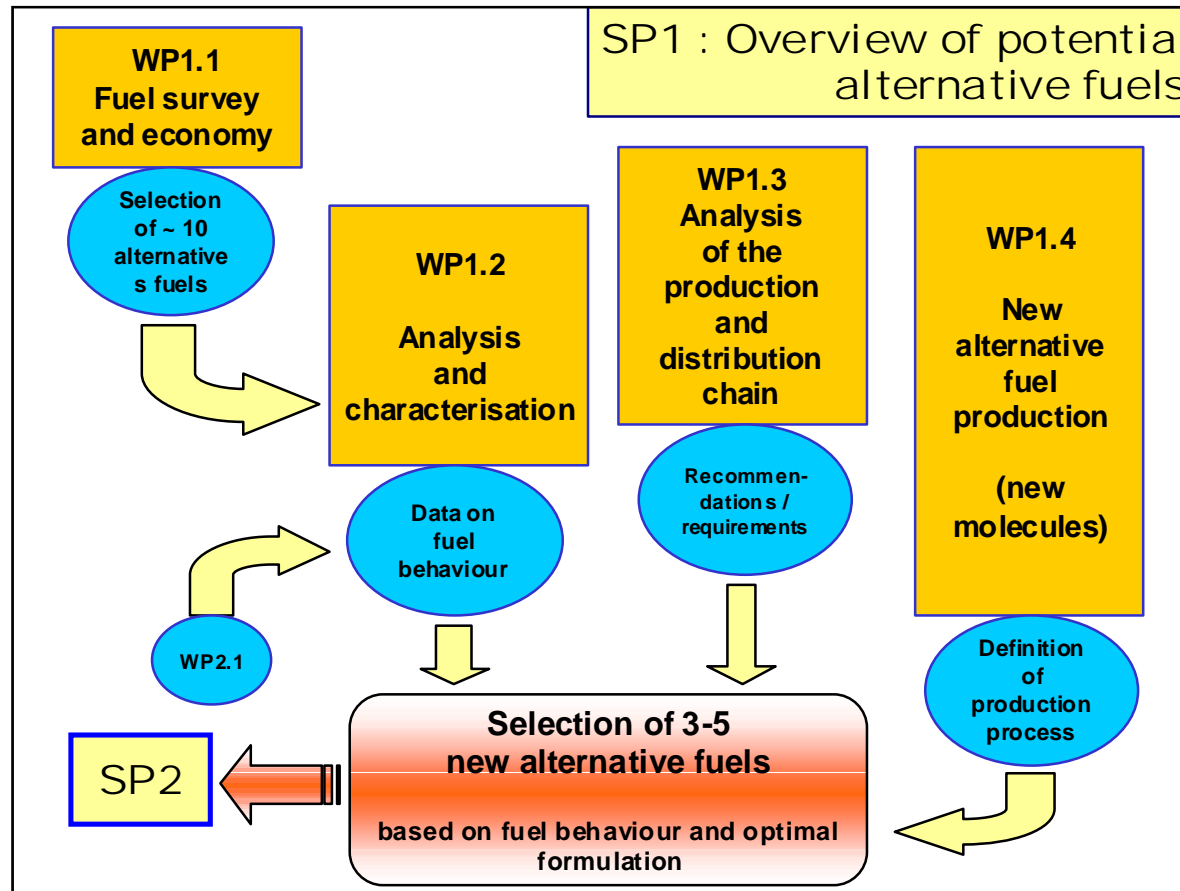
Partner involved

- | | |
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| <ol style="list-style-type: none"> 1 European Virtual Institute for Integrated Risk Management, DE 2 Airbus France, FR 3 Airbus Central Entity, FR 4 Airbus UK, UK 5 Avio S.p.A, IT 6 Centre National de la Recherche Scientifique, FR 7 Technologica Group, BE 8 Dassault Aviation, FR 9 Deutsches Zentrum für Luft- und Raumfahrt e.V., DE 10 Institut National de l'Environnement Industriel et des Risques, FR 11 Institut National des Sciences Appliquées of Toulouse, FR | <ol style="list-style-type: none"> 12 IFP-Institut Français du Pétrole, FR 13 Lesaffre Group, FR 14 MTU Aero Engines GmbH, DE 15 Office National d'Études et de Recherches Aérospatiales, FR 16 ROLLS-ROYCE, UK 17 SASOL Technology (Pty) Ltd., ZA 18 SHELL Aviation, UK 19 SNECMA, FR 20 University of Sheffield, UK 21 Universität Karlsruhe, DE 22 Graz University of Technology, AU 23 University of Toronto, CA |
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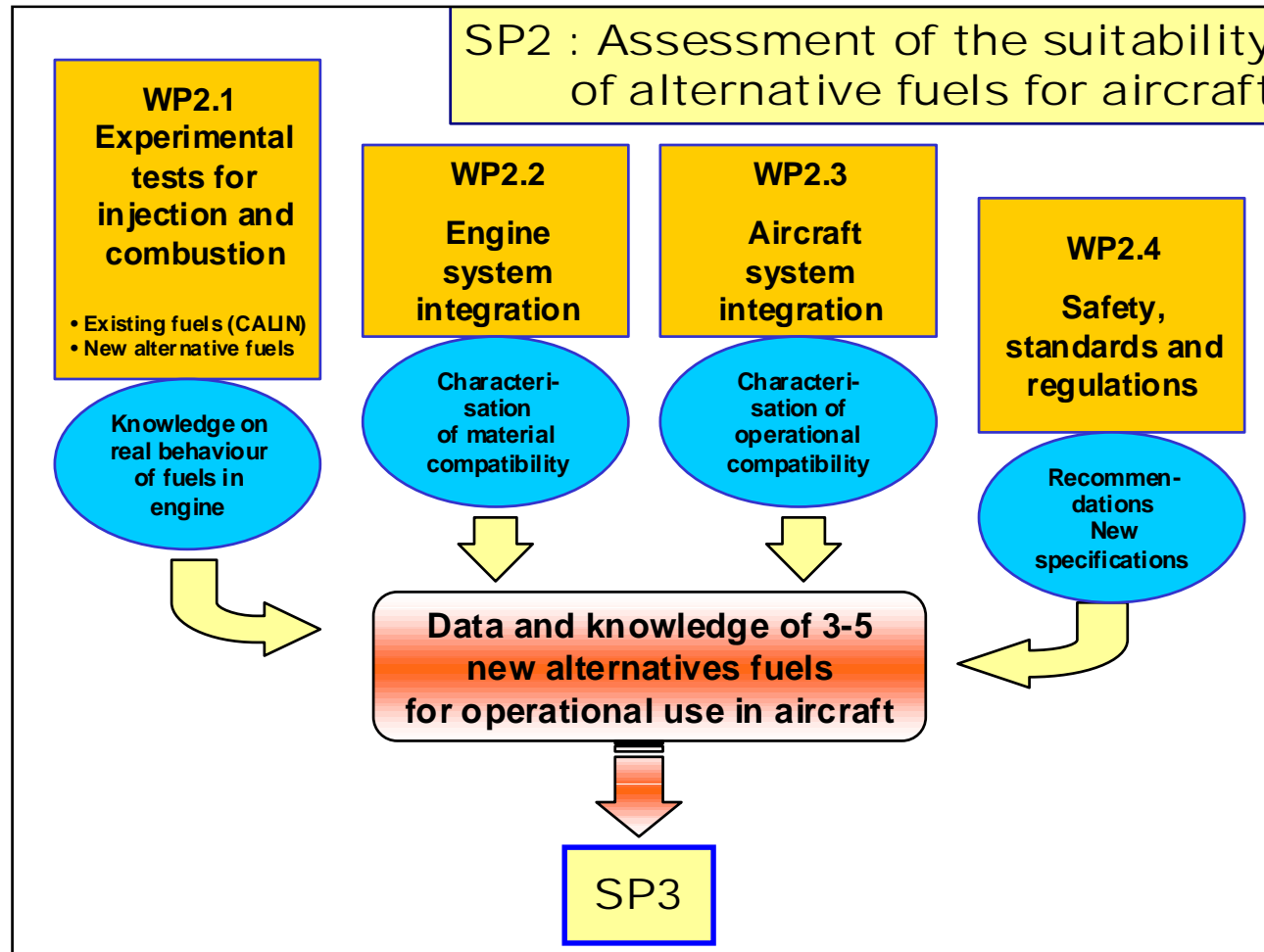
Project overview



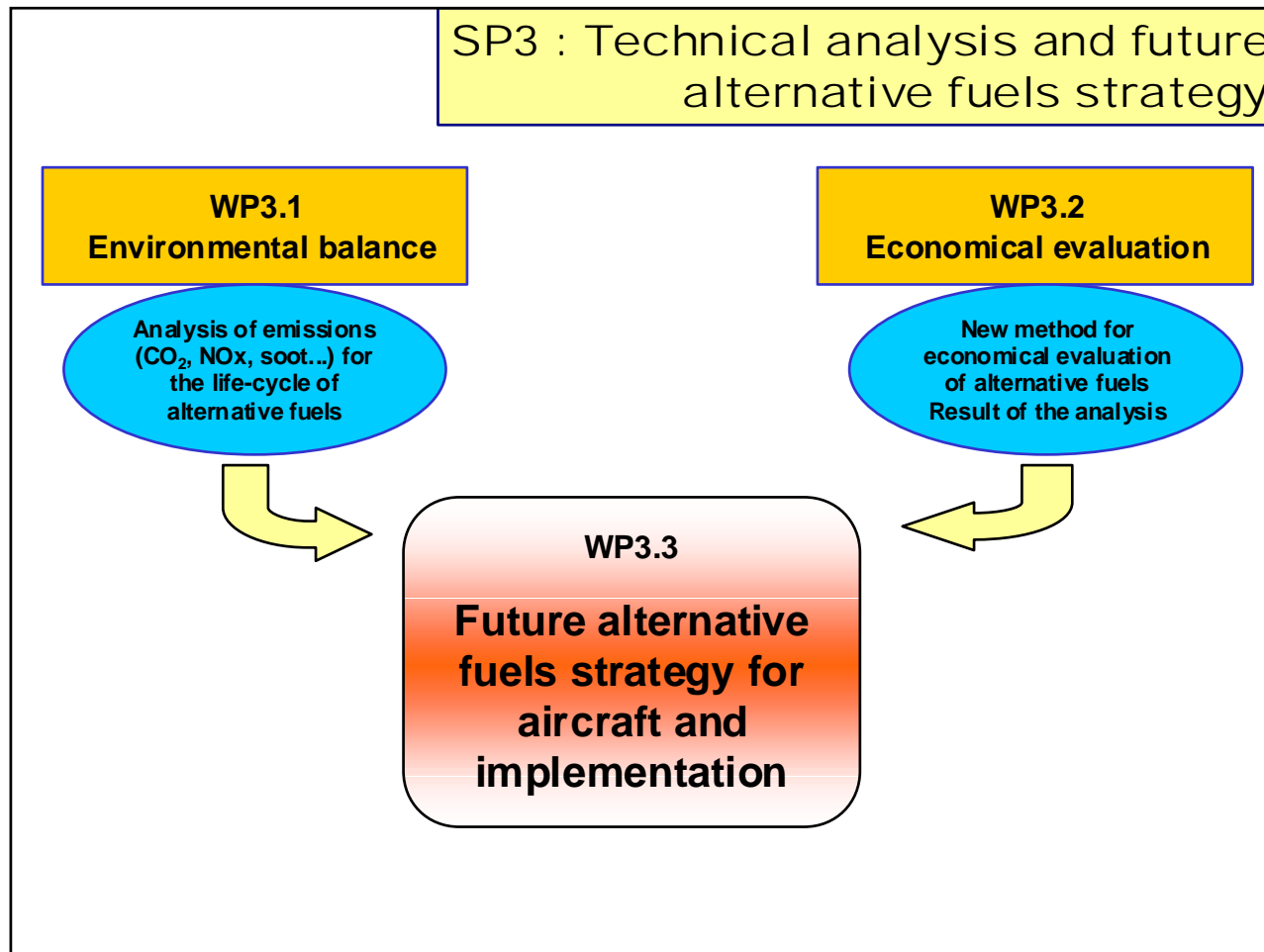
SP1



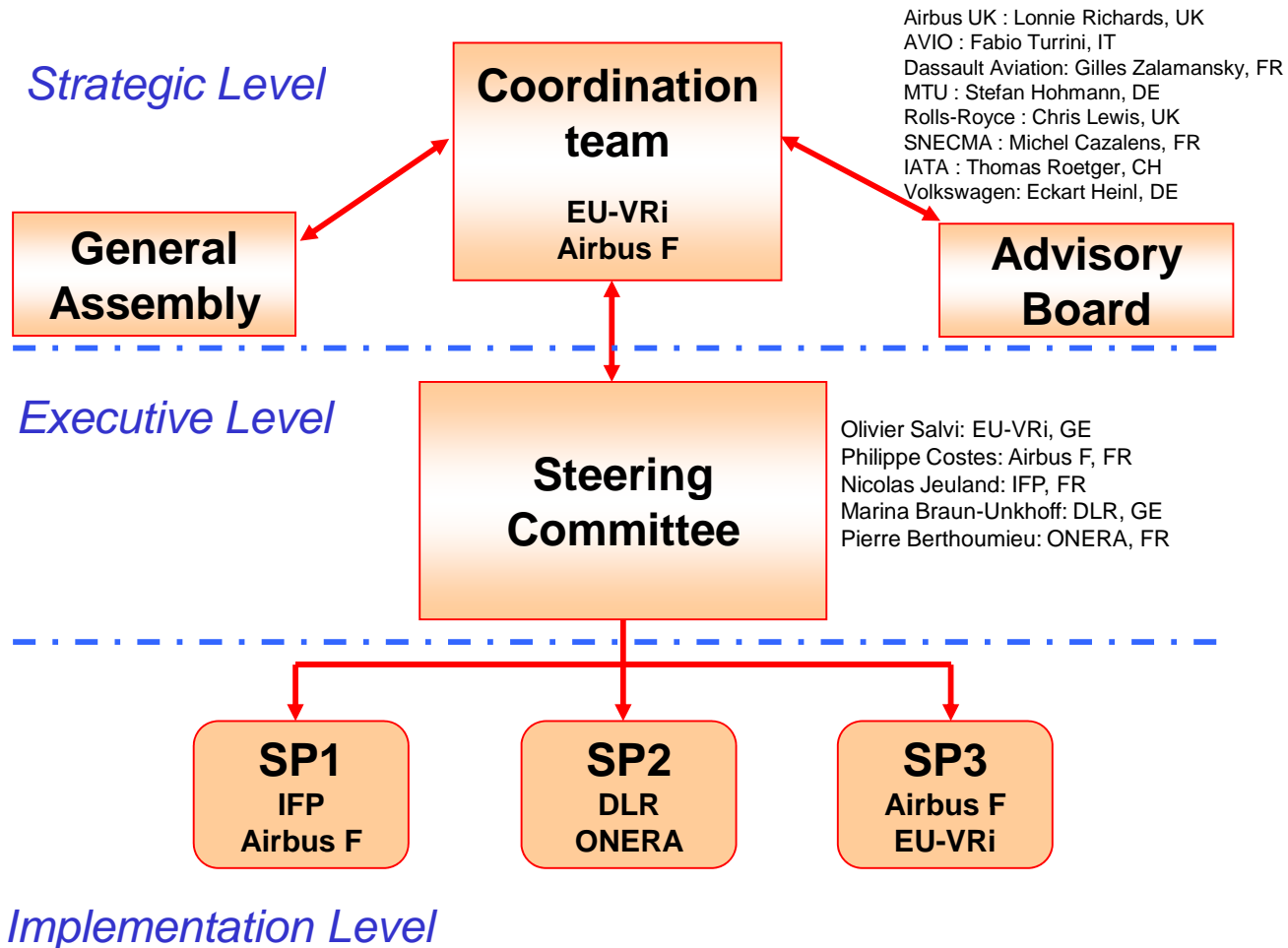
SP2



SP3



Organization



Features

Total Budget: 9 750 000 €
EC Grant: 6 820 000 €

Start: 1st July 2008
End: 30 June 2012

Coordinator:
 European Institute for Integrated Risk Management
 (EU-VRI)

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