



## Bando Distretti ad Alta Tecnologia (2013-2017)

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Progetto “MAVER – Manutenzione Avanzata per VELivoli Regional”.

In partnership with: Software Design, Aero Sekur, Desa, Arethusa, Neatec, Università degli Studi del Sannio, Università Parthenope, ENEA.

The project aim to develop an innovative set up for a very flexible Maintenance Organization (MRO) able to switch operations quickly from regional to wide bodies aircraft and vice versa. The project plan analyzes in a real environment how to implement a new Lean model while stating its performance and economics compensations without accounting on scale economies and aircraft standardization. The new model relies on original applications of emerging technologies in various applicable fields and exercises the leverage on a multitude of cost effective applications identified throughout the maintenance processes.

The new model well adapts to independent MRO, antithetic of big one-stop facilities, and the research project is used itself to study the integration into the MRO business of new readiness and sustainment services in order to enlarge market opportunities. Specific test studies, treated as stand-alone micro-project, are carried out and applied in a manner consistent with the overall purpose.

In detail, this scientific research is pursued addressing different study paths along mutual MRO targets. The first project activity is referred to a special MRO LEAN model, a modern and advanced Total Productive Maintenance Organization, based on both innovative technological application and peculiar e-Maintenance aids that will help to reduce costs and Maintenance Visit Grounding. This path, in addition, analyzes and takes into account how to obtain a rapid infrastructure deployment when using a Hangar Bay for different aircraft classes, with a multipurpose set-up obtained by using advanced inflatable structures to adapt the required lay-out.

The second path of this research is split in several feasibility studies and two of which, integrated as new MRO functions and carried out with a business design approach, are finalized to develop innovative services with a strong environmental impact (Green Aircraft).

Both initiatives are formulated with an environmental benefits while eco effort is spread also throughout the entire MRO Maintenance processes. The program also covers the engineering capability build-up process, starting from the relevant technological state of the art, in order to sustain the superior knowledge and new technologies required to implement the new MRO supposing it will operate also as a Completion Center for the next-gen regional aircraft program.

To evaluate the designed benefits an assessment at system level will be performed ranging all aspects of maintenance operation in a real situation. These major features will need to be supported by large-scale technology demonstrators that will involve a final test, based on a real maintenance event carried out in a SMART bay.

The following represent the project areas and constitute the main work packages identified in terms of Project Objectives:

- Lean MRO (FlexibleBay, eMaintenance aids)
- MRO High Level Requirements (Augmented MRO Services)
- MRO Greening Initiatives
- Smart Bay Validation

