

Pégase - French Regional UAS Centre of Competence

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Developing the unmanned aircraft systems (UAS) industry in France is a major stake since France is still lagging behind compared to other major players in the field. The Pégase regional cluster is recognized and supported by the French government, as well as the local and regional authorities; its key priority is to identify and support the most relevant choices in order to make our industry more visible and competitive.

Until now, the development of UAS has only been steered by the military. The systems developed during the last decades have contributed to great progress concerning the autonomy of platforms, the improvement of electro-optical payloads and on a smaller scale, of imaging radars and data transmission systems. In the military, the assignment prevails upon the design potential of platforms that could be used for civil applications. To support the UAS industry, several issues need to be addressed such as general air traffic insertion, safety and certification, plus the development of evolved technologies towards new equipment with business models to make these products more accessible for both military and civil uses. Pégase has thoroughly studied these issues and has focused its roadmap on small UAS and MALE UAS. Regarding HALE UAS, Pégase has turned its road map towards the development of stratospheric aerostatic UAS; following a European conference held in Avignon, France, a working group comprising major industry players, SMEs and research laboratories, has started an ambitious demonstrator project, which is to be completed within 5 years time.

Regarding the technological barriers that are to be overcome, the Pégase cluster has set up three programmes, which are supported by the state and local authorities. The first one, DIAMANT 2, concerns the development of a completely autonomous « sense and avoid » system; the second one, GYROVISION, concerns the development of a totally innovative electro-optical system; the third one, SHARE, focuses on the simplification of flying procedures and interfaces for one or several unmanned aircraft. In addition, two projects dedicated to “crisis management” applications were initiated by the cluster: the DRON'XO programme, finalized at the beginning of the year 2010 and addressing crisis management matters such as forest fires, and the TECHFORFIRE programme,

which hasn't started yet. These two programmes rely on MALE type airborne systems technologies and deployment. Other high level projects are being investigated to further address the issue of introducing UAS into non-segregated airspace.

Regarding mini and medium size unmanned aircraft, two programmes are under way: ADOPIC focuses on the surveillance of civil engineering structures, while RAPACE focuses on the surveillance of the environment around a vessel operating in critical situations, such as an oil spill at sea.

In terms of infrastructure and competencies, Pégase, located in the « Provence Alpes Cote d'Azur » region in southern France, benefits from an ideal environment for the development of UAS, including several airfields willing to dedicate specific areas to high performance small size unmanned aircraft (two airfields have already reserved and presented their zone). The Istres Flight Test Centre (CEV) near Marseille is the only place in France with the required airspace and safety installations officially authorizing test flights for all types of UAS. Also, a study is being carried out to organise several zones in a hierarchy, from small segregated surfaces for the first trials of Light UAVs, to wider areas for the testing of UAS from 150 kg to 1500 kg.

To support these projects and ensure that Pégase contributes to their R&D endeavours, two major corporations, Eurocopter and Thales Alenia Space, have joined as cluster members and participate in its activities. Lastly, public research institutions, such as INRIA in Sophia Antipolis and ONERA in Salon de Provence, along with several proactive university laboratories, also contribute to Pégase's projects in scientific niches that push the development of UAS towards a promising future. The role of Pégase is to contribute to maintaining France's world rank in the field of aeronautics and is focused on the UAS sector and bringing it to scientific, technical and economical levels worthy of the pioneers who transmitted their genes to us.

For any further information on the Pégase cluster and its activities, please contact Joël Fritz : joel.fritz@pole-pegase.com or visit www.pole-pegase.com