Wanted: Space Plane Demonstrator

BY PIERRE SPARACO

In the last few months, French industry officials repeatedly stressed that the European aerospace industry's competitiveness is seriously endangered by weak research and technology funding. This negative trend could further accelerate in the wake of the unfavorable U.S. dollar/euro exchange rate.

The dollar is now valued at nearly $1.5, up from about 90 cents when the common currency was established seven years ago, deteriorating Europe's capacity for maintaining profitability and market share while competitors produce aircraft mostly in "weak" currency.

Leading companies located in the so-called Euroland, such as Airbus, after implementing wide-ranging cost-saving plans, including manufacturing outsourcing and job cuts, could be obliged to cut research funding in a broader effort to slash overall costs and maintain profitability. In doing so, they could, temporarily or definitively, fall further behind the competition.

European industry leaders believe the time has come for innovative ideas and, in the absence of new defense programs, the principle of technology demonstrators should be relaunched. This could be done quickly and relatively cheaply by being bold enough to forge an all-new research strategy.

Commercial space, for example, could help determine new opportunities. In addition to short-term business cases, space planes could lead to light, reusable launchers to complement the Ariane heavy-lift booster. Scaled Composites' SpaceShipTwo, developed for Richard Branson's Virgin Galactic, is already paving the way for suborbital space tourism. Further developments could become reality at a relatively low cost.

Even NASA's policy makers acknowledged the potential of such a new path and recently agreed to invest $500,000 in seed money for the private development of commercial spacecraft that could deliver cargo and perhaps astronauts to the International Space Station (*AW&ST* Mar. 9/26, p. 90).

MORAD CHERFI/DASSAULT AVIATION CONCEPT

Astronaute Club Europeen's envisioned space plane is based on a Dassault Aviation feasibility study.

EADS CEO Francois Auque indicates that space tourism is likely via suborbital flights but, at this point, he hasn't been able to arrange funding for a proposed program tentatively expected to require about $1 billion for development alone. No showstoppers are in sight and the envisioned 5-7-seat plane could well prefigure fast exoatmospheric travel at Mach 5 or above.

National aerospace research agencies such as France's Onera and DLR in Germany could help establish a multinational technology demonstration program while the European Commission's (EC) research arm could participate. "This is a new challenge for Europe," Francis Winisdoerffer says enthusiastically. He is promoting, with other space boosters such as French astronaut Jean-Pierre Haigneré, the Astronaute Club Europeen (ACE).

"We must take care of the new [aerospace engineer] generation by determining new challenges, setting new targets, taking risks," Winisdoerffer declares. The ACE working group is currently evaluating the merits of a Mach 3.5 lifting body-like space plane.

Technology partly comes from Europe's ill-fated Hermes space plane and follow-on studies performed by Dassault Aviation, dubbed Vehra. Gifas French aerospace industries association and major companies such as Safran and Thales are interested, Winisdoerffer adds, in an indication that ACE's plan could evolve into a technology demonstrator. Other European industrialists are considering similar projects, highlighting a urgent need for coordination.

However, no concrete initiatives are in sight. French Sen. Henri Revol is suggesting mixed public-private funding for commercial space. However, the Galileo satellite navigation system's near political collapse, recently, regrettably confirmed the European aerospace industry's heel dragging. The initial Galileo funding plan fell apart when contractors refused to take financial risks. According to the revised plan devised by European Transport Commissioner Jacques Barrot, Galileo's satellite constellation will now be fully funded by the EC.

Frankly, programs such as a "next-generation" suborbital space plane could be funded by private-public partnerships. So far, no charismatic leader has emerged. Though private-public frontiers haven't been ruled out as yet, valuable time is being lost complaining.

Times have changed since the Hermes shuttle's cancellation and a new decision window is opening right now. Ignoring this opportunity would be Europe's next error.