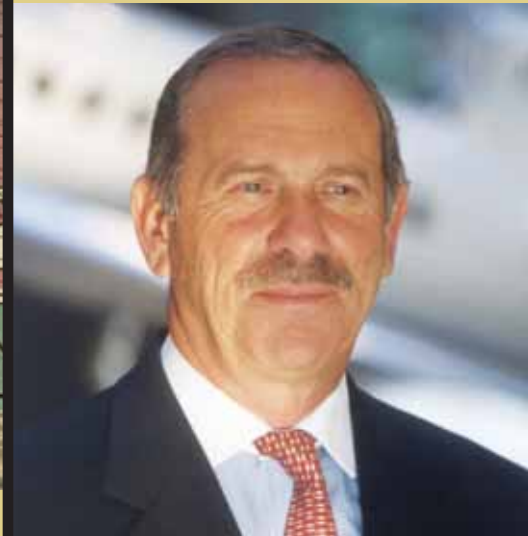


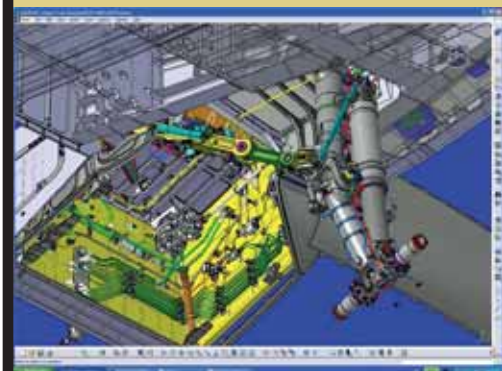
A vision of military and civilian aviation tomorrow



by **Charles Edelstenne**,
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Dassault Aviation's new Falcon 7X will become part of a family that also includes the 50EX, 2000, and 900EX.



PLM solutions will overhaul production methods and organizations.

At Dassault Aviation, we believe the quest to fly “higher, faster, and further” that moved aviation’s pioneers will continue to blaze new trails in the 21st century. As will another three-fold goal: aircraft will concurrently grow sturdier, safer, and more versatile.

Combat aircraft will have new flight-control systems and possibly vectored thrust engines—opening the door to new and drift-void flight patterns—and multi-foil wings. Combined, those new features will make combat aircraft stealthier, swifter, and more aerodynamic. The data-acquisition, transmission, and fusion technology introduced with the Rafale will blend aircraft into seamless synergy with the network of complex information and forces (meaning other aircraft, PCs, radars, satellites, intelligence, coordination and strike systems, etc.) in its environment.

Full command of the “infosphere,” in turn, will bring a quantum leap in flexibility, response time, and precision. Developments in virtual presence and remote control will allow unmanned aerial vehicles (UAVs)—or other aircraft unencumbered by dynamic-performance and endurance concerns—to take part in observation HALE (high-altitude, long-endurance), MALE (medium-altitude, long-endurance), or combat (UCAV) missions.

Transport aviation, as with several other sectors, will reap the benefits of breakthroughs in the military-aviation field. Aircraft from companies such as Dassault, Airbus, and Boeing will pollute less, make less noise, and be easier to

service and fly. They will liaise with new navigation, control, and telecommunication systems, spelling even better punctuality scores and further improvements in safety, in-flight entertainment, and work conveniences. They will also carry more payload further. But the big leap here will be speed, which is actually the only parameter that has changed little over the past 50 years. A new executive or airliner Concorde will spawn a deep-reaching metamorphosis in air transport.

Besides the technological breakthroughs, the aeronautical sector will pioneer software solutions that will actually move business companies into the digital realm and transmute production processes. Dassault Systèmes’ proprietary Product Lifecycle Management (PLM) concept will overhaul production methods and organizations. If design, production, sales, support, and configuration management take place at distinct points in time today, tomorrow they will feed each other through a single central database, interconnecting all the parties and specializations involved in a project, in real time. Even better: this “concurrent engineering” can happen remotely, over a network of virtual platforms that will radically modify the way in which manufacturers work together—and perhaps even production organizations themselves.

Ultimately, these developments should improve production quality (hence safety) and assembly operations (hence costs). Dassault Aviation treated the world to the first sneak preview of how this concept works using PLM to build its new executive Falcon 7X plane. **AE**