

The Green Falcon

As it moves to focus on the next 50 years, Dassault's core focus is to create an aircraft that will be at the cutting edge in terms of being 'green'.

That would mean three key elements:

- Make the Falcon family greener;
- More electric; and
- More digital.

The essence of this environmental odyssey, if one were to use that term, is reducing the noise footprint. The company hopes that by the benchmark year of 2025, their aircraft would be 20dB quieter than they were in 2000. In fact, a full team of engineers is working on new aero-acoustic computation techniques that have evolved over the last decade.

At the other end of the spectrum, the company is focussing on the carbon footprint — reducing fuel burn and carbon dioxide emissions. Engineers are working on extended laminar flow wings that have proven to be aerodynamically efficient. How much can they really enlarge it is the challenge. The greater the enlargement, the lesser the drag. Scores of tests on the present aircraft including the 7X has have shown their engineers

where the transition occurs between the two—laminar and non-laminar—flows. Will the company be able to get on top of the manufacturing involved in achieving this? If indeed they do, the saving on fuel (both burn and emissions) could be as much as six to nine per cent. The general assessment is that the SMS (Super Mid-Size) will have all this.

There is also an attempt to not just lower the carbon footprint in select areas, but make the whole aircraft, a 'tomorrow product' so to speak. That would mean the aircraft being green as a whole through its entire lifecycle. One area where some advances are being made is the electricals of the aircraft known as the More Electric Falcon project. The idea is to achieve efficiency between what's installed on the aircraft in terms of energy usage and what's actually consumed. This will help lower

weight and lesser consumption as well. Again it's at least a decade-plus away from ramping up to the benchmarks the company has internally set for itself.

That apart there is also Dassault's Digital Falcon for innovating in the cockpit that will prepare it for the nextgen traffic management modernisation programmes. That could well mean less pilot workload and lower operating costs.

One exciting new area will be the flush multifunction antenna developed for its Neuron UAV. It

is likely that it will find utility on the Falcon. Considering it's a military product at the moment there is really no attempt to elaborate on it.

