MAPPING NEW HORIZONS

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In today's aviation environment, significant changes are quickly making their way through the grapevine. For operators, the new aviation safety regulations require changes in culture and management, along with the conduct of maintenance, flight and ground operations.

After many years of taking a trial and error approach to operations, the time has come for the implementation of a more robust system. In light of the continuing growth of the industry, it is clear that – in order to improve on existing levels of safety - additional measures are needed.

One such measure is to further encourage individual operators and maintenance organizations to manage their processes in a structured and integrated way. This alone will allow civil aviation to achieve one of its key objectives – to move beyond mere compliance and in the direction of enhanced safety performance through best practice principles.

Authority and Operator Harmony

The functions of both the authorities and the operator are different yet complementary. As JAR-OPS states, both aim to achieve the safe conduct of air operations by working in harmony. On one hand, the authority sets and monitors the standards expected from operators. On the other, the operator complies with set standards by putting in place a sound and competent management structure (IEM OPS 1.175 1.1). JAR-OPS and, for that matter, the EU-OPS Implementing Rules on Operations currently being drafted by the European Aviation Safety Agency (EASA) are modeled along the guidelines set by ICAO Annex 6.

ICAO Annex 6 has always defined a standard for an accident prevention and flight safety program for operators. However, it was recently amended with the said accident prevention and flight safety component being replaced by a Safety Management System standard (ICAO Annex 6 Part 1, 3.2). The new standard builds on existing procedures and practices (particularly on Quality Management). It is worth noting ICAO Annex 6 does not include a quality requirement – meaning European legislation is stricter and more advanced in this respect.

In its first phase, authorities are required to implement reporting systems of their own and to define the acceptable level of safety. In the second phase, operators will start measuring their actual level of safety and compare it to the target level of safety provided by the State. But, in reality, many states are lagging in providing the industry the needed benchmarks to measure actual safety levels.

A Brief Lesson in History

At the very onset of aviation, states recognized the need for a regulatory framework for safety within the sector. In those early golden years of aviation, regulators borrowed from existing maritime legislation and applied it to the skies. In response to new developments, rules were rapidly updated.

Aviation legislation served multiple purposes. First, legislators needed to protect the public back on the ground from these new flying machines and their sometimes falling parts. Initial steps were aimed at hedging against the undesired outcome of this potentially hazardous activity known as 'flying'. Accidents were analyzed and – based on the recommendations of accident investigators – new aviation safety rules written. In this light, today's aviation legislation represents an accumulation of lessons learned from over one hundred years of flight.

Rule makers also addressed such legal issues as creating a definition for commercial aviation. After ground and sea transport, a new category was born – Commercial Air Transport. The definition of 'commercial' itself is a minefield of legal terminology. Experience shows it is nearly impossible to draw a clear line between 'private' and 'commercial' operations. As in all human endeavors, the points of view differ along the cracks created by interest and gain.

In addition, issues as to sovereignty and the cooperation of states as they pertained to aviation required resolution. This set the framework for the signing of the Chicago Convention and the subsequent establishment of ICAO. With the creation and growth of the European Union, a unified legal system has been created, which operates alongside the laws of Member States. Consequently, aviation legislation in Europe has evolved to provide common and harmonized rules for all EU countries.

DOUBLE-CHECK. *One last check might help protect the public from flying machines and their sometimes falling parts.*

What Really Matters

Today, aviation technology has become remarkably reliable, mature, and safe. But what really matters – not to harm anyone or anything – has remained the same. Although this sounds simple, it is far from so.

> The functions of both the authorities and the operator are different yet complementary… They both aim to achieve the safe conduct of air operations by working in harmony.

Aviation is a special endeavor. Flying machines take us to areas where decision-making skills, reaction time and airmanship are at their most demanding. Furthermore, increasingly intense production pressures and strict time and cost constraints create an environment that promotes an 'anything-goes' and 'plug-and-play' mentality.

Two terms are used to designate a group of activities leading to loss prevention and life and wealth conservation. Safety and Quality.

Effective Safety and Quality management remains at the forefront of methods available to organizations to make aviation even safer. This approach is a move beyond the traditional reactionary systems that try to predict areas of exposure through an assessment of residual risk areas.

OPPORTUNITY. *VLJs such as the Eclipse 500 bring new opportunities to all aviation stakeholders.*

Safety and Quality systems provide a transparent, recorded system to manage safety and achieve regulatory compliance. They deserve at least the same degree of care that would be applied to a financial management system.

Looking to the Horizon

The basic problems of aviation legislation today have not changed in essence, but in degree and structure. We observe an increased overall pressure towards a *professionalization* of all activities to cope with increases in traffic and in the overall complexity of the aviation system.

The private pilot of the old days typically flew his relatively slow and low single engine piston as airliners rushed above his head. Here, it was relatively easy to separate the various subsystems from the comprehensive aviation system. Not so much anymore as technical innovation has brought us such aircraft as very light jets (VLJ), thus creating new opportunities and challenges to all aviation stakeholders.

Other critical changes include the increasing importance of technical innovation and the vertiginous increase of complexity in operations, maintenance and air traffic management. Finally, the financial wealth and models of financial management in aviation have become more complex and demanding.

As aviation grows and becomes an even more complex system, all involved must cope by simplifying and effectively managing the various business processes and their links, ensuring the boundaries between processes are seamless. Understanding existing and future regulations is not enough as the intent of today's regulations is not to prescribe but to map the way towards new horizons in aviation safety.

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