



## **Remarks of Simon Hocquard, Deputy Director General CANSO to the CANSO Global ATM Operations Conference in Langen, Germany on 10 April 2019**

Thank you Klaus-Dieter, and many thanks to you and to DFS for hosting us here in Langen. As you have just said, this is the first time away from CANSO Madrid Week, so congratulations. I don't want to repeat what Klaus-Dieter has just said, however I fully agree with his comments on the importance of collaboration because our conference theme of 'Making seamless operations a reality' is wholly dependent on close collaboration between all stakeholders. And I too am delighted see representatives from our industry partners here today: IATA, ICAO, IFALPA, IFATCA, regulators, manufacturers, R&D bodies, solutions providers, airlines, airports, ANSPs and other friends and colleagues.

'Making seamless operations a reality' is a huge and continuing task for the ATM industry and is central to our efforts to transform global ATM performance. But what does it actually mean? Many people can describe it in different ways – for me personally I think about it as something our customers, the airspace users, "experience" when flying in our airspace. In other words, ATM's task is to ensure that airspace users can fly from point A to point B, safely, efficiently, consistently, predictably, cost effectively, using the optimal route and altitude and without delays or, in other words, seamlessly!

For the ATM system to support this it needs to be customer-focused, harmonised and resilient and, importantly, completely scalable both for growth as well as decline over short periods as well as long. When you say it out loud, it sounds simple enough but in an increasingly complex operating environment and with a growing demand for cohesive operations and integrated services, the ATM industry must find ways to remove the barriers that stand in the way of creating harmonised airspace and ATM and put in place the necessary steps towards achieving that goal.

This conference seeks to explore these issues and will identify the challenges to be addressed and examine some of the different solutions we need to put in place to achieve seamless airspace including new technologies, business models, procedures, training, regulation, mindsets or beliefs and political will.

### **Challenges to seamless airspace**

So, going back to the challenges to achieving seamless airspace: growing traffic leading to capacity constraints and delays; fragmented airspace due to restrictions, including those for military and conflict reasons; differences in ATM maturity, culture, business models, regulatory frameworks, standards, procedures, technologies, across regions and across ANSPs; and differences between flight information regions or FIRs in terms of transition levels, language and procedures.

But I always think the most significant challenge to seamless airspace is often behaviours. Whether that is political or historic belief systems, there are many different reasons why: the belief that says that I own the airspace above my territory, so I must control it; the belief that puts national airspace (or local) considerations above a more altruistic network approach; a belief that says another country can never control 'my' airspace; and the belief that sovereignty cannot be retained with cross border operations. All these belief systems (and others) are often cultural and therefore are the most difficult to change.

## **Technology**

But new technology is undermining these mindsets and all ATM's stakeholders will be forced into moving with the times. Technology helps harmonise systems, processes and traffic flows without reference to land borders or to land-based equipment. Let's look at some examples.

Digitisation of air traffic control towers is improving safety and efficiency. It enables remote control of air navigation services at aerodromes.

Automation in ATM can reduce separation minima thus safely improving capacity.

The timely exchange of information between aviation stakeholders - planes, airports and ATM - is vital and system wide information management or SWIM will enable the provision of the right information at the right time, anywhere to the user or system that needs it.

Big data will enable more efficient operations based on actual performance and greater cooperation across the aviation industry. I am fascinated by the term "big data" as it is really about the "big decisions" that be taken using such data – more strategic decisions for the greater good, over bigger areas rather than local reactive ones.

Space-based ADS-B went live last week. It enables surveillance of aircraft in oceanic and remote areas not currently covered and allows ATM safely to reduce separation distances thus improving capacity. For the airline customer it contributes to seamless airspace by optimising flight paths, routes and tracks, saving significant amounts of fuel and increasing capacity.

## **Business models**

Technologies such as space-based surveillance means that organisations do not have to necessarily invest in costly radars as part of their own national infrastructure. Services can now be bought from others rather than created by the data service users themselves. Digitisation means they do not have to invest in costly towers. Thus new technologies also have the potential to change the business models of those companies that provide air navigation services.

With the cost of entry reducing, coupled with gradual liberalisation in some markets, the traditional 'one State – one ANSP' model could be replaced by companies offering different ANS over a wider area. We are therefore perhaps likely to see non-traditional providers offering ANS 'as a service' and you only have to look at the list of CANSO Members to see how ATM is changing. From information service providers to UTM service providers to data analytics.

All this will contribute to seamless airspace as a new ATM model emerges, driven by market forces, new user requirements and new technologies, rather than top down institutional reform. For this to happen, providers of ANS need to be treated as normal businesses with the opportunities to make investment decisions, free from relying on government budgets and having to compete with government departments such as health and education, free to compete across borders and make alliances.

This requires an environment that accommodates a range of business models – from corporatised to fully privatised and recognises the need for local flexibility. One size does not fit all.

ANSPs will need to have increased flexibility to innovate, cooperate or deliver services beyond their national boundaries. And ANSPs can use virtualisation and common services to unlock more resilient ways to deliver services through industrial partnerships.

Importantly, States must recognise these trends and the potential benefits they bring to the overall ATM system. We are therefore asking them to separate regulation from the provision of air traffic services; adopt a performance-based approach to regulation; and work with other States to deliver ANS in line with the operational requirements of airspace users rather than national borders.

### **Network approach**

This last point needs a new mindset, a new approach with the ATM focus shifting from national to network. We need to operate more as a network where traffic flows feel seamless to those flying them. For example, re-sectorisation of airspace in accordance with traffic flows and on a cross-border basis will optimise traffic flows, support resilience and improve efficiency of movements.

This network approach requires collaboration across a much wider spectrum than we currently have today. Managing a network should be about the brokerage of capacity, with a focus on the network rather than any individual network player. This incorporates the idea that the optimisation of the network takes precedence over any individual ANSP's or airspace user's requirements or preferences.

This, in turn, implies a stronger part to be played by a manager of the network governance structure, and it also implies and requires neutrality of such a manager. It does not mean giving "control" over to other entities but to operate as one, rather than operating as many doing their own thing.

None of this is a real threat to sovereignty as States can delegate service provision to a third party without removing any sovereignty rights. However, we must acknowledge that sovereignty is still important, in particular to our military colleagues, and indeed we need to ensure that their requirements are always considered – none of this prevents that.

Planning decisions must be taken holistically rather than in national silos – ATM really is a team game rather than an individual sport. Those that know me have often heard me say that great things are rarely achieved by one individual, and truly memorable things are often achieved by working with others. This should be no different for ATM.

## **Collaboration / procedures**

As already mentioned, Klaus-Dieter talked about partnership and collaboration. We all know that we cannot achieve seamless airspace by ourselves. Industry partners, international organisations, regulators and States have important roles. They can help harmonise standards, regulations and procedures.

We have already discussed how efficient cross-border service provision can be enabled by States adopting a network approach rather than focusing just on national interests. And collaborative decision-making (CDM) and air traffic flow management (ATFM) are key to smooth and seamless flow and improving capacity. Operationally, collaboration is required over a wider spectrum than is the case today.

## **People and training**

Finally, turning to our most important asset – our people. I was recently at the IATA Safety and Flight Ops Conference in Barcelona and there I was given a quote (which I used) that said “As long as there is a person in the cockpit, there will need to be a person on the ground keeping an eye on them”. Which I think is very true, albeit I do not know for how much longer.

New technologies are not only transforming air traffic management performance but also changing the role of air traffic control staff and the different skills they require now and in the future.

With big changes on the horizon so we must make sure they are well prepared and trained. Automation, digitisation and other new technologies require new skills. New entrants to airspace such as drones require a new approach. Capacity constraints and cross border cooperation to address them requires greater flexibility.

A high level of performance from humans in the system has never been so important. Therefore, CANSO and its Members have developed new metrics for human performance and new innovative training and skills programmes. We recently launched the CANSO *Standard of Excellence in Human Performance Management* to help ANSPs to manage these changes and to improve human performance.

We must also look to the future skills pipeline, as by the mid-2030s, the aviation sector is forecast to need a further 620,000 pilots and 125,000 air traffic controllers. Yet this is one of our greatest challenges – who do we recruit for 15-20 years’ time? We are great at recruiting for what we need today but not so good for tomorrow – why, because we don’t fully know what tomorrow will look like. Are we slowing down the speed of change through how we recruit? We are working closely with the ICAO Next Generation of Aviation Professionals (NGAP) programme, promoting initiatives to inspire the next generation of science, technology, engineering and mathematics (STEM) professionals looking at this particular subject.

In short, people are our most important asset and we must carefully consider the requirements and demand for this fundamental resource in the future. This requires changes in training regulations,

systems versus geography, and change management all being addressed. For all this to work, it is vital fully to involve staff, employee organisations and unions.

## **Conclusion**

In conclusion, seamless airspace is a user experience or goal that will be tough to achieve but after safety it is the top priority of airspace users. We must therefore strive towards this goal. Right now, we have the best ever opportunity to achieving it thanks to new technologies, greater collaboration over wider areas, and new providers disrupting the traditional way of doing things and forcing us all to think differently.

But we need to put the building blocks in place: changing the mindset from a national to a network approach; allowing ANSPs to act as normal businesses; and providing flexibility for technologies as well as ANS staff to provide services across borders.

It is appropriate that this year's conference is taking place here in the operational headquarters of our host, DFS. This headquarters is a hub of innovative excellence and is an exemplar of many of the things I have talked about today. I would therefore like to thank DFS as well as our sponsors, Indra Sistemas, Aireon and Thales for supporting the event and I wish you a successful conference, thank you.