

A BRIDGE TO THE FUTURE

With 150 out of 345 of its projects completed, Nicolas Warinsko, general manager of the SESAR Deployment Manager addresses how the organisation will evolve to meet the challenges of the next decade post Covid-19



The modern European Air Traffic Management sector is built on collaboration. The Single European Sky (SES) initiative has been the foundation of that collaboration since 2004. It was created initially with the aim of harmonising European airspaces towards higher safety and capacity and lower environmental impact.

The Single European Sky ATM Research (SESAR) project was created at the same time as the technological pillar of the SES policy. It comprised three phases: definition, development, deployment. In 2007, the successful completion of the definition phase translated into the first European ATM Master Plan, SESAR's overarching reference, which has been the foundation for establishing the SESAR Joint Undertaking (SJU), a unique Public-Private-Partnership (PPP) which aim is to develop the technologies and operational procedures for the modernisation of the ATM system. Eventually SESAR would need to fulfil an expanded remit of Single European Sky aims, primarily ways of improving the performance and environmental sustainability of air travel.

Policy and technology

The SESAR Deployment Manager (SDM) was launched in 2014 to introduce into the European ATM system the SESAR solutions developed by the SJU. The SDM is the pragmatic realisation of a political undertaking on a large scale. The level of collaboration required to achieve this is rarely found at an international level.

Implementing these complex ATM modernisation projects requires a group of technically proficient project management specialists and a patient and mature approach from both politicians and industry.

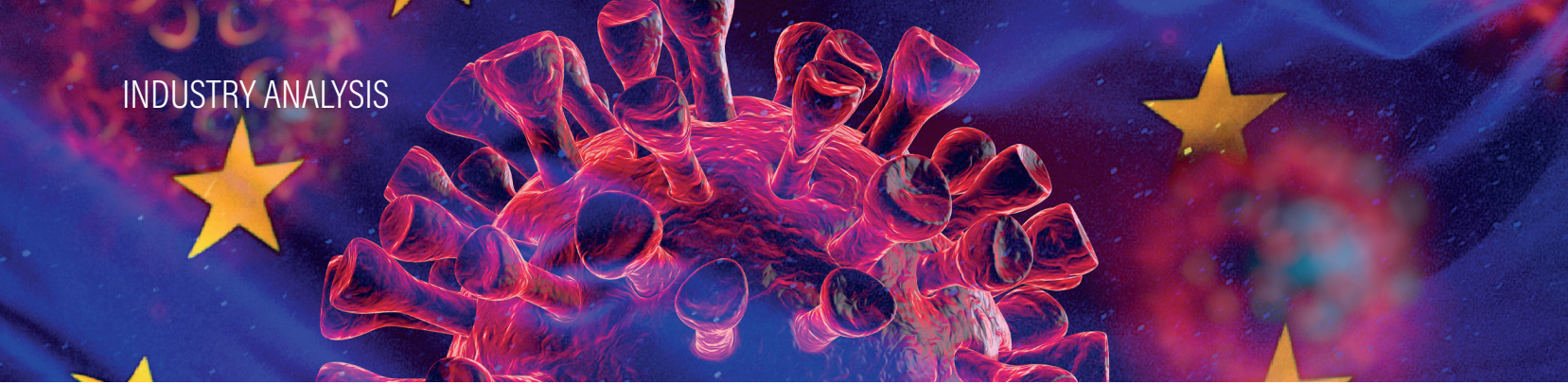
The person in charge of timely coordinating the deployment of SESAR's projects is Nicolas Warinsko. He has held the position for two and a half years and has worked in SDM since 2014, initially as Director Technical and Operations. Before he worked for A4 airlines, supporting them into their engagement with Air Navigation Service Providers and Airports Operators to prepare for the SDM. Prior to that he worked, already on SESAR, with European Commission's DG MOVE as a National Detached Expert.

In the 2000's Warinsko was with France's air navigation service provider (ANSP), the Direction des Services de la navigation aérienne, where he was the head of the ATM division. He has experience of developing both technology and policy, which has helped him in his role as general manager of the SESAR Deployment Alliance (SDA), the organization which has been selected by the European Commission (EC) to perform the SDM function. "We have delivered a lot in five years and demonstrated the sustainability of our model – one where industry has been given the driving seat for what is usually an institutional role. I think this will be a big part of our contribution to the ongoing journey of ATM modernisation in Europe," he says.

The SDA is an international association under Belgian law. Its members are all industry, leading European ANSPs (13), airlines (5) and airports (24, through the SESAR Deployment Airport Grouping, a European Economic Interest Grouping). It is co-funded by the EC and by industry. It operates under the EC's oversight. Warinsko argues that only the ATM industry possesses the know-how, investment capacity and self-interest into better ATM performance needed to make SESAR's deployment a success.

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Nicolas Warinsko, general manager of the SESAR Deployment Manager



“When the ATM industry has a common goal, it is mature enough to organise itself and manage an institutional role such as SDM on its own,” says Warinsko. “We operate under EC’s oversight. We have constant dialogue with all other organisations and bodies involved in deployment. We are at the crossroads between industry and the relevant institutions. We have to speak a technical language and a political language.”

Interpreting the role

The SDM’s core business is to implement the Pilot Common Project (PCP), a 2014 EC regulation that prescribes the most essential changes to the European ATM system to be made by SESAR. It is not written in a way that is easy for industry to interpret into deployment projects. Warinsko sees one of SDA’s key added value as “translating” the PCP so industry knows what to do, where and when. “We are a bridge between industry and policymakers towards modernising ATM,” he says.

Until now, the PCP implementation consists of 345 projects covering about 75% of the overall PCP. Some 150 projects have already been completed, representing about 25% of the PCP, and delivering daily operational benefits. The 195 “on-going and on track” will be completed by 2023, subject to final and full assessment of the COVID-19 crisis’ impact on them. The remaining 25% of the PCP will be deployed between now and 2026. “We have a high rate of completion and the ongoing execution far ahead of the EC deadlines,” says Warinsko.

“We are a super-project manager on a unprecedented scale in ATM. We do not implement anything ourselves but get everyone working together, to harmonize best practices, monitor and support. Here we are a different kind of bridge – one between implementing partners.”

Behind the 345 projects there are close to 100 SESAR beneficiaries in 32 countries including 27 EU Member States, made up of ANSPs, airlines, airports and operators. As well as the network manager, Eurocontrol,

the meteorological service providers and the military are also involved. “There are no equivalent industrial partnerships in the EU,” says Warinsko.

Digitisation benefits

Warinsko believes that one of the most important achievements of the SDM so far has been digitizing the European sky – providing a data link between the aircraft and the ground. “This is the gateway to most of the SESAR concepts,” he says. “In 2014, when the PCP was adopted, it was assumed that the digitisation of the datalink was soon to be achieved. But it wasn’t. In less than two years, working hard with ANSPs and Communication Service Providers, supported by EU co-funding, we upgraded the ground VHF datalink stations as required to make SESAR possible again.”

If all of the PCP is completed by end 2027, with time saved and benefits to the environment, the SDM estimates that there are around €16 to €18 billion worth of cumulated benefits until 2030. Note that these figures take into account the COVID-19 impact on traffic and are based on a traffic recovery within 3 to 5 years, the most commonly agreed assumption within the aviation industry at this stage. In total, the PCP costs less than 5 billion to implement, making the benefits triple the investment.

They also account for the Common Project 1 (CP1) going ahead. CP1 is the successor common project to the PCP. “Indeed, after 6 years and a lot of experience accumulated by EC, SDM and industry on SESAR Deployment, this is the time to draw lessons and revisit the concept of common project, contents and process wise. That’s also why the “P” of PCP which stood for Pilot will be dropped at this occasion.”

If adopted CP1 is expected to run from 2021 to 2027. “I may not be fully objective but I strongly believe that SDA is successful in the SDM role and, as far as I can hear from the ATM community, this is widely acknowledged. In particular, all what has been ready for implementation during the past 6 years has been timely pushed into the implementation and, in many case, completed, switched operational and is now returning daily benefits. The remaining 25% of the PCP that will move into the CP1



COULD DRONES RESHAPE ATM?

While the political and industrial landscape evolves, technology does not standstill, and Nicholas Warinsko, as general manager of the SESAR Deployment Manager believes during the next decade the integration of drones and the services they deliver will force change in the ATM industry.

“It’s a call for the current ATM world to influence the business and find a way to evolve faster and overcome bottlenecks and showstoppers,” he says. “The drone sector has such a huge potential. It will bring new technologies, practices and players. I’m very curious to see how the different aspects will all mix together and create additional benefits to the EU.

“The industry’s innovation potential is not worrying, but the lifecycle of modernisation – the time it takes to move something from R&D to being operational – is increasing,” he says. “We need to keep looking towards the future, even now. We need to stop thinking that ATM is a separated world forever and that nothing will change with no challenger from outside.”

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mostly map what is not yet mature for implementation, therefore simply cannot be implemented. That’s why I welcome in the CP1 proposal the new notion of industrialisation target date, an intermediate indicative deadline that protects the minimum buffer time required to get things implemented, once mature for implementation.” CP1 therefore covers ATM areas such System Wide Information Management (SWIM) and 4D Trajectory where space-based technology, artificial intelligence, further digitalisation and full network orientation will be growing enablers. “CP1 has the capacity to act at the technological enabler for the Airspace Architecture Study and pave the way to the seamless European digital sky,” he says. “We will strongly harmonise practices in every airspace, so for pilots flying across borders will be seamless.

“When everyone operates the same way – the pilot can lose the perception of borders.”

Transition

Warinsko believes achieving such a seamless European airspace is possible. The SDM’s 345 projects represents €2.9 billion of investment, out of which €1.6 billion is from the ATM industry and €1.3 billion is funded by taxpayers. He says, “The SDM is the sole pipeline for that €1.3 billion, vital to ATM industry, even more in the post-COVID-19 crisis environment. For a temporary body like the SDA, to manage so large amounts of public money requires robust processes to ensure fair treatment to all the implementing partners and provide the required transparency. That’s also why SDA, its members or the association itself, are under constant audits.”

As for the PCP, the turn into the new decade as well as the upcoming change from CEF 1 to CEF 2 where CEF stands for “Connecting Europe Facility”, the name of the EU programme through which SESAR deployment is funded, raises the need to revisit the roles of SDM and coordinator of the framework partnership. In particular, the future SDM could take the form of a closer partnership between industry, Eurocontrol and the Network Manager, creating a stronger SESAR Deployment and Infrastructure Manager. But Warinsko has

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shortly after the SDM was set up.

According to Warinsko, differences in approach and technologies exist because SESAR and NextGen are tailored to the needs of their specific regions. “We cooperate with the FAA. Combined together they have been strong enough to drive ICAO and ATM worldwide towards modernisation,” he says. “There is a good spirit of coordination and we learn from each other. In particular, in the deployment of things such as ADS-B”

Areas of cooperation include harmonising data to maximise the benefits for airlines who fly in the USA and Europe, ADS-B, the DLS and arrival management and time-based operation.

While the SESAR DM evolves to fulfil its mission of modernising European ATM, the FAA’s NextGen program in the USA has also been upgrading its ATM system. Coordination between the two programs has been close from day 1, says Warinsko (right). It started with R&D and continued with deployment. The first mission from the SESAR DM to Washington was conducted in July 2015,



provisions. He wants to value the experience industry has gained being the SDM over the last six years. A lot of the SDM’s technical and operational resources are drawn from its industrial membership – including ATCOs and pilots who join the SDM on a part-time basis. This helps the organisation keep an industrial and operational perspective. “This industry led SDM was designed not to spin-off into another Brussels body, detached from the everyday realities of the industry,” says Warinsko. “Migrating to a new industry-Eurocontrol partnership could make sense and add further value. But we have to envisage the transition, while keeping the current €3 billion business running”

Covid-19

The effect of the Covid-19 pandemic on aviation and the ATM industry has been pronounced. The initial dramatic decline in air traffic has been followed by a slow recovery, but for the most part the aviation sector has been on pause. The initial concern was that Covid-19 would alter the focus of deployment stakeholders and perhaps even cause some to reconsider investments or partnerships.

The SDM responded by conducting a survey of its implementing partners, the results of which informed the development of a recovery plan. This portfolio of viable solutions is designed to mitigate this unparalleled crisis which practically

paralyzed the entire aviation sector. At the core of the plan is the fulfilling of the need to give EU aviation stakeholders more room for maneuver while they are faced with an almost total collapse of air traffic, connectivity and revenues.

Measures in the recovery plan include reducing the administrative tasks that have to be completed for each of the projects which will provide the stakeholders more time to focus on the core of their projects. The actions to which the projects belong will also be prolonged by 1 to 2 years, which will have a positive effect on the investment capacity for deployment. Extending most of the deadlines for implementation projects will provide more time for all impacted stakeholders to finalize the full implementation of their projects and contribute to a more resilient ATM in Europe. A reduced project monitoring gate is also being established to support stakeholders dealing with reduced availability of staff to execute the monitoring of their projects.

Warinsko says, “We may never get back to where we were before this crisis. We have taken action to be side-by-side with our partners to explore what they need from us regarding the implementation.

“We need to continue the journey of modernising the European ATM system after this pandemic. SDM can help boost and support the aviation industry.” ❖