

# THE SWISS ATM FUTURE SKYGUIDE HAS CHOSEN THE PATH OF INNOVATION

ALEX BRISTOL  
CEO

KLAUS MEIER  
CIO

Alex Bristol, the former Chief Operations Officer at skyguide, has taken over his new position as CEO on the 1 July 2017 in the midst of a period of profound changes. These will have a deep and lasting impact on the company and its staff members in terms of technology as well as organization and operations. Alex Bristol and skyguide's CIO Klaus Meier, who are driving the change, admit that the "new technology we are deploying now is not world breaking, but it is world breaking in our field."



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**SKYGUIDE** Alex Bristol and Klaus Meier, could you please elucidate your vision of the role and state of skyguide in 20 years from now?

**ALEX BRISTOL** I see a company that has earned the right to continue to exist. In the last years, we have driven forward innovation, we have managed to create a service-oriented system and we are implementing innovative technology. Our employees have taken that on board and have delivered the change. Furthermore, we are in close contact with partners in Europe, with other ANSPs (air navigation service providers), with aviation's stakeholders, with the European Commission and so on. And our lean organization enables us to maximize the ability to innovate, to be quicker, and to move faster.

**KLAUS MEIER** We are moving away from a national, terrestrial ground based environment. In the future we will focus more on managing the airspace, while we will get data and services from providers perhaps outside of skyguide.

**The technology currently used by skyguide (and other ANSP) should embark the digitalization transformation. Some of your staff even talk about an "obsolete network". Is the current pace of progress in replacing the existing systems fast enough? Is skyguide too early or does your company run the risk of being overtaken by others?**

**KM** This is always the question – is our timing right? I think it is. The existing systems arrive at the end of their life cycle, and we have to decide where we want to invest. The ATM technology available on the market is based on a classical computer architecture from the 60s. So we decided to look for more modern technology which is used in other markets, and apply this technology to ATM. It is possible that we are early in changing this paradigm. But there is no alternative. In ATM we are still in the signal processing times. What we are trying to do with the Virtual Centre (VC) is to move into a flexible, service-oriented approach which is information centric.



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**VC Tranche 2 will bring profound changes to the entire organization. Resistance can come from all parts of the company. Employees might be afraid to lose their jobs, too. How do you support and drive the transformation of your company?**

**KM** We will replace the two existing systems with one: one system in Switzerland for two area control centre locations. Our layered, service-oriented approach with its new methodology will be a big challenge. But if we communicate these changes coherently and convincingly, people will realize that there are advantages in working differently, e.g. in a more agile way and that, consequently, we will be more successful. You have those who embrace the changes, those who oppose and those who wait and see. With those who wait and see, we have to convince that the future will be exciting if they accept the changes.

**AB** A lot of engineers feel threatened as well. Some have been using software code initially developed 20 years ago. We have to show them that we can create a future for them. This requires a coherent and clear vision and a significant amount of leadership, and we have to communicate it very well. The change has to be driven by that middle management.

**Why implement the changes in tranches rather than in one big bang?**

**AB** The whole thing is far too big to be implemented and explained in one single step. If you run a 10 year planning project and then it fails, it is an enormous risk which even could threaten the very existence of a company. Shorter cycles de-risk planning: when you make a mistake, you can correct it quickly. But we not only break the process down into tranches – we have created cross functional teams as well which at the same time improve our corporate culture. In this context, it is very important to celebrate the successes after each step.

**How does skyguide set up new collaboration business models in-house as well as with external partners like Tata Consultancy Services?**

**KM** The question was: do we have enough horsepower to bring in the new technology? We have enough ATM knowledge. What we lack is insight into new technologies. Therefore we look for external partners. We do not want to reinvent the wheel alone should others have solutions we could use.

**AB** Skyguide has chosen the path of innovation. For the sake of its safe and efficient implementation, we are moving away from doing everything ourselves. But we ask ourselves the question: which are the strategic fields we want to keep controlling ourselves? The human-machine interface for example is crucial, and we want to keep it in-house.

**VC Tranche 2 will deliver your “one-sky-by-one-system” and replace the two different legacy systems in Geneva and Zurich with a new one based on a service-oriented architecture. But it only concerns the upper sectors of the Swiss airspace. Will the Virtual Centre be viable at all if not extended to all sectors?**

**AB** The upper levels of the airspace are simpler and easier to manage, and that is exactly the reason why we started with them. The further down you go, the more conflicts you encounter. Our enterprise and information architects are now concerned with the question of how to go further down and integrate these lower layers. We will solve this by working out the architecture around the two big airports in Switzerland (ZRH and GVA) and then integrate the others. And we will be amongst the very first in this area. And why? Because we have to; it is a crucial question of our future and the survival of skyguide. ■