AIM in the Cloud

Introducing a new breed of software for AIM professionals worldwide: AIM-as-a-Service. It runs on the Internet to let AIM specialists focus on their operations and forget about all the complexity of running and maintaining AIM software on-site. All that for a lower Total Cost of Ownership.

What's the typical job description of an **AIM Specialist?** Does it include "patch the software with the latest security fix", "replace hard disks with SSDs", or "design a website"? Of course not. AIM Specialists would rather focus on collecting aeronautical information and verifying its quality before publishing it. Yet, many AIS departments around the world need to spend a lot of their limited resources in maintaining their software tools, and the hardware and network infrastructure to run them.

No AIS left behind, really?

The famous ICAO slogan "No country left behind" is more of a wish than a fact, especially for AIS. An informal research conducted by Nilacandi in 2020 found that **1 out of 2 AIS barely started** their journey from AIS to AIM, while **1 out of 3 AIS were totally "left behind"**. Only 10% of AIS organisations worldwide had made substantial progress on their AIM implementation.

We also found that most AIS do not have any website where to publish aeronautical information (whether for free or on a subscription basis). Among existing AIS websites, many contained **broken links**, were **too slow**, or were simply not responding. Clearly, many AIS departments around the world struggle to keep up with technological progress, struggle to hire and keep skilled IT personnel and struggle to set-up and maintain their Web services.

AIM implementation level worldwide
% of AIS departments or other AIS organisations, May 2020

Completed 1.0%
Advanced 8.1%
Unknown 1.9%
Left behind 35.7%
Barely started 53.3%

Why is it so difficult?

Heads of AIS departments are faced daily with numerous operational issues. They naturally seek help from software products, only to be met with more problems, just of a different kind: financial, technical and skills-related.

Financial: a complete AIM system including an AIXM 5 database with eAIP, NOTAM, PIB, FPL, charting, procedure design and data providers management typically costs 2 to 4 million euros (2.5 to 5 million US dollars) for commissioning, then several hundred thousands per year for maintenance. This does not include internal costs for hosting and maintaining the equipment.

Technical: these software products are complex, provided by different companies with imperfect integration and need regular updates. They run on high-class hardware and network equipment that require a high-class server room fully equipped with redundant power supply, air-conditioning, automatic fire suppression and whatnot. Many AIM departments don't even have the space for that, let alone the 32 amps power line. Furthermore, it becomes difficult to find spare parts after a few years.
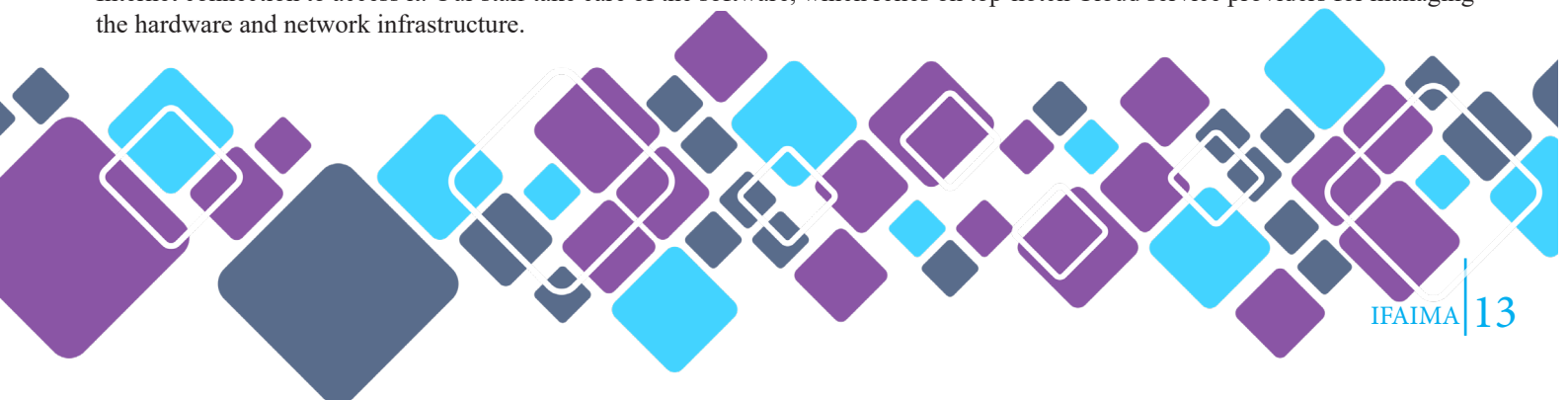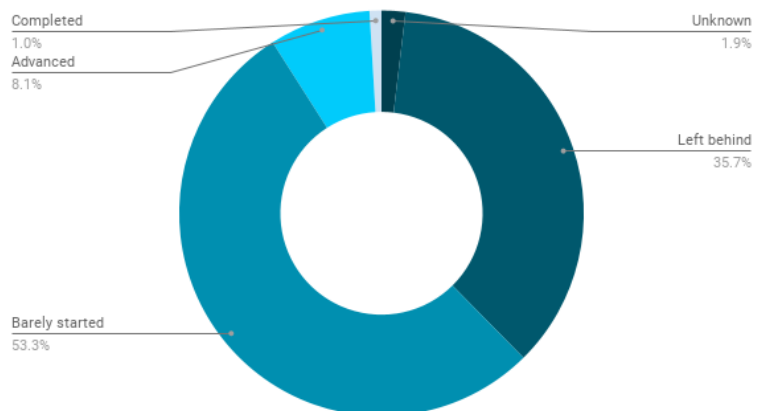
Skills: these systems need highly-skilled IT staff for maintenance, trouble-shooting, installing upgrades and communicating with software companies. Once trained, such personnel tend to find better skies elsewhere, and the search for skilled people starts over.

In 2021, there is a better solution

Simply put, not all AIS around the world can afford and maintain on-premise AIM systems, or justify it. **Nilacandi offers an alternative** to Chiefs of AIS who want to outsource the technicalities so that their team can focus on AIM operations: Facilis.aero is AIM-as-a-Service, a modern AIM software suite running on the Internet or "in the Cloud". Users just need a Web browser and an Internet connection to access it. Our staff take care of the software, which relies on top-notch Cloud service providers for managing the hardware and network infrastructure.
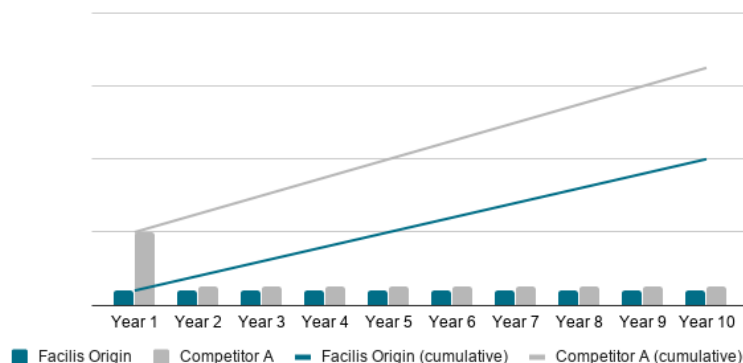
Facilis.aero includes 3 modules as of April 2022: Facilis Origin, an **AIM data management** service for collecting aeronautical information from AIS Data Providers and for managing this information through a quality assessment and validation workflow.

Facilis Cataloge, an **AIM Data Governance tool** to maintain a data catalogue, define data quality rules, and enforce secure access to the data.

Facilis **AIM Portal**, the public side of AIS, serving AIP and other documents, electronic charts, and PANS-AIM data sets to Data Users.
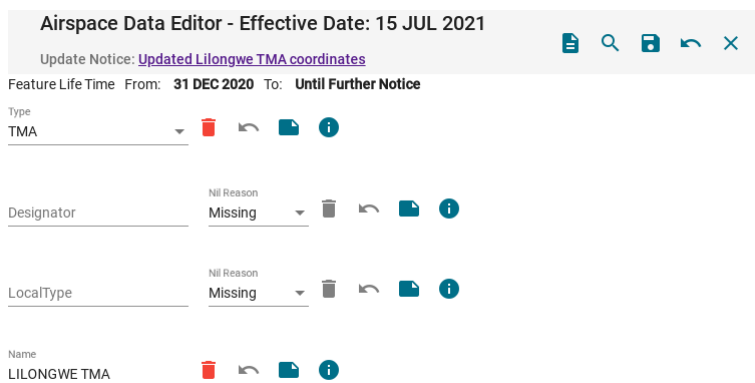
Total Cost of Ownership (TCO) Comparison

Facilis Origin's TCO is better from the start, and is improving over time

■ Facilis Origin   ■ Competitor A   — Facilis Origin (cumulative)   — Competitor A (cumulative)

Why AIM on the Cloud?

Financially easier: AIM-as-a-Service is rented per month or per year. There is no heavy initial budget to obtain from management, and no investment. The Total Cost of Ownership (TCO) is also lower than a typical AIM solution, because expensive resources such as IT experts, hardware and network are mutualised.

Operationally easier: as a Cloud service, Facilis.aero is commissioned within a few minutes. AIS Data Providers can begin to input aeronautical information immediately without specialised training, as the interface only shows them the data they are allowed to modify. Change requests are then managed by AIS staff until the data is ready to be published as datasets, as electronic charts or AIP and other documents.

With Facilis.aero, the transition to AIM is not reserved for wealthy States any more. No AIS left behind!

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Benoit Maisonny has 20 years of experience in aeronautical information and a background in computer science. He developed the eAIP Specification for EUROCONTROL and the 1st collaborative AIP production system based on AIXM data. He founded Nilacandi in 2014 to assist AIS around the world in their digital transformation to AIM.