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Airspace: A New Sovereignty Issue

In a context of increased strategic tensions and strong traffic growth, the management of civil and military airspace has become a true sovereignty issue.

Faced with this new complexity, and with resources constrained, TELERAD's response is called Convergence®. A true ecosystem, modular and fully scalable, based on more than 60 years of R&D and the use of TELERAD equipment day and night in the most extreme conditions around the world, which you will discover in detail in this issue.

And to discuss the modernization of air traffic management, who better guest than Johan Decuyper, CEO of Skeyes, the organization responsible for the safety and efficiency of air traffic in one of the densest and most complex airspaces on the European continent?

Patrice Mariotte
CEO of TELERAD

Three questions to...

Johan Decuyper

Chief Executive Officer of Skeyes



Could you tell us about Skeyes and its main missions?

Skeyes is the Belgian air navigation service provider. Its mission is clear: to guarantee safe, smooth, and efficient management of Belgian airspace, one of the densest in Europe. Every day, its air traffic controllers monitor approximately one thousand aircraft movements, whether international overflights or flights departing from and arriving at airports such as Brussels National, Charleroi, Liège, Ostend, and Antwerp.

At the heart of its operations is Air Traffic Management (ATM), which encompasses all the systems, processes, and services that ensure safe and orderly air traffic. Air Traffic Services (ATS)—air traffic control, flight information services, and alerting services—form the operational pillar of this mission. Stable, continuous, and crystal-clear radio communication between pilot and controller is essential: it represents the invisible backbone of every flight.

What challenges is Skeyes currently facing in the framework of air navigation?

With over 1,000 employees, Skeyes has experienced significant growth in recent years. This growth reflects the increasing complexity of air traffic and the constant drive to improve service quality. Our organization is among the most punctual providers in Europe, while maintaining a high level of safety. The «Just Culture» principle plays a central role: it encourages transparent incident reporting to foster collective learning and continuous improvement.

However, numerous challenges remain. The gradual growth of air traffic is increasing operational pressure. Environmental requirements necessitate the continuous optimization of flight paths to reduce fuel consumption and CO₂ emissions. The integration of drones into airspace also represents a major challenge, requiring new technological and regulatory solutions. In addition to this, there is the increasing digitalization of systems, which implies sustained investments in modernization and cybersecurity. A new generation of air navigation systems is also under development, with implementation planned from 2028.

How will digital towers contribute to the evolution of air traffic control?

Digital control towers perfectly illustrate this dynamic of innovation. Thanks to high-definition cameras, advanced sensors, and panoramic displays, controllers can manage traffic remotely with an enhanced and detailed view of the airport environment. Zoom functions, real-time data integration, and decision-support tools strengthen situational awareness. Digital towers offer greater flexibility, ensure better operational continuity, and allow for optimized resource utilization, without ever compromising safety.

By combining human expertise, robust infrastructure and continuous technological innovation, skeyes confirms its role as a key player in a safe, efficient and resolutely future-oriented Belgian airspace.

With products and systems deployed in over eighty countries, TELERAD specializes in the design, development, and manufacturing of radio systems for aerial and maritime navigation control. As a unique player in this field, TELERAD is a key contributor to the French and European defense, industrial, and technological base.

Convergence®: when critical ATC communications, reliability and interoperability are essential

With the introduction of the Convergence® range, TELERAD is taking a new step by bringing together key communication capabilities within a unified and revolutionary ecosystem.

Within this framework, the 3G radio series acts as the cornerstone. Designed with outstanding radiofrequency performance, enhanced computing capabilities and a compact form factor, it is built to integrate seamlessly with existing aeronautical and maritime communication systems. This approach reflects a broader vision, structured around a long-term and forward-looking roadmap, aimed at supporting the evolution

of aeronautical communication systems. In a world of increasing connectivity demand, particular attention is given to cybersecurity which constitutes a major challenge for critical communication systems (including EN18031). Furthermore, the 3G Radio Series offer full interoperability with new ED-137 VoIP VCS and Recorder, and legacy analog systems.

Through Convergence®, TELERAD lays the foundations for a modular and scalable



ecosystem, where different functions can operate together in a consistent and efficient way.

In the Land of Julius Nyerere: Tactical Solutions in Tanzania



TELERAD tactical solutions based on the TRX9020-2G VUHF VoIP transceiver and the portable antenna system used by the French armed forces have been selected by the Tanzanian Ministry of Defence to meet their needs for improved VHF and UHF air coverage in the Dar es Salaam region and for ad hoc border missions.

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Digital Control Tower

Every airport has at least one control tower, which, due to its architectural features (great height, slender shape), often becomes the airport's defining symbol. At the top of this building is the control room, which serves as the control booth for air traffic controllers. This space, equipped with tinted and angled windows, offers an unobstructed view of all the runways and allows controllers to manage aircraft during their ground movements, landings, and takeoffs, using «conventional» means such as radios, radar screens, or binoculars.

This on-site controller solution can be complemented by digital control towers that benefit from technological advancements enabling remote air traffic control (sometimes hundreds of kilometers away) thanks to:

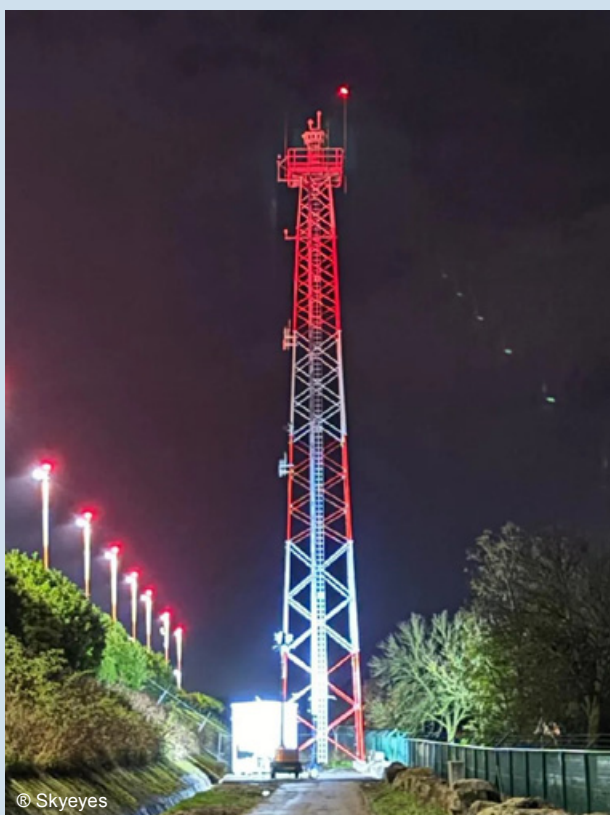
- Remotely managed PTZ cameras (Pan, Tilt, Zoom ultra-high definition) providing enhanced visibility
- High-resolution screens that improve visibility: infrared vision for low-visibility conditions, adaptive screens for weather conditions (rain, snow)
- Augmented images that overlay data layers onto the images displayed on the controller's screen, including information such as flight data and weather (wind speed, temperature)
- Sensors and data stream monitoring

- Support tools that can be based on AI, drone detection, and more.

The proper functioning of the complete system requires securing on-site installations (power backup, for example) as well as the networks between remote sites and the digital tower (encrypted and multiple fiber optic links), and implementing contingency procedures based on more traditional systems such as radios or radars.

The digital control tower solution can be implemented to manage:

- Human resource availability issues for small airfields (possibility of emergency landings outside of operating hours)
- The pooling of human resources across geographical areas
- Crisis situations or military operations with the deployment of temporary solutions
- Complementary solutions to existing control towers for large airports, where this hybrid model, combining human presence and technological advancements, is implemented. A future-proof solution for air traffic control operations, digital towers require reliance on reliable, standardized, and redundant resources with a proven track record in this field, such as the ATC TELERAD solutions used for Skyees' new digital tower in Namur, Belgium.



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