



OCem Airfield

**The Connected Airport**



**Reliability. Guaranteed. On time.**

# THE CONNECTED AIRPORT

CREATING A UNIQUE AND UNIFIED  
VIEW OF AIRPORT OPERATIONS



One of the most critical aspects for an airport is guaranteeing the safety of its passengers.

The airport is a rare ecosystem where so many players need to work closely together to deliver an on -time experience in the safest manner possible. From the moment a plane lands, the pilot needs to understand where s/he will park and follow the shortest and safest route to the unoccupied gate. Ground handlers need to be on standby so that passengers can disembark fast. Catering, cleaning, fueling and baggage handling contractors/employees must do their job within the given time frame so that the plane can be prepared for its next flight.

A complex mix of actions, but if done well, every person working at the airport and the passengers stand to benefit substantially. However, achieving synergy in operations is often easier said than done. Each stakeholder is often locked in his/her own silo with individual objectives and KPIs - from the Air Traffic Controller (ATC) whose main responsibility is towards Civil Aviation authorities, the ground handler who has an agreement with the airport management, to the airline, each one tends to function independently.

This is where - as in every ecosystem - a common set of goals should be in place to have a clear impact on safety, security, seamless processes and passenger experience. When all stakeholders are united around one vision only then can things change and overriding KPIs be delivered.

## The significance of the airfield in creating one unique view

OCEM Airfield is working on creating the connected airport where all IT and operational processes and systems are interconnected to enable one unique view. For OCEM it's clear that the airfield takes center stage in this approach. Once the plane has landed - the time from disembarkment till it departs again is the biggest potential for efficiency gains. The airfield is critical as it can contribute significantly to decrease the duration a plane takes to travel to the gate. By taking the shortest route while being supported by full visual guidance, human errors can be diminished if not eliminated.



Since the airfield needs to go through routine refurbishment and maintenance work, there are times it is inaccessible. We see a clear role for a system that indicates the availability of runways, taxiways and aprons at any time of the day in real time and up to one week ahead of time.

In a connected airport set up, all Airfield Ground Lighting is automated, where lights and systems proactively indicate what maintenance is needed so that operational downtime is limited. Maintenance schedules are integrated so traffic controllers have a good view at all times on when and which runways and taxiways are available. With the integration of apron management systems this view can be extended to cover all apron operations at the airport.

## Open protocols will lead the way to an integrated view

For the connected airport to work, the ATC and airport management need to be able to rely upon data that is shared via standardized interfaces and that can be viewed in fully integrated systems. This will provide the full and unique view of all airport operations elements. All stakeholders will thus have a singular view compared to multiple views where the system even indicates what actions should take place without overruling the positions of key airport operational staff. Interfaces that work in an “open structure” where all data can be interpreted by the key system(s) are key to the success of the overall connectivity approach. In many domains each vendor works with its own protocols to fence off competitors but this cannot work in such a complex environment as the airport. If every vendor decides to set up an independent system with its own protocols, we are far off from a unified view of the airport’s key functionalities and silos will remain silos for some time to come.

In a lot of cases A-CDM is seen as the answer to a lot of the challenges airports and airlines face. A-CDM defines the key processes at an airport, helping to derive KPIs that can be defined and used in the airport cockpit to understand the airport's performance.

While A-CDM is a key aspect in the performance management of an airport and its approach and combination of data supports overall connectivity, A-CDM in itself doesn't bring us the full connectivity needed to become a real time management tool for all key stakeholders.



## So where does the overall responsibility lie?

It's clear that the pilot of an airplane should at any point in time be in contact with the ATC whose job it is to guide the plane safely to the gate after landing and ensure it departs safely thereafter.

It is then normal that the ATC has the full situational awareness of the airfield, the apron and access to all the tools to make sure that the other key players that need to be ready from the moment the plane is in sight are timely informed. Only when a clear owner of the full process is defined can we make the end-to-end connected airport a reality.

This doesn't mean that the ATC needs to manage the entire airport; in some airports you have apron managers whose role it is to work together alongside the ATC. The idea however is to have a central function where all roles are bundled in one set up, not necessarily one person but at least in one unique view that all the key stakeholders have access to.

The Airfield Ground Lighting Control and Monitoring System (ALCMS) that integrates all key operational elements of the airport is capable of providing this one unique view. Here is a tool that can take data from the A-SMGCS or the ground movement control and guidance system (that collects data from radar systems installed around the airport) and from the Apron Management system that creates a unique view of the airplane Parking Systems, Visual Docking Guidance System (VGDS), the Passenger Boarding Bridges (PBB), Ground Support Systems and much more.

More transparency, clearer responsibilities and faster intervention times mean airports can become so much more efficient which will drive costs downward. In turn this can be used to offset high landing fees or create room for investments in further automation or preventive maintenance of the airfield so that downtime decreases further.

# OCEM Airfield - Leading the way with open standard Airfield Ground Lighting systems

As a leading provider of open standard Airfield Ground Lighting systems, OCEM Airfield sees for itself a key role in this field where – in collaboration with the different experts – it creates the right solutions and services to allow for a connected airport approach. One system that integrates all solutions and creates that unique view of Airport Operations.

Together with other leaders in the field, we are convinced that the way to a more satisfying passenger experience and an increase in operational availability lies in making sure key players work together in realizing the connected airport.

One Airport Operational Ecosystem with clear rules and open protocols that allow for easy interfacing - with efficiency and sustainability besides aviation safety and security as the ultimate goal - is the way forward.

If the will is there, the solution can be made available soon. If all stakeholders speak the same language a new era in aviation progress can be achieved in the coming years.

We are ready; we are creating the ecosystem to allow for a unique Connected Airport view that re-unites all airport stakeholders to make airport operations safer, better, more transparent and sustainable.



Join us in realizing the airport operations of the future.  
Want to find out more?  
Mail us on [marketing@ocem.com](mailto:marketing@ocem.com)



Let's build the Connected Airport