



RELIANCE

AIRFIELD LIGHTING CONTROL SYSTEMS

Staying in control with
**Enhanced
Operational
Awareness**



**ADB
SAFEGATE**

Why RELIANCE?

Today's airports are dealing with ever increasing air traffic, and while reducing their carbon footprint has become paramount, there are other mounting pressures, such as reducing operations costs and ensuring safety. Airports need a reliable control system that requires a minimum amount of maintenance, offers 24/7 availability, promotes safety, and expands to meet the needs of tomorrow.

The **ADB SAFEGATE RELIANCE** Airfield Lighting Control and Monitoring System, based on a modular and scalable system platform, grows with airport requirements and is designed to serve small regional airports as well as large international hubs. The RELIANCE System enables control and monitoring of visual aids installed at the airport and helps manage high traffic volumes steadily and safely. The system has a wide range of functionalities to support airport operations staff including Air Traffic Controllers (ATCOs), engineering, and maintenance personnel, providing them:

- **Increased safety of ground traffic operations through distinct visual guidance**
- **Preselected taxiing guidance, simplifying operations**
- **Efficient stopbar/lead-on control**
- **Stopbar crossing alerts, monitoring unauthorized runway access, improving safety operations**
- **Real-time status updates of visual aids and monitoring their compliance with operational conditions**
- **Easy access to all Airfield Ground Lighting (AGL) information for maintenance at a glance**
- **Enhanced, sensor-based, situational awareness, tracks of vehicles and aircraft on the airfield displayed on a Human Machine Interface (HMI)**
- **Clear and detailed system status information, from all workstations, to conduct necessary maintenance activities on visual aid equipment**
- **Monitoring of Gen Sets, UPS, High- and Low-Voltage Switchgear, and other auxiliary equipment required to ensure visual guidance**
- **Integration with other airport systems such as:**
 - ◆ Runway Visual Range System (RVR)
 - ◆ Automated Weather Observing System (AWOS)
 - ◆ Docking Guidance System (DGS)
 - ◆ Instrument Landing System (ILS)
 - ◆ Multi-Sensor Data Fusion (MSDF)
 - ◆ Airport Operation Database (AODB)
- **Solutions for:**
 - ◆ Advanced Surface Movement Guidance Control System (A-SMGCS)
 - ◆ Sensor Controlled Incursion Protection System (SCIPS)
 - ◆ Runway Status Light (RWSL)
- **Modular designed system, based on industrial components and reliable software, customized to individual airport needs**

Functionalities and Operational Applications

Selection of AGL functions — providing status and intensity control per AGL function of lights from approach, PAPIs, touchdown zone, threshold, and runway to taxiways and aprons — according to the weather conditions and landing direction:

- ◆ Activation of general lighting settings using an ICAO-compliant preset table as per background luminance (day, twilight, night) and visibility
- ◆ Selection and switching of groups of lights via an intuitive HMI touchscreen
- ◆ Dedicated taxiway guidance and stopbar control
- ◆ Follow the Greens operation using an integrated ILCMS system

Operational applications

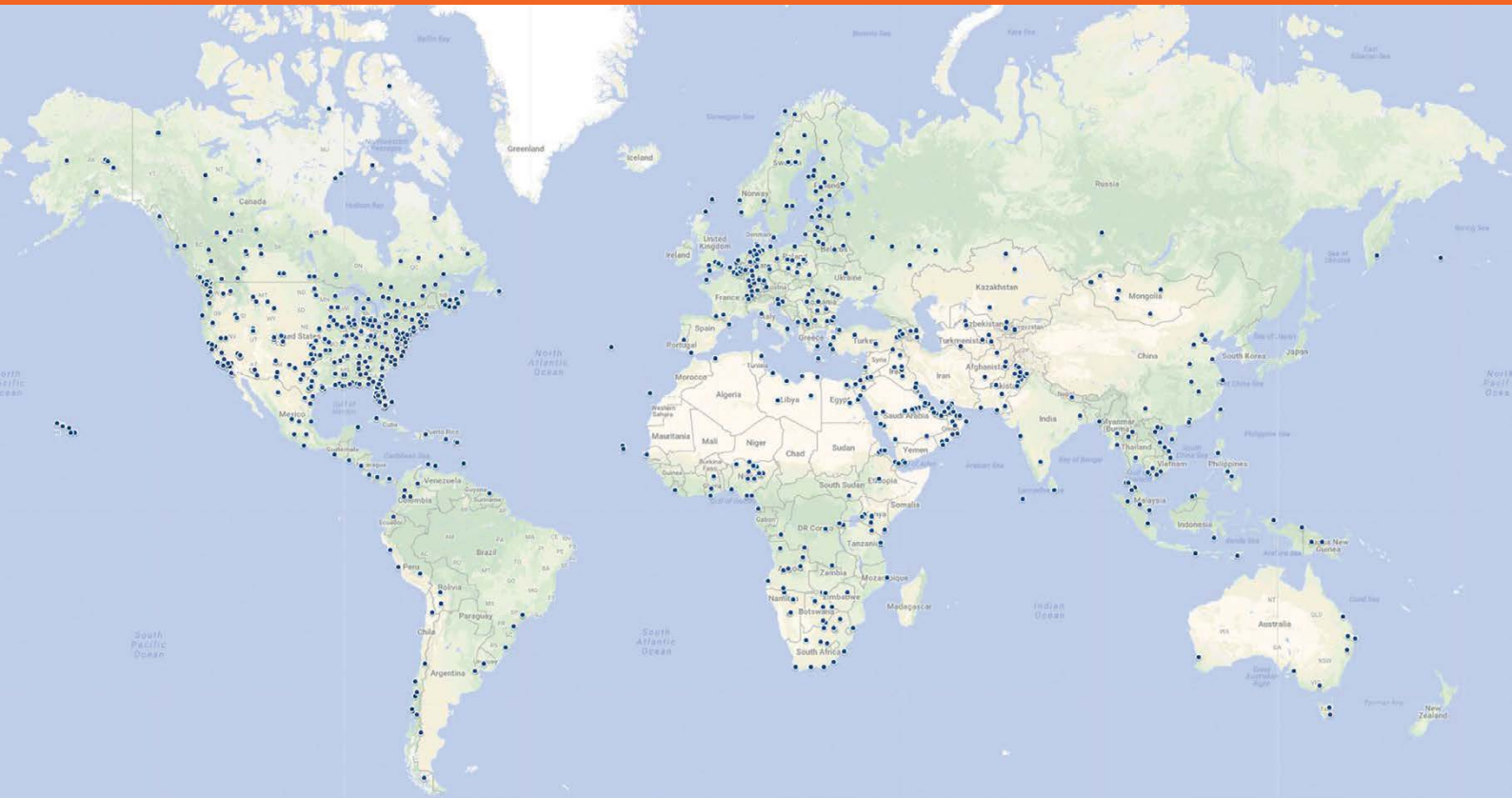
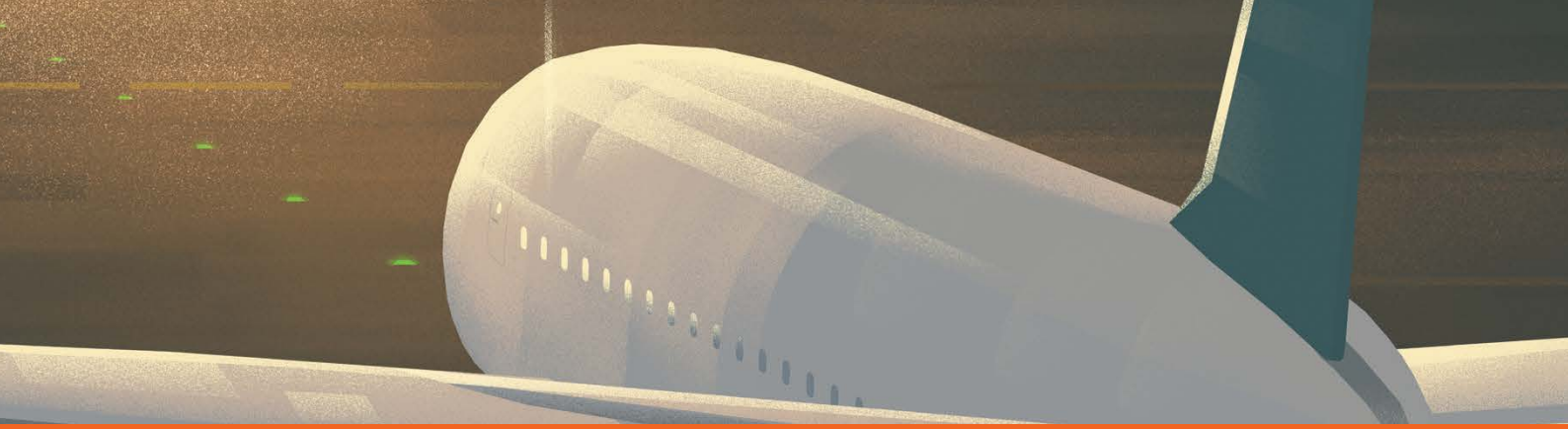
- ◆ Semi-automatic ATC support functions:
 - ◇ Visual guidance along taxiways and stopbar control with automated stopbar activation via timer or, preferably, partial surveillance by local field sensors or other surveillance means
 - ◇ Routing, guidance, and control of individual visual aids to define, select and activate efficient taxiing pathways
- ◆ Display of Track position and Flight Information labels based on a Multi-Sensor Data Fusion (MSDF) input

Operational applications (Cont.)

- ◆ RELIANCE Control and Monitoring System support for:
 - ◇ A-SMGCS
 - ◆ Dynamic routing and individual visual guidance with intersection control for automated taxiing procedures, increased safety and throughput
 - ◆ Monitoring and reporting of individual visual aid status
 - ◆ Field-based sensors monitoring critical movement areas
 - ◇ Safety Net
 - ◆ Unauthorized stopbar crossing alerts
 - ◆ Sensor Controlled Incursion Protection System (SCIPS)
 - ◆ Runway Status Light (RWSL) control system

Display of actual operational, maintenance and alarm status of the RELIANCE system, visual aids, and associated equipment through:

- ◆ Intuitive, easy- to-use, and common HMI functionalities at all locations – tower maintenance/technical room, AGL substations
- ◆ User-friendly tools for monitoring, supporting corrective and preventive maintenance, fault indication, and reporting:
 - ◇ Status display of lighting groups via push button image – on / off / maintenance / error
 - ◇ Maintenance operation and status visualization with individual CCR control and (optional) true feedback indication of lamp status through an ILCMS system
 - ◇ Detailed list of actual alarms for troubleshooting with sorting, filtering, printing mode, selectable Air Traffic Control (ATC) or maintenance level via user access code. High performing, sophisticated graphic visualization and World famous Supervisory Control and Data Acquisition (SCADA) for data logging, processing and visualization
 - ◇ System dashboard displaying valuable KPIs



ADB SAFEGATE has accumulated knowledge and experience from installing hundreds of systems in airports the world over, allowing us to meet the specific needs of your airport, today and tomorrow.

Reference to Standards

ICAO: Annex 14, Volume I, (Aerodromes) current edition, Aerodrome Design Manual, Part 4, 5, and 9
ICAO Manual of Surface Movement Guidance and Control System, DOC 9476-AN/927
ICAO Manual of Advanced Surface Movement Guidance and Control System, DOC 9830-AN/452

FAA: FAA: AC 150/5345-56 (current edition): Specification for L-890 Airport Lighting Control and Monitoring System (ALCMS) Advisory Circular (AC)



ADB SAFEGATE is a leading provider of intelligent solutions that deliver superior airport performance from approach to departure. We partner with airports and airlines to analyze their current structures and operations, and jointly identify and solve bottlenecks. Our consultative approach enables airports to improve efficiency, enhance safety and environmental sustainability, as well as reduce operational costs. Our portfolio includes solutions and services that harmonize airport performance, tackling every aspect of traffic handling and guidance, from approach, runway and taxiway lighting, to tower-based traffic control systems and intelligent gate and docking automation.

ADB SAFEGATE has 900+ employees in more than 20 countries and serves some 2,000+ airports in more than 175 countries.

adbsafegate.com

Built for YOU

ADB SAFEGATE has been a front runner in AGL control systems since the early days of visual aids. We have used this in-depth knowledge to create several technological solutions that meet customer demands – from control desks to PLC and PC-based control solutions. The RELIANCE Airport Lighting Control and Monitoring System can be configured for airports with low traffic and simple control and/or monitoring requirements to those with high traffic throughput and enhanced safety requirements.

At ADB SAFEGATE, we offer both simple control systems with basic functionality and complex systems with server-based architecture, enabling the selection and specific adaptation of AGL control features for all airport sizes and levels of complexity.

