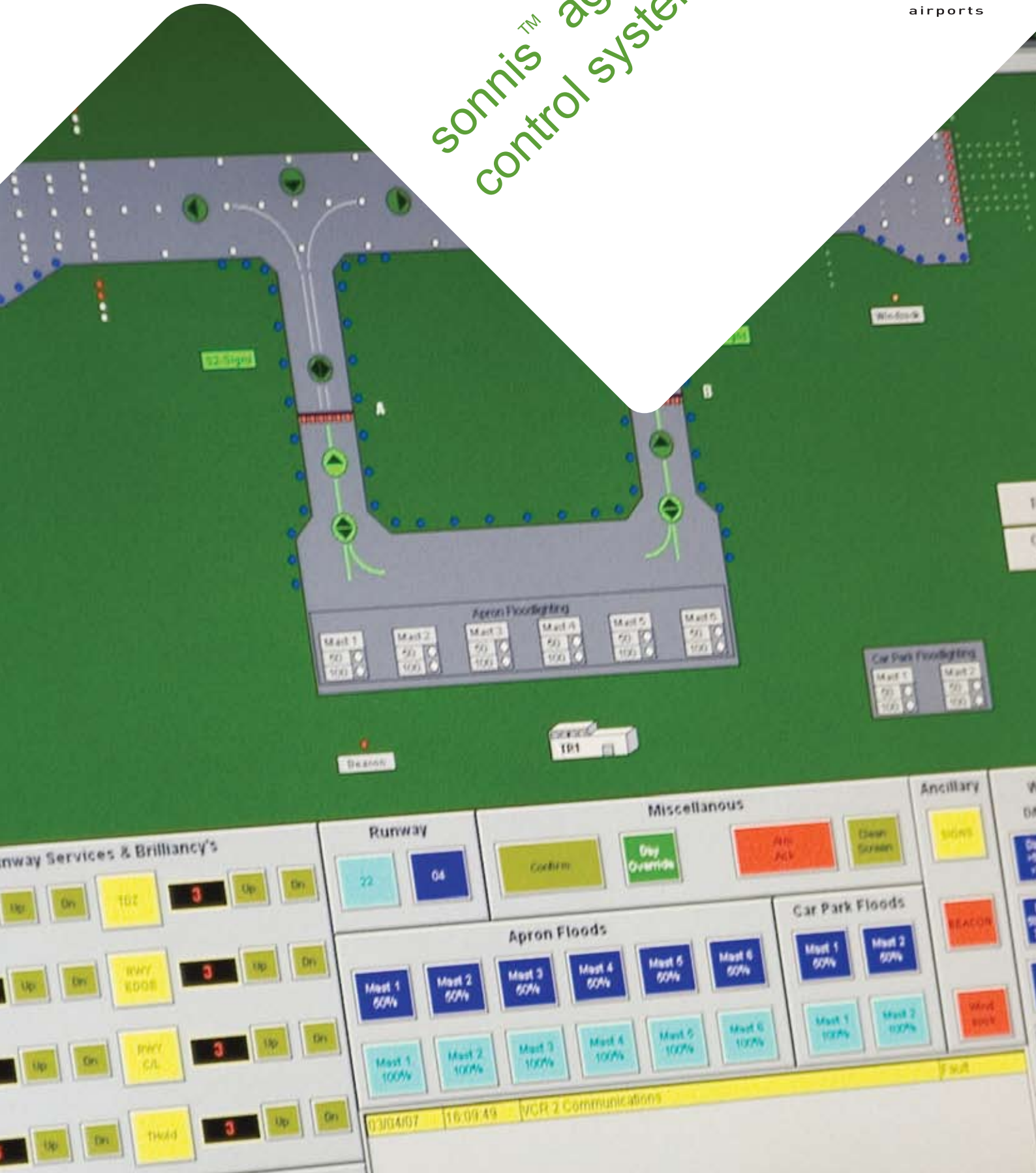
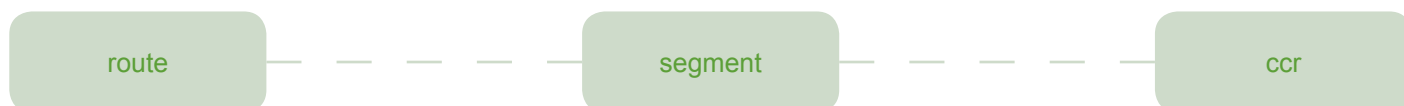


sonnis™ agl
control systems



introduction

Aeronautical Ground Lighting Systems active at airports throughout the world vary dramatically depending on the size and throughput of the airport. From a simple system controlling a single runway airstrip to the complex multi-runway operation of a major international airport, all of atg's control systems are based around a basic philosophy that can be applied to any service, managed by any control system on any airfield anywhere in the world.



atg control systems are designed using global industry standard, high-class Programmable Logic Controller (PLC) equipment suitable for Non Precision, CAT I, II and III operations. Although all atg control systems are made to the highest specifications in terms of quality and reliability, the principal benefit of an atg control system is its accessibility and simplicity once the initial installation has been completed.



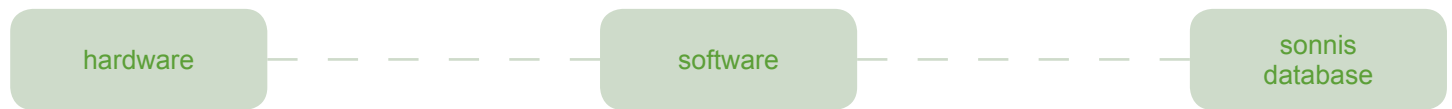
compliance and approval with standards

The sonniss agl Control System from atg airports has been designed to meet international standards:

- ICAO Annexe 14
- UK CAA, CAP168
- IEC 61508
- FAA

typical system architecture

Akin to the simple philosophy that all air control systems are based upon, all **atg** control systems are constructed of three basic components.



The **hardware** is all industry standard PLC equipment and includes either touchscreen control units or standard push button mimics as part of ATC control, communications through either PROFIBUS, fibre optic and ethernet connections and where system specifications demand fully redundant hardware and communications are designed into the system ensuring compliance with all applicable safety regulations.



The **software** is written in a globally recognised format using a PC-based operating system. The basic system configuration includes industry-standard functions for signaling and acknowledging events and alarms, archiving of messages and measured values, logging of all process and configuration data. Project specific software blocks are then written based upon each individual project encompassing our basic control system philosophy.

A modular, expandable software database, the **sonnis database** has been designed by **atg airports** as a platform for every control system that we produce. The advantage of the text based linking in the system allows **atg** to implement a common control architecture to represent the sonnis database and the control system. The use of industry standard interfaces allows for integration of third party equipment, not “tying” the user into **atg** products in the future, offering the freedom to make decisions based upon what they need.

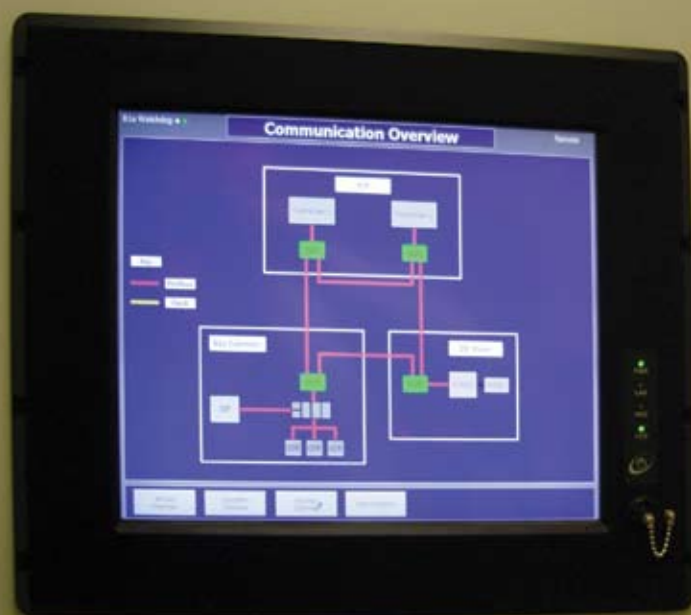
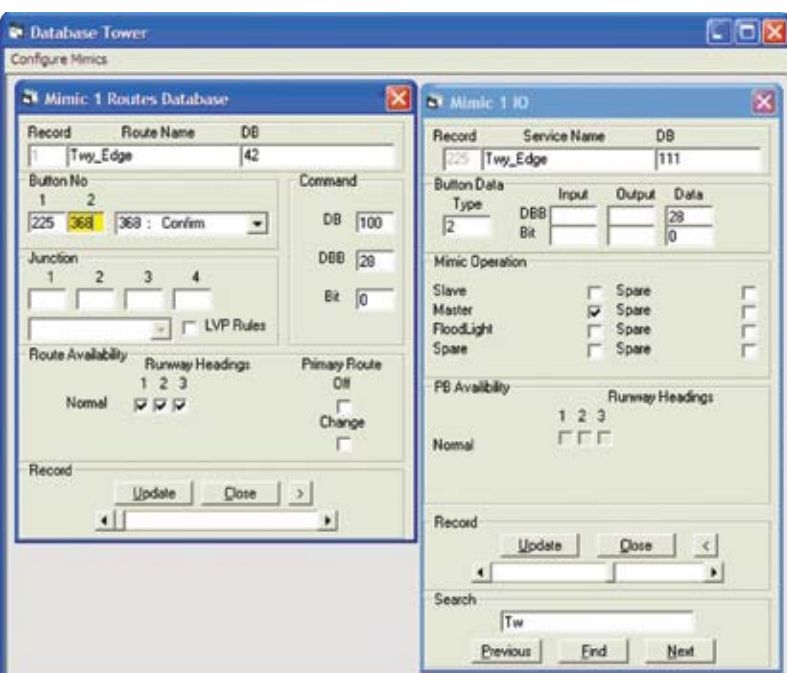
installation, maintenance and reliability

The installation of AGL control systems are often governed by specific operational windows. The modular design of all **atg** control systems and the utilisation of military style locking plugs and sockets mean the installation time of any Sonnis Control System is kept to an absolute minimum, with nominal disruption to operations. The system has also been designed with maintenance in mind, its unique design allowing for the simple interchange of any faulty components without the need for expensive maintenance support.

system facilities

atg control systems are available with a range of functions and features, arranged specifically depending upon any specific airport requirements, traffic volume, CAT operation, airport size or local weather conditions.

- Monitoring the status of CCR's and various substation equipment including electricity generators, traffic light controllers, airfield identification beacons and wig wags
- Lamp monitoring and adjacent lamp failure detection
- Runway Intrusion Detection
- Automatic route selection for pilot visual guidance
- Stopbar control
- Event recording for analysis of circuit performance
- Touch screen or push button mimic interface in the ATC
- Maintenance Terminal
- Hot Standby and Redundancy Systems Available.



sonnis database

The simplicity at which system expansion can be completed, is a feature that makes the sonnis system an important part of many airports across the world.

The ever increasing pace at which airports are expanding calls for regular updates to all airfields and their relevant systems. As a result of the arrangement of the sonnis database, changes to the system can be made with confidence by the user.

Additions such as extra circuits, ccr's or complete runway or taxiway routes can be added by maintenance staff without the need for any changes to the core system software. Above are images of the sonnis database highlighting the ease with which additions can be made to any airfield.

maintenance terminal

A **sonnis** agl Control System can provide a computer based graphical maintenance interface including the following information:

- Overall airfield mimic diagram
- Control mimics to provide a source of secondary control
- CCR pages to show status of CCR's and other substation equipment including:-
 - CCR device/info
 - Control Status
 - Detailed Fault Diagnosis
 - Operating Hours for each brilliancy step
- Power system monitoring for each Airfield Control Centre including:-
 - Electrical Distribution System
 - Standby Generator Status
- 'Black Box' log recording time and date of all system events. This log can be interrogated utilising standard PC tools and is archived to provide mandatory 30 day log
- Alarm display, acknowledgement and chronological record
- Report printer to provide hard copy log of all events and alarms
- Optional programming facility for remote Airfield Control Centres
- Help display.

smgcs and (a)smgcs

smgcs - surface movement guidance control system

A **sonnis** agl Control System is designed to be an integral element of surface movement guidance control systems

When used in conjunction with an individual lamp switching and monitoring unit, the system offers individual lamp control and monitoring for runway, taxiway and stop bar lighting.

- Lamp Monitoring includes lamp status, lamp out detection and lamp filament current measurement
- Controls single lamps or block switching
- User configuration fail safe modes
- Communications via either separate wire or Series – Circuit borne
- Capable of providing adjacent lamp failure detection
- Graphics in Maintenance Unit can be designed to indicate lamp failures and adjacent lamp failures where required.

(a)smgcs - (advanced) surface movement guidance control system

The system uses information from the navigational aids which can identify each aircraft and provide surveillance and monitor taxiing traffic continuously. It also determines automatically conflict-free taxiway routes and guides aircraft and vehicles reliably through the use of airfield visual aids. In case of deviations or possible incursions it has the capacity to warn pilots, drivers and ATC operators immediately. As such, this control and monitoring functionality provides controllers with tools to enhance safety, efficiency, and availability at the airport - in all visibility conditions.

safety and quality

All **atg** produced control systems are compliant with recognised International standards for safety related control and monitoring systems, including IEC 61508. **atg airports** are registered with BSI to Quality Assurance Standards ISO 9001. Our focus is to provide and maintain quality throughout the manufacture, installation, maintenance and after sales support of all control systems.

training and support

All **sonnis** agl Control Systems are fully backed up by our commitment to provide product support, spare parts and training courses to our clients, to ensure long and satisfactory operation of all systems manufactured by **atg**.



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