BEAM. STUDIO

Smart Lighting for Public Spaces

CLOUD. STUDIO

IoT for Enterprise Applications

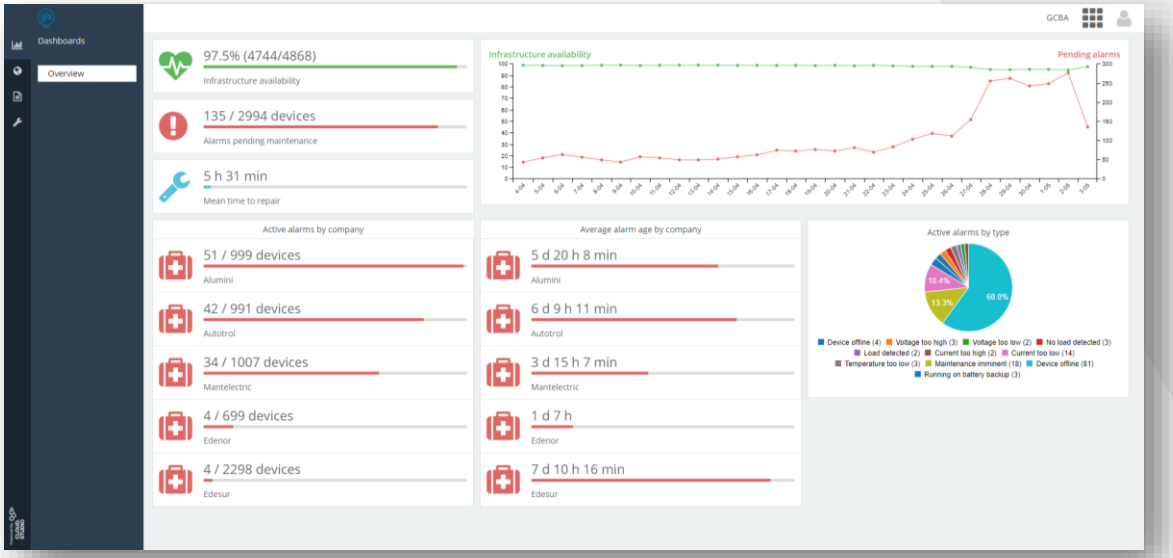
Introduction

BEAM.STUDIO is a set of in-house developed software tools developed aimed at:

- Monitoring and controlling light appliances in public spaces and large commercial facilities.
- Allowing all lighting-related functions, including on, off, dimming, scheduled, and adaptive power levels.
- Support for individual or group-based luminaire control.
- Measurement and monitoring of power consumption, provided the underlying hardware allows that.
- Comprehensive inventory management.

Introduction (cont.)

- Real-time state and failure monitoring.
- Historical reports of availability, power consumption, failures, etc.
- Support for conventional (i.e. not smart) luminaires.
- Open Interfaces, available through all Cloud Studio vertical solutions.

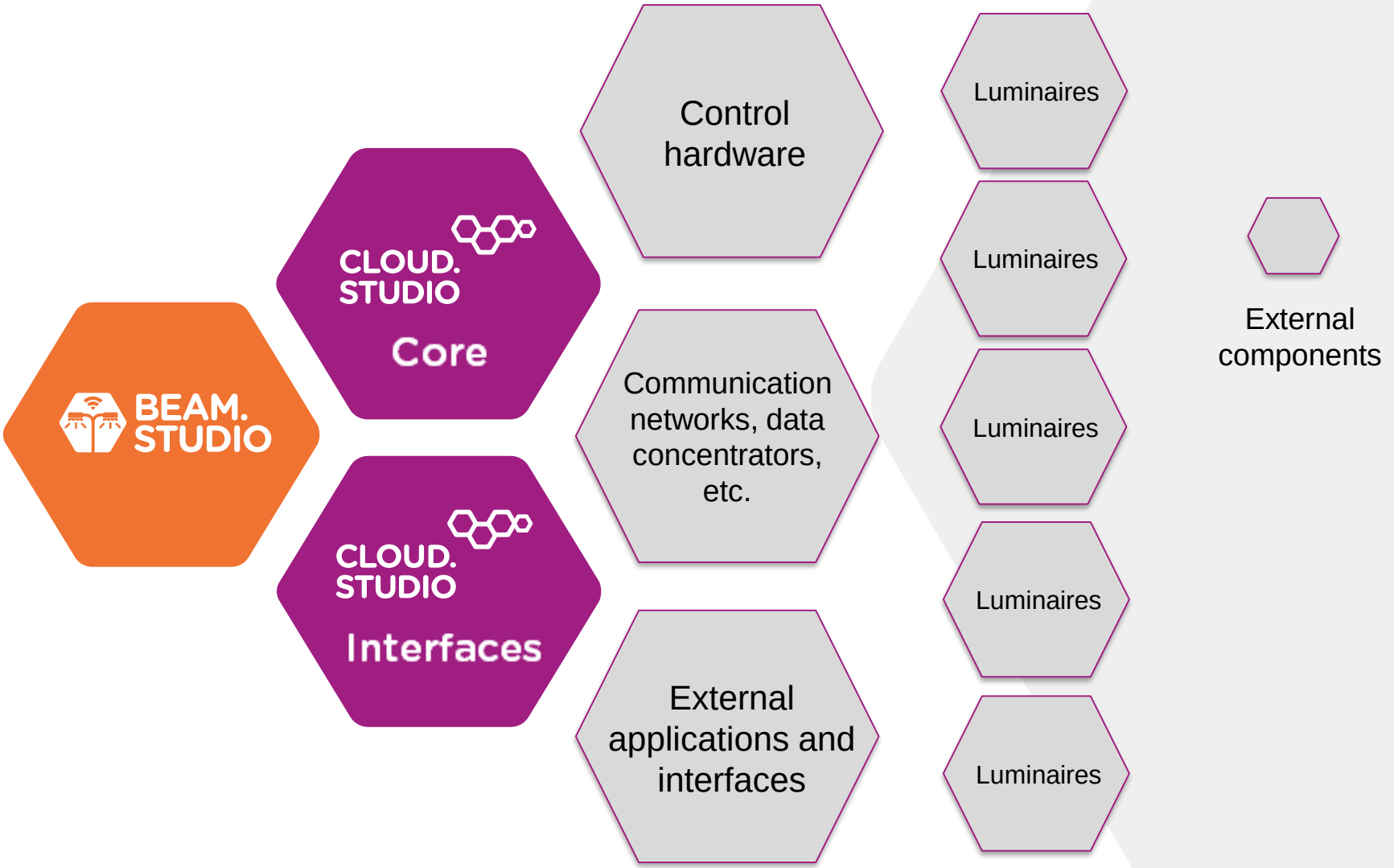


¿Why using BEAM.STUDIO technology?

Because centralized monitoring and optimization of street lighting:

- Enables significant power savings.
- Reduces the mean time to repair (MTTR) of the whole lighting infrastructure.
- Makes it possible to apply predictive maintenance actions.
- Maximizes the availability of the lighting infrastructure.
- Facilitates the integration with external subsystems, for example to adapt lighting conditions based on external events (safety, accidents, etc.)

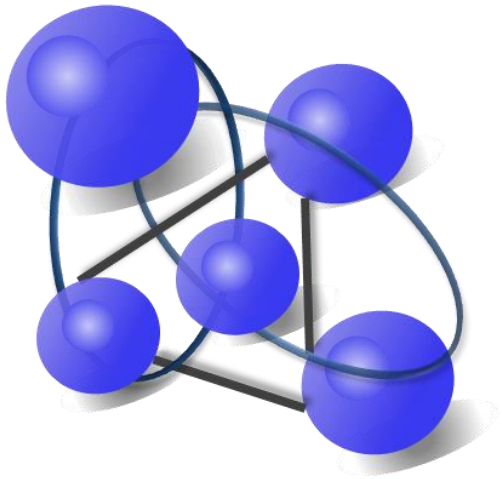
Typical architecture



Luminaire management

BEAM.STUDIO's interfaces, built at the core of the platform, interact with smart lighting hardware by:

- Obtaining real-time data (power consumption, temperature, ambient light levels, etc.).
- Storing the information to present it in dashboards and detect deviations.
- Enabling manual luminaire control when necessary.
- Enabling automatic control based on rules and schedules.



Compatible technologies

BEAM.STUDIO, as all solutions within the Cloud Studio platform, is capable of working with a variety of communication technologies:

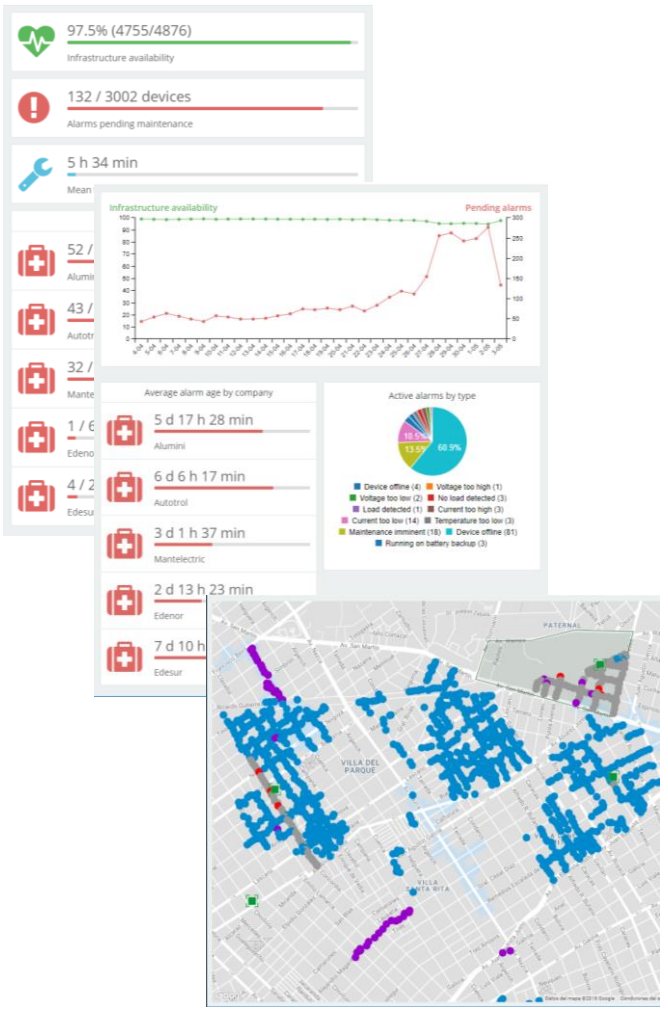
- Wired / power line carrier systems, through the corresponding gateways.

- Wireless (LoRa, Sigfox, ZigBee, 802.15,4, etc.) acting in the Application Server role.
- Proprietary technologies, through the corresponding gateways.
- The architecture is prepared to adapt to new technologies (such as NB-IoT) with little effort.

Central System

BEAM.STUDIO's main central component is the Beam Monitor.

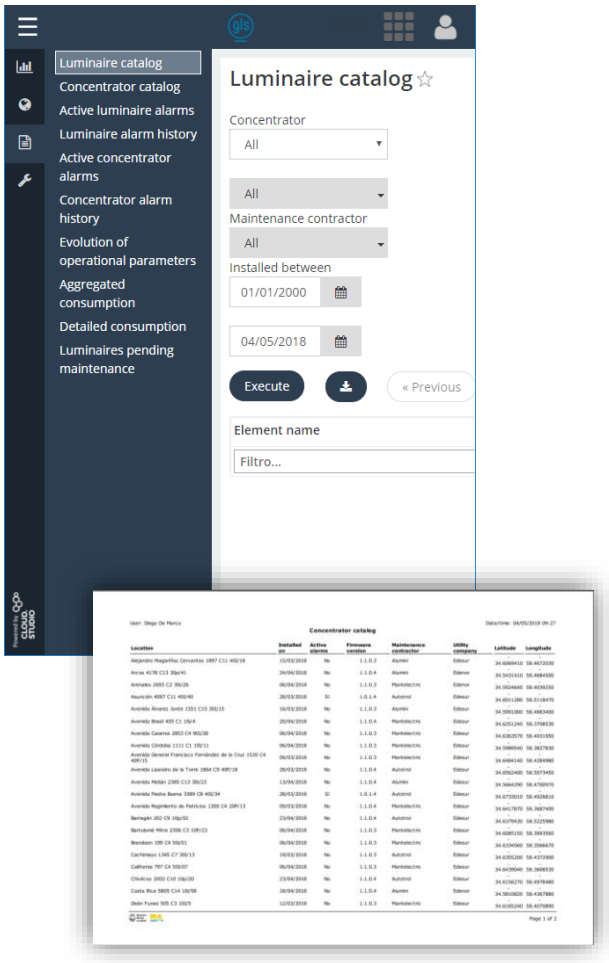
- It's web-based application that provided whole-infrastructure real-time monitoring.
- Provides a customizable dashboard presenting the most relevant KPIs.
- Includes a geographical representation of all luminaires, concentrators, etc.
- Provides numerous pre-defined reports, and allows for the addition of ad-hoc ones.
- Allows manual control directly from the map-based user interface.
- Designed and tested with over 150K luminaires



User interfaces

All applications are available for both desktop browser and mobile devices.

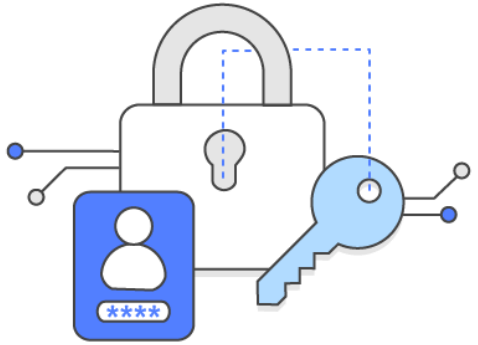
- Optimized for different device layouts, using a responsive design.
- Real-time information updated on screen as necessary.
- Lightweight and prepared for low-bandwidth connections.
- Simple and powerful PDF and CSV reports, programmable for automatic execution.



Configuration and safety

BEAM.STUDIO inherits all safety and configuration features of the Cloud Studio platform:

- Detailed-granularity setup of user and user-group permissions.
- 2048-bit SSL encryption through all communications.
- Single-Sign-On (SSL) including the possibility to integrate to externa login sources (LDAP, Google, and Facebook).
- Secure open API, with individual permissions assigned to each external application or interface.



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