

LOYTEC at DALI Summit 2019



LOYTEC electronics GmbH

Who we are and what we do



- Privately founded in 1999
- Spin-Off of the Vienna University of Technology
- Since April 2016, LOYTEC is part of the Delta Group
- Headquarters in Vienna, Austria
- Worldwide operations
- More than 100 employees, bigger part of them working in product development
- MISSION:
 - LOYTEC researches, develops and manufactures products and solutions for the modern building automation business.
 - Utilizing innovative technologies and open communication protocols, LOYTEC creates the basis for efficient system integration, highest energy efficiency during operation and protection of investments taken by investors.



Best Practice Case Study

REFURBISHMENT OF TERMINALS 1, 2 AND 3 OF MANCHESTER AIRPORT

Why Manchester Airport refurbished their lighting

- ① Environment
 - ① Save as much energy as possible
- ① Inviting ambience
 - ① Improving the positive lit and friendly face of the airport
- ① Security and safety
 - ① Bright areas for customers and staff to avoid waiting queues
 - ① No cave feeling
- ① Maintenance
 - ① Visualize energy consumption
 - ① Act directly on lamp and driver failures
- ① Connectivity
 - ① BACnet for the complete FM network



Why Manchester Airport chose DALI

⌚ Standardized system

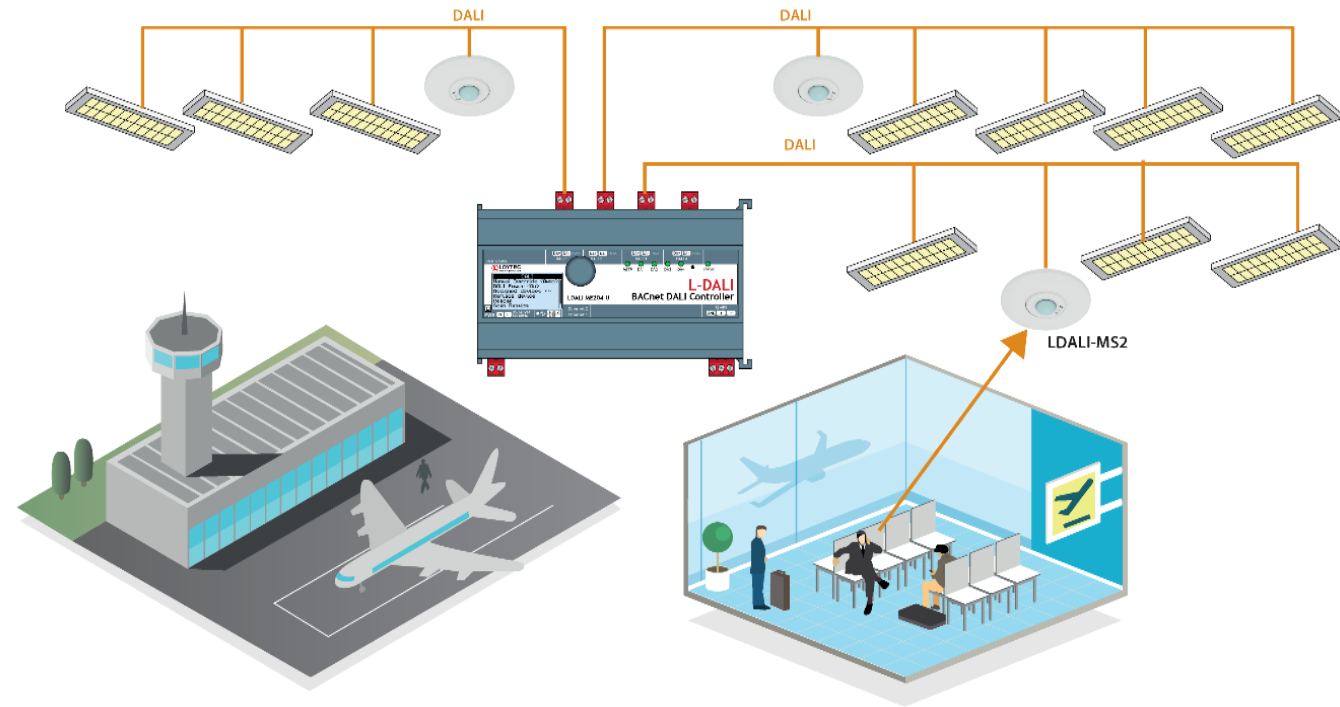
- ⌚ Well established in lighting
- ⌚ Future proof
- ⌚ Products from different vendors
- ⌚ Future expansion possible

⌚ Reduced complexity

- ⌚ Sensors on DALI lines
- ⌚ Bidirectional communication

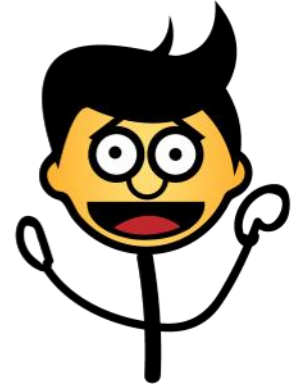
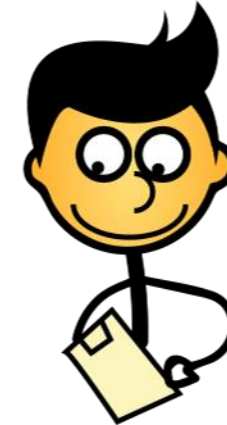
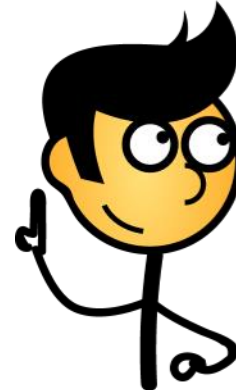
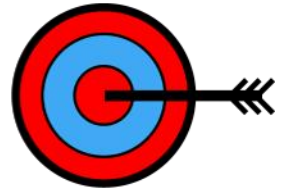
⌚ FM readiness

- ⌚ Energy data visualization
- ⌚ Driver/Lamp feedback



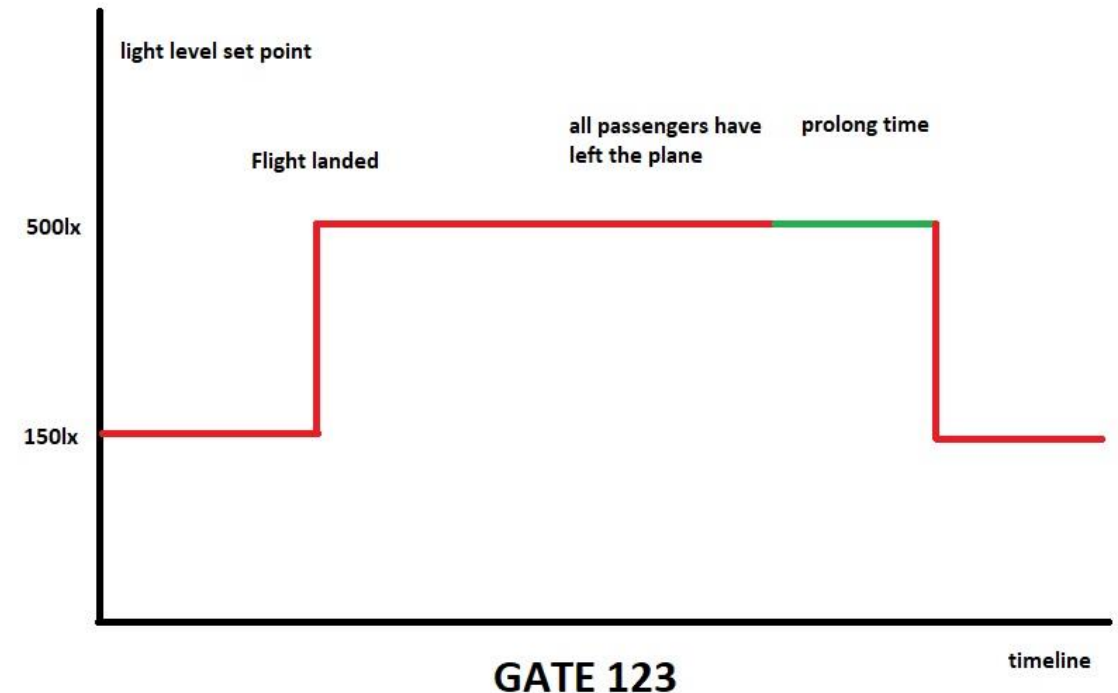
What Strategies Manchester Airport chose

- ① Full LED solution
 - ① Site wide replacement of the existing luminaires
- ① Occupancy triggering
 - ① Enable lighting loads to be shed when areas are unoccupied
- ① Daylight harvesting
 - ① energy reduction by utilising natural daylight
- ① Dynamic scheduling
 - ① energy savings by linking BMS system to Manchester Airport's flight information system (Chroma)



What Manchester Airport understands in dynamic scheduling

- ① Lighting setpoint levels can now be adjusted based on real time flight movements
- ① Flight 765 from Gate 321 is scheduled for 11.00am
- ① Flight 765 from Gate 321 has taken off
- ① *Flight 987 has landed and is planned for Gate 123*

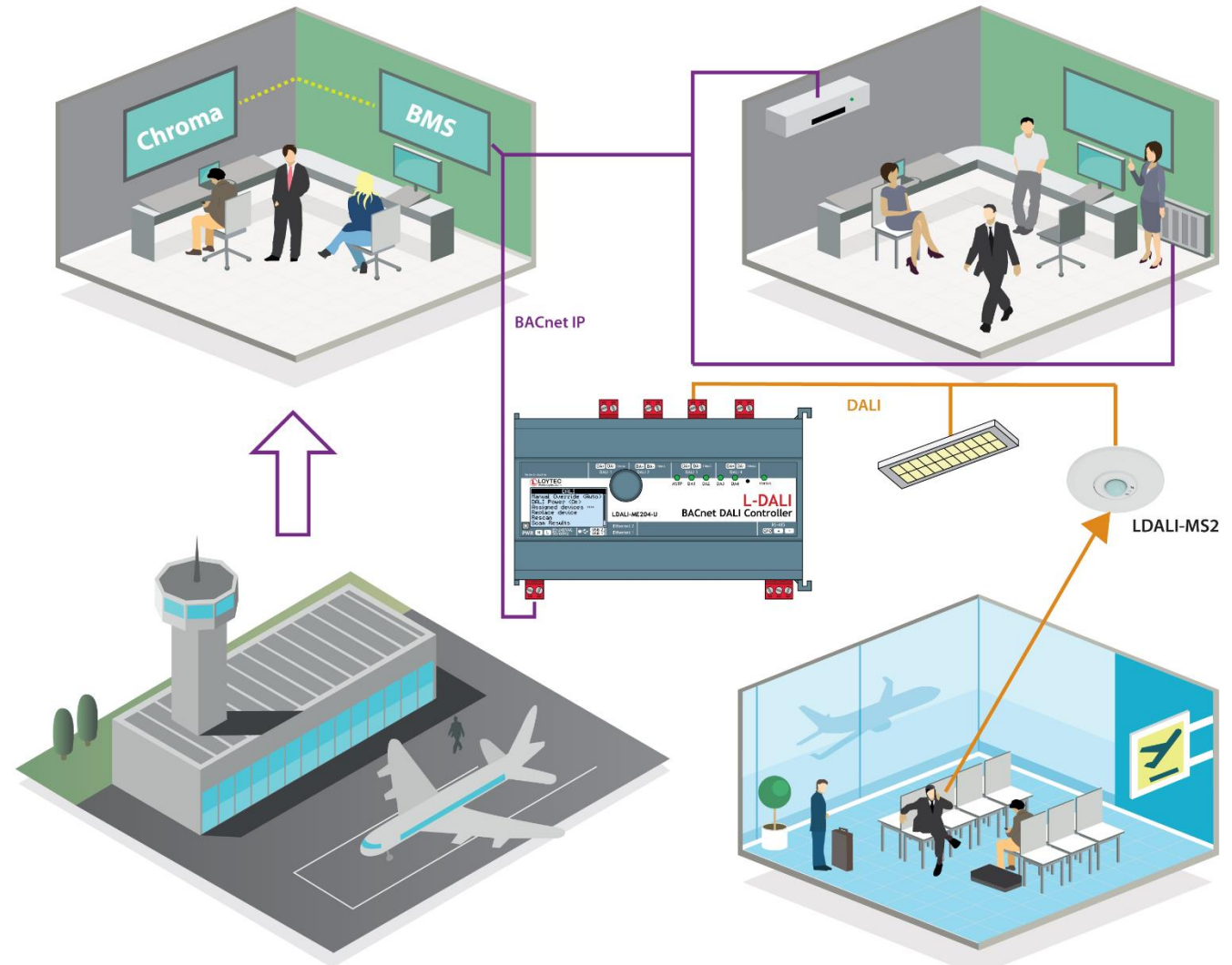


How Manchester Airport's backbone looks like

- ① Lighting
- ① HVAC
- ① Flight Information System

using BACnet for

- ① Alarming
- ① Trending
- ① Scheduling
- ① Visualization
- ① Connecting "things"



How much Manchester Airport achieved in savings

- ① 7GWh per year
- ① 3.689 t CO₂

	Usage prior to efficiency schemes	Usage following luminaire replacements		Usage showing further reduction following lighting controls schemes		Total annual reduction following luminaire replacement and lighting controls schemes	
Location	MWh	MWh	Reduction	MWh	Reduction	MWh	Reduction
Terminal 1	2942	1112	62 %	440	60 %	2502	85 %
Terminal 2	3739	1514	60 %	576	62 %	3163	85 %
Terminal 3	1657	582	65 %	184	68 %	1473	89 %
Total	8338	3208		1200		7138	

Manchester Airport's asset optimization process.

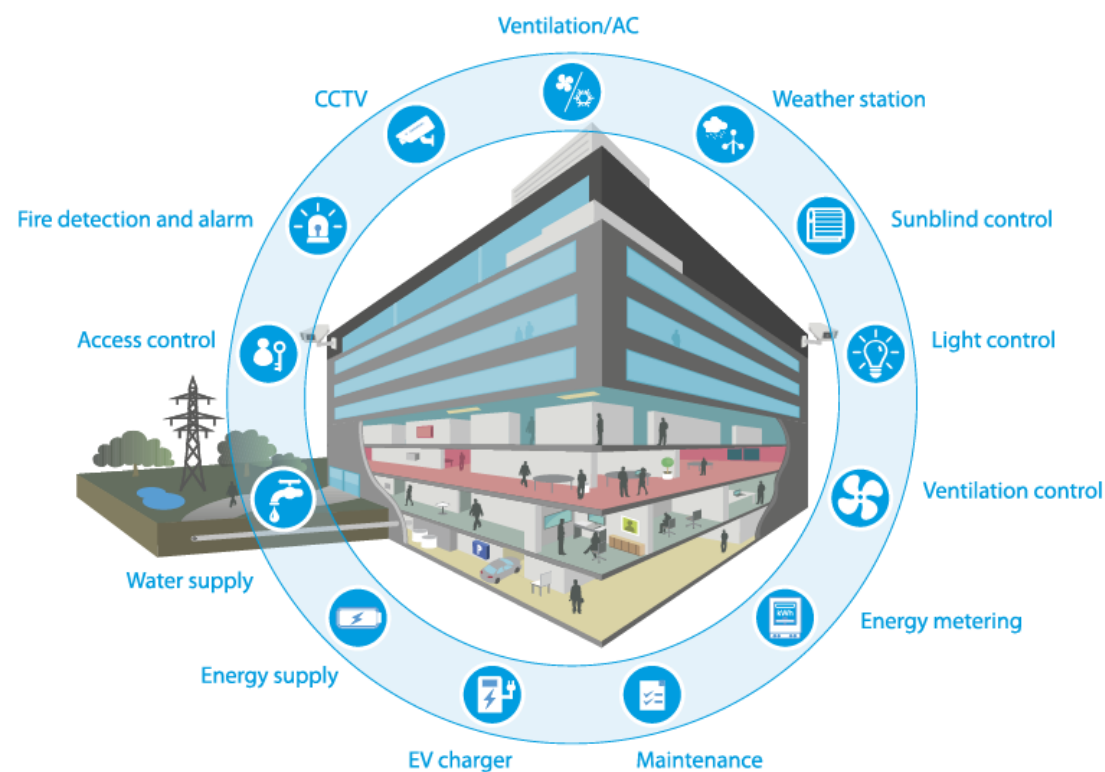
This lighting system adds with its in depth management information about each individual luminaire to the asset optimization process of the airport by providing

- ① Installed date
- ① Level of dimming
- ① Failures
- ① Overall energy use



Building Management & Control Systems

fully integrated. seamlessly connected. securely networked.



Thank you for your attention!



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