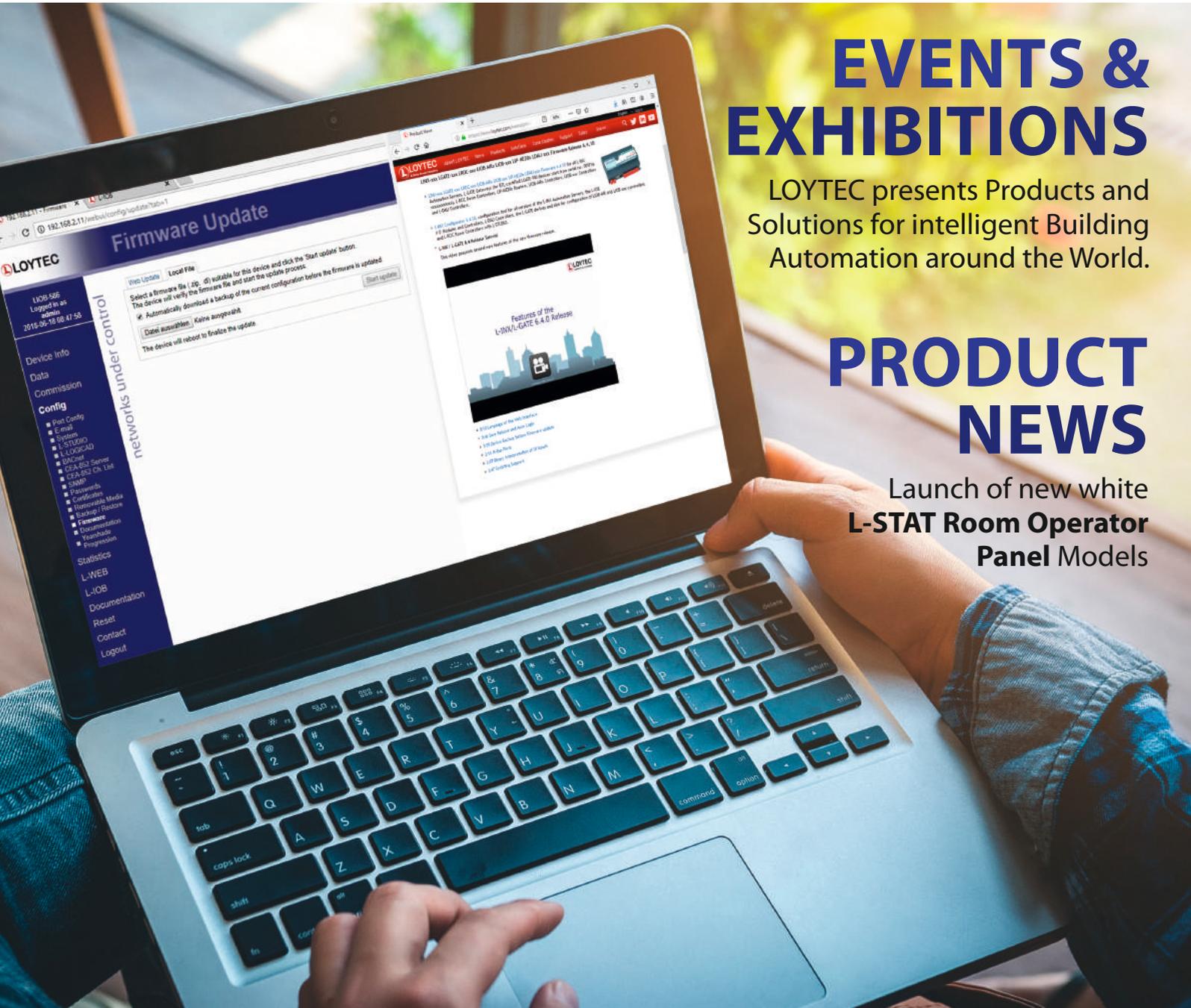




# LOYTEC Express

Magazine for Building Automation



## EVENTS & EXHIBITIONS

LOYTEC presents Products and Solutions for intelligent Building Automation around the World.

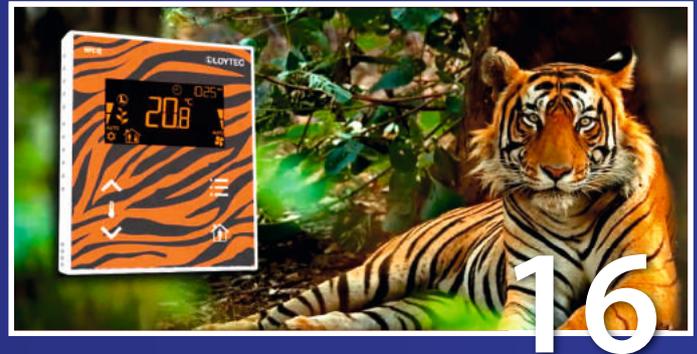
## PRODUCT NEWS

Launch of new white **L-STAT Room Operator Panel Models**

# Firmware Release 6.4

Get to know the new features of the L-INX / L-GATE Firmware!

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LOYTEC Express is a Magazine for customers and friends of LOYTEC.

Owner, publisher and responsible for content:

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Document: 04014114



Dipl.-Ing. Hans-Jörg Schweinzer, CEO  
LOYTEC electronics GmbH



## Editorial – Long live diversity!

In the political world of today, forces that stand for exclusion and separation are strengthened more and more. These policies of exclusion come with the steadily growing surveillance of citizens and the loss of personal freedom, anonymity and fundamental rights such as the privacy of correspondence.

This is hard to grasp for someone like me who grew up in the seventies and studied in the eighties. Protection of personal data against the state, banks and many other institutions is something that we always took for granted. For my generation, openness to strangers and globalization have been the guarantor of peace, progress and success. It has always been diversity that opened new ways for us to create a better world.

At LOYTEC we try to make our small contribution to uphold diversity. Our team includes employees from more than twenty nations. The different languages and cultures are an excellent breeding ground for new ideas and we can all learn from each other.

In the technical area LOYTEC also focusses on diversity. The number of communication protocols implemented by us easily exceeds 20. We also focus on diversity with our L-STAT room operator panels and added 18 standard models to our portfolio - and if that is not enough, we even manufacture L-STATs according to customer specifications.

Have fun reading the new L-Express!

Hans-Jörg Schweinzer



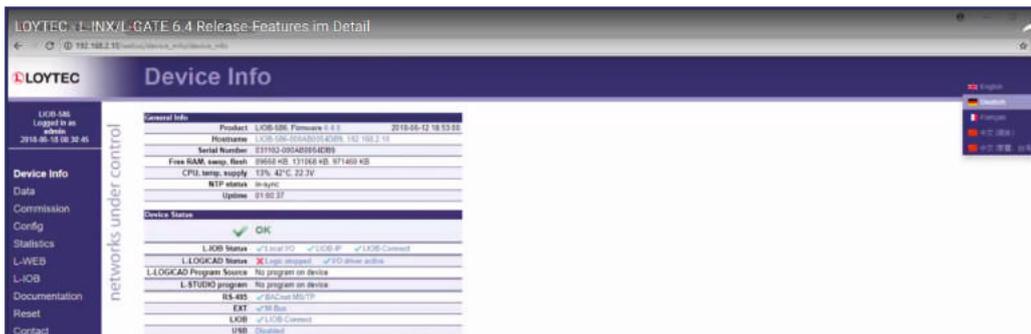
# L-INX / L-GATE Firmware Release 6.4

We are proud to present our new firmware release 6.4 for all L-INX Automation Servers and L-GATE Gateways. Several new features are included such as improved WLAN performance, localized Web UI, updated OPC

UA server to latest CTT specification, OPC UA server security bulletin CVE-2018-7559, support multiple M-Bus interfaces or MP-Bus certified firmware. Some of them we want to present in detail.

## Language of the Web Interface

In the new firmware version 6.4 it is now possible to change the language of the web interface. In addition to English, the languages German, French, Simple Chinese and Traditional Chinese are now available. Just make the desired change. The language is adjusted automatically, no device restart is required.



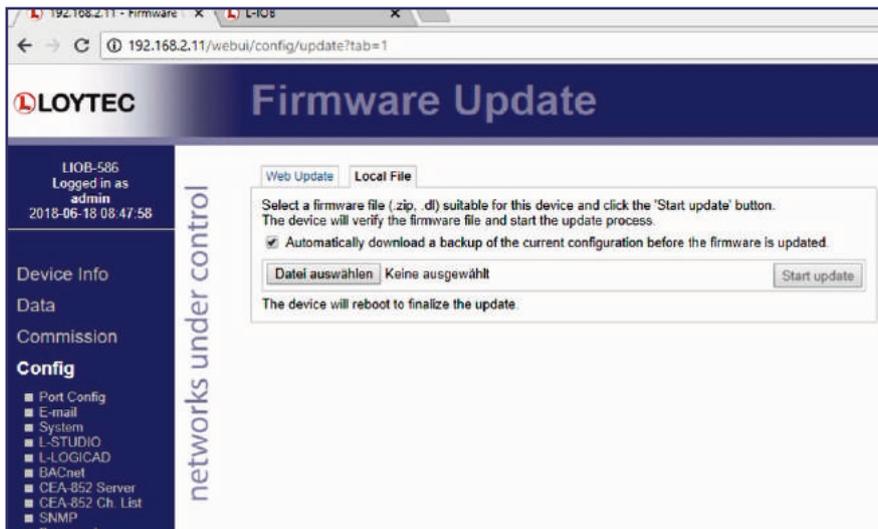
## Save Reboot and Auto Login

### Save Reboot

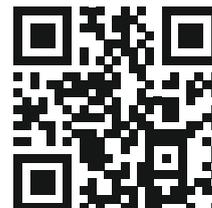
If you have changed the IP address of a device, it was possible that it was no longer reachable due to an incorrect setting. To prevent this, now a "safe restart" mechanism was introduced. After a reboot, you must reconnect to the Web Interface within 5 minutes, so that the previous changes on the interface are permanently saved. Otherwise it will restart and the old settings will be applied again.



## Device Backup before Firmware update



With a firmware update, it is now possible to perform a device backup before the update. Simply set the appropriate checkbox.



Firmware 6.4 Release Video



## Auto Login

Another new feature is the Session Auto Login. This means that you remain logged in, across a device reboot.



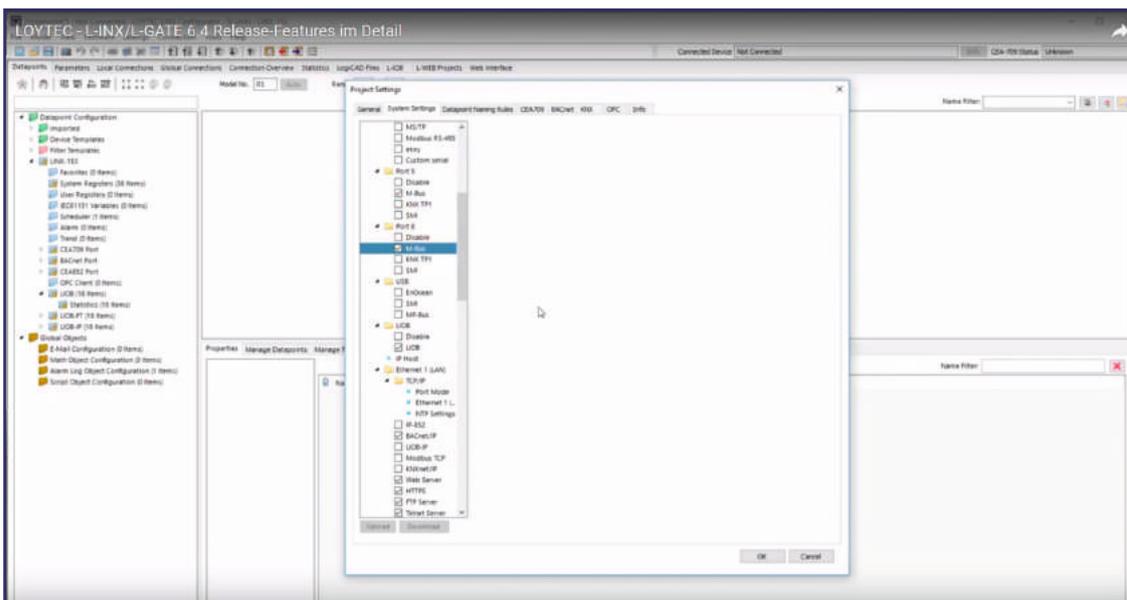


## M-Bus Ports

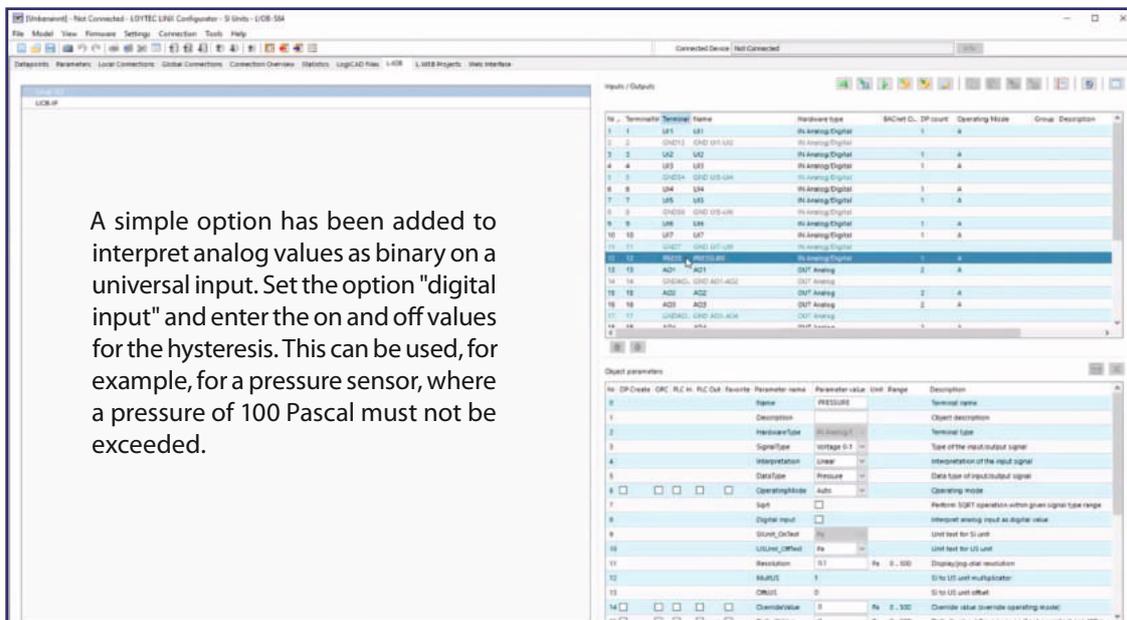


LOYTEC devices with multiple extension ports now support the operation of an L-MBUS20/L-MBUS80 interface in parallel on each individual port. Thus, the total number of controllable M-Bus devices

can be increased by using several L-MBUS20/L-MBUS80 interfaces. The LOYTEC LINX configurator and the WEB interface support the assignment to extension ports.



## Binary Interpretation of analog values on UI Inputs



## Scripting Support

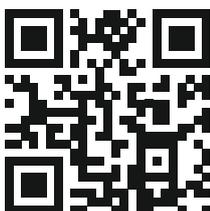
L-INX and L-GATE devices have now implemented a JavaScript engine. Script modules can be embedded in the data point configuration and downloaded to the devices. The web interface provides an overview of the installed

modules and allows you to start the scripts in debug mode. These JavaScripts can be used to implement custom protocols or to integrate third party IoT (Internet of Things) devices.



**Dipl.-Ing. Norbert Reiter**  
LOYTEC electronics GmbH

Norbert Reiter is responsible for customer support, custom applications, and trainings at LOYTEC electronics GmbH. In this capacity he has established and developed LOYTEC's comprehensive training programs. He is also an instructor of many training sessions himself, both in-house and abroad. After studying computer technology at University of Technology Vienna, Norbert joined LOYTEC 19 years ago. He made significant contributions to the development of the ORION stack, several software tools and LOYTEC network infrastructure products.



For more information, have a look at the L-INX Configurator User Manual. Please login with your LOYTEC website account for downloading.

# Smart Environment Control

## Makes Data Centers More Reliable and Efficient for Non-stop 24/7 Operation

**C**ritical requirements for data center construction and management are increasing. With the growth of big data and mushrooming security threats, the first priority of data center management should be to achieve secure, reliable, and efficient operation.

Data center managers need a management platform that helps monitor data center infrastructure, facilitates optimal control, and resolves problems that cause frequent device errors. Smart environment control offers such a solution, providing:

- 24/7 non-stop operation for business sustainability
- Effective lowering of energy consumption
- Real-time alarm notification for timely response and fault troubleshooting
- Remote monitoring & control for lower management costs

LOYTEC's BMS features openness, integration and scalability, allowing effective monitoring and control of the data center environment to reduce energy use and achieve efficient and stable operation.

**"Safe, stable and efficient operation!"**

LOYTEC's BMS benefits the data center with precise monitoring of the device operating environment. Because of the non-stop operation requirement of data center servers, storage devices and other equipment, data centers must keep temperature, humidity and air quality within a specific range. For server cabinets as well as cold aisles, air temperature should be around 24°C, humidity from 40% to 65%, and air quality exceeding no more than 1.76 Million 0.5µm airborne particles. Sulphides, nitrogen oxides, and corrosive gases in the air could also wreak havoc on valuable servers and equipment.

Sensors are deployed to capture vital data and provide control over the data center environment, such as for temperature/humidity, air quality, positive pressure, and others. The

data goes to the LOYTEC BMS and is converted into information to control the corresponding equipment. Once temperature, humidity or air quality exceeds an acceptable range, the LOYTEC BMS can either start, stop or precisely fine-tune the equipment, based on preset system parameters, keeping every variable within its range. In critical cases, positive air pressure keeps outside air from seeping in with the entry/exit of personnel, preventing damage to susceptible devices.

### Smart energy saving

IT equipment accounts for the largest portion of energy-consumption in the data center—over 50%. Air-conditioning systems are the second largest energy consumer, using 38% of the energy pie, and hold the greatest en-

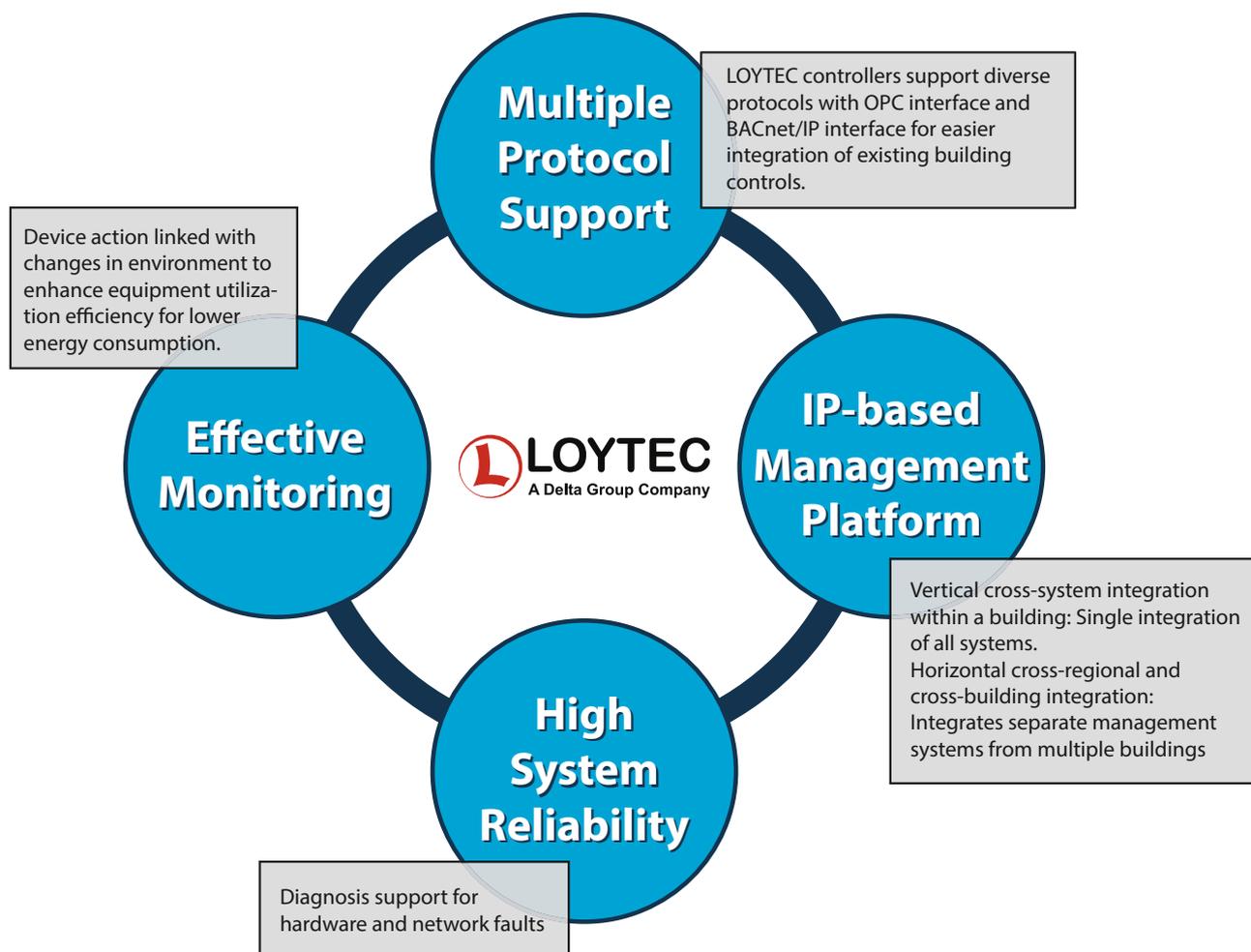
ergy-saving potential. LOYTEC's BMS drastically improves the energy efficiency of air conditioning systems, reducing the Power Usage Effectiveness (PUE)\* of data centers.

### Remote control for management efficiency

LOYTEC's BMS provides management with a user-friendly operating interface. Administrators can browse the status of all devices at a glance, and receive real-time alerts in their mobile devices or e-mails. LOYTEC's BMS provides real-time operation data from water, electricity, and ventilation systems, and generates reports providing managers with energy-saving insights into equipment operation status, maintenance time, energy status, cost calculation, and more.

\* PUE (Power Usage Effectiveness) is an internationally recognized indicator in the data center that is the ratio of all energy consumed by all IT equipment and non-IT equipment to the energy consumed by IT equipment only. The closer the PUE value of a data center is to 1, the more efficient is its power usage.

## LOYTEC Building Management and Control System





# China Mobile Data Center

## Henan, People's Republic of China

The China Mobile Data Center in the Zhengzhou Experimental Comprehensive Zone is China Mobile's largest communications production and information service base in the central plain region. It has over 207,000 square meters of space, with 6 server room buildings, 3 power centers, 2 support and maintenance centers, and 2 IoT centers. For computing capacity, it has 16,900 server racks with 150,000 servers to meet the information needs of Henan Province well into the year 2030.

In addition to cloud computing services, the data center has explored a variety of green technologies for environment protection. LOYTEC's BMS provides an array of open interfaces to connect and monitor diverse devices in real time for greater energy-savings.

China Mobile (Henan) Data Center has adopted the following chiller room group control solutions to achieve energy management and savings by more than 22.5%:

- Based on actual demand, chiller unit operation can be automatically adjusted: The LOYTEC BMCS automatically calculates cooling load required for intra-building air-conditioning, and adjusts optimal number of operating chiller units and active cooling towers to meet specific energy-saving goals.
- Intelligent device coordination for equipment protection: The LOYTEC BMCS can operate multiple chiller units based on designated start/stop sequences, eliminating failure due to wrong sequences. If a pump fails, a stand-by pump automatically runs, keeping vital operations uninterrupted.
- Real-time alarm notification for intelligent maintenance and operation: The LOYTEC BMCS monitors various temperature and pressure parameters. Once a fault is detected, an alarm is issued for timely response and troubleshooting.

Data Center Subsystem	Monitoring and Control	Applications
Refrigeration room group control system 	Refrigeration machine operating parameters  Refrigeration room group control scheme	Modbus TCP is utilized to feed refrigeration parameters to the BMCS.  Demand calculation for a variety of cooling and control functions
Air supply & exhaust system 	Scheduled control for FCU start/stop  Parameter monitoring & alarm notification	Based on work and holiday schedules, auto calculation of hours for timely maintenance;  Relay contact status detection for FCU overload, with overload alarm notification.
Water supply & drainage system 	Automatic water level control  Parameter monitoring & alarm notification	Automatically Start (Stop) the sump pump.  Auto-calculate operation hours for timely maintenance and assign active or backup pump.  Automatic alarm when sump too high
Elevator system 	Elevator operation status  Elevator fault alarm  Elevator up/down status	Modbus communication protocol connects elevator system data to LOYTEC BMCS for real-time monitoring of elevator status, and alarm is issued for device fault or emergency.
Air condition system 	MAU (Makeup Air Unit) operating parameters	I/O points are utilized to link the MAU (Makeup Air Unit) data to the BMCS for MAU monitoring.

## FACTS

Location	Zhengzhou Airport Economy Zone, Henan
Number of Nodes	661 I/O points
Networking Protocols	BACnet/IP, LonWorks FT10, Modbus RTU, Modbus IP
Partner Company	Delta Greentech, China
LOYTEC Products	1 x LWEB-900 Building Management System
LOYTEC Tools	4 x LINX-153 Automation Servers 24 x LIOB-150, 31 x LIOB-151, 7 x LIOB-152 I/O Modules 8 x LT-03 Network Terminators L-INX Configurator, L-VIS Configurator, L-LOGICAD, LWEB-802/803

# Smart Buildings and IoT Road Show



With the support of the Taiwanese Embassy, Vivotek and LOYTEC joined forces to hold a series of conferences in Bogotá, Lima and Mexico City. In these conferences, both Vivotek and LOYTEC presented intelligent products and solutions for building automation and spoke about smart buildings, system integration and how our solutions can be integrated into the IoT. A part of the presentation even showed how a Vivotek camera can be integrated into any LOYTEC equipment! Attendees were invited by the Taiwanese Embassy, which focused on building owners, supermarket chains, architects, and major builders. We gladly welcomed the Taiwan Ambassadors of the respective countries on the events.



## Road show in Bogotá, Colombia



The first location of the "Smart Buildings and IoT Road Show" was Bogotá in Colombia and welcomed more than 20 guest from surrounding cities like Medellín, Cali and other important cities of Colombia. Everyone was very impressed with the integration capabilities of our products and solutions and could see how easy they can control and monitor a system. LOYTEC explained the followings concepts:

- Systems in buildings
- Communication protocols
- Integration of the different systems
- The power of the web services integrated in a controller
- L-DALI: the easiest way to create and commission a lighting automation project



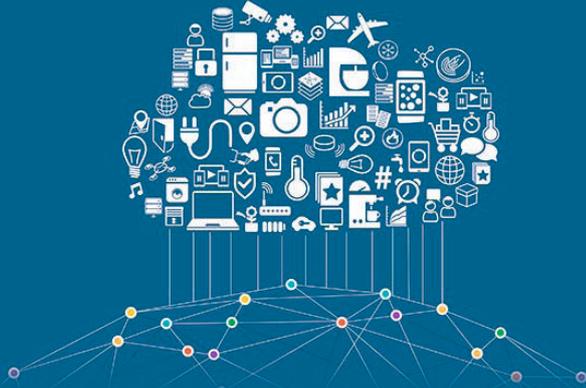
## Road Show in Lima, Perú



Two shows were organized in Lima, Perú. The first one focussed on owners and managers of buildings, hotels, malls, and others. The afternoon event targeted mechanical designers and maintenance engineers.



Se calcula que el mercado de IoT hacia 2020 tendrá un valor de 1.7 billones de dólares a nivel mundial.



Descubre cómo hacer negocio basado en IoT con soluciones de Automatización de Edificios, Sistemas de Video Vigilancia, Almacenamiento de datos e Infraestructura de Red

I N V I T A N



### Road Show in México City, México

The final station of the "Smart Buildings and IoT Road Show" was in México City. We want to thank Mr. Miles Cheng, Vivotek México and Latin America office manager, for his collaboration in this region. His great support gave us the opportunity to present our innovative building automation solutions to an emerging market.



# light+building

From March 18 - 23 LOYTEC presented intelligent solutions for building automation in Frankfurt, Germany. At our representative booth visitors could experience the next generation of L-DALI Lighting Control and L-INX Automation Server solutions. Further highlights were the LWEB-900

extended features including live video integration, the groundbreaking L-ROC system, the L-VIS low energy touch panel range, L-STAT room operator panels, and of course the fascinating and extended integration capabilities LOYTEC is well-known for.



## Delta Fremont Showroom, CA

We are delighted to announce that our team finished installing our state-of-the-art showroom in Fremont, California.

Delta Americas headquarters now shows the best of LOYTEC building management solutions in its newly installed showroom. Visitors are now able to experience LOYTEC room automation, L-DALI lighting solutions and much more at first hand.



**Computex 2018 in Taipei**

LOYTEC products and solutions for intelligent building automation were shown at the Computex 2018 exhibition in Taipei. Delta electronics presented the LOYTEC building control system,

which provides seamless control of any single subsystem in the building. For example the smart lighting control enables tunable white lighting, which adapts to any kind of venue and customer's requirements.



**Hannover Messe 2018 in Hannover / Germany**

For the very first time LOYTEC exhibited product solutions for building automation at the world's biggest industrial fair in Hannover from April 23-27.



**Lightfair 2018 in Chicago**

LOYTEC presented the award-winning L-DALI lighting solution and the ground-breaking L-ROC room automation system at the world's largest annual architectural and commercial lighting trade show and conference.



# New L-STAT Room Operator Panel Models launched

The LOYTEC product portfolio is extended by 18 new L-STAT standard models in white. The new models elegantly combine a white frame, white front and black buttons.

With L-STAT, LOYTEC offers an integral solution for cross-trade room operation. L-STAT is a room operator panel device with a stylish, modern look that gives users full control over temperature, lighting, and sunblind settings.

The L-STAT Room Operator Panel is available in three different hardware versions, with six different button layouts, and two front cover color options (36 models in total). The L-STAT comes with a built-in infrared receiver for convenient remote control of the room's lights, sun blinds and HVAC system via the optionally available IR remote control L-RC1.



Custom versions of the L-STAT are available with all three different hardware versions. Custom printing on the front of the L-STAT allows for any button layout, individual button symbols and even the end customer's corporate identity. Customized versions tailored to the client's requirements can be ordered (minimum quantity 100 pieces).

## Which L-STAT Custom model do you like the most?



# LDALI-MS2 Multi-sensor @ Lux Awards

LOYTEC electronics is excited to announce that the LDALI-MS2 multi-sensor is in the running for the Lux Awards 2018 and managed to get on the shortlist in the category "Controls Product of the Year".

The LOYTEC LDALI-MS2 is a state-of-the-art PIR based presence and lux sensor optimized for typical office environments. Due to its high PIR sensitivity, it will detect even the slight movements of people working at their desks. The sensors key innovations are the integrated temperature and humidity sensors as well as three digital inputs found on the back of the sensor.

### Ideal multi-sensor for room automation

Thus, the LDALI-MS2 becomes the ideal multi-sensor for room automation applications: Humidity and temperature information can be used for HVAC applications (e.g. to calculate the dew point). The digital inputs allow the connection of conventional switches and push-buttons as well as window contacts and other digital inputs typically found in a room.



### Noticeably reduced wiring cost

This innovation not only saves on additional hardware, but also significantly reduces wiring costs, as the inputs can be wired inside the room and wires no longer have to be pulled to the I/O modules in the switching cabinet. All sensor information is provided via the DALI-2 protocol as defined in the IEC 62386 2014 standard. By following this well-established industry standard LOYTEC ensures, that the device can be easily integrated into DALI systems of other vendors. As the LDALI-MS2 is powered via the DALI bus, installation is simple and low-cost. Thinking beyond lighting, the LDALI-MS2 is a true IoT multi-sensor designed for the digital building.

# BACnet Airport Conference

The Frankfurt Airport Conference was hosted by BACnet Interest Group Europe (BIG-EU) at one of the world's largest airports and was addressed to airport operators, facility managers, technical managers, airport planners, integrators and consultants. LOYTEC presented the LUX-awarded L-DALI project "Manchester Airport".



## Upcoming Events

	<p><b>January 14 - 16, 2019</b></p> <p>Georgia World Congress Center, Atlanta Booth C5307 <a href="http://www.ahrexpo.com">www.ahrexpo.com</a></p>
	<p><b>March 11- 15, 2019</b></p> <p>Frankfurt am Main, Germany Booth C49 Hall 10.3 <a href="http://ish.messefrankfurt.com">ish.messefrankfurt.com</a></p>
	<p><b>March 20 - 22, 2019</b></p> <p>Stuttgart, Germany Hall 6 Booth D82 <a href="http://www.messe-stuttgart.de/eltefa">www.messe-stuttgart.de/eltefa</a></p>
	<p><b>March 5 - 7, 2019</b></p> <p>Dubai, UAE WTC Dubai <a href="http://www.middleeastelectricity.com">www.middleeastelectricity.com</a></p>
	<p><b>April 9 - 11, 2019</b></p> <p>Shanghai, China <a href="http://www.cr-expo.com">http://www.cr-expo.com</a></p>
	<p><b>May 28, 2019</b></p> <p>Enocean Day 2019 Castenedolo, Italy <a href="http://www.enocean-alliance.org">www.enocean-alliance.org</a></p>
	<p><b>June 13, 2019</b></p> <p>Perth, Australia HBF Stadium <a href="http://www.airah.org.au/industry nights">www.airah.org.au/industry nights</a></p>



watch us on  
**YouTube**



# LOYTEC Kitchen ABC

## Hokkaido Fennel Risotto with Pears and Parmesan cheese

1 Hokkaido pumpkin (seeded and cut into cubes)  
1 piece onion (chopped)  
300 g risotto rice  
800 ml vegetable stock  
400 ml white wine (dry)  
100 g Parmesan cheese (grated)  
100 g fennel (cut into cubes)  
100 g red pepper (cut into cubes)  
1 good pinch of turmeric  
Tabasco to taste  
salt  
Pepper (freshly grated)  
1 tbsp paprika powder  
1/8 l whipped cream  
1 tablespoon olive oil  
1 tablespoon butter

Peel the pumpkin, remove seeds and cut into small cubes, finely chop the onion.

Heat some butter, fry the onion and the pumpkin cubes until they become glassy, add half of the wine, season with turmeric, salt, pepper and paprika and simmer over medium heat, puree and put aside.

Heat 1 tablespoon of olive oil and sauté the rice, diced fennel, diced bell peppers and salt. Deglaze with the rest of the wine and add the vegetable broth, stirring slowly over medium heat for about 20 minutes.

Add the pureed pumpkin, the cream, the parmesan and a few drops of Tabasco about 5 minutes before the end of the cooking time,

The risotto should be served firm and creamy. Delicious with roasted pumpkin seeds and seed oil from Styria.

Gradually add the chicken broth (previously prepared) with frequent stirring. Mix in the Parmesan, sour cream and pumpkin 5 minutes before the end of the cooking time. Heat everything and serve immediately.

Tip: Sprinkle the pumpkin risotto with freshly grated parmesan.



ENJOY YOUR MEAL!

# Your new contact for existing and future LOYTEC Competence Partners!

Dipl.-Ing. (FH) Ulrich Howorka,  
Senior Sales Application Engineer EMEA

**W**e are happy to welcome Mr. Ulrich Howorka as a new member of the Sales Team EMEA. Read more about his career and how his career pointed towards LOYTEC.

Since April 2018 Mr. Ulrich Howorka supplements our sales team EMEA in his office in Frankfurt am Main. Mr. Howorka began his professional career in 1987 as a graduate engineer in Honeywell's Building Automation Development Department. Later, at Honeywell, he created function libraries for room automation applications and coordinated the worldwide LON programs with internal and external project partners.

In 2008 he moved to Sauter where he worked in Sales as Key Account Manager. Already at that time, Mr. Howorka used LOYTEC's extensive product portfolio time and again to functionally expand the possibilities of its own product lines.

Through his active involvement in standardization com-

**"Make technology comprehensible and transparent!"**

mittees such as LonMark, DIN and eu.bac, Mr. Howorka has steadily expanded his network in the industry. He now provides this experience to the LOYTEC Competence Partner. As a system integrator with many years of project experience in large-scale projects, Mr. Howorka is a sought-after contact for executing companies as well as builders and investors.

Despite the increasing complexity, the technology has to remain manageable for the user, especially in the room automation. The maximum in comfort and energy efficiency is determined by the acceptance of the users.

"It always gives me pleasure design customer-specific operating concepts for our touch panels in order to literally make the technology, which otherwise remains hidden, understandable and transparent to the user."

"With the L-ROC room automation system, the L-VIS Touch Panels and the L-DALI product line, LOYTEC provides its Competence Partners with a powerful platform to compete in the race for the most modern office and residential space in metropolitan areas", so Mr. Howorka.

Similar to the way in which the lighting is controlled by Alexa in their own four walls, in the digital building of the future the media technology in the conference rooms can be controlled via web services. We at LOYTEC are prepared for this!



# TRAINING

We offer trainings in multiple languages. Training dates are available at [www.loytec.com/training](http://www.loytec.com/training). Please contact [sales@loytec.com](mailto:sales@loytec.com) for additional training dates or trainings at a location of your choice.



## LTRAIN-LSTUDIO

### Programming the L-INX Automation Server (3 days)

- Introduction into the L-STUDIO Software
- Concepts and structure of the IEC 61131 and IEC 61499 language
- Creating function logic with data points and graphical systems
- Working with function blocks, device types and resources
- Testing and debugging of the system
- Configuration of schedulers, alarms, and trends
- Deploying of logic and graphical projects
- Contents of the LOYTEC building automation library
- Working with the LOYTEC building automation library

## LTRAIN-GRAPHICS

### Graphical design with L-VIS and L-WEB (2 days)

- Creating L-VIS and LWEB-803 projects with the L-VIS/L-WEB
- Configurator
- Creating a distributed visualization based on L-INX and LWEB-803
- Efficient project design using templates

## LTRAIN-BMS

### LWEB-900 Building Management System (2 days)

- Introduction to the LWEB-900 system
- LWEB-900 Project Setup
- Working with LWEB-900 Views
- LWEB-900 User Management

## LTRAIN-DALI

### Lighting control with L-DALI (2 days)

- Introduction to DALI
- Features of the LOYTEC DALI Controllers
- Configuring LOYTEC DALI Controllers
- Setting up a DALI network
- Troubleshooting the DALI installation

## LTRAIN-LROC

### Room Automation with L-ROC

Training dates are available on request

- System design based on a sample project
- Creating the IEC 61499 application for the same project
- Creating virtual room operating units/ use with LWEB-802/803
- Creating floor plan visualizations
- Integration into LWEB-900
- Parameterization, testing, and debugging the application
- Concepts and features of important IEC 61499 function blocks



NEW!

## ONLINE-TRAININGS

Use our extensive online training program!

You can also acquire your LOYTEC know-how online. Find out more: [www.loytec.com/training](http://www.loytec.com/training)

# L-ROC Room Automation

Energy efficiency. Comfort. Flexibility.



- ▶ One system for heating, ventilation, air conditioning, lighting, sunblinds and security
- ▶ Room layout quickly and easily adjustable during operation
- ▶ Modern room operation via touch panels
- ▶ Web room operation via smartphone, tablet or PC in real time
- ▶ Investment protection through open and standardized technologies
- ▶ Developed and produced in Austria

Controllers, Actuators,  
Sensors and Accessories

**DALI-2**  
SUPPORTED



L-ROC Room Automation  
Video on Youtube

**LOYTEC**  
A Delta Group Company