

L-ROC™

Room Automation.



ENGLISH

LOYTEC **Focus**

 **LOYTEC**
A Delta Group Company

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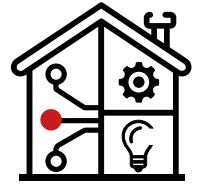
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L-FOCUS is an information brochure about LOYTEC room automation solutions.

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LOYTEC - Buildings under Control.

Smart buildings, maximum return, minimal risk

LOYTEC, an Austrian pioneer in building automation, transforms buildings into intelligent, efficient ecosystems. As a global player, we manage, control, and connect everything that forms the backbone of a professional building – delivering comfort, efficiency, and sustainability without compromise.

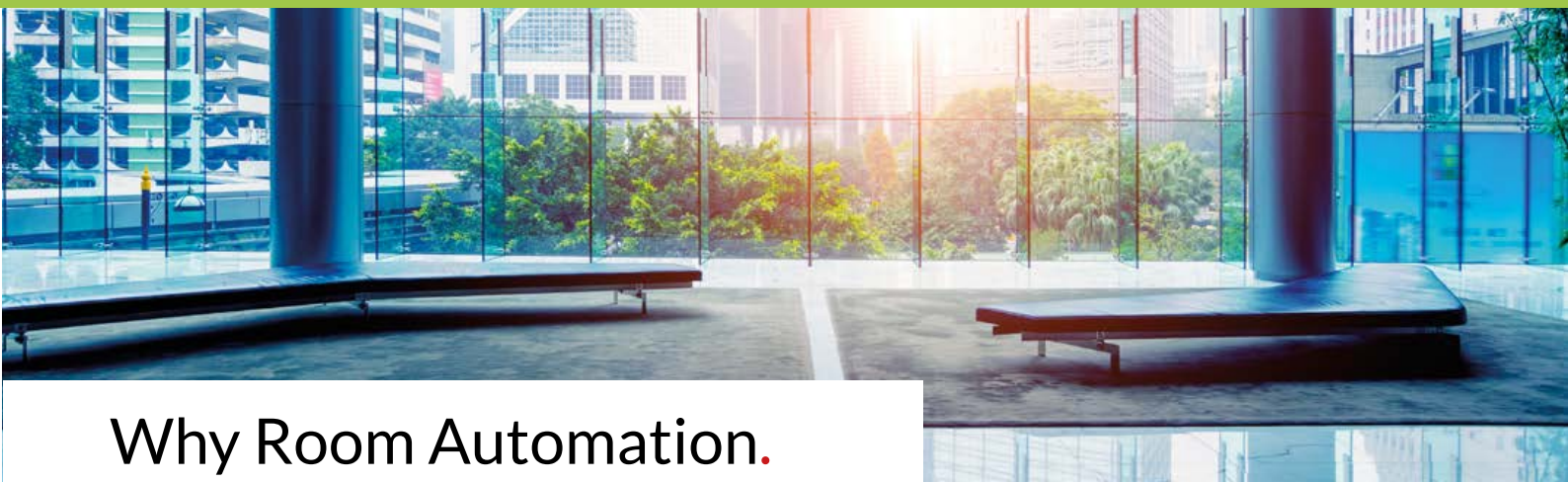
Our solutions are open, scalable, and support all major building automation protocols. With cybersecurity and autonomous intelligence at their core, LOYTEC systems ensure continuous operation with no single point of failure.

Whether retrofitting existing buildings or developing new infrastructure, LOYTEC delivers tailor-made solutions for every project.

Since 1999, we've bridged the gap between IT and OT, giving building owners full control over their data and systems. Backed by the DELTA Group, we develop solutions that put people's needs first – shaping the future of smart buildings.



UPCYCLE YOUR SPACE.



Why Room Automation.

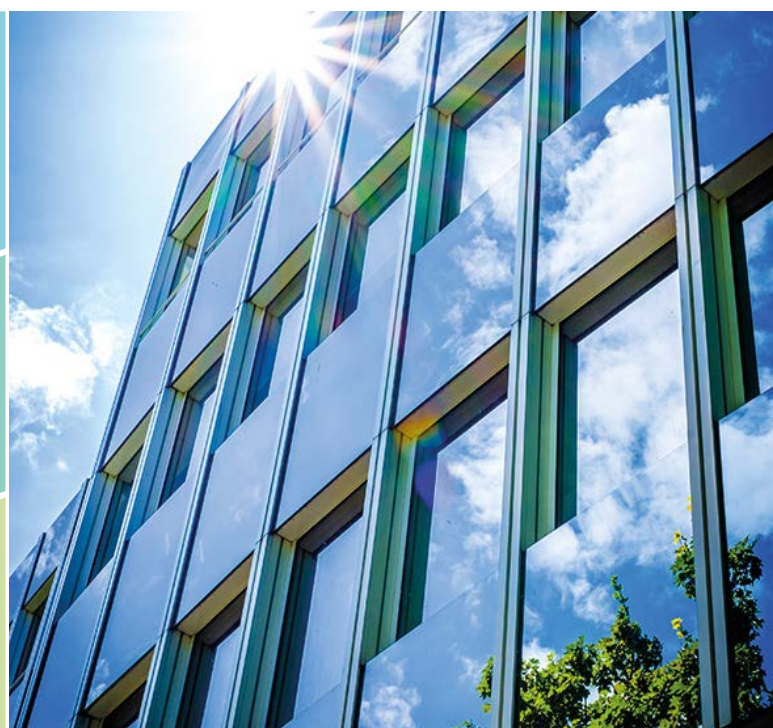
As a core discipline within building automation, room automation plays a pivotal role in operating buildings with maximum energy efficiency while ensuring optimal user comfort. It is essential for meeting today's and tomorrow's legal and normative requirements, and for achieving certifications that validate sustainable building performance.

When properly planned and implemented, room automation brings a high degree of flexibility to building

operations — enabling quick and efficient adaptation to changes in room usage, such as tenant transitions or space reconfigurations.

In our digital age, where smartphones and cloud applications are indispensable, a modern room automation system with a high level of digitalization lays the foundation for meeting the evolving expectations of users — today and in the future.

Core Requirements for a Future-Proof Room Automation System.



Energy Efficiency & Certifications.

Energy Efficiency Begins in the Room

In modern buildings, energy – whether electrical or thermal, externally supplied or internally generated – serves one essential purpose: to create optimal conditions in each room so that occupants can live, work, and succeed comfortably.

Achieving the right temperature, lighting, and shading in every space is not just a matter of comfort – it's the foundation of energy efficiency. For example, automated sun shading systems prevent glare, while intelligent lighting and HVAC controls ensure that energy is only used when and where it's needed.

That's why room-level control is at the heart of sustainable building operation. According to the international standard

EN 15232, which outlines the impact of building automation on energy performance, demand-driven control of room systems is essential to reach the highest efficiency class (Class A).

In Germany, these principles are reflected in the VDI 3813/3814 guidelines, which provide planners with a framework for designing room automation systems that meet today's functional and regulatory demands. An integrated room automation system is not only key to maximizing energy efficiency, but also plays a critical role in achieving green building certifications such as DGNB, LEED, and others – significantly boosting a building's value and sustainability profile.





Key Room Functions for Maximum Energy Efficiency: Presence-Based Comfort Control

Constant Light Control

Lighting is only activated when someone is present in the room. The system continuously adjusts artificial lighting based on available daylight to maintain a fixed target level – for example, 500 lux at a workstation in office buildings.

Daylight Utilization

Sun-shading systems automatically adjust based on the sun's position to prevent glare while maximizing natural daylight. A 3D model of the building and its surroundings ensures optimal shading throughout the year.

Energy Level Selection

Based on room occupancy analysis, the system automatically switches between different temperature setpoints. This ensures that energy-intensive comfort temperatures are only maintained during actual room usage.

Thermal Automation

Heating and cooling are supported by the sun-shading system. When rooms are unoccupied, the system can either allow or block solar heat gain, depending on the desired thermal strategy.

L-ROC: Maximum Energy Efficiency Built In

With the L-ROC Room Automation System, LOYTEC delivers maximum energy efficiency through the consistent implementation of all standardized room functions – made easily accessible via a powerful, user-friendly function library.

This approach enables significant reductions in primary energy demand, directly supporting the achievement of green building certifications such as LEED, DGNB, and BREEAM.

L-ROC continuously monitors and records the energy demand of individual rooms, tenant zones, or entire floors. These insights are seamlessly shared with the building's central plant control system, enabling demand-driven energy generation and distribution – exactly where and when it's needed.

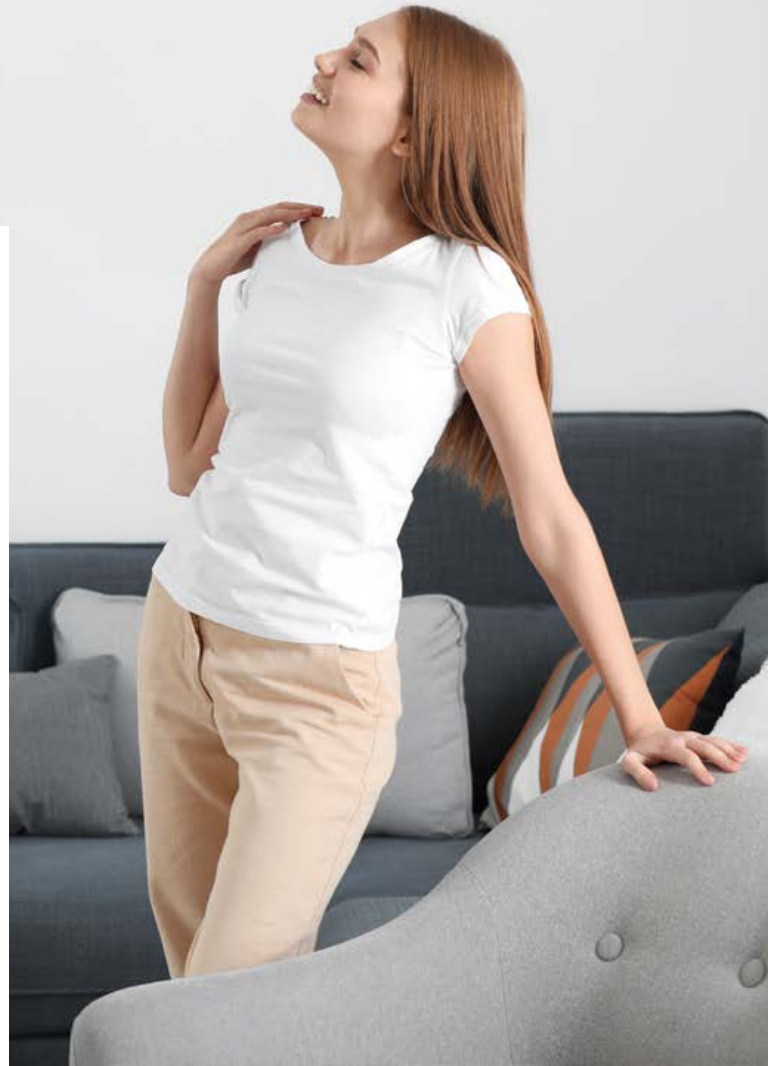




User Comfort.

The primary task of room automation is to automatically maintain optimal conditions at all times. Whether it's a comfort temperature of 22 °C, ideal lighting levels, automatic glare protection, or perfect air quality – everything is managed seamlessly and intelligently in the background.

At the same time, user control remains essential. LOYTEC systems ensure that occupants can easily override or adjust settings to suit their personal preferences – combining the best of automation and individual freedom.



L-ROC for Maximum User Comfort

LOYTEC's L-ROC system gives users full control over their room environment – via L-STAT, L-PAD, or the LWEB app on any smartphone, tablet, or PC. This intuitive control earns top marks in sustainability certifications for user experience.

Thanks to support for open protocols like KNX, Modbus, LON, and BACnet, even third-party devices can be seamlessly integrated.



Flexibility in Room Modifications.

In office and administrative buildings, flexibility is a key priority – even in the earliest planning stages. Large office complexes are often constructed before all floors are rented. To meet the diverse needs of future tenants, the ability to freely configure room layouts becomes essential. LOYTEC's room automation systems support this demand with modular, scalable solutions that adapt effortlessly to changing space requirements.



L-ROC for Maximum Flexibility

LOYTEC's L-ROC system enables flexible room configurations with minimal effort. While applications run distributed across multiple controllers, communication is managed centrally and hardware-independently.

This makes reconfiguring office spaces fast and easy – changes can be made directly by the owner or operator, without technical support.





Planning and Future-Proofing.

A modern room automation system must be prepared for a wide range of communication protocols to ensure seamless integration across all building systems. For dimmable lighting, the well-established DALI protocol is standard, while SMI is gaining popularity for controlling blinds as a smart alternative to conventional 230 V motors.

In HVAC applications, MP-Bus and Modbus are indispensable. For wireless sensors and room control, EnOcean and increasingly Bluetooth Mesh are proving to be the protocols of choice.

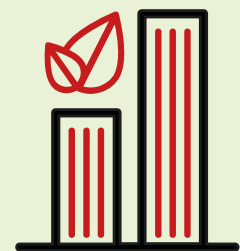
To enable energy-efficient, demand-driven automation, room-level data must be made available to the management and control layers. Here, BACnet/IP has become the industry standard for reliable, scalable communication.



L-ROC: Limitless Integration Possibilities

As a comprehensive room automation platform, L-ROC enables seamless integration of all major building automation protocols – based on a unified, consistent architecture. Every LOYTEC controller features dual Ethernet ports, which can be switched or operated in separate networks (e.g., to separate IT and building automation systems for visualization purposes).

An integrated web server allows for easy configuration and hosting of custom graphic pages, such as virtual room control panels or floor plan visualizations – all directly accessible via standard web browsers.



Seamless Integration into Building Apps.

In today's digital era, building users increasingly expect seamless digital experiences. Beyond simply controlling room functions via smartphone, the ubiquitous mobile device is now expected to serve as a key for access control, indoor navigation, and personalized interaction with the building environment.

The possibilities of a smart, digitalized building are vast—and the number of providers offering smart building app solutions is growing rapidly. However, to implement and offer such solutions effectively, a building must first be equipped with a solid digital foundation.



L-ROC: The Ideal Foundation for Smart Building Apps

The L-ROC system provides all room automation data in digital form, enabling effortless integration into building app solutions—whether cloud-based or locally hosted. This ensures that smart services such as room control, access management, and indoor navigation can be implemented at any time without additional infrastructure.

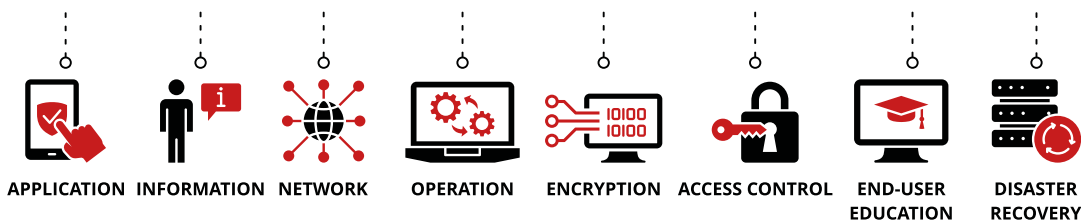
Even more convenient: the often complex and costly retrofitting of Bluetooth beacons for indoor positioning is no longer necessary. LOYTEC has already integrated Bluetooth functionality directly into its multisensors, making precise location services available out of the box.





Cybersecurity – Be Prepared.

A high degree of connectivity, digitalization, and especially internet integration inevitably increases cybersecurity risks. Legislators are responding accordingly: with the Cyber Resilience Act (CRA), the NIS2 Directive, and KRITIS regulations, the European Union is placing strict new demands on IT systems—including building automation systems.



L-ROC: Built for Maximum IT Security

With an integrated firewall, SSL encryption, OPC UA support, and full implementation of BACnet Secure Connect (BACnet/SC), the L-ROC system leverages state-of-the-art IT security technologies to ensure secure data communication within the building automation network.

LOYTEC stays at the forefront of cybersecurity innovation. All essential security mechanisms are already embedded in our products today—so by choosing our solutions, you are automatically well-prepared for the challenges of tomorrow.





Retrofitability.

In new construction projects, the situation is usually straightforward: cabling and automation systems are planned and installed from the outset. However, with increasing legal requirements for energy efficiency in buildings, attention is shifting toward the vast number of existing buildings—many of which have little to no automation and are in urgent need of modernization.

The challenge: retrofitting must often take place during ongoing building use and without the need for new cabling. This calls for flexible, non-invasive solutions that can be integrated seamlessly into existing infrastructure—exactly what LOYTEC’s retrofit-ready systems are designed to deliver.

L-ROC for Wireless Retrofits

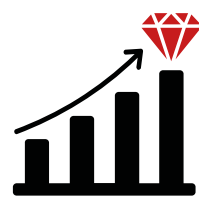
LOYTEC offers a fully wireless room automation system based on Bluetooth Mesh technology. Communication between devices is entirely wireless, while all field devices and controllers can be easily connected to the existing power infrastructure—no new cabling required. A key advantage: unlike many other manufacturers, LOYTEC relies on the open SIG Mesh protocol, ensuring long-term interoperability with third-party devices. As always with LOYTEC, openness and future-proof integration are at the core of the solution.



Increase the Value of Your Property.

Whether you’re aiming to operate your owner-occupied building with maximum energy efficiency or position yourself as a competitive investor in a demanding rental market—LOYTEC’s L-ROC system empowers you to elevate your property with a room automation solution that meets the highest standards.

At the same time, you’re laying the perfect foundation for current and future smart building applications—ensuring long-term value, flexibility, and sustainability.





L-ROC Room Automation.

UPCYCLE YOUR SPACE.

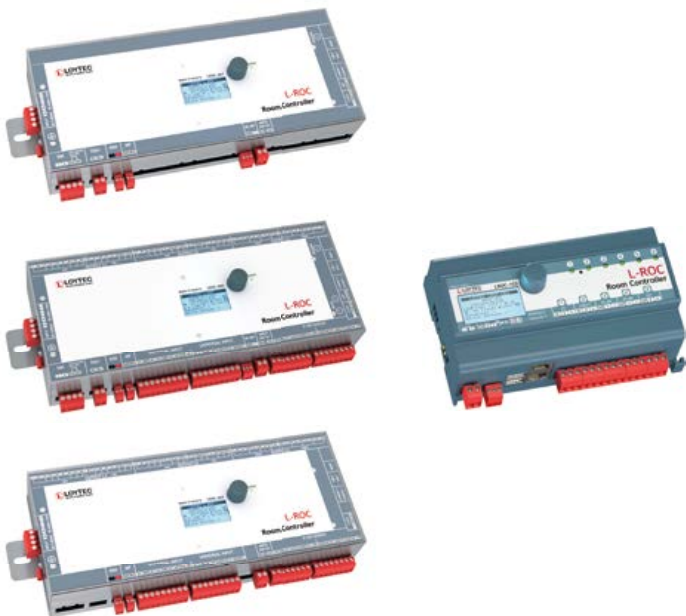


The L-ROC Product Family – Room Controllers.

New Constructions with Axis-Flexible Requirements

The core element and essential prerequisite for a well-functioning room automation system are the control functions for lighting, shading, and HVAC applications. LOYTEC offers a range of freely programmable hardware components on which these control functions can be executed.

For flexible office projects where rapid adaptation of room layouts to changing user requirements is essential, LOYTEC provides both modular, expandable room controllers for centralized DIN rail mounting (e.g., in a floor distribution panel) and controllers for decentralized installation in suspended ceilings or raised floors. These decentralized units come with all necessary interfaces already integrated.



Fixed Rooms or Retrofits Without Rewiring

For buildings with fixed room layouts, LOYTEC offers single-room controllers for DIN rail mounting. These units come equipped with a wide range of on-board interfaces for field device integration and, as is standard with LOYTEC, integrate seamlessly into the building automation system's IP infrastructure.

Additionally, the L-PAD provides a programmable, interface-expandable alternative that enables single-room control without any hardware components in the control cabinet or electrical panel.

In both cases, the system supports the Bluetooth Mesh protocol based on the SIG standard, which offers a major advantage in retrofit projects: existing mains power can typically be used, and all field communication between sensors, controllers, and actuators takes place wirelessly.





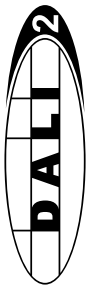
Interface Modules for Limitless Integration.

Whether integration is needed via KNX, Modbus, BACnet, DALI, SMI, MP-Bus, EnOcean, Bluetooth SIG Mesh, or through digital and analog I/Os—room automation requirements are often diverse and must be handled simultaneously. With LOYTEC's flexible interface modules, you're ready for seamless, future-proof integration across all technologies.

Directly Integrated or via Expansion Module



Sometimes it's practical to use an existing DALI bus to control devices not typically associated with DALI—such as shading motors. LOYTEC offers a broad range of DALI-2 certified interface modules, enabling flexible integration through a proven standard.



Especially in renovation projects, upgrades often need to be carried out during ongoing operations and without new cabling. LOYTEC offers a wide range of Bluetooth SIG Mesh-enabled actuator and sensor modules that can be easily connected to existing mains power—making wireless retrofitting both practical and efficient.





Room Control for Every Requirement.

The cross-discipline approach of the L-ROC system also forms the foundation for an intuitive and integrated room control concept, eliminating the need for a confusing array of individual switches.

LOYTEC offers integrated room control devices with standardized interfaces that connect to the L-ROC environment almost like plug-and-play. Whether it's cost-effective solutions for single offices, sleek touch panels in modern tablet design for premium spaces, smartphone-based control, or third-party devices integrated via one of LOYTEC's many open interfaces—the possibilities with L-ROC are virtually limitless.





Intelligent Detection. Built-In Beacon.

No energy-efficient room automation system works without presence detection! Only with reliable occupancy sensing can all building systems—lighting, shading, and HVAC—be controlled intelligently and in sync, preventing unnecessary energy consumption.

LOYTEC offers multisensors in various shapes and colors, which can be integrated either via the DALI-2 standard or wirelessly using the Bluetooth SIG Mesh standard. The wireless models can even act as DALI gateways for connected luminaires.

Both versions feature sensors for brightness, presence, temperature, and humidity, along with rear digital inputs and an integrated beacon function. This beacon can be used by smartphone apps for indoor positioning within the building.





Applications for minimal programming Effort.

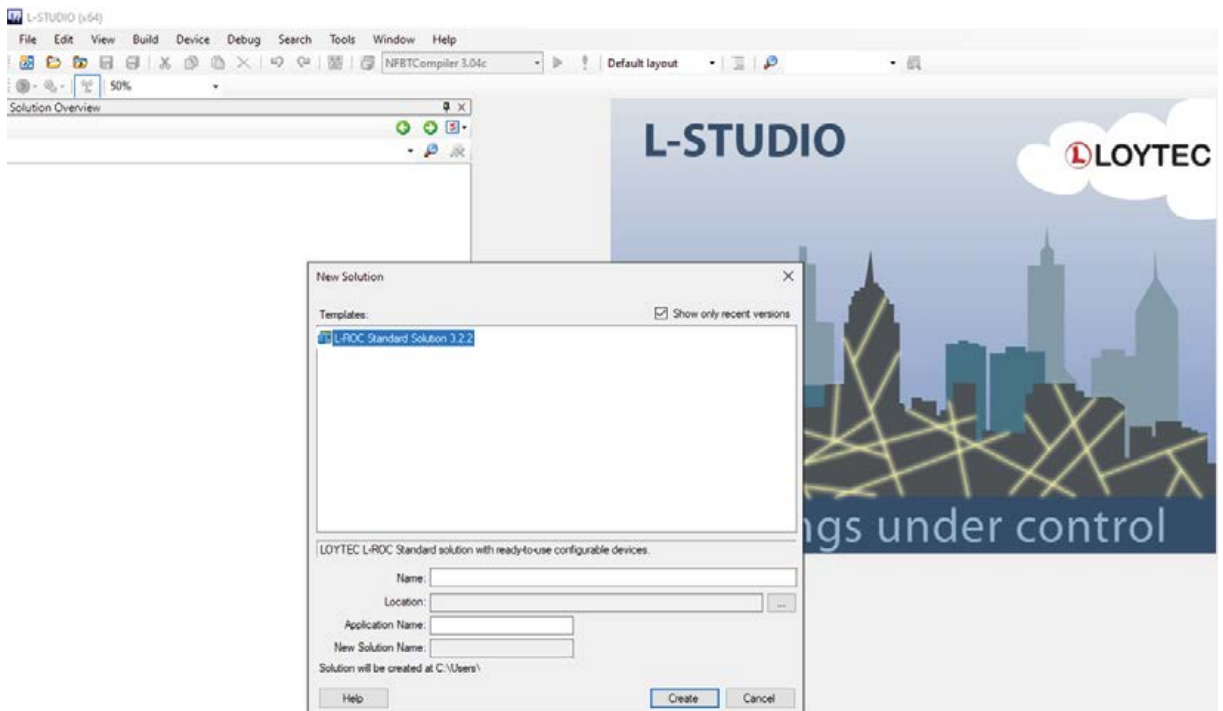
Presence-Based Constant Light Control – Automated Sunblind Adjustment based on Sun Angle – Adaptive Room Climate Setpoints based on Occupancy – and much more.

Sounds complex? With LOYTEC, it's surprisingly simple!

All these functions are available in a free macro library, and LOYTEC also offers a standard solution for programming the L-ROC system. Thanks to preconfigured device templates, even the largest projects can be programmed in record time.



LOYTEC relies on state-of-the-art programming standards that make duplicating recurring functions and implementing subsequent changes incredibly easy.

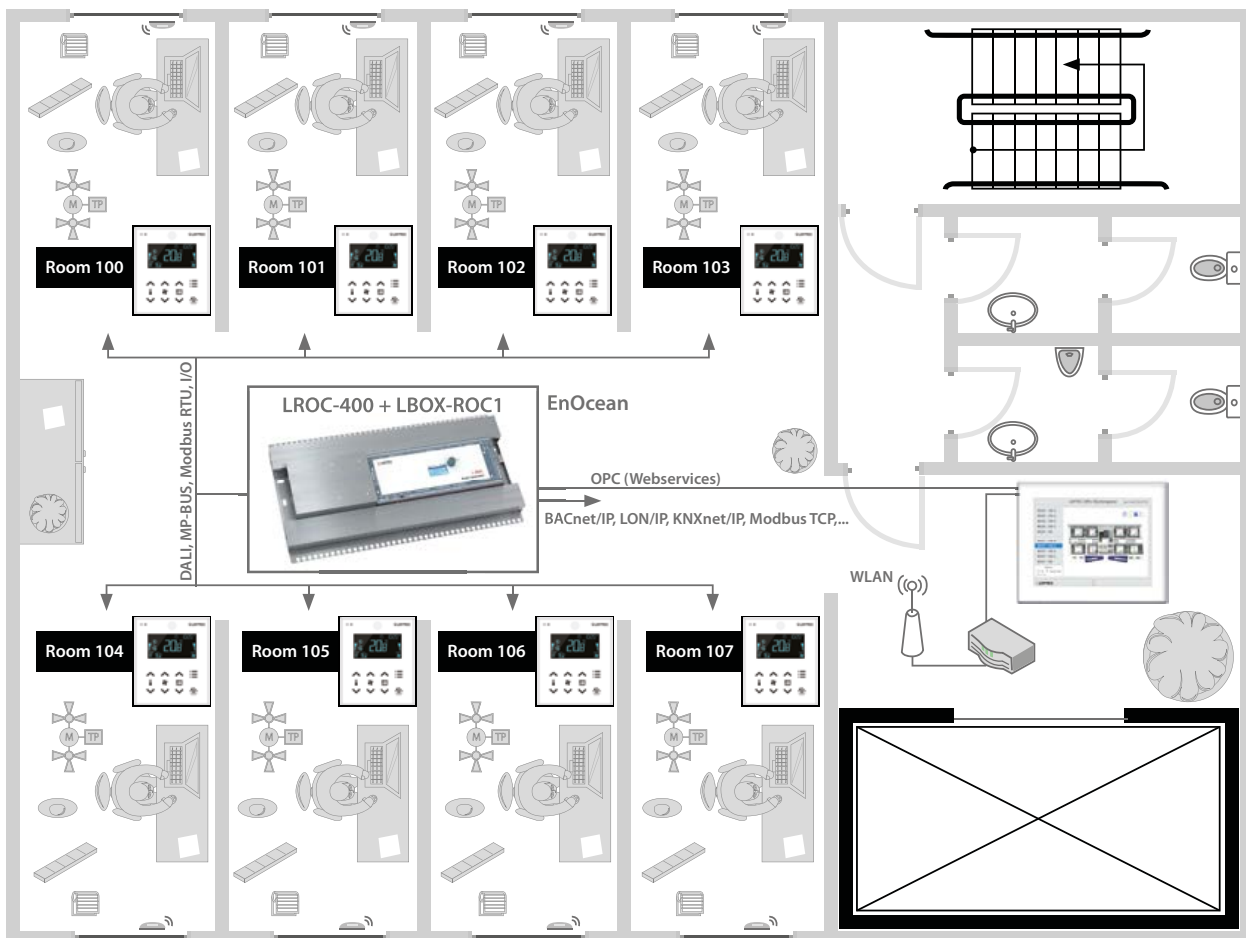




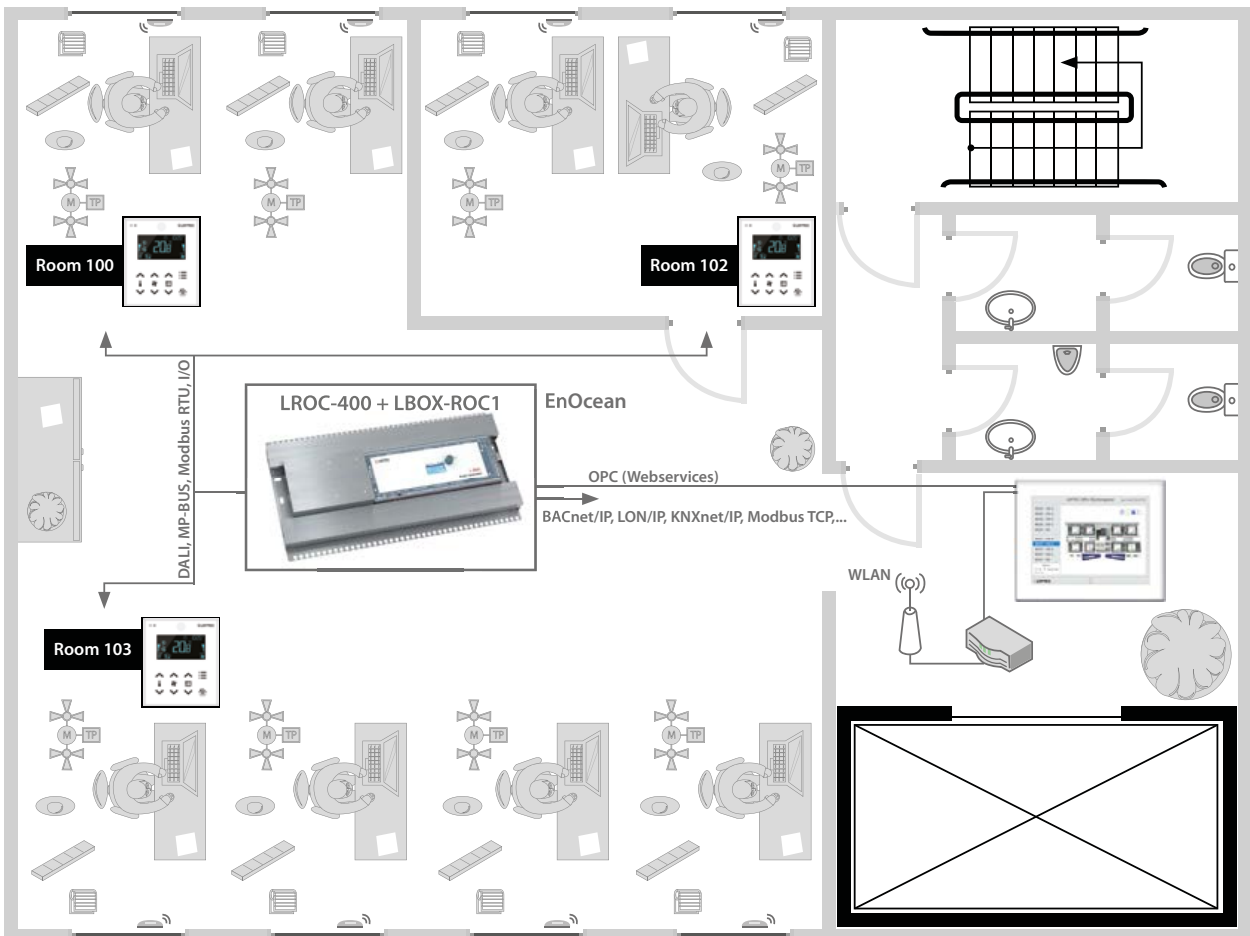
Integrated, Axis-Flexible Room Automation for New Buildings.

L-ROC has already proven itself in countless projects where building owners and users benefit from the exceptional flexibility, reliability, and future-readiness of our unique room automation system. Especially in new office buildings with the highest standards, the L-ROC system has consistently demonstrated its strengths.

Its integrated approach—combining lighting, shading, and HVAC control in a single system—creates powerful cross-discipline synergies that maximize energy efficiency. Room layout changes can be made in record time with just a few clicks, thanks to an intuitive visualization interface.



Use Case: Creating New Room Layouts by Simply Changing Room Numbers (here: 8 individual offices)



Use Case for 8 office segments (1 open-plan office, 1 private office)



Room Automation in Renovation Projects.

Current and upcoming legislation will soon require a growing number of existing buildings to undergo energy-efficient renovations. Building automation plays a key role in achieving these goals.

One of the main challenges in such projects is that renovations often need to take place during ongoing operations—and ideally without the need for extensive rewiring.

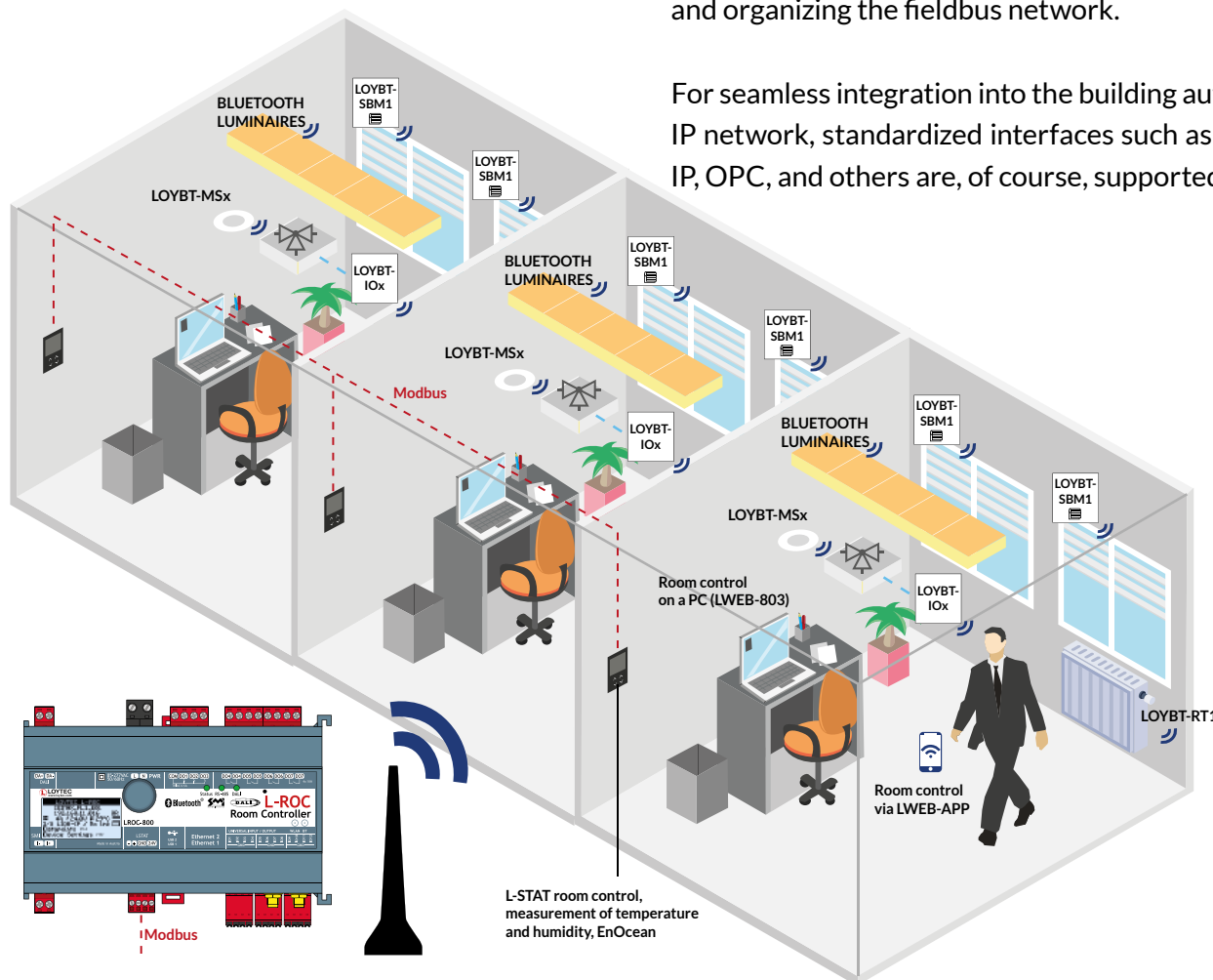
LOYTEC offers the perfect solution with its product range based on the Bluetooth SIG Mesh standard. The

system is designed so that all communication nodes can be easily connected to existing wiring and then communicate wirelessly. This typically eliminates the need for installing new cables.

As a mesh network, certain devices can also act as repeaters, ensuring extended coverage. At the same time, wireless communication is encrypted and secured according to the latest IT standards.

LOYTEC provides various devices that handle the so-called “provisioning” function—essential for addressing and organizing the fieldbus network.

For seamless integration into the building automation IP network, standardized interfaces such as BACnet/ IP, OPC, and others are, of course, supported.



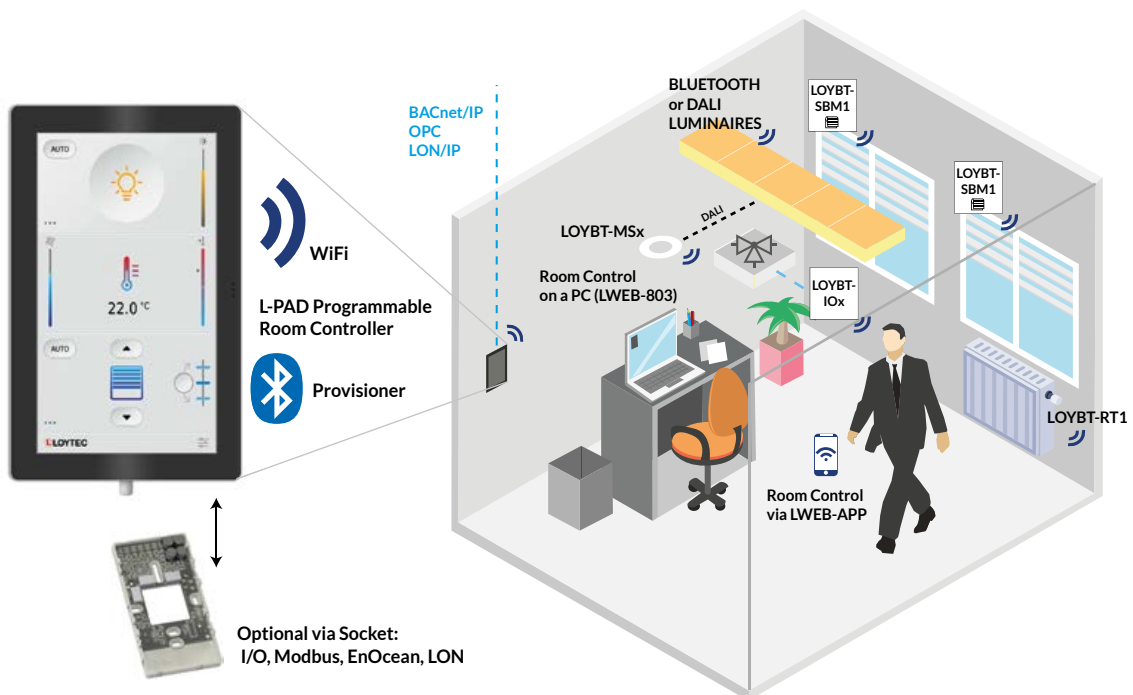
Integrated Single-Room Control with L-PAD.

L-PAD is more than just a sleek touch panel for intuitive room operation—it seamlessly integrates as a user interface for a central L-ROC controller. But it doesn't stop there: a programmable version of L-PAD is also available, capable of functioning as a standalone single-room controller for lighting, shading, and HVAC control—without the need for additional controller hardware.

For added flexibility, L-PAD can be expanded using modular “Sockets”—plug-in boards that integrate directly into the installation frame, providing additional I/Os and fieldbus interfaces.

Thanks to its built-in Bluetooth SIG Mesh functionality, L-PAD can wirelessly control a wide range of LOYTEC Bluetooth-enabled devices, eliminating the need for new cabling.

This makes L-PAD an ideal, cost-effective solution for room automation in offices, hotels, and schools—whether in new construction or renovation projects.



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Case Studies.



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The Oval
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EWS24 Office
Frankfurt
Germany



More Than Just Room Automation. A Comprehensive Ecosystem for Building Automation

Welcome to the world of LOYTEC, where innovation meets comprehensive building automation solutions. While this brochure highlights our advanced room automation systems, it's important to recognize that LOYTEC offers a much broader range of technologies and products.

At LOYTEC, we are proud to provide a complete ecosystem that supports every aspect of building management. This ecosystem is structured around three core pillars: lighting control, room automation, and plant control. But what truly sets us apart is a fourth, essential component—our powerful range of communication and integration products. These act as translators and data highways, enabling seamless interaction between different systems and protocols.

This ensures not only smooth interoperability within LOYTEC's own product family, but also across the entire building automation landscape.

The LOYTEC Ecosystem:
Comprehensive Control and Seamless Connectivity
LOYTEC speaks the many languages of the building automation industry, enabling you to manage and integrate various systems effectively.

Our ecosystem allows you to approach building automation from different angles. Whether you start with room automation, lighting control, or plant management, our routers and gateways ensure seamless networking of all systems within your building.

From sensors and controllers to gateways and overarching building management software, LOYTEC offers solutions that ensure flawless communication between devices, system levels, and users. Our goal is to place people at the center of our solutions—focusing on ease of implementation and enhancing comfort for building occupants.



A Vision of Infinite Possibilities
LOYTEC's ecosystem covers every imaginable aspect of building automation. If you can envision it, we have the solutions and applications to bring it to life. At the core of our DNA is the ability to enable communication across all building systems through open protocols. This approach not only drives industry growth but also provides a comprehensive system overview, optimizes energy consumption, and enhances occupant well-being.



LOYTEC.

Connecting Everything, Empowering Everyone.

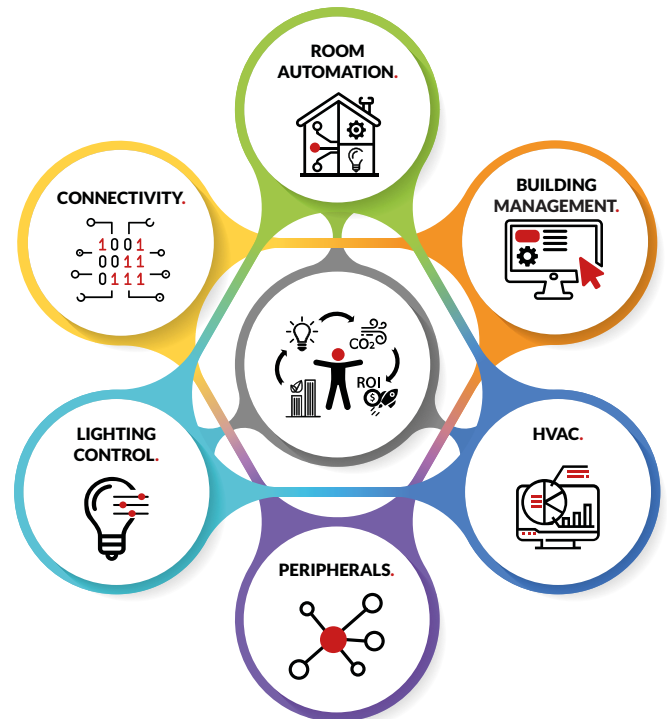
The LOYTEC Ecosystem offers a scalable platform that grows with your business, ensuring seamless integration and retrofit solutions compatible with existing systems. With LOYTEC, you can reduce risk, lower costs, and ultimately increase your return on investment (ROI) while protecting your long-term investments. Our commitment to ESG principles (Environmental, Social, and Governance) means we prioritize sustainability and energy efficiency—delivering future-proof technology that supports your long-term goals. Grow with LOYTEC and benefit from a robust, adaptable, and forward-looking automation system.

From the very beginning, LOYTEC has been synonymous with innovation, launching groundbreaking products in its very first year. We've always been pioneers, merging traditional building automation with the new possibilities of IP and big data. Our rapid time-to-market ensures that our customers receive cutting-edge solutions that give them a competitive edge.

At LOYTEC, innovation means better solutions, shorter installation times, easier deployment and programming, and greater flexibility—all within a unified ecosystem.

Join the LOYTEC Community

LOYTEC is much more than just a provider of lighting control solutions. We are a comprehensive partner in building automation, offering a wide range of products and services to meet all your needs.



Our commitment to open protocols and seamless communication ensures that we can integrate third-party products to create a truly connected and intelligent building environment.

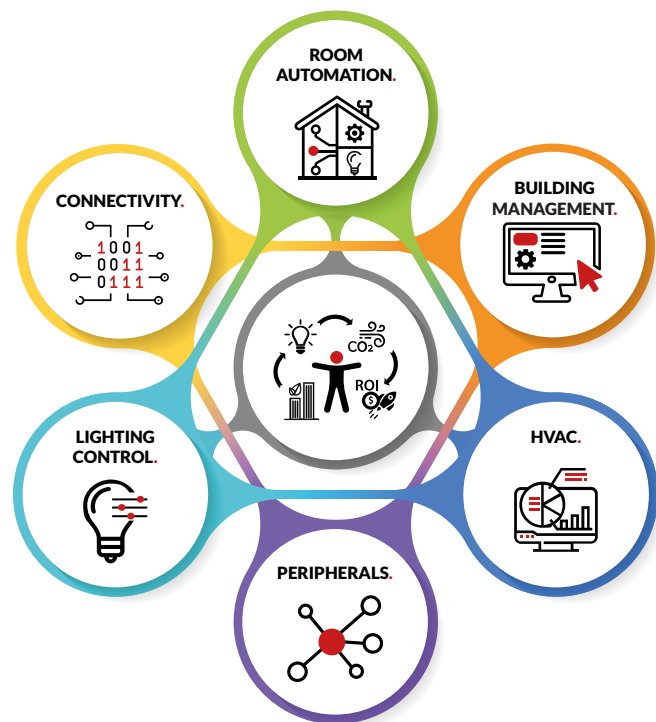
Please contact your local sales representative at loytec.com/sales to learn more about the infinite possibilities LOYTEC can offer. Join us in shaping smarter, more efficient, and people-centered building automation solutions.

L-ROC Room Automation.

Modern room automation systems must meet a wide range of requirements.

As one of the industry's leading manufacturers, LOYTEC offers with the L-ROC system a state-of-the-art room automation solution that fulfills all the demands of a modern and future-ready building automation system:

- Maximum energy efficiency and optimal user comfort
- Built-in axis flexibility for dynamic room configurations
- Integration capabilities for all protocols relevant to building automation
- Seamless connectivity to IT networks
- Compliance with the latest IT security standards



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