What’s Next for Smart Buildings?

Unlocking Flexibility, Transparency and Scalability with Hybrid Building Management

WAGO Kontakttechnik GmbH & Co. KG



WHAT MOTIVATES US



VISION

WAGO is the backbone of a sustainable and smart connected world.

MISSION

Empower connections!

Our Business Areas

INTERCONNECTION		**INTERFACE**	
AUTOMATION		**SOLUTIONS**	

OUR Branches



INDUSTRY



RAILWAY SYSTEMS



ENERGY



BUILDING TECHNOLOGY



LIGHTING TECHNOLOGY



MARINE AND OFFSHORE



ELEVATORS AND ESCALATORS



CONTROL CABINET MANUFACTURING

We develop reliable solutions for a wide variety of industries and applications.

WAGO and Building Automation



Building Automation and Control Systems

One platform. One building strategy. Unlimited possibilities.



Building Management



Room Automation



Lighting Management



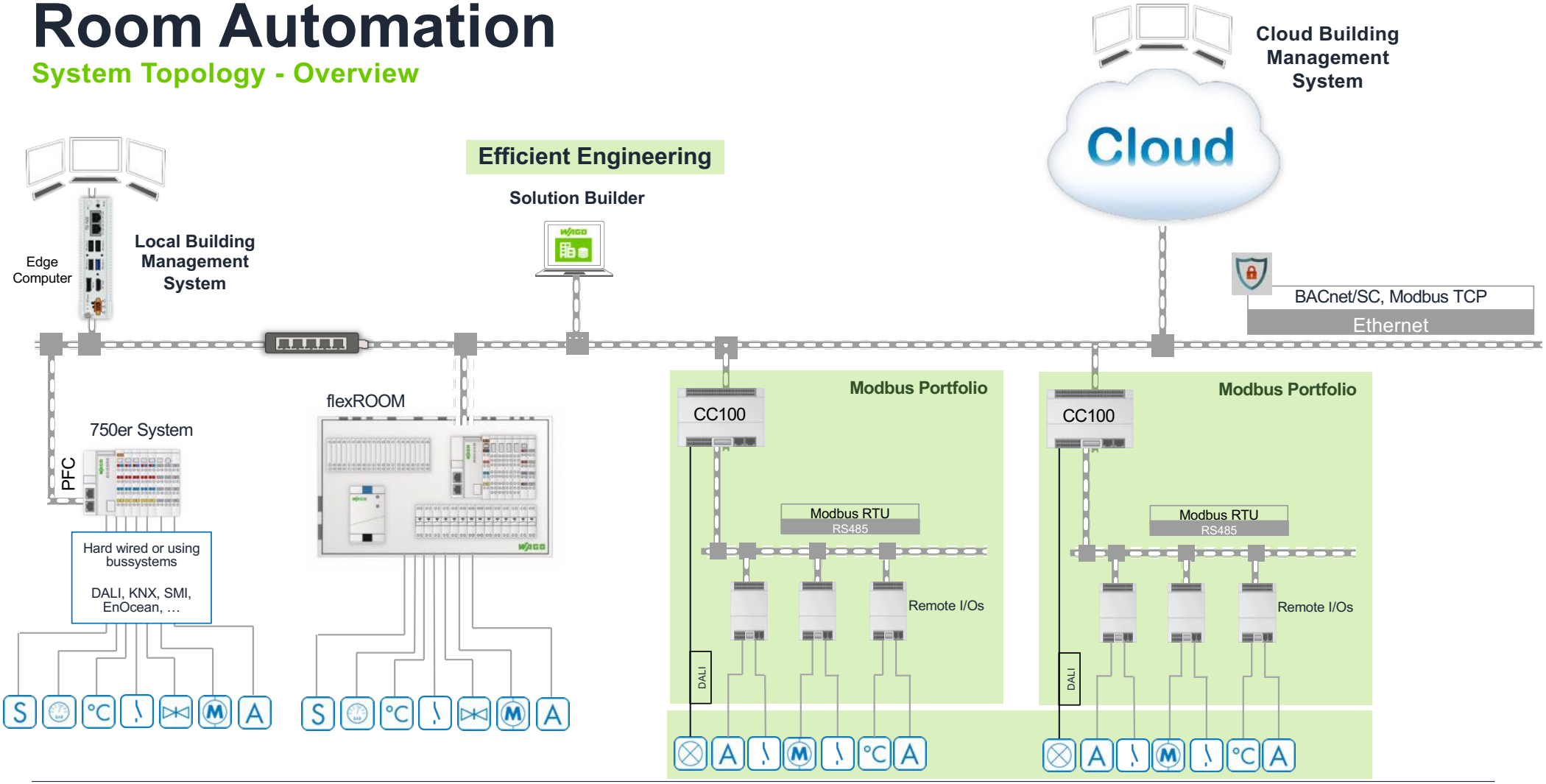
HVAC



Energy Management

Room Automation

System Topology - Overview



Evolution of building automation



Phase 1: Local Controls

The Goal: Reliable Building Operation

Building automation systems were installed primarily to control:

Ventilation, room temperature and lighting

Characteristics:

✓ **Dedicated controllers or manual operation**

Challenges:

X **Building-by-building management**

X **Mostly manual control**

X **No visibility outside the building**

X **Difficult reporting if any**

X **No data sharing between systems**



Phase 2: Centralized BMS with digitalization



The Goal: One Interface for the Building

Integrating individual systems into centralized Building Management Systems, ***integrated building automation according to EN15232 (today called EN52120)***.

Benefits:

- ✓ **Single operator interface**
- ✓ **Better alarm management**
- ✓ **More integrated operations**
- ✓ **Cross-system communication and monitoring**

Challenges:

- X **Often proprietary**
- X **Complex integration**
- X **Vendor lock-in**
- X **Difficult to scale across portfolios**

Phase 3: Cloud & First Smart Buildings

The Goal: Access Everything from Anywhere
Cloud technology promised a new level of visibility.

Benefits:

- ✓ **Remote access**
- ✓ **Portfolio-wide management**
- ✓ **Data comparison (analytics)**
- ✓ **Sustainability and Carbon optimization**
- ✓ **SaaS business models**

Challenges emerged:

- X **Dependence on connectivity**
- X **Cybersecurity concerns**
- X **Latency-sensitive applications**
- X **Mission-critical controls still needed locally**
- X **Massive data volumes**
- X **No integration or poor integation**



Phase 4: The AI Awakening



The Goal: Turn Data into Intelligence
The arrival of AI created new expectations.

What is wanted:

- ✓ **Predictive maintenance**
- ✓ **Energy optimization**
- ✓ **Automated fault detection**
- ✓ **Occupancy intelligence**

And what is the reality:

- **Fragmented**
- **Inconsistent**
- **Locked in silos**
- **Delayed**
- **Difficult to contextualize**

Phase 5: Hybrid Building Management



The Goal: Take Advantage of Both Edge and Cloud

Not everything belongs in the cloud. Not everything belongs at the edge.

Edge handles

- ✓ **Real-time control**
- ✓ **Local optimization**
- ✓ **Resilience**
- ✓ **Operational continuity**
- ✓ **API integrations locally**

Cloud handles

- ✓ **Portfolio management**
- ✓ **API integration in cloud**
- ✓ **Analytics**
- ✓ **Sustainability reporting**
- ✓ **Benchmarking**
- ✓ **AI services**

WAGO Zaphire
Building Management



WAGO Zaphire Building Management





Flexible Deployment

01

Cloud based

Centralized operation with secure access across buildings. No local server maintenance and automatic software updates.

Suitable for

Portfolio management, remote control, and ongoing updates.

02

Hybrid

Local operation combined with secure central services. Local autonomy with shared access and portfolio-wide visibility.

Suitable for

Projects requiring local autonomy and a consolidated portfolio overview.

03

On-premises

Fully local operation on dedicated hardware. Full control over infrastructure, connectivity and software updates.

Suitable for

Installations requiring local operation or lacking an internet connection.



Vendor-agnostic

Seamless integration across vendors and systems through standardized protocols and interfaces.

Integrator-centric workflows that cut engineering effort by 40–60%.

Monitoring and control of Technical systems

Know your building

Dashboard

View current values and system status and adjust connected equipment when needed.

Understand issues

Alarm management

Prioritize alarms, receive notifications via SMS or email and review what happened with historic data.

Reporting and analytics

Historical trends

Track measurements over time to investigate changes and understand building performance.

Export

Data export

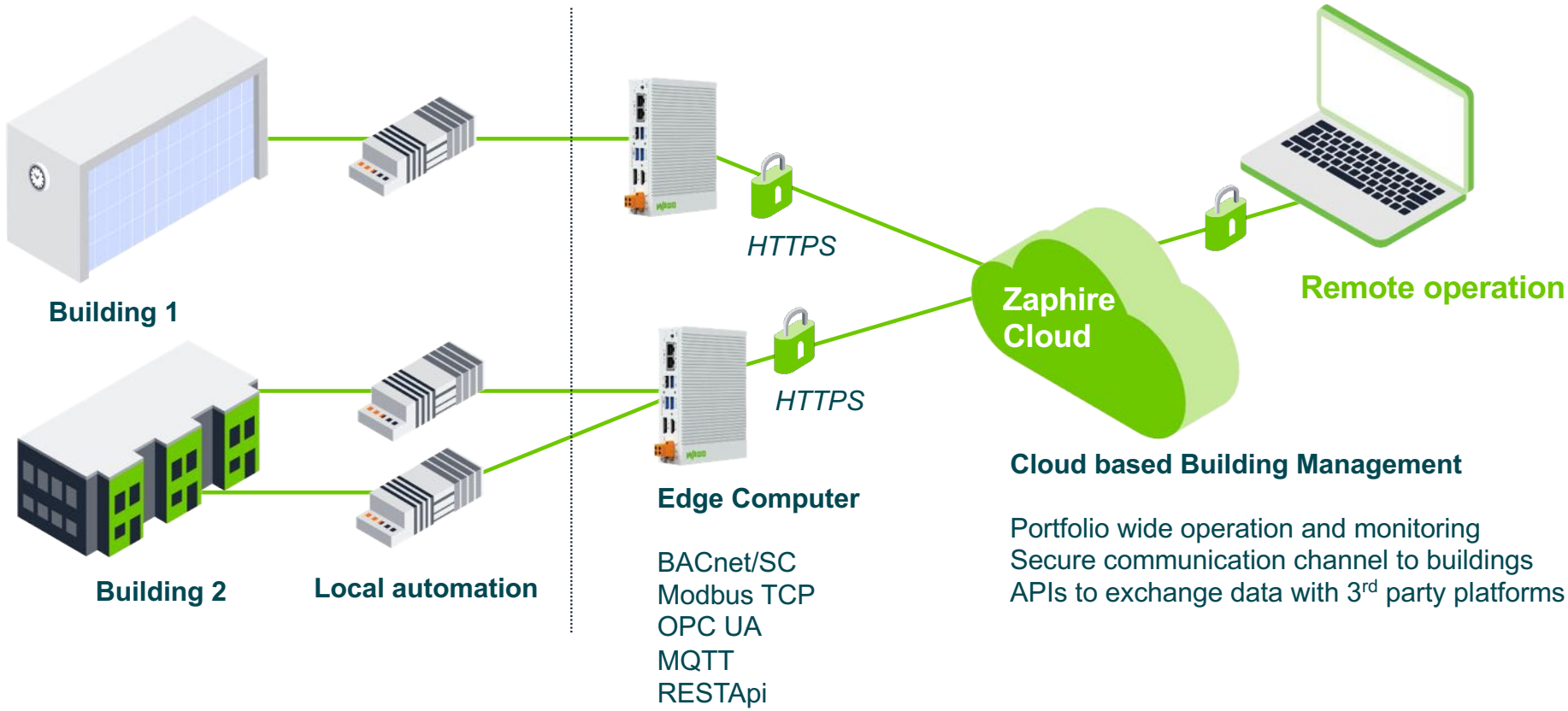
Export and integrate data with other reporting and analysis tools.



Getting started cannot get any easier



Start local , scale to cloud or hybrid



Local automation

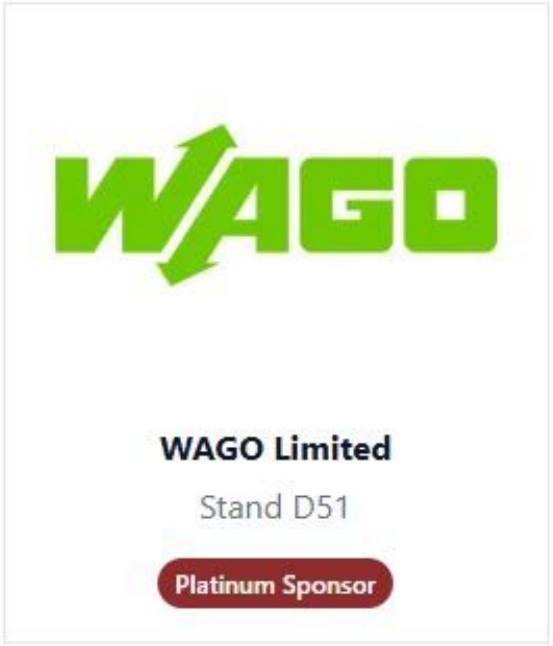
Zaphire cloud enviroment

Security at the WAGO Zaphire Edge

1. **TPM 2.0**
   Hardware-based protection of cryptographic keys
2. **Built-in-firewall**
   Restricts traffic only to approved ports and services
3. **Network separation**
   Dual Ethernet separates building and IT networks
4. **Encrypted access**
   HTTPS/TLS protects communication with the BMS
5. **Controlled access**
   Separate permissions for users, administrators and APIs
6. **Reduced attack surface**
   Unused ports and services being disabled



Visit us for live demo and for amazing discussions!

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