OnSite Solutions GmbH

From Smart Readiness to Smart Decisions: Making the SRI Work for Real Buildings

Be smart. Create value.

OnSite Solutions



The Refinancing Crisis in the Real Estate Market

Billions in real estate loans are at risk of expiring without follow-up financing.

- **Rising interest rates**
- **Falling valuations**
- **Stricter lending criteria**

REFINANCING GAP

approx. **20 €bn**

per year

(only for the German commercial real estate market)

Source: CBRE analysis

Two Levers: Building Value and Compliance

Value increase and compliance are necessary.

- Rising interest rates
- Falling valuations
- Stricter lending criteria

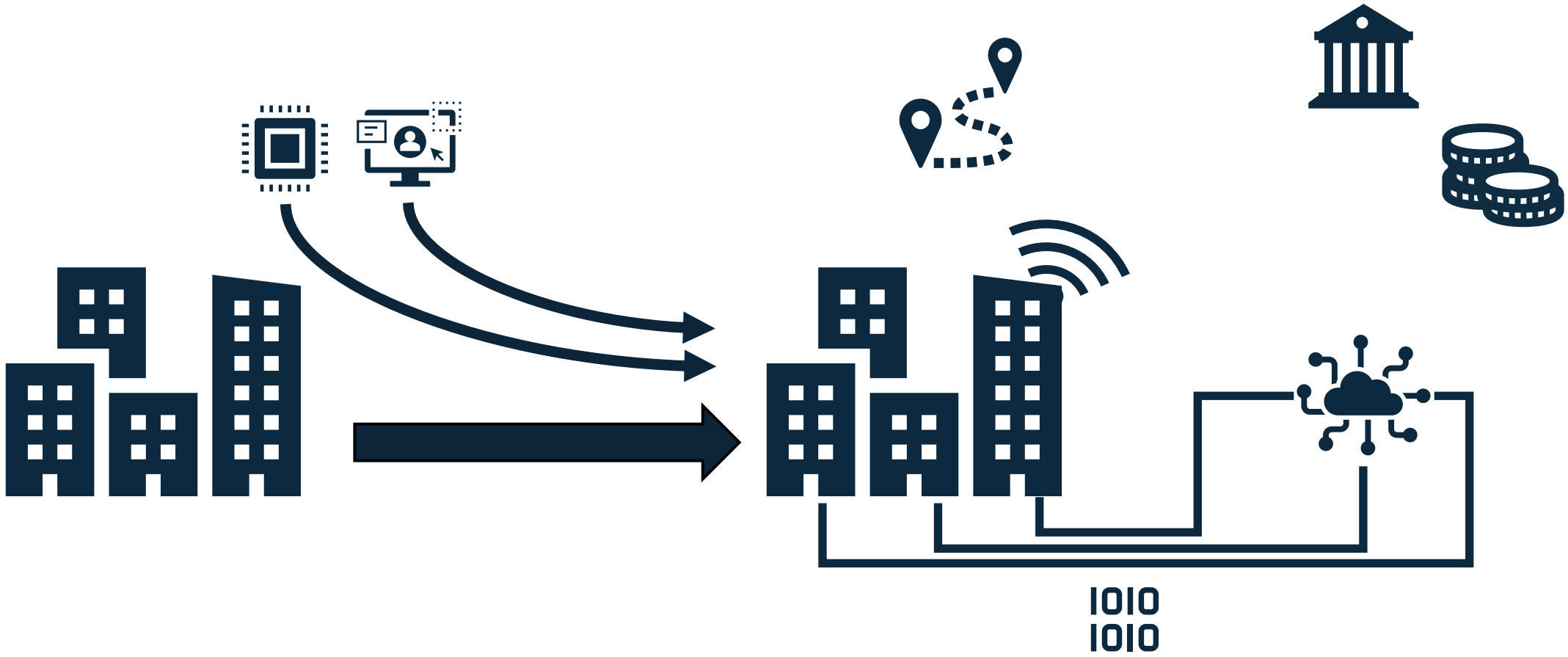
OUR APPROACH

- Increase building value
- Meet new lending criteria

But HOW?

Future-Proof Digitalisation Roadmaps

We make digital building quality measurable and create a new data basis for valuation, financing and risk management.



The EU Demands Transparency on Digital Building Quality

Digital building quality becomes a financing factor.

Energy Performance Certificate



Mandatory since 2002

Information on the energy quality of a building.

Existing obligation



Smart Readiness Indicator

Expected from 2027

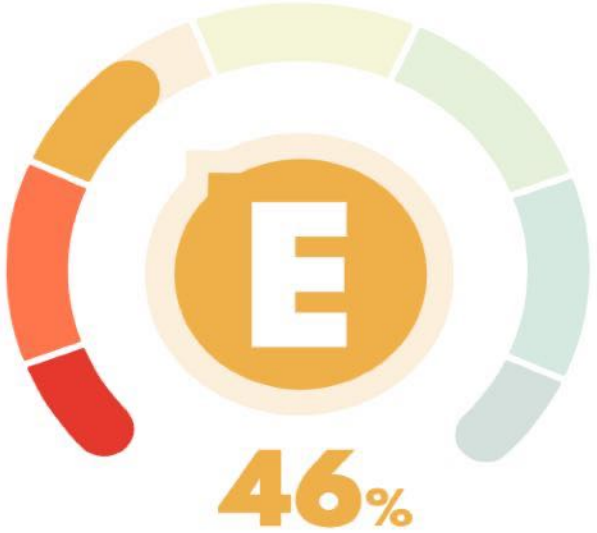
Information on the smart readiness of a building.

Coming obligation

Smart Readiness Indicator

An indicator required by the EPBD that rates the smart readiness of a building.

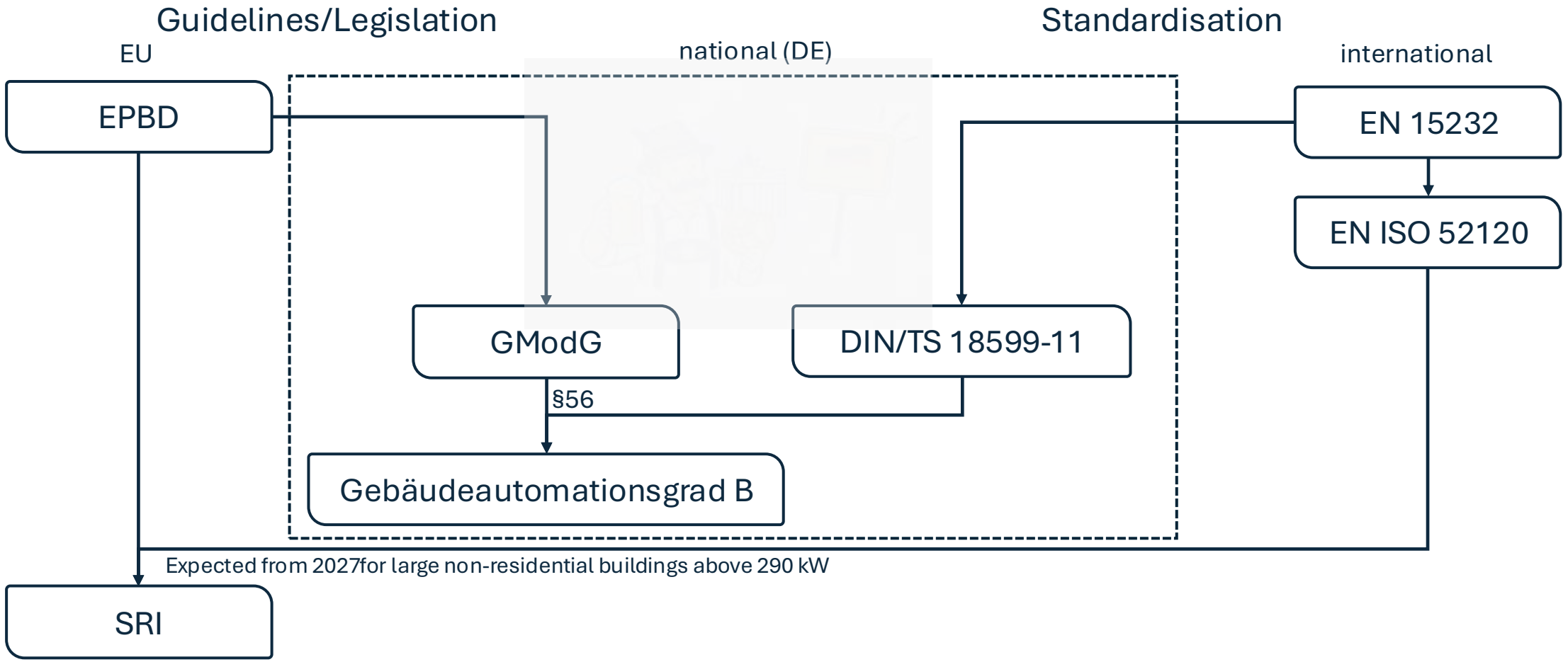
- Expected from 2027 for large non-residential buildings above 290 kW
- Aims to raise overall energy performance and the trust in and acceptance of information and communication technology
- One score from 0 to 100 % – the smarter, the better





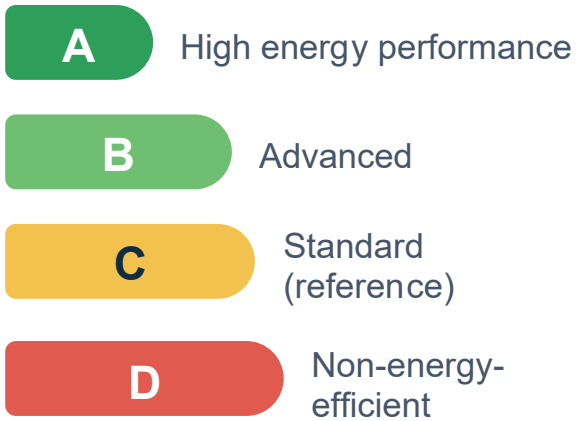
Where the SRI Sits Among Directives and Standards

The German implementation as an example: EU directive, national law and international standards.



Smart Buildings: Building Automation Classes A to D

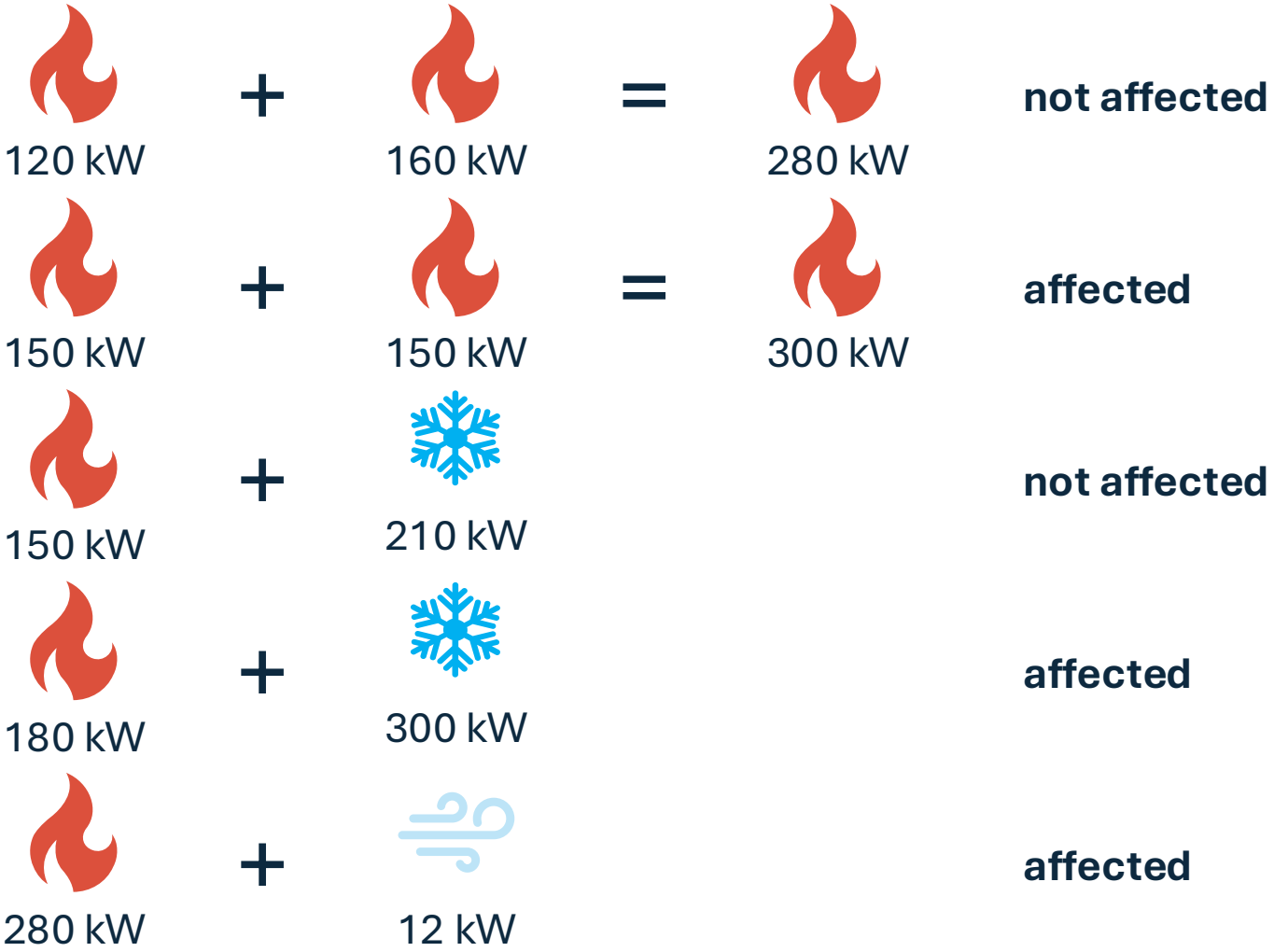
BAC efficiency factors according to EN ISO 52120 – class C is the reference, factor 1.0.



Class	Potential savings in electricity			Potential savings in thermal energy		
	Office	Retail	Hotel	Office	Retail	Hotel
A	0.87	0.91	0.90	0.70	0.60	0.68
B	0.93	0.95	0.95	0.80	0.73	0.85
C	1.00	1.00	1.00	1.00	1.00	1.00
D	1.10	1.08	1.07	1.51	1.56	1.31

Who Is Affected?

Rated output above 290 kW – heating (or heating + ventilation) and cooling (or cooling + ventilation), each assessed on its own.



Smart Readiness Indicator – The Structure

One SRI score classifies the smart readiness of the building: 3 key functionalities, 7 impacts, 9 domains, 54 services.

		Energy performance and operation		Response to occupant needs				Energy flexibility
9 DOMAINS ↓ · 7 IMPACTS →		Energy efficiency	Maintenance and fault prediction	Comfort	Convenience	Health and well-being	Information to occupants	Flexibility for grid and storage
Heating	10 services							
Domestic hot water	5 services							
Cooling	10 services							
Ventilation	6 services							
Lighting	2 services							
Dynamic building envelope	3 services							
Electricity	7 services							
Electric vehicle charging	3 services							
Monitoring and control	8 services							

54 Services in Nine Domains

Every service is rated at a functionality level – the codes are the same across Europe.

Heating	Domestic hot water	Cooling	Ventilation	Lighting	Dynamic building envelope	Electricity	Electric vehicle charging	Monitoring and control
H-1a	DHW-1a	C-1a	V-1a	L-1a	DE-1	E-2	EV-15	MC-3
H-1b	DHW-1b	C-1b	V-1c	L-2	DE-2	E-3	EV-16	MC-4
H-1c	DHW-1d	C-1c	V-2c		DE-4	E-4	EV-17	MC-9
H-1d	DHW-2b	C-1d	V-2d			E-5		MC-13
H-1f	DHW-3	C-1f	V-3			E-8		MC-25
H-2a		C-1g	V-6			E-11		MC-28
H-2b		C-2a				E-12		MC-29
H-2d		C-2b						MC-30
H-3		C-3						
		C-4						

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Heat Emission Control

The functionality level found in the building determines the score on each of the seven impact criteria.

Level	Functionality found in the building	Energy efficiency	Energy flexibility and storage	Comfort	Convenience	Health, well-being, accessibility	Maintenance and fault prediction	Information to occupants
Level 0	No automatic control	0	0	0	0	0	0	0
Level 1	Central automatic control (e.g. central thermostat)	1	0	1	1	1	0	0
Level 2	Individual room control (e.g. thermostatic valves or electronic controller)	2	0	2	2	2	0	0
Level 3	Individual room control with communication between controllers and to the BACS	2	0	2	3	2	1	0
Level 4	Individual room control with communication and occupancy detection	3	0	2	3	2	1	0

Highlighted: the level typically found in an office with room controllers connected to the building management system

From Service Scores to the Total SRI

Aggregation steps turn 54 individual ratings into one percentage.

54

services

Each rated at a functionality level from 0 to 4

7

impact scores

Service scores combined per impact, weighted across the nine domains

3

key functionalities

Energy performance and operation · response to occupant needs · energy flexibility

1

total score

The SRI, expressed from 0 to 100 %

Domains

Weighted by the building's energy balance and its climate zone

Impact criteria

Equal weight within each key functionality

Key functionalities

Equal weight in the total score

And now?

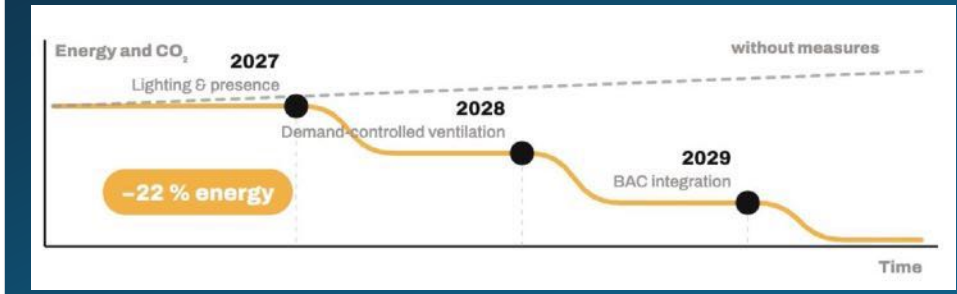
Four Phases. One Data Model.

From analysing the building's current status, through well-founded decisions and planning, to connected operation.

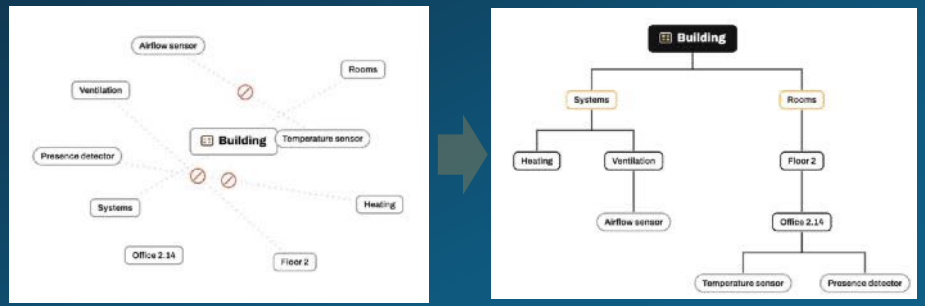
01 Understand



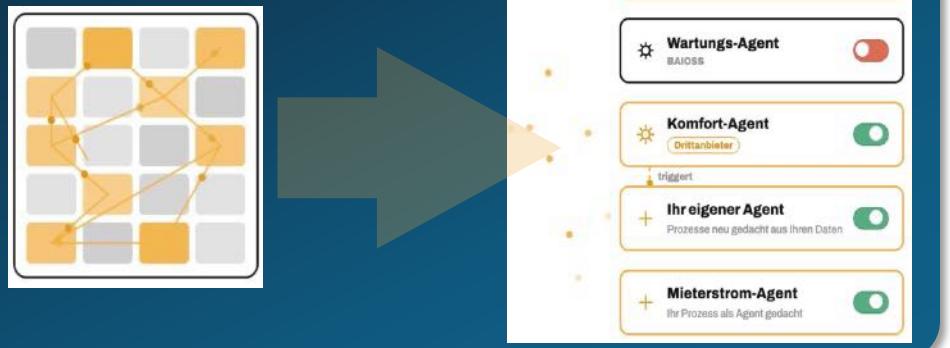
02 Decide



03 Design



04 Operate



1. Understand

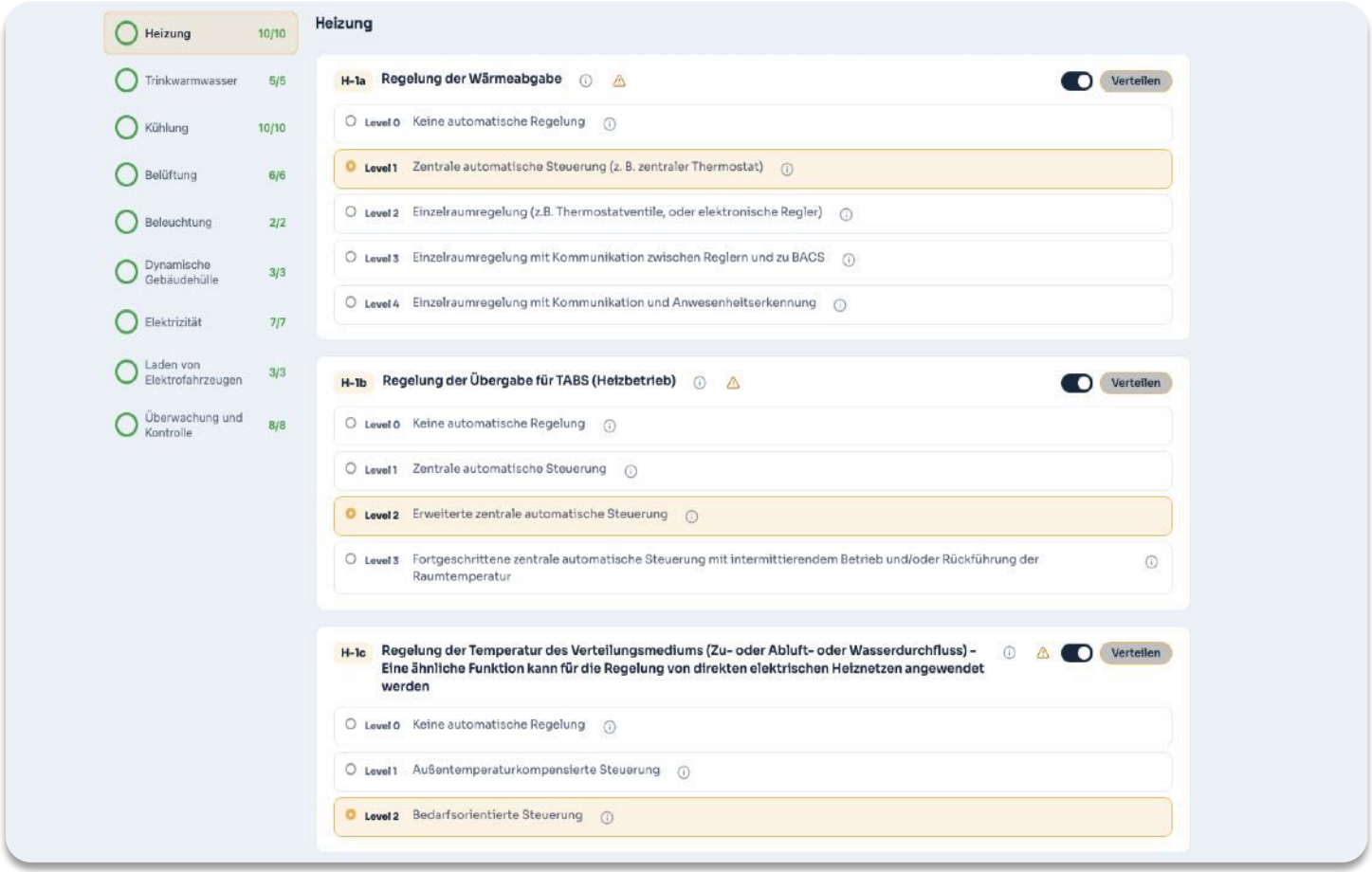
Where does your building stand today?

Self-assessment

Answer the SRI questions yourself, supported by explanatory texts.

Data import

SRI derived automatically from KNX, BMS/BACnet, building ontologies and CAFM and CRM systems.



YOUR RESULT Transparent os building – the basis for lasting optimisation.

2. Decide

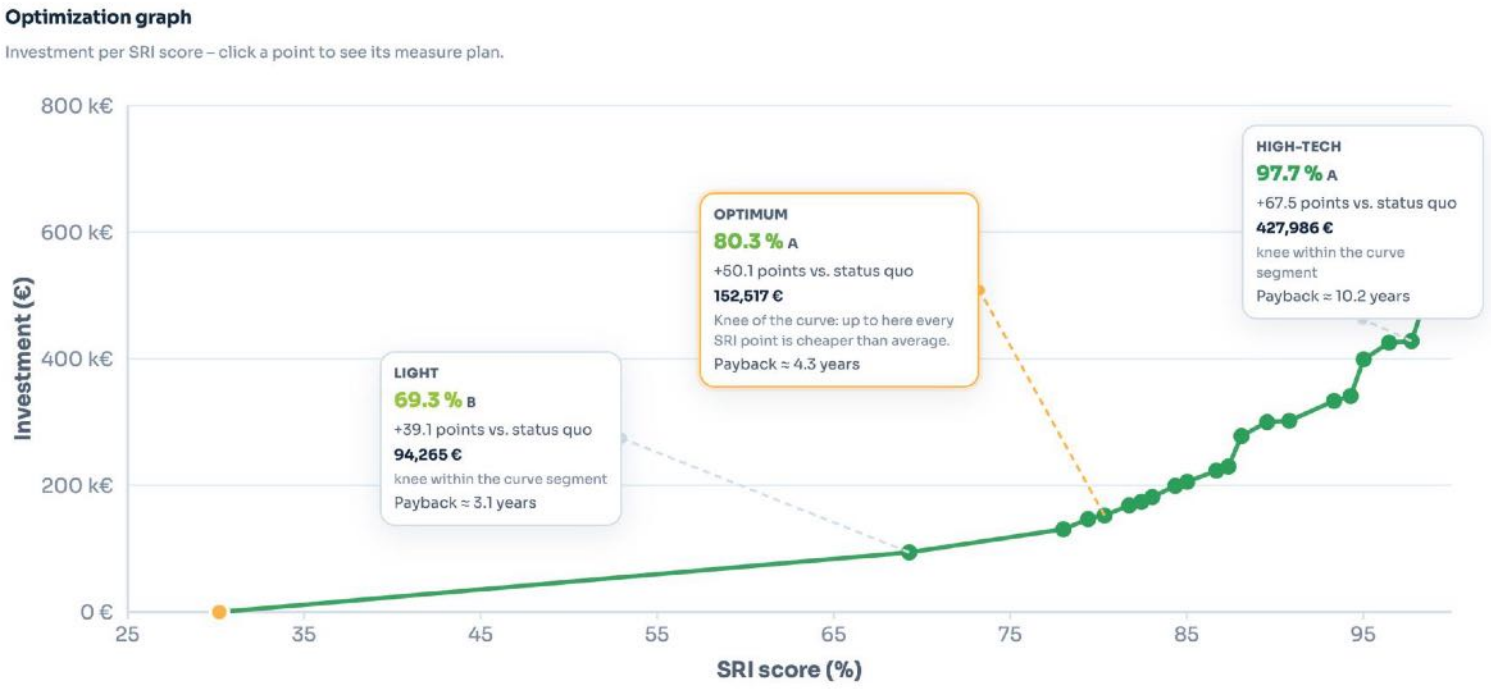
Which budget delivers which effect?

Compare scenarios

Upgrade stages of a building side by side – with investment cost, effect on the SRI, energy saving potential and expected payback.

Individual reports

Clearly structured reports deliver a digitalisation roadmap. Compare single buildings or the whole portfolio and see at a glance where the biggest potential and the most urgent need for action lie.

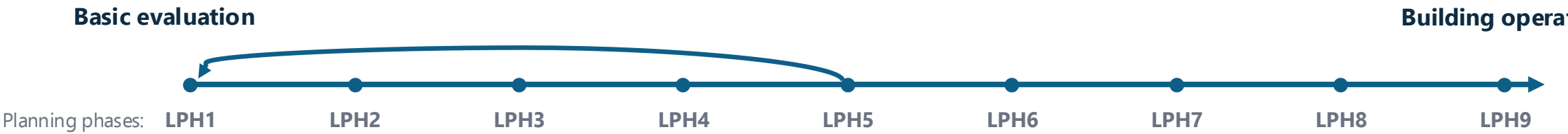


YOUR RESULT An assessment of where, and with which budget, your buildings improve.

Benefit

Building Automation Is Complex

Early, automated integration into planning.



Chaos

enocean

Modbus

ASHRAE BACnet

MQTT

KNX

DIN/TS 18599-11

VDI 3814

EN ISO 16484

EN ISO 52120

OSS

Semantic data structure

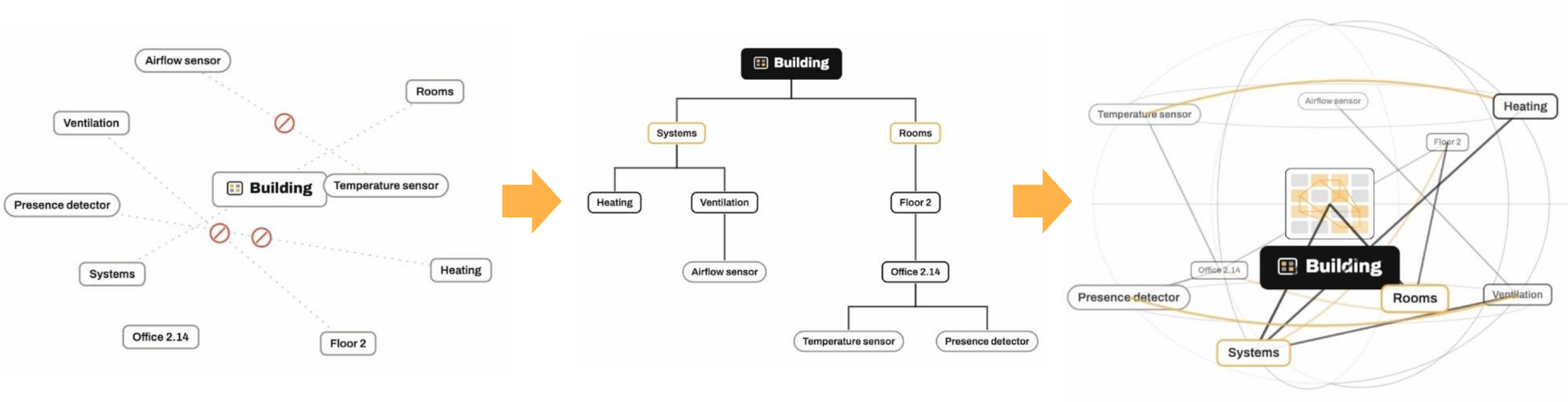
People

Semantic data structure

Machines

3. Design

The basis for every specialist planner.



YOUR RESULT A structured, semantic planning basis – directly usable in specialist planning, building automation and planning tools.

4. Operate

So that what has been achieved keeps working.

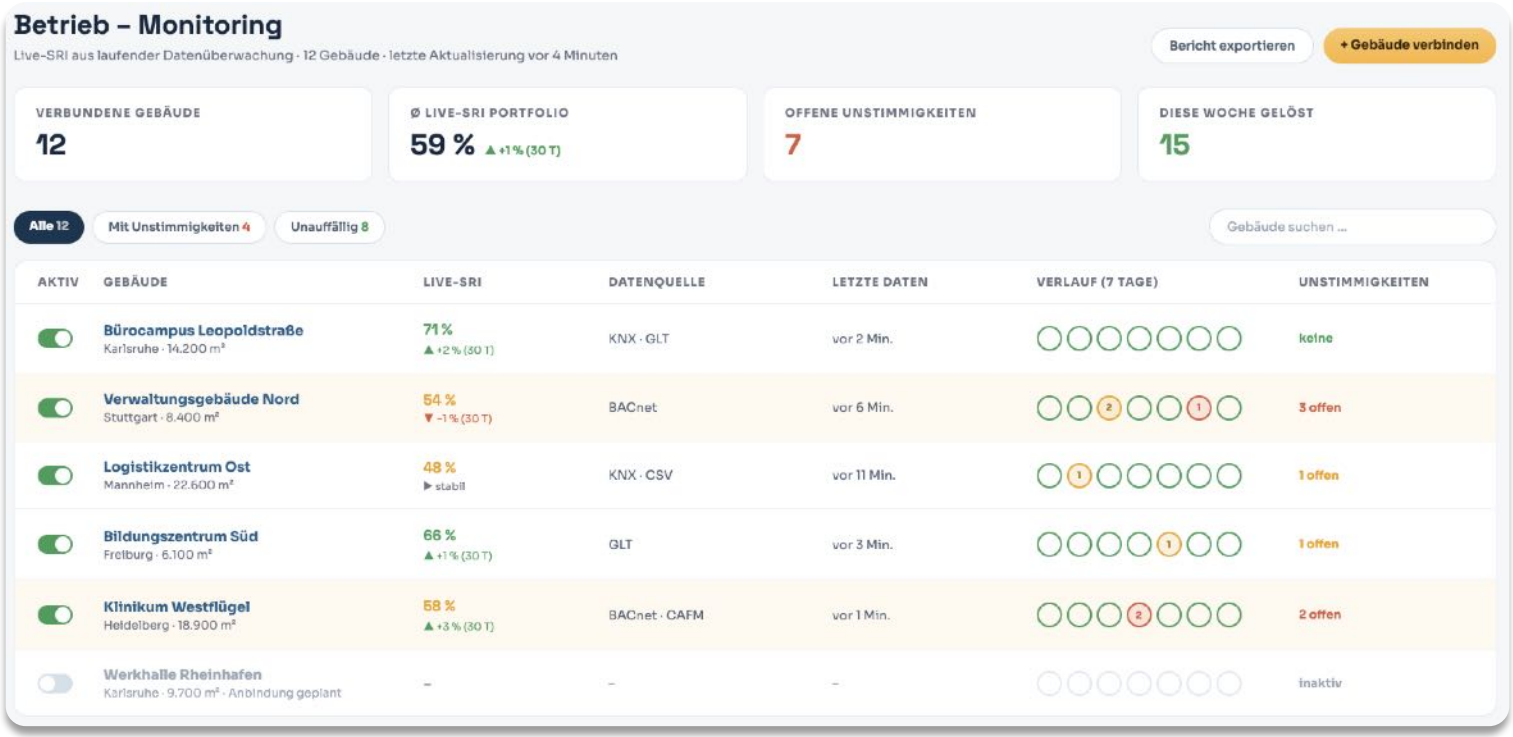


Live assessment

Your building's operating data is captured continuously – on the same data basis already used in analysis and planning.

Detect discrepancies

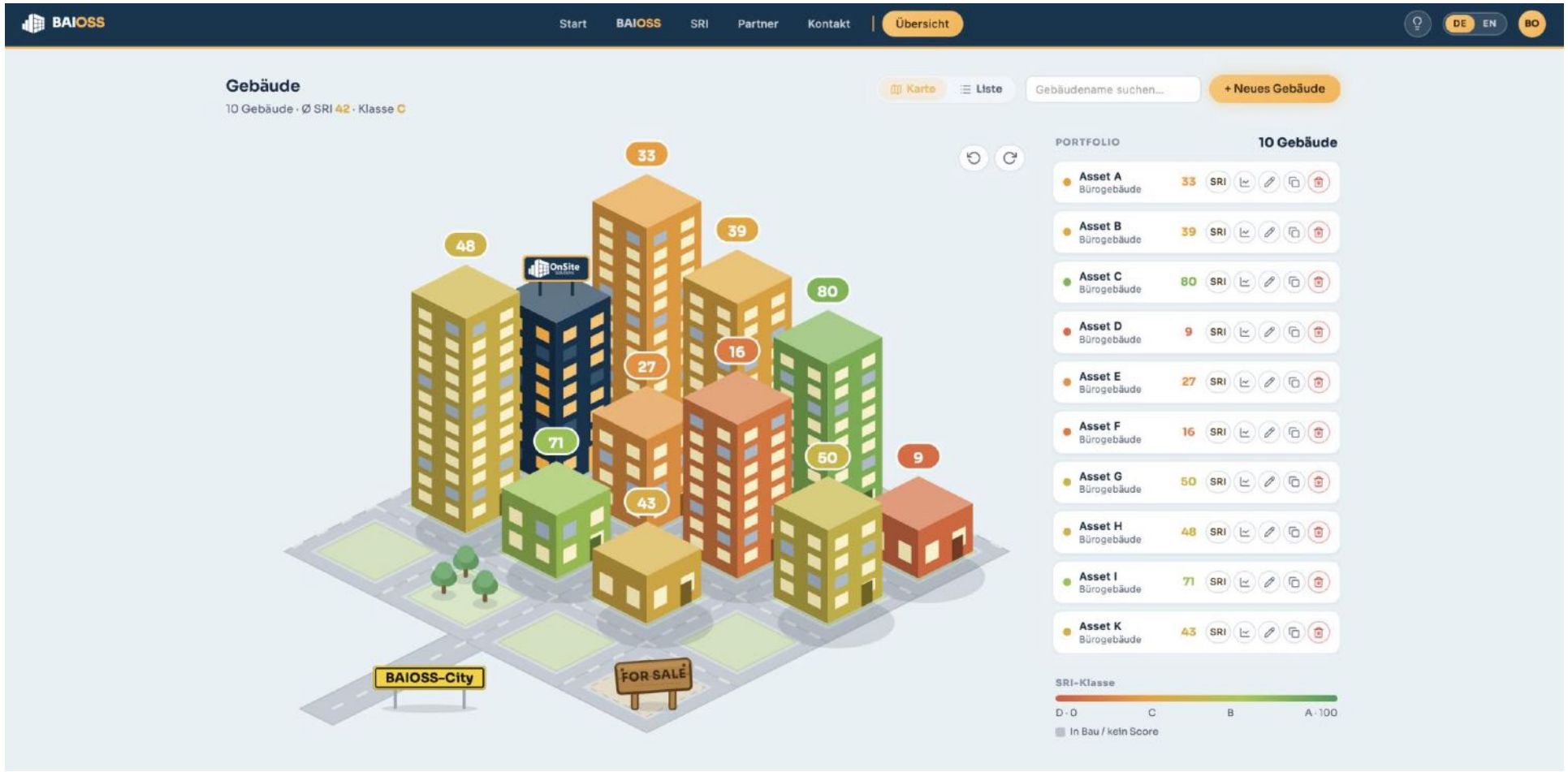
Deviations between target and actual show up early – unexpected consumption or systems that do not run as planned.



YOUR RESULT Transparent operation: continuously collected data and discrepancies detected early.

Portfolio Strategy

Individual strategies become an integrated portfolio roadmap with BAIOSS



OnSite Solutions

About Us

We combine engineering, building expertise and software to make buildings smarter, more efficient and future-proof.



CTO

Mario Dropulić

AI SPECIALIST

LEXORO The pulse of A.I.

weyp



CEO

Dr. Tristan Emich

SMART BUILDING SPECIALIST

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Das Förderprogramm „exist – from science to business" mit seinen Projekten wird durch das Bundesministerium für Wirtschaft und Energie und die Europäische Union über den Europäischen Sozialfonds Plus (ESF Plus) gefördert

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Kofinanziert von der Europäischen Union

exist FROM SCIENCE TO BUSINESS

aufgrund eines Beschlusses des Deutschen Bundestages

CyberLab

axel Der Energie-Accelerator

GROUND_ BREAKERS

OnSite Solutions GmbH

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Create value.

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