



GOODVILLE

SMART BUILDING TECHNOLOGY

The transformative OmniBus concept





OMNIBUS SYSTEM

INCORPORATING ARTIFICIAL INTELLIGENCE INTO SMART BUILDING CONSTRUCTION

Our system offers a way for modern buildings to not only monitor and control themselves. Our AI software enables them to learn, optimise actions and save resources. Our system is controlled by a centralised software, so the different parts speak a common language.



THE OMNIBUS SYSTEM IS A SOPHISTICATED BUILDING SOLUTION

that enables companies and households to meet their needs to:

- Climate change & sustainability solutions
- Company privacy
- Fulfill EU regulations
- Simplified integrated day-to-day living

THE FUTURE OF GOOD BUILDING



Hamburg 2045 by Reinventing Society / Wire Collective, CC BY NC SA 4.0



CLIMATE CHANGE & SUSTAINABILITY

THE OMNIBUS SYSTEM IS A SOPHISTICATED BUILDING SOLUTION

Given the dramatic consequences of climate change, solutions are needed to protect the climate and environment as quickly as possible.

The construction sector is currently responsible for around 40% of the global CO₂ emissions.

Our OmniBus system offers an innovative solution to this problem. Our new AI technology assists with saving CO₂, and contributes to environmental and climate protection.

THE OMNIBUS SYSTEM PROVIDES:

- Significant emission reduction through AI-powered building automation
- Sustainability through widespread digitalisation of buildings
- Energy efficiency as the key to climate protection
- Radically simplified and reduced use of resources during installation and use
- ‚Future-proof‘ infrastructure technology - relevant for 30+ years

THE FUTURE OF GOOD BUILDING



ENSURE PRIVACY OF YOUR COMPANY'S DATA

Retain your commercial network data within the building

- No dependency on cloud providers or external service providers
- No network admin or programmers required
- The network remains active during power cuts*
- All building data is always available at a touch

* requires central 48V battery

THE FUTURE OF GOOD BUILDING





MEET EU BUILDING REGULATIONS

The OmniBus provides the infrastructure and forward-thinking technology that meets all current and future EU building requirements for complete building automation. Controlled by AI, the system's processes are constantly being monitored and optimised to ensure utmost energy efficiency.



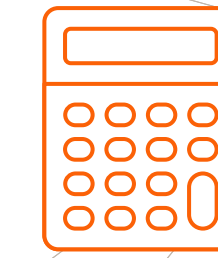
BUILDING AUTOMATION



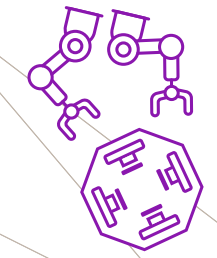
SECURITY



HEALTH & ENVIRONMENT



COST SAVINGS



ROBOTICS

SIMPLIFIED INTEGRATED DAY-TO-DAY LIVING

The OmniBus AI technology simplifies many aspects of day-to-day living through its seamless integration of many tasks. For example, it organizes your building, protects your privacy, helps saving energy, controls air-quality, it monitors costs of consumption, prepares billing, reorders common household items, and adjusts conditions to ensure people's ideal comfort.





**A TRANSFORMATIVE
SYSTEM THAT
REPLACES ALL
PREVIOUS ELECTRICAL
INSTALLATIONS**

OmniBus system is unique: it supplies mains voltage, data and fiber optic connectivity via one single cable - an industry first.

OmniBus: One cable, one protocol, one application

Discover the future of smart building technology with the OmniBus.
Our novel, arrow-shaped flat OmniCable replaces all cables used today.

Our omnipotent cable-bus-technology simultaneously delivers power, internet and comprehensive smart building networking that can be expanded any time.

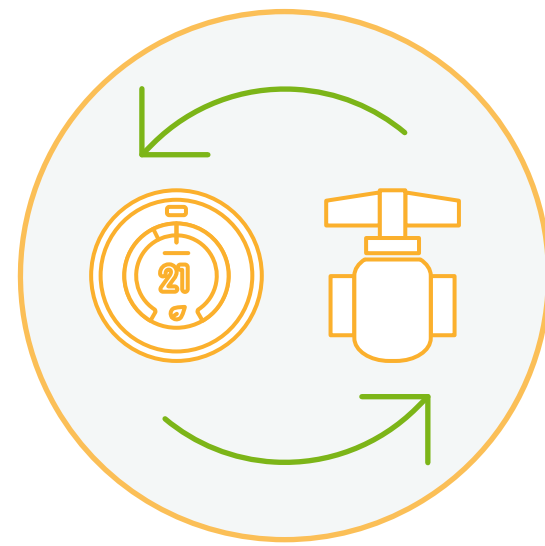
One cable: future-proof, simple and cost-effective.

THE OMNICABLE CONNECTS

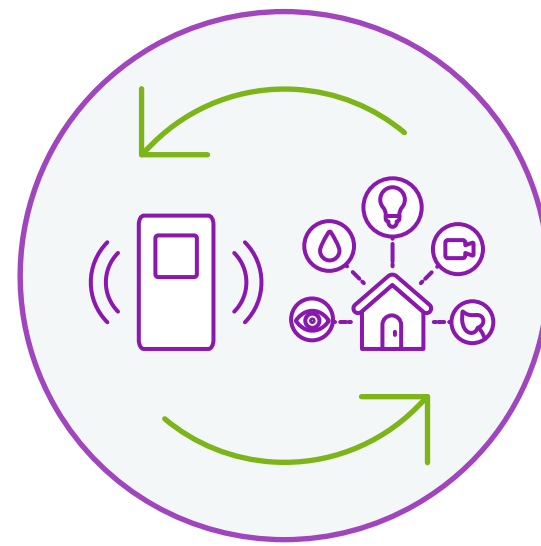
Using one single cable, our system connects...



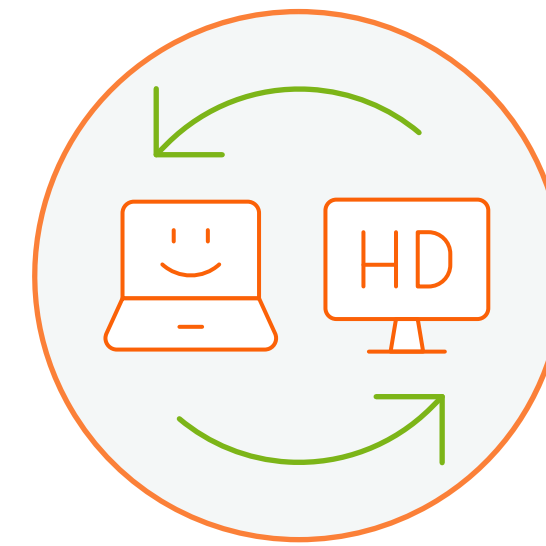
Light switches
with lights



Thermostats
with valves



Room sensors with
the home control



Computer with
TV devices

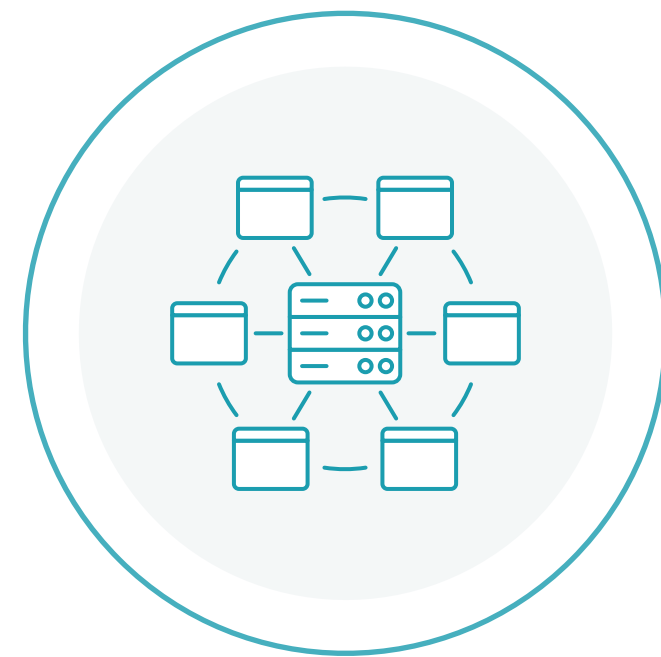


Power current at
all sockets

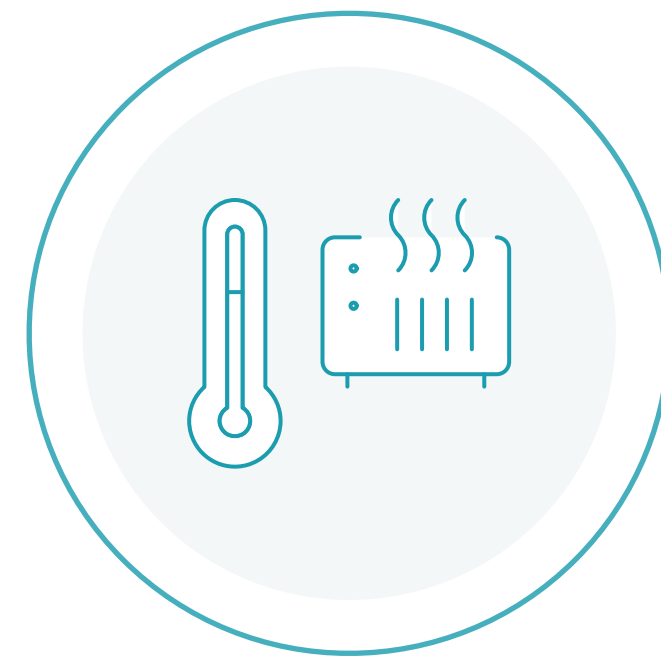
THE OMNIBUS REPLACES:



Entire
building electrics



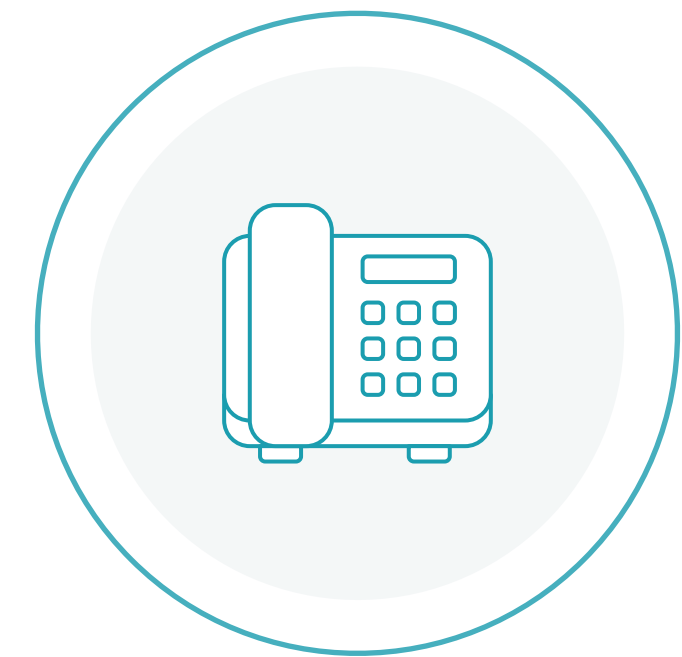
Computer networks



HVAC control



Alarm systems

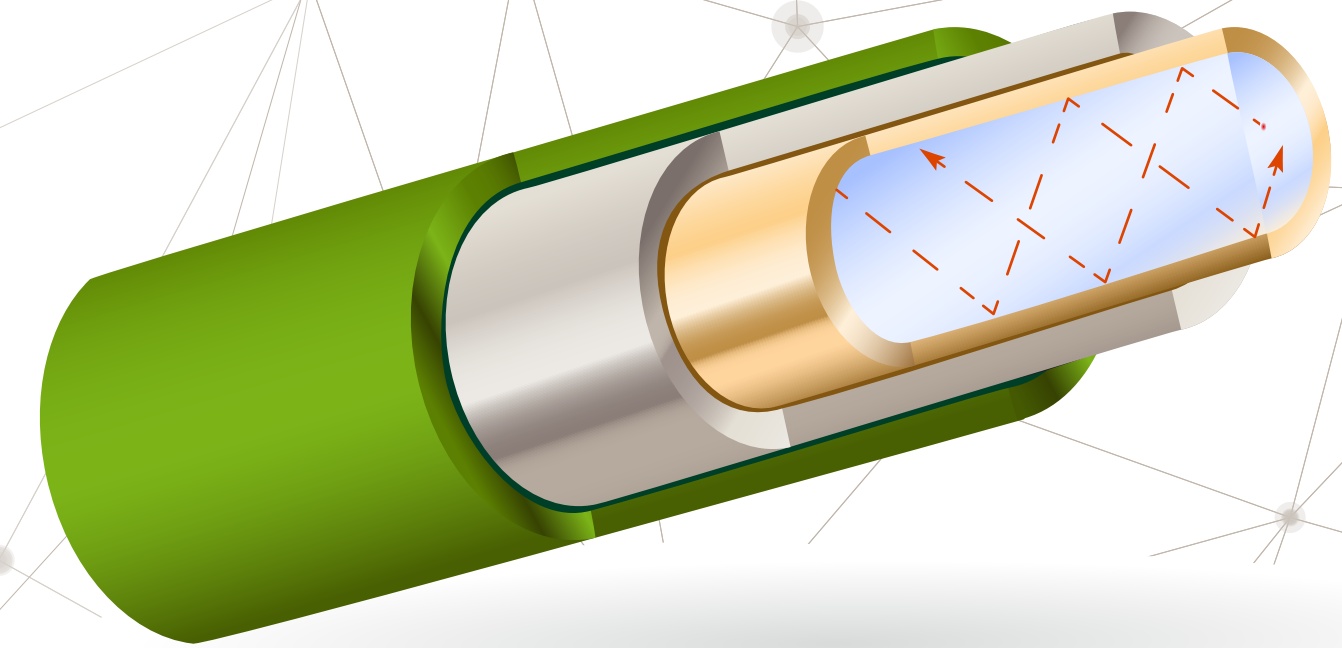


Telephone systems

... as well as various home automation control systems

... AND IT GUARANTEES

HIGH-SPEED INTERNET THANKS TO INTEGRATED FIBER OPTICS



The OmniCable contains a fiber optic strand (single mode fiber) for transmitting high-speed internet to individual LAN ports. It is ideal for secure internal communications (fiber signals cannot be intercepted), for high-speed FTTD (Fiber To The Desk) downloads and uploads, as well as for business and private access to external servers.

In the future, the OmniCable can incorporate quantum technology through its integrated fiber optics.

OMNICABLE

THE HYBRID CABLE OF TOMORROW



Hybrid cables carrying energy and data are an important technological driver. All active equipment, from machine to switch to sensor need both. In 10 years, [Goodville partner] Prysmian could be in a position to transfer data power and data over a single cable, be it copper or fibre optic.

– Andreas Wassmuth

Business Development Director of
Multimedia Solutions at Prysmian Group

Source: elektro.net Interview 2020

OMNICABLE

USE TOMORROW'S CABLE TECHNOLOGY TODAY

Why should we wait any longer ?

Hybrid cables represent the future of power and data infrastructure — in buildings, in factories, in mobile systems and in micro grids and transportation. Power and control belong together.



High bandwidth
Fiber optics carry gigabit internet



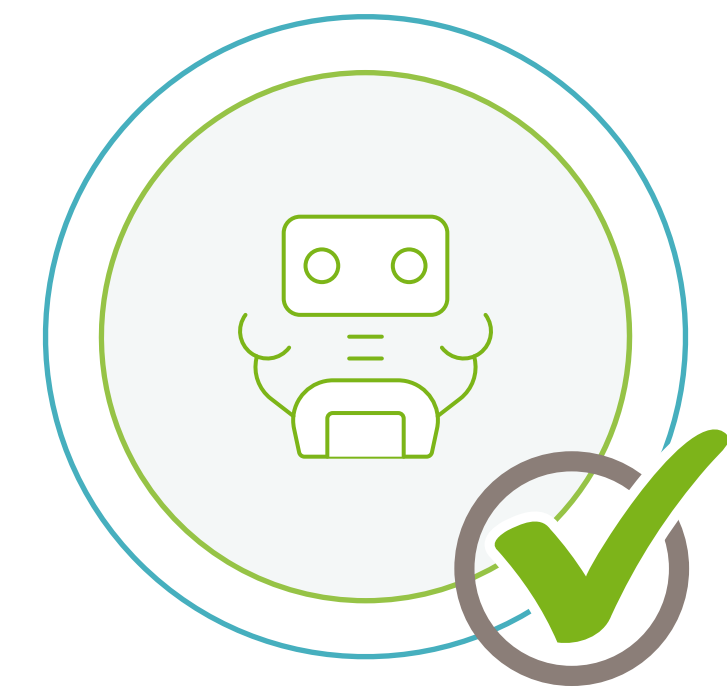
Security through control
Usage data and power parameters are transferred to the server



One system, one cable, one usage
Universal digital Infrastructure



Small footprint
A 50 OmniCable cluster has only a 16 square cm section



Easy to handle
Cut, insert, connect in one motion - or install using a robot

"... BUT WHAT ABOUT WIFI ?"

A WiFi-driven home is rarely sustainable

WiFi has not kept pace with network technology



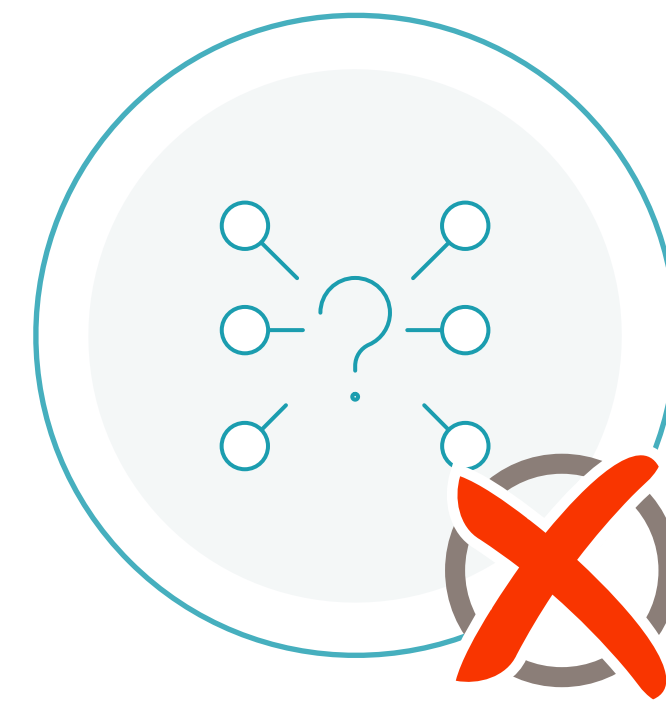
High power consumption or frequent battery replacement, uncontrolled failures



Many pieces of equipment are required, high capital costs



Many island solutions, significant administrative overheads



Limited frequency spectrum and limitations of IP addresses

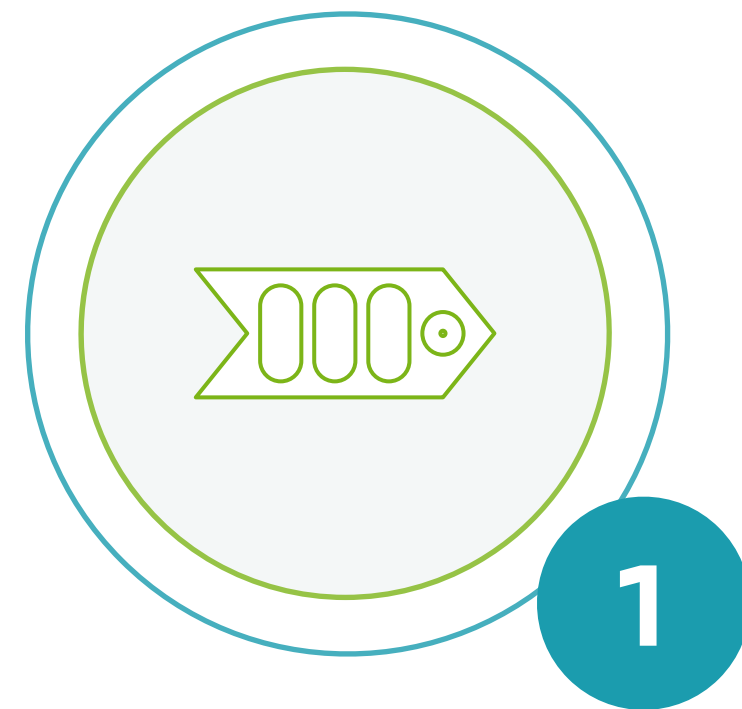


Low security against eavesdropping, high radiation exposure

OUR PATENTED TECHNOLOGY

OMNITECH

OMNI-TECHNOLOGY



OmniCable

The first hybrid cable for power, data and broadband internet



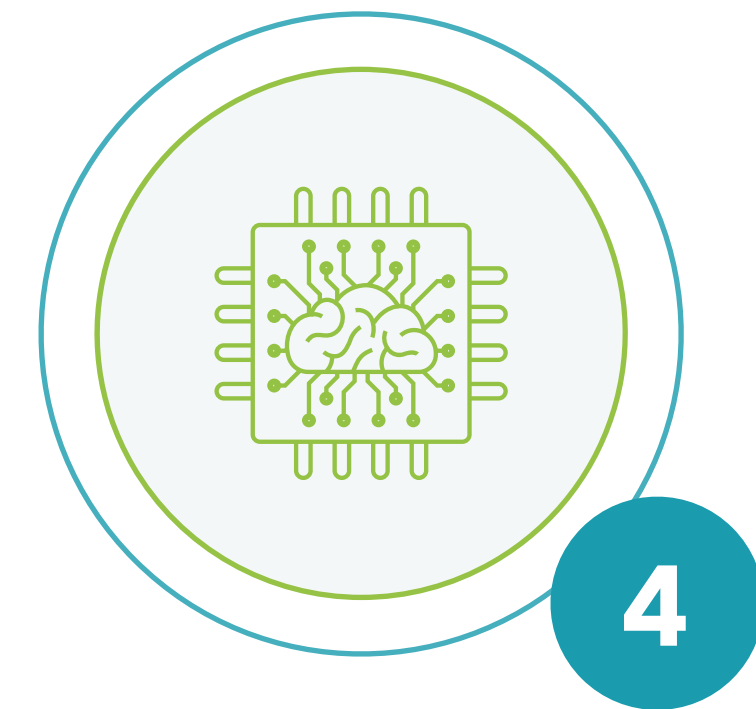
OmniClip

Connects cables and modules including fiber optics



OmniSensor

Dedicated measurements and settings in each room



OmniSoft

User-friendly software for automating the home

OMNITECH

OUR TECHNOLOGY

1 OmniCable

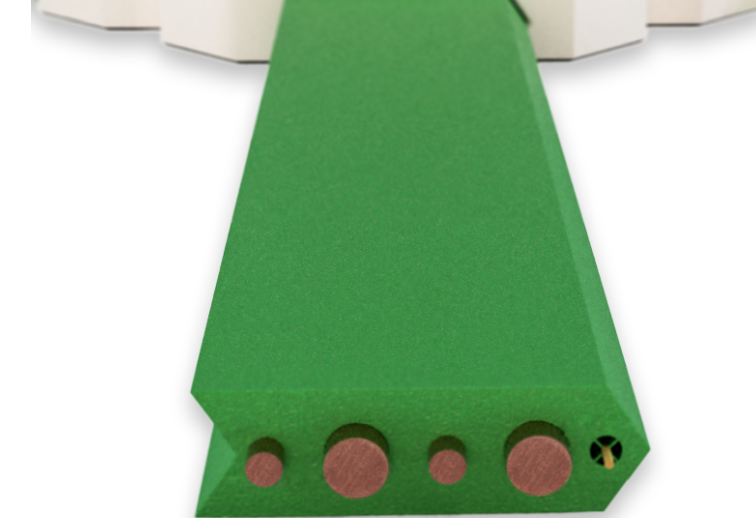
OmniBus isn't rocket science

Thanks to "Powerline" internet running on the 230V power conductors, the OmniBus can reliably and inexpensively transfer data. The OmniCable uses two powerline protocols running on different frequencies:

1. Powerline data: internet for basic use
2. Powerline mini: networking for OmniControl

The OmniCable provides broadband-internet over fiber, and powerline internet over 230V AC and 48V DC copper lines.

2x Power, 2x internet and 1x system control in one package



Power Distribution
Fusebox

- DC Power
- AC Power
- ↔ OmniControl
- Powerline internet
- Broadband internet

Module
above the Clip

- ↑ DC Power
- ↑ AC Power
- ↕ OmniControl
- ↑ Powerline Internet
- ↑ Broadband Internet

- DC Power
- AC Power
- ↔ OmniControl
- Powerline Internet
- Broadband Internet

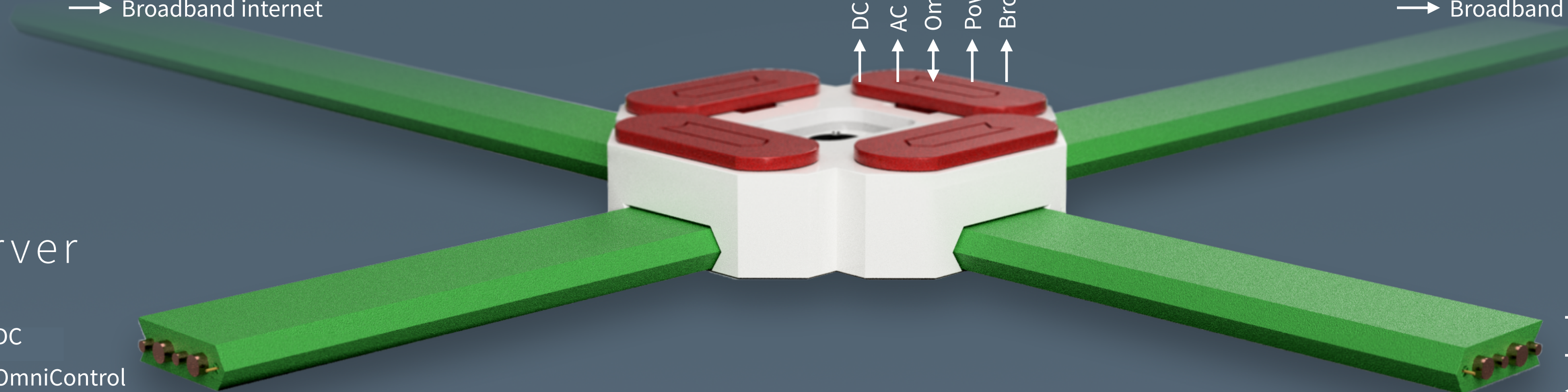
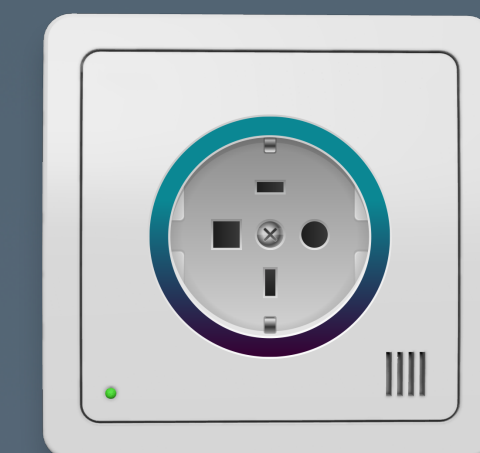
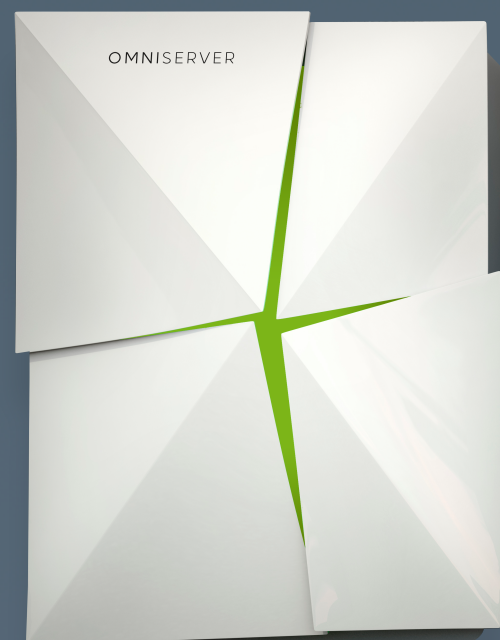
Power circuit
Other connections

Server

- ← DC
- ↔ OmniControl
- ← Broadband internet

Loads
For example on a socket

- DC Power
- AC Power
- ↔ OmniControl



OMNITECH

OUR TECHNOLOGY

2 OmniClip

All cores connected in one motion

The quick and reliable connection of power and fiber connections saves time and material. Our patented connection mechanism reliably avoids installation errors.

Cut, insert and connect reliably in one motion.



OmniClip with open connecting bridge.



OMNITECH

OUR TECHNOLOGY

3 OmniSensor

The MultiSensor provides the OmniServer with 10+ parameters from each room.

For each room, the server software can choose the optimal setting to:

- save energy
- monitor humans' health
- create security
- increase comfort



OMNITECH

OUR TECHNOLOGY

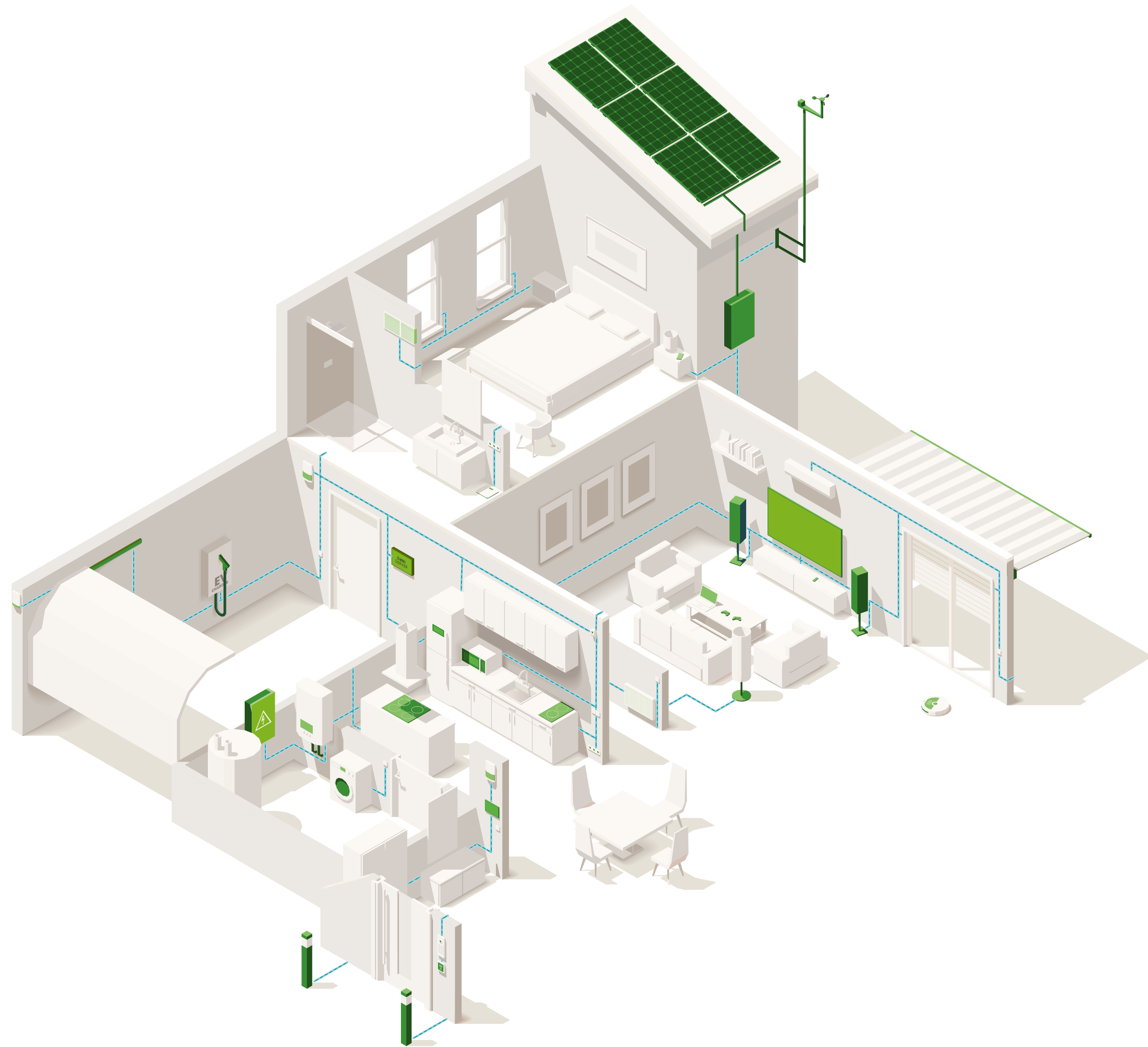
4 OmniSoft

At the heart of the OmniServer is user-friendly software to process all sensor data, power requirements and instructions

OmniServers running with our AI-software create intelligent building automation. The system creates a building that is a secure, comfortable, economical and forward-thinking partner.



**WELCOME TO THE
LIVING AND WORKING
OF TOMORROW**





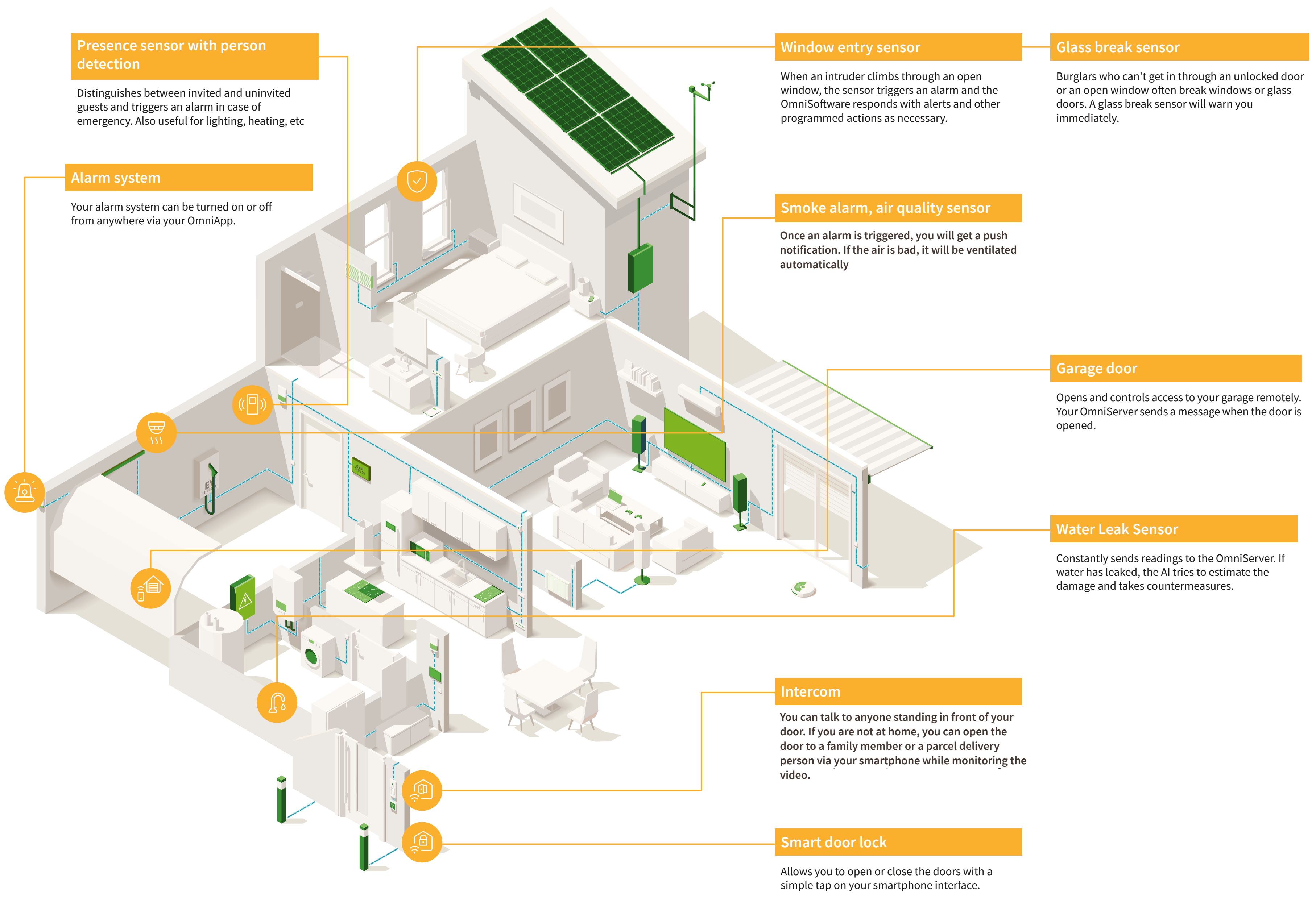
OMNIHOME

THE BUILDING OF THE FUTURE

The OmniBus provides a comprehensive digital infrastructure for all building types as well as complete building automation from one single source.

The OmniBus reliably provides:

-  Protection & security
-  Energy saving & central control
-  Comfort & more



Presence sensor with person detection

Distinguishes between invited and uninvited guests and triggers an alarm in case of emergency. Also useful for lighting, heating, etc

Alarm system

Your alarm system can be turned on or off from anywhere via your OmniApp.

Window entry sensor

When an intruder climbs through an open window, the sensor triggers an alarm and the OmniSoftware responds with alerts and other programmed actions as necessary.

Glass break sensor

Burglars who can't get in through an unlocked door or an open window often break windows or glass doors. A glass break sensor will warn you immediately.

Smoke alarm, air quality sensor

Once an alarm is triggered, you will get a push notification. If the air is bad, it will be ventilated automatically.

Garage door

Opens and controls access to your garage remotely. Your OmniServer sends a message when the door is opened.

Water Leak Sensor

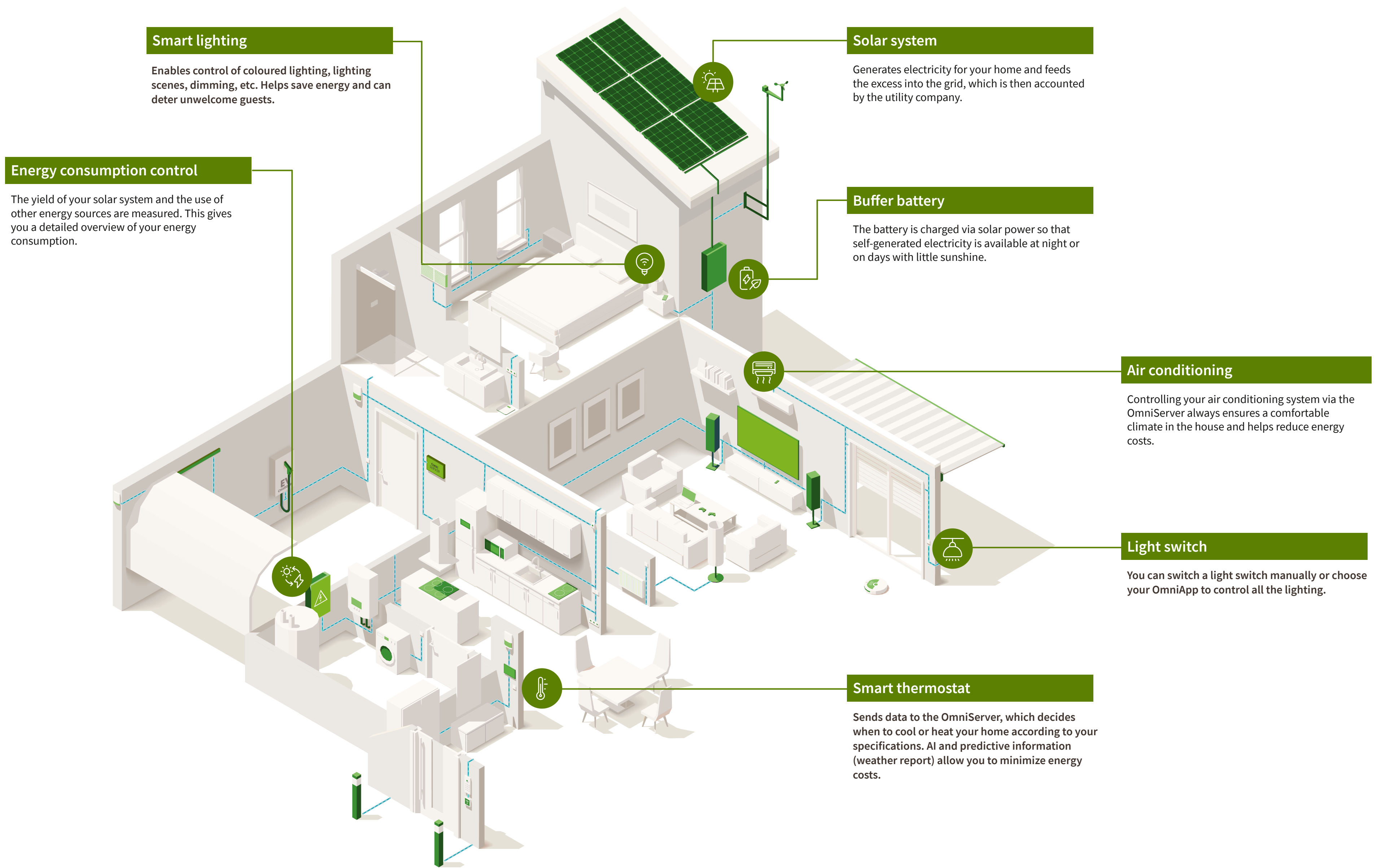
Constantly sends readings to the OmniServer. If water has leaked, the AI tries to estimate the damage and takes countermeasures.

Intercom

You can talk to anyone standing in front of your door. If you are not at home, you can open the door to a family member or a parcel delivery person via your smartphone while monitoring the video.

Smart door lock

Allows you to open or close the doors with a simple tap on your smartphone interface.



Smart lighting

Enables control of coloured lighting, lighting scenes, dimming, etc. Helps save energy and can deter unwelcome guests.

Energy consumption control

The yield of your solar system and the use of other energy sources are measured. This gives you a detailed overview of your energy consumption.

Solar system

Generates electricity for your home and feeds the excess into the grid, which is then accounted by the utility company.

Buffer battery

The battery is charged via solar power so that self-generated electricity is available at night or on days with little sunshine.

Air conditioning

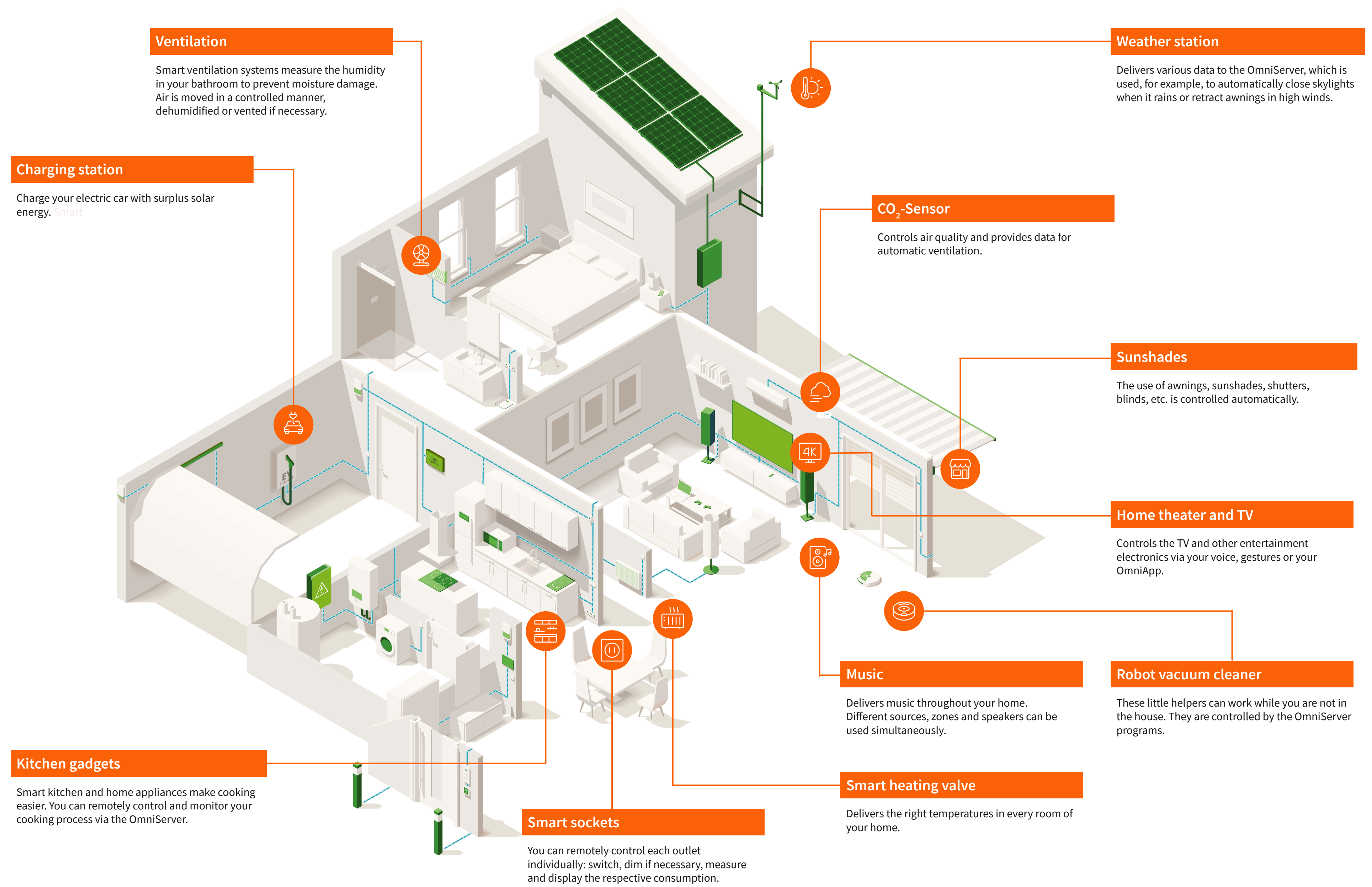
Controlling your air conditioning system via the OmniServer always ensures a comfortable climate in the house and helps reduce energy costs.

Light switch

You can switch a light switch manually or choose your OmniApp to control all the lighting.

Smart thermostat

Sends data to the OmniServer, which decides when to cool or heat your home according to your specifications. AI and predictive information (weather report) allow you to minimize energy costs.



Ventilation

Smart ventilation systems measure the humidity in your bathroom to prevent moisture damage. Air is moved in a controlled manner, dehumidified or vented if necessary.

Charging station

Charge your electric car with surplus solar energy. *Smart*

Weather station

Delivers various data to the OmniServer, which is used, for example, to automatically close skylights when it rains or retract awnings in high winds.

CO₂-Sensor

Controls air quality and provides data for automatic ventilation.

Sunshades

The use of awnings, sunshades, shutters, blinds, etc. is controlled automatically.

Home theater and TV

Controls the TV and other entertainment electronics via your voice, gestures or your OmniApp.

Music

Delivers music throughout your home. Different sources, zones and speakers can be used simultaneously.

Robot vacuum cleaner

These little helpers can work while you are not in the house. They are controlled by the OmniServer programs.

Kitchen gadgets

Smart kitchen and home appliances make cooking easier. You can remotely control and monitor your cooking process via the OmniServer.

Smart heating valve

Delivers the right temperatures in every room of your home.

Smart sockets

You can remotely control each outlet individually: switch, dim if necessary, measure and display the respective consumption.

OMNIOFFICE

COMMERCIAL BUILDINGS

The OmniBus brings fiber-optic internet to every work station, network device and machine, and provides complete building automation.



Comfort & more

- Room allocation, appointment allocation
- Provision of water, coffee, etc.
- Reordering of material requirements, food
- Workplace organization and allocation
- Reception services
- Autonomous guiding of visitors to their destination
- Entertainment
- Organization of cleaning staff/robots

Energy saving & central control

- Control of office equipment, condition
- Service, calculation of the expected life of parts
- Broadband allocation as needed
- Lighting control, blackout
- Energy saving options, weather analysis

Protection & Security

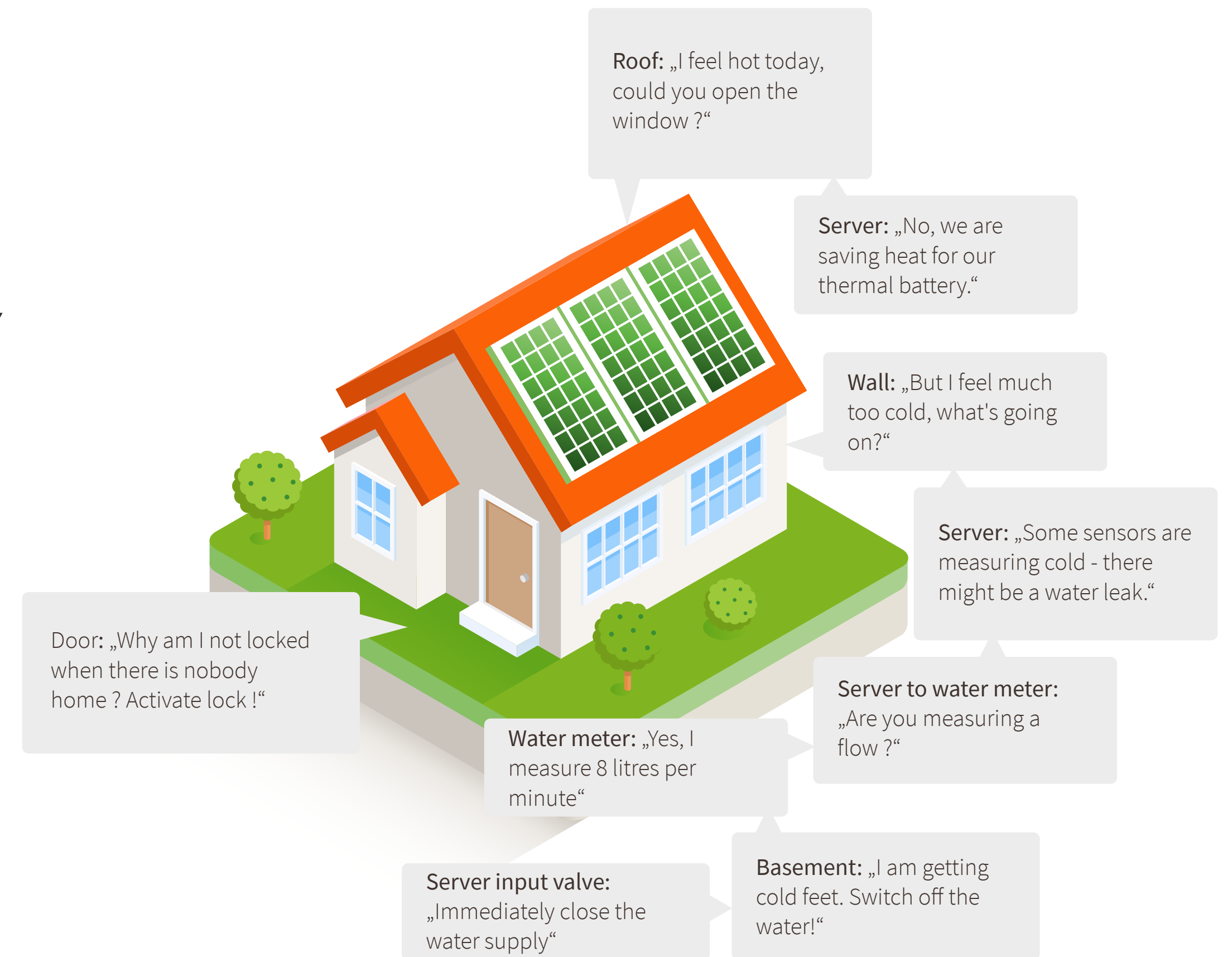
- Access control to office doors
- Cell phone control
- Hazard alarms
- Burglary and theft protection
- Health services



BUILDING TECHNOLOGY

OmniBus brings intelligence and sustainability into buildings.

A modern building should not only monitor and control itself, but also be able to learn to save resources and plan ahead.

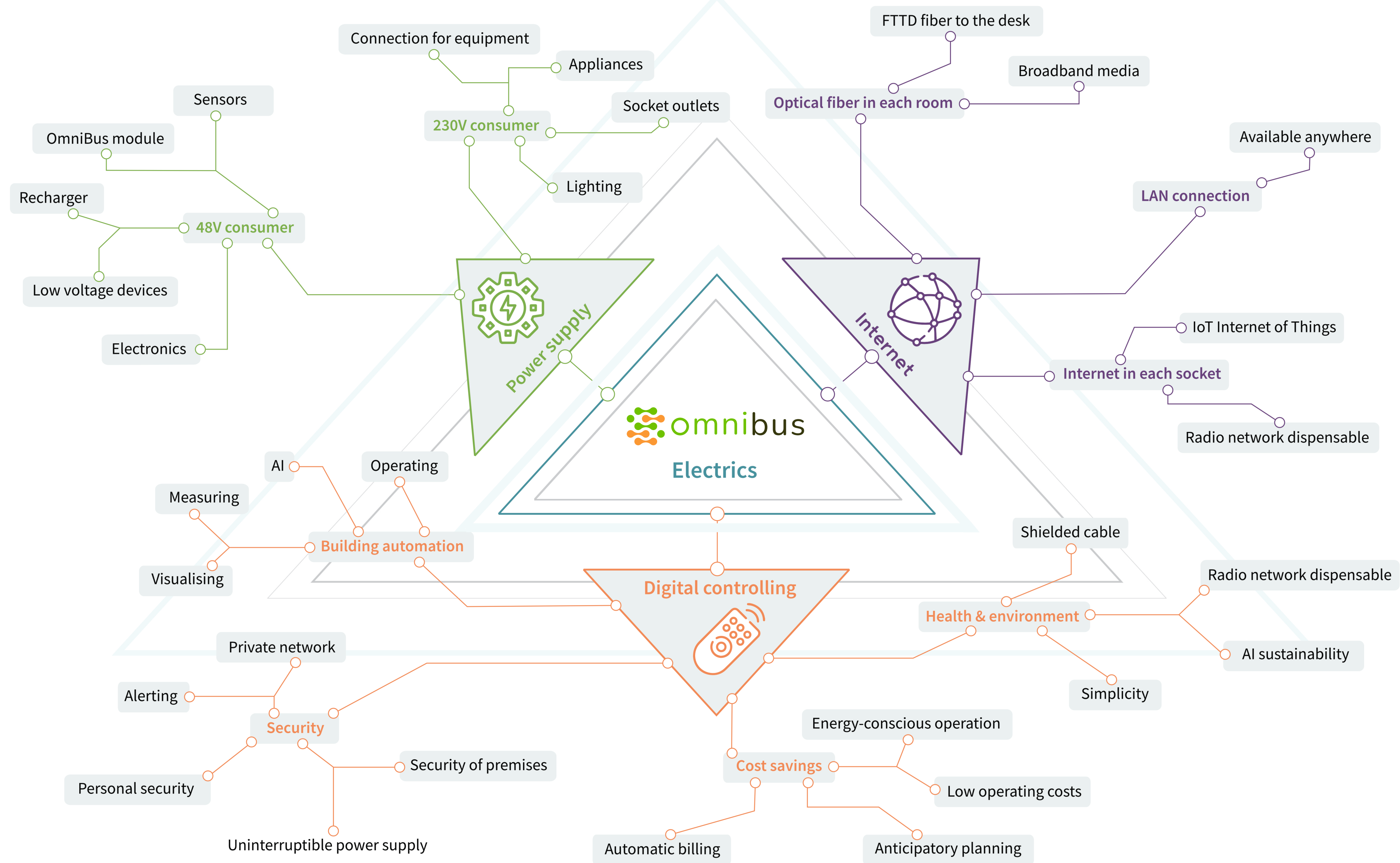




THE PRINCIPLE

The OmniBus consists of perfectly matched hardware and software components.





The range of OmniBus electrics benefits

BENEFIT

ADDITIONAL BENEFITS OF AN OMNIBUS SYSTEM

PROBLEM

In the existing practice, different aspects of home electrics and technology are installed in 4 different processes:

1. **Analogue home electrics** — an electrician installs analogue power cables and sets up circuits.
2. **Home control and communication** — specialised technicians install wires for computer networks, telephone, security and control (HVAC).
3. **Smart Home** – for smart homes, further networks are set up via cable (KNX) or WiFi with high battery requirements.
4. **Specialised applications with serial bus** – as of today, a true home automation can only be set up using complex and expensive serial bus solutions.

SOLUTION

**AN OMNIBUS INSTALLATION
COMBINES ALL FOUR ASPECTS
THROUGH A SINGLE HYBRID
CABLE – AT THE COST OF A
SINGLE ANALOGUE SETUP**





THE REVOLUTIONARY NEW HARDWARE

OMNICABLE

ONE CABLE. FOR EVERYTHING

Access to a comprehensive power supply, intelligent digital building control and fastest internet via fiber optics - **all in one single cable.**

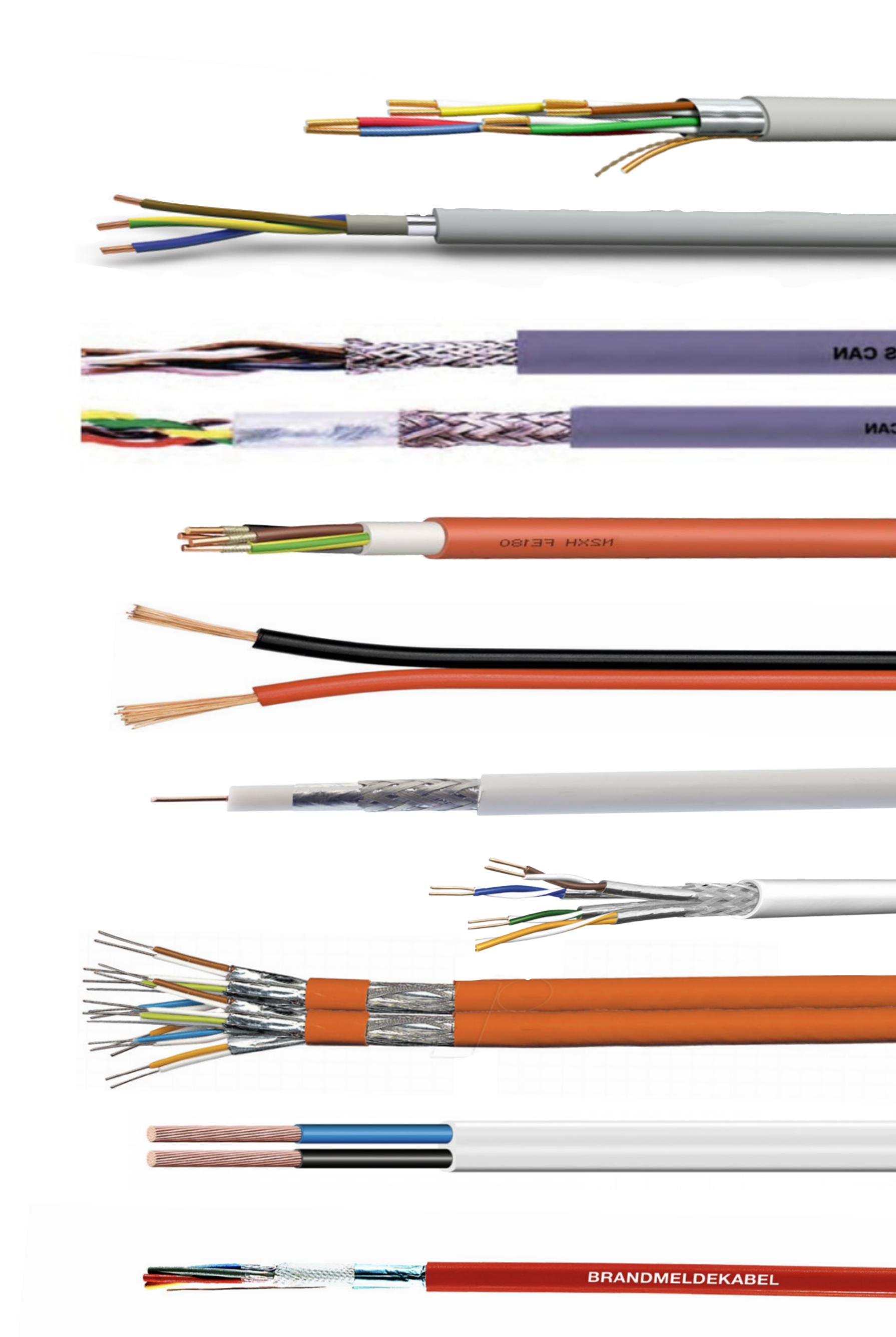


OMNICABLE

NO MORE CABLE SPAGHETTI

... of the different cable systems for alarm systems, thermostats, sensors, ventilation, home automation, loudspeaker, antenna, smart home, KNX, W-LAN, network CAT, NYM STD sheathed cable, fire detectors, telephone lines etc. etc.

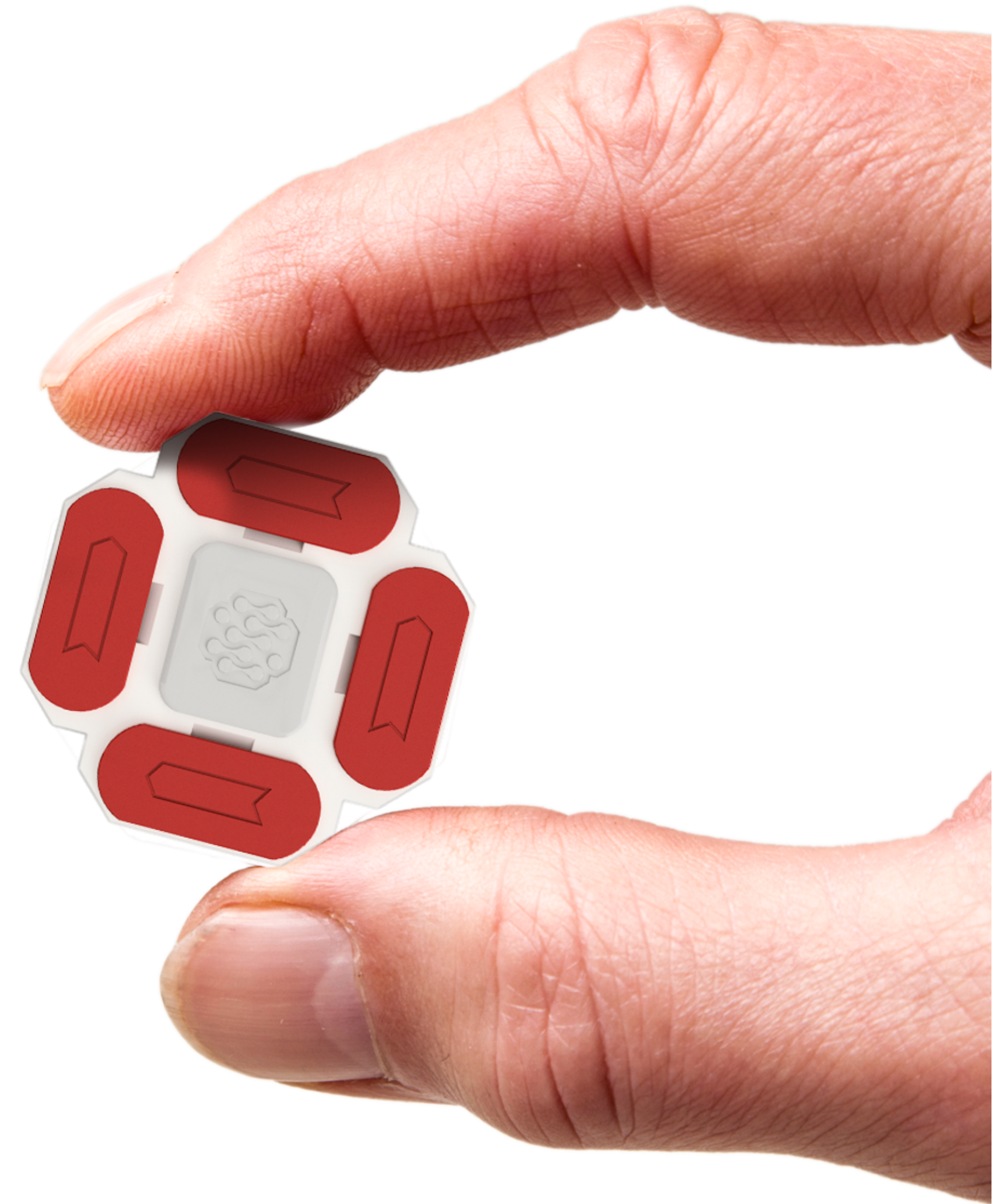
These different cables become redundant: the OmniCable replaces them all with one single system cable. **This results in material savings of up to 75%!**



OMNICLIP

THE PERFECT MATCH

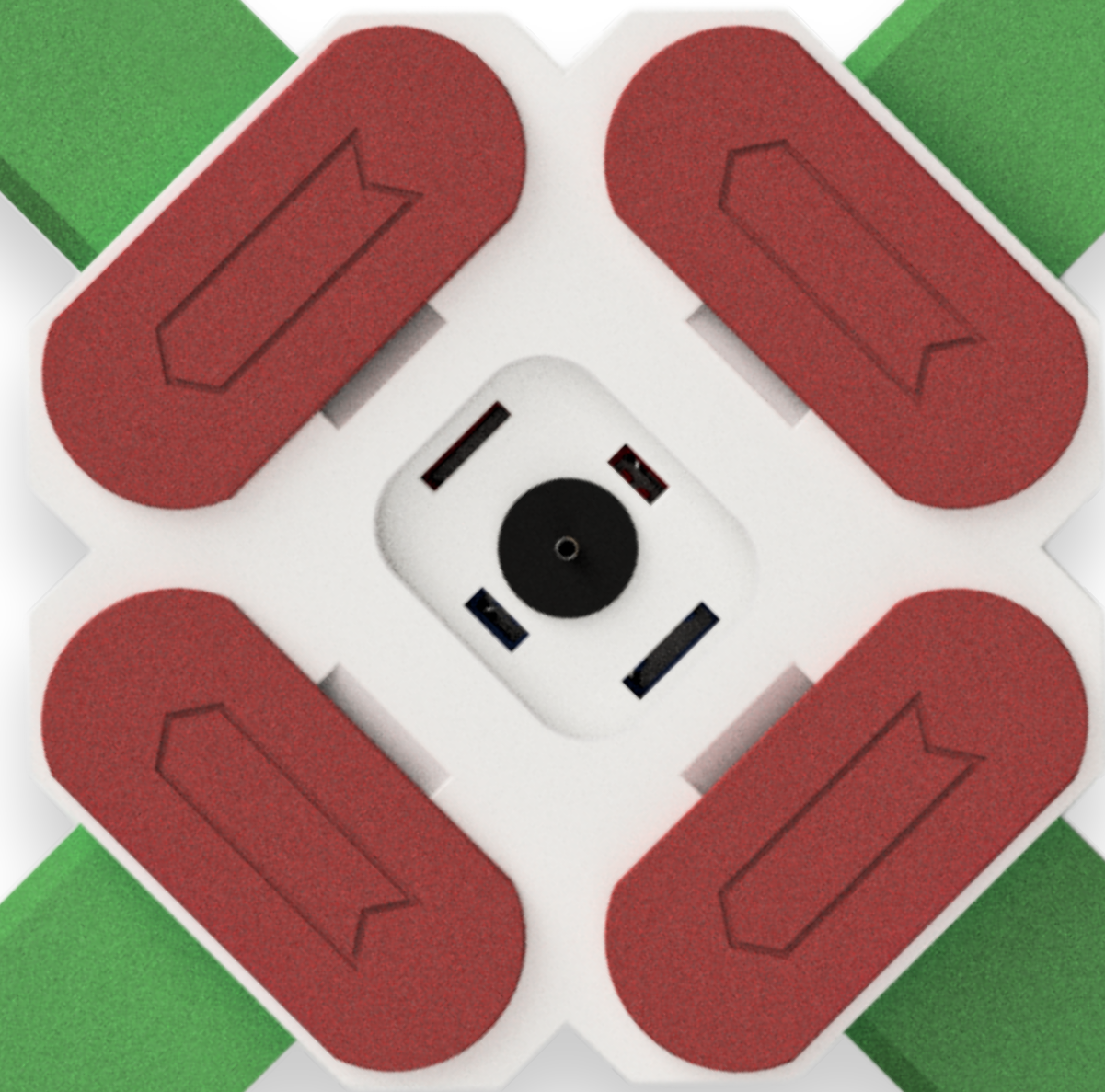
The OmniClip makes joining and connecting the OmniCable easy and foolproof.



OMNICLIP

NO MORE CHOGBLOCKS

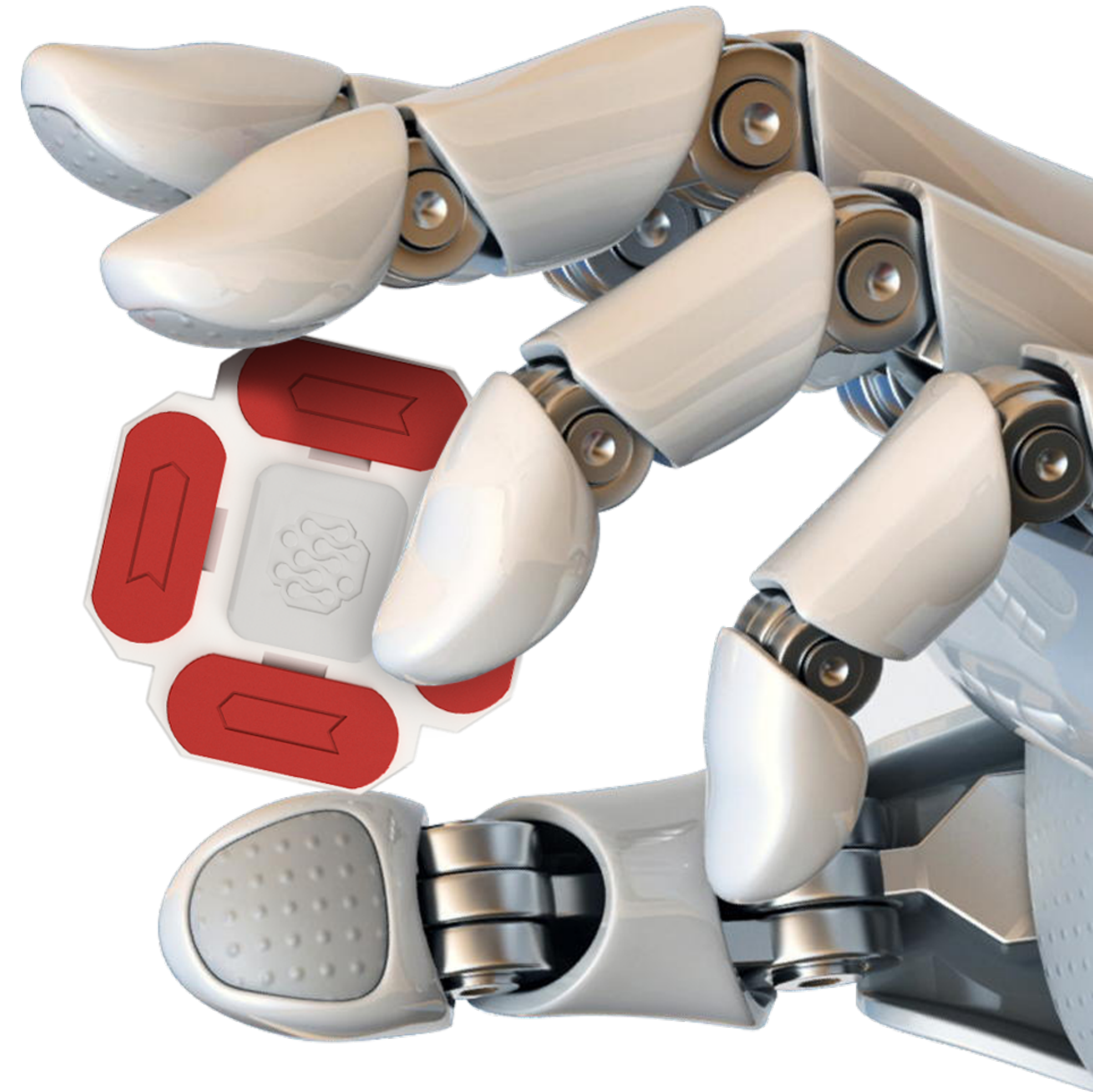
No more stripping cables, no more messing with individual wires – from now on, wrong connections are a thing of the past.



OMNICLIP

ALSO DESIGNED FOR INSTALLATION ROBOTS

The OmniBus opens up the possibility of using installation robots in the construction industry or automation systems in module production (prefabricated house construction).



FIBER OPTIC CONNECTIVITY

Easy installation: Insert the OmniCables into the OmniClip and the fibre connects to the "passive optical network", PON.



Straight connection



Deviating connection

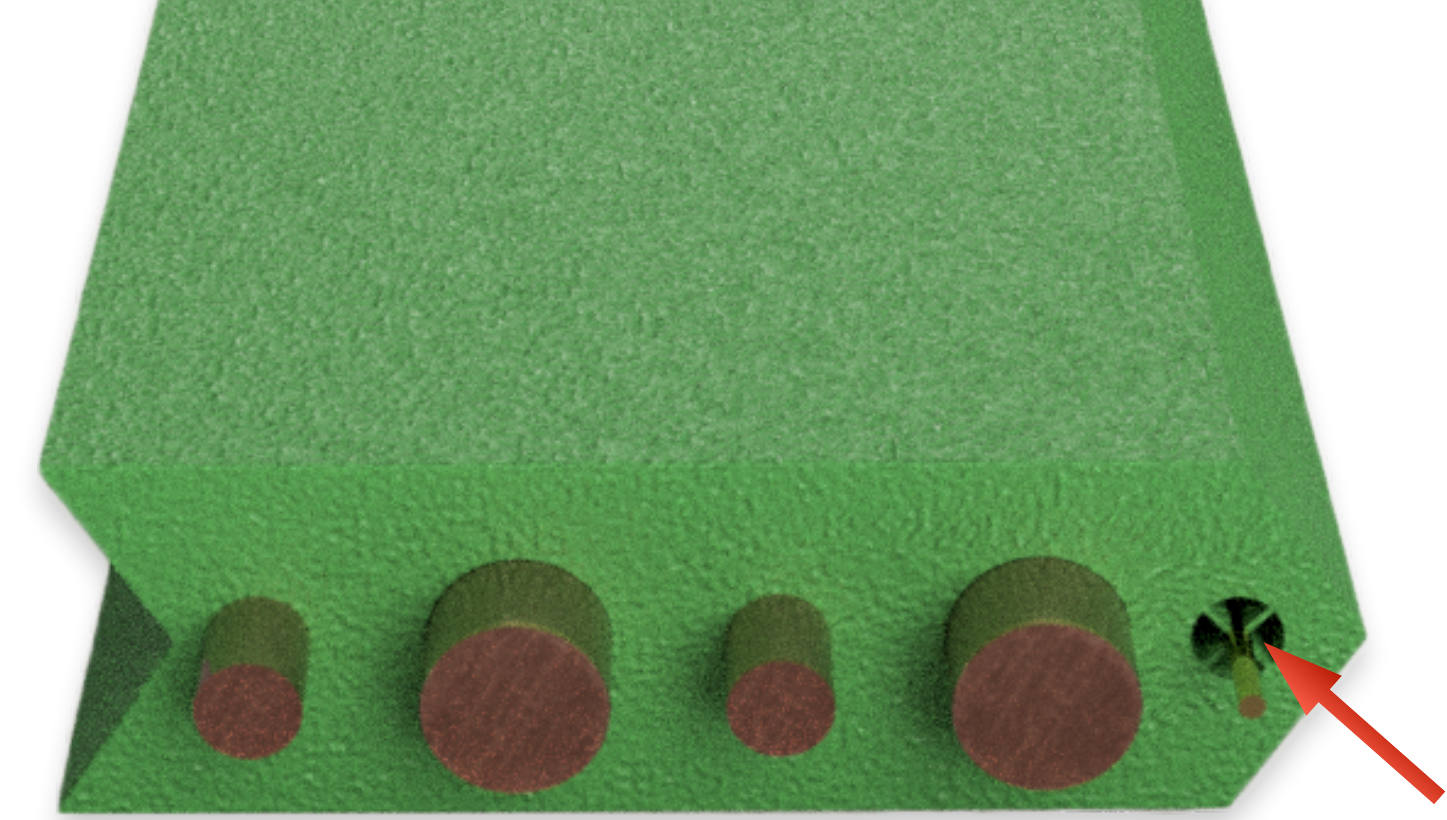


Splitter

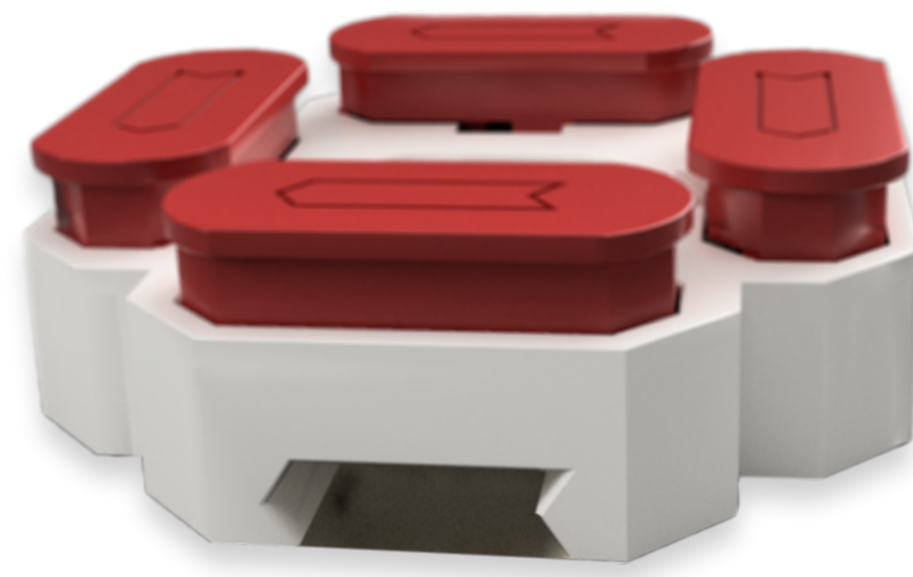
Optical signals can cross the Omniclip straight, at 90° angles, or use a passive splitter to connect all branches of OmniCables to the broadband uplink

OMNITECH

A LOOK INSIDE THE OMNICLIP



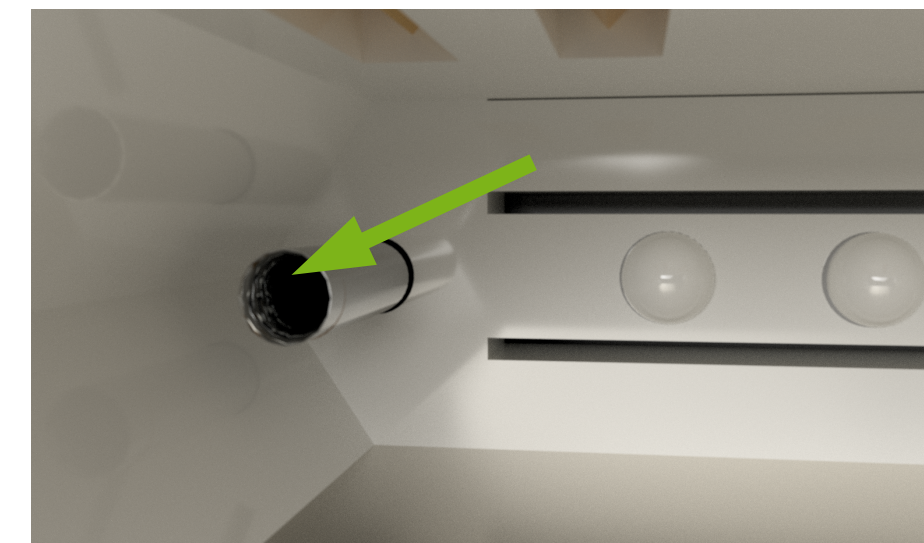
Cavity in the OmniCables for fibre



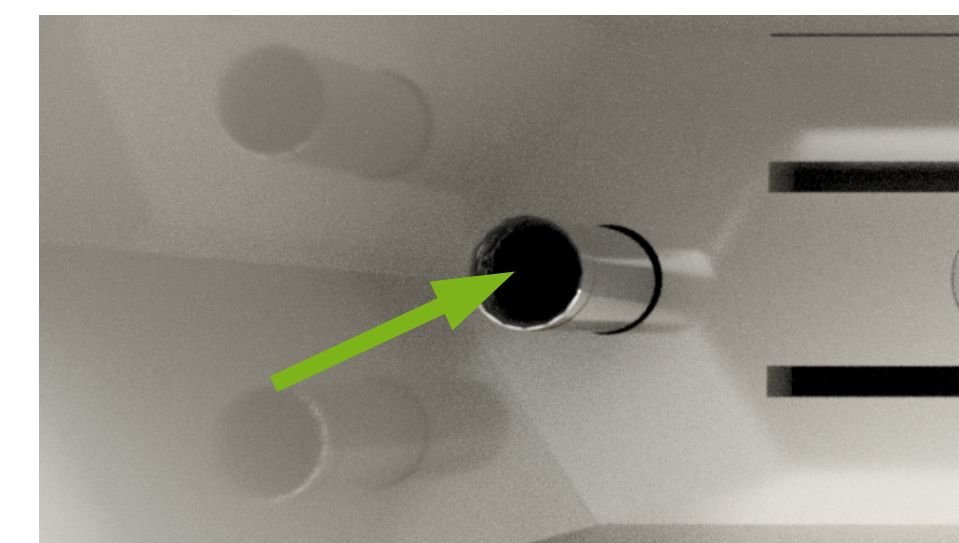
OmniClip



Looking inside the socket



Tubelet



Automatic centering

A tubelet with funnel-shaped entry point is filled with a non-drying gel permitting the optical connection with minimal losses of 1 to 2 %. The tubelet in the socket mates with the cavity of the OmniCables. It self-centers the fiber core, connecting the optical signal via the gel to build an uninterrupted light path.



YOU KNOW PLUG & PLAY?

HERE'S HOW WE DO IT...





CLICK HERE FOR OMNICLIP VIDEO

https://carlita.protonet.info/public_links/lyTsJx2S9z5Cydlf5hDfYg





SENSORS AND ACTUATORS THE PERIPHERY

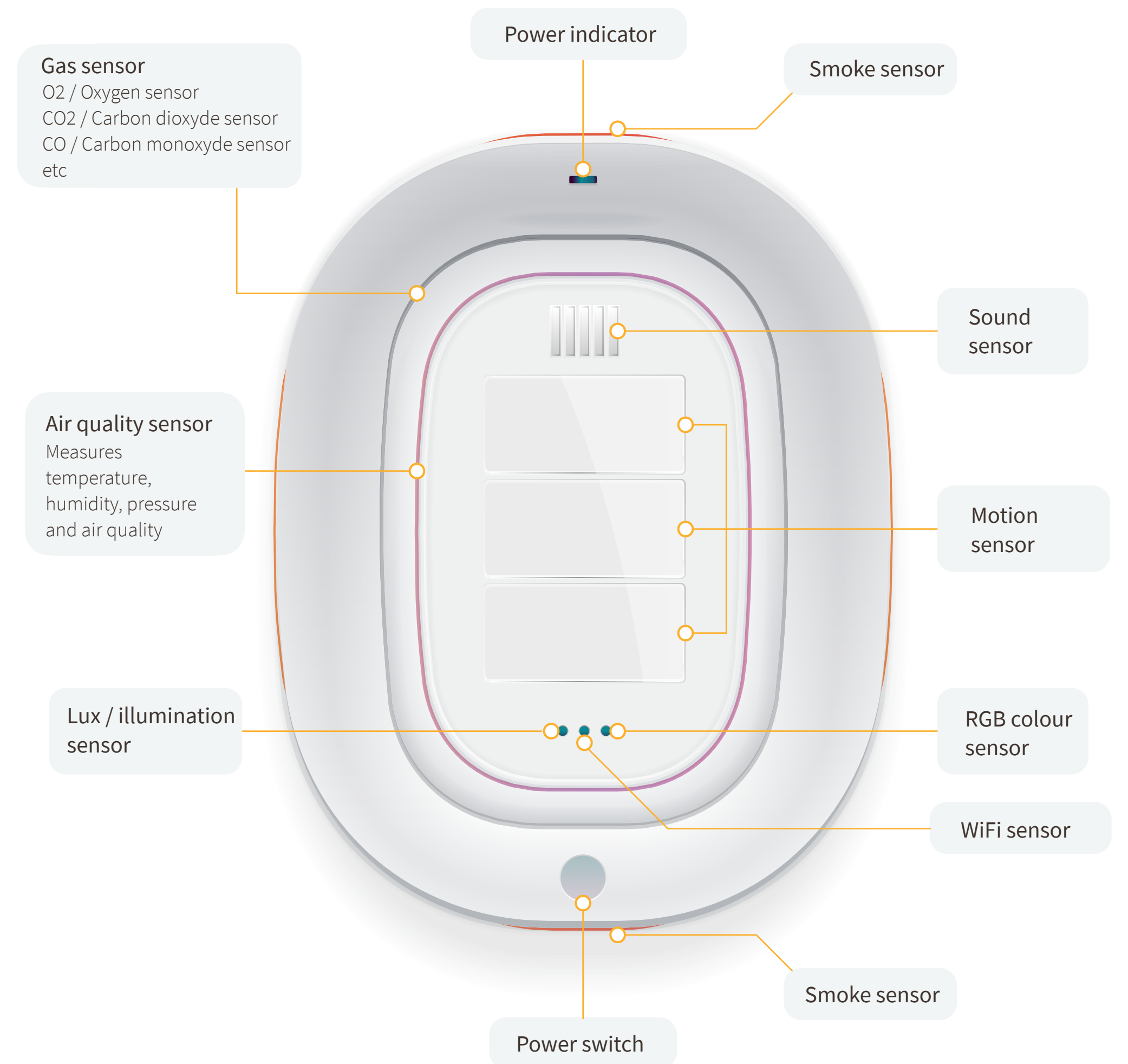
OMNITECH

THE CORE SENSOR

Installed in every room, the core sensor delivers the measured data for evaluation to the AI of the server software.

Functions:

- Temperature, air pressure, humidity
- Air quality, gas sensors for oxygen, carbon dioxide, carbon monoxide
- Smoke detector and fire sensor (flame detection)
- Acoustic sensors (microphone), voice control and hands-free equipment
- Motion sensors (number of individuals in the room, identification of people, etc.)
- Light and color sensors for light control
- Infrared sensors and gesture recognition
- WLAN and Bluetooth sensors for cell phone recognition
- LiFi for optical industrial and computer networks



OMNITECH

TWO SOCKETS IN ONE

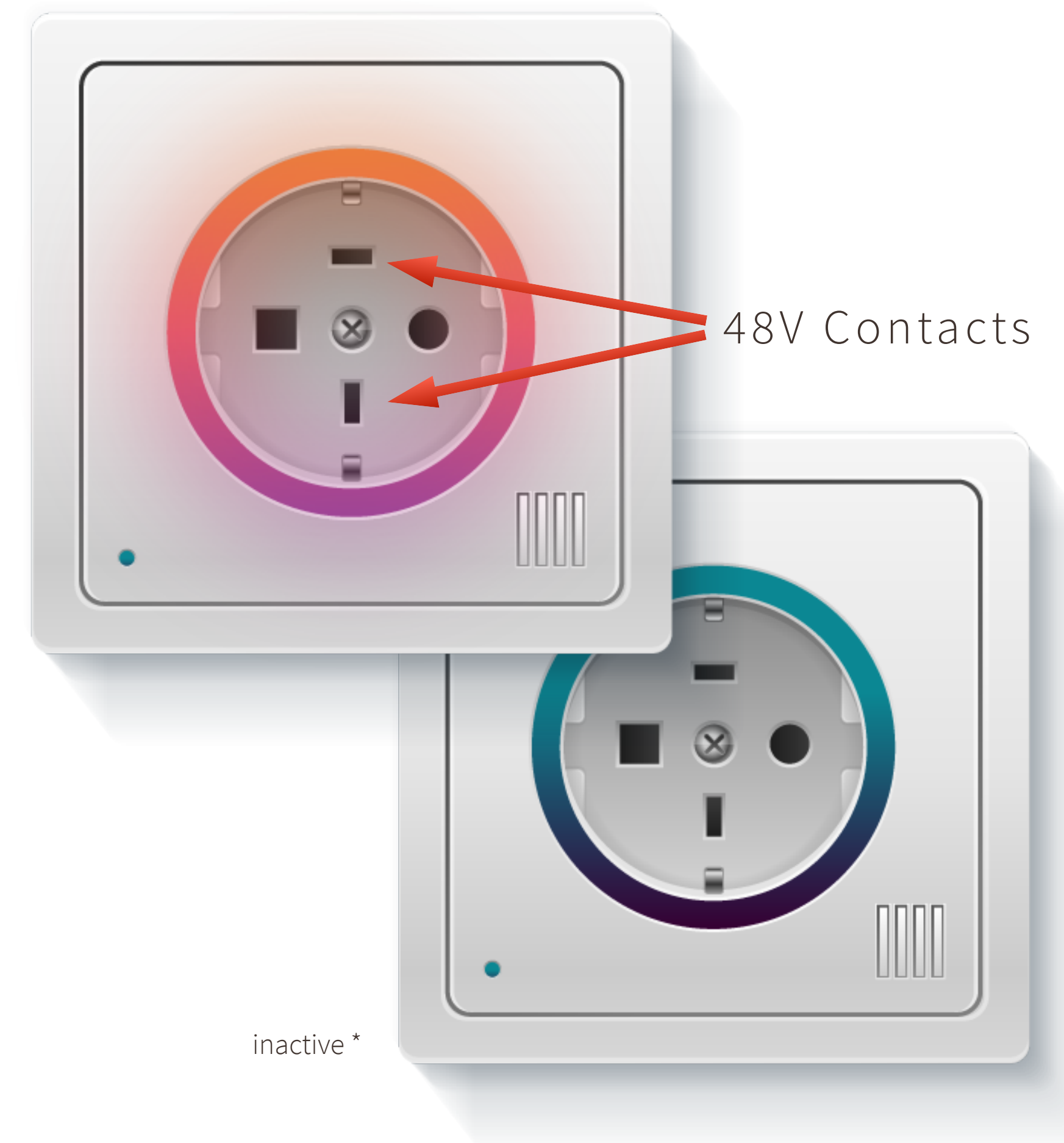
Since OptiCable provides the entire building infrastructure with 2 power circuits (230V AC und 48V DC), all sockets can provide both circuits simultaneously thereby making power supplies obsolete

Functionality:

- 230V Schuko socket or 230V socket without earth pin
- OmniBus-Plug — 230V and 48V
- „New“ 48V-Plug with and without earth pin

Optical data transmission is also possible

LEDring for optical status feedback



* sample illustration

OMNITECH

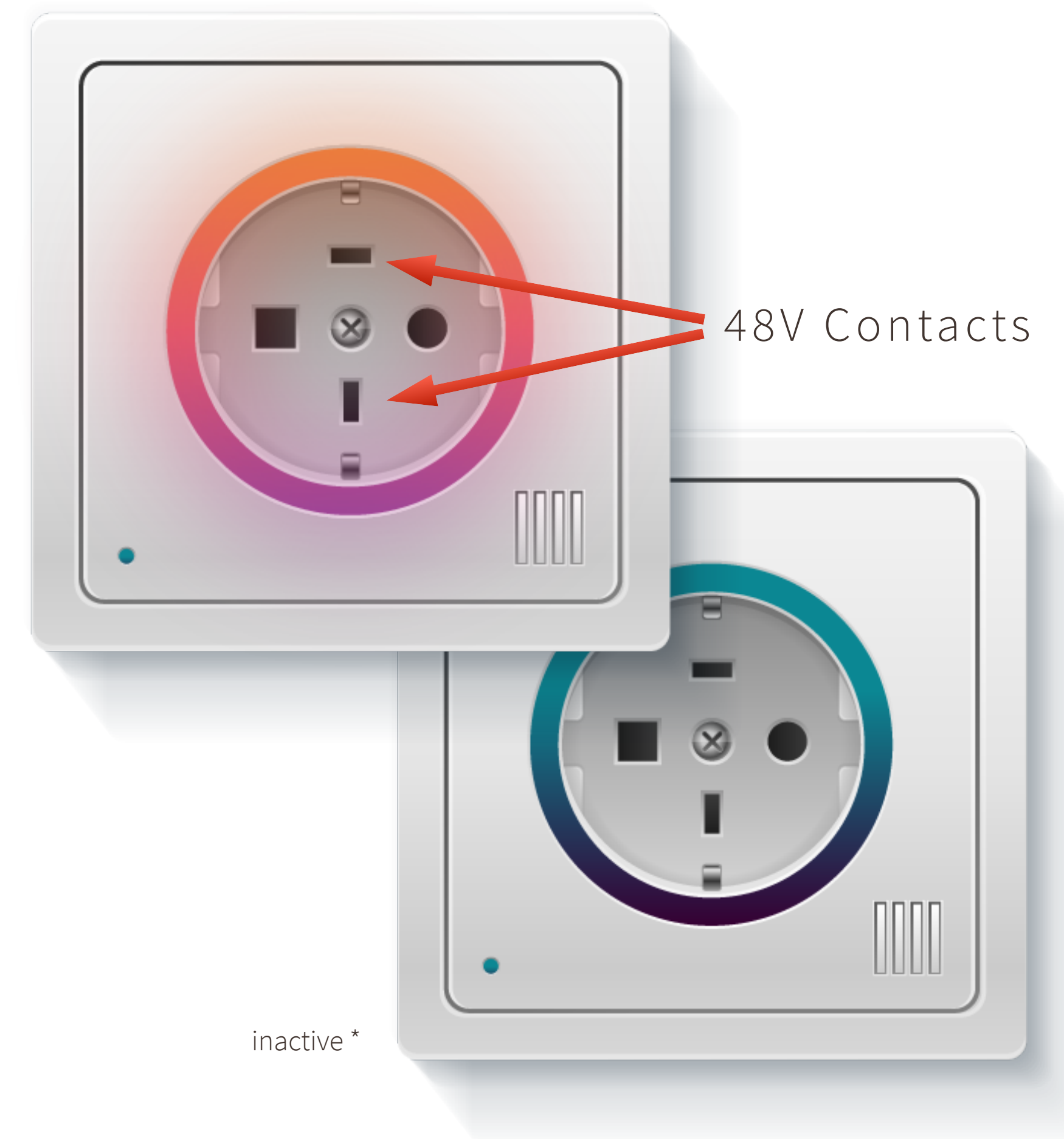
THE MULTITALENT

Each OmniBus socket connects IoT devices to the Internet via its 230V poles. It has RCD fuses (AC and DC) and eight other functions.

Functionality:

- Remote control and switching
- RCD coils and switching relays to turn contacts on and off (AC and DC).
- Plug indicator, child safety lock
- Sensors for temperature, optional for brightness, air quality etc.
- Current sensor, current limiter
- Dimmer
- LED ring for visual control of current, operation, internet, service etc.
- Night light, acoustic signal when service is required

LEDring for optical status feedback



* sample illustration

OMNITECH

THE SWITCH

The OmniSwitch is a combination of a touch display and a mechanical button. The button controls a main function, for example the ceiling light in the room.

Functions:

- Button for programmable functions: ON / OFF and "Continue / Enter" when reprogramming the functions
- Display with programmable surface for functions in the room or elsewhere. Displays data of room sensors, time, date, room temperature, messages, etc.
- Nightlight
- Sensors
- Acoustic and / or optical signal when service is required or in dangerous situations



* preliminary design example

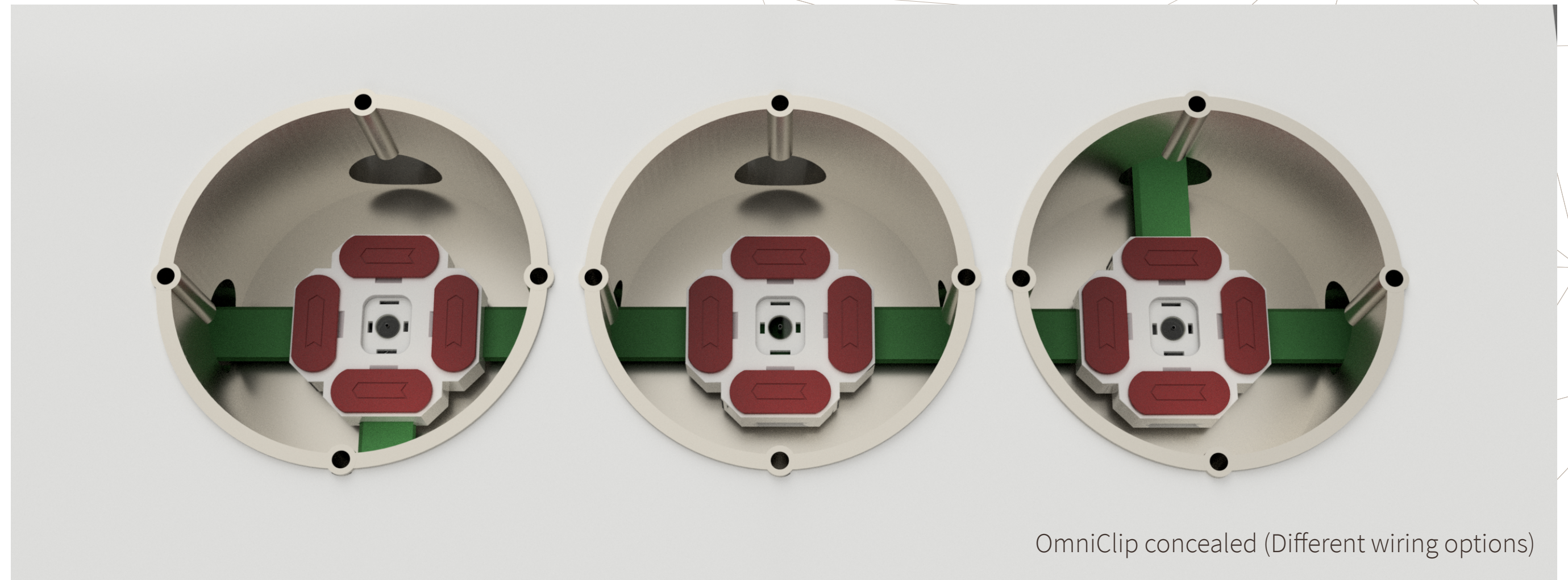
OMNITECH

THE MODULES

Each OmniBus module is a combination of the building blocks:

- OmniCable
- OmniClip and
- Connection or base module

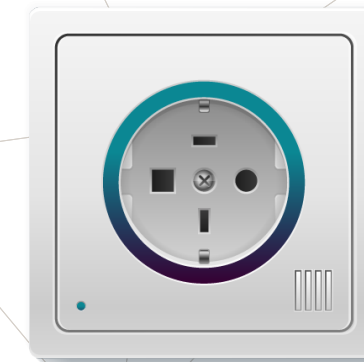
and can therefore be configured and installed as required, depending on the respective purpose. A simple exchange of the connection or base module enables uncomplicated future adjustment of the functions without having to replace the entire OmniBus module.



BASIC MODULES



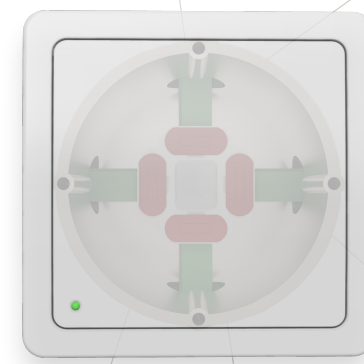
Sensor / Speaker



Power outlet



Switch

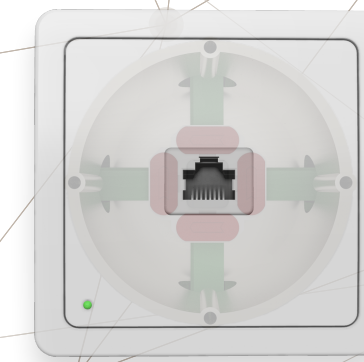


Basic module (concealed)

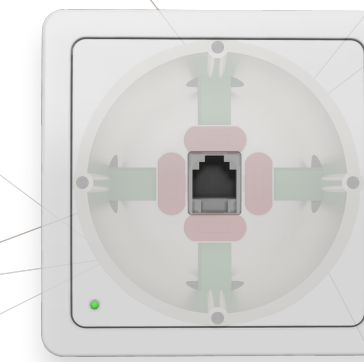
Possible control of:

- Roller shutter
- Water meter
- Radiator
- Door lock
- Alarm system
- HVAC
- Electricity meter
- Gas meter
- IoT (Internet of Things)
- Garage door
- etc.

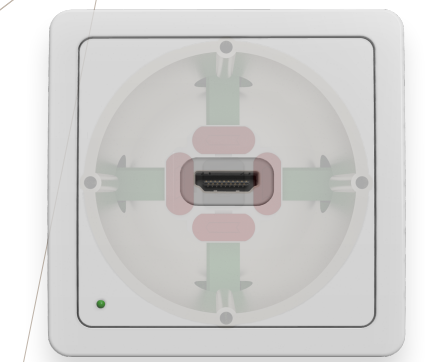
CONNECTION MODULES



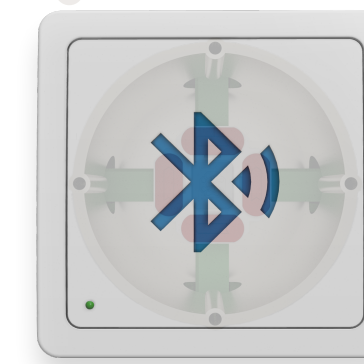
RJ45



RJ11



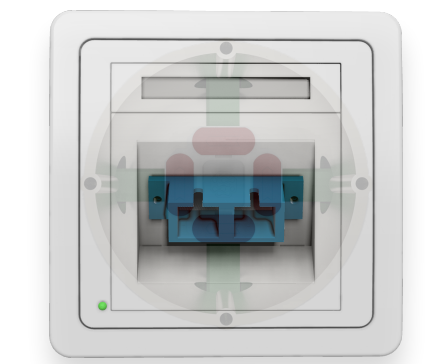
HDMI



Bluetooth



Wi-fi

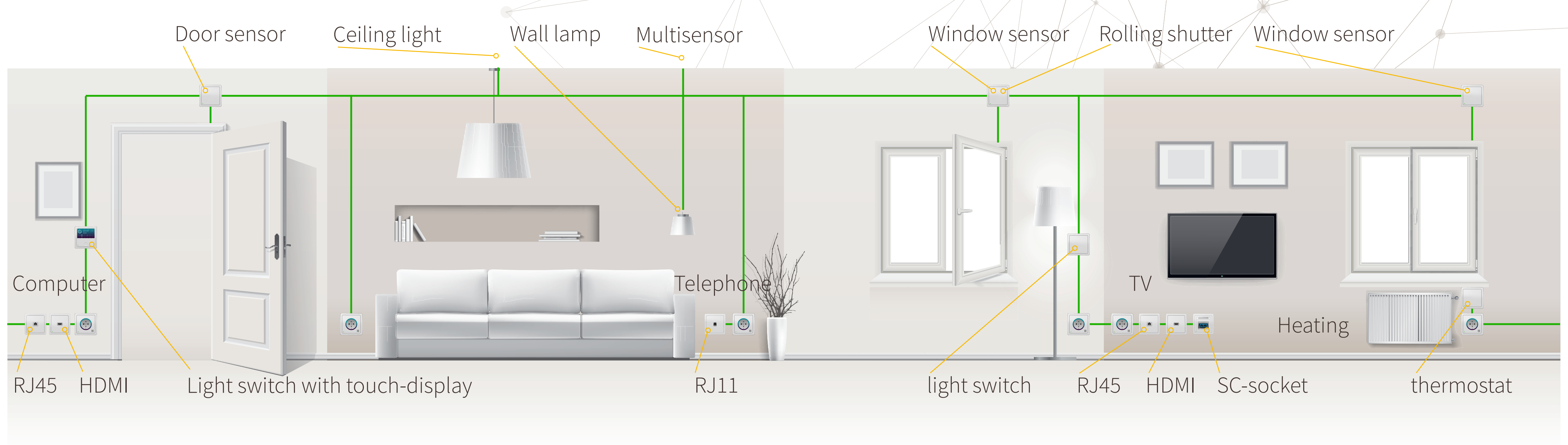


SC Socket



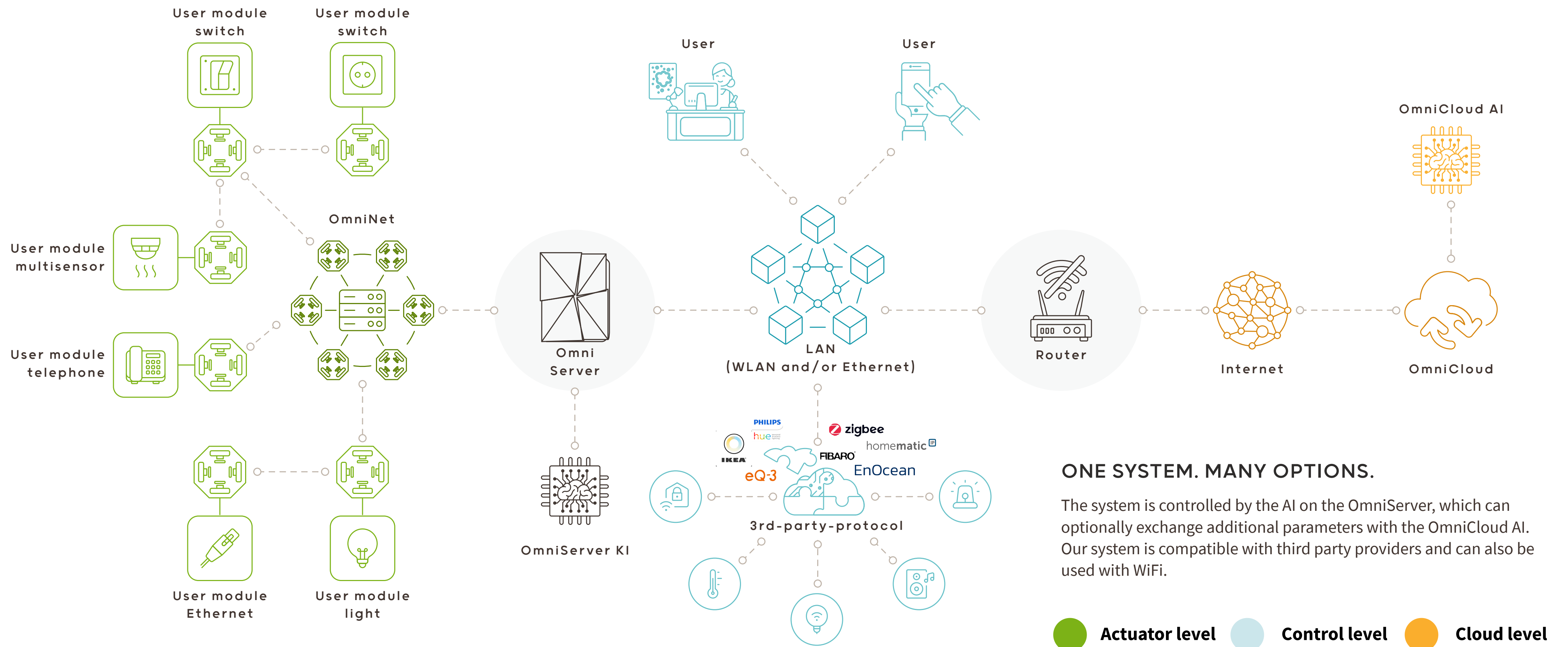
INSTALLATION

One OmniCable circuit per room is sufficient in most cases. Our hybrid cable supplies all connections with power, data and Internet (if required).



SYSTEM CONTROL

THE OMNISERVER SYSTEM



OMNINET (PLCC)

LAN (WLAN AND/OR ETHERNET)

INTERNET & CLOUD (OPTIONAL)

SOFTWARE ARCHITECTURE

The OmniBus is based on a stable software architecture. We only use established standards for in-house developments.

Standards

- IEEE 802.3ab / 1000 Base-T Gigabit LAN on RJ45
- TCP/IP as per RFC1122
- IPv6 as per RFC 2460
- MQTT 5.0 as per RFC 6455 and ISO/IEC 20922

Partner interfaces

- IEEE 802.15.4 / Z-Wave/Zigbee
- IEEE 802.11 / Wifi
- ISO 14543 / KNX

Potential additional protocols

- G.9960 / G.hn over POF / A4a.2 / IEC 60793-2-40:2021
- ANSI/TIA/EIA-485
- Modbus

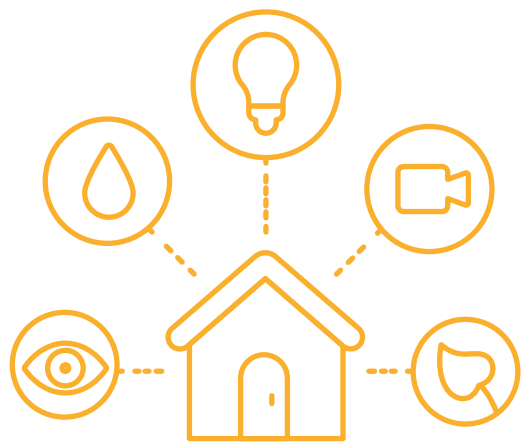
	OSI Layer	Standard
OMNICONTROL STACK		
OmniAPI	Application	own development
MQTT	Session	customised
TCP / IP	Transport	existing standard
IPv4 / IPv6	Network	existing standard
PLCC	Link+Phy	existing standard
OMNISERVER STACK		
GUI Home Assistent Grafana	Application	own development
OmniAPI		
MQTT	Session	customised
TCP / IP	Transport	existing standard
IPv4 / IPv6	Network	existing standard
PLCC	Link+Phy	existing standard
OMNICLOUD STACK		
KI	Application	own development
OmniAPI		
MQTT	Session	customised
TCP / IP	Transport	existing standard
IPv4 / IPv6	Network	existing standard



OMNIBUS
THE FIVE BENEFITS

THE FIVE KEY BENEFITS

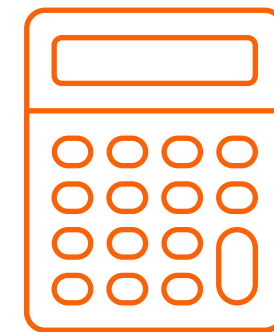
THE DIGITISATION OF CONSTRUCTION SITE & EDIFICE



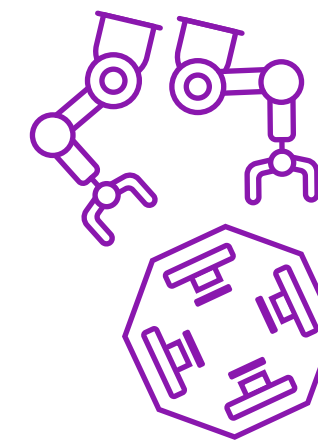
BUILDING AUTOMATION



SECURITY



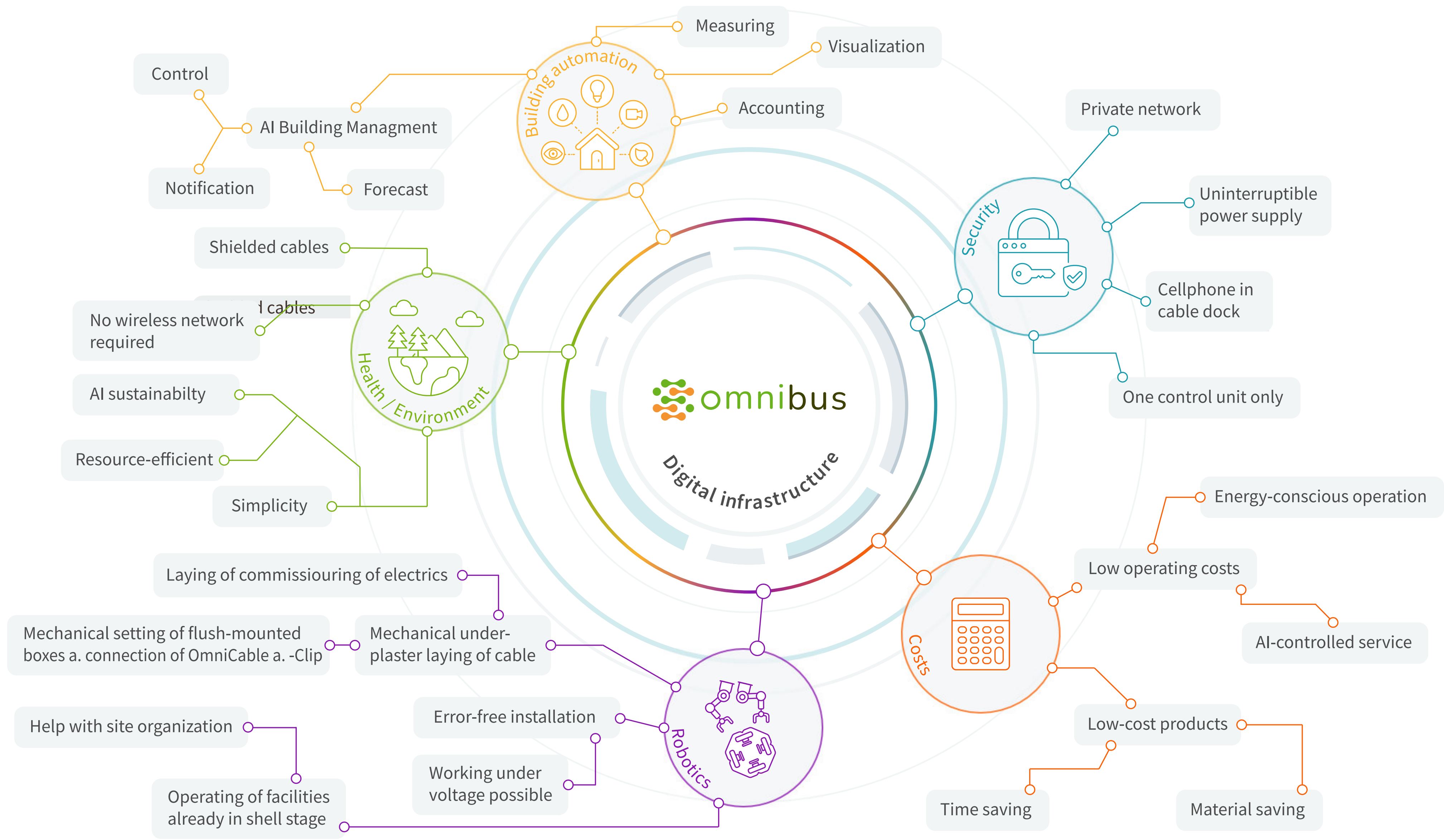
COST SAVINGS



ROBOTICS



HEALTH & ENVIRONMENT



OmniBus - the digital infrastructure throughout the building



THOSE WHO KNOW, SAY...



“The smart home is no longer just about a lamp controlled by an app or a lawnmower that autonomously keeps the grass short –

it's about end-to-end device networking and their control via a common platform.

– **Dr. Bernhard Rohleder**

Chief Executive Bitkom e.V.

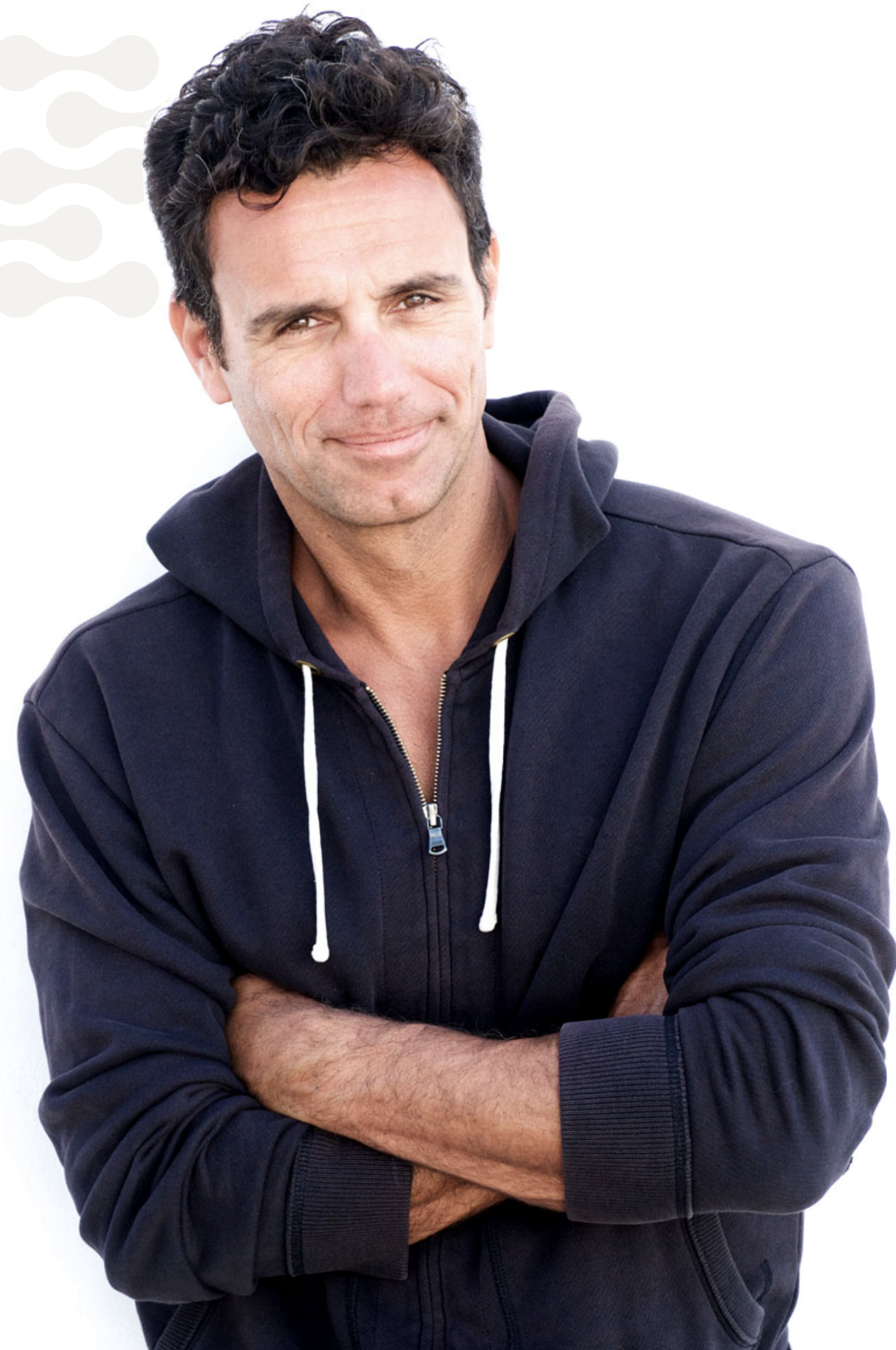


“
*Finally an easy way
to the future of
digital building
automation!*
– Sales representative



“
*Along with the electrical system
we install the entire home
automation control system.
All from a single source!*

– Electrician



“*Lighting, security,
consumption data or service -
I can control and manage all
processes with one single
app.*

- House-builder



“*Finally we can plan a network that is future-proof for 30 years. That is truly sustainable!*”

– Architect



“

*Our house now organizes itself.
This saves us energy – and
time, which we now have
available for our children.*

– Family

FUTURE

FROM THE CELLAR TO THE ATTIC

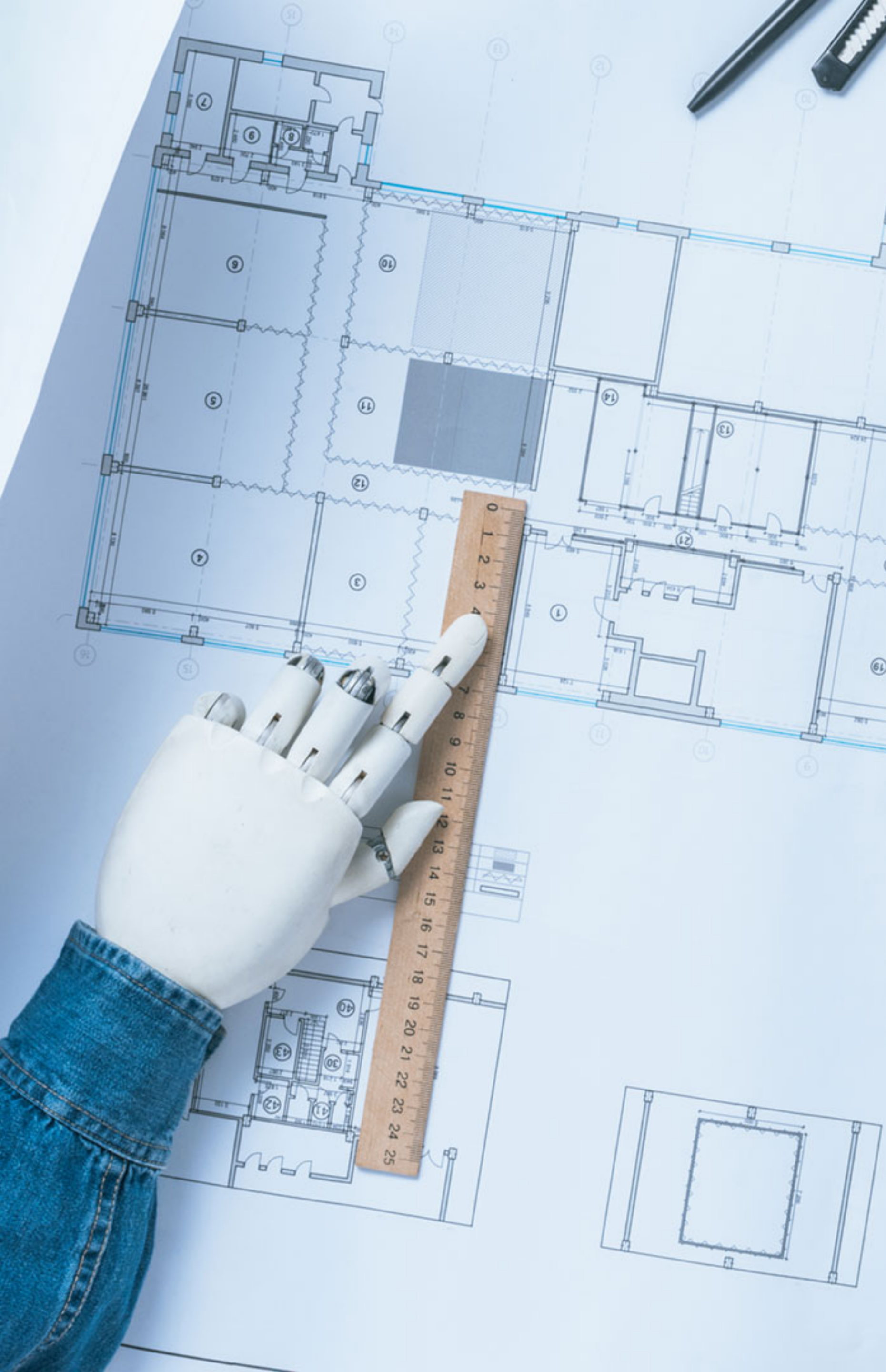


The OmniCable is present everywhere in the building and ensures full performance of the digital infrastructure in every room. It will still be able to perform all tasks in 30 years, in line with ongoing digital transformations.

An Example

It is expected that in future all residential and commercial buildings will need to have a solar system, a buffer battery and at least one charging station for e-mobility. The OmniBus is the right investment to support these and other future requirements.

The OmniServer uses AI to predictively charge the batteries or sell excess electricity to the city network at peak times (high tariff).



FUTURE

INSTALLATION PLANS FROM THE OMNIROBOT

Future electrical installation plans will not require an architect or an engineer.

With the help of AI, the robot can easily determine the positions of light switches, sockets, lights and fixed connections for heating, roller shutters and the like.*

Maximum flexibility

The OmniBus can provide all required media connections in every room. The use of the rooms can be planned according to individual needs and change later. Connections for antenna, television, music, telephone and computer can be installed anywhere anytime.

* Where there are special requirements (e.g. in the kitchen), the robot needs instructions. Otherwise, only the correct equipment value (DIN 18015-2) must be specified.

GERMAN CONSTITUTION ARTICLE 13

THE HOME IS INVIOLABLE

... and so should the work area be!

That is why data protection is our top priority. The OmniBus cable network and the OmniServer form a protected unit and work autonomously - even without internet access.



Private and commercial data remain “private”. Data leeches have no access to the network.



HEALTH & ENVIRONMENT

IN LINE WITH THE UNITED NATIONS' SUSTAINABLE DEVELOPMENT GOALS

... and the goals of the European Union. Applicable EU standards (e.g., "Energy Performance of Building Directive") and corresponding national guidelines already require the support of "energy-efficient, economical and safe building systems through automatic controls" for almost all types of buildings.

With our OmniBus technology, all types of buildings receive a comprehensive digital infrastructure. This is what makes the use of artificial intelligence for sustainable, resource-saving building control technically and economically possible in the first place.

In particular, the OmniBus is line with the UN sustainability goals 9, 11, 12 and 13.





MONITORING

USAGE AND SYSTEM STATUS

Maximum transparency and monitoring

Thanks to current sensors in each omnibus base- and user-module, the power consumption is measured and shared and can be accessed and displayed via the user interface.

Maximum flexibility

The OmniBus monitors all home systems for fault, imminent dangers, tampering or unexpected statuses.

OmniBus displays success messages when the system achieves savings due to behavioural changes of the user. OmniBus also implements programmes that slowly and smoothly reduce room temperature during heating periods.

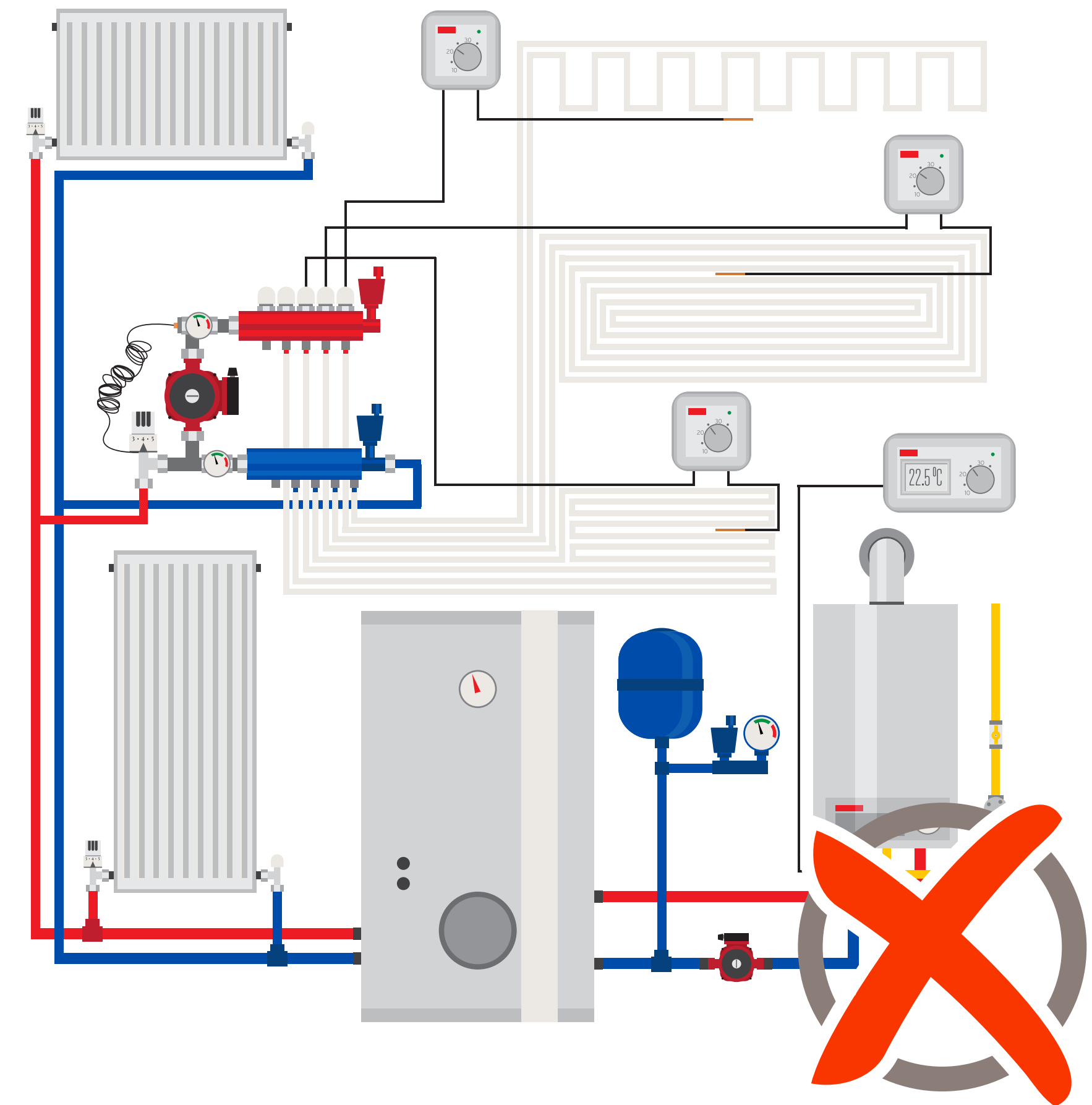
HEATING CONTROL

Heaters are rarely controlled in an energy-saving way today and are rarely monitored for their efficiency.

Even modern heating systems regulate their heat supply only via the external temperature and the pre-programmed response curve. Which proportion of heat actually is needed in the rooms needs to be set manually (or "smartly") at the space or floor heater.

Despite electronic boiler control, the main parameters cannot be set by users according to their requirements:

- Heat production
- Summer/winter-presets
- Hydraulic and return temperature
- Room usage
- Weather forecast



Conventional, manually operated „modern“ heating system

OMNITECH

HEATING AUTOMATION

Significant energy savings are achieved by the OmniBus heating automation.

The AI software, through the use of sensors and thermostats, ensures appropriate heating of each individual room. The efficiency and presets of the heating system are permanently controlled and optimised.

Control factors for the individual heat supply to each room

- Hydraulics (input temperature vs flow volume)
- Exterior temperature, air pressure, chill factor
- Weather report, weather forecast, internal weather station
- Room thermometers, air quality, air flow requirements
- Heat inputs (people, sunlight, nearby rooms, machinery)
- Scheduling and presence of people
- Time of day and planned daily usage
- Individual settings of the people present
- Comparison with saved data



OmniBus automatically presets the room temperature which can be viewed and changed at any OmniSwitch.

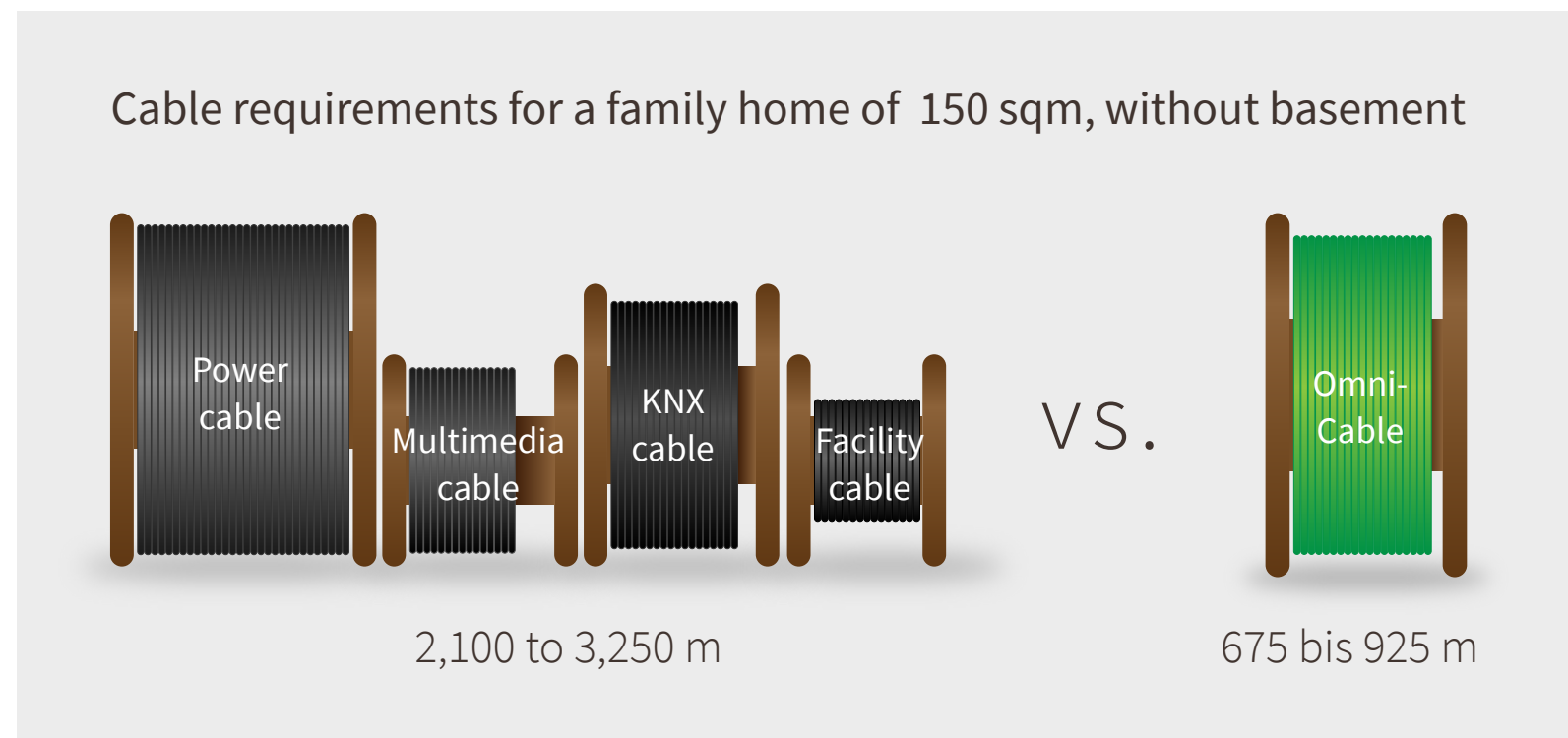
MATERIAL AND COST SAVINGS

COMPARING CABLE REQUIREMENTS

Compared to conventional smart home systems, OmniBus offers a much larger palette of options - with up to

75% MATERIAL SAVINGS!

OmniBus' reduction in materials means not only lower costs and savings in precious resources, but also, thanks to our patented technology, huge savings in time. The cable requirements are summarised in the adjacent table.



	KNX	OmniBus
ELECTRICAL INSTALLATION*		
NYM-J 3 × 1,5 mm ² Power cable	600 - 900 m	
NYM-J 5 × 1,5 mm ² Power cable	300 - 400 m	
NYM-J 5 × 2,5 mm ² Powercable	50 - 100 m	
Tube cable 2 x 1 mm ²	50 m	
NYY-J 3 × 1,5 mm ² Earthing cable	50 - 100 m	
NYY-J 7 × 1,5 mm ² Earthing cable PVC black	50 - 100 m	
MULTIMEDIA		
2 x 0,75 mm ² black ring	300 m	
Koax cable	200 m	
CAT.7 Network cable	300 m	
KNX-KABEL		
Bus wire KNX EIB-Y(St)Y 2 x 2 x 0,8 mm ²	200 m	
ANLAGEN-KABEL (TELEFON, ALARM, RAUCH)		
Telephone wire 2 x 2 x 0,6 mm ²	500 m	
OMNICABLE		
OC flat 3 × 1,5 mm ² + LWL		600 - 800 m
OC-flat 5 x 2,5 mm ²		50 - 100 m
OC-flat 5 x 6 mm ² (garage charging station)		25 m
BENÖTIGTE KABELMENGEN	2.100 - 3.250 m	675 - 925 m

* Cable estimates for a one family home 120-150 sqm, without basement



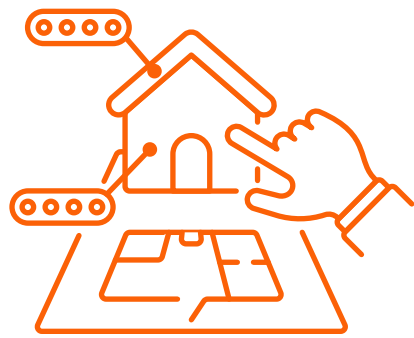
MARKET ENTRY

BUSINESS MODELS FOR THE OMNIBUS



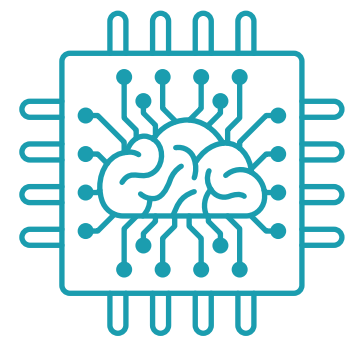
Direct Sales

of our products in the entry-level market of prefabricated house construction.



Licensing

of our patented technology to manufacturing companies for all residential and commercial properties.



Service contracts

Long-term service contracts with owners/tenants for software updates and external server services (AI).



PREFABRICATED HOUSES

Prefabricated construction is an untapped market of the future.

Current trend: ecological wooden houses for living and multi-storey office buildings.

Planners and builders of prefabricated houses are often inclined towards innovation and ecological thinking.

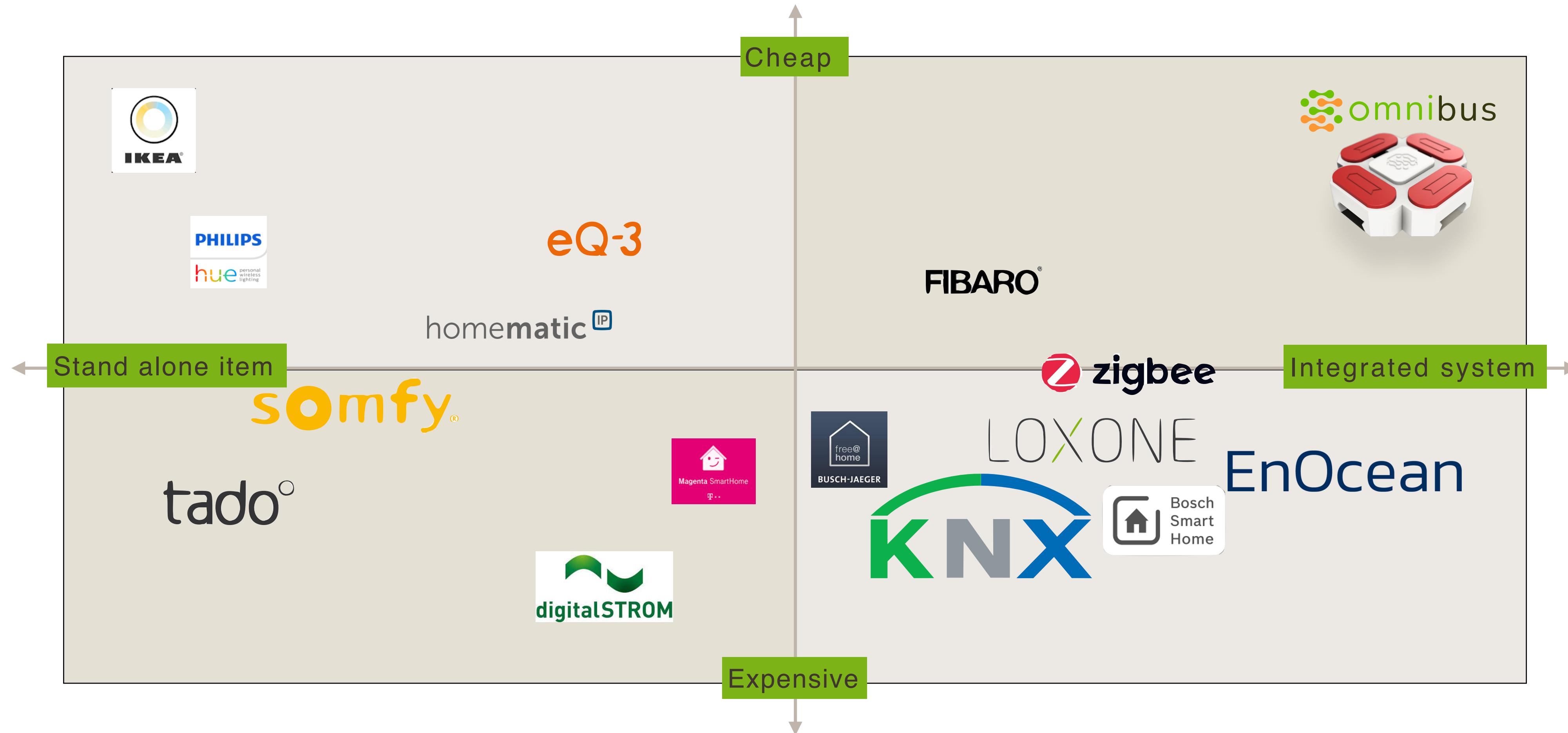
LIFECYCLE TOWER ONE - CREE -
MODULAR WOOD CONSTRUCTION, 2018



COMPETITORS

COMPETITORS

PROVIDERS OF SMART HOME & SMART BUILDING TECHNOLOGY





OMNITECH

COMPETITORS

The principle of the OmniBus system is unrivalled: no other market player supplies mains voltage, data and fiber optic connectivity via one single cable.

Smart Home: 

KNX covers only a small part of the required performance spectrum, is material-intensive and expensive.

Smart Building:

Fieldbus systems from

 **zigbee** **EnOcean**

and others

Fieldbus systems are complicated and do not supply mains current or fast Internet.

COMPARING INSTALLATION COSTS AND FEATURES

	Conventional electrics	KNX	OmniBus
Average installation costs *	approx. 12.000 €	approx. 20.000 €	approx. 12.000,00 €
Smart features	-	Smart Home	Smart Building
Includes smart features	-	Mostly: light, some sockets, blinds, heating	Unlimited
Technology	Analogue	Two wiring systems	One cable network
Installed by	Electrician	Electrician	Robot-compatible
Commissioned by	Electrician	Programmer	Self-configuring
User interface	-	Switch	App, switch, voice, tablet
Protection from installation errors	No	No	Ja
Protection from broken appliances	No	No	Ja
Saving of energy and resources	-	Low	Optimal

*Reference: One family home, approximately 150 sqm area without basement





CONCLUSION

NO MORE CABLE SPAGHETTI

Throughout the building a single type of cable is laid, which can do everything. No more clutter of different cables; OmniBus reduces the existing cable masses to approximately 25% (example of a single-family KNX SmartHome).

NO MORE TERMINAL BLOCKS

... and never again complicated connecting of single wires. Just cut the cable to length, plug it in and click. Done.

NO MORE COMPLICATED FIELDBUS SYSTEMS

OmniBus takes care of connecting and controlling all home automation systems.

NO MORE LIMITED USE

...due to missing connections. OmniBus brings the full power of digital infrastructure to every property. Always and everywhere.

NO MORE ELECTROSMOG FROM PERMANENTLY INSTALLED CABLES

The OmniCable is always shielded.

NO MORE CHAOS DUE TO DIFFERENT SYSTEMS

Everything from one source: one system, one installation, one application, one operation.

NO MORE UNNECESSARY CONSUMPTION OF RESOURCES

The adaptive AI software manages the entire building focused on sustainability. Changing factors are reliably taken into account: Occupant presence or absence, weather data, cost targets, miscellaneous tasks and objectives.



COMING SOON...

MILESTONES

Tasks ahead of us:

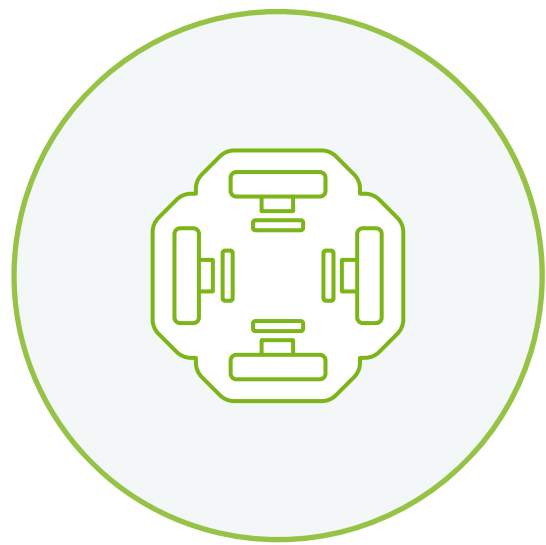
- 1 MANUFACTURE SAMPLE CABLE**
- 2 CERTIFICATION OF THE OMNIBUS CONNECTORS**
- 3 COMMISSION SHOWROOM**
- 4 PARTNERSHIP WITH GREEN TECH INVESTORS**
- 5 JOINT-VENTURE WITH MANUFACTURERS AND CLIENTS**

TECHNOLOGY MADE IN HAMBURG

Already achieved

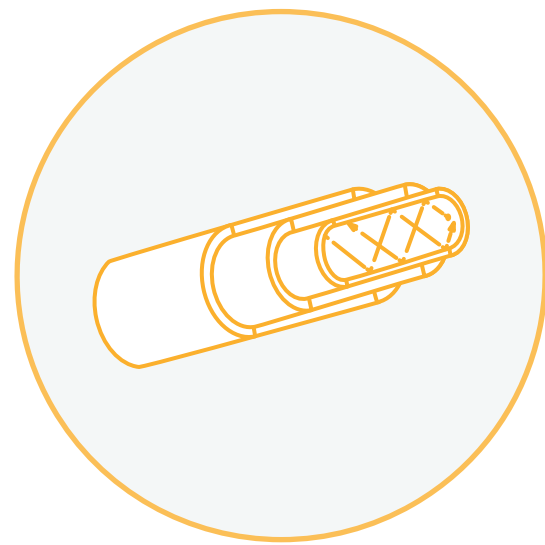
National and international patents granted or applied for, registered design (#3)

1



OmniCable
Connection technology

2



OmniCable with fiber optic
technology

3



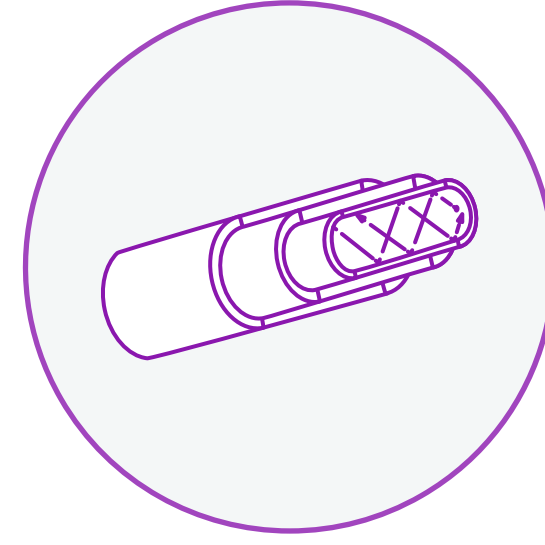
OmniBus
modules

4



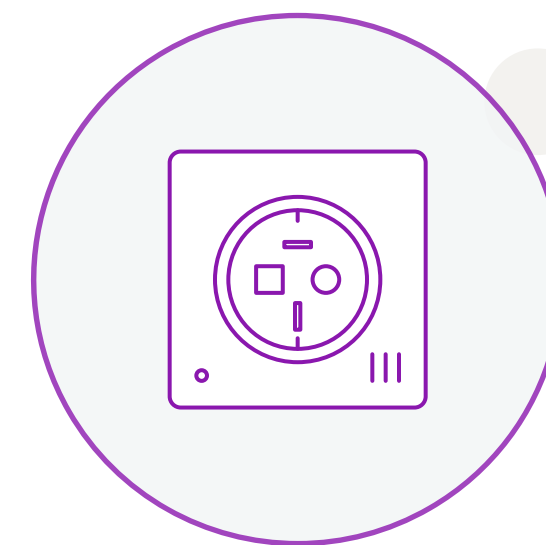
OmniCable installation
technology

5



OptiCable and
OptiClip
OptiCable
Extensions

6



OmniBus
24V-Socket
OmniBus
Extension

 Assigned

 Pending

 Requested

OUR PARTNERS

For development, prototype and networking



Worlds biggest cable manufacturer



Airbus Operations GmbH



Association of electric and digital industry



Pionier in prefab wood building



Business development

TECHNOLOGY MADE IN HAMBURG



Akash Heimlich

- Developer Hard- and Software
- CEO Cynergy Software (wattmon.com)



Heiko Huber

- Co-Founder OmniBus GmbH i.Gr.
- CEO OmniBus GmbH i.Gr.
- Dipl. Maschinenbau (TUM), MBA (CDI)



Christoph Mühlhans

- Founder Goodville
- Product developer
- CTO Röperhof
- Architecture / Building technology



Friederike Mühlhans

- Founder Goodville
- Managing Director
- CEO Röperhof



M. Sobeir Omar

- Finance adviser, Calculation, Organisation
- Economist, alumni GF ASB Ambulanz GmbH Hamburg
- For the German Government: Economic adviser to the Afghan finance ministry for privatisation and rebuilding of public businesses (4 years)



Charles Ruppert

- Co-Founder Goodville
- Coaching: Team, Goal setter
- Developer for Radiation protection
- Health and Sustainability



Oliver Timm

- Graphic designer
- UI/UX Designer



Coriolan Weihrauch

- Head developer Hard- and Software
- CEO MiA Studio

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Goodville GmbH

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22605 Hamburg

OMNIBUS

**5 FACTS TO
REMEMBER**



TECHNOLOGY MADE IN HAMBURG

1

THE OMNIBUS IS PRACTICAL

ONE SYSTEM FOR ALL APPLICATIONS



TECHNOLOGY MADE IN HAMBURG

2

THE OMNIBUS IS THE FUTURE

IT BRINGS AI INTO ALL BUILDINGS



TECHNOLOGY MADE IN HAMBURG

3

THE OMNIBUS HAS POTENTIAL

IT OPENS UP HUGE MARKET
OPPORTUNITIES



4

THE OMNIBUS IS POLITICAL

IT HELPS CLIMATE PROTECTION BY
CONSERVING RESOURCES



TECHNOLOGY MADE IN HAMBURG

5

THE OMNIBUS IS SECURE

PRIVATE DATA REMAINS PRIVATE, BUSINESS
DATA REMAINS IN THE OFFICE



TECHNOLOGY MADE IN HAMBURG

OMNIBUS

THANK YOU!



TECHNOLOGY MADE IN HAMBURG