



WE MAKE WORLD
SMARTER

www.elkoep.com



EDITORIAL



Jiří Konečný

Founder and CEO of the ELKO EP HOLDING

When I was twenty and freshly trained in electronics, and I engineered my first time relay, I had no idea that today I would be controlling it from a smartphone apps. The dynamic development of IT technologies as well as Internet of Things also permeated a bit later in controlling electrical installations, creating a whole new field called the "Smart Home". What separates us from the competition is not only our flexibility and ready approach to custom modifications, but also the desire to "Always something more!" We invest a substantial part from this into developing systems of intelligent electri-

cal installations. Our iNELS, which either wirelessly or via bus covers now controls several thousand buildings throughout the world. In a few years of hard work of the entire development department we have elevated iNELS to a complex system involving not only the switching of appliances, dimming of lights or control of blinds, but also control of security, HVAC, the camera surveillance system, audio and video distribution - the list goes on... So right from your smart phone, you can control the washing or coffee machine, the A/C or home theater system.



Facts and Stats



**2nd position
in Europe**

274
EMPLOYEES

11
BRANCHES
OVER THE WORLD

10 000
INELS INSTALLATION

66
EXPORTING COUNTRIES

12 000 000
MANUFACTURED PRODUCTS

WE ARE



DEVELOPERS

In the new R&D center, more than 30 engineers develop new products and extend the functionality of existing products.



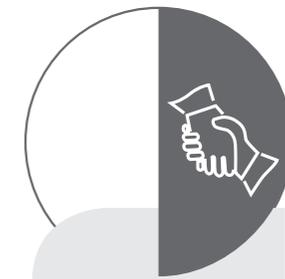
PRODUCERS

modern antistatic spaces, 2x fully automated SMD production lines, 2 shift operations.



SUPPORT

24 hours / 7 days / 360 days we not only provide technical support but also logistics.



SELLERS

personal access to more than 70 sales representatives in ELKO EP Holding provides impeccable services and superior products at an affordable price.

ELKO EP

We are a traditional, innovative and purely Czech development manufacturer of electronic devices and we have been your partner in the field of electro-installations for 26 years. Thanks to the many years of experience and our market activities we are able to say that we have become specialists in the field of electronic devices - relays, of which we produce more than 200 types. Our own production, modern tools and devices, research and development center. All these the intelligent electro-installation iNELS system. "in-house", you can be sure that everything functions as it should, and you don't

need to work out compatibility issues. Whether you are starting out or are well advanced in the field, our technical support team is available to you, from initial training to configuration, a price offer up to overseeing your installation. We will be always close to our customers, either with technical support or a well-stocked warehouse, you will find our branches in 11 countries around the world. Besides having our own branches, we have a constantly expanding network of reliable distributors in over 66 countries around the globe. It is our pleasure that you can be with us as we move forward.

Attained awards



Jiří Konečný
Entrepreneur of
the year



Company ranked
among the 100 best
Czech companies



Company of the
year 2012



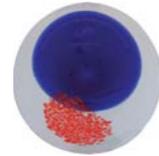
Jiří Konečný
Personality
of Smart city
2017



Visionary 2015
award For Energy
Managements



Golden Amper
for "iNELS
wireless"



ELA award
for "RF
Touch"



ELA award for
"LARA"

Membership



Custom Electronic Design and
Association

Custom Electronic Design and Association is an international trade organization for residential automation technology with more than 3,500 member companies worldwide. It was founded in the USA in 1989 and now CEDIA is the world's leading authority in the field.

www.cedia.co.uk



The Electrical and Electronic
Industry

The Electrical and Electronic Industry in the Czech Republic is a business and employer association that brings together legal and individual persons with similar product orientation or business interests. It was founded in 1992 and Jiří Konečný is a member of the Board of Directors.

www.electroindustry.cz



Smart Living Association

Smart Living Association founded in 2012 brings together experts from the field of Intelligent Electro-installation, architecture, audio-video technology, air conditioning and heat recovery, household appliances, cameras, security systems, lighting, etc. Jiří Konečný has stood at the forefront since 2013.

www.achb.cz



Czech Smart City Cluster

The mission is the development of a unique partnership between companies, governments, local governments, knowledge institutions and city dwellers. Our members will focus on the integration of intelligent technologies. Jiří Konečný is a technology platform manager.

www.czechsmartcitycluster.com



R&D overall view



Manufacturing hall



Testing lab



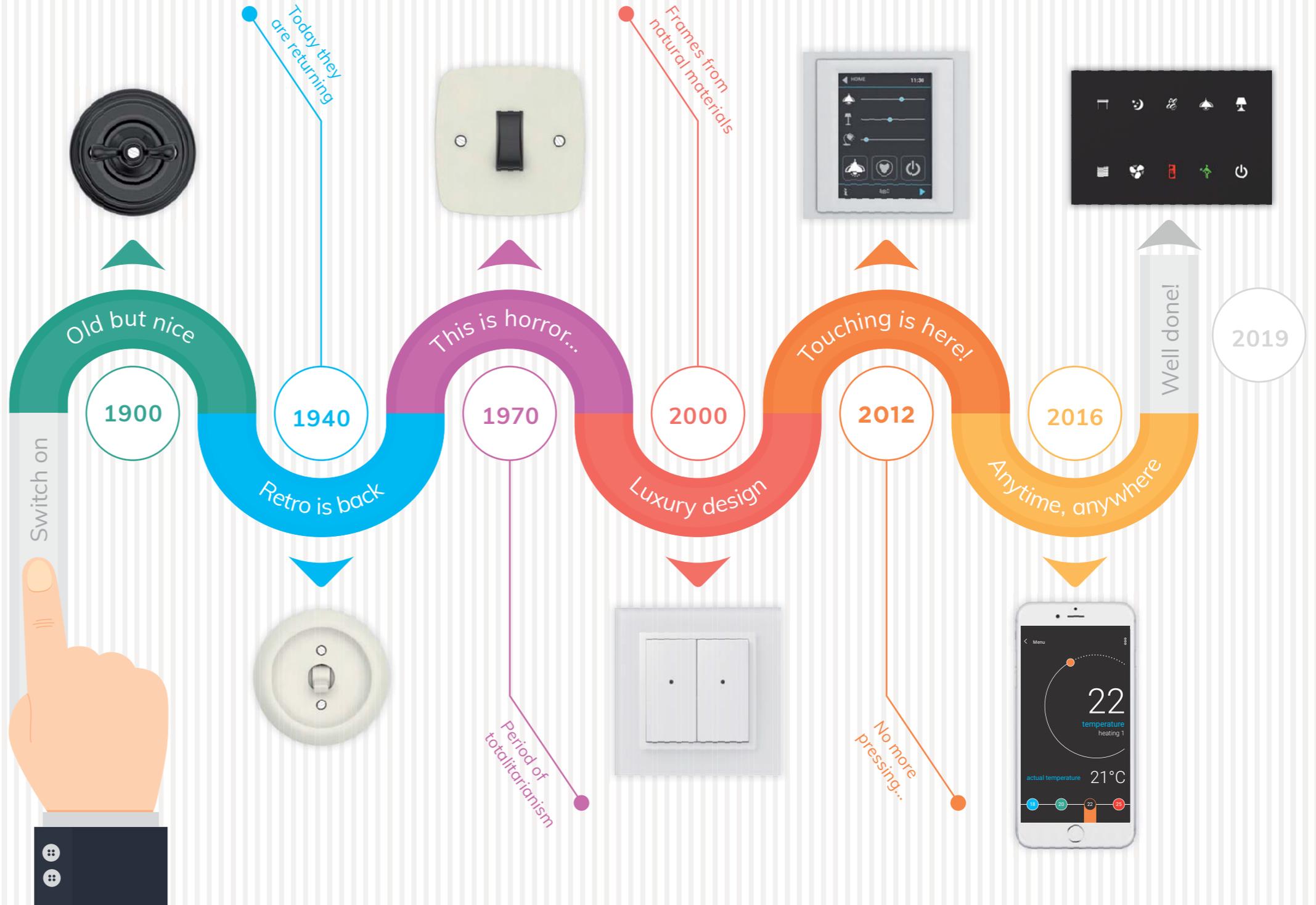
Finalization and dispatch



EVOLUTION OF THE SWITCH

Einstein would be surprised ...

The switch - as we know it - has not changed considerably since its invention at the end of the 19th century, and we still use it in various forms today. It has virtually remained the same size, but in Smart Homes the force contact switches are replaced with low-lift buttons and safe volt-ages. The press or flick is replaced with capaci-tive pads or touch screen.



Product groups



Timers / Relays



Protection monitoring relays



iNELS Air - IoT devices



Wireless electroinstallation (RF)



Wired electroinstallation (BUS)



Energy management



Wireless Retrofit Hotel (HRESK)



Hospitality Hotel (GRMS)



Building Management System (BMS)



Lighting control



Multimedia



Sockets & outlets

Solutions



Smart flat and apartment



Smart home



Building



Future office



Commercial



Hospitality solution



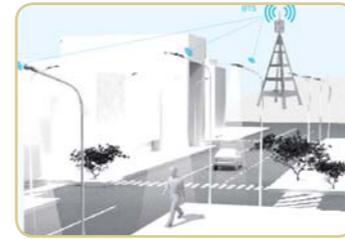
Hospital



Smart Agriculture



Smart City



Smart street lighting



Industry



Energy metering and monitoring



INTERNET OF THINGS

iNELS Air

iNELS Air was designed in response to the dynamically developing network for IoT (Internet of Things). Describes as the Low Power Wide Area (LPWA). This technology is designed to provide full outdoor coverage even inside buildings.

The Future Office concept, built on iNELS, provides not only familiar functionality, but also adjusts and changes light levels and temperatures based on daylight and outdoor lighting. It also measures the CO₂ and VOC levels and, on the basis of these results, it evaluates and controls the air conditioner so that the air is always fresh.

The product group includes sensors for communication on the Sigfox, LoRa and NB-IoT protocol. Linking sensors with ELKO Cloud and IFTTT (If This Then That) is ideal for a wide range of applications.

Individual products have the letter "S", "L" or "Nb" in their type designation. This distinguishes the way of communication. "S" stands for communication over the Sigfox network, "L" stands for communication over the LoRa network, and "Nb" uses communication via the NarrowBand network.



SMART CITY

Smart city is tomorrow's place. It will be at the heart of the revolution and innovative solutions. In order for cities to be successful, there is a need to provide not only a pleasant place to live, but also a competitive marketplace and the ability to create more satisfied employees.

We offer not only the products but also the technology that are the basis of every smart city. Whether smart buildings, urban furniture, air condition monitoring or weather monitoring and environmental aspects (landslides, water levels, shocks). Increasingly, LPWAN networks are ideal for outdoor use and allow data to be transferred directly from the sensors to the monitoring centre. An essential part of the solution is also the Smart City platform that integrates technology with comprehensive control over all devices in the city.



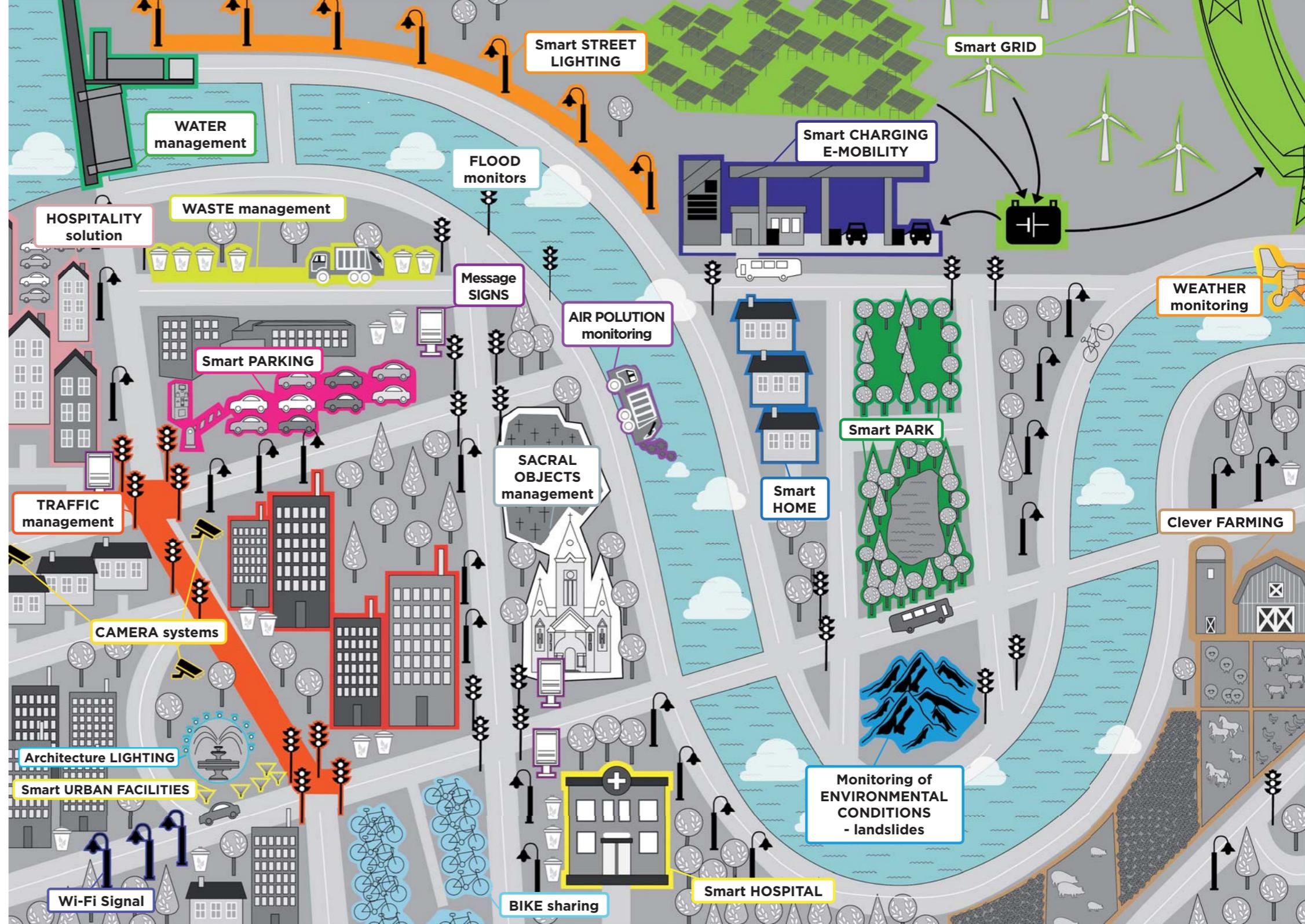
Weather station (battery powered)



Air quality station (outdoor)



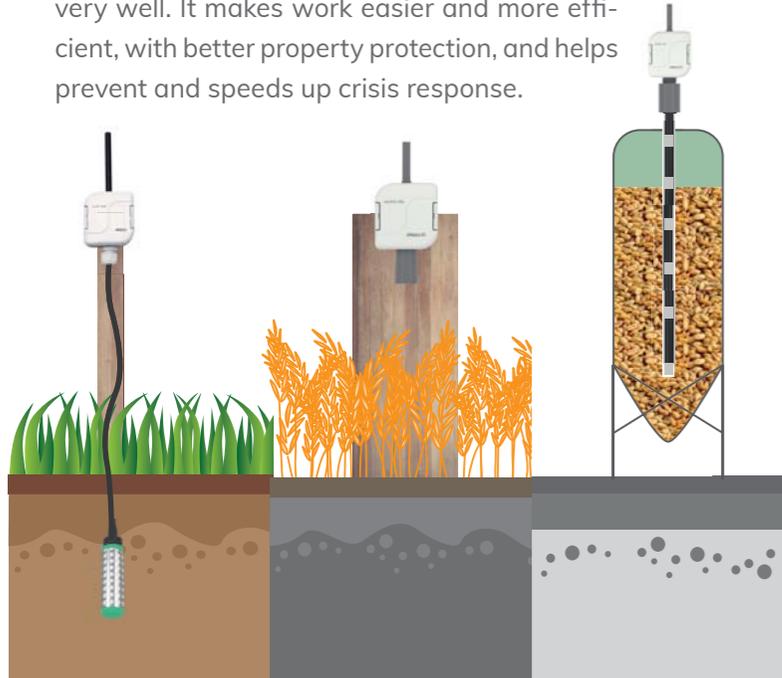
Waste container fill level detector





IoT FOR AGRICULTURE

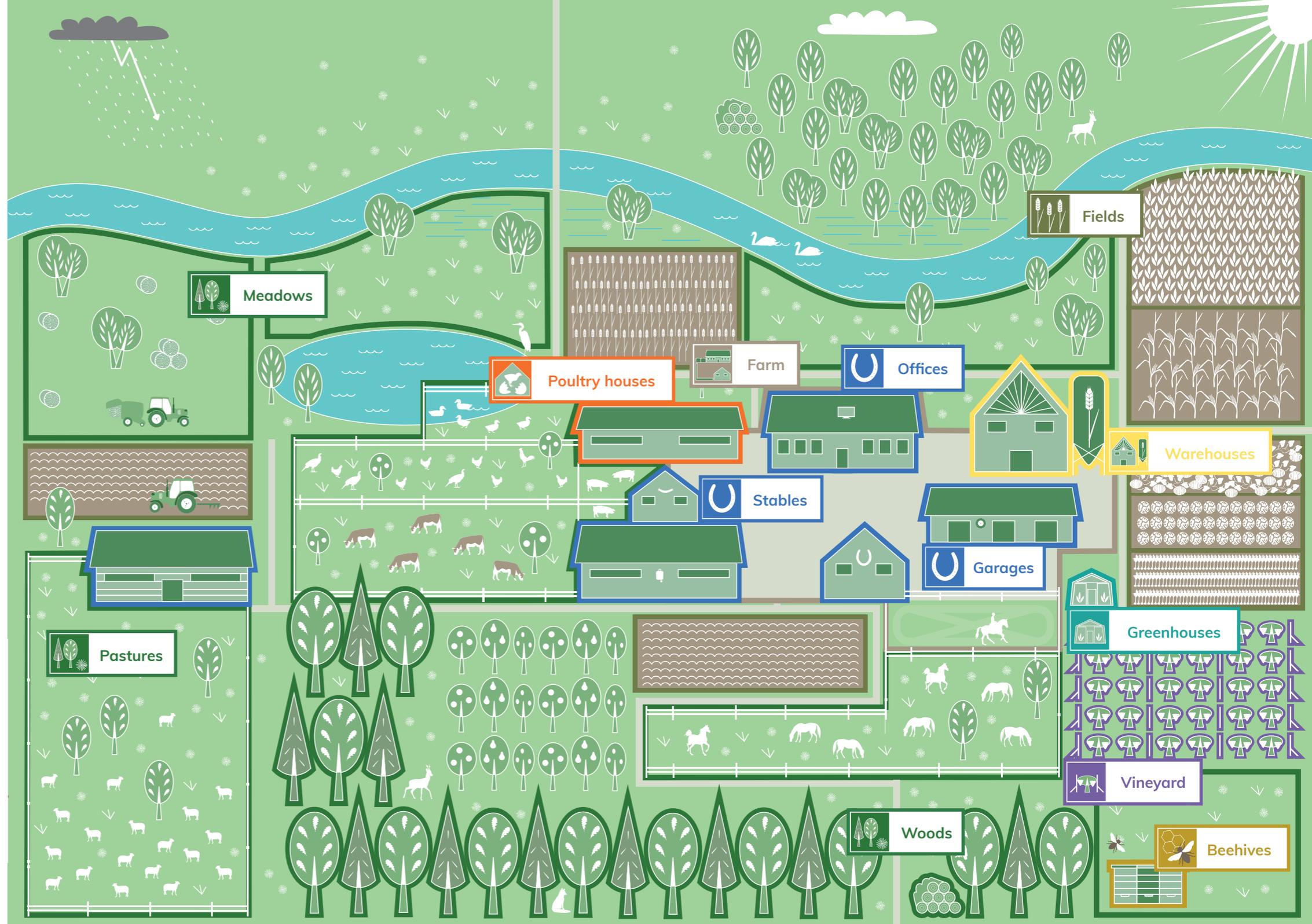
Every good farmer, be it a grower, a breeder, a winemaker, a beekeeper or a forester, puts a lot of effort and money into the proper management of his production areas, but circumstances do not always allow him to harvest the crops appropriately. Farmers are particularly worried about weather conditions - temperature fluctuations, unforeseen precipitation, long-term drought, and soil moisture - all result in lower yields. We cannot predict the wind and rain precisely; we can however, monitor and evaluate them very well. It makes work easier and more efficient, with better property protection, and helps prevent and speeds up crisis response.



Soil moisture

Humidity, temperature and atmospheric pressure sensor

Monitoring conditions in silo tank



Meadows

Poultry houses

Farm

Offices

Fields

Warehouses

Stables

Garages

Pastures

Greenhouses

Vineyard

Woods

Beehives



ENERGY MANAGEMENT

Energy comes first

Under this concept, it is not just the measurement of energy, but also its optimization. In practice, when properly set up various dependencies of consumption can be significantly reduced.

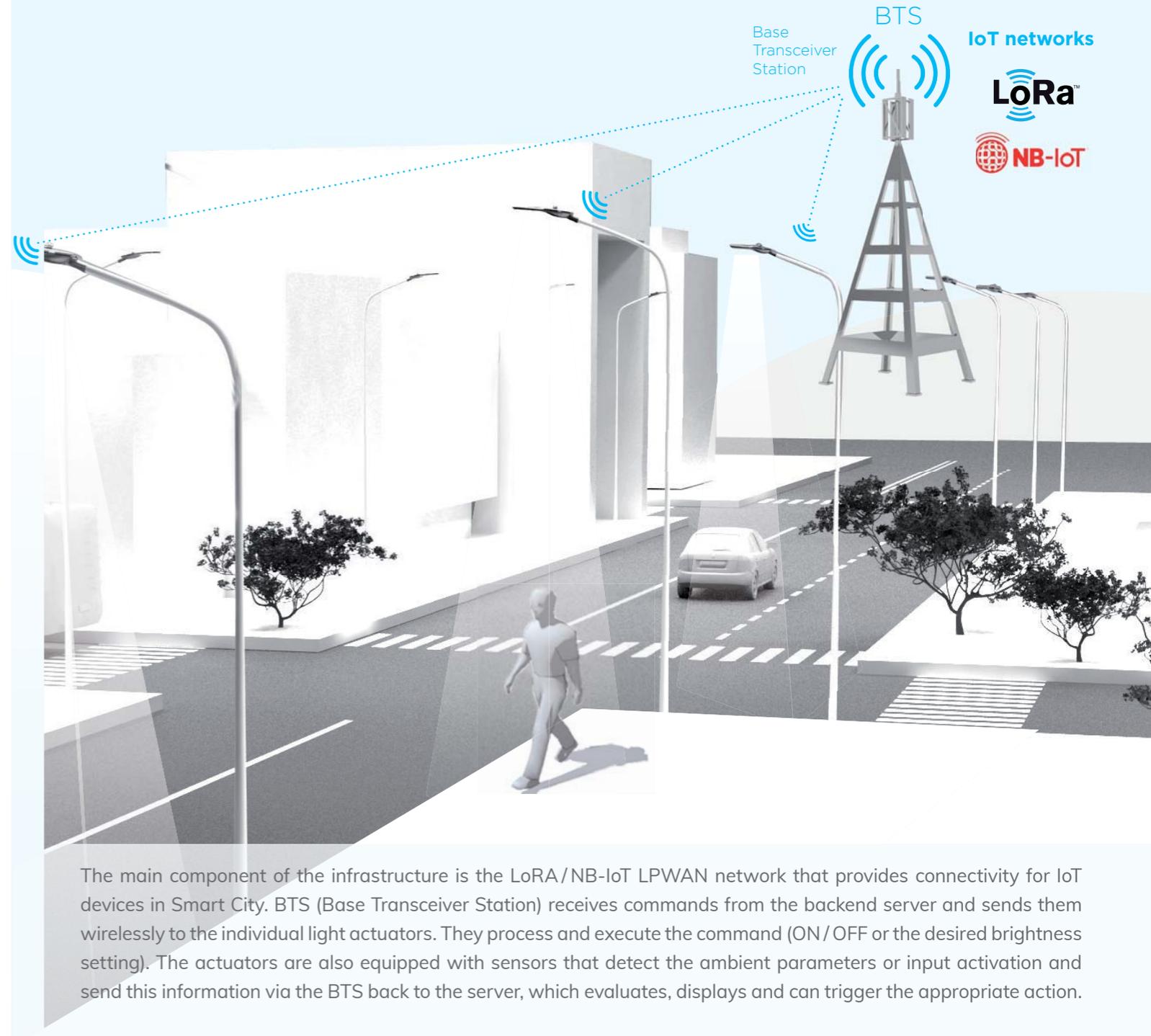
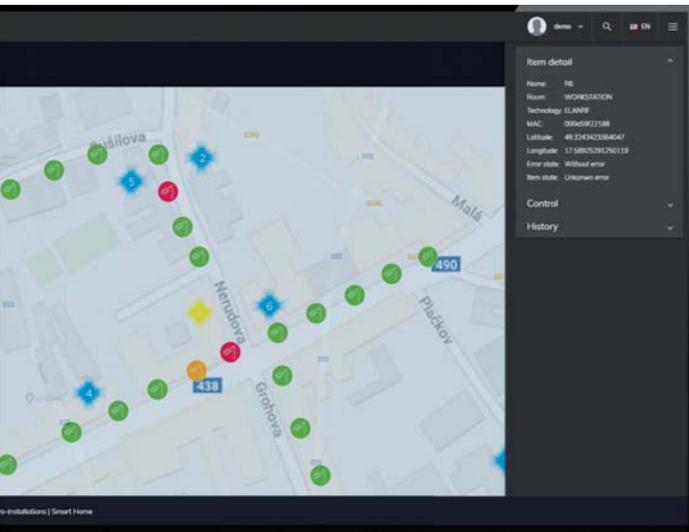
It is also important to use renewable energy so that surplus energy is not thrown into the trash. This is an important issue for the Smart Grid.

The iNELS system, together with Energy Software EnMon, can define collision and redundant processes; set their optimization, so as not only to save but to save sustainably.



SMART STREET LIGHTING

Public lighting is an essential component of the services for residents in any city or village. It helps facilitate people's movement and orientation and contributes to greater security. Smart lighting by our design are not just meant to shine. It can think through the light. It can regulate the intensity of light based on the time of day, the ambient light and traffic density. In the event of a fault, it can transmit information required for repairs. Masts can serve as a conduit for additional sensors, detectors, weather stations, Wi-Fi signal transmitters, or security keys.



The main component of the infrastructure is the LoRa/NB-IoT LPWAN network that provides connectivity for IoT devices in Smart City. BTS (Base Transceiver Station) receives commands from the backend server and sends them wirelessly to the individual light actuators. They process and execute the command (ON/OFF or the desired brightness setting). The actuators are also equipped with sensors that detect the ambient parameters or input activation and send this information via the BTS back to the server, which evaluates, displays and can trigger the appropriate action.



HOSPITALITY SOLUTION

For EXISTING hotel rooms

Thanks to the wireless communication with devices (sensors and actuators), the retrofit of an existing hotel room can be performed with minimal time consumed.

Controllers can be attached anywhere and require no cables at all. The actuators are installed directly into the cabinet or in to the luminaire. The advantage (cost and installation) is that the LED bulb is directly dimmable, i.e. just place it in the main light or lamp. Wireless motion detectors and window openers further extend the possibilities of the entire system.

Wireless for existing rooms



Wired for new rooms



Motion detector Door / window detector



Wireless temperature controller



Wireless wall controller



Glass card holder





HOSPITALITY SOLUTION

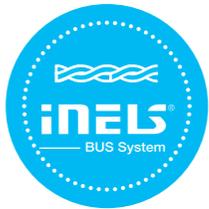
For new hotel rooms

Guest Room Management System. In a new hotel, smart is not only standard but a necessity. Every detail contributes to the overall satisfaction rating and the first element, with which the host comes into contact with, is the RFID card reader for entry into the room offered in an attractive glass design. Readers come in a sleek black or white design. To set the desired atmosphere in the room a touch panel is available with a very intuitive user interface for the control of temperature, lighting, shading, or setting the music scenes.

Wireless for existing rooms



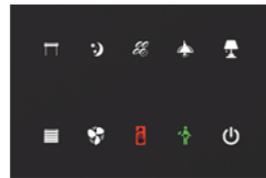
Wired for new rooms



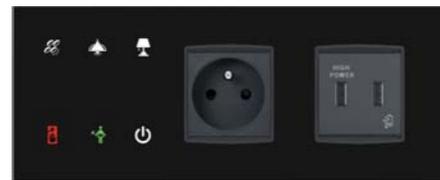
Glass card reader



Hotel touch screen



Glass touch panel



Bedside panel

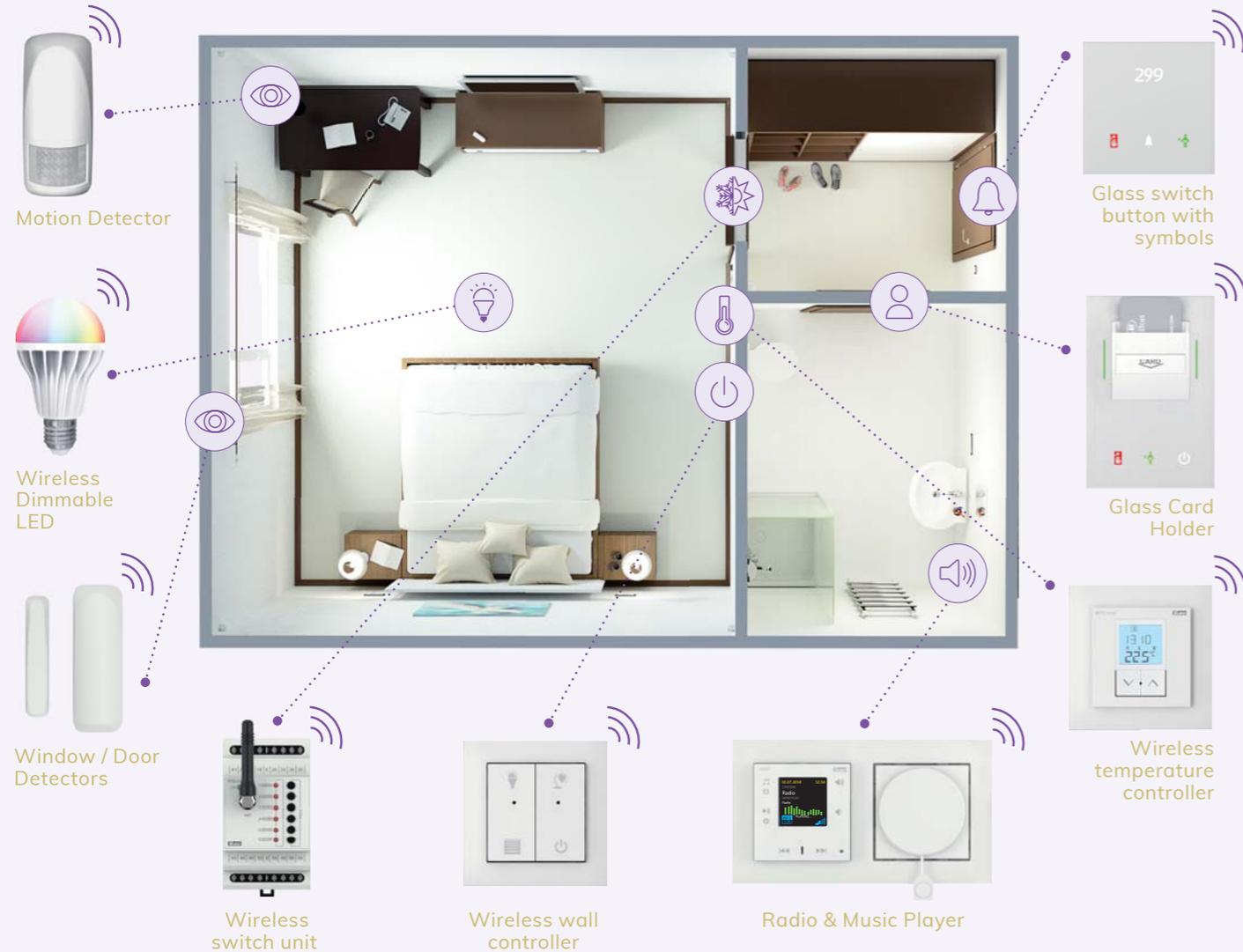


Wired system



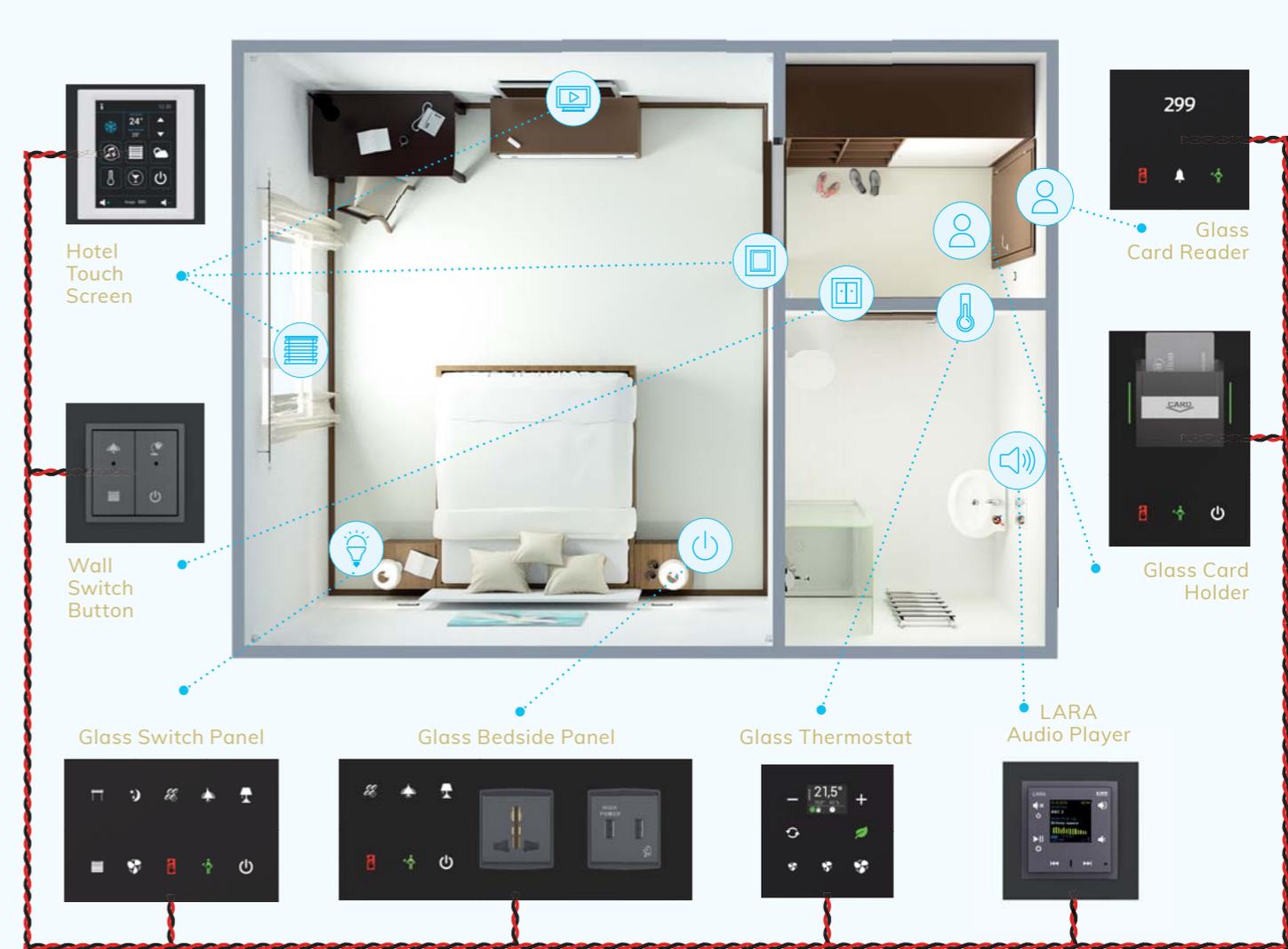
Wireless plastic option
Existing hotel room

Type	Focus on	Communication	Controllers	Hotel stars level
HRESK	Existing, Retrofit	Wireless	Plastic	☆☆☆ & ☆☆☆☆



BUS (wired) glass option
New hotel room

Type	Focus on	Communication	Controllers	Hotel stars level
GRMS	New room	BUS (wired)	Glass, plastic	☆☆☆☆ & ☆☆☆☆☆





HOSPITAL SOLUTION

Nurse-Patient call communicator

LARA multimedia unit is also well designed for hospitals. Patients in hospital rooms are sometimes bedridden with limited or no movement at all. At such time, any relief is appropriate and valuable. It connects five great functions into one product – with radio player you can simply play favorite radio stations, multimedia player to listen music from external sources, intercom for communicating between patient and nurse, videophone provides closer monitoring of patients, audiozone serves for controlling of multimedia in patients room. SOS Emergency Button that you can place anywhere. Even wireless control key fob for lighting control. All these elements lead to safer, easier and more comfortable stay in hospital.



SOS
emergency
button



SOS
call



Radio
& Music



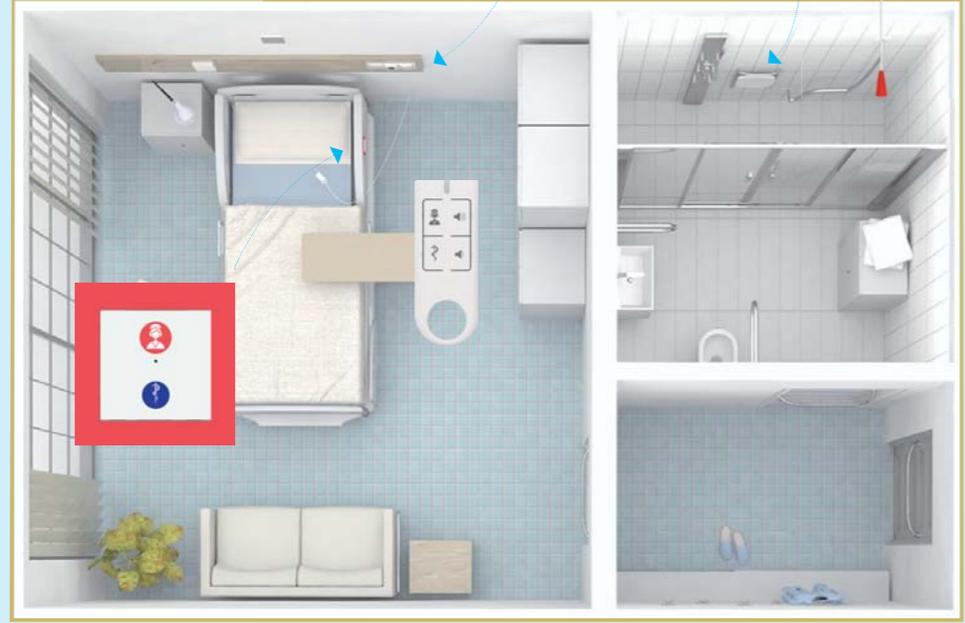
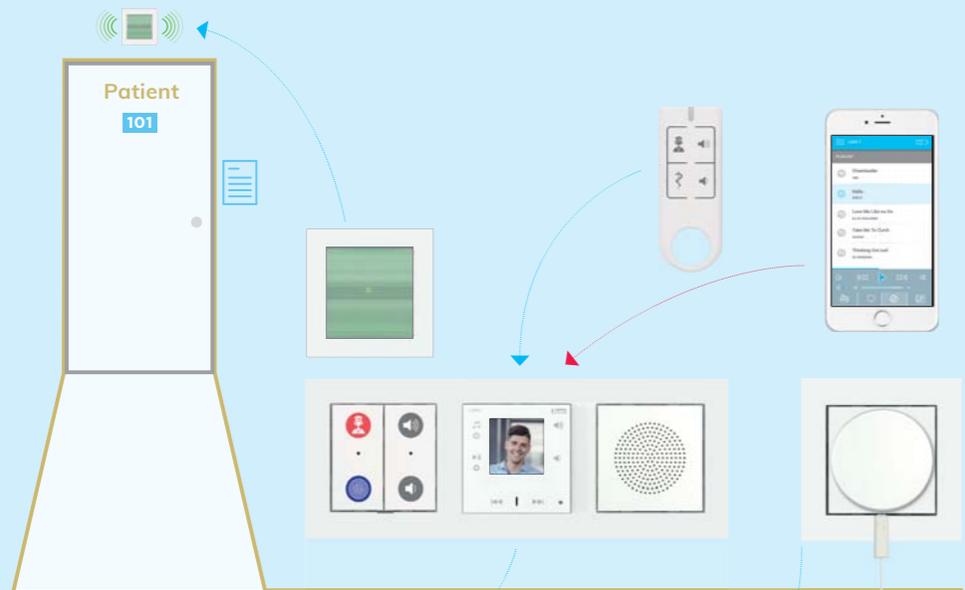
Intercom



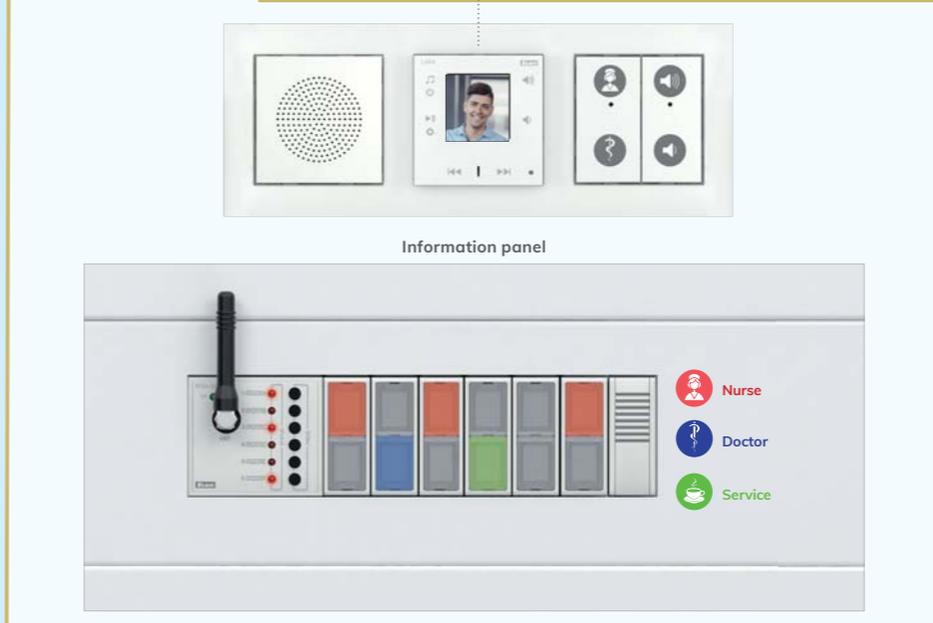
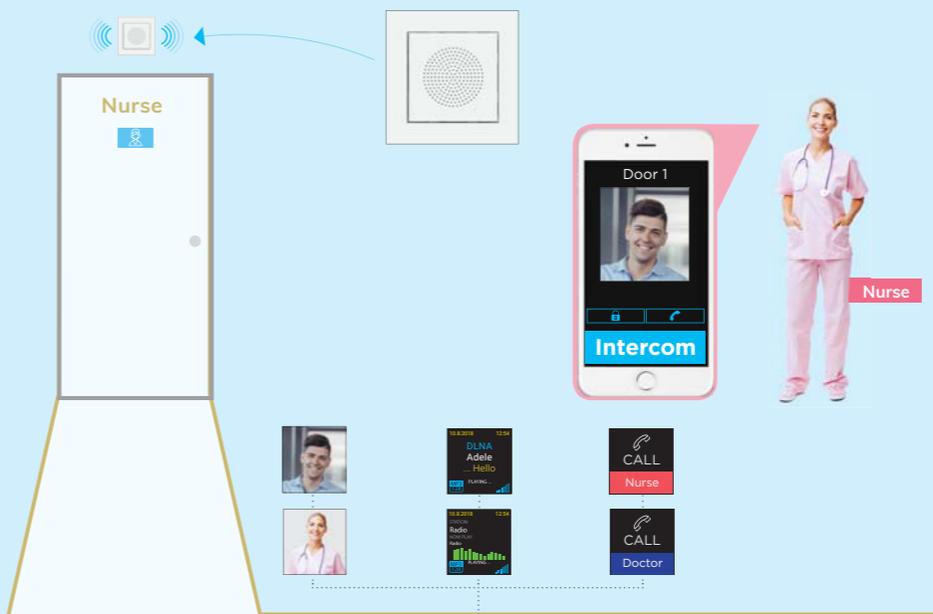
Room
automatiza-
tion



 Patient's room



 Nurse room





SMART FLAT AND APARTMENT

Wireless electroinstallation

A Smart Home is not a necessity of life, but is becoming a vital requirement. It can do what a classic electrical installation cannot, or can only do with great difficulty.

Each potential customer has different motivations for wanting to set up a smart home. Some are interested in savings, others like combining comfort with safety, but in either case, all the characteristics are an inseparable part of the system, and it is only up to the customer which ones are most important.

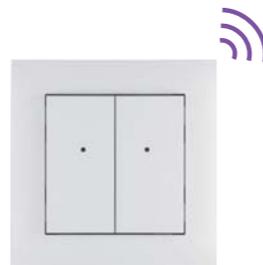
The main advantage of iNELS RF is it performs wirelessly. This means that you do not need to carry out extensive alterations to your electrical installations to promote them to a higher order of magnitude. So you can indulge what was not possible before. In addition, the electronic installation can be extended, changed or upgraded at any time.



RFB Controller
Dimming actuator



Flush mounted
switch unit



Wireless wall
controller





SMART HOME

Wired electroinstallation (BUS)

iNELS BUS system, due to its modularity and flexibility is designed for use in almost all types of buildings. The proper and efficient design of the space brings several advantages over standard wiring. This is not altered by the fact that most of the equipment, the system including wiring are invisible to the user. Our aim is to facilitate people's lives while also thinking of the environment. Experience and the projects of our customers constantly prove that the installation of iNELS is effective. Installing smoke detectors, flood sensors or motion detectors dramatically increases the feeling of safety. The ability to modify the lighting atmosphere and the intensity of colour in turn increases comfort.





BUILDING MANAGEMENT SYSTEM

It is an integral part of any modern building. In addition to managing it, it integrates the different technologies into the building into one unit. Contemporary buildings focus on energy consumption, safety, a healthy work environment, quality and fast service, maximum use of IT technology and automatic operation. This can be guaranteed by completely linking the sensors and actuators of different systems. iNELS uses Tridium's BMS under the name Niagara, which allows all of the above.



JACE 8000 controller

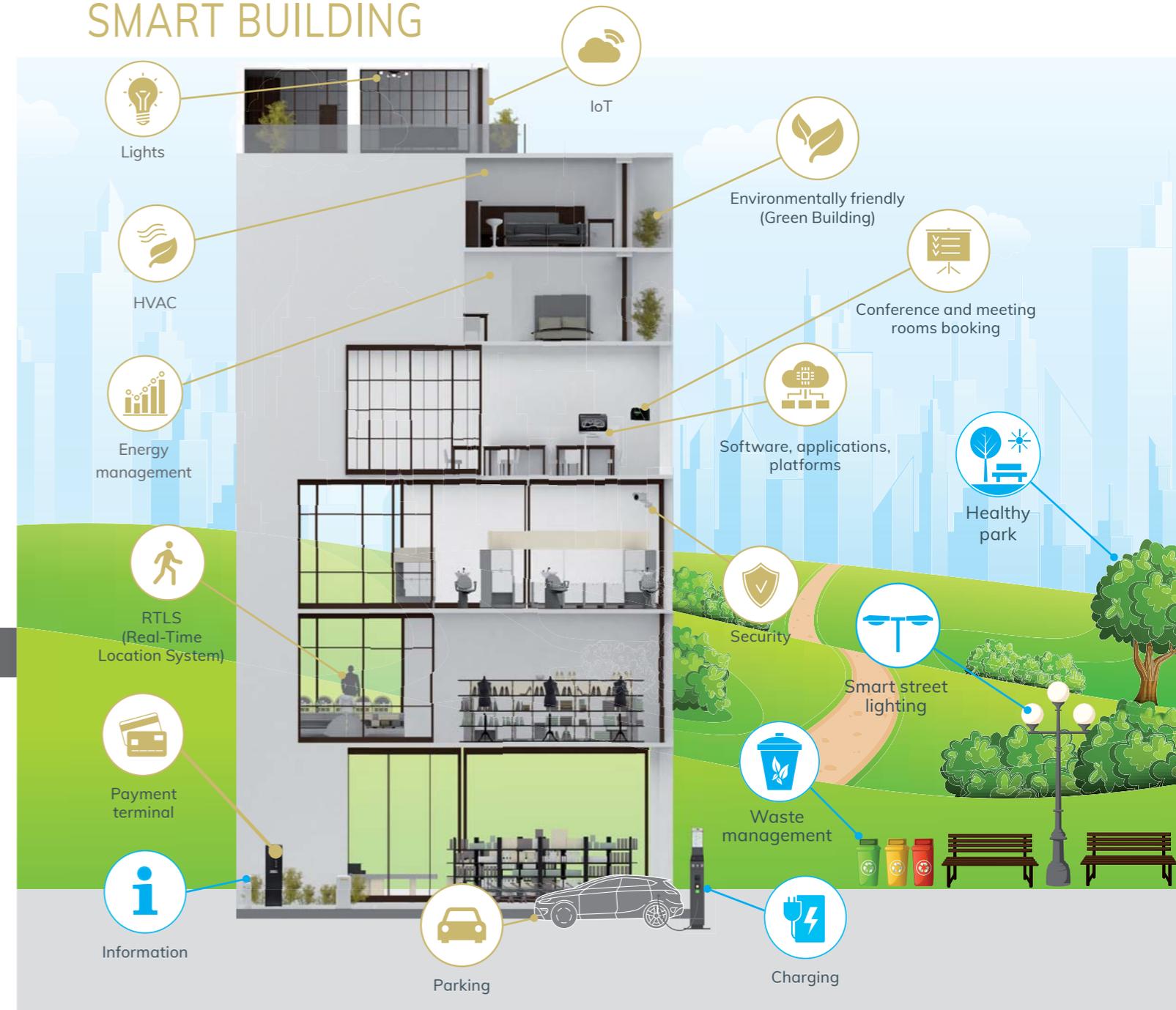


22 channel Switching actuator



6 channel Dimming actuator

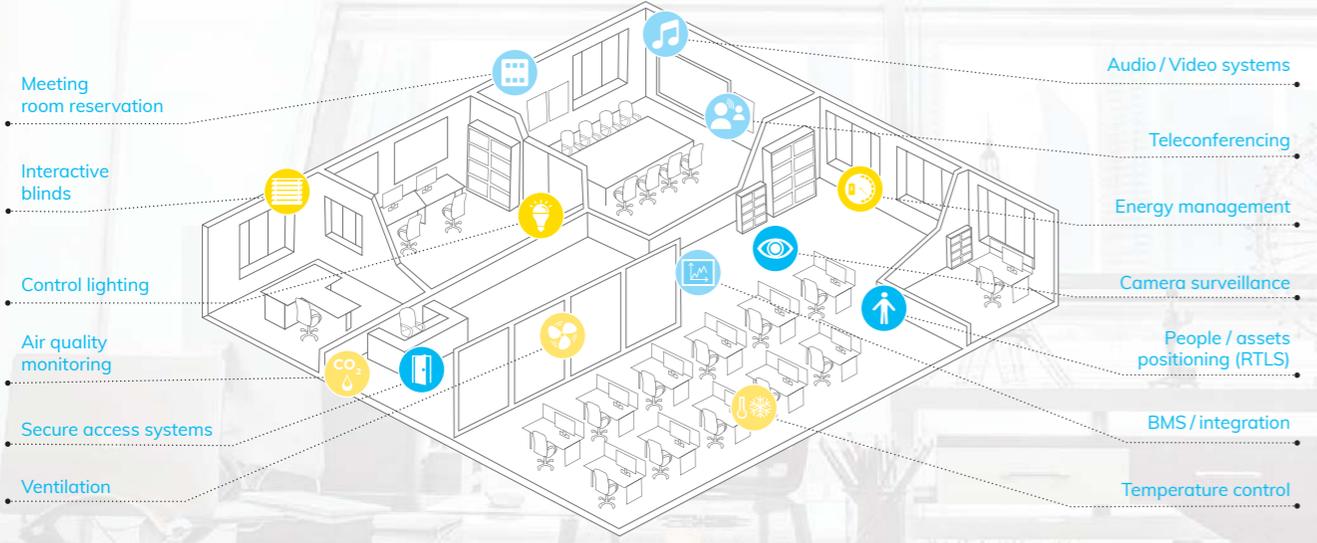
SMART BUILDING



FUTURE OFFICE

The work environment is the second home for most of us, and these are our offices - whether single or open space and clean desk. An approach to accommodate all the staff in one building is a lot. However, they all have one thing in common: everyone wants to work and spend their time in a good, healthy and modern environment. The Future Office concept, built

on iNELS, provides not only familiar functionality, such as an access system, booking session or room temperature, but also adjusts and changes light levels and temperatures based on daylight and outdoor lighting. It also measures the CO₂ and VOC levels and, on the basis of these results, it evaluates and controls the air conditioner so that the air is always fresh.



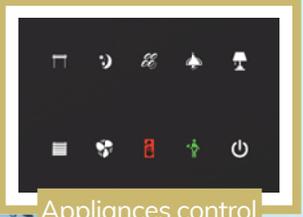
Meeting rooms booking



Access control



Music and sound distribution



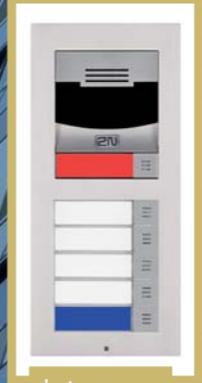
Appliances control



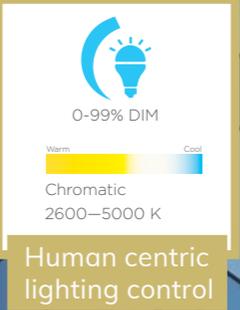
Air quality



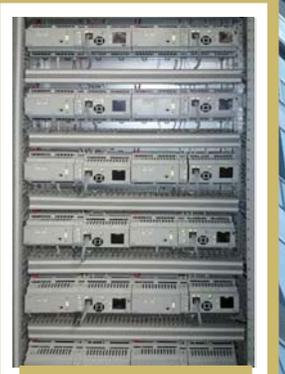
Central unit



Intercom



Human centric lighting control



Switchboard



COMMERCIAL & HISTORICAL BUILDINGS

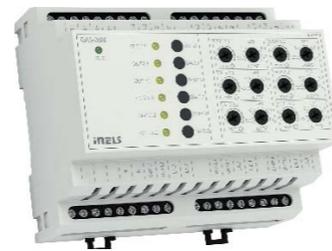
The benefits of iNELS can be used commercial buildings where the main electrical requirements include stage lighting and quality air circulation, security of property and exhibits. With BMS it is possible to combine a wireless controller and sensors of temperature and humidity, especially where due to the historical value of the equipment you cannot hack or otherwise interfere with the walls and tiles. In the case of publicly accessible annotated guides and exposures there is the option via phone applications to run an interpretation of the scene accordingly. Including the accompanying comments on Audio-zone.



Central unit - with extension



Gateway iNELS
DALI/DMX



Dimmer actuator,
6-channel





INDUSTRY

Enhanced types of monitoring relays boast the ability to measure to approximately 2% accuracy, which distinguishes them from cheap competitors and increases the reliability. Experts will be pleased with the low power consumption of just 2.5W and the ability to monitor AC voltage and non-sinusoidal waveforms. They are suitable for 50 Hz and 60 Hz networks. The powerful AT Mega 48P control processor enables the upgraded relay to modify the product parameters according to customer requirements (application request) without the need for hardware change. For current relays, the accuracy of the current amplifier calibration current off set is increased. There are no connector connections inside the products, so they are mechanically very resistant to shocks. Also beneficial is the signalling LED, which alerts the operator to any delay. In addition to a number of technical improvements, the relay also has a new, more modern design.



Timers



Auxiliary relays



Frequency relays



Voltage relays



Reverse power relays



Speed sensing



Current relays



Power factor relays



Synchro-check relays



Ground fault relays



Under and over voltage monitoring relay



Synchro-check monitoring relays



AC current monitoring relays



Multifunction time relay





RELAYS REFERENCES

ELKO EP is a world leader in the field of electronic relays development and manufacturing used in residential and industrial electro-installations. We offer more than 200 types of relays that

can be produced under well-known OEM brand names. We develop and implement products according to customer specifications as well as launch new products under brand names.

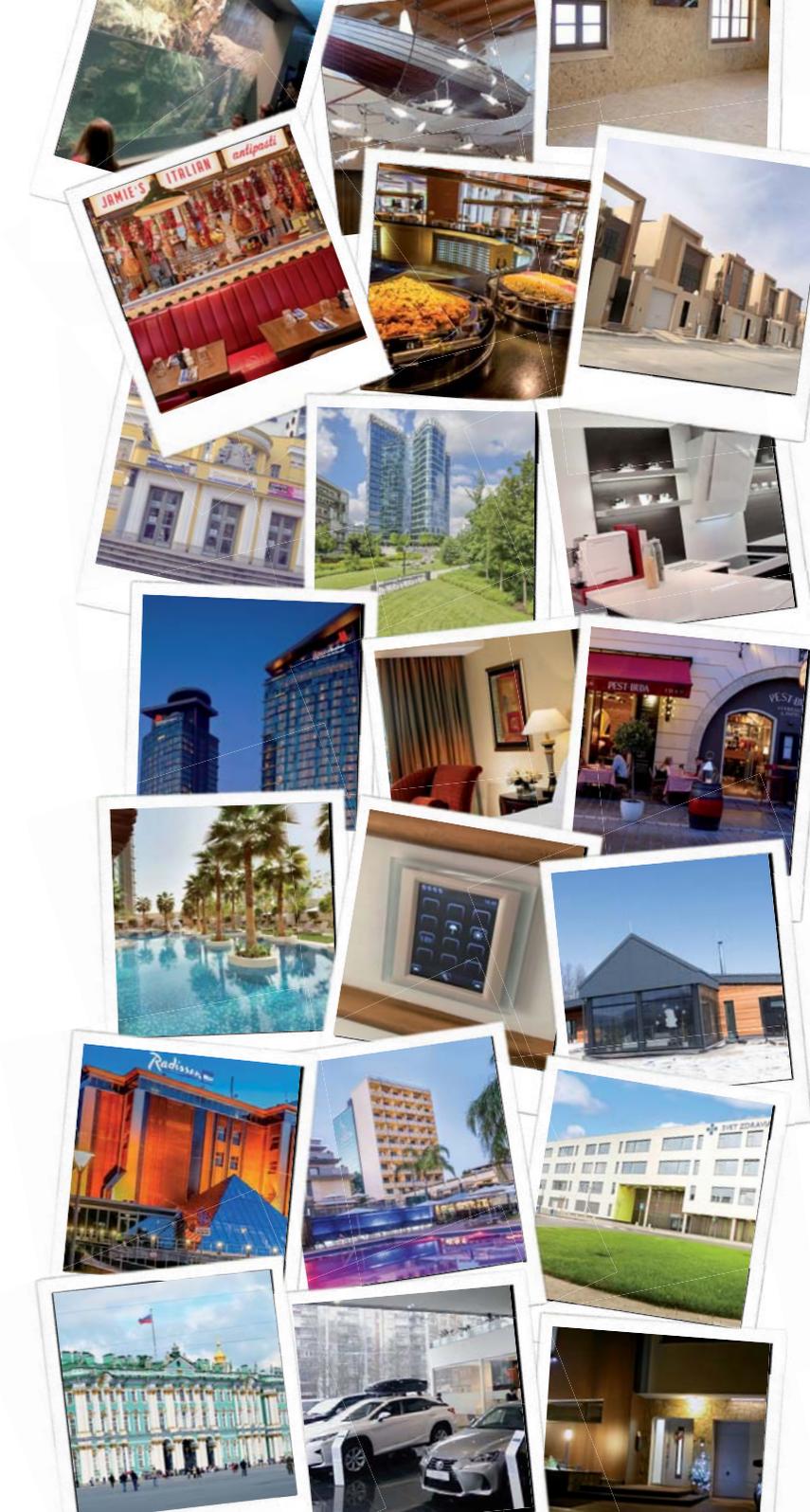


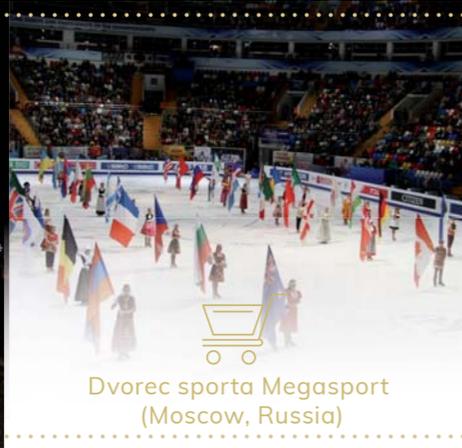
iNELS REFERENCES

The new industrial branch Smart electro-installation has been developing by quantum leaps in recent years. ELKO EP has kept a careful eye on these trends, and with them in mind, it has introduced the iNELS system to the market. Through its wide-ranging versatility, it covers contemporary requirements for intelligent electrical installations for various sized buildings: from apartments to family homes, villas and hotels to factories. In this brochure, you will find a selection of over 10 000 installations that iNELS has performed in its existence. It is not a complete listing, but offers inspiration. It includes apartments, homes, villas and hotels, but also commercial and historical buildings.



BROCHURE
DOWNLOAD





Dvorec sporta Megasport
(Moscow, Russia)



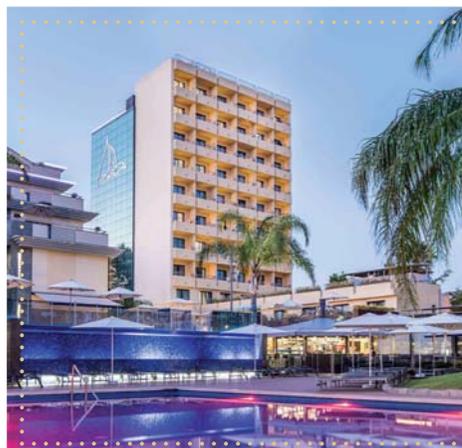
Hermitage museum
(St. Petersburg Russia)



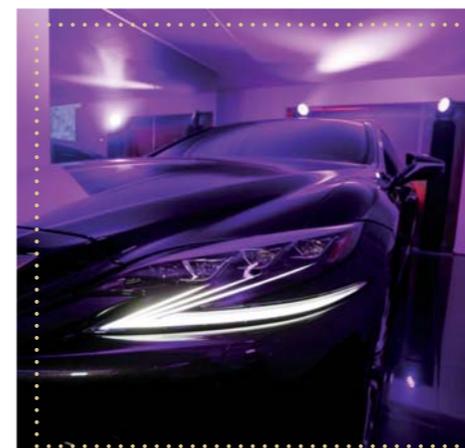
National bank (Timphu, Bhutan)



Wyndham Grand (Istanbul, Turkey)



Isla Mallorca (Mallorca, Spain)



Lexus showroom (Lviv, Ukraine)

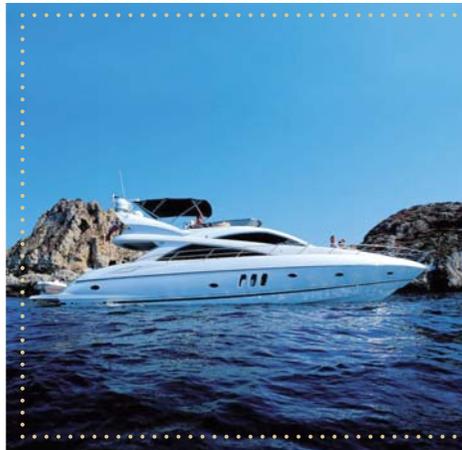





Jamie's Italian Restaurant
(Budapest, Hungary)




Kroměříž hospital
(Kroměříž, Czech Republic)



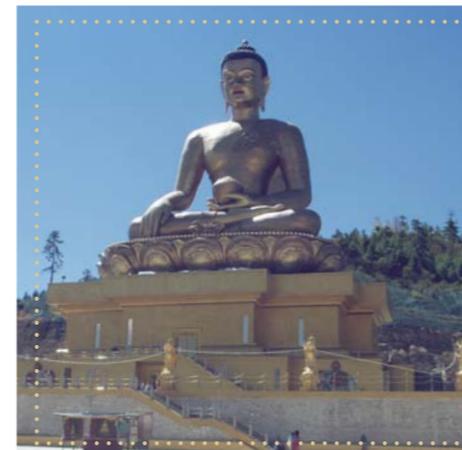

Sunseeker Yacht (Mallorca, Spain)



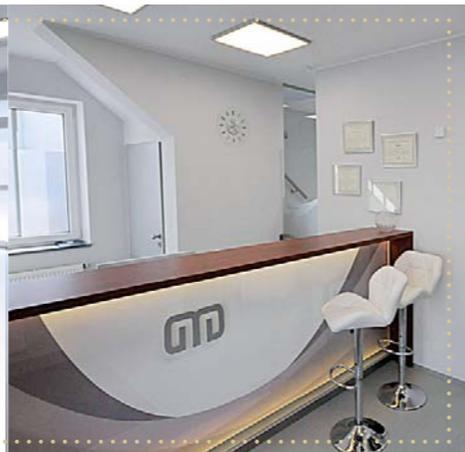

ELKO EP (Holešov, Czech Republic)




Bodorka Aquarium
(Balatonfüred, Hungary)




Buddha Palace (Thimphu, Bhutan)



M-Gate clinic
(Pardubice, Czech Republic)



House on the roof (Liptov, Slovakia)



Moni's Jewelry
(Budapest, Hungary)



Private palace (Riyadh, Saudi Arabia)



Hyundai (Nošovice, Czech Republic)



Passerinvest (Prague, Czech Republic)





CATALOGUES AND BROCHURES



Smart City



Smart street lighting



Smart Agriculture



iNELS Air



Wireless electroinstallation
(RF)



Wired electroinstallation
(BUS)



Hospitality solution



Lighting control



Smart pole



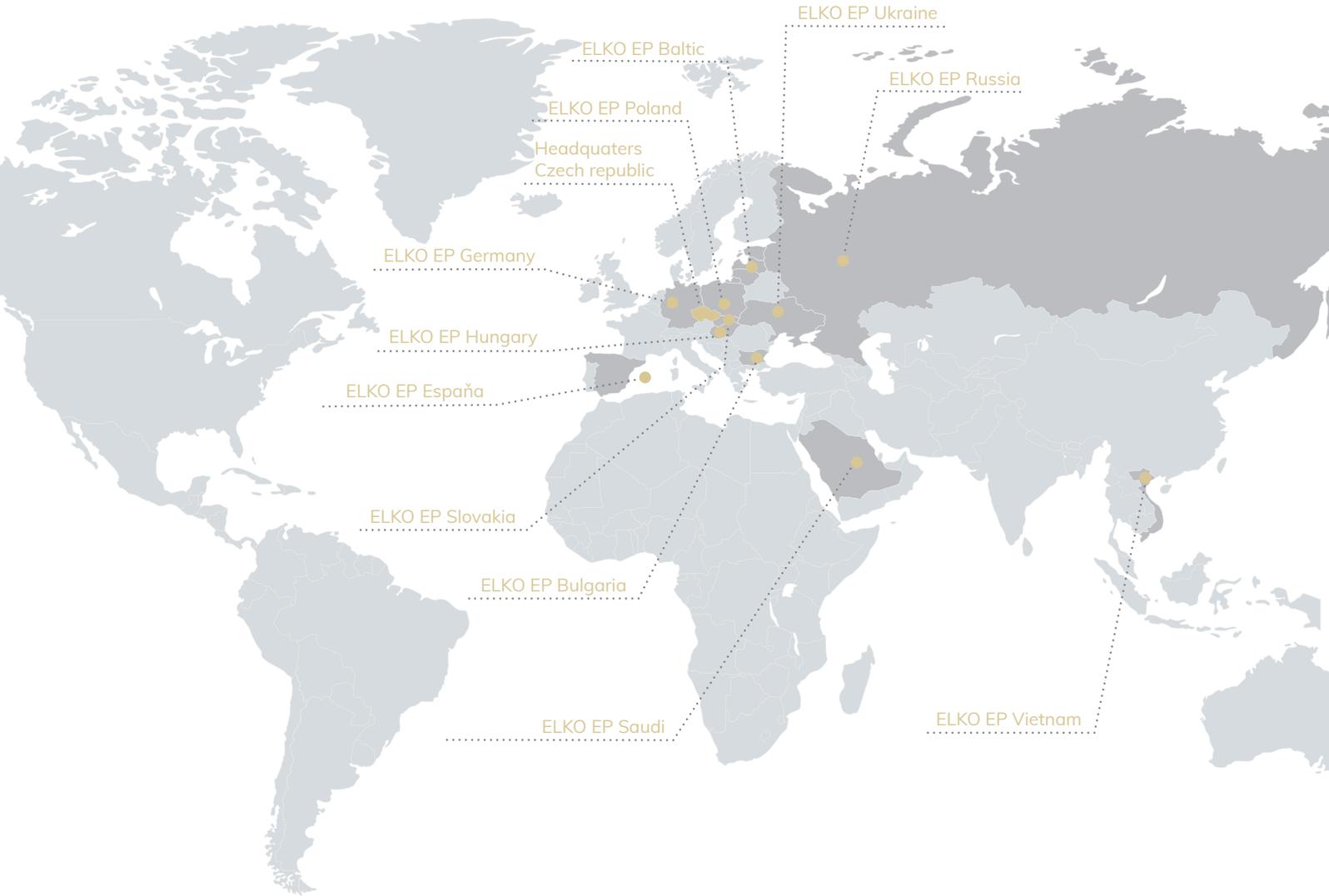
Smart home and
building guide



LARA... A media player
in the switch



iNELS Hospitality
Selection of references



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