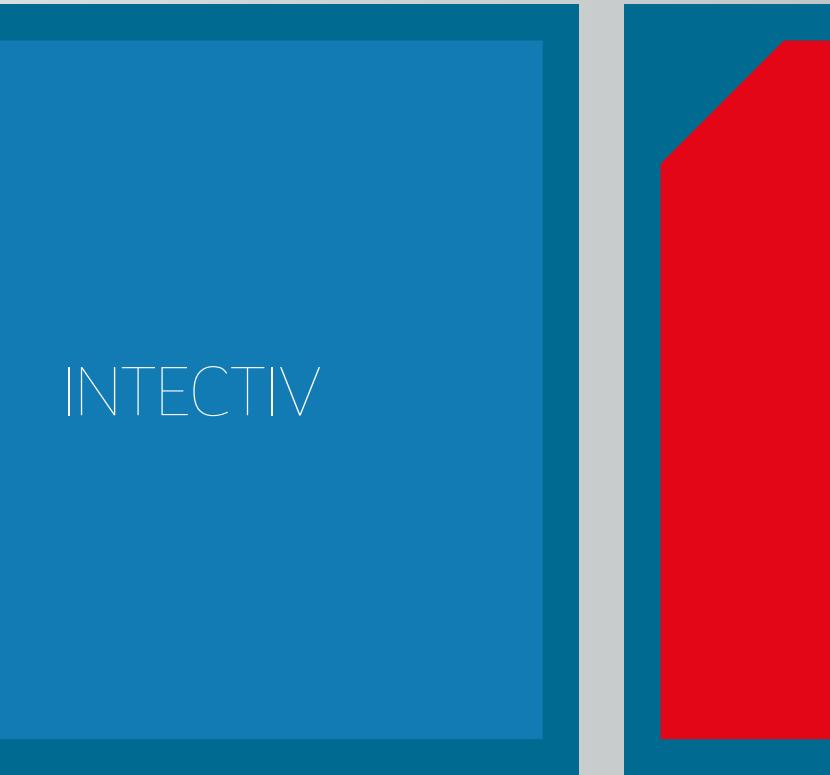
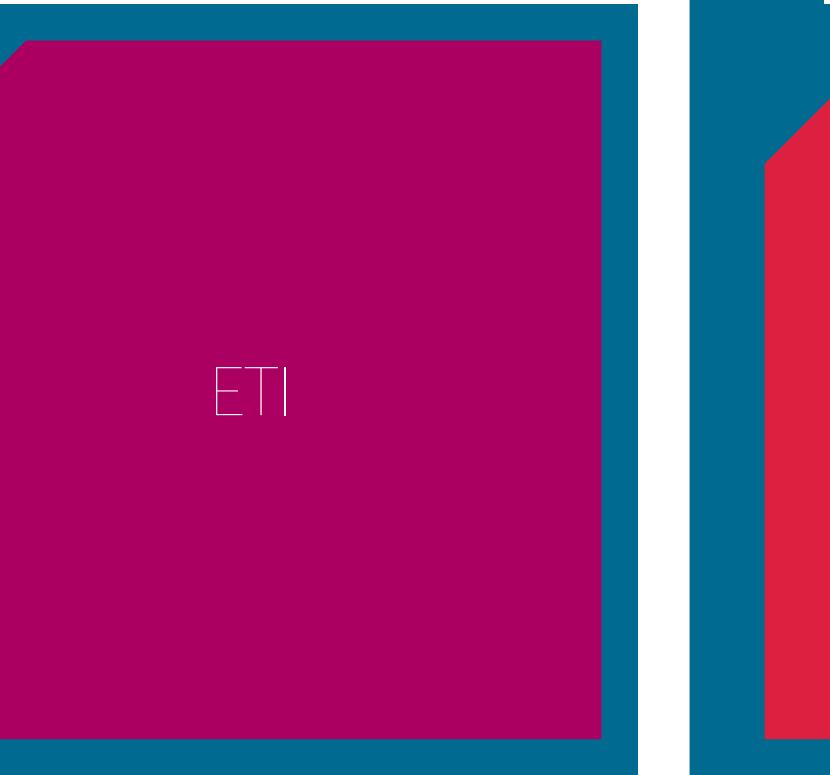
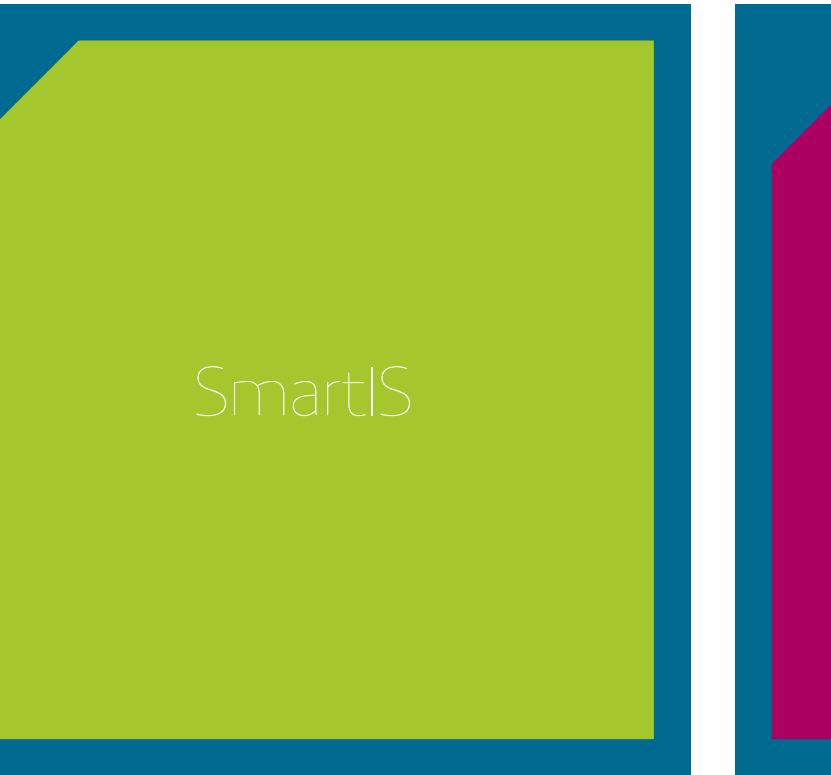
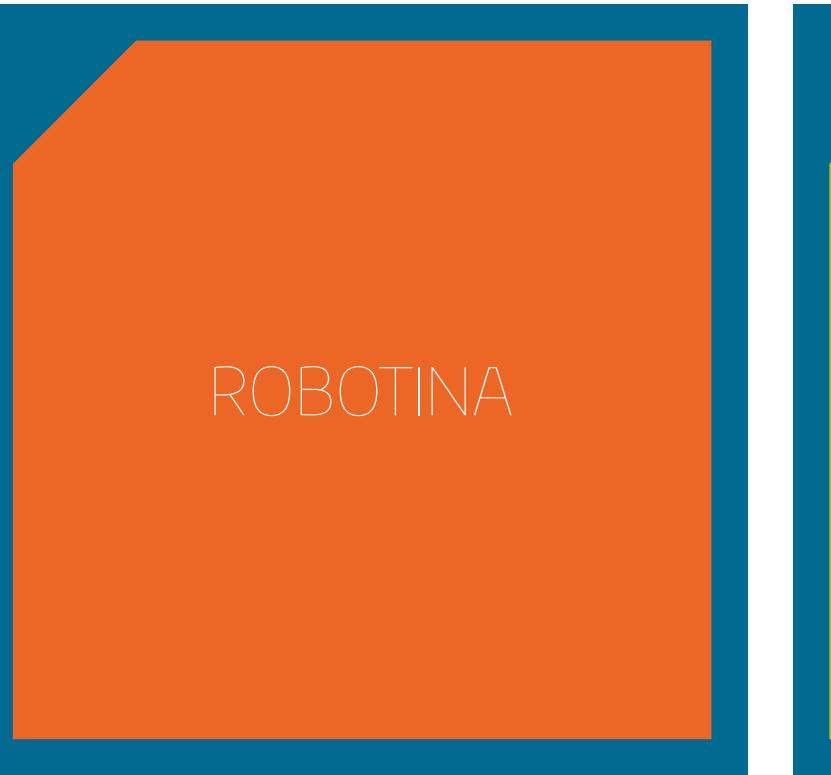
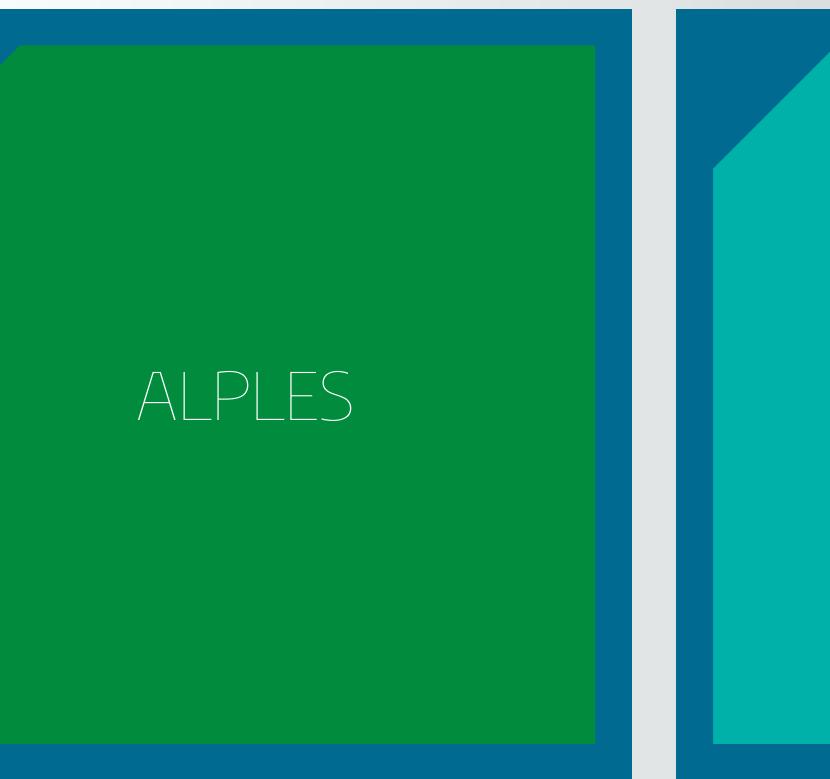
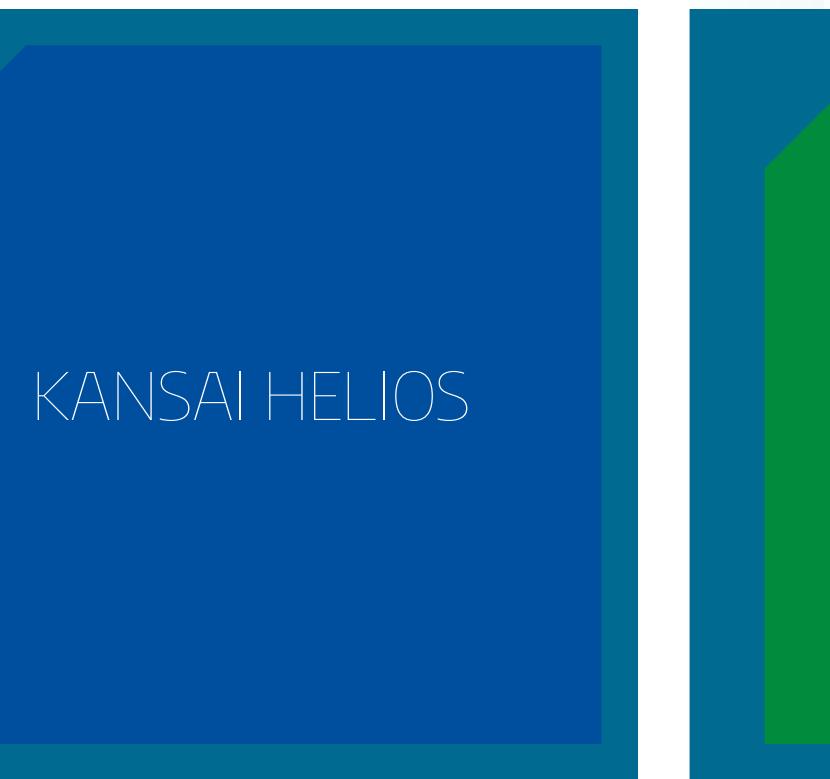
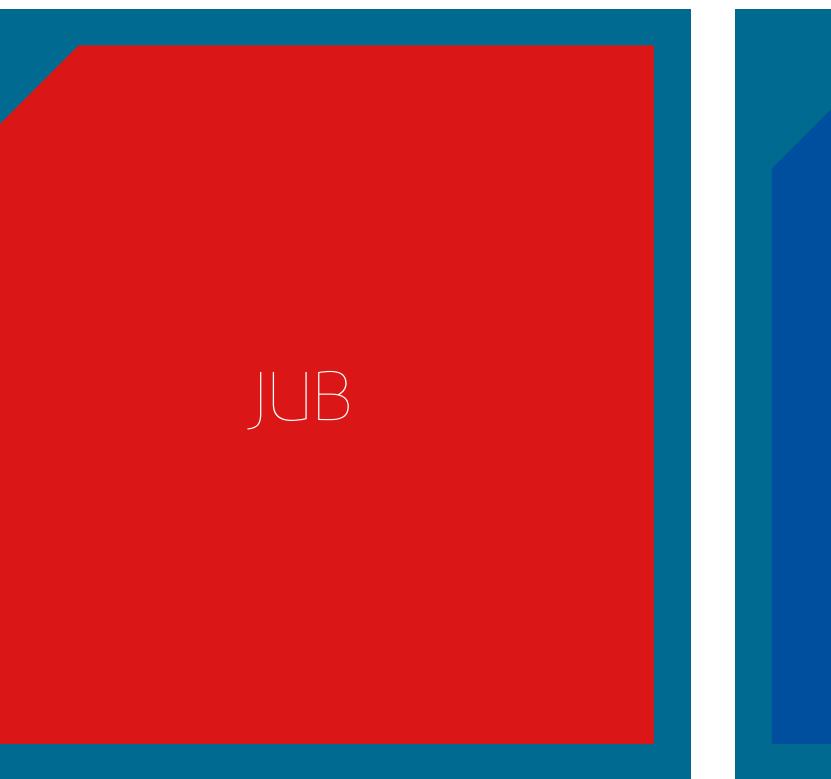
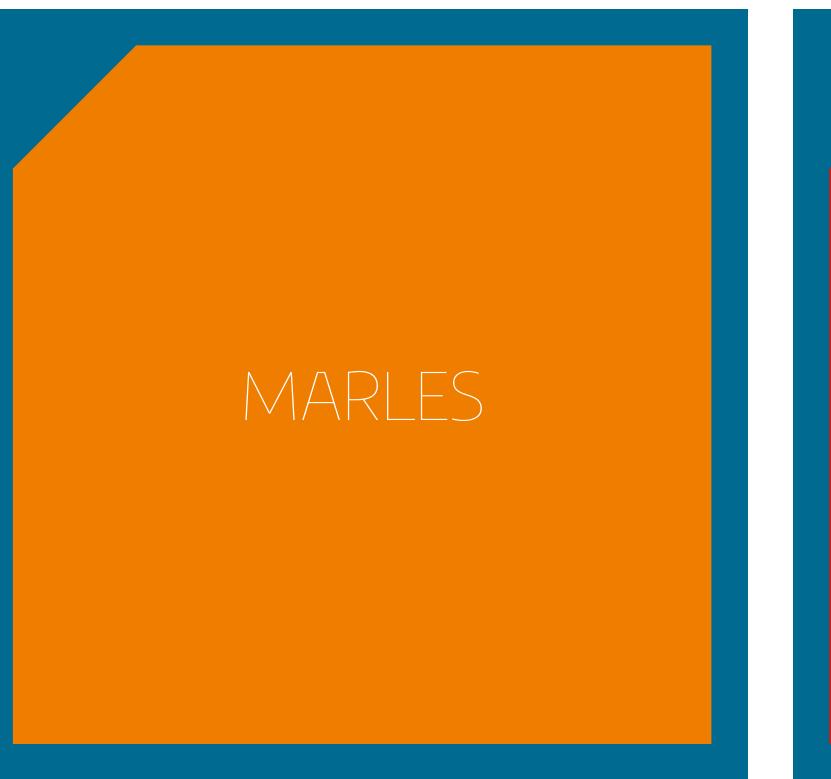




MARLES Dom24h



Dom prihodnosti je postal sedanjost!

Utrip družbe kot take se z digitalizacijo razvija z nesluteno hitrostjo. Še pred leti vizacionarske ideje so danes že realnost. In tako se spreminja naše vsakodnevne navade tudi z misljivo na vse odgovornejši jutri. Zato **Dom24h** ni nastal naključno, temveč je temeljito načrtovan projekt sodobnega prepletanja družinskega in poslovnega življenja.

Dom24h – Pametni dom prihodnosti za udobno in zdravo bivalno ter delovno okolje združuje razvoj in predstavitev produktov dvanajstih slovenskih podjetij, namenjenih pametnim stavbam prihodnosti. Podjetje Marles hiše Maribor kot vodilni partner v projektu je v sodelovanju s SRIP PSiDL (Strateško razvojno inovacijsko partnerstvo Pametne stavbe in dom z lesno verigo) ter TECES k projektu privabilo eminentne partnerje, ki so v njem videli izzik za prihodnost bivanja s tehnološkimi rešitvami in izbranimi materiali v prid kakovosti bivanja s poudarjeno noto odgovornosti do okolja. Strokovnjakom z različnih področij, podjetij in razvojno raziskovalnih organizacij je tako z naprednimi rešitvami uspelo doseči in preseči najvišja zastavljena merila z različnih področij, kot so neto nič-energijska stavba, miselnost življenjskega cikla, povezljivosti notranje opreme in okolice, potrebe po elektromobilnosti ter integracija v skupnost in energetsko verigo. **Dom24h** se tako odziva na potrebe okolice. Ni le porabnik, je tudi proizvajalec in hranilnik električne ter toplotne energije. Prefabricirana stavba pa skupaj s sodobnimi tehnologijami integralnega načrtovanja (BIM) in njihovo integracijo v proizvodni proces zagotavlja visoko zanesljivost ter tehnično kakovost.

Osnovni namen projekta **Dom24h** je razvoj in demonstracija novega koncepta bivanja ter dela v domu, ki ga uporabljamo 24 ur na dan. Predstavlja razvoj podsistemu in produktov za pametne stavbe pr-

ihodnosti ter razvoj ustreznega poslovnega modela za trženje tega koncepta na trgu. Raziskave so namreč pokazale, da opravljanje dela v domačem okolju zmanjšuje stres, število in trajanje bolniških odsočnosti, povečuje storilnost, kakovost in inovativnost opravljenega dela ter je na več nivojih stimulativno. Delo na domu postaja vedno bolj zaželen in priročen način opravljanja dela. Danes se namreč tako delodajalci kot zaposleni – tako podjetniki kot samozaposleni – vse pogosteje odločajo za delo na domu.

Leta 2018 so tako podjetje Marles hiše Maribor kot največji slovenski proizvajalec leseni montažnih stavb, strokovnjaki SRIP PSiDL ter TECES za idejo pametnega doma **Dom24h** navdušili enajst vodilnih slovenskih inovativnih podjetij ter k sodelovanju pritegnili tudi nekatere vodilne razvojno raziskovalne institucije s področja gradbeništva. Skupaj so zasnovali projekt **Dom24h** s ciljem uresničevanja vizije partnerstva SRIP, ki temelji na integraciji raznolikih rešitev pametnega doma prihodnosti. Projekt **Dom24h** je namreč največji tozadovni slovenski projekt, saj njegova vrednost znaša 17 milijonov evrov, pri čemer so partnerji projekta investirali 12 milijonov lastnih sredstev, 5 milijonov evrov pa sta v obliki nepovratnih sredstev prispevala Ministrstvo za gospodarski razvoj in tehnologijo RS in EU iz Evropskega sklada za regionalni razvoj.

Rezultat opisanega sodelovanja vseh naštetih deležnikov je izjemno zanimljiva stavba za delo in bivanje prihodnosti – **Dom24h**.

The home of the future becomes the present!

Digitalisation is accelerating the pace of society at an unprecedented speed. What used to be visionary ideas a few years ago are now the reality. And that is how our everyday habits change, including thinking about a more and more responsible tomorrow. That is why **Home24h** didn't happen by coincidence, but rather as a thoroughly planned project of contemporary interplay between family and business life.

Home24h – Smart Home of the Future for a comfortable and healthy living and working environment brings together the development and introduction of twelve products by Slovenian companies intended for smart buildings of the future. As a leading partner in the project, Marles hiše Maribor cooperated with SRIP PSiDL (Strategic Research Innovation Partnership on Smart Buildings and Home with Wood Chain) and TECES, attracting eminent partners, who saw the project as a challenge for the future of living with technological solutions and selected materials in favour of quality of living with the emphasis on environmental responsibility. Using advanced solutions, experts from different fields, companies, and research and development organisations managed to reach and surpass the highest established criteria from different fields, such as net-zero energy building, life cycle thinking, connecting interior furnishings with its surroundings, demand for electromobility, and integration into the community and energy chain.

Home24h thus responds to the needs of its surroundings. It is not only the user but also the producer of electricity and heat. Furthermore, it functions as their storage device. Together with contemporary technologies of Building Information Modelling (BIM) and their integration into the production process, the prefabricated building ensures high reliability and technical quality.

The basic purpose of the **Home24h** project is the development and demonstration of a new concept of living and working at home, which can be used 24 hours per day. It represents the development of subsystems and products for smart buildings of the future and the development of a suitable business model for marketing this concept. Research has shown that working in a home environment reduces stress, the number and duration of sick leaves, improves productivity, quality

and innovation of the work carried out, and is stimulative on several levels. Therefore, working at home is becoming an increasingly desirable and convenient way of working. Today, both employers and employees – both entrepreneurs and freelancers – tend to increasingly decide for working at home.

In 2018, Marles hiše Maribor company, as the largest Slovenian producer of timber prefabricated buildings and experts from SRIP PSiDL and TECES fascinated eleven leading Slovenian innovative companies with the idea of **Home24h** smart home, and also attracted some leading research and development institutions from the field of construction to participate. Together, they designed the **Home24h** project with the goal of fulfilling the vision of the SRIP partnership, which is based on integrating various solutions of the smart home of the future. Project Home24h is the largest Slovenian project of this kind, worth 17 million EUR, of which project partners invested 12 million EUR of their own resources, whereas 5 million EUR was contributed in the form of a grant by the Ministry of Economic Development and Technology of the Republic of Slovenia and the EU via the European Regional Development Fund.

The result of the described cooperation of all listed stakeholders is a remarkable building for living and working of the future – **Home24h**.

MARLES Dom24h

V podjetju Marles hiše Maribor smo projektiranje **Dom24h** pričeli z zavedanjem, da ekološka gradnja ni le trend današnjega časa, temveč odgovoren odnos posameznika za trajnostni razvoj. Pri zasnovi smo uporabili ekološke gradbene materiale, ki izboljšajo bivalno ugodje, toplotno stabilnost, zmanjšajo porabo energije – tako za ogrevanje kot tudi hlajenje, podaljšajo obstojnost leseni konstrukcij in zmanjšujejo delež primarne energije. Stavbno tkivo ima tako velik delež naravnih in recikliranih materialov.

Kot glavni izolacijski material smo uporabili celulozna in lesena vlakna, kar je pripomoglo k nizkemu ogljičnemu odtisu. Za uravnavanje temperature v otroških sobah smo na strop vgradili plošče iz materiala PCM, ki ob določeni temperaturi poveča svojo maso in s tem tudi toplotno kapaciteto konstrukcijskega sklopa, kar pripomore k izboljšanju toplotnega ugodja v notranjosti.

Dom24h je projektiran v tehnologiji BIM (Building Information Modeling – informacijsko modeliranje gradenj), ki z različnimi programskimi orodji projektantom omogoča skupno načrtovanje objekta. Je proces ustvarjanja objekta v digitalni obliki – od ideje do upravljanja.

S projektom **Dom24h** smo v ospredje postavili razvoj in uporabo celovitih tehničkih rešitev, pametno rabo obnovljivih virov ter vgradnjo materialov naravnega izvora.

At Marles hiše Maribor, we started designing **Home24h** by keeping in mind that ecological construction is not only a trend of today, but an individual's responsible attitude towards sustainable development. The design is based on using ecological building materials that improve the comfort of living, insure thermal stability, reduce energy consumption – both for heating and cooling, extend the lifetime of wooden structures, and reduce the proportion of primary energy.

Therefore, a substantial part of the Home24h's construction is comprised of natural and recycle materials.

Cellulose and wood fibers were used as the main insulation materials, which contribute to a low carbon footprint. To regulate the temperature in children's rooms, PMC panels were installed on the ceiling. PMC is a material that, at a certain temperature, increases its mass and consequently the heat capacity of the construction assembly, which, in conclusion, improves thermal comfort in the interior.

Home24h was designed by using BIM (building Information Modeling) technology that enables designers to jointly construct a building via different software tools. It is a process of creating a building in digital form – from idea to management.

The primary focus of the **Home24h** project was the development and use of comprehensive technological solutions, smart use of renewable sources, and the incorporation of natural materials.



JUB Dom24h

Podjetje JUB je eden od vodilnih proizvajalcev barv in ometov v jugovzhodni Evropi. V zadnjih nekaj desetletjih beležimo nenehno rast, uspehe pa gre pripisati pravim razvojnim odločitvam, širitvi proizvodnje in obsežnim izvoznim aktivnostim na mednarodne trge. Primarna naloga, ki ji v podjetju sledimo, je prepoznavanje potreb kupcev, ki nam zagotavljajo kar najboljšo uporabniško izkušnjo pri ustvarjanju zdravih in sodobnih energijsko varčnih bivanjskih prostorov.

Podjetje je bilo v okviru projekta zadolženo za napredne tehnološke rešitve za zaključno obdelavo notranjih stenskih površin in tudi zunanjih sten oziroma fasade. Razvita je bila sistemski rešitev, imenovana debeloslojni omet in zidna barva za pasivno uravnavanje dnevnega nihanja zračne vlage v notranjem prostoru s sprejemanjem in oddajanjem vodne pare. Za izvedbo fasade je bil razvit sistem, ki temelji na visoko učinkoviti topotni izolaciji in zaključnem sloju z izboljšanimi lastnostmi. Pri projektu je sodelovalo več kot deset razvojnikov, ki so bili z znanjem in izkušnjami kos izzivom, zastavljenimi v projektu **Dom24h**.

JUB is one of the leading manufacturers of paints and plasters in southeast Europe. In the past few decades, our company has recorded continuous growth, which we can ascribe to correct development decisions, expanding our production, and substantial export to the international market. The primary goal of our company is to recognise the needs of our customers, which is how we ensure the best user experience in developing healthy, contemporary, and energy efficient housing.

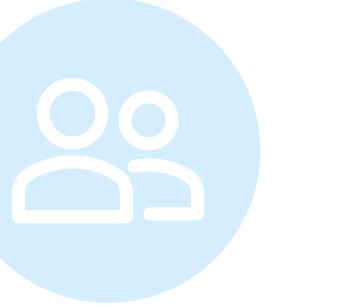
As part of the project, the company was responsible for providing advanced technological solutions for finishing interior walls and for finishing exterior walls (facade). A systemic solution was developed – thick-layer plaster and masonry paint for passive regulation of daily fluctuations of humidity in interior space with water vapour permeability. To complete the facade, a system based on highly efficient thermal insulation and a finishing coating with improved qualities was developed. More than ten developers with the necessary knowledge and experience worked together to face the challenges provided by the **Home24h** project.



KANSAI HELIOS Dom24h

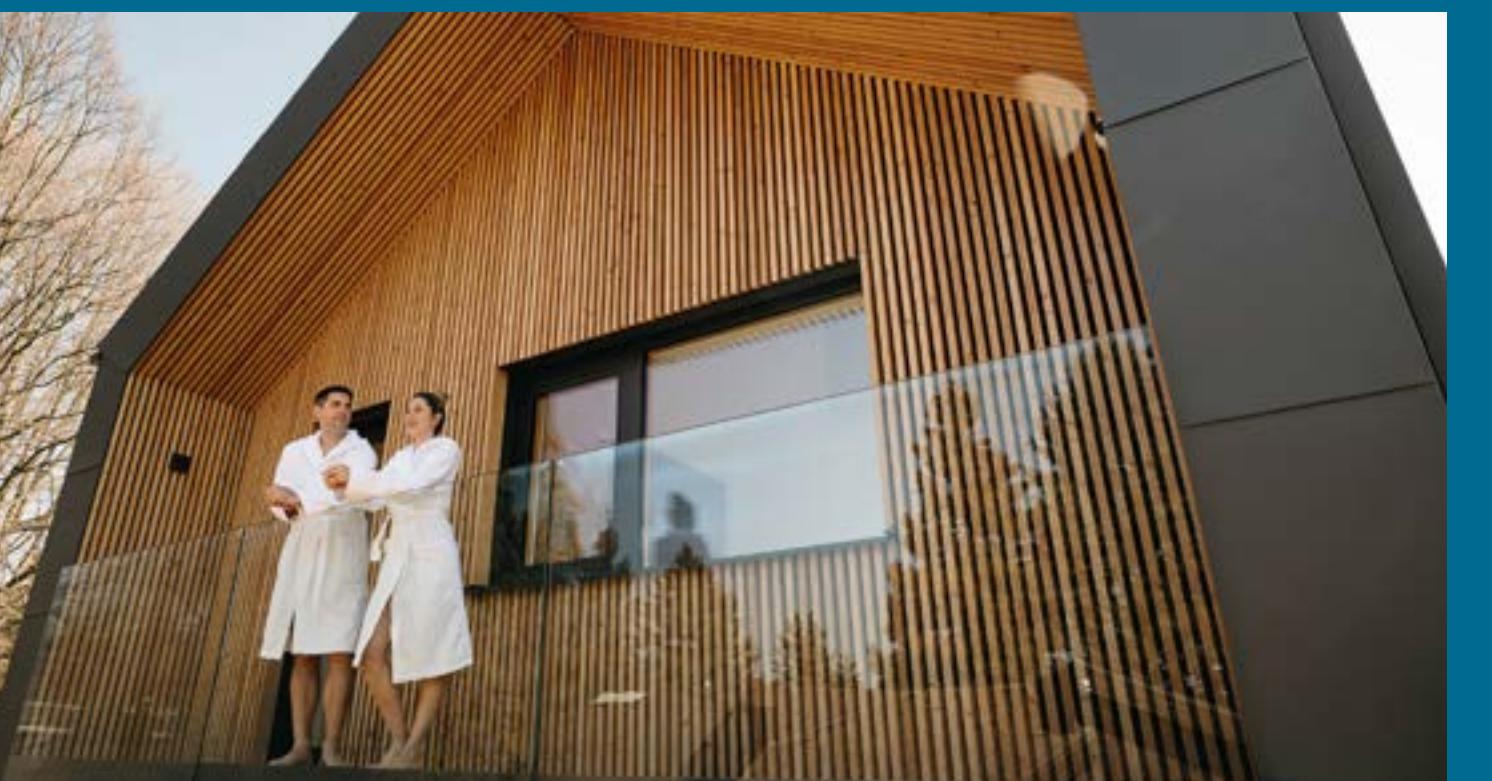
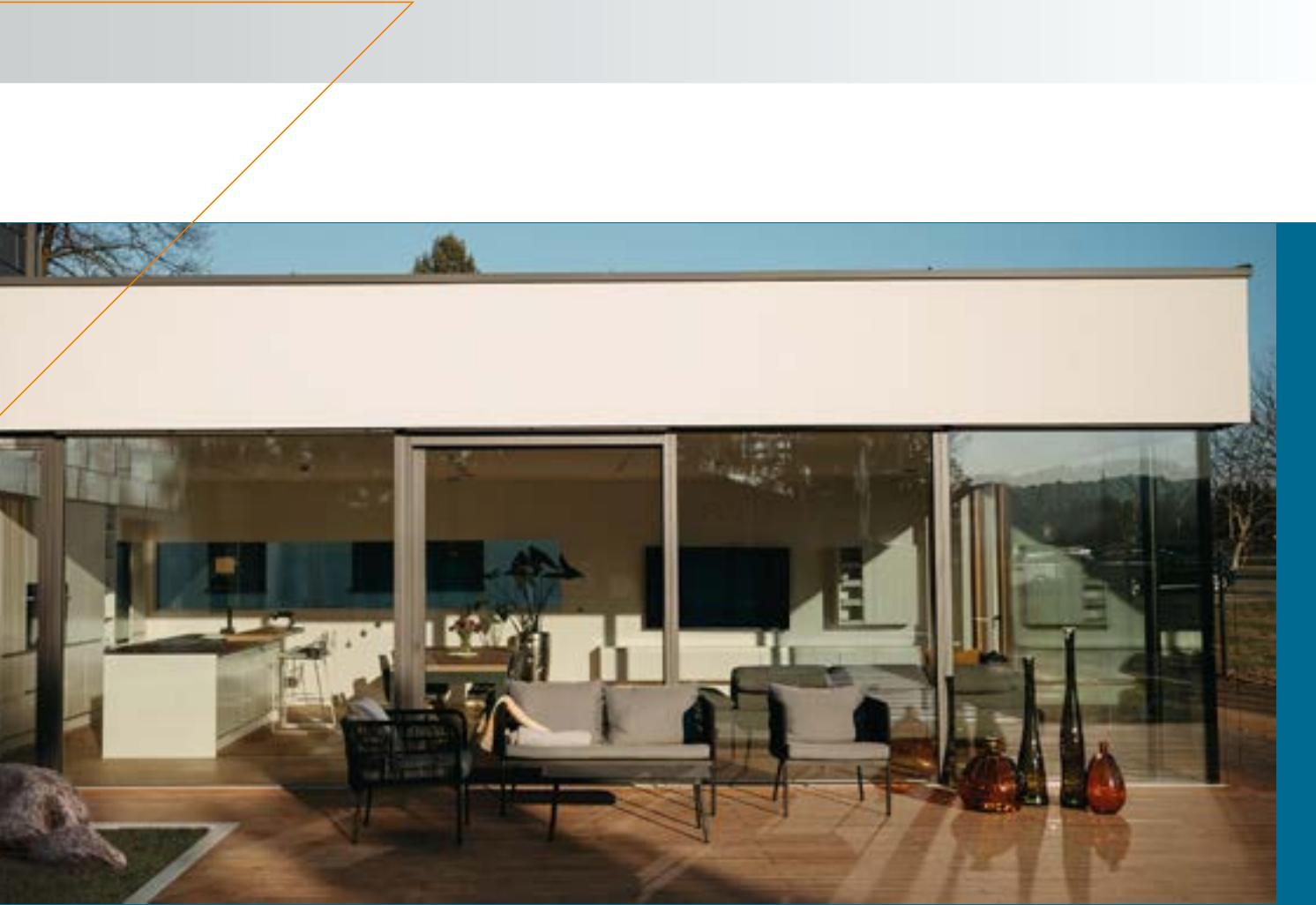
V skupini KANSAI HELIOS stremimo h kakovostni zaščiti površin in ohranjanju lepote lesa, posebno pozornost posvečamo konceptu trajnosti. Pri projektu **Dom24h** smo sodelovali z inovativnimi in okolju prijaznimi premaznimi sistemmi z višjimi estetskimi in odpornostnimi lastnostmi.

Za notranje prostore smo razvili premazni sistem za zelo obremenjene pohištvene površine, UV utrujoče vodne premaze (UVEHEL AQUA), za manj obremenjene pohištvene površine pa premaze na vodni osnovi (HIDROHEL), ki jih odlikuje enostavno vzdrževanje in manjše navzemanje prahu. Za zaščito zunanjih leseni površin smo uporabili lazurne premazne sisteme na vodni osnovi (AQUAVITA), ki zagotavljajo daljšo življenjsko dobo. V projekt smo vključili tudi okolju prijazen premazni sistem (BIOHEL) za lesene terase na osnovi olj.



At KANSAI HELIOS Group, we strive for quality surface protection and preservation of the natural beauty of wood, all while paying special attention to sustainability. In the **Home24h** project, we participated by using innovative and environmentally friendly coating systems with highly aesthetic and resilient qualities.

We developed a coating system for heavily used wooden surfaces for interior spaces, water-based UV curing coatings (UVEHEL AQUA), and water-based coatings (HIDROHEL) for lightly used surfaces, distinguished by easy maintenance and reduced dust accumulation. To protect exterior wooden surfaces, we used water-based varnish coating systems (AQUAVITA), which ensure longevity. We also included the oil-based environmentally friendly coating system (BIOHEL) for wooden terraces into the project.



ALPLES Dom24h

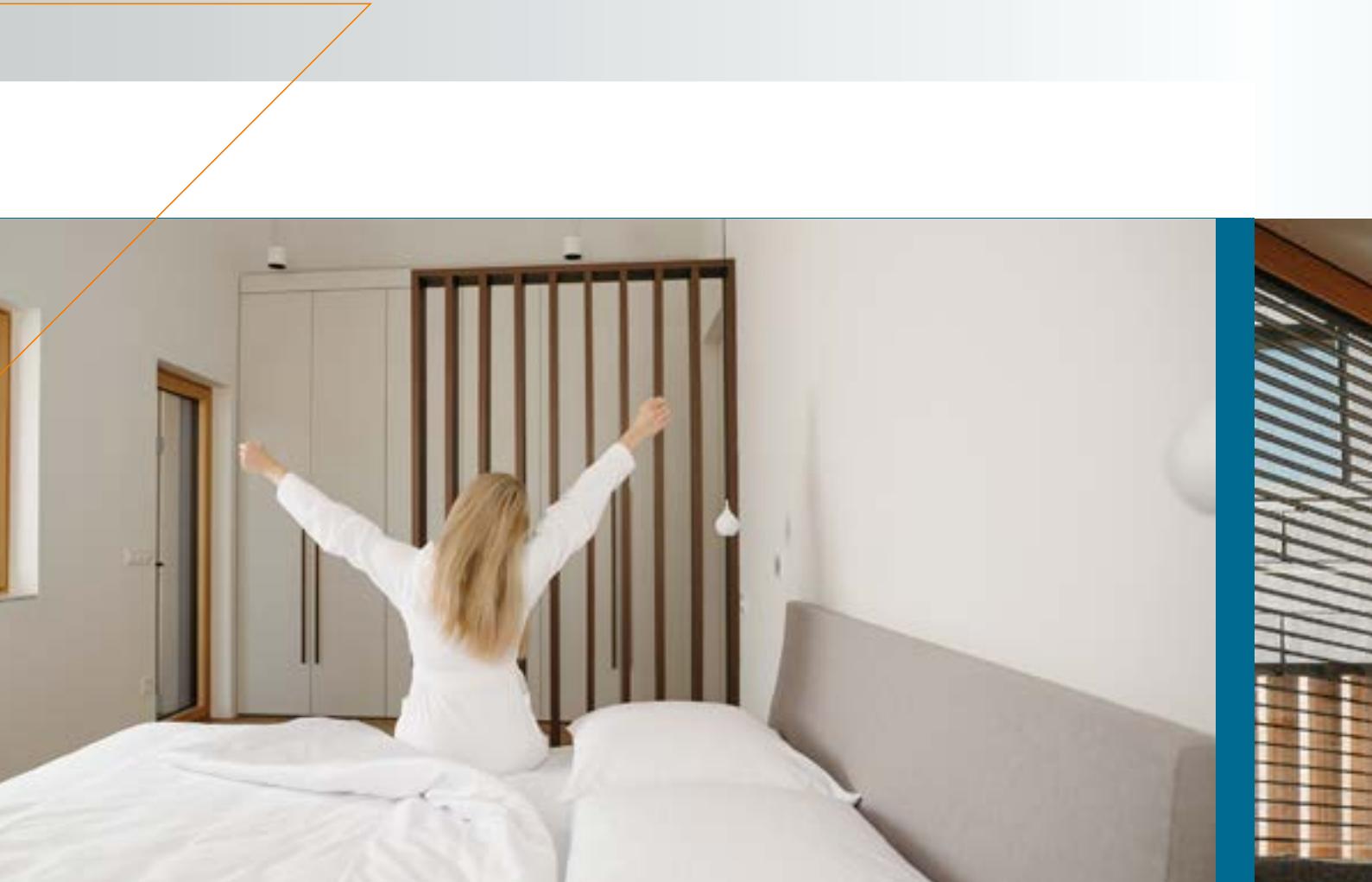
Podjetje Alples je v projektu **Dom24h** prevzelo področje razvoja in izvedbe inovativnega in naprednega interjerja za sodobnega uporabnika. Razvili smo novo industrijsko oblikovano in prilagodljivo pohištvo za ves dom in poslovne prostore, ga popolnoma povezali z arhitekturo stavbe in dopolnili z ustreznimi dodatnimi elementi notranje opreme slovenskih razvojno usmerjenih dobaviteljev. V napredni interjer smo vključili inovacije interaktivnega delovanja pohištenih elementov in njihove povezljivosti v skupno programsko platformo **Dom24h**.

Dodali smo tudi na novo razvite aplikativne storitve nabave in nadzora živil, napredne ekološke in dezinfekcijske površinske obdelave pohištenih elementov ter zaščito pred radiofrekvenčnimi elektromagnetnimi sevanji.



As part of the **Home24h** project, Alples took over the development and implementation of an innovative and advanced interior for the contemporary user. We developed new industrially designed and adaptable furniture for the entire home and business premises, completely integrated it with the architecture of the building, and supplemented it with additional interior furnishings from Slovenian development-oriented suppliers. We incorporated the innovations of interactive furniture into this advanced interior and integrated them into the joint software platform of **Home24h**.

We further implemented newly developed service applications for monitoring and purchasing food, advanced ecological and disinfecting surface treatments of furniture, and protection from radio-frequency and electromagnetic radiation.



GORENJE Dom24h

Povezljivi in pametni gospodinjski aparati prevzemajo ključno vlogo v našem vsakdanjem življenju in nam omogočajo preprosteeje opravljanje vsakodnevnih opravil. Tega se še kako zavedamo v Gorenje, saj smo eden od vodilnih evropskih proizvajalcev izdelkov za dom. Za potrebe projekta **Dom24h** smo razvili prostostojec povezljivi hladilnik z zamrzovalnikom. V projektu nismo sodelovali le z blagovno znamko Gorenje, temveč tudi z drugimi blagovnimi znamkami, ki tako kot Gorenje sodijo pod okrilje skupine Hisense. Za projekt **Dom24h** smo v podjetju razvili celoten komplet gospodinjskih aparatov: pečico, kuhaliče z napo, hladilnik z zamrzovalnikom, pomivalni stroj, pralni stroj in sušilni stroj. Upravljanje povezljivih gospodinjskih aparatov je preprosto, kar omogočajo tudi različni vmesniki (ConnectLife, pametni zvočniki in TV). Uporabniki imajo tako pregled nad aparati in možnost njihovega upravljanja kadar koli in kjer koli.



Connectable and smart home appliances are taking over a key role in our everyday lives, making it easier for us to carry out our daily tasks. We are certainly aware of this at Gorenje, considering we are one of the leading European manufacturers of home appliances. For the purposes of the **Home24h** project, we developed a connectable freestanding fridge freezer. In addition to Gorenje, other Hisense Group brands, of which Gorenje is also a part, participated in the project. We developed a complete set of home appliances for the **Home24h** project: oven, stove and range hood, refrigerator, dishwashing machine, and washing and drying machine. Controlling these connectable home appliances is simple, also due to using various interfaces (ConnectLife, smart speakers and TV), so users can easily manage their devices anywhere and anytime.



TECES Dom24h

TECES je mednarodno prepoznan nosilec strateških razvojnih partnerstev in projektov zelenih tehnologij in energetsko učinkovitih rešitev za reševanje globalnih energetskih in okoljskih izvodov.

V projektu Dom24h je TECES prevzel vlogo nosilca in koordinatorja priprave predloga projekta na javni razpis. V nadaljevanju pa je izvajal koordinacijo projekta, nudil strokovno podporo partnerjem projekta pri izvajanju projekta, spremljal napredek in doseganje zastavljenih ciljev.

Poslanstvo TECES je izboljšanje konkurenčnosti članov z ustvarjanjem sinergij in spodbujanjem sodelovanja med podjetji, raziskovalno-izobraževalnimi ustanovami in državo.

Fokusi delovanja TECES so usmerjeni v energetsko učinkovite naprave, sisteme in rešitve, okolju in uporabniku prijazne ter povezljive pametne stavbe, energetsko oskrbo pametnih mest, proizvodnjo in pretvorbo energije, njeni distribucijo, shranjevanje, celostno upravljanje in rabe tako za civilno, vojaško kot dvojno rabo (za obrambne in civilne namene).

TECES is an internationally recognised holder of strategic developmental partnerships and projects dealing with green technologies and energy efficient solutions for solving global energy and environmental challenges.

TECES has been proactively involved in the Home24h project since the preparation of the project conceptual design, assembling the project partnership, and managing the preparation of the project proposal for the public call. Following the approved funding, TECES has taken on the role of project coordinator providing professional support to project partners for carrying out development activities, monitoring the progress, and achieving the project set goals.

TECES's mission is to improve competitiveness of members by creating synergies and encouraging cooperation between companies, research and educational institutions, and the state.

The main focus of the company are energy efficient devices, systems and solutions, environmentally and user friendly connectable smart houses, energy supply of smart cities, energy production and conversion, its distribution, storage, integrated management and use both for civil, military, and dual use (defence and civilian purposes).

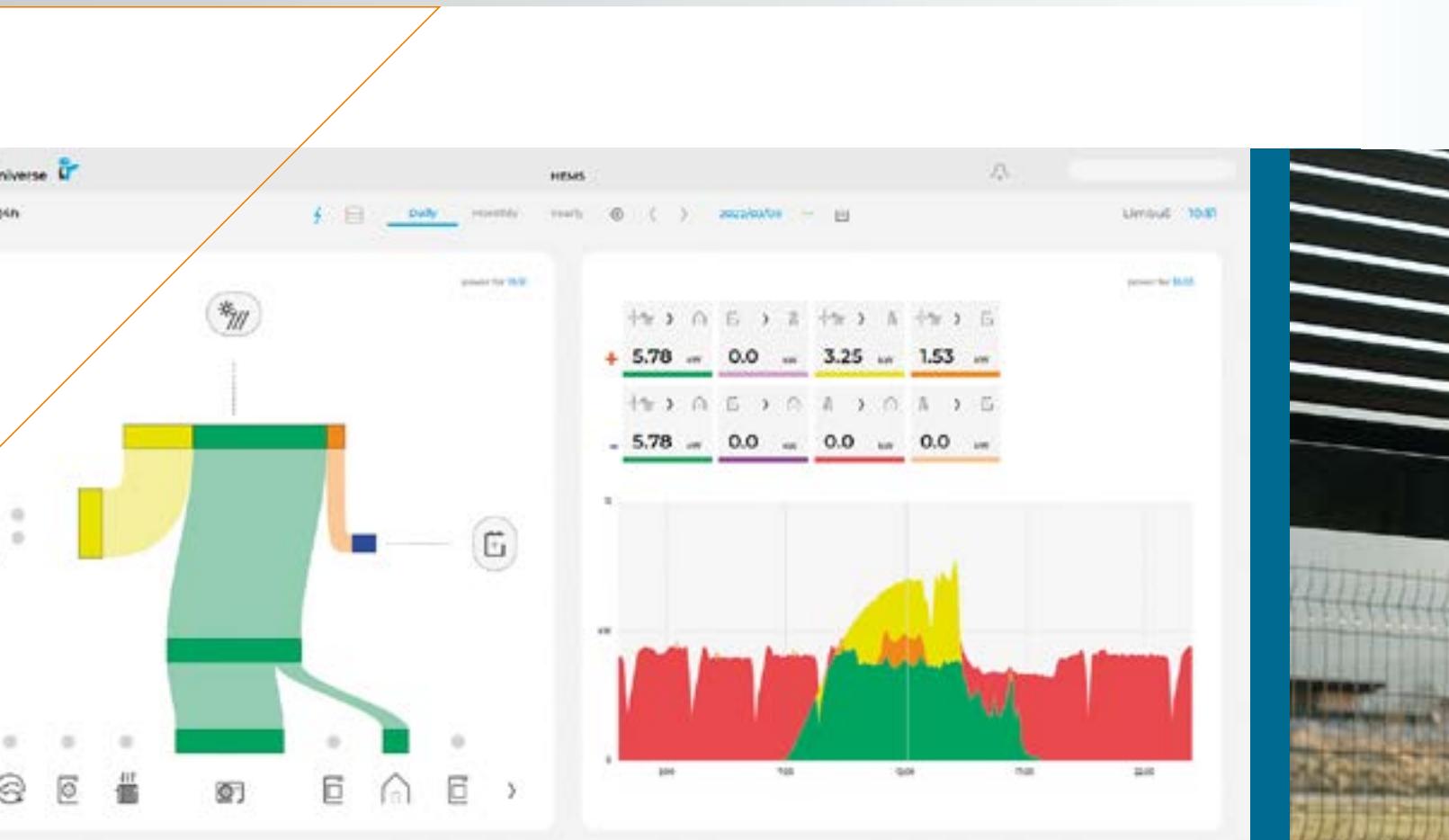


ROBOTINA Dom24h

Robotina več kot 20 let razvija in proizvaja rešitve za avtomatizacijo stavb in energetsko učinkovitost, njeni izdelki so vgrajeni in več kot 25 državah na štirih celinah. Poslovnim partnerjem omogočamo boljše rešitve in digitalno transformacijo, uporabnikom pa varne, udobne, zdrave in učinkovite objekte. V projektu **Dom24h** Robotina zagotavlja avtomatizacijo doma in integracijo tehnoloških rešitev partnerjev. Vse rešitve smo povezali v smiselnou celoto in razvili digitalne dvojčke za enostavno upravljanje s telefonom ali tablico in dostop do digitalnih storitev. HIQ HOME zagotavlja avtomatizacijo, HEMS pa upravlja s sončno elektrarno, polnilnico električnih avtomobilov, baterijskim hranilnikom, topotno črpalko in topotnim izmenjevalnikom ter tako optimizira strošek energije. Vse je povezano v Robotinin oblak, HIQ Universe, kjer so ustvarjeni digitalni dvojčki.



For over 20 years, ROBOTINA has been developing and manufacturing solutions for building automation and energy efficiency, which are implemented in over 25 countries spanning four continents. We provide better solutions and digital transformation for our business partners, as well as safe, comfortable, healthy, and efficient buildings for users. As part of the **Home24h** project, ROBOTINA provides the automation of the house and the integration of technological solutions of all partners; we integrated all technological solutions into a unified whole, developed digital twins for easier control via smartphone or tablet, and enabled access to digital services. HIQ Home ensures automation, while HEMS manages the solar powered generator, the charging station for electric vehicles, battery storage, heat pump, and heat exchanger, thus optimising energy costs. Everything is connected to the ROBOTINA cloud service, HIQ Universe, where digital twins are created.



SmartIS Dom24h

SmartIS je rastočo inovativno IT-podjetje. V podjetju načrtno sledimo tehnološkemu razvoju, kar potrjuje sodelovanje v več razvojnoraziskovalnih projektih. Eden takih projektov je tudi **Dom24h**. V okviru projekta smo razvili inovativno rešitev Digital Twin Platform, ki je fizični objekt povezala z vsemi ključnimi informacijami iz resničnega sveta v digitalno kopijo doma.

Digital Twin Platform je z domom povezan s senzoričnimi podatki, ki so predstavljeni s tabelami, grafikoni in, kar je najpomembnejše, kot vizualizacija 3D-modela hiše z informacijskim modeliranjem zgradb – BIM (angl. Building Information Modelling).

Rešitev Digital Twin Platform tako omogoča boljšo energetsko učinkovitost objekta, višjo varnost objekta, maksimalno udobje, boljše načrtovanje vzdrževalnih in servisnih del skozi celoten življenski cikel, boljše vzdrževanje doma s strokovno podporo in hitrejši reakcijski čas v primeru incidentov.

SmartIS is a growing, innovative IT company. In our company, we keep pace with the technological development, as attested by our participation in many research and development projects. **Home24h** is one of such projects. As part of the project, we developed an innovative solution called Digital Twin Platform, which connects the physical building with all its key information from the real world to a digital copy of the house.

Digital Twin Platform is connected to the house via sensory data, represented by tables, graphs, and, most importantly, as a visualisation of a 3D model of the house with the BIM - Building Information Modelling.

The Digital Twin Platform solution therefore enables a more energy efficient building, a more secure building, maximal comfort, better planning of maintenance and servicing throughout the entire life cycle, better maintenance at home with expert support, and faster reaction time in case of incidents.



ETI Dom24h

S kupina ETI sodi med tri največje svetovne proizvajalce varovalk in med vodilne proizvajalce inovativnih stikali in odklopnikov. Ponuja celovite rešitve na področju zaščite električnih inštalacij.

Podjetje ETI je za potrebe **Dom24h** razvilo inovativno električno zaščitno opremo. Električni razdelilnik je opremljen z ETI-jevimi novimi kombiniranimi zaščitnimi stikali KZS 1M EM, ki ob zaščitni funkciji merijo električno energijo preko padca napetosti temperaturno neodvisnega upora, te meritve pa preko koncentratorja pošiljajo v internetno omrežje.

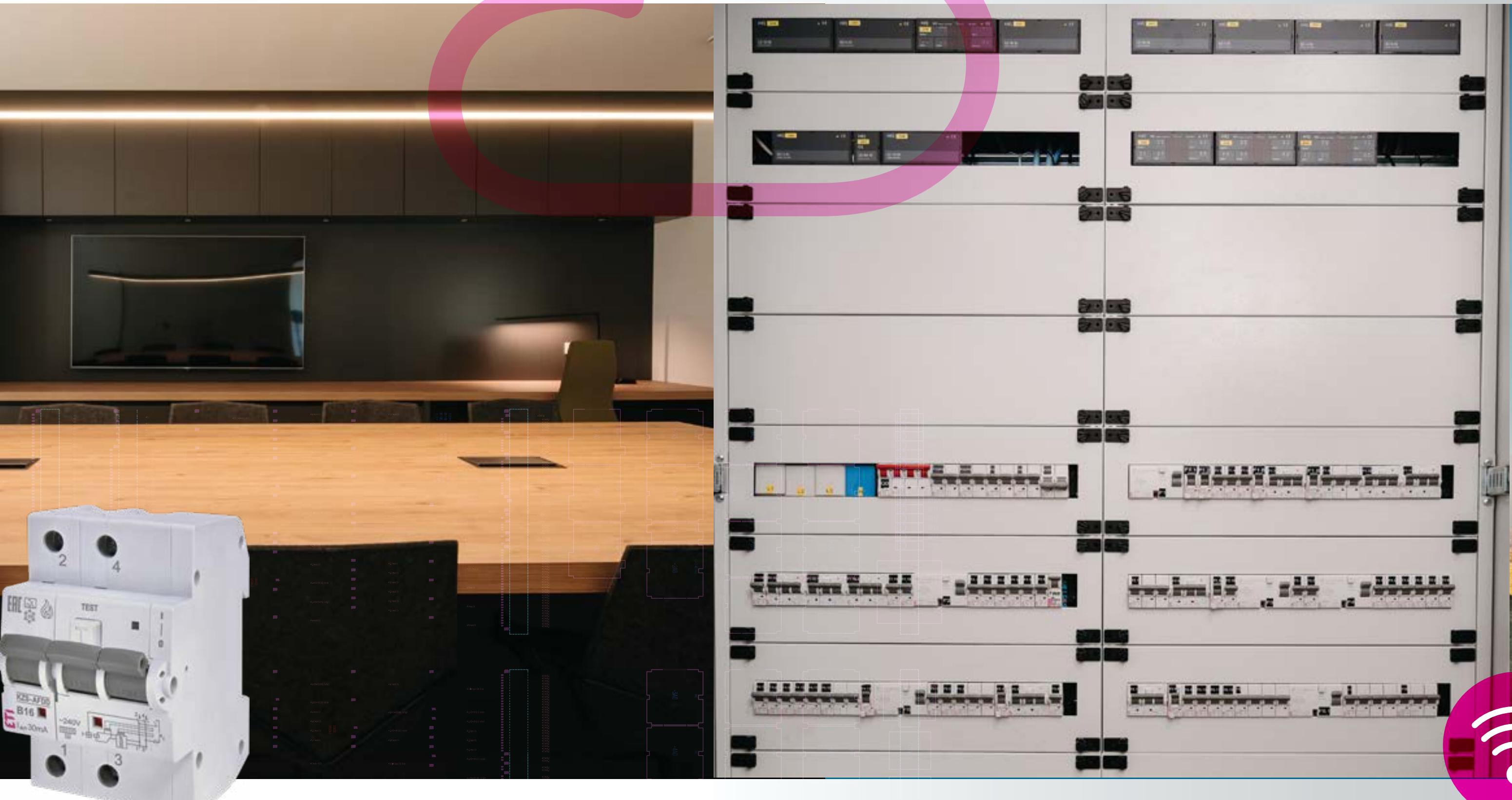
Integrirana zaščitna stikala AFDD pa zagotavljajo visok nivo protipožarne zaščite pametnega doma.



The ETI group is one of the world's three largest fuse manufacturers and one of the leading manufacturers of innovative switches and circuit breakers. It provides solutions in the field of electrical installation protection.

Company ETI has developed electrical protection equipment for the **Home24h** project. The distribution board is equipped with ETI's new residual current operated circuit breakers with overcurrent protection KZS 1M EM, which, in addition to the protective function, measure electricity via a voltage drop of temperature-independent resistance, and these measurements are sent to the Internet via a concentrator.

Integrated arc fault detection devices AFDD provide a high level of fire protection.



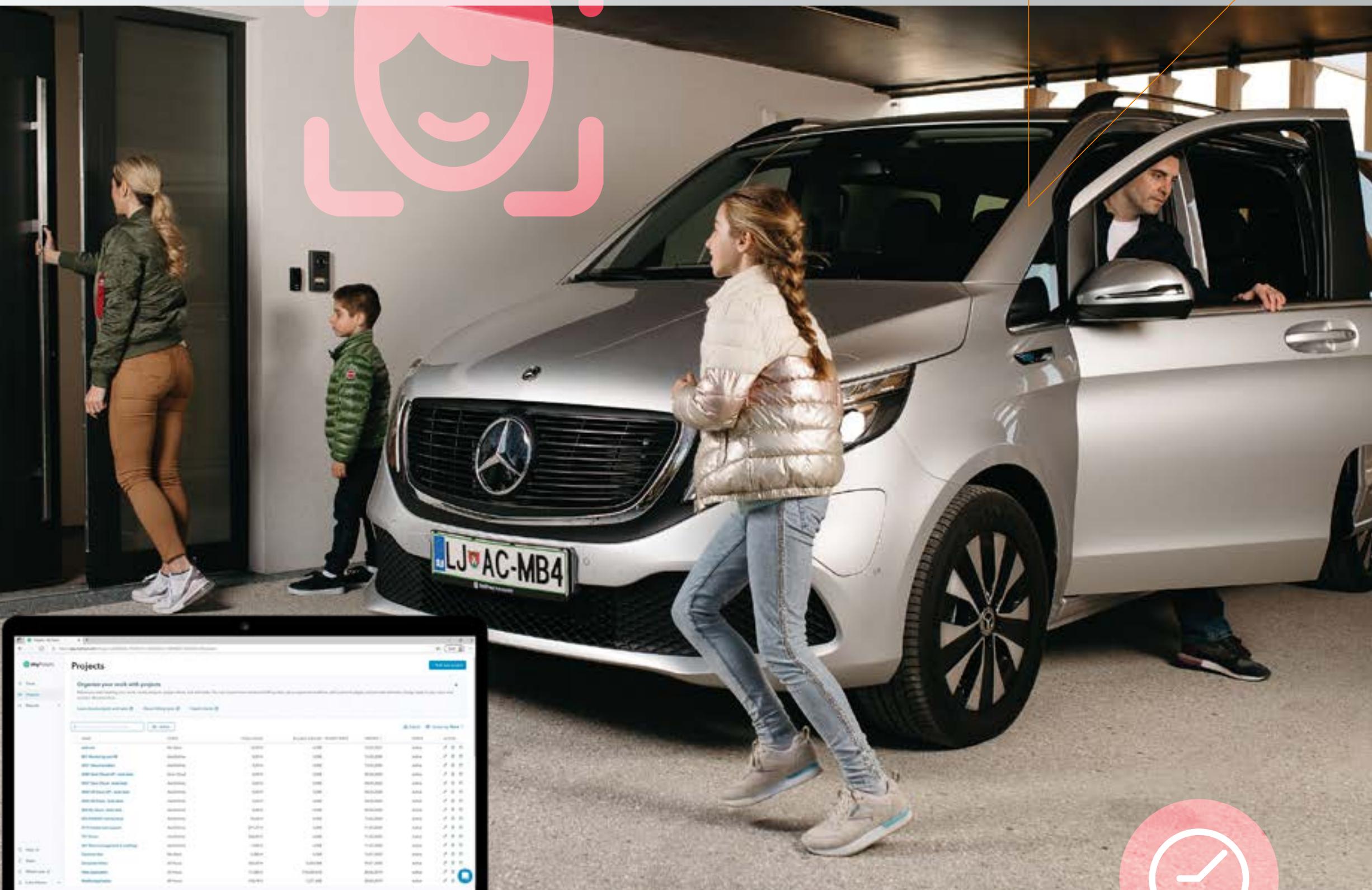
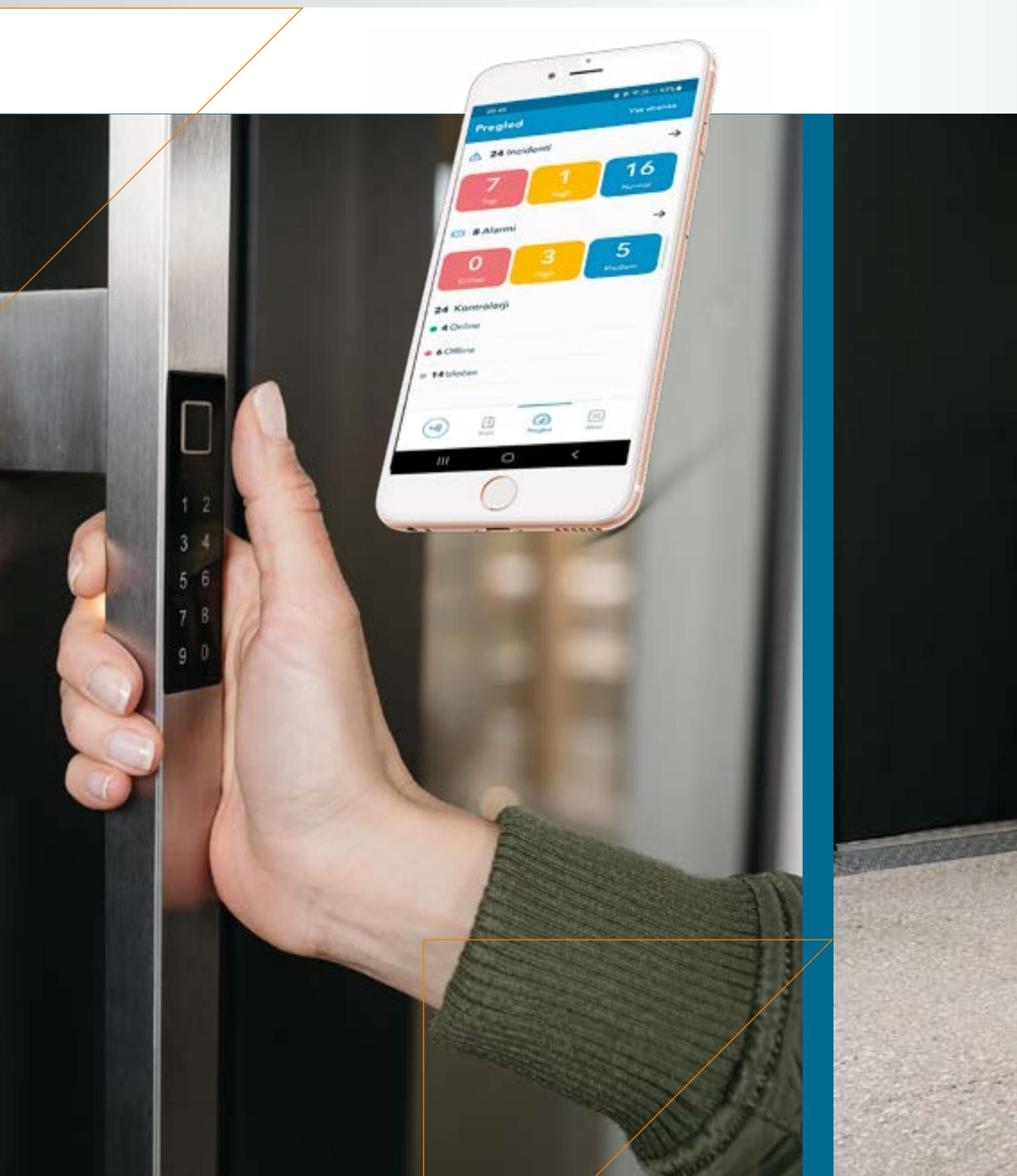
ŠPICA Dom24h

Špica International je visokotehnološki ponudnik rešitev za upravljanje delovnega časa, kontrolo pristopa in rešitev na področju digitalizacije celotne oskrbovalne verige. Pri projektu Dom24h je tri leta sodelovalo 19 špičakov, ki so v sklopu pametnega doma zasnovali rešitve za ugotavljanje prisotnosti in kontrolo pristopa stanovalcev ter rešitve za merjenje porabljenega časa pri projektih kot pomembne metrike za merjenje učinkovitosti pri delu od doma.

Vse tri rešitve se dopolnjujejo in pomembno doprinošajo h kvaliteti bivanja v pametnem domu. Prisotnost posameznika v domu zaznajo napredni čitalci in kontrolerji pod pogojem, da ima posameznik na pametnem telefonu naloženo aplikacijo Door Cloud ali kartico RFID. Ugotovljena prisotnost stanovalcev je pomemben podatek, ker lahko sproži številne napredne odzive, kot na primer dvig temperature ali prižig izbranih luči. Vstop posameznika v pametni dom nadzoruje napredna rešitev za kontrolo pristopa. Ta na podlagi mobilne aplikacije Door Cloud, čitalca NFC ali RFID identificira posameznika in mu odpre vrata pod pogojem, da so tako urejene njegove pristopne pravice. Vse pogosteje delo od »pametnega doma« pa zahteva beleženje učinkovitosti dela, kar omogoča aplikacija My Hours. Ta natančno beleži čas, ki smo ga posvetili posamezni nalogi.

Špica International is a high-tech provider of workforce management solutions, access control, and solutions in the field of digitalisation of the entire supply chain. In the **Home24h** project, 19 Špica employees participated for 3 years. As part of the smart home programme, they developed solutions for presence detection of residents and for measuring time spent on projects as an important metric of measuring efficiency at work from home.

All three solutions complement each other and significantly contribute to the quality of living in a smart home. The presence of an individual in the house is detected by advanced readers and controllers provided the individual has the Door Cloud application installed on their smartphone or has the RFID card. Determining the presence of residents is an important piece of information, as it can initiate several advanced responses, like raising the temperature or switching on selected lamps. An advanced access control solution regulates the entry of an individual into the smart home. Via the Door Cloud mobile application, NFC or RFID reader, this system can identify the individual and open the doors given that their access rights are properly configured. The increasingly widespread work from "smart" home also requires the documentation of work efficiency, which is provided by the My Hours application, which accurately records the time spent on a particular task.



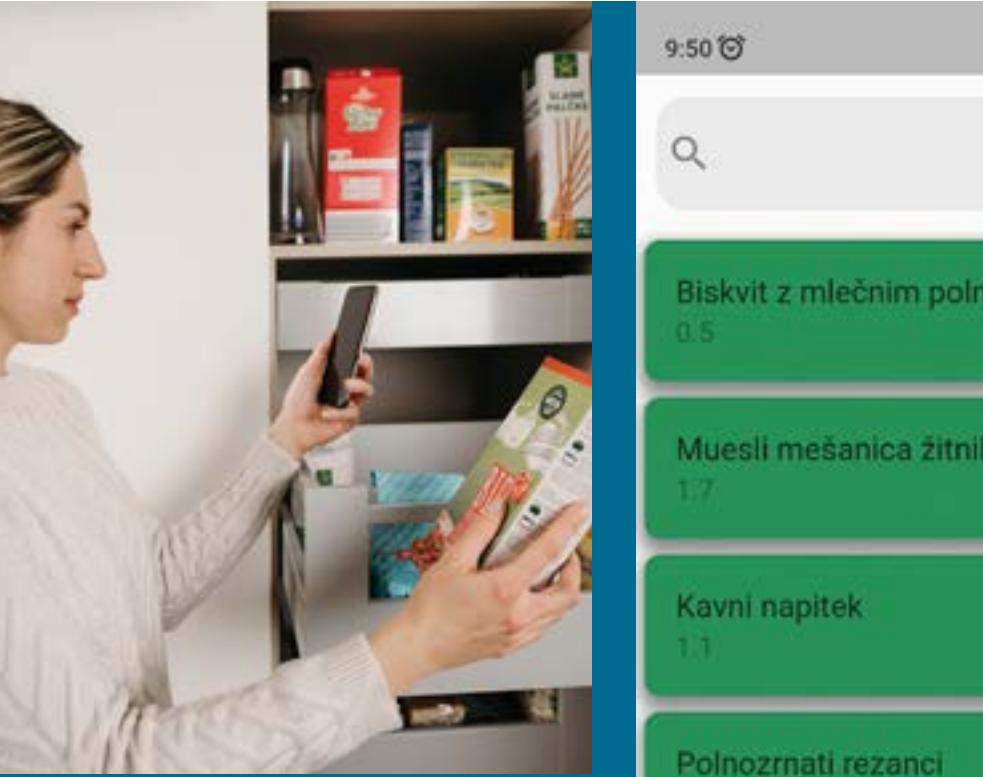
INTECTIV Dom24h

Podjetje INTECTIV d.o.o. je že od svojih začetkov največji proizvajalec tiskanih vezij v Sloveniji. Glavno vodilo podjetja so skrb za kakovost, zdravo okolje ter nenehne izboljšave pri proizvodnji prototipnih in zahtevnih večplastnih tiskanih vezij. Projekt **Dom24h** je podjetju predstavljal priložnost nadgradnje in unovčitve v letih generiranega znanja na področju tiskanih vezij.

V sklopu projekta je ekipa naših razvojnikov v tesnem sodelovanju s podjetjem Albles d.o.o. razvila motivacijsko pohištvo naprednih spalnic in mladinskih sob, prilagojeno sodobnemu uporabniku, z dodanimi funkcijami čutnih zaznav (LED svetlobni vzorci, zvočne komponente, difuzorji za odišavljanje prostorov, krmilnik in mobilna aplikacija) in kuhinjsko shrambo z inteligentnimi funkcijami za pomoč pri nadzoru ter nakupovanju trajnih in poltrajnih živil (preko mobilne aplikacije in s samodejnim generiranjem nakupovalnega seznama).

INTECTIV d.o.o. has been the largest manufacturer of printed circuit boards in Slovenia since its inception. The main drive of the company is quality assurance, healthy environment, and constant improvements in the production of prototypes and complex multilayer circuit boards. The **Home24h** project was an opportunity for the company to upgrade and implement the knowledge accumulated throughout many years in the field of circuit boards.

As part of the project, our team of developers, in close cooperation with Albles d.o.o., developed thematic furniture for smart bedrooms and youth rooms, adapted for a contemporary user, with added functions for sensory experience (LED light patterns, sound components, room fragrance diffusers, controller, and a mobile app) and a kitchen pantry with intelligent functions to assist in managing and shopping for non-perishable and semi-perishable foods (via mobile app and with a self-generating shopping list).



DANFOSS Dom24h

Danfoss Trata d.o.o., ki se v Sloveniji uvršča med velika podjetja, je poslovni in tehnološki center za rešitve na področju regulacije prenosa toplotne v ogrevalnih in hladilnih sistemih. V projektu Dom24h smo sodelovali kot partner, zadolžen za razvoj in izvedbo prediktivno vodene toplotne podpostaje, ki omogoča dvosmerno povezavo s proizvodnjo energije in na hiši ter tudi dvosmerno povezavo med porabniki in proizvodnjo energije v hiši in soseski.

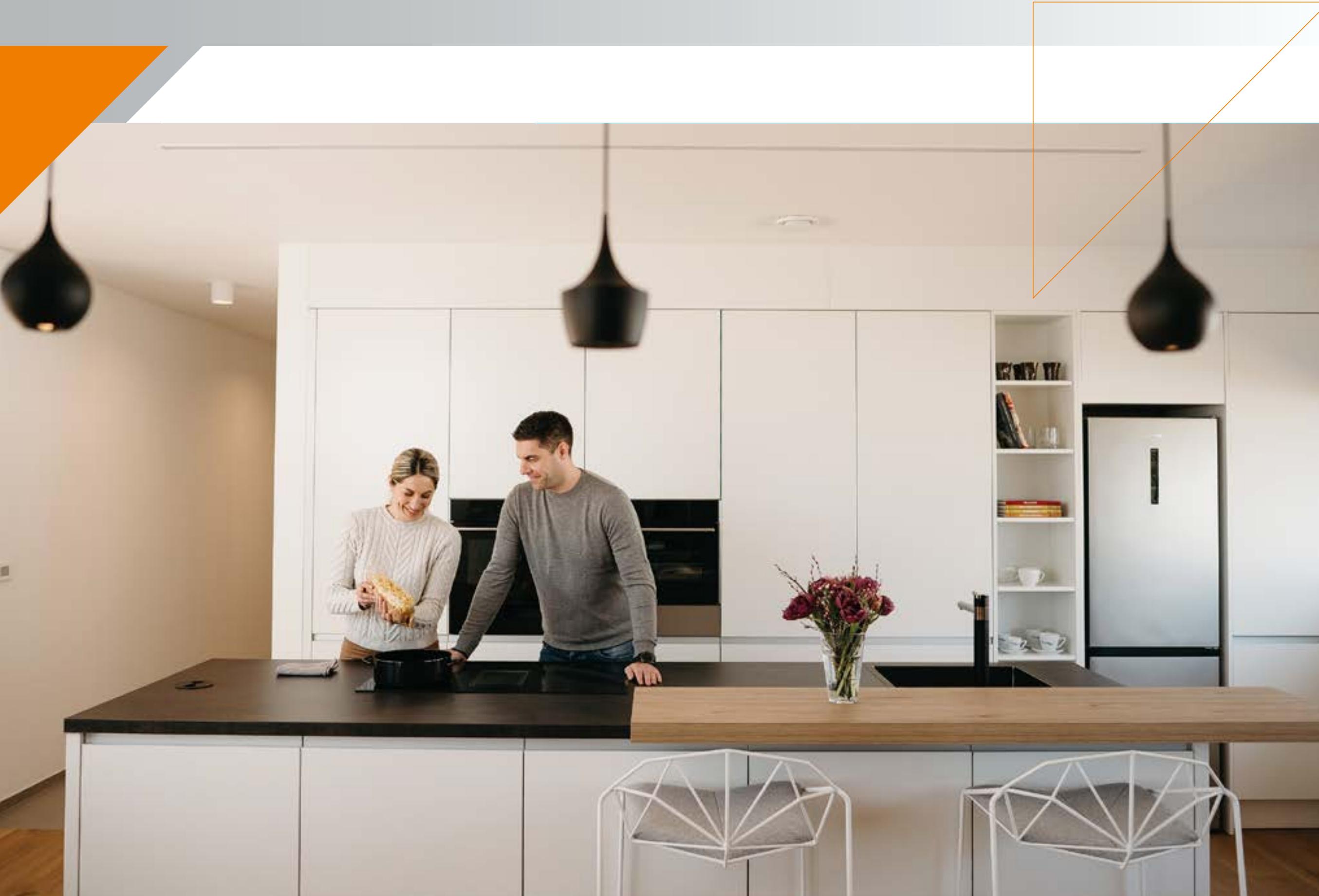
S to inovacijo na področju daljinske energetike smo omogočili optimalnejšo rabo energije objekta in hkrati zagotovili vračanje presežne toplotne energije objekta nazaj v sistem daljinskega ogrevanja. Z vračanjem presežne toplotne energije v sistem daljinskega ogrevanja se izboljša njegova učinkovitost in se posledično zmanjšajo negativni vplivi na okolje.

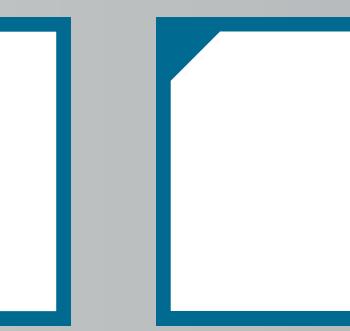
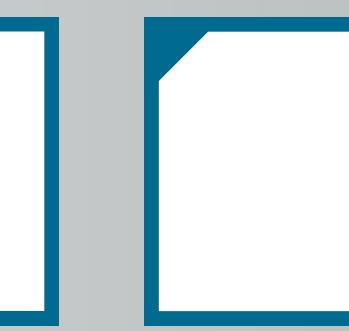
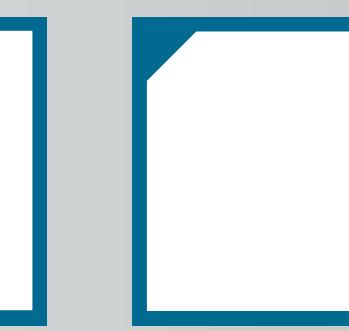
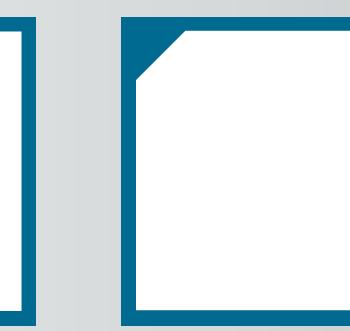
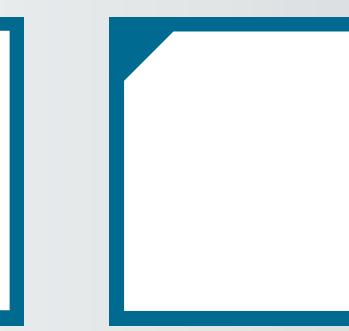
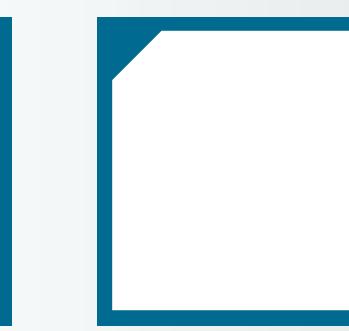
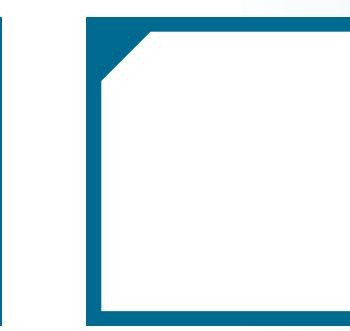
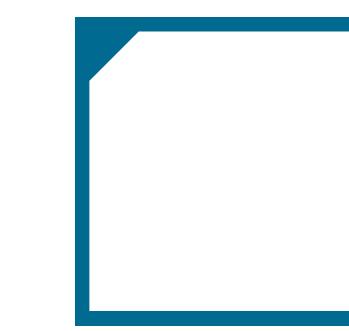
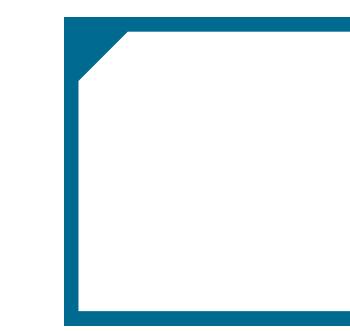
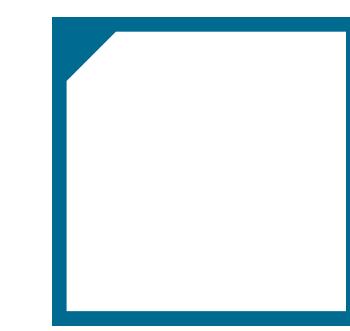
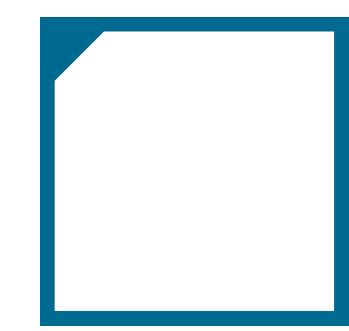
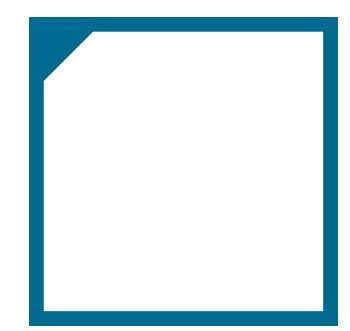
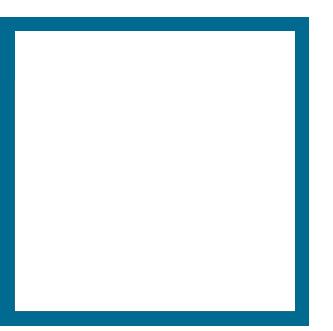


Danfoss Trata d.o.o., classified as a large enterprise in Slovenia, is a business and technological centre for solutions concerning the regulation of heat transfer in heating and cooling systems. In the Home24h project, we participated as a partner responsible for the development and implementation of predictive control of a heating substation, which enables bi-directional connection with energy generation both in and on the house, as well as a bi-directional connection between users and energy generation in the house and the neighbourhood.

Through innovations in the field of district energy, we enabled a more optimal energy use of the object, while simultaneously ensuring that excess thermal energy of the object returns to the district heating system. Returning excess thermal energy into the district heating system improves its efficiency and consequently decreases negative effects on the environment.









EVROPSKA UNIJA
EVROPSKI SKLAD ZA
REGIONALNI RAZVOJ



REPUBLIKA SLOVENIJA
**MINISTRSTVO ZA GOSPODARSKI
RAZVOJ IN TEHNOLOGIJO**

Naložbo sofinancirata Republika Slovenija in Evropska unija iz Evropskega sklada za regionalni razvoj.