




2019: Year in Review



engineering
FOR
POWER
SUPPLY



HELB has done some major projects, finished as well as started significant assignments, visited and exhibited at international industry events, collaborated with students and universities, participated in EU projects and traveled across the globe in 2019.

PROJECTS AND NEW MARKETS

- **Geothermal Power Plant Holzkirchen GmbH, Germany**

After very successful projects of the construction, testing and commissioning of the largest geothermal power plant in Europe, as well as the electrical testing and synchronization of generators at the geothermal power plant in New Mexico, HELB's engineers have finished another successful project on Geothermie Holzkirchen GmbH. The project included commissioning of the entire geothermal power plant 3.4 MW, a total of about 1,500 signals, and testing the function of not only the vent and control but also the function of the safety of PLCs. As well as the other tests, such as examining all signals according to the SCADA system, commissioning UPSs, compressors, and turbine generator cooling lubrication systems.



Geothermie Holzkirchen GmbH

- **Az Zour Power Plant, Kuwait**

HELB's project at the Az Zour power plant in Kuwait happened by mere chance. Its experts have stepped in to help partners so that they can activate a spare transformer at the power plant within the given deadline. HELB performed the assembly and servicing works and carried out the necessary tests. Due to the hot climate and short deadlines, some works were needed to be performed on night shifts as well. However, everything was completed even earlier than planned, and HELB have included another challenging experience to the ever-growing list of our references.

- **Balintwak and Lancaster, Philippines**

HELB has finished another project in the Philippines, and it took only about 15 days, despite the local rainy season. HELB's Experts oversaw the supervision of a new 300 MVA transformer in Balintawak, Manila, after the previous one was moved to another substation. The commissioner of these works was Meralco. After that engineers moved to Lancaster area, where they have very successfully conducted supervision of the installation of an 83 MVA transformer.

- **Genelba Thermal Power Plant, Argentina**

Another job in Latin America was completed. HELB's scope of work was the supervision of the installation of a 215 MVA transformer in the Buenos Aires area at the location of the Genelba thermal power plant (CTGEBA), with a total installed capacity of 670 MWE. CTGEBA has a strategic location as well since it is only one kilometer from the Ezeiza transformer station, a WEM ('Wholesale Electricity Market') reference node for the supply of electricity in times of country's highest demand. HELB has worked in Argentina many years ago at the reconstruction of the Embalse nuclear power plant of similar installed capacity (683 MWE), so this way of returning to the country makes the pleasure bigger.



Genelba Thermal Power Plant

- **SS Vitkov, SS Otrokovice and SS Tynec, Czech Republic**

HELB has recently concluded one of its first assignments in the Czech Republic, where it's experts have assembled a 200 MVA transformer at the SS Vitkov. Then they've assembled and tested the transformer rated power 350 MVA at SS Otrokovice, supervised and disassembled the transformer rated power 350 MVA at SS Tynec.

- **Power transformers, Misfah, Oman**

HELB is regularly engaged in projects around the world, and one of the countries where he is occasional guest is Oman. The most recent assignment there included maintenance of power transformers and operations monitoring at a facility located in Misfah. As usual, engineers completed all the tasks quick and on time.

- **Volos Biomass Power Plant, Greece**

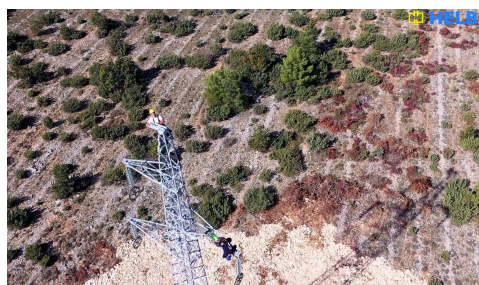
In the vicinity of Vollos, one of the most important Greek ports, HELB completed its engagement on the project Volos Biomass Power Plant. It's a 5MW biomass power plant operating in ORC technology and media used for is isobutane. In the first phase of the work, HELB engineers performed the tests of engine instrumentation, engine insulation resistance test and testing and commissioning of engine coolers. The second phase of HELB's engagement included a generator protection test, commissioning of the generator excitation system and synchronization of the generator.



Volos Biomass Power Plant

- **Wind Farm Korlat, Croatia**

This year HELB has started working on the biggest operational wind power plant in Croatia with connection capacity of the wind farm of 58 MW. This investment of HEP expects an annual generation of around 170 GWh, which will be sufficient for the supply of more than 50,000 households. Wind turbine pillars are 114 meters high and the diameter of the rotor is 131 meters. HELB's scope of work includes electrical installation work, testing, parameterization and commissioning of SS Korlat and Korlat Energy Park's internal cable network.



Wind Farm Korlat

EDUCATIONS

- **Keeping up with the global trends in photovoltaics**

Five HELB's installers for photovoltaic systems were certified in the RES and Energy Electronics Center. Being among the first in Croatia to enter the business of solar plants, experienced HELB electricians have completed training organized within the European project. Installers have gained skills in dimensioning, installing and maintaining photovoltaic systems, learned about solar radiation, safety at work and legal frameworks and standards.



HELB's certified installers for photovoltaic systems

- **German language course**

HELB is preparing to enter the largest EU market, and accordingly, has provided German language classes to its employees. Learning a foreign language is a wonderful thing because it brings closer other cultures, widens perspectives, contributes to personal growth and development, and to the development of the company itself. So, every Wednesday and Friday, employees leave their business obligations for an hour and a half and go back to school benches. With their knowledge, they will soon contribute to the growth of HELB and its even greater recognition within the EU.



German class



- **HELB Internal workshop**

HELB always works on expanding the knowledge and skills of its employees, encouraging their mutual collaboration and togetherness. Accordingly, HELB has organized a new three-day internal workshop for its employees! In the three days of education employees have learned more about the importance of marketing and negotiation skills in sales, but also the importance of empathy and communication in a business environment, and skills in giving a presentation. The workshop has been really active, and in addition to expanding knowledge, it also reminded everyone of the value of appreciating others' opinions in order to achieve mutual success.



HELB's workshop

- **Education in Denmark**

HELB's four employees participated in a prestigious education organized by the CUBIC - Modulsystem company, which was held in Brønderslev, Denmark. The main goal of this three-module education was to introduce business partners to CUBIC's products and tools, and participants also had an opportunity to acquire some fresh knowledge of international standards (IEC), type testings and distribution cabinets designing. Among others, the program included writing and practical exercises, presentation of all CUBIC's products, and demonstration of the Galaxy 3 software package, which improves the design of the cabinets.



CUBIC education

EXPO AND CONFERENCES

- **CWIEME, Berlin**

HELB has in 2019 visited the 25th edition of the CWIEME fair, the world's largest event dedicated to coil winding, electric motors, transformers and generators, which was held in Berlin. It provides the largest platform to showcase the latest high-end products & solutions and current trends in EMTG technologies across regions of EMEA, Asia and the Americas. For years, HELB has been producing cabinets for controlling and cooling of energy transformers, and the fair in Berlin proved to be an ideal place to present its product.

- **Hannover Messe, Hannover**

At HMI 2019, HELB has once again confirmed that it's keeping up with tech trends presenting an innovative application of augmented reality (AR) technology which brings a whole new dimension to electro energetics business. The main topic of the 2019 edition of the world's largest industry fair was "Integrated Industry - Industrial Intelligence," with great emphasis on digital transformation led by the interaction between automation and energy technologies, intralogistics and IT platforms. Visitors had an opportunity to see many interesting solutions and demonstrations, including the use of artificial intelligence, 5G networks and smart factories, as well as a range of technologies that represent the industry 4.0. HELB has adequately presented itself in this ultra-modern environment, showing an innovative solution for the application of augmented reality in the electro energetics.



Hannover Messe 2019

- **Intersolar, Munich**

HELB has visited the Intersolar 2019, the world's leading exhibition for the solar industry, organized in Munich, Germany, as a part of the energy industry platform The Smarter E Europe and have learned many interesting bits about trends in solar energy and its use. Renewable hybrid power plants, high-performance cells and digitalization of the industry were some of the main topics at the fair, and it's a general conclusion that the solar market will continue to rise worldwide. HELB is particularly pleased about this, because the company always puts a strong emphasis on renewable energy sources and green projects, keeping in mind the environmental sustainability and the generations to come.

- **Offshore Mediterranean Conference, Ravenna**

HELB had exhibited at the OMC, the largest Mediterranean oil and gas fair, which gathers around 20,000 visitors and more than 650 exhibitors from 33 countries. Our colleges have presented many interesting things at the stand, including a virtual walk through the drilling rig, table football matches, and exhibition of service loops cable models. VR presentation caused big excitement among visitors. HELB has established many new contacts and it's looking forward to some great future cooperation.



OMC 2019

- **HRO CIGRÉ, Šibenik**

The Croatian branch of the International Council for Large Electric Power Systems – HRO CIGRÉ organized the 14th consultation on the energy management system. In addition to being a council sponsor, HELB gave its contribution with expert papers presenting very current topics “Application of augmented reality in engineering business” and “Blockchain + IoT Energy Platform”. The goal was to show and sensitize technicians and engineers to the use of new technologies and it was the contribution to the increasingly strong trend of the digitalization of the electricity sector. More than 1500 professionals and scientists in the energy industry gathered together in Šibenik.



HRO CIGRÉ 2019

- **Wind Europe 2019, Bilbao**

Biggest and most significant event in the wind energy sector in Europe brought together key European institutions and the European economy in the wind industry field and has also induced great interest outside the Europe. Being aware of recent trends towards increased usage of wind energy, HELB participated in Conference together with other Croatian companies in order to demonstrate significance, value, knowledge, and experience they possess working on renewable energy projects, wind power plants in particular, as well as their efforts and plans in this area. The wind is on its way to become the largest source of energy in the EU by 2030.

INVESTMENT IN EDUCATION OF THE NEW GENERATION

- **Visit to Rugvica primary school**

The Rugvica Primary School organized the Open Door Day on the topic of energy. HELB was invited to hold a series of educational lectures and creative workshops aimed for kids. The program was adjusted to the age of children, so the youngest ones could watch interesting cartoons and have fun with coloring books, and for those who are a little older, educational computer games about energy and energy sources were prepared. Pupils were introduced to the wonders of augmented reality, showing them how this technology can be used in the area of energetics.



Elementary school Rugvica



High School Jelkovec

- **HELB visited several High schools in 2019**

In order to popularize the electro energetics profession, HELB's representatives have held a couple of lectures at high schools in Dugo Selo, Sv. Ivan Zelina, Jelkovec, and Zagreb. On this occasion, they presented the possibilities of working in company, giving students a wider picture of ongoing activities, as well as the possibilities of developing their professional careers. HELB continually promotes the education of young minds, using a work-based learning model that enables students to comprehensively acquire the necessary skills to perform their jobs effectively and innovatively.

- **Students activities**

HELB likes to spread knowledge to young people so during 2019 he organized two student trips for the 15 attendants of the University of Applied Science in Zagreb and 14 attendants of Electrical Engineering and their professor. HELB's representatives and engineers took them to a geothermal power plant near Bjelovar, Bulinac substation and the Ivanić Grad substation, where students had an opportunity to see how electrical cabinets work and how the whole testing process looks like, giving them a good insight into the work of our engineers. At the end of the trip, guests visited HELB's headquarters and production spaces as well as the company offices. HELB continues to maintain its focus on highly skilled people and innovative technologies, and accordingly, our team is richer by two master's degrees and first Ph.D., whose work will help keep up with the trends of the digital age and significantly improve our business.



Students of the University of Applied Science



Students of Electrical Engineering

- **Presentations at Universities**

HELB always thinks of young generations to come so during 2019 he participated in a couple of major events in students world. It started at the beginning of the year with "**Elektroboj**", competition intended for students of electrical engineering, where HELB was one of the sponsors. The competition, organized by the eSTUDENT association, covers the development of practical solutions from the vocational fields as well as various lectures and workshops, and on this occasion, HELB's representative also held a presentation at the event. Then, HELB traveled to Osijek for the Open Doors Day and **Career Day at the FERIT faculty** in Osijek, in order to inform students of electro energetics on job market needs and the latest trends in technology, as well as to present HELB as a desirable employer. Which was a great success, HELB established excellent contacts with professors and students agreed on future cooperation with the faculty, including additional presentation, and organization of study tours and professional practices for students. HELB was also one of the sponsors of the **STEM Games**, one of the largest international competitions of European students. The event has gathered more than one thousand of the best European students from the STEM area, competing in the application of acquired knowledge as well as various sports disciplines, with eleven Croatian universities participating. Together with 115 domestic and foreign companies, HELB participated at the **Job Fair**, which took place at the Faculty of Electrical Engineering and Computing in Zagreb. Among others, this opportunity was used to present some innovative works of HELB's student practitioners, including an augmented reality project which provides the visualization of transformer cell monitoring and control system data. No surprise, the stand was continuously visited during the fair and many young people have shown great interest in HELB and its activities.



Career Day at FERIT



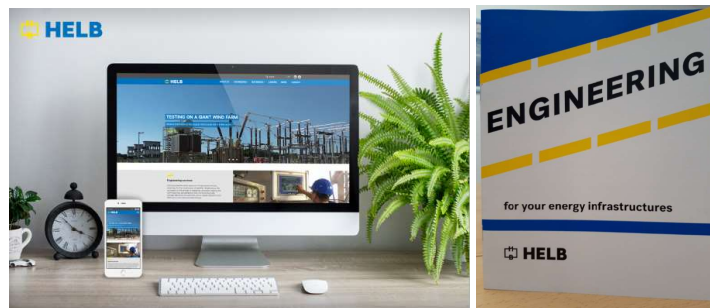
Job Fair

WHAT'S NEW?

HELB is turning 30 soon 😊 The story of HELB began way back in 1990 and since then it was part of many amazing projects and assignments in Croatia and abroad. Over time it had changed, grown and expanded, becoming an important player in the electro energetics industry. On the occasion of the great anniversary, HELB has decided to make a couple of interior and exterior changes and makeovers.

- **Website**

On the 27th of September HELB's new website was launched. There you can find out more about HELB's products and services, its history, news and plans for the future.



- **Brochure**

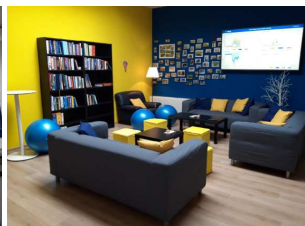
HELB has prepared a new brochure detailing its core services: engineering services, production, plant construction, oil and gas, and control and maintenance. This booklet also comes with some special "features" linked with HELB's augmented reality solutions. While reading and browsing through its pages, with HELB app you can enjoy the AR content.

- **New offices and interior design**

HELB has built additional offices for its employees and the headquarters are now wider and bigger. New offices, shaped in the form of a gallery, are intended for our colleagues from the departments of testing, designing, and research & development. In addition to the redesign of our official website and the making of an interactive brochure, we have also decided to refresh our company spaces a bit. Accordingly, we have rearranged our relaxation room where employees usually take a break and welcome guests. Also, the lobby and meeting rooms got a new look. The lobby is now arranged as a "museum space" that houses old devices and exhibited photographs showing our projects from 1990 to present, but also our plans and vision for the future.



New offices



Relaxation room



Lobby



- **"The best colleague" award**

At the Team Building, for the first time, HELB introduced „the best colleague" election. Each employee was given a list with names, with a task to select a colleague who they thought deserved the distinguished title. There were 131 team members in the competition, and, as it was difficult to select just one person, ultimately there were 16 winners! With this amusing initiative, it was brought to light many positive stories from employees, once again proving that the company above all nurtures cooperation and togetherness, and encourages ideas and innovation.



The winners of the "Best colleague award"

LEISURE TIME – TEAM BUILDING

HELB had another great team building which took time at the beginning of the summer. This year they visited the newly opened adrenaline park near the Plitvice Lakes National Park. Colleagues, there had an opportunity to try out a series of amazing activities such as paintball, airsoft duel, archery, quad ride, and roping park. Besides that, an organized trip to Barać Caves thrilled everyone. In addition to interesting activities, HELB introduced the "best colleague" election! Since it was very difficult to choose only one such person, a total of 16 colleagues got the award.



Team Building 2019

CHRISTMAS RECEPTION

To keep up with the HELB's tradition, this year Christmas reception was held at the Bunčić Cellar in Dugo Selo and it gathered all dear colleagues and partners. The rich festive program included a fun theater play, tamburitza music and delicious dinner. As part of the banquet, a "tech corner" was organized, presenting some of HELB's latest innovative projects, which included virtual reality, "30 years" presentation, presentation of the health and safety equipment, dispatch center, WP Korlat movie, CUBIC cabinet and HELB's engineering team, testing equipment and many other interesting things. More than 200 people participated in the event and it was something to remember.



Theater play



Dinner



Fun zone



Health and safety and dispatch center



VR tour of a JACK-UP RIG