



toucan
systems

OUR PROJECTS



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World Exhibition Expo 2017 – German Pavilion

Museum of the Second World War

Tatra National Park

National Maritime Museum

Emigration Museum

Museum of Warsaw

Science and Technology Center EC1

EC1 Łódź – City of Culture

SEAT Poland

WORLD EXHIBITION EXPO 2017 – GERMAN PAVILION

As part of the project for the German Ministry of Economy and Energy (BMWi), we developed a set of interactive applications along with multimedia and printing materials. The project was connected with the construction of the German Pavilion for Expo 2017. It included a complete preparation of 12 interactive and large-format graphics stands.

Year of completion: 2017
www.expo2017astana.com/en



FACILITY DESCRIPTION

The World Exhibition, Expo 2017, was held in Astana (Kazakhstan) from 10th June to 10th September 2017. This edition's theme was "Energy of the Future" – a topic relating to innovative and efficient energy solutions. In total, more than 100 countries from all over the world took part in that event.



PROJECT SCOPE

As part of the project for the German Ministry of Economy and Energy (BMWi), we developed a set of multimedia and printing materials. The scope of the project included preparation of 12 interactive and large-format graphics stands.

The theme of Expo 2017 was renewable energy sources. In order to fully present German achievements in this field, we created stands that combined visual applications and mechatronics. The RFID battery, which was virtually charged at each stand, was introduced as the app's theme in order to increase visitors' engagement and personalization.



Within the framework of the project, we comprehensively prepared several key stands of the exposition, in particular:

- Stand referring to the area of energy balance (obtained from different energy sources depending on the time of day) – the stand was a multimedia table placed on a large inclined platform. This installation was recognized not only by the participants of the exhibition, but also by the prestigious *Exhibitor* magazine. It received the title of the *Best Interactivity of Expo 2017* (for more information click here: <https://www.exhibitoronline.com/news/article.asp?ID=17415>).
- *Smart Home* stand – prepared in the form of a Magic Wall. The stand was built by combining an illustration painted on the wall with animations displayed by the projector. This way we achieved an effect which the visitors especially liked, by touching the existing graphics they could create an interactive animation.
- *Power Liquid* stand – presented the phenomenon of materialization and dematerialization of objects. The stand had 2 screens between which a conveyor belt was placed. On the left screen, the visitors could see how an object materializes itself and appears as a physical object on the belt afterwards. On the right side, the object went through the process of dematerialization.

The stands which we prepared were shown not only during the World Exhibition – two of them (concerning "passive houses" and "smart houses") are displayed by the German Ministry of Environment at many exhibitions and events.

TECHNOLOGIES
USED:

- Interactive Unity 3D applications,
- Magic Wall,
- Mechatronics

AWARDS

- *Best Interactivity of Expo 2017 Award of the Exhibitor magazine*
- *Best Pavilion of Expo 2017 Award – for the best exposition at the World Exhibition Expo 2017*

MUSEUM OF THE SECOND WORLD WAR

For the Museum of the Second World War in Gdańsk, we implemented an original solution called Toucan Nest, providing comprehensive management of the AV installation – both the displayed content and of the operation of multimedia equipment. The implementation also included a full training for administrators – in all the ways of using the system.

Year of completion: 2017
www.muzeum1939.pl



FACILITY DESCRIPTION

The Museum of the Second World War in Gdańsk is an entity of special importance to Polish people. The institution presents the story of the war, its history, genesis and consequences – of the tragic experiences of both Poland and of other countries of Central and Eastern Europe. The main exhibition of the Museum stretches across approximately 5,000 m² – it is one of the largest historical museum exhibitions in the world.



PROJECT SCOPE

In cooperation with the Museum of the Second World War, we implemented Toucan Nest, a solution which enables highly-efficient management of the AV installation. For the needs of the institution, we prepared two separate systems – one to manage the network of interactive kiosks and the other to handle the main exhibition.

With use of Toucan Nest, Museum staff can remotely manage all multimedia equipment in the facility. The system also allows them to update the content displayed on interactive units, as well as control the lighting on the premises of the building.



With the implementation of the solution, we conducted a comprehensive training for system administrators. Participants of the training were acquainted with the mechanism of operating Toucan Nest and with its full servicing. Thanks to the intuitive character of the solution, administrators were able to work with the system independently from day one.

TECHNOLOGY
USED

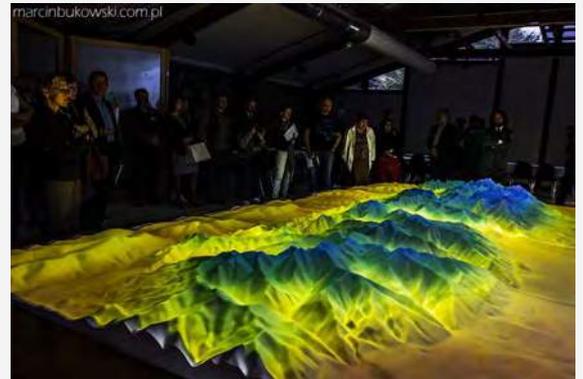
- AV installation management system:
Toucan Nest

TATRA NATIONAL PARK



As part of our cooperation with the Tatra National Park (Centre for Nature Education), we prepared a multimedia setting together with a comprehensive management system for the exhibition. Our project was to create a mobile application, a set of multimedia applications for interactive tables with content, a video mapping based on a mock-up of the Tatra Mountains as well as the implementation of the Toucan Nest to operate the AV installation.

Year of completion: 2017
www.tpn.pl



FACILITY DESCRIPTION

Tatra National Park is one of the largest Polish national parks which has protected nature of the Tatra Mountains for over 50 years. The park also offers visitors a wide educational base – including exhibitions in the branches: the Nature Education Centre, Kuźnice and the Tatra Lapidarium.

The Nature Education Centre is a cutting-edge facility whose exhibition tells an interactive story of the Tatra Mountains and their unique nature. In the Centre, apart from a 4D cinema and a discovery room for children, there is also the largest mock-up of the Tatra Mountains available in Poland.



PROJECT SCOPE

For the Nature Education Centre, we carried out a comprehensive project to implement a multimedia exhibition setting and a management system. Our task was to prepare interactive applications (including interactive tables and mobile devices) and an advanced video mapping system – as well as to integrate all elements into one efficient system.



The scope of the project included the following elements:

- Mock-up of the Tatra Mountains – a key part of the exhibition is the largest mock-up of the Tatra Mountains in Poland. On the construction (dimensions: 3 metres wide, 6 metres long and 1.5 m high) we prepared a video mapping with the use of 4 projects. An important part of the mock-up are two 55" screens that display complementary content. The software allows the client to create new presentation scenarios.
- Interactive tables – we have prepared a set of multimedia applications with content for 8 interactive tables. The applications are operated with the use of mechanical buttons and scientific aids (which are 3D prints marked with an RFID tag). For the purpose of the exhibition, we created 15 unique presentations related to the Tatra Mountains. For each of them, we recorded a video with an expert in a given field.
- Mobile application – with children in mind, we prepared an application for mobile devices (iOS, Android, Windows Phone). The application contains a tasks map which guides visitors through the entire exhibition. The quest consists of 5 engaging tasks closely related to the content available at the exhibition.
- Management system – in order to automate the operation of equipment and multimedia content, we implemented our AV Toucan Nest installation management system. The system enables remote monitoring of the audio-visual equipment and of the content displayed, and integrates the whole solution into one fluent ecosystem.

TECHNOLOGIES USED

- Mobile application (for iOS, Android and Windows Phone),
- a set of interactive applications developed in Unity 3D (including the use of RFID tags),
- video mapping,
- AV installation management system – Toucan Nest.

NATIONAL MARITIME MUSEUM IN GDAŃSK

For the needs of the unique exhibition of the Maritime Museum – a swimming pool stand with floating ships – we developed a comprehensive solution including applications and dedicated electronic devices. We integrated the whole system with control panels, so that visitors can play the role of the captain and manage their naval fleet.



Year of completion: 2018
www.nmm.pl

FACILITY DESCRIPTION

The National Maritime Museum in Gdańsk is the largest museum of the kind in Poland. The institution documents maritime history from the Middle Ages to the present day. The permanent and temporary exhibitions of the Museum tell the Maritime history of Poland and of its economy throughout the centuries.



PROJECT SCOPE

The aim of the project was to prepare a comprehensive solution including software and electronics for the stand, which is one of the biggest attractions of the Museum. The stand consists of a pool filled with water, ships and control panels, which enable remote management of the boats.



For the needs of this unique exhibition, we developed a comprehensive (controlling) application for control desks, thanks to which visitors can easily and intuitively control the movement of their vessels. In addition, we developed and produced a dedicated electronic board that allows users to control the ship wirelessly, as well as to charge it and read the parameters of its sensors.

TECHNOLOGY
USED

- Application developed in C++

EMIGRATION MUSEUM

MUZEUM
EMIGRACJI
GDYNIA ul. Polska 1

As part of our project for the Emigration Museum, we prepared a multimedia setting for interactive workstations located within a stunning (several-meter-long) installation of a globe. We comprehensively developed a rich web application called "Stories worthy of the East and the West" („Historie warte zachodu i wschodu”) together with a dedicated content management system (CMS) for 4 independent positions.

Year of completion: 2017
www.polska1.pl



FACILITY DESCRIPTION

The Emigration Museum in Gdynia is the first museum in Poland devoted to the history of Polish emigration. The institution is located in the historic building of the Marine Station, from which Polish transatlantic liners were sailing out. The permanent exhibition of the Museum presents the fates of emigrants from the Polish lands – from the 19th century to the present day. This exposition makes a strong impact on the recipient – it makes it possible to feel and understand what the journey of emigrants looked like and what such a departure was connected with.



PROJECT SCOPE

As part of the project, we prepared a multimedia setting for interactive workstations together with a dedicated content management system. The application we developed ("Stories worthy of the East and the West") was then implemented to work with a several-metre-long, multimedia installation of the globe, consisting of 4 independent stations.



The multimedia globe is one of the key attractions of the Museum. Each workstation includes a free-standing info kiosk and a projector, which displays images related to the currently viewed content inside the globe. Such a solution perfectly emphasizes the unique character of the space in which the visitor is located.

"Stories worthy of the East and the West" interactively presents the touching fates of Polish emigrants. It contains an extensive set of biographies consisting of descriptions, photo galleries and films. The presented content is also available for viewing in the enhanced mode, i.e. contrast mode with increased font size.

The implemented management system (CMS) is capable of generating new applications and producing order updates for any chosen exhibition slot. In this way, the administrator can create several applications with different content. In addition, the system allows users to expand the content of the application with new biograms and provides a number of useful functionalities, such as:

- changing application layout (two graphic layouts available: map/tiles),
- changing the content of the screen saver and the slideshow displayed on the projector,
- cropping photos,
- versioning content,
- generating application preview,
- publishing content packages for kiosks.

The set of additional functionalities gives the administrator full freedom; it makes the management of applications and their content perfectly easy and intuitive.

TECHNOLOGIES USED

- Application developed in a web technology (with the use of HTML/JS/CSS)
- Content management system (CMS) prepared in PHP
- Application responsible for versioning and synchronization of content developed in C#/NET

MUSEUM OF WARSAW



As part of our cooperation with the Museum of Warsaw, we prepared multimedia solutions for the exhibition located in the Heritage Interpretation Centre. We developed a comprehensive application with multimedia content. The entire project was prepared in two variant forms: for interactive kiosks and for a website. The solution delivered in an interactive and engaging way presents the history of the reconstruction of the Old Town in Warsaw after the Second World War.

Year of completion: 2015
www.ciz.muzeumwarszawy.pl



FACILITY DESCRIPTION

The Museum of Warsaw was established in 1936 and documents the history of the capital. The institution deals with science, publishing and exhibitions – its collections contain over 250 thousand items presented on several permanent exhibitions.

Today, the Museum of Warsaw consists of 11 tenement houses located on the Old Town Square in Warsaw (the headquarters) and 8 branches located in other parts of the city, one of which is the Heritage Interpretation Centre. The permanent exhibition presents the Old Town as a historic complex present on the UNESCO World Heritage List.



PROJECT SCOPE

For the needs of the Heritage Interpretation Centre, we prepared multimedia solutions for the exhibition, which is devoted to the reconstruction of the oldest area of the capital. The exhibition tells the story of Warsaw and its Old Town after World War II – it is a beautiful combination of traditional, static and dynamic elements with incorporating elements of multimedia.



The aim of the project was to create a coherent multimedia application and content (films and animations presenting the history of the Old Town in the period of its reconstruction) – for modern interactive kiosks and for a website. The choice of web technology for both variant forms was a natural direction for us. Thanks to this approach, we achieved the effect of consistency and offered vast opportunities for managing and monitoring the content of applications both at interactive stands and in the web version.

An integral part of the application is a dedicated Content Management System (CMS). The system enables Museum employees to remotely operate content of the application from the level of a web browser. We have prepared one CMS system which supports two variants of the application, thus making it possible to choose what is to be displayed separately on interactive kiosks and on the website.

**TECHNOLOGIES
USED**

- Web application optimized for interactive kiosk and website (web version fully adapted to mobile environment)
- Content Management System (CMS) for managing application content

SCIENCE AND TECHNOLOGY CENTER EC1

As part of the project for EC1 Center of Science and Technology, we have created a part of the "Development of Knowledge and Civilization" exposition with stands that required a completely multi-disciplinary approach. The scope of the work involved the integration of electronic and mechatronic components and the development of dedicated multimedia solutions.

Year of completion: 2017
www.centrumnaukiec1.pl



FACILITY DESCRIPTION

EC1 Center for Science and Technology is the largest center of that kind in Poland, and includes an onsite spherical 3D-cinema. The facility is part of the EC1 complex – the City of Culture. At the same time, it is one of its key attractions.

The Center offers 3 complex education paths: "Energy Conversion", "Development of Knowledge and Civilization" and "Microworld – Macroworld". All the exhibitions are presented in an exceptionally interactive and modern way.



PROJECT SCOPE

As part of "The Development of Knowledge and Civilization" education path, we have comprehensively prepared the key stands for the entire exposition. The scope of the work included enhanced integration of electronic, mechatronic and multimedia systems.



Science centers are very complex projects because the stands frequently consist not only of software and visualization, but also of measurement systems and electronics. Our task was to combine several technologies and solutions into one effective interactive stand.

As part of this project, we have built low-level electronics management software. We have also integrated the systems already existing in the Center and created an attractive visual setting for the whole structure. Thanks to this, the constructed stands present scientific issues and research results in a beautiful and attractive form.

The most comprehensive part of the project is a simulator of a nuclear power plant. The stand has numerous physical switches and diodes, with which you can control the energy production process. The process itself, as well as its changing dependencies, is presented to the visitor on a large screen – in a form that is visually impressive. The user's task is to manage the process correctly in order to avoid failure. If the task is performed in the wrong way, the alarm goes off and an explosion occurs.

Our other installations were connected with such topics as thermography, measurement of the speed of light, the Doppler effect, sound analysis and sound synthesis.

TECHNOLOGIES USED

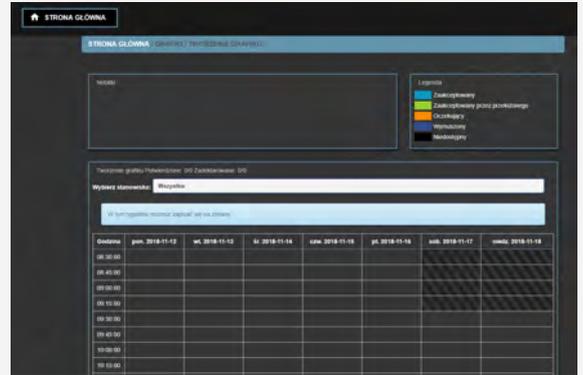
- Interactive Unity 3D applications,
- C++,
- Mechatronics,
- Electronics.

EC1 ŁÓDŹ – CITY OF CULTURE



For EC1 Łódź – the City of Culture we prepared an integrated system for the management and operation of the local Science and Technology Center. A comprehensive, modular portal consisting of 5 websites supports visitors to the facility, as well as the administrators and employees of the complex.

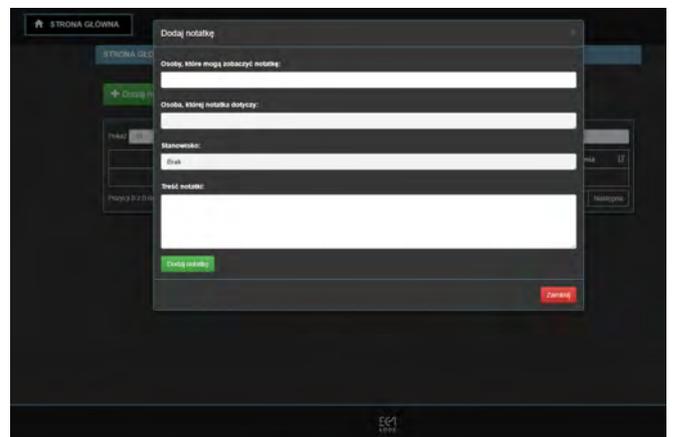
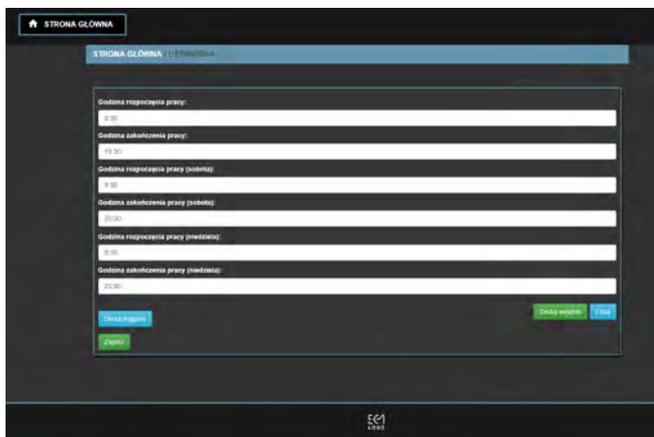
Year of completion: 2016
www.ec1lodz.pl



FACILITY DESCRIPTION

EC1 Łódź – the City of Culture is a cultural institution with its seat located in the first Łódź Power Plant, co-managed by the City of Łódź and the Minister of Culture and National Heritage. The complex serves cultural, creative and educational functions – it is an open space for the fans of science, art and culture.

The institution is composed of the following units: EC1 Center of Science and Technology, EC1 Planetarium, the National Centre for Film Culture, Łódź Film Commission and the Centre of Comics and Interactive Narration.



PROJECT SCOPE

The base of the entire management portal is an ecosystem of individual portals. As part of the project, we have developed a set of websites – dedicated and adapted to the needs of each of the facilities of the EC1 complex:



- EC1 – The City of Culture
www.ec1lodz.pl
- Planetarium
www.planetariumec1.pl
- Science and Technology Centre
www.centrumnaukiec1.pl
- National Centre for Film Culture
www.nckf.pl
- Łódź Film Commission
www.lodzfilmcommission.pl

When creating the portals, we focused on modular architecture, which allows easy development and integration with other systems. The graphic design we prepared subtly emphasizes the individual character of each unit, under the common denominator of the visual identity of the whole organization.

As part of the comprehensive management system, we developed additional elements:

- A "Visitor" module – this component, designed to facilitate the planning of sightseeing routes, is built on the basis of a 3D map of our own design. Visualization of the building of the Science and Technology Center was created on the basis of the building plans and photos we made beforehand. The module is fully integrated with the visit booking system, so visitors (after logging in) have access to the most important features of the portal (including: itinerary, ticket purchase, events calendar).
- An "Employee" module – a comprehensive HR tool. The module enables the administrator to organize the work of the complex's personnel – from the stage of recruitment, to delegation of tasks and to the monitoring and recording of working time.

Full integration of the management portal with subordinate systems, as well as with new modules, allows the administrator to effectively control and automate business processes taking place in the whole complex.

TECHNOLOGY USED

- Content management system (CMS) supported by dedicated software in PHP.

SEAT POLAND



For SEAT Poland we carried out a comprehensive implementation of an Extranet system. The portal in question supports effective communication and information flow between the company, its external partners and numerous employees of the dealer network. It is characterized by high usability and functionality, supporting over 1,000 active users.

Year of completion: 2014
www.seat-auto.pl



FACILITY DESCRIPTION

SEAT Poland is an automotive company owned by Volkswagen Group Poland. The company brings together several dozen partners and several thousand employees of the dealer network. The SEAT brand has been on the market for more than 60 years, successfully delivering innovative and creative products.



PROJECT SCOPE

The Extranet we implemented is a comprehensive information exchange platform for employees and external partners of SEAT Poland. While designing the portal, we firmly adhered to the principles of wide functionality and usability. Efficient and simplified communication worthy of the organization's characteristic structure was a goal that we managed to achieve.

Our UX/UI designers developed appropriate functional designs (mock-ups), creating an intuitive, user-friendly and accessible environment. Thanks to the fruitful cooperation of Toucan Systems' UX specialists and graphic designers with customer representatives, it was possible to create a modern business application actively used by over 1,000 users.



The portal has a modular structure and ensures quick and convenient access to the required content. Key elements of the portal are the following:

- Authorization module – the system offers 5 access profiles, allowing for any configuration depending on the rights granted to the user.
- User profiles – the portal is at the same time the basic database for contact details of SEAT Poland employees and partners. Individual user data is presented in the form of business cards (divided into categories). Advanced filtering and reporting systems allow you to quickly create extensive lists of contacts.
- Statistics – Extranet operates on the basis of our own monitoring mechanism. The system records, among other things, the range of e-mail communication sent, the parameters of message opening (and hyperlinks), as well as a lot of other detail. On such a basis, dashboards and charts are created, which allows for the analysis of published content.

TECHNOLOGY
USED

- Web application compatible with common web browsers.