



The example of Motorworld Munich shows what it means when tradition and modernity converge and form a symbiosis. We take you on a tour through a building with a rich history, where 10 of our former Controlmini Touchpanels are installed. The predecessors of our current Control 12 manage various areas within the fascinating building in Munich.

REFERENCE

TRADITION AND INNOVATION:
BUILDING CONTROL IN THE
MOTORWORLD MUNICH
EXPERIENCE



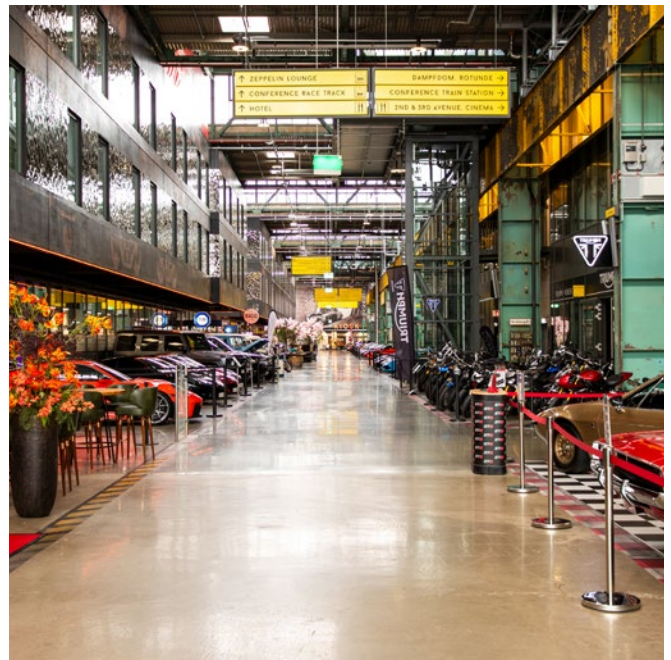
About Motorworld

The Motorworld Munich is not just a place for car enthusiasts but also an impressive project that combines a historic building with modern elements.

The Motorworld Group is an independent group of companies that emerged from the Dünkel Holding business group based in Schemmerhofen, Baden-Württemberg. The family-owned company has its origins in 1930. Today, the Motorworld Group develops, builds, and operates experience worlds dedicated to the mobile passion at various locations in Germany and is currently expanding into other European countries.

Opened in 2021, Motorworld Munich spans the 75,000 square meters of the former Deutsche-Bahn-Ausbesserungswerk (German Railway Repair Workshop) in Munich-Freimann. The site features over 30 of the world's most exclusive car brands, numerous automotive-related service providers, specialized workshops, shopping opportunities, 25 event and meeting rooms, a luxurious four-star hotel, a vibrant gastronomy scene, and 111 glass storage boxes.

The centrepiece of the automotive experience world is an impressive, listed industrial hall—a former locomotive hall where Deutsche Bahn trains were once maintained and repaired. The renovation created a beautiful contrast between old and new: the original cranes' old steel beams, used



to lift the locomotives, still hang above, while the modern rental spaces and showrooms with many glass elements are below. With its massive dimensions of 185 meters in length, 90 meters in width, and 18 meters in height, the building is one of the largest free-standing historic steel framework halls in Europe.

A technical masterpiece thanks to KNX

What is fascinating, however, is not only the historical backdrop of the locomotive hall with all its possibilities for visitors but also the technology behind keeping the entire project running smoothly on a daily basis. This is where PEAknx, together with Claus Heinemann Elektroanlagen GmbH from Unterföhring, comes into play. Heinemann, with its over 500 employees, has extensive experience

in large-scale KNX projects and secured the project through a conventional tender process in the electrical works. Prior to the actual work, functional descriptions of individual rental areas and event spaces were developed in collaboration with planners, clients, and tenants.

During the two-year construction phase, where the general area was initially built and rental spaces were gradually added, the company, with a team of up to 95 employees, took over all electrical works both indoors and outdoors. Under the leadership of Matthias Reinhold, 10 of our KNX Touchpanels Controlmini were integrated within the KNX project. The KNX topology of Motorworld is based on an IP backbone—via twisted pair, it connects to various rental areas and event spaces—and is structured





within a single project file.

System integrator Heinemann relies on Controlmini in Motorworld

Claus Heinemann Elektroanlagen GmbH discovered our products at the Light + Building trade fair. They were particularly impressed by the high-quality finish, features, and reliability. The company now relies on our touchpanels in nearly all its commercial projects, including Motorworld:

Two of our Controlminis, backed by a Gira HomeServer, exclusively control all public areas of Motorworld, such as event spaces, corridors, conference rooms, and the event location „Dampfdom,“ where one of the panels is situated in the backstage area.

Additionally, there are various areas utilized by renowned automotive manufacturers like Mercedes-AMG or BMW, other providers of major automotive brands such as Maserati, McLaren, or Bugatti, as well as the restaurants and the Ameron Hotel. Each rental area is controlled by its own self-contained network topology consisting of Controlmini with Gira HomeServer. The panels are located in various areas, including the restaurant's front-kitchen area, the racing simulation area, the car presentation boxes, the counter area, and the hotel's back office.

One panel is located in the public section of the event area in an old 50 x 30 cm switch box, illuminated with LED lights, resembling an old switchboard from the former railway era.



From professionals for professionals – How the TecTool expands functionality

Another advantage in favour of using our Controlminis in the Motorworld location is the installation of the so-called TecTool on the panels. The TecTool was programmed for device and failure monitoring by our partner, TecSupport Smart Home GmbH, and it provides additional functionalities.

In Motorworld, TecSupport's logic modules are utilized, which come into play if there are unexpected malfunctions and a connection to the panel can no longer be established. The HomeServer can query whether all panels are still accessible. If not, a mechanism locks the panels. In such cases, the TecTool allows error messages to be displayed, and if desired, an additional audio file for the error mes-



sage can be played, menu buttons and swipe gestures can be locked until the issue is resolved. Locking swipe gestures and the home button ensures that the user remains in the visualisation and does not accidentally make changes to system settings that would potentially incur costs for resolution. The unique combination of our touchpanels with the TecTool, along with their slim design, high-quality construction, and trouble-free continuous operation, was crucial for using our panels in Motorworld and facilitates daily operations on-site.

Tailored technology for high demands

Although there were challenges in implementing this large-scale project, they were successfully overcome. The construction team managed to lay 12,000 metres of KNX cable across the vast



areas, distributed over 28 KNX lines. The individual concepts and preferences of each tenant were taken into account and technically installed and implemented accordingly. The visualisations of the panels were optimized specifically for each user. Each rental area is set up differently from a technical perspective and is primarily controlled through scenes and logics, which are accessed based on the opening hours.

For example, in the Racing Unleashed racing lounge area, equipped with 15 racing simulators with movable chassis, international races are conducted. During the start sequence, the general lighting blinks in synchronization, just like a real Formula 1 traffic light.



In the restaurant areas, lighting logics are tailored to factors such as opening hours, daylight exposure, buffet, lunch, or evening operations. Generally, DALI lighting is used across all areas, except in the restaurant area where the lighting scheme brought in by the tenants had to be considered. For instance, the Motorworld Inn has an illuminated car hanging from the ceiling.

User-friendly control via panel, App, or tablet

Nearly all users can access the interface remotely through remote access modules, allowing them to take control of their respective areas via smartphone or tablet.

In the morning, a presence detector initiates the basic lighting, activates morning scenes, and acti-

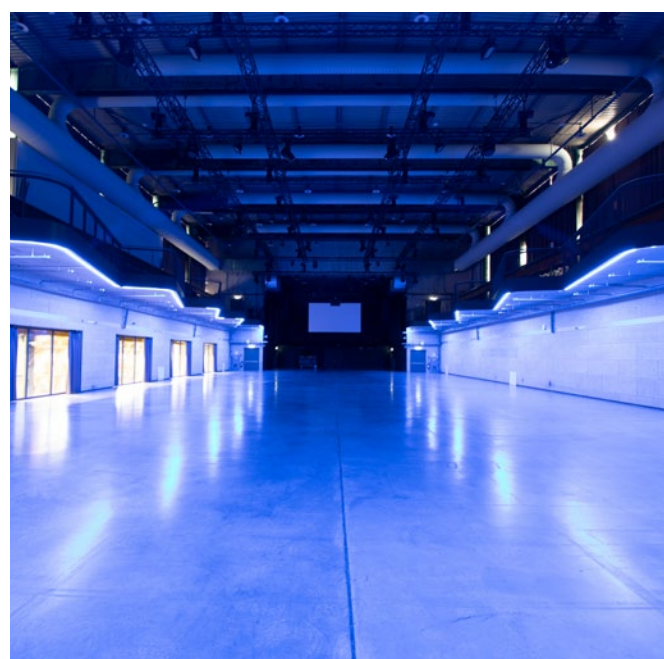




scenes. The lighting is also controlled through the KNX-Crestron interface. For example, in projector or TV mode, the first light row is fully dimmed to avoid glare.

In addition to Crestron interfaces, there are also DMX interfaces in the KNX topology, necessary for the stage area in the Dampfdom. For instance, during an event where a lighting jockey is hired, they can connect their DMX mixing console to the DMX gateway via a plug and control the general lighting or curtains that normally run via KNX. This works seamlessly without the need to operate the panel hanging in the backstage area separately.

In normal operation of the event location without a



vates scenes. In the Dampfdom area, this is achieved through a button at the entrance, which starts the basic lighting and entrance scene. Once the entrance scene is activated, the button is deactivated to prevent unintended operation during an event. Over 95% of the operation is manual, controlled through the panels or timers triggered via the panel.

Ready at all times: suitable conference technology and a grand light spectacle in the Dampfdom event location area

For the media technology in the conference area, interfaces from KNX to Crestron are used. With Crestron systems, users can operate the technology in the conference room via a tabletop touchpanel and start projectors, TVs, or screens, including



separate lighting jockey, the curtains are controlled through the roller button in the visualisation. Additionally, besides the general lighting, other scenes like RGB accent lighting under the balconies can be set using KNX.

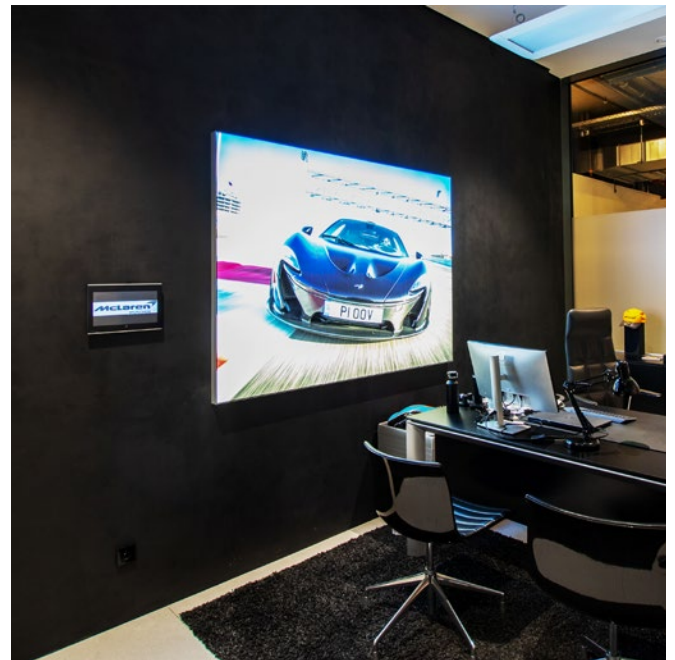
A Success story in historical-modern attire

Motorworld Munich is not just a meeting place for automotive enthusiasts but also an outstanding example of how historical buildings can enter into a symbiosis with state-of-the-art technology.

With the complex KNX infrastructure, integrated DMX control, and a sophisticated integration of various systems, a masterpiece of building automation was implemented, simultaneously creating a unique experience for visitors.

While Motorworld is a completed project overall, for the integrator, it remains an ongoing story. The customer service continues to be in demand, especially when expansions, lighting updates, additional functionalities, or personnel training for new staff in the rental areas are needed. Adaptations in lighting or other functions may also be required.

We look forward to seeing more of our touchpanels in use at Motorworld in the future.



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