

Blending physical and digital: Creating engaging museum experiences

In science centres and museums, the debate between physical and digital experiences is ongoing. YIPP, a company that specialises in interactive exhibit design and is one of our loyal sponsors and exhibitors, believes in taking the best of both worlds to create more engaging and immersive experiences. Their recent work for Technium, a new exhibition at Ecsite member, NEMO Science Museum in Amsterdam, demonstrates this philosophy in action.



A unique blend of physical and digital

At Technium, YIPP has developed several interactive exhibits where digital meets physical. One of the installations features a wall projection of a landscape that responds to physical elements placed on it. Visitors can attach physical elements like windmills or power plants to the wall, which then come to life: windmills start spinning, and power plants generate energy. Designed for children aged 8 to 12, this tactile experience creates a sense of wonder and engagement as they see their actions immediately reflected in the digital world.

The value for science centres and museums

YIPP's approach enhances visitor engagement in several ways:

- **Better learning:** Physical interaction aids understanding. A tangible model can help explain a concept more effectively than a flat display, while digital animation can bring it to life. For example, holding a physical model of a heart provides insight, but seeing an animated version showing blood flow adds a deeper layer of understanding.
- **Intuitive interaction:** Tactile interfaces are naturally appealing and easy to use. Whether it's pressing a large red button, turning a wheel, or moving puzzle pieces, visitors intuitively understand how to interact. The digital component then adds layers of engagement and surprise.
- **Encouraging curiosity and play:** The instant and playful feedback from these exhibits motivates visitors to experiment, explore, and set their own learning goals. The experience is designed to be simple enough for young children to start but rich enough to keep older audiences engaged.



Key achievements and impact

YIPP's interactive exhibits have had a profound impact on visitor engagement. At Technium, these installations provide a unique experience tailored to the exhibition space. They seamlessly tie the spatial exhibition design together with the interactive exhibits. An overarching narrative can appear in all facets of an exhibition when it is shown in the spatial design and comes to life in the digital display.

The exhibits also foster cooperative play. By designing games that multiple visitors can engage with simultaneously, YIPP encourages collaboration and social interaction. They create enough space to stand around and cooperate in reaching the goals of the game. And when you don't feel like playing or want to leave it to your kids, it's just as enjoyable to watch.

Accessibility is another important focus. YIPP ensures that their interactives cater to diverse audiences, including visually impaired visitors. For instance, at NEMO, they developed puzzle pieces with distinct shapes that fit into specially designed slots, complemented by engraved icons for tactile recognition and audio feedback for every action. This inclusive design approach allows a broader audience to engage with the exhibition, understand and enjoy their progress.

Future developments

By blending the tangible with the virtual, YIPP's work at Technium exemplifies how interactive exhibits can captivate audiences, making learning more immersive, intuitive, and inclusive. YIPP continues to innovate, integrating new technologies to refine their interactive exhibits. With ongoing feedback from museums and visitors, they strive to make interactions even more intuitive, robust, and engaging for a diverse audience. As museum visitors increasingly seek authentic, hands-on experiences rather than more touchscreens, YIPP is dedicated to using the technology to enhance experiences and create interactive exhibits which you can touch and feel. And if done well, that can touch us, too.

If you want to find out more about what YIPP can offer your organisation, contact Wouter van der Zouwe by email at wouter.vanderzouwe@yipp.nl or visit them at the Ecsite Trade Show at the 2025 Conference in Warsaw.

