



Why PolyIC? Case Studies Hidden-til-lit: Revolutionary Display Integration

A cooperation between KURZ, PolyIC, and DATA MODUL

The hidden-til-lit display solution from LEONHARD KURZ, PolyIC and DATA MODUL combines seamless integration, elegant design and state-of-the-art touch technology – creating an innovative user interface that perfectly harmonizes aesthetics and functionality.

The Challenge

Whether in vehicle cockpits, smart home applications or high-end consumer devices, the demands placed on modern human-machine interfaces (HMI) are constantly increasing. End customers expect elegant, homogeneous interfaces that are seamlessly integrated into the overall design, yet offer interactive, functional and brilliant displays. In several sectors, especially automotive interiors and home appliances, OEMs and suppliers are increasingly turning to hidden-til-lit solutions: Displays that are only visible when active and otherwise blend completely into their surroundings when not in use.

The challenge: Create a display unit that is not visible when inactive but then offers high visual quality and touch functionality upon activation. Enabling integration into a wide variety of materials – such as stone finish, brushed metal and wood decor – also places additional demands on technology, manufacturing and sensor technology.

The Goal

Working with its subsidiary PolyIC and full-service display provider DATA MODUL, KURZ pursued an ambitious goal: Develop a next-generation display solution that blends invisibly into any surface when switched off and then provides impressive brightness, contrast and touch precision when active. The main requirement was to enable maximum design freedom without compromising on technological performance. The display had to integrate harmoniously into various materials and meet the highest standards of both visual appearance and tangible feel. At the same time, precise and responsive operation using modern touch sensor technology had to be seamlessly integrated into the overall system. While the solution needed to be functionally possible, it also required feasibility in terms of series production and scalability to different application scenarios.



The Solution

The collaboration resulted in a technologically sophisticated prototype: A large-scale, interactive hidden-til-lit display fully integrated into its surrounding decor. Presented at embedded world 2025, this visual fusion is made possible by KURZ's thin-film technology. As a result, high-quality surfaces featuring stone, metal and wood can be designed so that the display is not visible when switched off. The special decorative layer ensures that the surface retains its natural feel while remaining transparent for the display underneath. The unit is based on a 17.3-inch TFT display with high dynamic range imaging from DATA MODUL. Thanks to its exceptional brightness and brilliant contrast, the display is clearly visible even in difficult lighting conditions. Furthermore, a full bonding process ensures that there is no air gap between the display and the cover glass, which minimizes reflections and increases optical quality.



The state-of-the-art solution also relies on the comprehensive expertise of PolyIC for developing customized, high-performance sensor solutions and integrating modern touch functionality. This technology enables precise and intuitive operation that can be seamlessly integrated into a wide variety of surfaces and design concepts – even in complex geometries or under challenging conditions.

Why PolyIC is the Right Technology Partner

- Decades of expertise in thin-film technology and surface decoration
- Comprehensive technology portfolio – from decoration to functionality
- Close cooperation with subsidiaries and partner companies for seamless system integration
- Customizable solutions for a wide range of industry requirements
- Production-ready solutions compatible with existing production processes
- Development and production according to the highest standards – worldwide



Conclusion

The hidden-til-lit solution from KURZ, PolyIC and DATA MODUL sets new standards for tomorrow's integrated displays. With a combination of high-end optics, tactile quality and a smart interface, it enables new design freedom for interactive surfaces.

Our Partners

