

CASE STUDY

World-leading manufacturing equipment vendor creates industry-first touchscreen interface with Telerik



As the world's largest producer of wood processing and manufacturing machines, HOMAG Group has always been known for its market-leading innovation. When launching an ambitious project to create an industry-first touch interface platform for all its machines, HOMAG turned to Telerik RadControls for WPF – with spectacular results.

OVERVIEW**SECTOR**

Manufacturing

REGION

Global

CUSTOMER PROFILE

HOMAG Group is the world's leading producer of machines for wood processing and manufacturing. Headquartered in Germany, the company has more than 5,000 employees and revenues of €770 million.

CHALLENGE

With a reputation for innovation, HOMAG sought to create an industry-first touch interface platform for its entire range of machines. However, technical challenges threatened the success of the project.

SOLUTION

Using the Telerik RadControls for WPF, HOMAG created an effective, flexible and adaptable touch interface for all its machines.

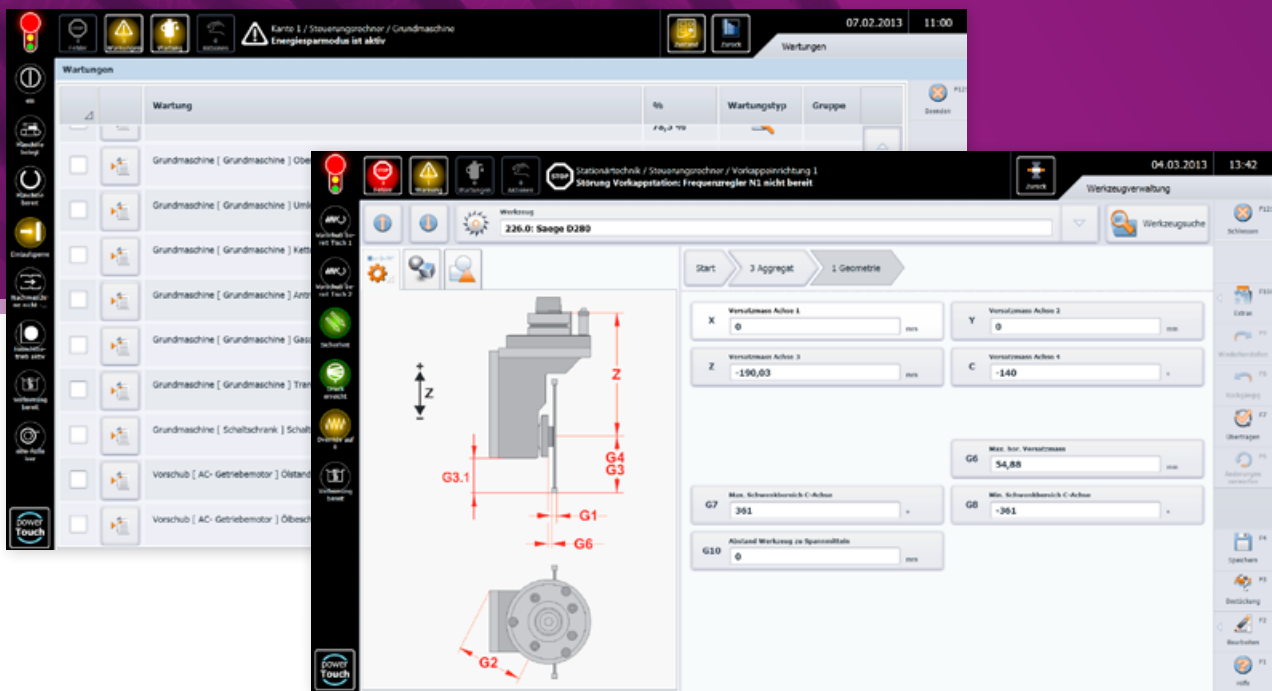
BENEFITS

- Rapid development using Telerik RadControls
- Successful implementation of rich touch control system
- Launch of powerTouch to industry acclaim at LIGNA 2013



“ The Telerik RadControls made a significant contribution to the success of the powerTouch development project. The flexibility and adaptability of the Telerik grid is second to none, and Telerik support has been helpful and efficient.”

Andreas Plumeyer,
Software Architect WPF, HOMAG



HOW RADCONTROLS FOR WPF CUT DEVELOPMENT TIME

Telerik RadControls for WPF helps developers create powerful enterprise applications with rich data visualizations in half the time.

The controls are built from the ground up to ensure that the coding experience is seamless and intuitive, liberating developers to concentrate on the business logic.

Versatile

The suite comprises more than 55 production-ready controls with 10 out-of-the-box themes, including Windows 8 and Touch.

Telerik RadControls for WPF supports the MVVM development pattern, helping teams engaged in complex application development achieve efficient, reusable code.

Innovative

In a world of ever-growing data volumes, Telerik works hard to ensure that RadControls for WPF delivers a vivid, interactive UI without compromising on performance. As a result, RadControls for WPF has the most aggressive roadmap in the industry with 3 releases a year.

Reliable

RadControls for WPF comes with Telerik's industry-leading 24-hour turn-around support – delivered by the developers who created the controls.

BACKGROUND

HOMAG Group is the world's leading maker of wood processing machines. With an estimated 28% share of the global market, it is fair to say that wherever furniture is being manufactured, HOMAG equipment is likely playing a part.

Founded in Germany in 1960, HOMAG has grown dramatically during its 50 year history, absorbing a number of competitors and opening facilities in locations as diverse as Sao Paulo, Shanghai and Bangalore. Today, the company employs more than 5,000 people and generates revenues of more than €770 million.

HOMAG products range from standalone machines for craftsmen, to fully automated mass-production lines used by the world's largest furniture producers.

THE CHALLENGE

HOMAG has always been known for innovation. Its machines are software-controlled and networked, enabling customers to implement sophisticated operations not only at each individual step in the production process, but all the way along the production line.

However, for historical reasons the company's engineering and development is dispersed across

Germany at eleven sites, each specializing in a specific type of equipment. With separate development teams creating software at each location, HOMAG machines evolved to deliver very divergent user experiences.

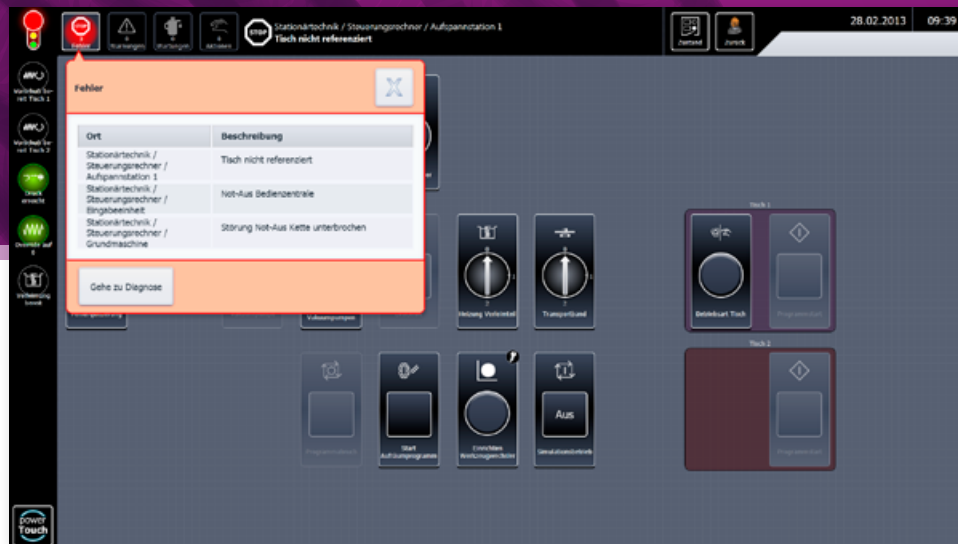
"There was fragmentation in the development of our machine controls," says Andreas Plumeyer, Software Architect WPF, HOMAG. "Machines are handled differently. There was no consistency in the user interface. Additionally, support was provided through the individual teams. All this created inefficiencies for us and sometimes for our customers."

HOMAG needed to create a standardized platform for its control software. This was a significant challenge, not only in terms of design and usability, but also in the selection of the right technologies to support it.

THE SOLUTION

Starting in 2008, HOMAG conducted a two-year project with machine interface specialists UID of Ludwigsburg to reevaluate every aspect of its user interface design.

The result was a new design paradigm based on the touchscreen.



“On the production floor, our end users fall into two groups: unskilled factory workers and highly skilled craftsmen. The touchscreen allows us to meet the different needs of both groups with a single adaptable interface.”

In the typical production line environment, programming is carried out remotely and the machine operator selects predefined options. However, where real-time control is required, it is essential for the touchscreen to deliver a smooth and responsive end-user experience.

DEVELOPMENT CHALLENGES

HOMAG began a three-year development project to create and implement the new control platform. However, translating the touchscreen concept into reality brought immediate challenges.

“At first we tried building our own controls. We used Visual Studio controls and tried to meet the guidelines developed during the UX workshops. At first we were successful, but when we got to the grid, this was where we ran into roadblocks.”

The biggest issue was performance. “For our office furniture manufacturing equipment, the grid has to display 500-1000 line items with 100 columns. It needs to be responsive in milliseconds, otherwise it slows down the user unacceptably.”

Additionally, there were issues achieving a fluid scrolling action, and with virtualization. Further, the interface design required a hierarchical grid, which was not available out of the box with the standard controls. All this was compounded by the 30 languages the system needed to accommodate.

TELERIK RADCONTROLS

“We realized that we needed to use third party controls. We evaluated eight toolsets including Infragistics, DevExpress, Component1 and Xceed. In the end we chose Telerik – first for the capabilities of the grid, second for the grid styling and design, and third for the additional controls beyond the grid.” said Andreas.

Using the Telerik RadControls for WPF, front end development was carried out by a team of twelve developers drawn from different HOMAG sites across Germany. “We were still supporting the existing product lines, so we adapted a two weeks on, two weeks off cycle. This helped us to stay Agile.”

The Telerik controls not only provided the performance HOMAG required, but were also reliable and easy to work with. “We only had to contact Telerik support a couple of times during the development process.”

HOW RADCONTROLS FOR WPF SUPPORT TOUCH

Telerik RadControls for WPF provide touch support. The functionality is built on top of an internally implemented framework which provides the necessary extensibility and the ability for each of the specific controls in the suite to support only those gestures appropriate to it.

Supported touch gestures include swipe, pinch, tap, tap-and-move and tap-and-hold. These gestures produce different effects, tailored to the needs of each control.

For example, the RadGrid’s touch support enables users not only to perform simple actions such as scrolling by swiping, but also to execute more sophisticated activities including grouping, sorting, filtering, reordering or freezing a column and resizing a column or row.

With touch, users enjoy a more immediate, intuitive user experience. This is particularly useful in contexts where conventional mouse and keyboard interfaces are not appropriate, such as at manufacturing sites.

HOMAG uses the HELIX diagnostic tool. This allows the interface to provide a 3D display of system errors, showing where problems have arisen in the machine. Integrating this with the touch interface was straightforward, says Andreas: "There was no problem getting Telerik controls to integrate."

THE RESULT

The new Telerik-powered touchscreen interface was an immediate success at its launch at the international LIGNA 2013 timber and woodworking industry trade fair. Branded 'powerTouch', the new system was available on 30% of HOMAG's machines at the time of launch, with coverage constantly expanding.

Being first in the market with touchscreen control has reinforced HOMAG's reputation for innovation. It has also revolutionized the way HOMAG sells machines. "There's no fear among business users to use the machines anymore," says Andreas. "At LIGNA, the Chairman was showing the application. This was the first time we were able to have business users demonstrate the machines."

PowerTouch provides HOMAG with significant benefits in its own manufacturing process. With a unified and standardized interface, the company will no longer need to maintain a variety of interface systems across its range, with separate software and hardware teams. It also expects to benefit from a lower support load and a simplified support infrastructure.

For end customers, powerTouch saves time and money. With a single, unified interface across the range, HOMAG machines now have a shallow learning curve for operators, who can transfer between machines and processes with little retraining.

THE VERDICT

"The Telerik RadControls made a significant contribution to the success of the powerTouch development project," says Andreas. "The flexibility and adaptability of the Telerik grid is second to none, and Telerik support has been helpful and efficient."

ABOUT HOMAG

HOMAG Group is the world's leading manufacturer of wood processing machines, with an estimated global market share of 28% and 5000 employees worldwide. Headquartered in Germany, HOMAG sells in 90 countries and has offices and production facilities in locations as diverse as Shanghai, Bangalore and Sao Paulo. Its products range from stand-alone machines for cabinet shops, to complete production lines. Customers use HOMAG machines to produce home and office furniture, kitchens, parquet and laminate flooring, windows, doors, stairs and even complete wooden house construction systems.

ABOUT RADCONTROLS FOR WPF

RadControls for WPF is a powerful development suite of UI controls for

creating engaging, interactive user experiences for Windows desktop applications. With a short learning curve and backed by Telerik's industry-leading technical support, RadControls for WPF enable the rapid and efficient creation of powerful, responsive and scalable line-of-business and enterprise applications.

ABOUT TELERIK

Telerik is the market-leading provider of end-to-end solutions for application development, automated software testing, agile project management, reporting, and content management across all major Microsoft development platforms. Telerik is trusted by more than 100,000 customers worldwide for its innovation and industry-best technical support.

FIND OUT MORE

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