

IPO.Plan

Built with Qt

IPO.Plan Develops Award-Winning 4D Planning & Visualization Tool

Goals and Challenges

Maximizing production efficiency starts by maximizing the efficiency of every task within the production process. Production efficiency experts IPO.Plan offer consultancy services to a wide range of companies, including Daimler, BMW, VW, Dürr, Eisenmann, Getrag, and Siemens to help them optimize the design of industrial production processes, whether in new factories or existing production lines.

IPO.Plan encountered a number of situations where off-the-shelf tools didn't suffice. They needed to, for example, develop a product that integrated virtual reality, simulation, and CAD functionality so that process information could be visualized and more easily understood. IPO.Plan used Qt to develop IPO.Log, a 4D planning, and visualization tool that was named the "best product of LogiMAT 2013". IPO.Log enables the visualization of material placement along the production line, the optimization of worker tasks and the simulation of worker paths.

"In my opinion, Qt is the de facto standard for GUI development, and Qt Quick is without a doubt a key pillar for this – it is fast and simple to implement, runs on nearly all important platforms and establishes a lot of new perspectives concerning model/view implementation"

Effmert Dennis, Software Development Lead, IPO.Plan

Award-Winning 4D Planning & Visualization Tool

Using Qt

As IPO.Plan's core business is efficiency, its software development lead Effmert Dennis knew that he had to identify the most efficient software development platform for IPO.Log. While IPO.Plan had been using Qt for 18 years and was the company's first choice, he was tasked with investigating a host of application frameworks including Coin3D, CAL3D, LeapMotion-DevKit Collada, PhysX, MessagePack and Quarter. Dennis soon realized that Qt was the only logical choice because it provides so many possibilities for so many different platforms.

The application was written entirely in C++ and the data model and views all implemented with Qt elements. Qt's comprehensive API and documentation were crucial to the decision, as were the GUI framework and the cross-platform development support. While the primary target platform was Windows, the option to support other systems such as Linux, MacOS and mobile platforms was a great comfort.

According to Dennis, Qt allowed the development team to design data models and GUI solutions that would have been difficult or impossible with other development solutions.

Dennis believes that Qt saved hours of development time due to its stability and the possibility to write unit-tests with the QTest framework. "For many technical reasons, Qt improves our development process, in addition to that, the company employs the SCRUM project management framework to further improve our development efficiency," he says.

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4D Planning & Visualization Tool



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IPO.Plan ensures maximum added value in complex manufacturing and assembly processes. They offer globally unique planning tools, interactive process visualizations, and specialized services in factory and production planning.