

Qt-based Automotive Software Solutions

Transforming the In-Vehicle Experience

The rapid adoption of touch screen personal devices — smartphones and tablets — has transformed end users' expectations for interaction with everything from vending machines to airplanes. Traditional vehicles are no exception, and ICS has successfully completed numerous client projects involving migration to elegant, versatile, and robust touch screen experiences — with performance and reliability that exceeds what's possible on a stand-alone consumer device.

So whether you're building an entry-level passenger car, a luxury automobile, a state-of-the-art industrial farming combine, or a commercial airliner, ICS has the necessary experience to deliver your world-class user experience product on time and within budget.



ICS develops connected in-vehicle-infotainment systems with world-class user experiences.

Integrating UX and Engineering to Achieve Top Performance

Creating a highly responsive User Experience (UX) is not for the faint of heart: many beautiful UX concepts ultimately fail because of performance problems rooted in choices made early on in the project. ICS has designed numerous user experiences: top-notch UX designers are teamed with top-notch software engineers to ensure that your user experience both looks and works great. We understand that the User Experience and the underlying supporting software — and hardware — all have to be tightly coupled to achieve a great result.

Trust the Qt and QML Experts

Qt is quickly becoming the development toolkit of choice for Automotive IVI. At ICS we have a long working pedigree with Qt — for over a decade we have mastered the art of Qt's robust and well-engineered C++ toolchain to deliver high-performing cross-platform applications. Utilizing Qt Quick and QML we can quickly mock up live prototypes (often within an agile process of rapid modification and iteration around design concepts). Because ICS brings decades of experience in architecting rock-solid software to your project we can guarantee a predictable project schedule and results for your development effort.

Why ICS?

We Know Technology.

Although we can design, develop and deliver advanced IVI systems with your choice of platform, we prefer Qt/QML, a proven technology that builds stable applications for IVI offering time and cost savings and getting your product to market before the competition.

We Solve Problems.

Our software engineers and user experience designers (UX) have the skills clients seek to solve large engineering and design problems to deliver next generation IVI in an Agile environment.

We Listen. We Learn.

We have worked with some of the largest automotive, agricultural and aviation manufacturers worldwide to deliver custom designed UX and embedded in-vehicle infotainment systems. We listen. We learn about what you want and we work with you to solve engineering and UX design issues up front.

We leverage our in-vehicle domain knowledge to reduce project complexity, costs, redundancies and development time to increase the commercial potential of your IVI.



Great Products Start Here

Automotive IVI Delivering the Future



Situation

A global automotive manufacturer collaborates with a multi-national Tier-1 automotive equipment provider to develop its In-Vehicle Infotainment (IVI) System for use in its upcoming line of mid-class vehicles. The group intended to lay the foundation for a scalable architecture for IVI design that can be extended from its main vehicles to luxury brand models.

Challenge

The old UI creation tool-chain, used by Tier-1 providers in the past, could not meet the modern, touchscreen design set forth by today's automakers. This project replaced it with Qt. Because of design and integration complexities, this Tier-1 group needed ways to address the constraints and multi-variants inherent to projects of this scale.

Solution

ICS software engineers were called to design the solution for this project, given our automotive engineering and design expertise in developing connected IVI systems. Working with multiple stakeholders and vendors within product management, engineering and other UX groups, ICS provided the solution of how to best integrate older hardware, conform to changing middleware and connect these components with visual assets developed independently. Our scalable and flexible engineering services allowed the Tier-1 provider to meet every single milestone specified by the automotive client and to provide lasting credibility by delivering a powerful, scalable and configurable IVI system.

Global Agriculture IVI for Industrial Solutions



Situation

A global manufacturer of industrial agricultural equipment known for its commitment to quality and innovation decided to modernize the in-cabin operator experience by introducing a state-of-the-art touchscreen command center that controls every aspect of their heavy machinery such as tractors and combines. The design needed to be easy to use and allow operators to customize the pages to view the functions that are most important.

Challenge

Coinciding with the imperative to comply with new Full Tier Emission Standards, the new command center software had a no slip fixed release plan. At the same time, the agricultural manufacturer opted for a complete rewrite of its entire software stack. This would accomplish their goal of a modern and flexible touchscreen user experience.

Solution

Multiple engineering teams became part of the solution. Over a time-span of thirty-months and under the leadership of ICS Engineering, we trained dozens of employees in Qt, while developing a customized and highly efficient Qt Widget set that reflects the customer's brand and desired look-and-feel. The resulting large-scale software engineering project was conducted using strict agile practices and test-driven development. Ultimately, ICS delivered stable, integrated software that is a generation ahead of the competition, as it is like no other and is easy to use, efficient and beautiful.

**How
Can We Help
You?**

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