

# How mobile technology is transforming the automotive industry

As connected in-vehicle IT becomes increasingly key to car-buyers' purchasing decisions, it's time for vehicle manufacturers to think more like smartphone suppliers

By Paul Warburton, Fujitsu

“The automotive industry is on the cusp of one of the biggest changes in its 100-year history. As car manufacturers wrestle with the fundamental challenges presented by technology innovation and the coming shift to battery-powered electric vehicles (EVs), there are compelling signs that the industry's traditional business model is set to give way to a radical new approach.

Based on our global experience of working with many of the world's leading automotive manufacturers over the past century, we at Fujitsu believe that, in the future, the most successful car manufacturers will be those that transform into businesses that operate more like high-technology companies. In the process, the car itself will become not merely a device for mobility, but a “mobile device” in the same sense that technology companies understand the term – a platform for innovative, compelling applications that enrich the user's experience.

## There will be an explosion of in-car functionality and features, just like in the mobile phone industry following the launch of Apple's iPhone

Therefore the dominant industry players in the car's next century will be those that understand and embrace this shift early. This will require them to work with the right partners to build a global framework and infrastructure that ensures they're successfully able to meet the differing demands and requirements of diverse markets and customers, while also supporting growth in a way that's environmentally sustainable.

### Towards an in-car app store

The automotive industry is already highly dependent on computer technology. There are more lines of software code in a modern car than in a commercial airplane –

from pollution avoidance solutions, through comfort and safety features, to in-car entertainment and satellite navigation. What's more, cars – and the advanced computing power they contain – are now becoming increasingly connected to the internet. This will cause an explosion in functionality and features, similar to what has happened in the mobile phone industry following the introduction of Apple's iPhone and App Store.

When you begin to think about the car as a connected, mobile device, the possibilities are compelling – and, indeed, telematics (the fusing of telecoms and information technologies in vehicles) is now playing an increasingly central role in customers' purchasing decisions. Vehicles will be able to access and act upon all manner of external information and content, from analysing real-time road and traffic data, to movie downloads for passengers in the back seat – as well as whole new classes of innovative apps built specifically for cars, such as ones that will allow engine tuning, or signal when and where to top up your EV's battery.

In addition, once cars can communicate electronically with other vehicles on the road (and, indeed, with the road itself) in real time, exchanging information such as their current speed, performance data, road conditions and precise location, it opens up a whole new vista for accident-avoidance, traffic-flow and parking management solutions – ultimately, even, the self-driving vehicle.

But to move to the next level and take advantage of these increasingly exciting opportunities, car manufacturers need to relax their traditionally proprietary approach to developing in-car technologies and move towards a more open, collaborative model. It's already happening, of course. Ford is currently

leading the pack with its SYNC system, co-developed with Microsoft. This was the first system to take advantage of the smartphone as the conduit to connect with the outside world (via a wireless Bluetooth connection between car and cloud-connected phone).

SYNC provides a voice-controlled interface and text-to-speech technology that allows drivers to safely access and control such functions as streaming online radio, email, social networking apps and more. (To underline the importance of collaboration with the technology industry, Ford CEO Alan Mulally has in the last few years spoken regularly about in-car technology at high-profile IT events such as CES and CeBIT.) Other automotive manufacturers are keeping pace, such as Toyota with Entune – and its recently-announced cloud-based partnership with Microsoft – and General Motors with MyLink.

### Collaborate to innovate

Just as happened with mechanical components a generation ago, car manufacturers are beginning to accept that when it comes to new technology there are no great gains to be had in reinventing the wheel, widget or web app. They need to partner with technology

## Manufacturers need to partner with technology infrastructure, service and content providers to make their in-car platform the most compelling

infrastructure, service and content providers to make their in-car platform the most compelling for potential users of their vehicles.

If they want to offer “devices” (i.e. cars) capable of supporting the ever-expanding range of services customers are demanding in different markets, they simply don’t have the resources to do it alone – just as Apple couldn’t have attained the range of functionality available on iOS devices without partnering with telcos and content providers, and crucially without opening up

its App Store to third-party developers. Such a model also dovetails with the industry’s desire to grow sustainably in a way that respects local markets and the environment, for example by promoting the growth of ecosystems of small providers who deliver in-car apps, content or services that meet specific local, regional or niche needs.

### Powering the future

A similar collaborative approach will be needed as the industry prepares to move towards EVs. Here, it would be wise not to repeat the mistakes of the mobile phone industry, which has only recently accepted a move away from proprietary chargers for many years. Car manufacturers need to collaborate with one another, as well as with battery manufacturers and other partners, to establish a viable way to get power to their customers’ vehicles quickly and conveniently, from any garage forecourt. Some form of standardisation is vital for consumer and supplier convenience, cost and sustainability.

When you combine this vision of an EV-dominated future with advanced, connected, in-car and on-road technology, the logic of transforming the industry’s business model to resemble that of a mobile device manufacturer becomes all the more convincing. Is it really so far-fetched to envisage a future where customers sign up for X number of battery swaps and access to particular in-car services for a certain period, and then select an appropriate vehicle from the available range for the contract they’ve chosen?

In recent years, Fujitsu has been working with successful automotive companies on many innovative technology projects and, based on this experience, it seems clear to us the industry is further down this road than many might currently suppose.



● **About the author:** Paul Warburton is a Global Account Director and Head of Automotive at Fujitsu

### What next?

- Contact Fujitsu: [askfujitsu@uk.fujitsu.com](mailto:askfujitsu@uk.fujitsu.com)
- Visit our website: [uk.fujitsu.com](http://uk.fujitsu.com)

REF: 3335

Fujitsu Services Limited, Registered in England no 96056, Registered Office: 22 Baker Street, London, W1U 3BW Copyright © Fujitsu Services Limited 2011. All rights reserved. No part of this document may be reproduced, stored or transmitted in any form without the prior written permission of Fujitsu Services Ltd. Fujitsu Services endeavours to ensure that the information in this document is correct and fairly stated, but does not accept liability for any errors or omissions.