



Connected cars, disrupted industry

Customers, technology and collaboration driving the automotive industry into the future - fast.

While the fast approach of the connected car gets most of the headlines, a digital revolution behind the scenes has upended auto manufacturing as automation, Big Data, the Internet of Things and cloud computing exert their disruptive power.

Automakers that hope to thrive in today's digital landscape will have to develop the ability to stay ahead of their competitors using technology to become nimble, flexible and fast. Superior craftsmanship and engineering alone won't cut it: successful auto companies will have to think and act like technology companies first, and manufacturers second.

For example, it's estimated that less than 1% of all available data on the shop floor is used by companies.¹ Imagine the advantages of being able to turn even a fraction of that 99% of data that goes unused outside of the factory floor into actionable insights.

Organizations that lack an IT infrastructure that can capture and use that data, working without an IT estate tuned for today's global, fast-paced, virtual digital world will be at a severe disadvantage to those who embrace digital transformation.

Beyond the factory floor

The factory floor is just the start of the infrastructure upheaval on offer. Once those connected cars are on the road, the real fun starts: By 2020, connected cars will produce up to 350 MB of data per second.² That data will stream between the car, sensors, the Internet of Things, the cloud and the manufacturer - for starters.

Just think about the infrastructure needed to support and take advantage of that: public, private or hybrid cloud deployments; data storage and protection; networks that are open and adequate to handle data from the estimated 39.5 million connected cars on the road worldwide today;³ a robust analytics platform and tools to handle data streaming, modelling; security and compliance protocols; and even natural language processing.

'Clearly, the traditional car-makers and suppliers need to significantly accelerate their transformation capability,' states a report by PwC's Strategy&.⁴ 'Their current rate of innovation is too slow to keep up with all the new players entering the field. This is particularly true in the areas of new technology capabilities, piloting and launching new products, and overcoming legacy mind-sets and functional silos.'

¹<http://www.autonews.com/article/20160801/OEM06/160809988/industrial-internet-of-things-could-boost-plant-efficiency>

²www.ibm.com/auto2025

³<https://www.statista.com/statistics/252370/connected-car-system-shipments-worldwide/>

⁴<http://www.strategyand.pwc.com/reports/connected-car-2016-study>

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Secure and safe: Not optional

Security concerns have dogged the Internet of Things since the term was coined. Automakers are aware: 38% cited security and compliance as the top challenge for digital transformation.⁵

PwC's Strategy& puts it this way: 'Clearly, strong cybersecurity is critical to the success of the connected car – not just to keep the car and its growing number of connected services safe from hackers, but to instill the high level of trust needed to keep car buyers coming back for more.'⁶

Cybersecurity for auto transportation is a real challenge – complex and involving many entities and systems. From the devices and on-board sensors to the back-end systems that collect, store, process and analyse that data, targets for cyberattacks abound.

It makes sense that automakers lead the security initiative in their industry. Here, a strategic partner also makes a lot of sense, especially one with cloud expertise. Advances in cloud security make it an attractive, strategic choice to secure many of the functions and services that make up the automotive and connected car ecosystem.

The race is on

How do you update one of the oldest worldwide transportation industries? Embrace the latest technology while respecting the rich cultural legacy that brought us here.

Research shows that automakers are not sitting around: 72% are undertaking digital transformation projects;⁷ 26% of their IT budgets are going to digital projects; 73% are using APIs to develop mobile apps and to enable third-party developers.

A strong technological backbone also detects inefficiencies in the process – not a small concern, considering that car manufacturing is still one of the most intricate, time-intensive manufacturing systems in the world.

As mentioned, automakers that can shift into technology company mode will have the best chance to thrive. For example, PwC's Strategy& says 'The ability to oversee a software team will become a critical part of the managerial competence of an automotive leader.'⁸ In fact, one major U.S. automaker has hired 8,000 software developers, while a Germany-based parts and services provider planned to bring on 14,000 software engineers in 2016.

A time of growth and insight

Like the single production lines of yesteryear bringing us to the Industrial Age, the smart application of technology today will usher the wisest manufacturers into a time of unprecedented growth and insight.

Automakers that act now to re-tool their IT infrastructure for the digital world will flourish.

Strategic partnerships with service and solutions providers will play a key role in that transition.

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The ability to collect and analyse data from across the spectrum – consumers, cars, sensors, dealers, suppliers, partners – will prove to be as valuable as engineering smarts in the years to come.

All these opportunities are appearing now that automotive giants are truly embracing the connected car. By looking at car manufacturing from the ground up, manufacturers and their technology partners will be able to lead us into the industrial internet. Luckily, from safety to innovation, we'll all be reaping the benefits.

⁵2015 Freeform Dynamics Global Survey 'Automotive Companies are Embracing Digital Transformation.'

⁶<http://www.strategyand.pwc.com/reports/connected-car-2016-study>

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