M2M to transform the automotive sector

By Michael Frans

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The technology industry's love affair with the so-called Internet of Things (IoT) continues unabated. Technologists in almost every industry are touting the future of connected sensors, devices, components, and actuators - all pumping information into a sprawling network of cloud services.

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The automotive industry is regarded as one of the verticals most perfectly primed to capitalise on The IoT, and machine-to-machine (M2M) communication advancements. In recent years, high-tech companies like Tesla, Apple and Uber have raced into leading positions in the automotive and transportation arenas.

New technology has certainly exposed a number of slower-moving, more traditional automotive players to various risks of disruption. But, for those vehicle manufacturers and service providers that are willing to embrace change, advancements like M2M offer incredible opportunities.

These include things like reduced costs, greater efficiencies, increased transparency, minimised risks, enhanced service quality, better environmental protection, and the possibilities for new business models.

Escalating value

We essentially describe the emergence of M2M in the automotive sector across three levels, showing the escalating value that can be derived by manufacturers and others in the ecosystem.

- Level 1: Connect and visualise - devices and sensors start recording driving patterns, vehicle performance, geolocation data, and other metrics.

This can be overlaid with other data sources - such as weather, real-time traffic data, airport and bus schedules, or traffic light failures - to communicate useful information back to the driver. This promises to enhance vehicle safety and general enjoyment levels, and reduce annoyances like traffic jams.

- Level 2: Analyse and optimise - by developing the right tools to understand and analyse the streams of incoming data, we can start to predict certain things - such as traffic congestion in a certain areas, risks of driver fatigue, or vehicle components that are likely to fail soon.

Safety is a major selling point for connected car technology. Noting that most accidents happen at intersections or while changing lanes, in-vehicle warnings could alert drivers to potential crashes with merging vehicles that are nearby, cars that are in the driver's blind-spot or even harsh braking from the vehicle in front.

- Level 3: Innovate and grow - for vehicle manufacturers, these rich insights from customers' every move while they are driving will fuel new product and service offerings, and new collaboration opportunities - even with service providers in previously unrelated industries, but now part of the connected car ecosystem.

Original equipment manufacturers (OEMs) will be able to make an evolutionary leap, from once-off sellers of hardware (the car itself), to integrated service providers that remain in close contact with their customers throughout their lives. Radical new partnerships will become possible in areas like security, track-and-trace, entertainment and Internet connectivity, navigation, insurance, emergency help, and roadside assistance.

A recent study from Machina Research predicted an astonishing 1.5 billion M2M connections in the automotive sector by 2022 - creating a global connected car market of $282bn.

While these estimates may sound optimistic, some companies have already accelerated away from the start line; with some higher-end cars already featuring adaptive cruise control, blind sport systems and cameras, and lane-changing aids.

Explosion of data

But the key to unlocking the future potential of M2M, and achieving the kind of radical transformation that analysts like Machina are predicting, is developing platforms to handle the explosion of data. These platforms are the 'information superhighways' that transmit, interpret, and find meaning in the masses of machine-generated data.

These platforms empower OEMs with the ability to achieve what we term 'zero distance' with the consumer: close contact and intimate understanding, throughout every stage of the customer journey and customer life-cycle.

M2M truly does hold the potential of transforming the automotive sector and improving the way we move around every day. Supported by powerful information superhighways, the role of OEMs and other industry payers can be transformed, in the high-tech future of transportation that stretches ahead of us.

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