Connected vehicle
Succeeding with a disruptive technology

By Andreas Gissler
Although connectivity is nothing new to automotive, business opportunities are growing rapidly. As the automotive ecosystem is opening to powerful non-traditional players, connectivity is truly a disruptive trend. Automakers need to determine their role and identify where they can generate value from this technology. And put the pedal to the metal when it comes to deploying new operating models and capabilities. Or risk being overtaken by tech companies looking to exploit connected cars for their own growth plays.
Vehicle connectivity is expanding at a rapid rate. In fact, all new passenger cars sold in 2025 will be connected (Figure 1).

Yet, as original equipment manufacturers (OEMs) wade more deeply into connectivity, they are facing several challenges. For starters, while consumers want their vehicles to be connected, Accenture research suggests they won’t necessarily be willing to pay extra. And they expect their smartphones, tablets, and other devices to work seamlessly within their vehicles.

To meet consumers’ heightened expectations, OEMs will have to provide much more sophisticated options to meet or exceed what handheld manufacturers offer. But relying on in-house development resources alone, as they do now, will be impossible.

Complicating matters further are fast-paced development-and-release cycles favored by technology companies, producing new features and services after months rather than years. A pace that needs to be matched by automotive players.

Ultimately OEMs will struggle if they choose to “go it alone.” Rather, the future will be defined by the convergence of a powerful connected vehicle ecosystem. One in which a wide range of business partners—automakers, technology giants, telecommunications companies, start-ups and aftermarket service providers—will coexist and cooperate to deliver solutions.

To deliver superior solutions in an efficient way within this ecosystem, OEMs should focus on vehicle-related functionality bundles related to areas such as assistance, remote access or navigation. Here is where they can leverage their strategic strength of deep vehicle integration. (Figure 2). At the same time, they need to integrate non-vehicle-related services hosted on handheld devices.

These two sets of services will mostly rely on different modes of connectivity: The former will use fully embedded solutions while the latter will generally operate on handheld intelligence and connectivity. Both must be seamlessly integrated into the vehicle’s HMI—optimizing the use of large embedded head units, push/touch controllers, and vehicle audio systems for both input and output.

Figure 1: By 2025, all new cars sold will be connected

![Connected Car Share Chart](chart.png)

<table>
<thead>
<tr>
<th>Connected Car Share</th>
<th>Million vehicle units sold</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015</td>
<td></td>
</tr>
<tr>
<td>120</td>
<td>88</td>
</tr>
<tr>
<td>102</td>
<td>57</td>
</tr>
<tr>
<td>98%</td>
<td>9</td>
</tr>
<tr>
<td>35%</td>
<td>6</td>
</tr>
<tr>
<td>2020</td>
<td></td>
</tr>
<tr>
<td>120</td>
<td>31</td>
</tr>
<tr>
<td>98%</td>
<td>12</td>
</tr>
<tr>
<td>34%</td>
<td>16</td>
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<tr>
<td>2025</td>
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<tr>
<td>120</td>
<td>77</td>
</tr>
<tr>
<td>100%</td>
<td>10</td>
</tr>
<tr>
<td>34%</td>
<td>56</td>
</tr>
<tr>
<td>Embedded connectivity</td>
<td>Smartphone / Mirroring</td>
</tr>
</tbody>
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1 HIS, SBD, GSMA, Accenture calculation.
Earning a chunk of the connected car pie requires OEMs to make significant investments. But how and where can they generate value from connectivity?

Certainly, the potential is available: Accenture believes the total business value of connected car services will reach €100 billion by 2020, and €500 billion by 2025. On a per-vehicle-basis, a fully-fledged connected car, assuming heavy usage, could deliver more than €5,000 in additional value over lifetime (Figure 3). Figuring out how to exploit this potential is vital for OEMs to avoid losing control to new ecosystem players.

This begins with identifying and evaluating the potential sources of value.

**Hardware**

The head unit, as the most prominent hardware piece, is vital to vehicle connectivity and currently commands a price premium. Thanks to handheld competition, there will be growing price pressure and subsequently a declining price point for hardware in the future. Current strategies for justifying price premiums focus on boosting the head unit with additional features. But as ever-smarter handhelds are increasingly turning the head unit into a “dumb” screen, merely displaying handheld content within the vehicle, the effectiveness of such strategies will decline.

Instead, OEMs should progressively lower the price point, which will make it easier for customers to access additional connectivity features. While this approach will lessen the value of the head unit over time, it will open the door to other sources of value.

**Service fees**

As OEMs further enhance existing service offerings, customer acceptance and usage of these will rise—generating a significant boost in revenue. While the purchase of these services requires a contractual relationship between the customer and OEM—without the retail “middleman”—OEMs will also benefit from additional insights they can generate about customer usage behavior and direct customer contact for marketing purposes.

**Third-party access**

The growing relevance and use of vehicle connectivity as a whole will give rise to entirely new business models and revenue streams. Providing fee-based access to customer data to outside business partners will be a key value source. An example: Insurance companies providing pay-how-you-drive-services will need ongoing access to data generated by vehicles and hosted on OEM’s telematics platforms to create policies and pricing based on customers’ driving behavior.
Data monetization

The data generated by the connected car can provide a window into consumers’ driving behavior—which in turn can provide valuable insights that can be fed into product development processes or various marketing initiatives, either as a complement to or replacement for dedicated market research. Additionally, aggregated data could be offered to external parties as inputs to businesses for which mobility or driving behavior is a relevant factor—such as retailers, who could use insights on traffic flows to determine the best places to locate stores.

Cross-selling

Leveraging a vehicle data connection to provide drivers with adjacent offerings, especially for after-sales purposes, is a use case OEMs already understand conceptually. In fact, many of the latest vehicle models now enable a connected vehicle to anticipate an upcoming maintenance need and transmit that information to the driver’s preferred shop to schedule a service appointment, generating significant after-sales revenue. However, customers’ opt-in to data usage is needed as pre-requisite. Currently, OEMs are struggling to provide the proper incentive to encourage customers to allow manufacturers to use those data.

Vehicle up-selling

A rather innovative concept is the idea of selling vehicle options that rely on connectivity but are stand-alone features. A sophisticated connected autopilot functionality is one example. Such features should be separated from a connectivity bundle to avoid implying they are simply another “free” feature that comes with the head unit. Instead, they should be positioned and priced independently to underline their value.

Over-the-air (OTA) upgrades

To date, OEMs have been reluctant to fully utilize connectivity to update or upgrade vehicles after they have left the factory. We expect that reluctance to diminish in the future, as the opportunities such a functionality offers will lead to a wider acceptance across the industry. Free updates are conceivable, as well as chargeable upgrades that will bring new functionality to the vehicle.

As the interdependencies of the preceding value sources suggest, OEMs should avoid trying to maximize all sources independently. Instead, they should secure their dominance within the vehicle and retain direct access to customer data—ultimately enabling data-driven business models. This will prevent tech giants from leveraging their handheld devices and free services/apps as a Trojan horse to gain access to customer mobility data.

Figure 3: On-top value potential of a fully-fledged connected car over lifetime
OEMs need to re-tune their operating models—incorporating business, IT and an open connection into the entire connectivity ecosystem—to maximize value from connected car solutions.

From a structural standpoint, an OEM’s connected car business should be highly flexible to address fast-changing market trends, “test-drive” multiple developments to determine their market potential, and partner with relevant third parties to design and develop new offerings. It should be led by a small, dedicated unit with strategic priority and corresponding competencies within the organization. Cross-functional skills need to be bundled and complemented by an active integration of major geographies. This ensures that the connected car becomes a strategic focus for the OEM on corporate level while providing offerings that are relevant to local markets.

In terms of execution, new skills will be needed across the organization—especially within software development—to create new connected car offerings and to manage relationships with end consumers. Lean, highly efficient processes and a commitment to open innovation will be required to keep pace with ever-shorter technology innovation cycles and heightened consumer demand for frequent product innovations.

Finally, from a technology perspective, an open technology architecture including standardized APIs is essential to enabling the seamless integration of third-party apps and services, while big data, analytics and cloud technologies are vital to creating data-driven services (see figure 4).

Figure 4: An open technology infrastructure is essential to arrange access to the enlarged connectivity ecosystem
The road ahead

The connected car is a game-changer for the auto industry. That much is clear. What’s not clear is how effectively OEMs will be able to defend their territory against the tech giants that consider the connected car a key element in their overarching “connected life” growth strategies.

To transform these opportunities into company value, auto executives need to recognize that connected car solutions go far beyond a simple vehicle option. Excelling in the connected car market requires a totally new business, which means profound changes in strategy, mindset, culture, and operations across the entire organization.
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