

The time is now: Are you a Metalsmith or 'Gridmaster'?



The emergence of electric vehicles (EV), autonomous vehicles (AV) and Mobility as a Service (MaaS) is disrupting most sectors, but at its core is the impact on the traditional automotive industry.

Original Equipment Manufacturers (OEMs), who have employed a consistent business model for 100 years, are now on the cusp of an unprecedented period of disruption. Many OEMs say they want to become mobility providers, but time is running out to capitalise on new opportunities and overcome these disruptors. OEMs must now determine the role they want to play in the new ecosystem and pivot their business model accordingly, whilst securing the right partnerships to enable them to fill new capability gaps.

The way people are moving is changing... and OEMs know it

EV adoption is accelerating and unprecedented pressure is mounting on traditional internal combustion engine (ICE) vehicle sales, mainly due to growing concern for environmental and public health. Governments are taking policy actions to address clean air targets and CO₂ emissions, which is driving EV uptake and hence cleaner, greener mobility.

In Norway, for example, sales of electric and hybrid cars exceeded those with internal combustion engines (ICEs) for the first time in 2018.¹ Meanwhile in China, 580,000 EVs were sold in 2017 (a 2.2% share of national sales).² OEMs are a big driver here, with a steady pipeline of new EV models hitting the market and the likes of Volvo announcing targets for all its models to be available as electric or hybrid (by 2019).

¹ Norway powers ahead (electrically) – Reuters, January 2018

² Electric car sales are surging in China – Forbes, June 2018

³ Find out more about DRIVEN at <http://drivenby.ai/> and UK CITE at <https://www.ukcite.co.uk/>

⁴ Global Atlas of Autonomous Vehicles in Cities – Bloomberg Philanthropies and Aspen Institute

^{*} Level 4: Driverless cars: high automation, in controlled areas.

⁵ Level 5: Driverless cars: complete automation, anywhere.

⁶ Various announcements by OEMs as referenced in business and technology press, such as uk.businessinsider.com

⁷ There's never been more money pouring into mobility startups – Bloomberg, February 2018

AV development is likewise gaining speed. There are now numerous consortia trialling AVs in the UK, including DRIVEN and UK Connected Intelligence Transport Environment (UK CITE).³ Trials are likewise taking place globally across at least 35 locations.⁴ OEMs are again taking an active role, with almost all global OEMs having announced target dates for Level 4/5* AVs on public roads, including Mercedes (L5 by 2021) and Renault-Nissan (L5 by 2025).⁵

Beyond the technology in the vehicle, new approaches to accessing mobility, such as ride hailing, dynamic mass transit systems and shared ownership; are set to reduce the portion of the population who own a car. This will lead to an overall decline in unit vehicle sales. These new on-demand access propositions for MaaS are popping up all over the world at a rapid rate, with mobility providers raising a reported \$28 billion in funds in 2017.⁶ This included large investments by OEMs such as Ford into Lyft (to co-develop self-driving taxis) and has continued into 2018.

These developments present an existential threat to OEMs. Indeed, we share the view that the total number of OEMs will decline sharply by 2030 as a result of these changes.

In a connected car world, the customer proposition for personal mobility becomes much broader than the provision of a vehicle. Our analysis suggests that the downstream value generated by an EV-AV mobility services car could be up to ten times as great as that of a private use vehicle today (and orders of magnitude greater than the upstream).



The future value pools will be driven by digitally-enabled products and services rather than the sale and financing of hardware. This will disrupt a century-old business model and OEMs must re-position themselves accordingly.

It's not just a change in what they must sell that is keeping OEM CEOs awake at night. We also expect to see a significant shift in terms of the key customer relationships (i.e. B2C to B2B) and main channels for vehicle sales (e.g. omnichannel retail, new store formats etc.).

Metalsmith versus 'Gridmaster': Getting the business model right

EV and AV represent a product evolution. Of course they require significant investment and bring new complexities, however, traditional OEMs are catching up with Tesla on EV and are heavily involved in developing the more nascent AV technology, which is yet to reach the market.

Indeed, the real challenge is likely to be the mass adoption of mobility services, which represents a fundamental change in the route to market and relationship with the customer. OEM activity and investment in this area appears largely experimental to date. Whilst we would recommend experimentation as an initial approach, OEMs currently appear to offer these mobility service propositions only as an adjunct to their existing business model. OEMs must now identify opportunities for scale business in mobility, and integrate these new propositions with the core offering, as part of a coherent future mobility strategy and business model.

As previously outlined in our 'Vision for a future mobility ecosystem' animation⁷, we expect to see two distinct, winning business models for OEMs of the future. Some OEMs will remain 'Metalsmiths', manufacturing and supporting ever more sophisticated vehicles, but ceding the customer interface as they sell into mobility services fleets. Others, will evolve to become 'Gridmasters' – who may manufacture vehicles – but critically, also provide platforms for a variety of mobility services. However, there will be variations on these two archetypes. Some will focus on contract manufacturing for certain models. Others will focus on vehicular mobility services, or the aggregation of other modes of travel too. Each OEM must identify the right future business model for them.

Just as new entrants have transformed retail and the mobile phone market, history has shown that incumbents have a finite period to overcome disruptors before the advantage is lost. What's more, OEMs are giving up huge potential shareholder value from not being 'all in' on these mobility services. This can be seen from the relative valuation of the top five traditional automotive OEMs, businesses that have existed for decades, versus the top mobility services players, which are all much younger companies but are fast catching up with the OEMs.

Five largest traditional automotive OEMs ⁷	Five largest new mobility services players ⁸		
Toyota Motor Corp	\$203bn	Uber	\$72bn
Volkswagen AG	\$88bn	Didi Chuxing	\$56bn
Daimler AG	\$68bn	Lyft	\$12bn
BMW AG	\$60bn	Grab	\$6bn
Honda Motor Co.	\$55bn	Go-Jek	\$5bn
Total top five	\$474bn	Total top five	\$151bn

The time is now for OEMs to determine the role they want to play in the future mobility ecosystem. And to do this, they must critically assess the relevant capabilities they have 'in-house' and, more importantly, close those gaps in order to operationalise the business model.



⁷ Bloomberg (article and data downloaded 28th September 2018); Financial Times – May 2018; Reuters; Crunchbase.com
⁸ KPMG Global, Metalsmith or Grid Master: The automotive industry at the crossroads of a highly digitalized age, 2015

Partnerships to complement traditional capabilities

Designing and executing these new business models will require a new set of capabilities. These are likely to include direct customer engagement and provision of flexible solutions, digital user interface management, analysis and monetisation of (new forms of) customer data and cyber security controls.

This isn't to say that traditional OEM capabilities are no longer relevant. For example, strength in vehicle-related R&D, efficient manufacturing experience at scale and management of complex supply chains and powerful distribution networks are all likely to play a role in the future. The same is true of automotive finance captives in financing, maintaining and operating 'Gridmaster' OEM fleets. There is a question as to how large the balance sheets can grow, however, and banks, investment funds and pure fleet operators are also likely to look to own the vehicles.

Given the scale of the shift to new mobility business models, the complexity of working with legacy systems and structures and the financial challenges faced, OEMs are unlikely to be able to address capability gaps entirely through a 'buy or build' approach. 'Rent or collaborate' will become the new norm as partnerships become increasingly important to expediently deliver the new business model.

In particular, partnerships with digitally-focused players make most sense, given that most of the OEM capability gaps are on the software and digital side. Such partnerships should also help OEMs to operate at the new 'clock-speeds' required to succeed, as new technology players and start-ups hasten the pace of innovation and change across the mobility ecosystem.⁹

OEMs must also consider partnerships with other OEMs, perhaps to co-develop new technologies or consolidate ICE production, sharing insight and risk as they move into this new mobility world.

For example, consider an OEM developing a 'Gridmaster' model that offers customers seamless, on-demand car sharing, ride hailing, vehicle subscriptions and other wraparound services through a digital platform. The OEM could work with another OEM to ensure a full suite of models for its customers, whilst also partnering with an on-demand mobility app/MaaS provider for the platform, and retail and media companies for in-vehicle experiences.

On the other hand, an OEM taking a 'Metalsmith' approach could collaborate with one of the growing on-demand mobility services providers to source EV-AV vehicles into their fleet at scale.

⁹ KPMG Global, 'The clockspeed dilemma', 2016

The time for OEMs is now

OEMs face unprecedented challenges and other converging sectors are trying to eat their lunch. It is imperative that OEMs act now. They must start to move from an experimentation phase and into re-setting their business model for the future, before thinking about how to operationalise it, especially through partnerships. This will be a complex, demanding and emotional journey, but also an exciting one, where OEMs set-out their future path and start to move through the gears again.

If OEMs 'wait and see' for too long, they risk losing the ability to determine their own strategic direction. This may ultimately mean taking a 'Metalsmith' role, where value pools will be much lower than the end-customer facing mobility services parts of the ecosystem.



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