

Automotive industry's key survival skill

A new approach to procurement



**Industrial
Goods**



Key Insights

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Introduction

Adapting **procurement** for **the future** of automotive industry

The automotive industry is undergoing a transformative shift amid volatile times, marked by trade barriers and geopolitical crises. Traditional procurement strategies are no longer enough to navigate these changes. To remain competitive, automotive companies must rethink their procurement models to secure long-term success in the evolving landscape.

Together, they add up to the greatest strategic challenge that auto industry incumbents have faced since the appearance of the first motor vehicles in the late 19th century.

However, these challenges are now compounded by rising geopolitical tensions, increasing trade restrictions, and ongoing supply chain volatility. Tariffs, regulatory shifts, and unpredictable raw material costs are reshaping procurement and supplier strategies, forcing companies to rethink their traditional sourcing models. **The ability to respond swiftly to disruptions—whether from trade policy changes, material shortages, or shifting consumer demand—has become as critical as the transition to new mobility itself.**

The spread of E-Mobility, autonomous vehicle technology and new distribution and ownership models is forcing established original equipment manufacturers (OEMs) and automotive suppliers to **rethink their strategy and product portfolio to enable a transition from historic to future profit pools.** The implementation towards the consumer can be described as a "software defined vehicle" which combines the three mega trends, building the backbone of modern vehicles, regardless of propulsion, automation and ownership. They must do this in a global automotive market that is likely to stagnate due to saturation and adoption of shared mobility. Those that delay this process will see their sales and profitability move into structural decline, while next-generation auto manufacturers along with technology and software companies reinvent the industry around them.

The early signs are ominous. Electric vehicle (EV) launches from **established OEMs have hit a variety of problems including delayed go-to-markets.**

Lower barriers to entry – due to the reduced complexity of EVs – create the opportunity for challenger OEMs, such as BYD, Lucid and Geely to enter the market. Additionally new market players, thanks to their superior profitability or financial backing and willingness to enter the market, can fund price increase cuts that are increasing the pressure. Looking at new car sales in Germany we can clearly see the threat Chinese manufacturers pose for EU auto OEMs, with sales growth of 48% vs 8% for German OEMs*. The EV transition is also **opening the door for companies with no traditional automotive background** to become major industry players. Battery companies like CATL, and tech giants such as Apple, Google, and Xiaomi, are leveraging their core competencies – particularly in software and consumer electronics – to enter the automotive space and redefine the value chain.

At the heart of the EV revolution is a **complete change in powertrain technology.** However, alongside this runs another, parallel transition: **a huge increase in the software content** of vehicles. It is often said that Tesla is as much a software company as it is an auto manufacturer, and this blurring of the line between these two industries poses a huge and expensive **challenge for companies whose pedigree rests on a century of excellence in mechanical engineering.** >

For established OEMs, the challenges of the shift to EVs, particularly battery EVs (BEVs), are crystallised in the **transformation of the industry's supply chain**.

Thousands of components required to produce Internal Combustion Engine (ICE) vehicles are replaced by batteries, electric motors, and software. The resulting **change in the supplier landscape is profound**. OEMs must develop partnerships with new suppliers from outside their industry. With much of their user experience – and therefore brand and product differentiation – now dependent on software and user interfaces, OEMs must secure access to the technology expertise that will determine their future success.

In-house development and manufacturing for all components is not an option, as OEMs lack the skills and capital, and require insufficient volumes to create a compelling business case. This forces them to rely on specialist suppliers. Against this backdrop, **procurement becomes an even more important strategic competence** for OEMs and suppliers. To succeed, they will need to adapt their approach to supplier relationship management, **adopt innovative procurement models and form deeper collaborations** in order to remain agile and profitable. //

Reinventing the auto industry's operating model to cope with this automotive revolution requires a fundamental change in its understanding of procurement. This white paper will outline approaches and strategies to master this journey.

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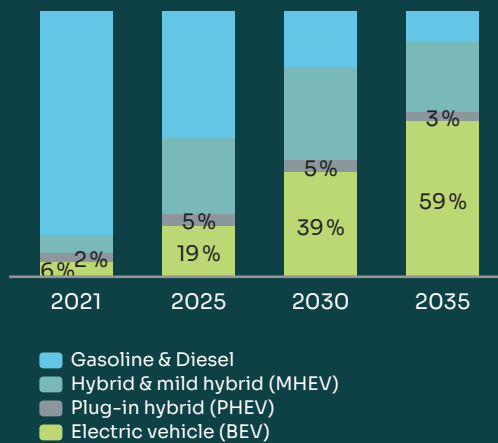
Facts & figures

Four trends profoundly affecting the automotive industry and its suppliers



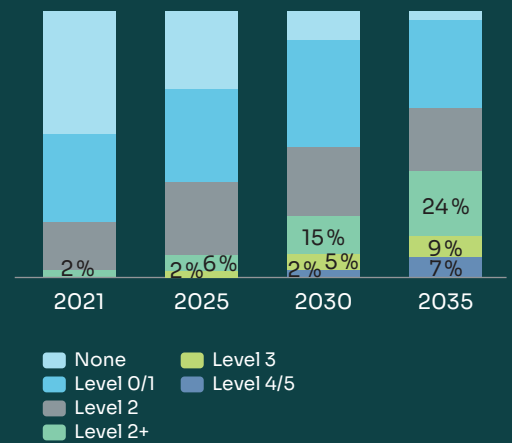
Electrified vehicles will become dominant

/ Share of new car sales



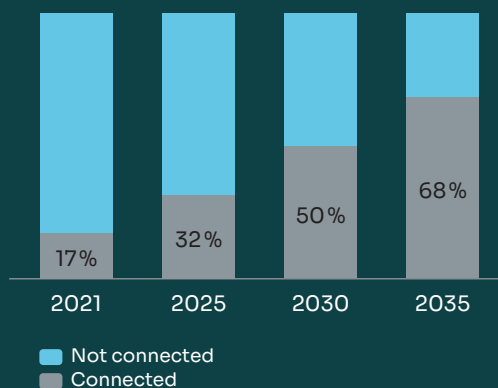
Autonomous vehicles will start to emerge in the next ten years

/ Share of new car sales



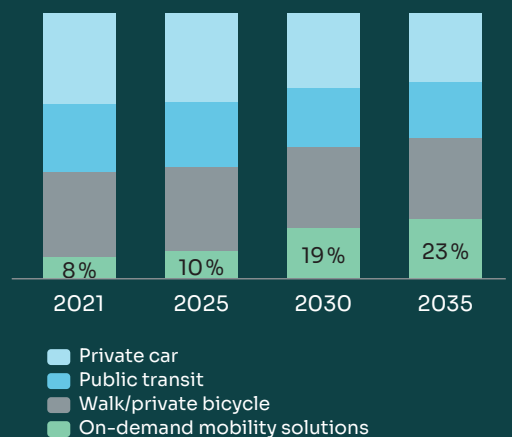
Connected-vehicles parc will continue to increase

/ Share of new car parc w/ Internet access



Shared on-demand mobility offerings gain acceptance

/ Share of urban trips in megacities¹



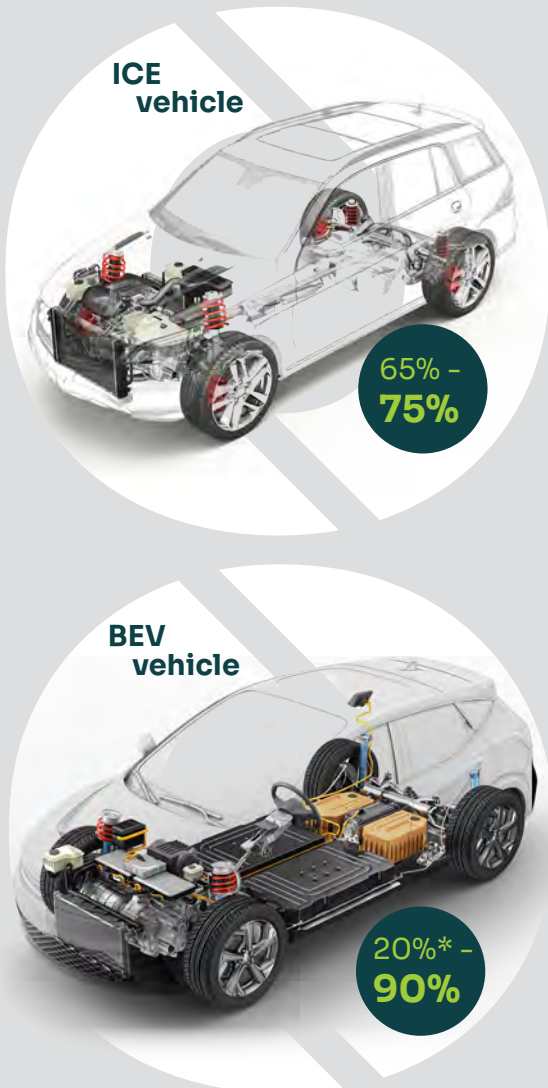
Sources: IHS Markit Automotive (2022); Statista; BCG analysis (2022)

¹ Based on a blended future modal mix of New York, Paris, London, Los Angeles, Moscow, Shanghai, Beijing, Chongquing, Guangzhou, Tianjin, Shenzhen, Tokyo, and Osaka.

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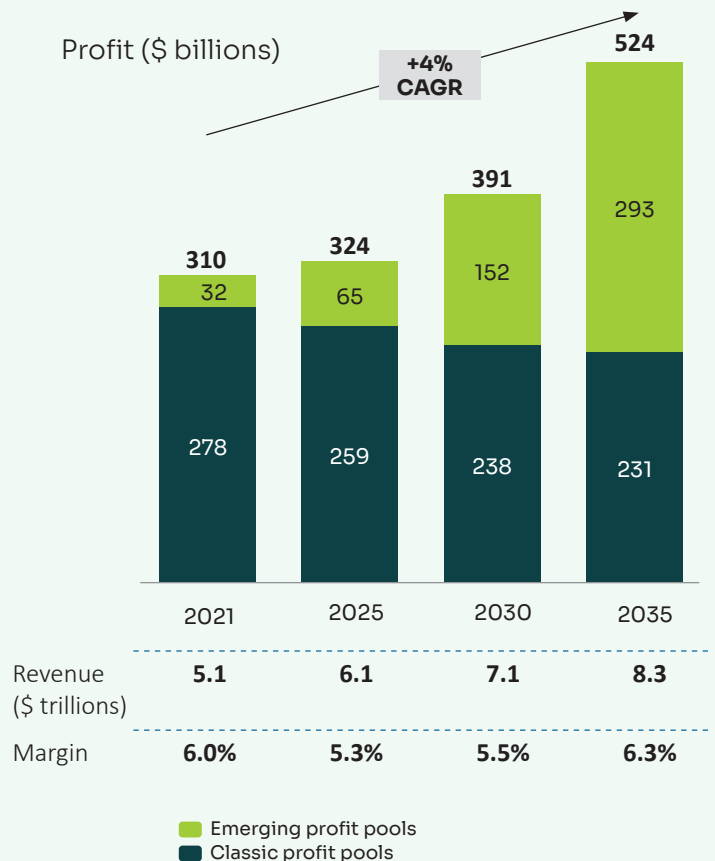
Tesla earned more than \$15,500 gross profit per vehicle sold [...] twice as much as Volkswagen, [...] four times more than Toyota and five times more than Ford" - in 2022 at the peak of the global inflation crisis¹

Shift in outsourced value-add from automotive supply chains²



*Selected OEMs with deep integration into main components
Sources: <https://www.welt.de/motor/article116695390/Das-Geheimnis-der-Ge-winnspanne-beim-Autokauf.html> and https://www.researchgate.net/publication/260339436_An_Overview_of_Costs_for_Vehicle_Components_Fuels_and_Greenhouse_Gas_Emissions

Profit pools by 2035, with all growth coming from emerging technologies



Source: BCG analysis; Negative profits excluded from total industry profits.

- 1 According to Reuters reported in early 2023
- 2 Finished vehicle

Emerging profit pools and the power of (new) suppliers

Shift in supplier profits

Classic profit pools

Classic components

- ICE & hybrid powertrain
- Body & exterior
- Interior
- Chassis & E/E

New car sales

- Diesel
- Gasoline
- HEV
- PHEV
- MHEV

Classic after-sales

- Accessories & consumables
- Elect. & mech. parts
- Body parts, glass, lighting
- Tires
- Wear & tear/ maintenance

Finance & Insurance

- Loans
- Leasing
- Subscription
- Insurance

Emerging profit pools

New components (EV, AV, SW)

- BEV powertrain
- ADAS (L0-3)
- AV (L4&5)
- Software

New car sales (BEV, AV)

- BEV
- Robo taxi
- Private AV

New after-sales and services

- Public charging
- Home and workspace charging
- BEV & AV parts, labor, maintenance
- Data and connectivity

On-demand mobility

- Car-sharing
- Ride-sharing
- Robo taxi
- Micromobility
- Intermodal platform
- (Offline) Taxi

Propelled by major transformation trends, the global auto industry has embarked on a journey from its established “classic profit pools” – spanning the life cycle of ICE vehicles from procurement through sales and after-sales services to associated financial products – towards “emerging profit pools”. These are derived from EVs, their associated software and infrastructure, as well as the new after-sales, services and ownership models that are emerging around them. They will drive all growth in the automotive sector, as shown by BCG in their recent study “How to Profit in Tomorrow’s Automotive and Mobility Industry”. The main aspects of this transition are set out in the graphic above.

Over many decades, the global auto industry developed a highly efficient procurement and production model that underpinned the classic profit pools illustrated above and provided the key to the industry’s ability to grow and globalise. However, this established model lacks the flexibility to address the challenges of the EV transition. ➤



Daniel Weise
CEO Inverto – Managing
Director & Senior Partner BCG



Virtually all growth in suppliers' OEM-related revenues and profits will come from components and software for emerging technologies while revenues and profits from traditionally powered vehicles will effectively stagnate.²

The transition from ICE to xEVs (battery, hybrid and hydrogen cell vehicles) implies a radical, industry-wide shift in materials, components, processes and the range of suppliers that OEMs will depend on to produce and distribute their vehicles.

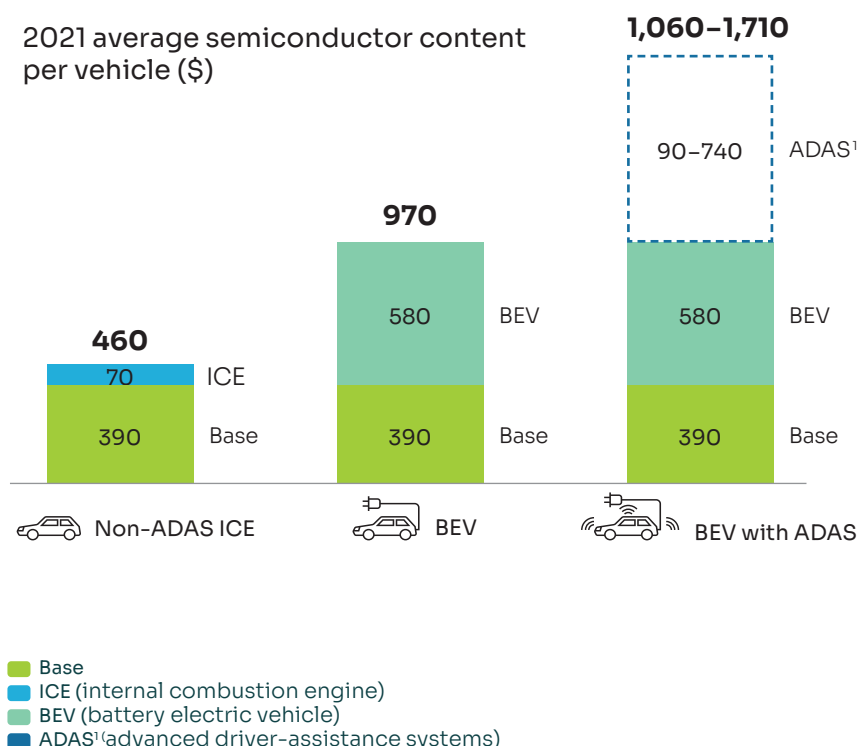
The implications for OEMs and suppliers of this transition are illustrated by the large difference in the ratio of in-house to outsourced value-add between ICE vehicles and BEVs. In the case of ICE vehicles, around 65% to 75% of value-add in the finished vehicle derives from the supply chain. For BEVs, we can observe two things: Firstly, there is a much broader range between

OEMs in terms of outsourced value-add. This ranges from a BYD that can go as low as 20% in external sourcing due to very deep vertical integration, to companies like Fisker and Xiaomi, which can reach proportions of up to 90% in external sourcing. Secondly, it can be observed that the value-add through external sourcing generally increases compared to ICE vehicles. This is driven by the main value contributor, the high voltage battery pack, which nearly all OEMs (apart from BYD and to some extent Tesla) source externally or from joint ventures.

Contributing to the increase in externally sourced value-add is the semiconductor content of ICE and BEV cars, as shown below.

The established transformation trends towards BEVs and advanced autonomous driver assistance systems (ADAS) will hugely increase the semiconductor content of future vehicles. This will clearly increase the strategic importance of semiconductor suppliers. //

/ Drivers – semiconductors content per vehicle doubles with the adoption of BEV, and again with ADAS



¹ ADAS is shown up to level 2+ given minimal adoption of more sophisticated levels in 2024

² Source: <https://www.bcg.com/publications/2023/growth-strategy-tier-one-suppliers-auto-industry>



Procurement's role in the auto industry's evolution

The overall increase in value-add accounted for by suppliers in next generation vehicles (for most manufacturers), as well as the divergence in integration depth, have far reaching implications for the industry and for the strategic importance of the procurement function. The standard approach to procurement in automotive does not suffice anymore, agile adaptation reflecting the respective product strategy and integration depth is key to deal with drastically different materials, suppliers and sourcing challenges. Additionally procurement is at the sharp end of many of the industry's most pressing challenges: being the main lever in response to huge cost pressures, being able to manage more effectively along the value chain and identifying new players on the market. Equally, with an increase in outsourced value-add, new opportunities are opening up for suppliers to expand their relationships with major customers.

Profitability sleuth

OEMs face a shift from today's value-add-through-assembly/development model to one in which a far greater share of the value of their products resides in parts that are developed and sourced externally. They are in large parts responsible for the customer facing user experience, e.g. range, ADAS, etc. This challenges OEMs to offset the loss of in-house value-add and find new sources of profitability. Procurement must act as the 'eyes and ears' of the business, identifying new providers that can strengthen the supply chain and improve profitability.

Balancer of power

Most of the intellectual property required for critical EV components (battery cells, electric motors, hardware and software for in-car systems including ADAS and AV) is controlled by large, established companies, many of which have no history in the auto industry and therefore do not depend on it for their success. Forming strong partnerships with these suppliers will be essential for OEMs as they transition to emerging profit pools. These relationships will be very different to those that OEMs have with their longstanding ICE suppliers and will demand a new and different approach to the procurement process. The industry's standard approach utilizing cost-breakdowns and target costing will be of limited use, with diminished bargaining power and limited availability on the market. One thing is certain: the pressure from OEMs on their suppliers will increase as they seek to reduce costs and capture more value from deeper in their supply chain. Given that its role is to transmit this pressure and secure these gains, procurement is set to become the mission-critical function of the new automotive era. ➤

Innovation booster

Future auto industry supply chains will more closely resemble those operated by major technology product companies such as Apple or Dell. Where auto industry procurement tends to focus on Tier 1 suppliers and to rely on them to manage the N-Tier supply chain, in future procurement teams will need to penetrate far deeper into their supply chains and form strategic relationships with companies further upstream that have the specialist expertise they require. OEMs' aim must be to involve their procurement department and key suppliers at the beginning of the R&D cycle so that they can work with the right partners along the supply chain. Only with procurement in the lead will they achieve more effective and sustainable cost control. This approach will also produce opportunities to co-develop intellectual property that they can control, creating the differentiation that will add value to their products.

Several major OEMs for instance have invested in next-generation battery technologies in an attempt to capture the value of potential breakthrough IP in an area critical for their long-term future profitability. For example, GM has invested in the US company Mitra Chem, Stellantis's corporate venture fund has invested in Lyten, a US lithium-sulfur battery start-up, and Volkswagen Group has been a shareholder in QuantumScape, a solid-state battery company, since 2018.

Procurement must adopt a much more agile and deeply integrated set of relationships with suppliers large and small so that it can identify innovations much earlier and work with suppliers to develop them. It should also be noted, in passing, that other factors are simultaneously pushing companies to develop relationships much deeper in their supply chain – for example, growing sustainability imperatives that will require more accurate measurement and greater transparency around carbon emissions along the supply chain. //

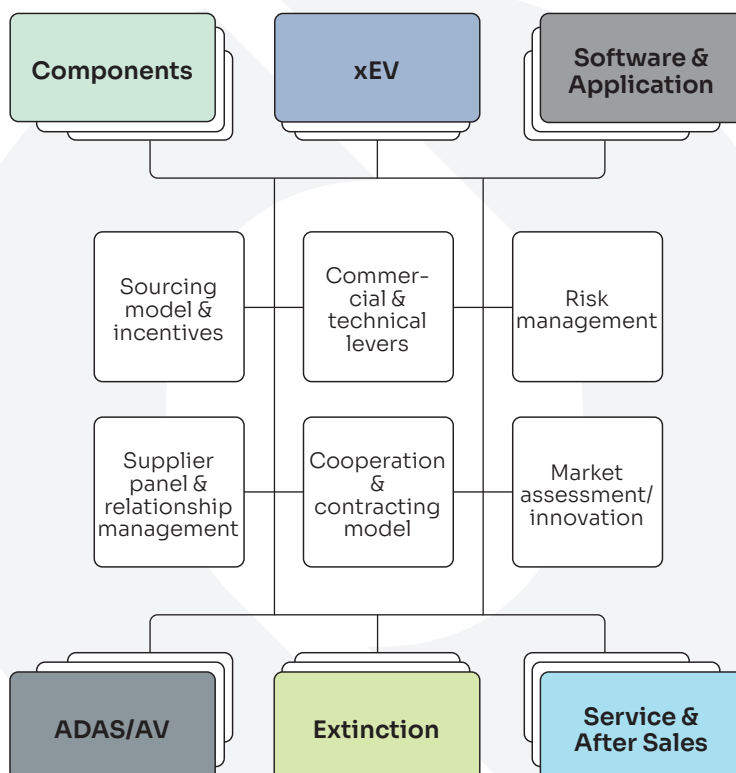


A new strategic procurement model for the future auto industry

In navigating the EV transition, OEMs must abandon the idea that, even though many of the components and systems they use have changed the way their organisation operates can remain the same. The “business as usual” mindset represents a serious liability for companies attempting to migrate to emerging profit pools. Procurement will need to change across all dimensions including management structures, risk management, supplier relationship management, the contracting model and so on.

To reflect the new market realities and create a stronger engagement with suppliers, the automotive industry needs a new strategic procurement model. At its core is the idea that industry players must adopt a more flexible approach to procurement that does not depend for its success on their **established** market power. To guide the approach as companies transition to EV procurement and help them to decide the best way to address different procurement needs and suppliers, Inverto has developed a **Strategic Procurement Model** offering guidance (see below). ➤

/ Inverto Strategic Automotive Procurement Model



➤ The Strategic Procurement Model creates **six categories** of procurement, according to the role along pre-defined strategic dimensions of the value chain.

See page 12 and 13

➤ A strategy matrix comprising **six dimensions** (sets of tools and actions) can be applied to optimize the procurement approach for each of the six categories above.

See page 14 and 15

The **six** automotive procurement categories

Automotive procurement can be clustered into 6 categories: they are drawn to reflect the new structure of the auto industry from the perspective of established OEMs and their N-Tier suppliers, covering existing ICE operations that remain critical to their profitability, as well as developing EV activities.

Each of these six categories has different attributes, which are set out below, and each requires a distinct approach that draws on the procurement strategy matrix described on the following pages 14 and 15. >





Components

(excl. powertrain) and associated software required for both ICE vehicles and EVs.

Will undergo a change in materials (plastic for metal in structural parts, recycled polymers for the interior, new designs, etc) but will in most cases stay fundamentally the same.

Volume and supplier outlook: the supplier landscape faces no major dislocation, with volumes growing normally according to general auto market conditions.



ADAS/AV

including all hardware (Radar, LiDAR, USS, cameras, drive computers, etc.) and software for ADAS.

Volume and supplier outlook: most hardware suppliers are already active in the automotive sector or are established semiconductor manufacturers. The power balance is skewed towards suppliers, especially for semiconductors. In software, start-ups and non-automotive suppliers dominate. The dilemma for OEMs is whether to make or buy.



xEV

including everything related to new propulsion technologies, battery components, electric motors, fuel cells, etc.

Volume and supplier outlook: many suppliers in this group are new to the auto industry, often successful in their current markets and therefore not dependent on one OEM. Expect rapidly increasing volumes and potential supply bottlenecks.



Extinction

including all components, suppliers and services specific to ICE vehicles. This category includes power trains, transmissions, prop shafts etc.

Volume and supplier outlook: category highly exposed to risks such as customer preferences and regulations. Divisions sold to PEs. Volumes will be in structural decline, although the obligation will remain to provide replacement parts for up to 15 years after ICE production ceases. Time dimensions difficult to estimate, resulting in unclear volumes.



Software & Application

comprising all external software procurement and licensing. Demand is driven by switch to digital technologies and autonomous driving.

Volume and supplier outlook: software companies have a major presence in other industries and many are far larger than the established OEMs, leading to a new power balance in the supplier/client relationship. Roll-out of level 3+ driver assistance systems will create new opportunities to deploy entertainment and work-related in-vehicle software. Procurement and sales models will need to cover ongoing software costs (updates, feature upgrades, security).

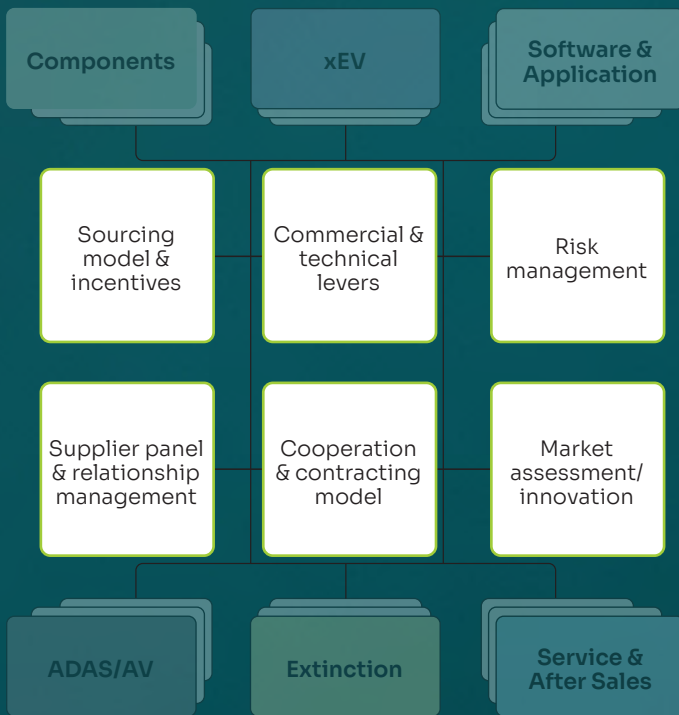


Service & After Sales

including backend software, navigation data etc. representing the backbone of the vehicle, connectivity features and service experience, after-sale service, spares, upgrades and maintenance.

Volume and supplier outlook: we expect consolidation among suppliers of backend software and end-of-line testing (EOL) services. Demand for EOL services is likely to decrease in some areas due to reduced EV maintenance requirements.

The **six** dimensions of a future-facing procurement strategy



The way auto industry OEMs approach purchasing must fundamentally change. The key problems with their current strategy to procuring essential components are lengthy processes, lack of flexibility and poor stakeholder management. If they are to adapt successfully to an EV world, OEMs must adopt procurement strategies and processes that will enable and support the critical supplier relationships that automakers must form to build their presence in EVs. The new approach must be readily adaptable to the particular needs of each purchasing relationship.

The process of individualizing the procurement approach for each area of procurement will represent a significant challenge for many OEMs that have spent decades refining their current, inflexible purchasing processes. To aid the switch, we have developed our Procurement Strategy Matrix, which divides into six dimensions as detailed below. Each of these dimensions can be individualized for each of the six key commodity groups we discussed in the previous section.

1

Sourcing model and incentives

In order to adjust sourcing models and incentives towards the new mobility era and reflect the increased pressure on development cycles and cost excellence, an evolution of current product and procurement cycles is necessary. Procurement must move towards a recurring cycle with periodic KPI-driven reviews to determine volume allocation and growth trajectories. This will allow suppliers to play to their strengths, and OEMs/N-Tier customers to regularly reiterate, review and optimize products and partnerships. The overarching aim is to accelerate cost optimization, closing the profitability gap between ICE and xEV.

2

Commercial and technical levers

In the short and medium term, material costs are expected to increase, highlighting one of the major challenges of transitioning to emerging profit pools. Accelerated product cost reduction takes top priority and needs to be pursued through established and refined commercial initiatives in the realm of sourcing excellence and process driven negotiations. However, the largest potential in new markets lies in technical refinement. Identify and exploit optimization potential through out-side-in benchmarking, supply chain workshops with full N-Tier support and accelerated in-series implementation.

3

Risk management

This comprises framing the risk management strategy to reflect the changing supplier base, onboarding of new suppliers, suppliers' production readiness etc. A comprehensive risk management strategy becomes even more critical given the auto industry's increasing reliance on external sourcing, the concentration of battery materials in Asian countries and a global environment of geopolitical and climate-related stress.

4

Supplier panel and relationship management

Large OEMs and N-Tier manufacturers are dealing with thousands of suppliers. Their challenge is to consolidate the existing portfolio and concentrate their efforts on the most important, value-adding relationships, based on spend evolution, technological leadership, competitors, risk etc. Close monitoring and regular reviews with clear outcomes are essential. Facilitated through dynamic in-series volume allocation and action plans to continuously drive optimization and innovation. Moving forward, both OEMs and suppliers need to identify and implement the right set of KPIs to measure and incentivize value-adding partnerships within their supplier ecosystems.

5

Co-operation and contracting model

This comprises frameworks for increasing co-operation along the value chain and the associated contractual relationships. Part of it is simple purchasing of parts at one extreme, alternative modes of co-operation such as open development alliances, development co-operation, strategic partnerships, minority investments, joint ventures and even acquisitions. This area also covers new contracting models, for example for software applications that involve updates and upgrades over time to add new features.

6

Market assessment and innovation

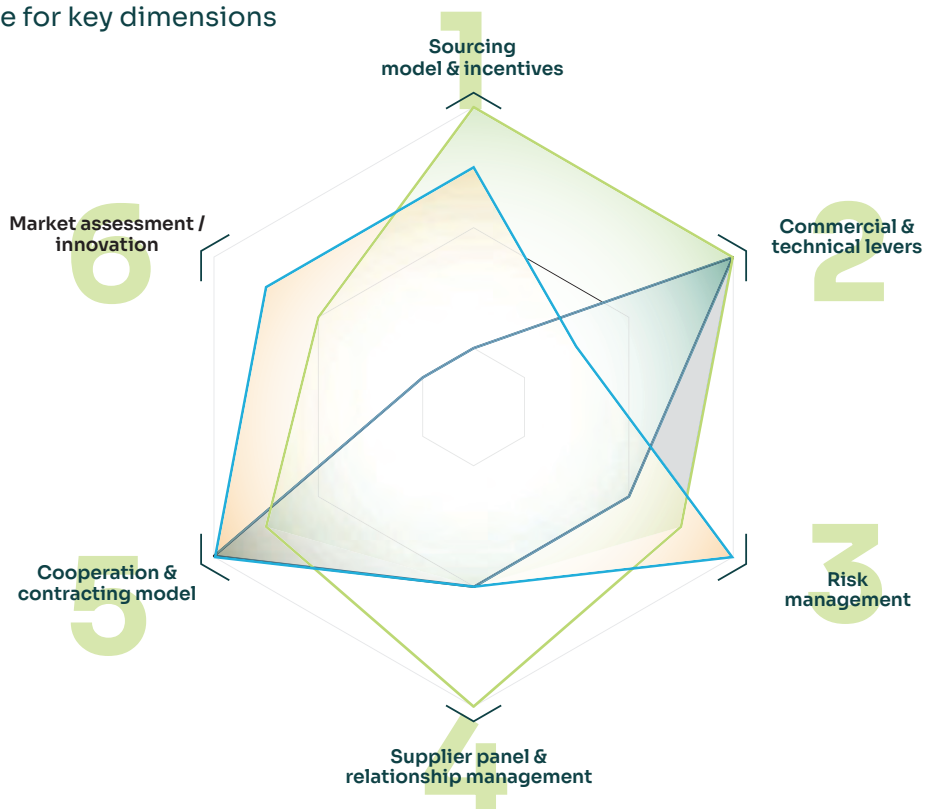
Auto OEMs and their major suppliers must become more agile at anticipating market trends that could result in supply shortages, and at scanning for early sight of promising ideas, particularly within their own supplier panel. This means becoming more integrated into the supply chain and finding models that will let them develop innovative ideas jointly with their suppliers and control more of the IP content. The role models in this area are companies such as Apple, Microsoft and Samsung. Creating a more agile innovation model will also involve faster implementation of supplier onboarding, for example, to gain access to their expertise. //

Applying the Inverto Procurement Strategy Matrix

illustrated by the category example of Software, Extinction and xEV

By plotting the six categories of commodities against the six procurement dimensions, it can be illustrated how much the procurement processes will need to change for each category of commodities.

/ Procurement processes need to evolve for key dimensions



■ Software
■ Extinction
■ xEV

The urge for evolution in this context is meant as a gauge on how much the current approaches, methods and tools need to be reformed and rethought to adapt to the new product/market/supplier landscape. This will manifest itself in new operating models, adapted SRM approaches, rethought commercial levers or an increased focus within purchasing on the discovery of new market innovations within the supplier panel.

Along all procurement dimensions and levers such as sourcing, commercial & technical levers, risk management, etc. little adaptation of current processes is required with respect to the supplier landscape, market or product. The same applies to the Components category, which includes parts that are used in

conventional vehicles and will continue to be needed for EVs. However, once we move into new categories such as xEV completely new and highly differentiated approaches are required for each procurement dimension. ➤

The following examples will show how the procurement approach needs to be adapted for some of the key categories of procurement – Software, Extinction and xEV – and will highlight the most appropriate sourcing tools to deploy in each case.

Software & Applications



Entails all external software procurement and licensing. Is driven by the switch from HW & SW black box solutions to software, centralized control systems and an overall increase in connected mobility and software interaction with our cars. Autonomous driving Level 3 and greater is creating additional need for entertainment and office software availability during transit.

The Software & Applications category poses three challenges:



Handling suppliers who are not familiar with the automotive market including its working methods and who have bargaining power due to the uniqueness of their products/ solutions (e.g. Google, Mobileye, ...)



Balancing cost leadership, innovation leadership and risk mitigation in an environment in which dependencies are high and cost of supplier replacement exorbitant



The necessity of organizational adjustments including processes, interfaces and sizing to reflect increased requirements on sourcing

The key tools and strategies that should be deployed are:

- **Sourcing model & incentives**, whereby N-Tiers need to foster a KPI-driven environment with their software partners that incentivizes innovation and reliability, while discouraging quality complaints and development delays
- **Risk management** is essential to software sourcing as there is an exceptionally high dependency on companies that sell their software as a licence. Cost of replacement is high, integration depth for many applications is significant and ability to influence or circumvent integrated software products is close to zero. Detailed screening and full risk assessment of suppliers and their solutions prior to integration, and worst-case scenario analysis are essential for this category. Much of the risk mitigation needs to be handled through adequate co-operation & contracting models.
- **Co-operation & contracting models** are at the core of software procurement. As outlined in the risk management section, dependency is high for most software applications. Markets are often monopolistic, requiring a detailed and holistic contractual basis for partnerships where the fall-out penalty is high. Determining co-operation models (license agreement vs. development works incl. IP transfer) needs to be considered strategically to ensure long-term supplier partnerships where necessary. Contractually all bases need to be covered and a wide range of fall-back options need to be aligned beforehand, incl. insolvency, take-over, discontinuation of product, lifetime, penalties for quality, etc. The risk of uncertain co-operation and contract status does not only affect current production vehicles in case of an error or fall-out, but all vehicles depending on the software application in the market, especially in a time of over-the-air (OTA) updates and connected cars. ➤



Traditional ICE components such as engine parts and drivetrains will be gradually phased out over the coming decade, with no additional contract awards and a risk that suppliers will exit the market before production ceases.

The Extinction category poses two important challenges:



Volumes will be in structural decline, with time dimensions difficult to estimate and uncertain market legislation



Ensuring sufficient supply at best possible price to protect margins and profits on ICE vehicles funding the transition to xEVs

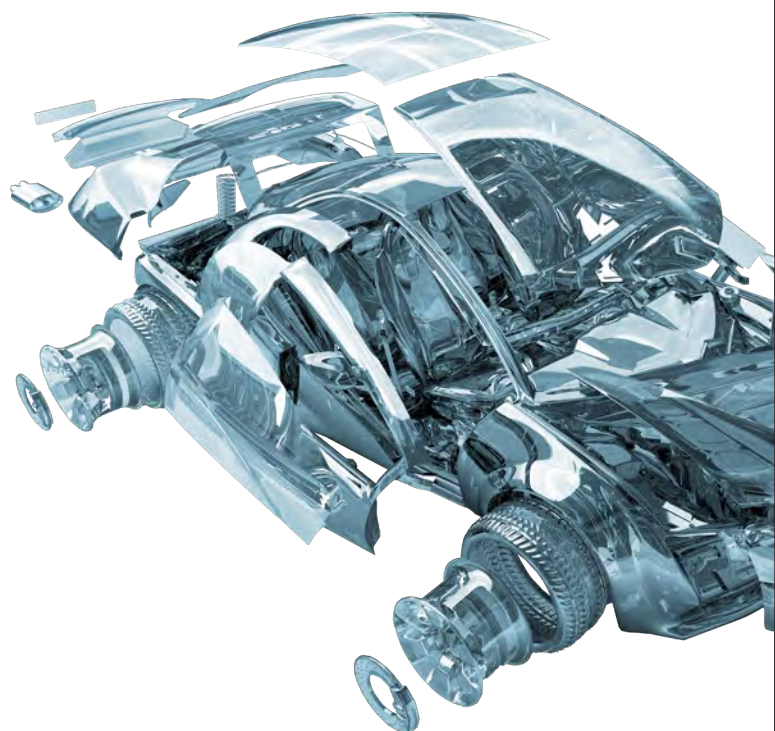
Extinction

The key tools and strategies that should be deployed to protect profitability and ensure long-term security of supply are:

- **Commercial & technical levers:**
technical levers (design-to-cost workshops, re-specification, standardization, etc.) will be required to increase efficiency, and reduce cost while volumes are decreasing.
- **Supplier panel & relationship management:**
A reduction of the supplier panel will be required to consolidate decreasing volumes. This will naturally involve open communication of the long-term strategy towards suppliers.
- **Co-operation & contracting model:**
Companies will need to develop new co-operation models to incentivize suppliers to provide decreasing volumes at competitive prices. They should also consider strategic partnerships with Extinction suppliers to develop new products. This will incentivize them to continue with the relationship and provide replacement components after production ceases.

- **Risk management:**

This is critical for Extinction suppliers because they are operating in a declining market, while OEMs cannot afford to shoulder increased component prices. The strategic partnerships highlighted above represent a key tool for risk management in the Extinction category. ➤





The xEV category poses two important challenges:



Securing supply of battery components and raw materials while providing cost leadership and driving innovation



Integration of holistic supply chain



Battery cells and electric motors are key examples of commodities that fall into the xEV category. Battery technologies will dominate in this category but alternatives such as hydrogen fuel cells will also be required for some vehicles.

xEV

The largest share of the value in this category is accounted for by battery manufacturing, an area in which all auto manufacturers will rely on external sources of support, at least as far as cell manufacturing is concerned. Established suppliers in that field – including CATL, BYD, LG, Panasonic and Samsung SDI – have major market power and cost advantages over smaller players. They dominate a market in which every auto manufacturer must secure future capacity and access to technological innovation.

China has the largest capacity globally for Lithium-Ion battery production and the major players are nearly all based there. Essential raw materials for many components, including battery cells, also originate from China. This creates long and complex supply chains that are subject to a volatile geopolitical situation, demanding a special focus on risk and supplier relationship management. >



- **Sourcing model & incentives:**

OEMs and Tier 1 manufacturers need to adjust to a new power paradigm that is skewed in favour of their suppliers. This needs a change in the general sourcing model, as these supplier relationships require more input, closer monitoring and careful handling. New or modified incentive schemes will be required to secure access to the top suppliers and their technologies.

- **Commercial & technical levers:**

These lie at the core of the procurement approach because they are new components. Technical and commercial optimization will be required to achieve long-term competitive price levels. One example of technical optimization with potential relative cost reduction in the double digits, is the movement towards Cell2Pack, replacing dividers and module casing with active mass, reducing size or increasing range, while reducing the cost per kWh.

- **Co-operation & contracting model:**

For OEMs and their suppliers, new co-operation models could be the key to securing access to important players and differentiating themselves from the competition. Suppliers need to consider how to integrate themselves more closely with OEMs and become a more important part of their development cycle. Priorities should include joint development of new products to ensure a differentiated market position.

- **Supplier panel & relationship management:**

It is area of critical focus with these suppliers since they do not have a history in the automotive industry and due to their strategic importance, relationships with them must be nurtured.

- **Risk management:**

Reliable and competitive supplies of these strategic resources are critical risk factors. OEMs and their suppliers must ensure resilience through action plans and concrete steps in the event that global supply chains are disrupted. This is especially important in view of the industry's high dependency on China for supplies of certain rare earths and other raw materials. Companies should consider how far up the value chain they will invest, as well as measures to nearshore key components. The Inverto Nearshoring Study 2023 finds that 90% of participants see this as a persistent trend that is essential to reduce reliance on China.

- **Market assessment/innovation:**

Insights on markets and innovation are required to gauge new opportunities early, anticipate supply, demand developments and prevent potential shortages. The most recent example here is the rapid recent shift from classic silicon-based semiconductors in power electronics to silicon carbide-based components. This has enabled much better power efficiency but rising demand for these chips has led to a five-to-seven-year expected supply shortfall as production capacity is added. Purchasing and R&D need to align closely and invest early to secure materials and components that create USPs for the product and sales teams and improve margins.* //

* See Silicon Carbide Chips: The Auto Sector's Newest Supply Hurdle, BCG whitepaper.





Conclusion

The auto industry is going through a period of intense disruption. The decades during which major players could use their market power to impose their agenda on suppliers and dictate terms are coming to an end. With the evolving supplier landscape and changing market forces, procurement must be aware of its relevance and ability to exert influence in the new power structure. This implies a complete re-think of its traditional ways of working – procurement teams at OEMs and large suppliers must re-examine and question all aspects of their activities.

To aid this process, Inverto has developed a new strategic procurement model for the automotive industry, supported by the tools and expertise required to implement it. Adopting this model will ensure that companies develop a more agile and nuanced approach to their strategically critical procurement function. The model sets new standards for a set of activities that will help to determine which companies emerge as leaders in the new automotive era.

Glossary



ADAS	Advanced driver-assistance systems
AV	Autonomous vehicle
BEV	Battery electric vehicle
EV	Electric vehicle
HEV	Hydrogen electric vehicle
ICE	Internal combustion engine
MHEV	Mild-hybrid electric vehicle
OEM	Original equipment manufacturer
PHEV	Plug-in hybrid
xEVs	Battery, hybrid and hydrogen cell vehicles

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Inverto is a leading global consultancy specializing in strategic procurement and supply chain management. The consultancy goes beyond pure cost management to deliver business value and a competitive edge for its clients. Inverto transforms procurement and supply chain functions, enabling long-term success by fostering innovation, resilience, and sustainability.

Operating under the umbrella of BCG, Inverto expands BCGs extensive offerings with a comprehensive array of procurement optimization solutions. Inverto currently employs more than 600 experts across three continents. Clients are globally renowned brands from all industries, as well as the world's leading private equity firms.

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