GEAR 2030 Working Group 1 Project Team 3 – 'Adaptation of the value chain'

DRAFT RECOMMENDATIONS

Introduction

The automotive value chain is one of the most advanced and specialised in Europe. It stretches from the suppliers of raw materials and basic components, to the manufacturers of parts, service providers, vehicle manufacturers, dealers and to the aftermarket sector. With over €120 billion in trade surplus and massive investments in research and development, the automotive sector is a backbone of the European economy.

The future of this sophisticated value chain equipped with cutting-edge technologies remains however uncertain. The European automotive sector is expected to undergo structural changes which might reshape it considerably in terms of key value-added creators and its global competitive position. It is therefore vital to critically assess the consequences of the on-going changes and prepare the entire European value chain for the turn into the future.

Project Team 1 identified four mega trends impacting the sector namely:

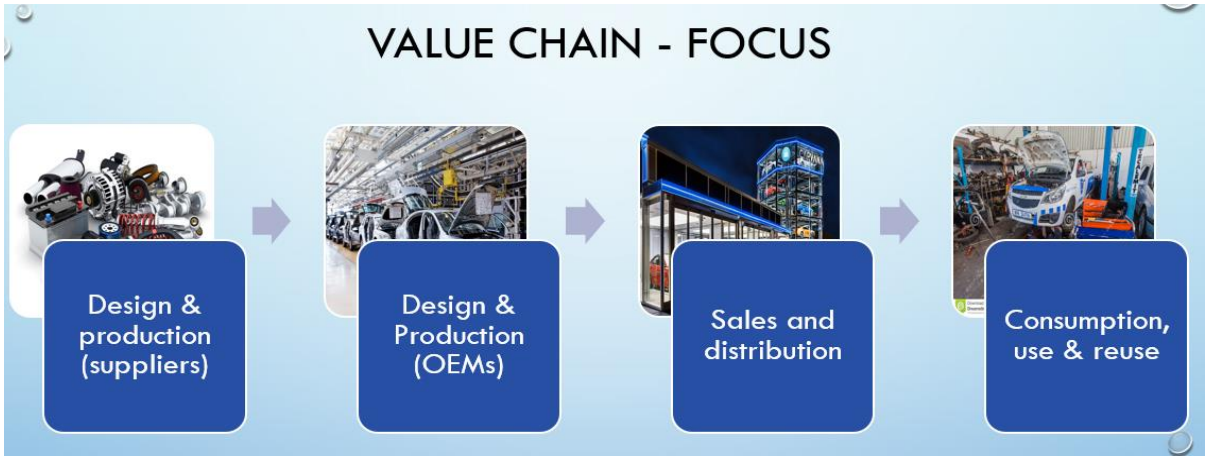
- more stringent requirements on pollutant emissions limits and energy efficiency of the road transport;
- changing consumer and societal demands including alternative approaches to mobility;
- technological innovations including roll-out of autonomous vehicles, connectivity and introduction of advanced production methods;
- the entry into the market of new, powerful players.

While the impact of each of these mega trends is still difficult to assess, it seems clear that they have the potential to trigger a new mobility revolution. Disruptions in the value chain will create new opportunities, form novel paradigms and open revenue pools which did not exist in the past. For example, with progressing decarbonisation of the transport, zero-emission technologies including batteries and fuel cells will gradually take a leading position in within a powertrain mix. Autonomous vehicles will at the same time shape a demand for lidars, cameras and sensors not used in the traditional cars. On the other hand those strands of the value chain which are deeply woven into current products like gearboxes, exhaust systems or internal combustion engines will need to take sufficient steps to adapt to a new reality. The European Commission and Member States should act at two levels:

- encourage and support the development of new products and services which will play a leading role in the new mobility world
- Maintain the exiting EU competitiveness in the automotive and aftermarket sectors and mitigate the negative impact of the shift/adaptation for companies that provide state of the art technologies today

When analysing the impacts and elaborating recommendations from the work of the Project Team 3, it has become clear that those two aspects, to a large extent, converge. The most appropriate approach to mitigate negative consequences will be therefore to focus on those actions which will strengthen the innovative potential of the European automotive value chain and build its global competitiveness.

Project Team 3 mapped the opportunities and challenges arising from the main trends for key parts of the European automotive sector – suppliers; vehicle manufacturers; sales and distribution, and consumption, repair, use and reuse.



Draft recommendations of the Project Team 3 have been developed on the basis of the mega trends identified by Project Team 1 and create a link between the work of Working Group 1 and Working Group 2 and 3. They focus on designing conditions for the automotive sector to benefit from a shifting of the value creation.

Draft recommendations

The coming decade will be marked by a major shift of technologies and approaches to mobility. In order to ensure that the development of innovations and their implementation take place in the EU, Europe should strive towards creation of a strong market for innovative technologies and develop framework conditions which will facilitate their development and introduction into the market. Automotive players will need to invest in different technological solutions at the same time, to safeguard their leading role in the global market. Developing innovation and cutting-edge technologies is the only way to maintain and strengthen the European competitiveness.

New business models will be created, whilst existing ones will need to adapt. Unlocking vast amounts of transport data will also support the development of new mobility concepts, where users are incentivized to use a package of mobility options, rather than privately-owned vehicles. This will in turn ensure an optimal use of the different systems and ease the pressure on urban environments, whilst safeguarding mobility.

Data generated by the vehicle use will be of strategic value for automotive players, since knowledge of the vehicle condition/status and end-user behaviour could generate significant additional income.

For those reasons, the Project Team 3 recommends:

1. **Increasing R&D investments via dedicated programmes targeting near-to-market technologies and creating knowledge centres on alternative powertrains, technologies for connected and autonomous vehicles, advanced manufacturing processes and novel materials.**

   Why? Increase the level of investment needed to develop and deploy new technologies, especially those which are near-to-market.

   Who? Industry players/investors, European Commission, European Investment Bank (EIB) and Member States

   How?

   - Design specific R&D programmes for the development of low emission vehicles/technologies, connected and automated vehicles advanced manufacturing processes as well as for the cost-effective introduction of advanced materials into vehicle components;
   - Assess the available funding at the EU level (ex. European Green Vehicle Initiative or Fuel Cell Joint Technology Undertaking) in the light of the investment needs resulting from ongoing changes in the automotive sector;
   - Ensure that the EIB lending policy provides the right level of financial support for forward looking technologies and develops tools for SMEs operating in the areas of innovative automotive technologies;
   - Encourage Member States and Regions and industry to foster joint development of low emission technologies and resources-pooling within the sector;
   - Develop of knowledge centres, supporting academia and creating collaboration between research institutes and industry;
   - Harmonize international and European standards in processes and vehicle components.

2. **Developing a European approach to zero-emission mobility technologies – batteries and fuel-cell based.**

   Why? In the wake of the zero-emission mobility, it is essential from the perspective of the competiveness of the European automotive value chain that low and zero-emission technologies are developed and implemented in Europe. Battery charged vehicles (equipped with battery cells produced outside of the EU) represent nowadays the leading segment of zero-emission vehicle around the world, while fuel cell technology successfully competes with battery electric powertrains for bus applications. In order to profit from this shift, Europe should

not only have an ambitious plan for a roll-out of the zero-emission vehicles, but also a clear strategy for their development and manufacturing in Europe. Any decisions in this area should, however, be subject to an economic analysis of the feasibility of a competitive and sustainable battery cells production in the EU.

Who? European Commission, European Investment Bank and Member States

How?

- Develop, with the support of the EU industry, a European strategy for the production of battery cells and battery systems in Europe including:
    i. Ensure a coherent framework for the development of batteries production in Europe taking into account that batteries are used in a variety of sectors and applications (e.g. batteries for vehicles, energy storage, etc) and are influenced by different pieces of EU legislation and initiatives;
    ii. Launch of a collaborative project to start production of battery cells/systems based on the European technology;
    iii. Attracting existing manufacturers to produce in the EU;
    iv. Strengthening the European supply chain;
    v. Ambitious investments in scale-up projects for second generation batteries;
    vi. Development of knowledge and competences centres, supporting academia and creating collaboration between research institutes and industry.

- Develop, with the support of the EU industry, a European strategy for the roll-out of fuel cells in Europe including:
    i. Strengthening the European supply chain and supporting internationalisation of the European companies;
    ii. Ambitious investments in scale-up projects for the development of second generation fuel cells, reducing costs of hydrogen tanks and substituting expensive raw materials;
    iii. Development knowledge and competences centres, supporting academia and creating collaboration between research institutes and industry.

3. Setting long term, technology neutral objectives to lower both greenhouse gases and pollutant emissions.

Why? Technology neutral objectives enable manufacturers to select most cost-efficient approaches to meeting legislative requirements. The long term perspective ensures legal predictability.

Who? European Commission, Member States

How?

- Set new emission standards based on the vehicle performance independently of the technology used;
- Promote low and zero-emissions mobility concept instead of indicating one specific technology.

4. Supporting investments related to the development of and transformation towards digital products and services;

Why? The world is facing the transition from the physical to the digital economy. This transition has even a more significant impact in the automotive sector since the vehicles themselves but also the manufacturing processes and the sales, distribution, aftermarket and use are becoming more and more digital. The process of migrating from traditional services to digital ones as well as taking benefit of the value generated from the new virtual world requires significant investments particularly for SMEs.

Who? European Commission, European Investment Bank, Member States

How?

- Implementing the Digital Single Market strategy priorities which aim to open up digital opportunities for people and business and enhance Europe's position as a world leader in the digital economy;
- Design specific programmes for investment in the implementation of digital processes and services;
- Ensure that the EIB provides the right level of support for SMEs to invest in digital technologies and services.

5. Developing technologies and businesses around circular economy concepts.

Why? As resource scarcity increases, circular economy will play increasingly more important role in terms of reusing of rare materials and limiting raw materials costs. Recycling of batteries, to name one, could become the basis of new business models in the European automotive industry.

Who? European Commission, European Investment Bank and Member States

How?

- Encourage fundamental research and industrialisation on the reuse and substitution of critical raw materials and dangerous substances coming from vehicles and vehicle components;
- Design funding schemes to support SMEs investments in these technologies;
- Support re-use of the batteries from electric vehicles in storage energy systems;
- Create an EU innovation award for the development of best circular economy concepts;

- Promote remanufacturing of vehicle components, assuring product quality and performance.

6. **Investing in human capital, creating tools to attract talents to the automotive sector.**

Why? New skills will be needed to develop vehicle automation and connectivity services, mostly in IT, security and communications. These skills are not necessarily available within the industry workforce today.

Who? European Commission and Member States

How?

- Specific measure under development by Working Group 1, Project Team 4.

7. **Designing an ambitious framework for the development of automated driving in Europe and investing in infrastructure to facilitate the roll out of autonomous vehicles.**

Why? Autonomous vehicles are one of the emerging technologies which have a potential to revolutionise the concept of mobility as we know it today. It is essential that a sufficiently big market is created in Europe with necessary infrastructure which will enable testing and rolling out of those vehicles thus creating a critical mass necessary to reach a competitive advantage over other parts of the world.

Who? European Commission, Member States

How?

- Specific measure under discussion by Working Group 2.

8. **Creating the conditions for a fair competition and innovation framework that allows access to transport and vehicle data based in particular on user's consent and fair and undistorted competition[1].**

Why? Transport and vehicle data will change the way vehicles are operated and serviced today. Access to data from the vehicles (but also public transport data, car sharing data, etc.) will enable all actors of the value chain to develop new services and business models and to create additional value for users and society. By providing for a legal framework allowing the access of vehicle data to a variety

[1] See the five guiding principles that shall apply when granting access to in-vehicle data and resources, as proposed in the C-ITS platform report pp 11-12: http://ec.europa.eu/transport/sites/transport/files/themes/its/doc/c-its-platform-final-report-january-2016.pdf

of stakeholders, the European Union might unlock the sector's innovation potential.

Who? European Commission

How?

- Assess the need to update to technological progress existing legislation and analyse to which extent it allows the entire automotive value chain to benefit from the opportunities of digitalisation;
- Take into account the principles set out in the Communication on Building a European Data Economy that looks at proven or potential blockages to the free movement of data (including the transport one) and present options to remove unjustified and/or disproportionate data location restrictions in the EU;
- Take into account the five guiding principles laid down in the C-ITS platform report: data provision based on consent, fair and undistorted competition, data privacy and data protection, tamper-proof access and liability, data economy;
- Take into account cyber security matters;
- Give guidance on framework contracts when it comes to vehicle and mobility data.

There is no consensus among the Group on including in this recommendation the following sentence: *''Assess how the General Data Protection Regulation applies to the automotive sector in order to determine whether sector specific regulation is needed*". This issue needs to be re-discussed by Project Team 1 and Working Group 1.

9. Facilitating the deployment of mobility as a service (MaaS) in Europe

Why? Mobility as a service (MaaS) safeguards mobility, whilst making the most efficient use of existing assets (private cars, fleet, public transport). It fosters co-modality and increase convenience for users. Furthermore, the development of adequate IT MaaS tools could be an interesting product to export for the European industry

Who? European Commission, Member States, Regions

How?

- Analysing the gaps in the internal market that hinder cross border services (for example car rental and the impossibility to bring back a car to another Member State than the Member State of rental);
- Fostering the opening of public transport Application Programme Interfaces and ticketing systems throughout Europe;

- Funding research on dedicated IT tools and MaaS pilots in various European cities to demonstrate their added-value to citizens;
- Encouraging single, cross border ticketing options for all modes of transport.

10. Facilitating innovation and a level-playing field for new economy business models

Why? In the emerging mobility patterns, the so called, 'new economy' (peer-to-peer, sharing concepts, etc) creates new opportunities. In order to ensure a level playing field for all the participants, a clear framework should exist

Who? European Commission, Member States

How?

- European Commission to issue guidance on the existing business legal framework;
- Member States to closely monitor developing business models and take measures in line with the Commission guidance.

There is no consensus among the group on this recommendation/action. This recommendation needs to be re-discussed by Project Team 3 and Working Group 1