

***7° AIEE Energy Symposium***

**Current and Future Challenges to Energy Security**

*The energy transition. a pathway from low carbon to de-carbonization*

***Energy Efficiency and the future strategies of the energy industry***

*Sandro Neri, Federmanager - Federation of Italian Managers*

**Rome, 14-16 December, 2022  
Bocconi University**

Since 1945, Federmanager is a key Association representing managers leading companies that produce goods and services, with about 160,000 managers, both active and retired.

It focuses on aspects such as:

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It is made out of a **Central National Structure** and **55 Local Structures**



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For several years, Federmanager has established a solid scientific relationship with AIEE, drawing up four energy reports on contemporary topics .

1° Report – March 2017 – ***An Energy Strategy for Italy - Compatibility between safety, economy, efficiency and the environment***

*Energy security and Efficiency*

2° Report – January 2019 – ***The ways for de-carbonization and the Italian economic and industrial development***

*Decarbonization*

3° Report – February 2020 - ***Green transition and development. Can the Circular Economy contribute to the restart of the Italian system?***

*Circular Economy*

4° Report -2021- ***The energy communities role in the transition process towards decarbonisation***

*Energy Communities*

5° Report – 2022 **Automotive and Battery technology markets**



***Automotive & Smart Mobility***

Our long-term goal is to increase synergies between energy communities, prosumers and electric mobility

# The revolution in the automotive industry, the effects on the Italian industrial system and the role of companies with management

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- The revolution in the automotive world
- The effects on the Italian industrial system
- Strategies to minimize the economic and social impact: the role of companies with management



# Introduction

- ❑ The structural response to the current energy crisis and increase of gas prices implies an accelerates the growth in renewable energy generation, setting electricity prices through auctions and long-term contracts (PPA – power purchase agreements)
- ❑ The resulting reduced price volatility of the energy supplied to electric cars cannot occur for cars powered by fossil fuels, increasing the benefits of the electric cars.
- ❑ The energy consumption of electric cars is about a third of the internal combustion engine (ICE) ones, resulting in further economic and environmental benefits.

## The revolution in the automotive world

- ❑ The electric car will bring a revolution in the way we use the car:

*New models of mobility*

*Autonomous driving*

*Digitalisation*

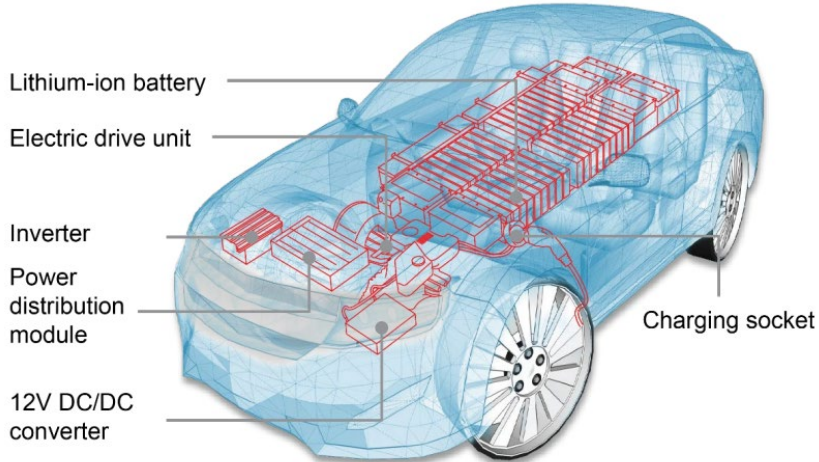
*Electrification*

- ❑ Ownership will lose relevance in favor of mobility services and journey sharing.
- ❑ Many jobs will be lost, around 275,000 in Europe net of the 230,000 created for the current transition, because the electric car uses fewer components for its construction than the traditional car, equal to around one sixth (200 components against 1,200) and the machinery that will produce the electrical components of the cars will have a longer useful life.
- ❑ Therefore investments will decrease by 25%.

# Main components of BEV and ICE powertrains

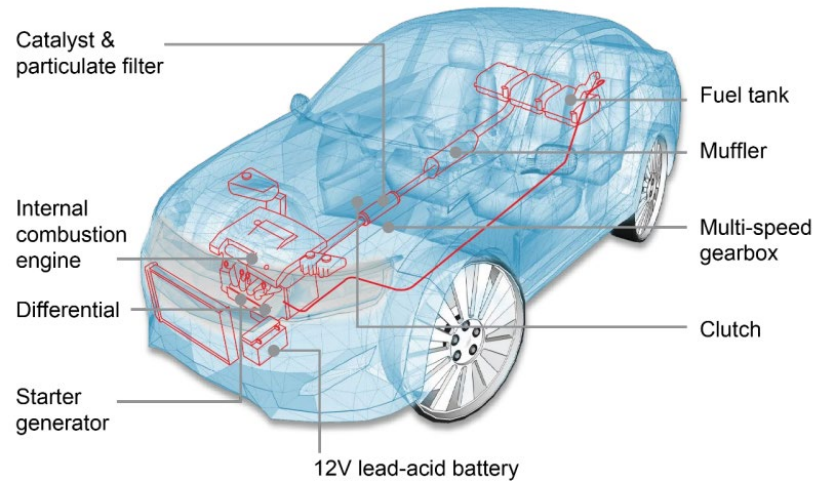
## BEV powertrain

Engine, battery system



## ICE powertrain

Engine, transmission, exhaust system



## The revolution in the automotive world

The new materials will mainly concern the battery pack, which will be innovative, and before the end of the decade the batteries will be solid-state, with significantly faster recharging times. And a lower demand for lithium

*Year of solid-state batteries commercial use is announced*



## The effects on the Italian industrial sector

- ❑ The technological and managerial transformations induced by the production of the electric car will have a strong impact on the Italian automotive industry.
- ❑ The Italian automotive industry made up of about 60% of small (10-49 people) and even micro (< 10 people) companies, where the models of governance are 48% of the family type.
- ❑ Recourse to foreign managers represents only 6% of independent companies but 78% in the case of foreign multinationals and 30% in the case of an Italian group where the mixed management system predominates (51%)
- ❑ The creation of Stellantis with the merger of FCA with PSA has remedied the innovation gap that FCA had in relation to the electric car and has allowed FCA production to enter the Asian markets where PSA was present to make the latter available the North American and Brazilian markets where FCA was present. The fourth global car player after Volkswagen, Toyota and Renault-Nissan was born. The consequence of the new alliance will be the conversion of the Melfi and Termoli plants to the production of electric cars.



## The effects on the Italian industrial sector

### Weaknesses

- Italy lags behind Europe in recharging with electric columns, while China is the leader for fast recharges (in percentage terms) compared to traditional ones.
- In Italy we have shortages for electric motors, power modules, vehicle digitization, sensors, battery packs and computerization, where the level of preparation is low or in any case below the international average.
- Many small or medium-sized companies have not yet made the transition to electric mobility.
- New skills are needed especially for digitalisation.
- A low propensity of Italian companies to innovate emerges.
- Italy is the country in Europe that risks losing the largest number of employees in the components sector (around 60,000).

## The effects on the Italian industrial sector



### Strengths and Challenges

- ❑ Italy is behind in the transition to electric mobility but this could be an advantage, because we could adopt the best practices experienced elsewhere.
- ❑ Particular attention should be paid to the transformation of the German market, which accounts for approximately 20% of exports from automotive industries.
- ❑ In Italy, ample space must be given to the battery industry with the construction of gigafactories for the production, regeneration, repair and recycling of the same (e.g. the case of REINOVA which tests and homologates batteries in Soliera)
- ❑ In Italy, the 275,000 jobs in the components sector must be converted and the first closures are already taking place today, such as Bosch in Bari (1,400 employees), Marelli in Bari (600 employees) in Chieti (1,000 employees).
- ❑ The Italian industrial sector criticizes the acceleration given to decarbonisation in the automotive sector with the stop to the registrations of endothermic cars from 2035, but the proposal to slow it down increases the risk of job losses.

## **Strategies to minimize the economic and social impact: the role of companies with management**

- ❑ The need to create company dimensions capable of technologically and economically managing the transition requires effective public measures for small and medium-sized enterprises, encouraging aggregations, consortia and acquisitions of small enterprises by larger ones.
- ❑ New managerial skills are needed, especially in digitalisation and production, able to facilitate the transfer of developing technologies from universities and R&D centers to the companies in which they operate,
- ❑ Social skills, skills to manage new productive and geographical contexts
- ❑ One of the main challenges for new managers concerns the prospect of job reductions and how to manage it, planning early retirement plans or benefits for non-retrainable professionals.
- ❑ A Motorvehicle University has been created in the Emilian Motorvalley, co-managed by large local universities and major brands in the sector.
- ❑ A teaching method based on learning-by-doing is needed.

## Conclusions

The Italian government should be asked to define a plan for the transition towards environmentally, economically and socially sustainable mobility, as several European countries have already done (including France and Germany). The Plan must contain the following measures:



- Fast and automatic public funding mechanisms;
- Tax advantages for investors in sustainable mobility,
- Tax exemption of the hiring of expert personnel that favors the transfer of technological know-how and internal upskilling and reskilling;
- Review of the current support mechanisms for small and medium-sized enterprises through advance or non-repayable contributions to start production reconversion projects;
- Extension of development contracts and introduction of flexibility mechanisms to safeguard corporate liquidity;
- Introduction of tax instruments to facilitate business combinations and the growth in size of companies;
- Tax advantages for M&A (Merger & Acquisition) operations aimed at changing the structure of companies, favoring aggregation poles starting from smaller ones;
- Promotion of "investment bonds for the Energy transition", aimed at supporting investments that have both a social impact and an economic return.

## Conclusions

### *Main strategies to be adopted by the ruling class of companies with management:*

- Propose themselves as aggregation poles, creating joint ventures or consortiums, operating in Italy or abroad already active in the path towards sustainable mobility;
- Acquire control of innovative start-ups capable of involving them in highly innovative projects connected to disruptive technologies;
- Establish collaboration agreements with universities and research centers on projects aimed at acquiring know-how, but above all know-why. Transfer developing technologies from universities and R&D centers to enterprises
- Convert jobs in the components sector, training personnel adequately in order to guarantee the new necessary skills, especially in the field of digitization;
- Manage new and different productive and geographical contexts, which may characterize both production delocalisation processes and the birth of economic-financial alliances;
- Increase the percentage of investments in training 4.0, innovation, research and development.



***THANK FOR THE***

***ATTENTION !***