Lightweight Materials Market

The target market of the LightMe ecosystem are end users of the automotive and aerospace industries, where decrease of weight leads to significant energy savings, and R&D entities eager to upscale concepts in this field.

In our 41 months of operation, we have followed and monitored various market segments in our field of interest with the overall aim to have a clear understanding of the market dynamics and needs.

These segments are:

1. **our end user sectors: automotive, aerospace industry**
2. **the R&D intensity of the end user sectors**

The objective of screening the market landscape is to assure that the LightMe ecosystem has a broad knowledge and expertise on the target markets and its segments as well as to ensure that the target markets provide opportunities to build a sustainable business.

A quantitative and qualitative assessment of the market is being implemented throughout the lifetime of LightMe. We examine the size of the market both in volume and in value, the various market segments and buying patterns as well as the economic environment in terms of key drivers of the market and market regulations.

1. END-USER SECTORS

Global lightweight materials market

The global lightweight materials market was valued at $168.1 billion in 2020 and is projected to reach $261.6 billion by 2030, growing at a CAGR of 4.5% from 2021 to 2030.

Here are some facts about the market segments of our end user´s sectors: the automotive and aerospace industry:

Automotive lightweight materials market

- The european lightweight car market is expected to register a CAGR of about 9.7% during the period of 2020 - 2025.
- The main drivers of the market are the stringent regulations for reducing fuel emissions.
- The increasing demand for electric vehicles provides an opportunity for the growth of the lightweight material market. Metals are estimated to hold the largest share in the global market for electric vehicle lightweight materials.

Aerospace lightweight materials market

- The global aerospace lightweight materials market is anticipated to increase due to the implementation of stringent regulations over carbon emissions across the globe.
- Easy machining, high strength, low density, and high thrust-to-weight ratio in aircraft engines is expected to drive the demand for titanium aluminide (TiAl) and Aluminum lithium (Al-Li).
- Global aerospace materials market is valued approximately at USD 34.8 billion in 2020 and is expected to reach to reach USD 62.8 billion by 2027, registering a CAGR of 8.8% over the forecast period 2021-2027 [1].

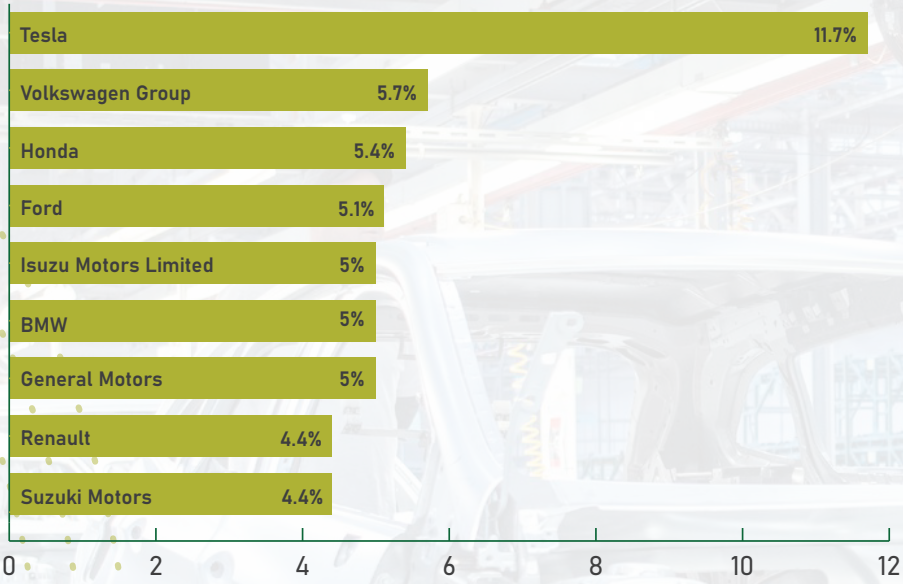
Co-funded by the Horizon 2020 programme of the European Union. This project has received funding from European Union's H2020 innovation programme under the grand agreement number 814552.

2. R&D INTENSITY OF END-USER SECTORS

Furthermore, LightMe is offering access to innovative, advanced **research facilities** including 6 pilot lines accompanied by other essential technical services such as monitoring & process control services, testing & environmental assessment, and process modelling & simulation. Therefore, the examination of the **R&D intensity** of the targeted market sectors within LightMe can be quite interesting.

Automotive industry R&D intensity

- The European vehicle manufacturers represent the largest private investor in European Research and Development (R&D), investing an average of 4 % of turnover each year on R&D activities, amounting to an annual investment of 20 billion Euros.

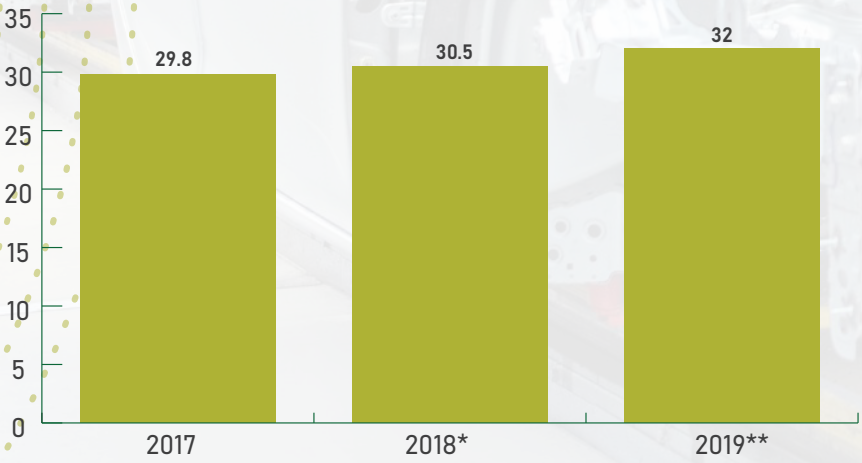


In this graph we can see selected automakers' research and development expenditures as a percentage of revenue worldwide as of June 2018.

Figure 1: Selected automakers' R&D intensity worldwide in 2020

Aerospace industry R&D intensity

- R&D activities are the lifeblood of the aerospace and defence industries. They are crucial to keep the competitivity to face a growing international competition and to foster the development of an innovative supply chain. [2]



The aerospace market is an era of intense competition, fuelled by innovation, which indicates the need for the aerospace and defence (A&D) manufacturers to increase their R&D investments in their product and service portfolios continuously.

Figure 2: Global R&D spending on aerospace and defense, 2017-2019

[1] Global Aerospace Materials Market Size study, by Type (Aluminum Alloys, Titanium Alloys, Steel Alloys, Super Alloys, Composites, Others), by Aircraft Type (Commercial Aircraft, Business & General Aviation, Military Aircraft, Helicopters, Others), and Regional Forecasts 2021-2027 - Market Study Report

[2] https://www.asd-europe.org/sites/default/files/atoms/files/ASD%20Facts%20and%20Figures%202017%20(Final).pdf

For more information:
www.lightme-ecosystem.eu

Co-funded by the Horizon 2020 programme of the European Union. This project has received funding from European Union's H2020 innovation programme under the grand agreement number 814552.