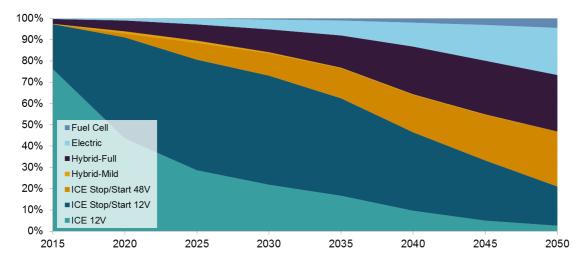
## PRESSE RELEASE

February 2016

# SuP Light Vehicles Forecast 2050 – Vehicles with ICE will still cover more than 70% in 2050. Significant market dynamics will start after 2035.

Schlegel und Partner analyzed and evaluated current powertrain trends and developments, but also legal, demographic and socio-economic influences to forecast the global light vehicle production by the year 2050. Currently, the complete industry is discussing about connectivity, digitalization, new energy storage devices and more advanced driver assistance functions towards completely autonomously driving vehicles. The resulting key question for the strategic orientation of many suppliers and OEM is, whether the internal combustion engine will still play an important role by 2050.



#### Methodology:

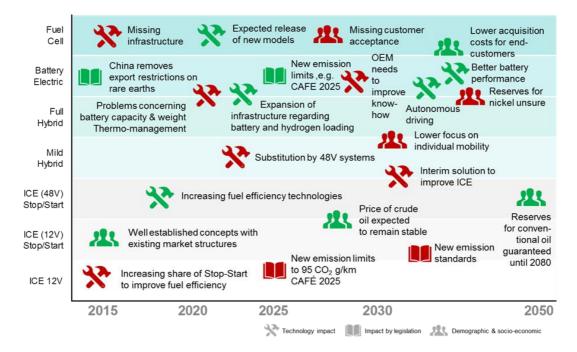
SuP is your strong partner for all types of consulting support, from market exploration to strategy concepts and implementation. Own vehicle forecasts for the upcoming years as well as light vehicle architecture splits are based on more than 1,000 expert discussions in the automotive market that took place in the past 12 months. The discussions have been conducted with OEM, Tier 1 / 2 suppliers, universities, research institutes and other market participants. On the basis of various assumptions, opinions and disruptive technology estimations, SuP developed its own forecasting methodology to implement and translate the information into production volumes.

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#### Influencing framework

Schlegel und Partner incorporated a very broad range of influencing elements, clustered in technological, legal, demographic and socio-economic factors. Especially the availability of resources like fossil fuels or rare earths, but also the regional development of economies and GDP were important inputs to derive reliable forecasts on a global level. Discussions along the value chain from system suppliers down to raw material suppliers or from technical universities to governmental organizations gave us the necessary feedback for a reliable long-term forecast.



#### Total production 2015 - 2050:

In 2015, the global light vehicle production amounted to 85 M units. For the next decades improving infrastructure and increasing GDP in many regions will lead to a stable CAGR ('15 – '50) of 3.4 – 3.6%. This growth with lead to a global light vehicle production of 135 M units in 2050. More important than the total production is the light vehicle architecture split. Schlegel und Partner is using the established industry definitions ICE 12V, ICE with Stop/Start 12V, ICE with Stop/Start 48V, Mild Hybrid, Full Hybrid, Electric Vehicles and Fuel Cell Vehicles.

#### Light Vehicle architectures:

In 2015, ICE-based light vehicle architectures (ICE 12V, ICE with Stop/Start 12V, ICE with Stop/Start 48V, Mild Hybrids and Full Hybrids) covered, with approximately 85 M units, 99% of the global production. These market proportions will change significantly. But to what extent? Other forecasts predict different extreme scenarios like the extinction of ICE engines by 2050 or a still insignificant share of electric vehicles. The SuP forecast does not base on potential events, but on expert opinions and realistic assessment of the current and future industry situation.

The internal combustion engine will still play an important role. By 2035 the ICE-based vehicles are still dominating by 93% market shares. After 2035 the ICE based light vehicles will further increase to 100 M units, but shares will decrease to 73% of global production.

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All non-ICE vehicles (Electric vehicles and Fuel Cell vehicles) are currently representing only less than 1% of the market. This share will increase to 26%, leading to a production volume of 36 M units in 2050.

### Interested in further background, technical and strategic concepts, regional data and more specific splits?

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