



Automotive disruption and its effects in Foundry

Interview with...

Paul Eichenberg

Managing Director

PAUL EICHENBERG STRATEGIC CONSULTING

United States

The actual coronavirus pandemic has supposed a big disruption also in Automotive industry, with actual drops in the demand and expected changes in the market shares. In your opinion, could this new scenario impact somehow the roadmap and milestones for the electric vehicle revolution?

COVID-19 is impacting the adoption of EV in a significant manner. With dozens of companies expected to file for bankruptcy this summer due to the shutdowns, I predict that only the biggest and/or most prepared businesses are going to survive the new reality imposed by the pandemic. Their success will have already been set in motion long before the shutdowns hit; essentially, I think the competition for future stakes in the EV landscape will be thinned considerably.

For more insight into this topic from a different angle, I recommend reading Peter Murphy's article entitled "Governments Tie Automotive Stimulus Packages To Clean Mobility." As we move into this new era, businesses who evolve into the electric landscape will be increasingly rewarded. There really is no turning back to the pre-COVID reality.

There is a common concern in the foundry industry about the future of its supply chain, especially in sectors like Automotive where this is complex and not so resilient. Which can be the new drivers for its evolution or transformation in the post Covid19 era?

COVID-19 and technical disruption is transforming the automotive industry. The evolution is focused heavily on electrified-autonomous systems. Examples include:

- Last-mile commercial delivery vehicle demand is expected to grow due to COVID-19 induced e-commerce and touchless autonomous drones and rovers.
- Demand for Robotaxi technology likely rising as touchless personal mobility becomes a personal priority.

With all forecasts announcing drastic reductions of the castings consumed in e-cars, it is very likely that the rise of Electric Vehicles will disrupt the metalcasting industry. Which can be the most affected component markets and some of the opportunities in this redesign of the industry?

The products that will fade away are those that are tied solely to the internal combustion engine, such as engine blocks, cylinder heads, cam phasers, front covers, oil pan and pump housings – not to mention components like transmission housings and pump housings. This is, on average, about \$650 of content per vehicle; in a pre-COVID-19 world, we're talking about a \$60 billion market.

As far as new opportunities are concerned, the motor/gear boxes of electric vehicles have similar castings to ICEs, but the per-vehicle content is significant lower. In addition, power



electronics systems, inverters, converters, and on-board chargers will all still require metal castings. This currently represents \$125-150 in vehicle content.

There could be additional opportunities for metal castings around the EV skateboard and battery pack, but these opportunities require significant engineering, market development, and consideration of competing technologies like stampings and injection molding.

The first logical approach of foundry managers can be a thorough review of their portfolio in comparison with the new buyer requirements for e-cars. How do you think they could complement this necessary aspect with a more complex business model review to thrive and survive in the new scenario?

There many items for foundries to consider as they approach this disruption. The first thing everyone should do is recognize and accept that there will be a \$40+ billion decline in automotive and that this decline will have a significant impact across the entire industry. The available capacity will need to go somewhere. As automotive companies look to diversify for survival, non-automotive applications will face increasing competitive intensity and unprecedented margin pressure.

As far as automotive suppliers, I suggest the following actions as they reconsider their strategic approach moving forward.:

- Review the overall portfolio mix to identify reliance on the internal on internal combustion engine to clarify the challenge.
- Assess the existing processes, products and competencies that can be leveraged for new opportunities.
- Identify the diversification and the transformational opportunities.

- Designate priorities based on available capital, resources and risk tolerance.

Automotive suppliers concerned by the impact of this disruption in their businesses have already started their own transformation.

Which are the strategic options these companies are adopting that can serve as an example and show possible roadmaps to the foundry industry?

If we study the automotive industry – particularly larger, more aggressive companies – we see four basic strategies being deployed. They include:

Divestiture, in which a group removes assets from its business portfolio. Divestitures can take several forms, such as sell-offs, spin-offs, or equity carve-out. Delphi, Continental, and GKN are high profile examples of this;

Business transformation, in which a change management strategy to closely align people, process and technology initiatives with a new strategic vision is employed (examples include the BWA acquisition of Delphi, ZF and TRW);

Diversification, in which a company enters a new segment or industry in which they don't already operate. Expansion of an existing product line is an example of diversification;

Consolidation, or the merging of two or more organizations. The primary goals are to create financial synergy, a competitive edge, and leverage in shrinking markets. Current examples include American Axle and Tenneco.

Paul Eichenberg is the founder and managing director of a strategic consulting firm dedicated to helping automotive businesses navigate radical change. Prior to launching his own firm, Paul accumulated 20 years of hands-on experience as a strategic leader for Fortune500 companies in Asia, Europe and the US. He spearheaded Magna's pivot towards optimization of internal combustion engine, electric vehicles, and hybrid technologies.