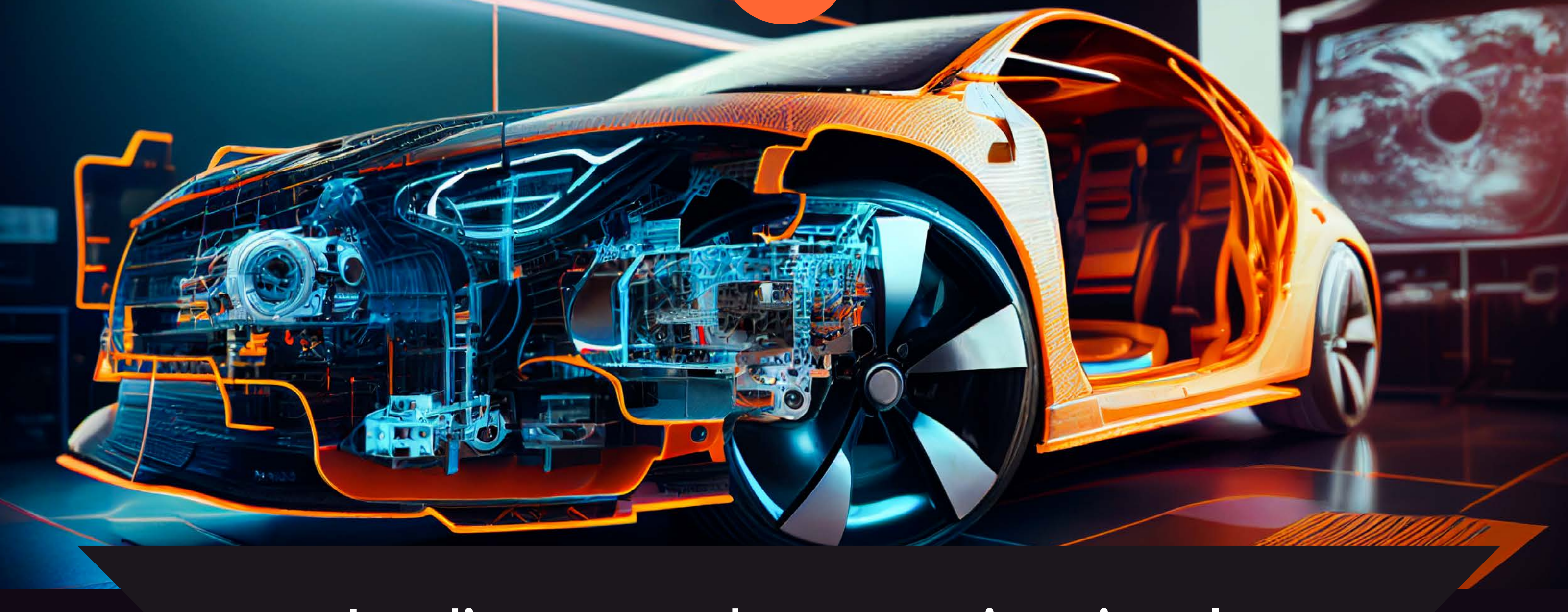




3 reasons why virtual prototyping technology is mission-critical for profitability and growth in the automotive sector



Leading automakers are using virtual simulation tools to:



Accelerate sustainable vehicle innovation



Unlock efficiency gains



Reduce material costs

Here's Why:

1

Clean



Reduce the environmental footprint of vehicles and engineering practices to meet sustainability KPIs.

Industries are placing **sustainability** at the top of their agenda. Automakers are surely at the forefront, driven by **increasing pressure from governments, cities, and consumers** to meet zero-emission goals.

60%

of automotive companies already have a clear Mission Zero sustainability strategy.¹

42%

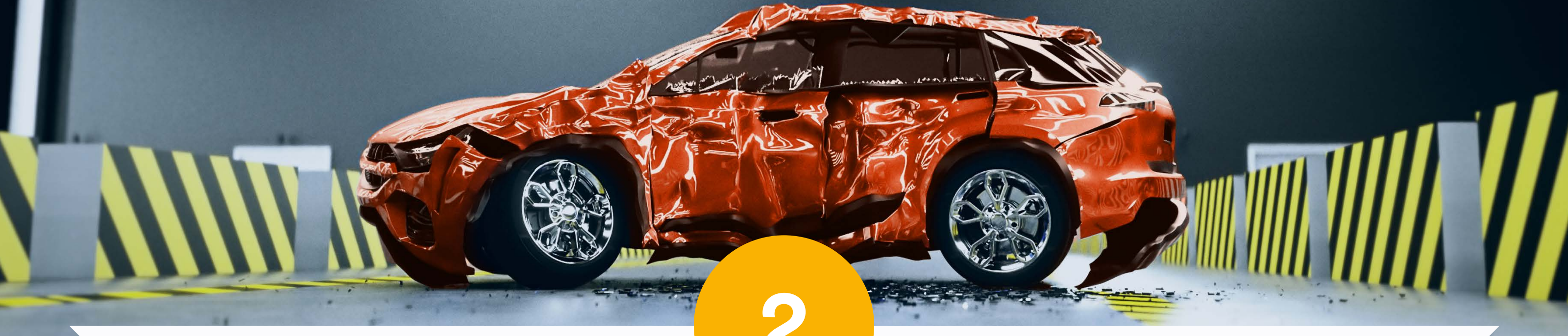
of organizations however, have not got all the technology capabilities in place for sustainable product design.²



Virtual Prototyping Accelerates Vehicle Development

Design, engineer, manufacture, assemble and test a new vehicle concept fully virtually – drastically reducing scrap and carbon emissions.

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2

Safe



Put human safety first - always and everywhere.

Innovative mobility technologies have spurred a **new wave of safety regulations** to which automakers and suppliers must now adhere - and they must do so with **extensive verification and validation**.

16

new requirements

16 additional technical requirements for electric power train vehicle traction batteries.³

6000

Exceeding 6000 pounds could impact safety

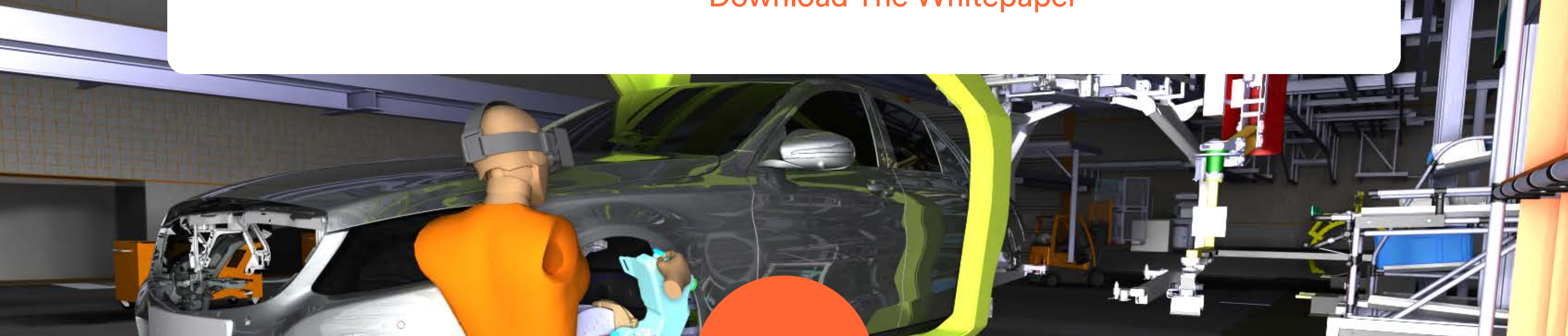
The new generation of large, heavy EVs exceeds 6000 pounds of weight and might be a drag on safety.⁴



The World Of Immersive Virtual Reality

Virtual testing is critical to some of the biggest brands on the planet to ensure drivers, passengers, pedestrians, and workers' daily lives are ever safer. They get vehicle certification done fully digitally – without putting humans at risk.

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3

Productive



Industry 5.0 and PLM applications accelerate EV development and improve R&D profitability.

As sales of battery electric vehicles increase, many executives in the automotive industry are concerned about profitability.

54%

of companies are on track to become fully digital in the next 3 years.⁵

20%

of OEMs have a real opportunity to achieve cost reductions whilst boosting R&D efficiency – by as much as 15-20%.⁶



Engineer And Manufacture Multi-Material Assemblies With Confidence

Decision-makers can quickly make the right trade-offs between accuracy and time-to-market and accelerate product development.

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www.esi-group.com/industries/automotive



1. <https://prod.uwwe.csgemini.com/gb-en/wp-content/uploads/sites/5/2022/09/Final-Infographic.pdf>
2. <https://www.audacorp.co.uk/press-releases/battery-norms-decline-worrying-auto-players-113332>
3. <https://www.ilha.org/news/detail/as-heavy-evs-proliferate-their-weight-may-be-a-drag-on-safety>
4. <https://www.ilha.org/news/detail/as-heavy-evs-proliferate-their-weight-may-be-a-drag-on-safety>
5. Poll amongst attendees at ESI Live 2022
6. <https://www.mckinsey.de/industries/automotive-and-assembly/our-insights/improving-battery-electric-vehicle-profitability-through-reduced-structural-costs>