

Make it Smarter with CAE Simulation



By **Paolo Guglielmini, CEO, MSC Software**

Greetings Readers!

Welcome to this packed edition of *Engineering Reality* magazine. A lot has happened at MSC and Hexagon in the last 6 months. We have welcomed FTI into our organization from Canada with their world-leading metal FormingSuite simulation and costing software that their customers see huge ROI savings when they use it. We have also released our unique and innovative MSC CoSim product in February 2019, and Hexagon has accelerated its Smart Factory and Smart Autonomous Mobility initiatives where I believe we are leading the world with our technologies and market footprints. MSC solutions have been front and central in both Smart initiatives that straddle autonomy, AI and engineering design, simulation & testing. Indeed, I would add that only we at Hexagon can genuinely claim that we are making Factories Smarter and realising more Autonomous Vehicle road testing and simulation miles than anyone else with our cross-divisional solutions. We deliver smarter Digital Twins than any of our competitors because of our virtual simulation & real world testing synergies. Our customers get unprecedented productivity and predictive quality benefits from our solutions. If you don't believe me, then I hope to see you in Las Vegas in June where MSC will be showcasing our smart solutions at our annual HxGN LIVE event.

This edition of our magazine is full of exciting customer stories that show we are delivering real value in CAE co-simulation in particular. We are genuinely making multiphysics real in the everyday engineering simulation world with companies and users like BMW in Germany (pages 10-17), NATO (page 18), Stirling Dynamics for aeroelastics in the UK (page 39), power tool simulations by Husqvarna in Sweden (page 75), and coal mining in China (page 56). These stories illustrate several exciting cutting edge coupled CAE solutions using our portfolio of products. In addition, this magazine has a very strong Additive Manufacturing flavor. Stories from Safran in France, Robert Bosch in India, and gas turbine blade printing in Russia show how 3D printing is moving ever more into mainstream manufacturing. Check out my colleague Hendrik Schafstall's Additive Manufacturing commentary on our unique 'print first time right' simulation and testing solutions that span the complete Hexagon Manufacturing Intelligence division and are faster, more accurate, and more robust than anything else in the market. Actran is also well represented by stories in the aerospace

and railways industry illustrating in this magazine how much it is the gold standard in acoustics simulation. And Dr Schneider in Germany describe how they use Digimat for automotive interior plastic panel simulation on page 69.

Dr Luca Castignani, our Chief Autonomous Strategist within the Hexagon Autonomous Mobility initiative offers his latest thinking on the sector that has had major shifts in focus over the last 12 months on page 83. My colleague, Brian Shepherd, Smart Factory CTO from Hexagon MI, offers an update on our Smart Factory thrust inside Hexagon that is employing several of our MSC technologies. Indeed, we recently announced the launch of our SFX productline for Smart Factories at Hannover Messe in Germany.

It was well before my time, but everyone has heard of US Astronaut Neil Armstrong who 50 years ago was the first man to step on the moon. Doug Neill and Keith Hanna remind us of MSC's contribution to that famous engineering feat but they also tell us how our CAE solutions today are driving a new golden age of space technology design as we enter a period of commercial space travel and what other planets offer us as a species. Indeed, I see that some of my compatriots in Italy on page 30 are showing why Adams is still boldly going where no multibody dynamics code has gone before in terms of design of a Mars rover vehicle by the DIANA project in Turin. And I love the story from the Korean Institute of Science & Technology where Adams has been used to do a 6 DOF co-simulation of a Carolina Sphinx Moth in nature, plus some fascinating University Medical Technology stories using Marc on page 45.

Finally, in case you have missed it, we have made MSC Apex interoperable with MSC Nastran and we are finding customers are experiencing productivity enhancements of up to tenfold particularly in preprocessing. Do check it out and read our article about it by Zanlang Yin.

Ciao

A handwritten signature in black ink, appearing to be 'Paolo Guglielmini', written in a cursive style.