BUILDING A CONNECTED FUTURE

Harnessing the power of connected workflows to promote interoperability

— Trends in the automotive industry and global emission legislation are driving complexity in the vehicle and the development process, with new features and functions increasingly becoming an issue of software and not just hardware. This places pressure on manufacturers in terms of balancing this complexity with time-to-market and cost, without sacrificing quality.

The development process must therefore be optimized, from concept through to the in-use phase. Frontloading as much development in early stages as possible is an obvious solution, as is a holistic view of vehicle development, with data shared throughout to ensure continuous validation and verification (V&V). Enabling a much closer interaction between domains in this way cuts time-to-market, saves money, and promotes continuous V&V across all competencies.

However, in most development workflows this approach exists in only a limited way. Instead, experts in each domain use the tools that are right for their specific needs, but which don't necessarily suit such a holistic approach. This heterogenous landscape of simulation tools, databases and test equipment becomes an obstacle to rapid, high-quality development. We call it the Interoperability Gap.

CLOSING THE GAP

"This is where AVL's Connecting Solutions come in," says Josef Zehetner, Chief Engineer System Architecture, AVL. "They connect the domain-specific tools and activities throughout your entire development process – or just part of it, depending on your needs – and build up your Integrated and Open Development Platform (IODP). Offering lifecycle management of relevant information objects, such as simulation models and parameters, testbed configurations and Units-Under-Test, it enables you to link your CAD-driven product development process and your continuous V&V activities, from early simulation to on-road testing. You can create a complete virtual prototype in the computer, and then as hardware becomes available, continue development with a mixed virtual/real prototype. Ultimately development moves into a complete real prototype, with data continuing to be gathered and fed back into the process. And it's with the application of our Connecting Solutions that your data can really deliver its full value.

ADDING MASSIVE CONTEXT FOR MASSIVE VALUE

Vehicle development produces vast amounts of data. But much of this is underused because of data siloes, or because it lacks context. Our connecting solutions undertake to bridge the gap between silos, and structure your data, with full context and a focus on re-use for all phases of development.

Crucially, this enables transparency and traceability for your V&V activities, delivering continuous results and consistency. And it enables us to leverage your existing data and expertise to increase efficiency and agility in your entire development process.

This vision of interoperability is made possible with the Integrated and Open Development Platform and our tools, Model.CONNECT™, Testbed.CONNECT™, Device.CONNECT™ and Data.CONNECT™. Each one addresses a different function within the development workflow, and then they join together to support the bigger picture. The different modelling tools, for example, can now talk to each other, or to your testbeds, or the devices you operate in your test cells, on the proving ground, or during the in-use phase. Data now offers much more value. Data from your proving ground devices can now inform your modelling practices, your models can inform your testbed activities and so on. Quickly, easily, and securely.

Establishing a link between your product-structure-driven systems, such as Bill of Materials and Product Data Management, and the functional representation of the product as well as your development competencies, our Connecting Solutions offer a new way for you to meet your goals and manage your time and budget.

With our expertise in product development and our deep understanding of your needs, we can tailor these solutions to your existing processes, system architecture and tool landscape. Supporting your digitalization process, and building on your strengths, it helps you do what you do best – only better.