

Connecting simulation to the business of engineering

# Everyone is talking digital

As simulation impacts every product decision, customers are on a quest to transform simulation intellectual property into a valuable and controlled corporate asset. To do this, customers must address significant scale and complexity challenges of tool heterogeneity, data and process management, high-performance computing (HPC) integration and traceability.



Figure 2a: Traceability using version management.

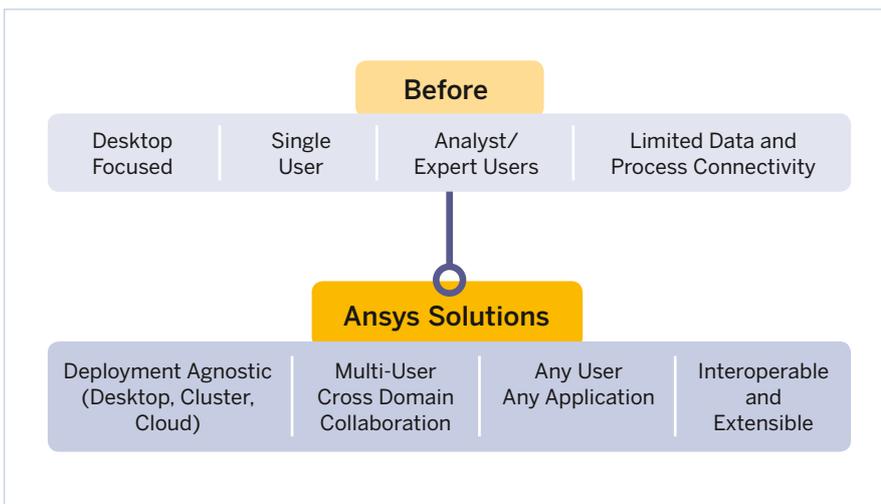


Figure 1: Customers on pervasive simulation journey.

Additionally, sophisticated multiphysics simulation and optimization assets must be widely available throughout engineering teams to establish simulation-based standardized processes.

## Customers are getting smarter about simulation

PLM is a broad term and customers leverage heterogeneous product innovation platforms based on business requirements and domain specific use cases. For e.g. PDM, ERP, IoT, ALM, TDM, SPDM.

Customers exploring their maturity levels and journey across various digital ini-

tiatives see a shift from single monolithic or “rip and replace” approach to a more open federated and light weighted domain specific systems approach. It is important to have open connectivity between these systems.

## Customers challenges

With increased simulation usage, the iterative and heterogeneous nature of simulation domain brings special challenges. Many global teams using a plethora of tools are generating a lot of data distributed in an adhoc manner across the organization. This creates process challenges such as collaboration, visibility, traceability and also

business challenges like governance, productivity, reuse and enterprise wide deployment of best practices to name a few.

Ansys platform offerings interoperate within existing ecosystem to enable customers to map their journey from multiphysics best practices capture, vendor-neutral process integration and design optimization to enterprise deployment of simulation.

Tuned for CAE user experience, deployable on prem and on the cloud, these complementary solutions enable customers connect the simulation to the larger product lifecycle processes.

## Pervasive simulation with Ansys platform offerings

Ansys state of the art Multiphysics and systems solutions combined with Ansys Minerva and Ansys optiSLang enable customers to **Capture** – Best Practices and meta data with the right quality and consistency.

**Connect** – Orchestrate vendor neutral complex process chains to optimize and enable collaboration across engineering disciplines. Enable data sharing, reuse and 3D visualization

**Deploy** – Transform simulation into practical everyday engineering aids to reach wider pool of users while managing data, process and HPC.

Ansys Minerva enables simulation driven data science applications and brings stan-



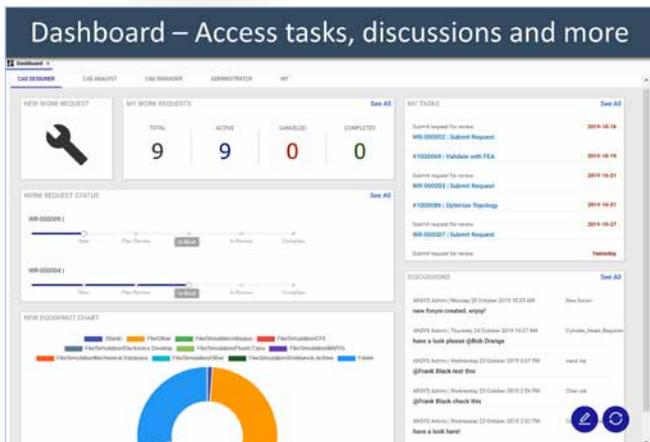
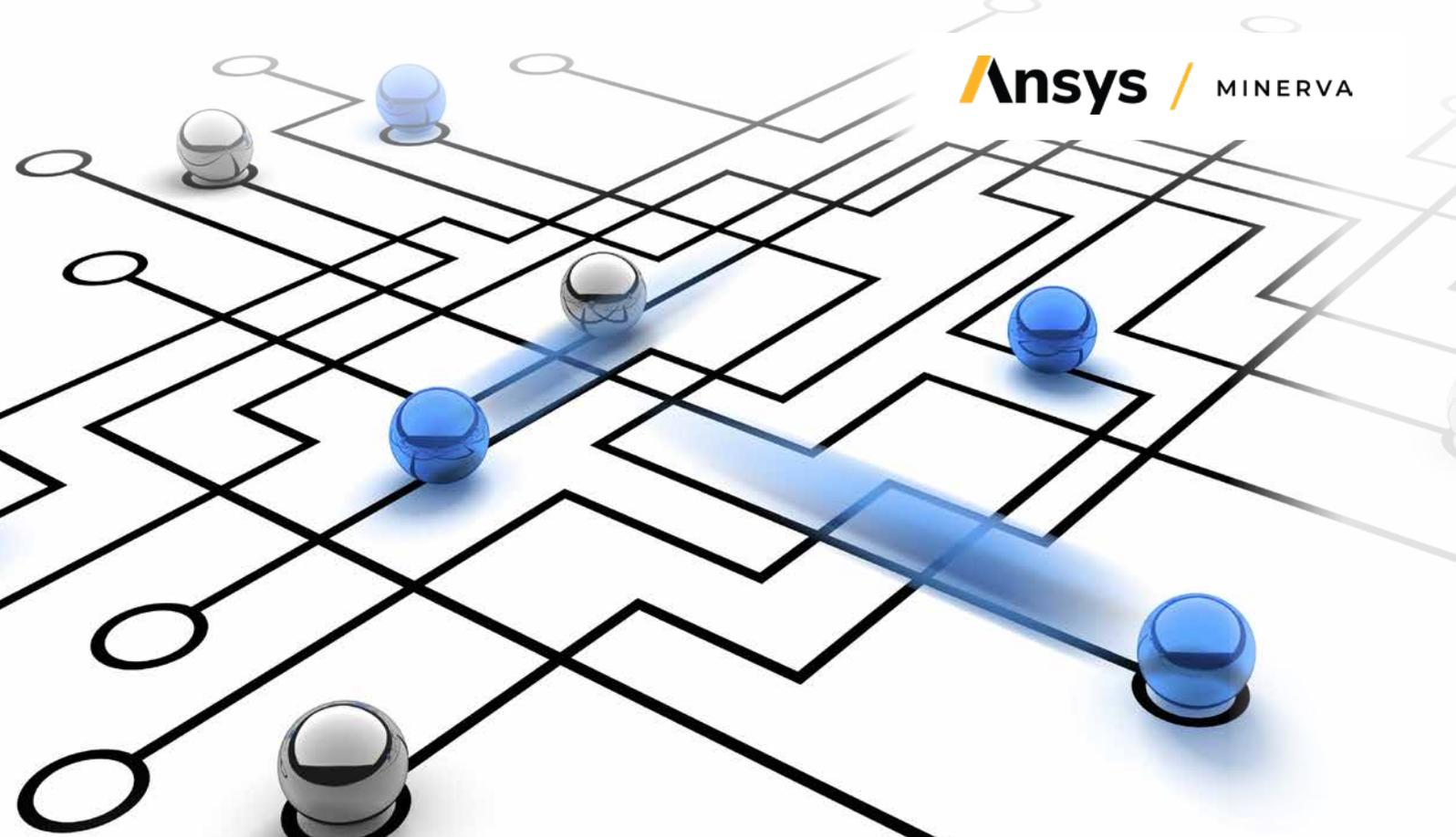


Figure 2b: User group specific dashboards.

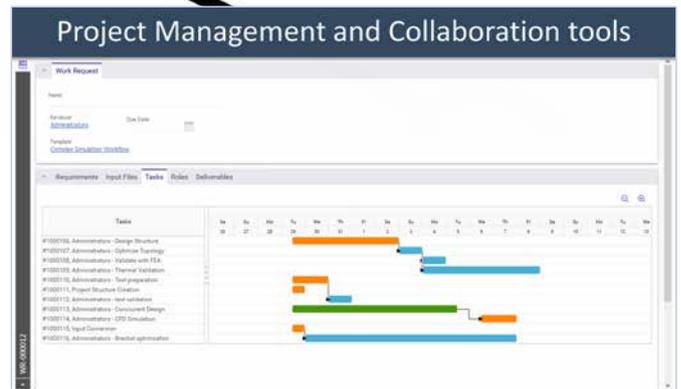


Figure 2c: Project management using Gant plans.

standard based interoperability with other life-cycle management systems. This foundation is critical for Ansys, partners and customers to target solutions across MBSE, Digital Safety, Autonomous systems, Digital Twin and other areas.

### Where do you go from here?

In our work with leading customers on SPDM initiatives, we see change agents tackle the people, process and technology challenges. Effective leaders avoid general pitfalls such as fuzzy goals, weak ownership and ensure stake holder involvement (end users).

**Think Big:** Initiative/Vision driving decisions and investments long term

**Plan Small:** Focus on near term, current simulation challenges, identify the right people, pain points and criteria

**Act Now:** Start with the basics and refine requirements, objectives and focus.

### The phased approach

**Get control of data:** Keep it simple, Ensure the system is set up quickly for data organization, visualization, collaboration

**Get control of processes:** Ramp up end users access to simulation project management, tool chaining, process automation/best practices capture

**Streamline for efficiency:** Bring in design exploration + optimization, web apps and integration to PLM/other systems.

**Start yours today !!!**

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