



CASE STUDY /

Ansys + Lamborghini

“Using Granta MI, we have automated many tools and processes enabling us to reduce material testing cost and time by up to 20%.”

Gianpiero Cerrone

Composites Engineer / Automobili Lamborghini S.p.A

World-Class Composite Materials Information Management at Lamborghini

Lamborghini luxury sports cars need the highest-performing advanced composite materials while adhering to rigorous quality standards from parent Audi Group.

Lamborghini is a world leader in composite processing expertise and the only manufacturer in automotive world that has the entire carbon cycle in-house. Having the right materials information management system and processes is critical to maintaining a competitive advantage.



/ Challenges

Lamborghini’s advanced composites laboratory is the link between engineering, simulation, and manufacturing. The lab creates the structural and aesthetic characterization data required across the business. Having the right processes and structure to manage this data will impact traceability, innovation, and ultimately time to market.

A “building block” approach is utilized to efficiently use the coupon and other material testing performed, which assures optimal input to the simulations for best accuracy. This approach requires many tests — some standard like those from the American Society for Testing and Materials, but many more in-house tests as well. Controlling this test data is a business-critical challenge for a company that requires high-performance materials for their product.



/ Technology Used

- Ansys Granta MI™



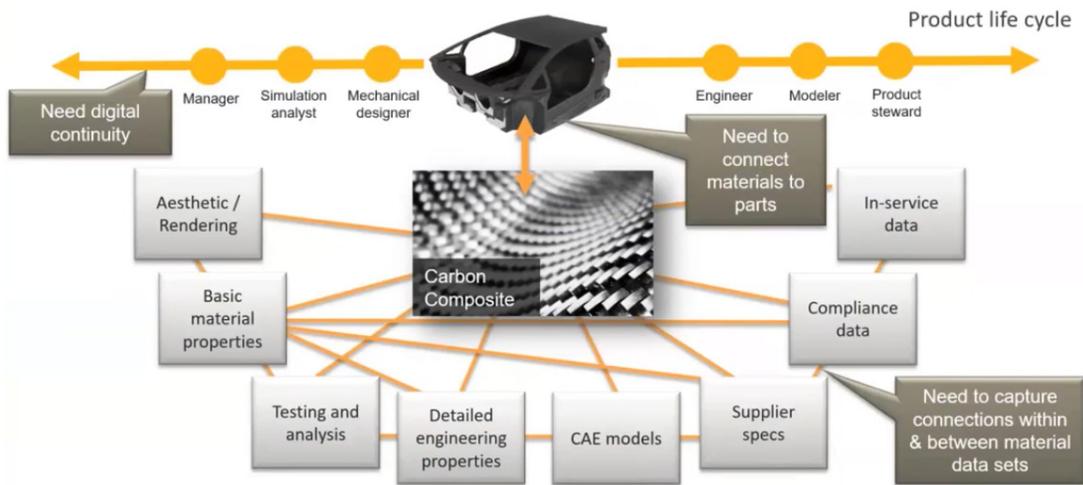
/ Engineering Solution

To manage the high volume of complex data, a leading material information management solution is needed. “We find the perfect solution that meets our needs is Ansys Granta MI™,” says Gianpiero Cerrone, composites engineer.

How Lamborghini uses Ansys Granta MI:

- Granta MI enables a digital thread to link the material and manufacturing process data across the product life cycle.
- Granta MI provides a single source of truth for both Lamborghini’s proprietary composite data and commercial material data from Granta, which enables research between datasets to boost material innovation.
- The software provides role-based data security using access control and permissions to protect valuable material intellectual property (IP).
- Granta MI uses a simple browser-based database with no need for a local app.
- Dataflows are created to structure and automate critical material test activities and processes. This assures traceability from lab to manufacturing.
- Lamborghini engineers can simply search for relevant material information using the Granta web interface.

Why Ansys Granta? The digital thread!



/ Benefits

By creating a digital thread using Granta MI, digital continuity and traceability is there to enable standardized materials made available to engineers across the product development process. Components are connected to materials, relationships between material dataset, and manufacturing processes, providing a digital thread.

Some of the key business benefits include:

1. 20% cost/time reduction from tool and procedure automations.
2. Increased speed of execution through composite testing with structured and reproducible data capture.
3. Improved quality of operation with full traceability and the creation of complex test activity reports.
4. Capturing and securing material and manufacturing process IP through role-based data security.

/ Company Description

Automobili Lamborghini S.p.A. is unrivalled worldwide as a manufacturer of pure and visionary super sports cars. Today Lamborghini embodies the highest degree of technological expertise focused on the construction of extraordinary performance engines: lightweight construction in aluminum and carbon fiber, superior four-wheel drive traction, and running gear that offers both high precision and safety.

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