



CASE STUDY /

Ansys + Ethicon

“Ansys Granta is foundational to enabling us to manage our medical devices product portfolio.”

Stephen Torain

Manager, R&D Materials / Ethicon

Using Material Intelligence at Ethicon to Help Sustain Medical Device Manufacturability and Improve Patient Care

Ethicon is a world-class medical devices company. It committed to the process of centralizing and digitalizing its materials information by partnering with Ansys. Using Ansys Granta MI™ as the backbone of their materials information system, the team created a searchable database that could be used quickly to assess numerous manufacturing materials compliant in global markets scenarios or pivoting during global supply chain crises. The result: material intelligence to help improve patient care.

/ Challenges

Rapid selection of manufacturing materials compliant in global markets is critical to assuring patients, practitioners, and purchasing organizations medical device biocompatibility.

Ensuring supply chain continuity and minimizing risks of obsolescence for medical devices due to regulatory changes are also critical in meeting Ethicon’s ongoing commitment to maintaining patient care. Its engineers are developing the next generation of medical devices and need to be able to access historical material data to accelerate new product development.



/ Engineering Solution

Ansys Granta MI™ Enterprise was used to digitalize and migrate all material data — both standard and customized, to a centralized database. This provides quick access to materials information, including device-level material contents, and information on where a material is being used across the company. The Restricted Substances functionality enabled Bill of Materials (BoM) analysis vs. global regulations (EU MDR) to assess the risk of current and future medical devices.

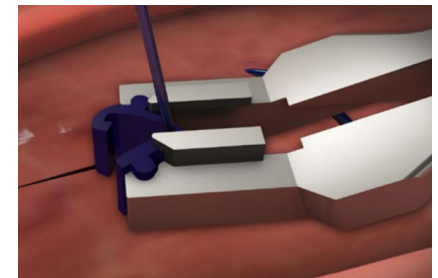
The software’s Materials Gateway and Enterprise Connect solutions were then used to enable this material data to be accessible directly from within Ethicon’s engineering tools, like Biocompatibility Data Base and produce life cycle management (PLM) systems – to benefit its global engineering teams.



Standardized Granta MI workflows were developed for materials approval and review. This drove efficiency improvements for Ethicon’s subject matter experts (SMEs) to be able to validate vendor name changes to materials.

/ Benefits

1. **Rapid selection of manufacturing materials compliant in global markets.** Using Ansys Granta MI, Ethicon can immediately triage a device to confirm a certain material is not in a product, allowing the surgeon to continue with the procedure or a purchasing organization to proceed with critical decision-making.
2. **Guarantee supply.** Ethicon can assure continuity in patient care by mitigating supply chain disruptions through rapidly securing its specific formulations with vendors/suppliers.
3. **Eliminate regulatory risk.** By using Granta MI to search for substances of high concern, Ethicon can design out potentially non-compliant material, therefore de-risking potential onward impact to customers.
4. **Avoid repeat testing.** Accessing historical biocompatibility and materials testing helps avoid repeat testing at every design iteration. “Accessing a material analysis completed a decade ago by an Ethicon engineer saved around \$200,000 and the 22-26 weeks it would have taken to test the affected component,” says Jackie Anim, Principal Materials Engineer, Ethicon.



/ Company Description

Ethicon, part of MedTechProducts, has made significant contributions to surgery for more than 100 years, from creating the first sutures, to revolutionizing surgery with minimally invasive procedures.