

Boeing: mitigating restricted substance risk for materials

Speaking at a Granta Design Open Seminar hosted by the UK's National Physical Laboratory (NPL), Boeing presented a project that helps meet restricted substance and environmental challenges. Boeing's involvement in the Environmental Materials Information Technology (EMIT) Consortium, a collaborative project that develops and applies information technology solutions to enable product design and development in the context of environmental objectives and regulations, arose from a growing awareness of the acceleration in regulatory restrictions. The company looked for a way to connect materials, specifications, regulations, and parts – something Boeing's Peter Mezey described as a "a laborious and costly process when you consider the mountains of data".

Boeing also needed to keep track of and report on enormous amounts of historical data which, in some cases, exceeded 80 years. "Near-term risk reduction actions," Mezey explained, "included managing chemical information." Boeing adopted the GRANTA MI™ software to provide a centralized hub of materials knowledge, allowing restricted substance information to be fully integrated with other materials information. "For the first time we have the linkage all in one place," added Mezey.

Linkage is about more than just connecting individual specifications, materials, and regulations. It can also help overcome the common challenge of 'missing information' in vendor data. 'Fallback links' fill in the missing information using appropriate restricted substance information from Granta's comprehensive reference database. This allows risk reports to be generated, even when suppliers have only disclosed the minimum of legally-required information. "Fallback links are a brilliant innovation," noted Mezey.

The first phase of the project enabled simple queries of this materials and substance knowledge-base (based on links between materials, specifications, and legislation) and the production of the reports (known as 'REACH Article 33 reports') which are required to provide information on whether an article is impacted by materials on the REACH Candidate List Substance of Very High Concern (SVHC). The return on investment from using GRANTA MI has been significant, particularly in areas such as data clean-up, risk mitigation, and the enormous efficiency benefits seen through data linkages. One example was the ability to respond much more efficiently when Boeing had to questions around Mercury usage in Canada.

Phase II focused on automated bulk data importing, of, for example, TSCA Section 12.B Export Notifications, CAS registry numbers, material safety data sheet (MSDS), and various Specifications. With very large quantities of data and their interrelationships to import, it was inevitable that this would be a challenging process. However, as EMIT members, Boeing "have been impressed by how consistently Granta have met these challenges, making vast improvements". As the first organization to attempt to bulk-import such large amounts of information, Boeing's input has been invaluable in providing enhancements from which many others can benefit. As someone directly involved in implementing the materials information



management system at Boeing, Peter Mezey highlighted just how important it was to “get the internal IT team on board early”, in order to maximize the effectiveness and ease of adoption. He concluded the presentation by focusing on their involvement in the EMIT Consortium, especially working on a common specification schema. “Being able to directly influence the ongoing development of GRANTA MI has been an excellent opportunity.”