



CMI Defence Takes Aim with PLM



After almost 20 years of experience with computer-aided-design (CAD) tools, the CMI group's branch of Defence decided to implement an end to end Product Lifecycle Management (PLM) strategy. CMI chose to do so with an industrial partner who has proven experience in PLM, expertise in the required technology and its integration, and an awareness of small and medium business needs. To fit the bill, CMI selected IBM.

Discovering CMI Defence.

CMI is a Belgian company with a workforce of roughly 1,200. Its overall business is the engineering and manufacture of heavy products for heavy industry and big construction projects particularly in the fields of energy, metallurgy, and defence. The Defence unit is made up of 80 employees, who are responsible for designing and building equipment and assemblies for light armored vehicles, especially guns and turrets. CMI produces roughly a hundred products per year in each division

Each product is very specific due to their various issues relating to pressure, shock mechanics, vibrations, and thermodynamics. Stability criteria must be met for each configurations, whilst a lot of care and attention is given to firing accuracy.

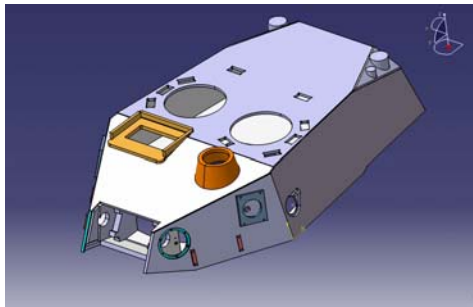
The equipment developed by CMI has one specific outlet — it is intended for use in light four-wheel drive vehicles. These are vehicles with modular infrastructures, which can be used for transporting troops as well as for transporting equipment.

A PLM project for competitiveness, collaboration, and innovation

Before choosing an IT partner, CMI had set a number of expectations. First, the company wanted to develop a process to dispense two prototype stages by going for a more elaborate digital model. Second, it wants to be able to respond quickly to the market and to integrate its products with those outside of CMI's core portfolio. Finally, the overall challenge they wanted to accomplish was to collaborate more efficiently internally on product development.

CMI therefore needed to obtain a new system and implement new methods to improve design and collaboration. Its current system was quickly becoming obsolete as the industry moved away from 2D. Moving to 3-D became a must. But this progress could not be made haphazardly, so to this end, CMI worked hand-in-hand with IBM to analyse, understand, and anticipate the company's requirements as they developed new working methods, keeping in mind these new processes needed to integrate with the company's existing business systems, notably ERP.

One strategy, several solutions



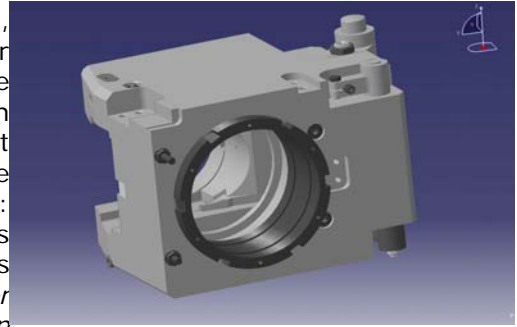
To do all this, CMI opted for CATIA Version 5 on the design side, SMARTEAM as the product data management and collaborative working tool, and IBM's IGS and VPI teams for the consultancy and implementation.

With 9 CATIA workstations for mechanical design, kinematics, and analysis, CMI has adopted powerful solutions that matched to the needs of their medium-sized business. As Pierre-Yves Jeuniaux, the Design Project Leader, stresses *"CATIA allies intelligent design with a very pleasant user interface, which enables us to take the design a stage further: ideas collate, we test them, and it all happens very quickly. We therefore make substantial gains in design time and product innovation."* As for the 40 SMARTEAM licenses, they are used as much in the drawing office as in the marketing, maintenance, and administration sections.

CMI has quite a sizeable installed base of products throughout the world and wished to administer it more effectively so as to monitor products from their design stage through to their sale and after-sales in order to ensure better product maintenance. Indeed, information on product design is a fundamental input to maintenance planning. *"This department needs 3-D information to help diagnose breakdowns more efficiently, to know how to take a piece of equipment apart."* Thanks to SMARTEAM, CMI will reap the benefit of a fully integrated database that allows a product to be followed all the way through from its first thumbnail sketch to replacement of its parts or of the product itself.

"If a product presents a problem, for example abnormal wear of certain parts, we can analyse the causes by referring to the initial design, we can make appropriate modifications, and then we can incorporate them back into the design. As regards the collaborative aspect, with SMARTEAM, everyone has access to part of the data — the part that concerns them of course. Profiles have been created, by trade, by department, and by current and future needs," adds Pierre Yves Jeuniaux.

By using a common storage system the drawing office, along with After-sales, marketing, or administration/purchasing has access to all the conceptual and detailed design data and modification data. The company therefore shares its product knowledge, but keeps it firmly under control. Everyone collaborates over an idea, over putting it into practice: this kind of teamwork is motivating and spawns synergy, creativity, and of course, financial advantages too. Again, Pierre-Yves Jeuniaux adds, *"Better management of product lifecycles is very much an objective of manufacturing as well as being an innovation thrust provider. PLM is a corporate-level strategy."*



Besides better product quality and monitoring, CMI will benefit from improved times to market. *"Before,"* Pierre Yves Jeuniaux tells us, *"it might have taken ten years to launch a new product. Today, it has to be ready in two."* Another goal is to reduce waste and dispersal of knowledge and information: capitalizing on know-how at one single location is essential for CMI. Lastly, daily updating of data will give rise to better communication of projects and their progress in the company.

An industrial expertise approach with IBM:

CMI Defence's PLM project began with a concentrated in-depth look at the company's requirements. PLM isn't just a matter of installing a computer package. IBM therefore called on its VPI consultants. The VPI (Virtual Product Innovation) team is a unique organization within IBM dedicated to PLM.

In order to quickly define CMI's needs, IBM made its **VPI Assessment**. This makes it possible to evaluate how a company implements the digital definition of its products and assures the client that they are in line with its goals. This study, taking less than a week, positioned CMI in comparison with other similar companies, taking in account best practices in design. On the basis of these results, IBM came up with 8 recommendations regarding organization, processes, and computerized solutions to be implemented.

With the major progress lines firmly established, IBM then implemented solutions within the existing company framework. This project lasted 7 months up to full implementation. The last word goes to Pierre Yves Jeuniaux: *"IBM helped and supported us due to its will to meet the majority of our needs. It took a lot of understanding of our environment and a lot of listening to our employees. As far as we are concerned at CMI, IBM didn't offer us products; IBM offered us a complete solution and tons of expertise and advice, with an approach fully tailored to our company. That's what really made the difference."*