

AEROSPACE & DEFENSE GLOBAL LEADERS SERIES

A CONVERSATION WITH MICHEL J. TELLIER
VICE PRESIDENT, AEROSPACE & DEFENSE, DASSAULT SYSTÈMES

By Anthony Velocci

For the last 17 years, Michel J. Tellier, vice president, Aerospace & Defense, Dassault Systèmes, has been helping Aerospace & Defense companies of all sizes grow their businesses and be more responsive to their customers' needs. A mechanical engineer by training, Tellier launched his career with Bombardier Aerospace where he led the Canadian company's transition to a 3D digital design-based aircraft-development process. He has extensive experience in the implementation of Product Lifecycle Management and global supply chain collaboration. Tellier recently sat down with former Aviation Week & Space Technology Editor-in-Chief Tony Velocci to discuss the state of the A&D industry, including the challenges and opportunities:



Michel J. Tellier,
Vice President, A&D

It seems to me that the proverbial “elephant in the room” question is the issue of industry leadership and the need for bolder decisions and bolder strategic planning.

Yes. The culture in the industry has evolved around belt-tightening, getting leaner and achieving higher levels of productivity. For the most part, companies have concentrated on their usual modus operandi. That

behavior is baked into organizations and their leadership. What is needed is the kind of leadership that is comfortable with transformation.

A change agent that immediately comes to mind is American icon Alan Mulally, the CEO of Ford Motor Company. Mulally stands out for his impact on Ford as he led the company back to profitability. The ability to lead employees, change the status quo and ensure delivery of products that capture the imagination of customers drives success.

Your company has assessed the performance of numerous aerospace and defense companies around the world—their processes, tools, how they are managing their businesses compared to their peers. What traits distinguish the leaders from the followers?

The leaders tend to be more willing to take risks and transform themselves. They are more productive and dynamic than their competitors, and they are driven to maintain their competitive advantage as they execute their business plans. Best-in-class companies also have the ability to divest underperforming lines of business—essentially revenue streams that no longer are generating the margins they should—in favor of investing in new lines of business that will create greater value. General Electric (GE) would be a good example.

Aviation Week & Space Technology's recent Top-Performing Companies study revealed that U.S. companies are investing relatively little of their own resources in independent research and development,

as a percentage of total revenues, compared with European A&D companies. Is there still a place for such investment, given the current emphasis on affordability and industry's increased aversion to risk?

There are different ways to measure the value of a company. One measure is the value of its human capital. Engineers like to innovate and create new products. If you are not doing things to attract and maintain the best talent, that is a poor testament to where your business will end up. There is an argument to be made for investing more, rather than less on Independent Research & Development (IR&D) to create a culture of excellence.

Also, innovative, top-performing companies are not defined by their products as much as they are defined by their people. And if you are not providing an environment for them to innovate, you will not attract the best engineers. Google and some other companies are going to great lengths to attract the best and brightest. The aerospace industry is struggling to attract top engineering and technical people in critical areas.

Attracting the best people is the first step toward building the foundation to achieve operational excellence. Second is investing in science and technology. If you underinvest in R&D, you will not create the next generation of products that allow you to differentiate yourself from your competitors and grow your business. Winning more business is not about what you did in the past; it's about what kind of new innovation and technology you can bring to the future. That is true differentiation. You are not going to differentiate your business by simply repackaging what you did yesterday. I believe companies that are not aggressively investing [their own resources] in R&D eventually will have trouble surviving.

What are the biggest challenges that companies face in today's business climate—and which probably will prevail for the foreseeable future?

The challenge for the space segment is competition and the ability to achieve high rates of launches economically. On the defense side it is winning the relatively few number of new programs that will come along. Everyone will be challenged to execute on programs and keep projects on time and on cost.

What lessons, if any, do you think A&D companies could glean from businesses in other industry sectors?

The challenges in the industry require embracing transformational change. A change agent that immediately comes to mind is American icon Alan Mulallay, CEO of Ford Motor Company.

The industry is poised for change and companies with leaders driving that change will come out ahead. Alan Mulallay stands out for his impact on Ford as he led the company back to profitability. The ability to lead employees, change the status quo and ensure delivery of products that capture the imagination of customers is what drives their success.

And as a consequence, what?

The best way to put it is to use the Boeing 787 as an example. This is the first aircraft in a long time that was developed with the passenger experience in mind. The passenger is the ultimate consumer. There are two or three airlines globally that think in terms of delivering the optimum customer experience. The vast majority of carriers have not made this shift. The same could be said for other segments of the aviation industry.

Currently Dassault Systèmes is putting together a team to develop a software solution that will help airlines deliver the optimum passenger experience. We are doing the same for companies in other industries too, such as life sciences, automotive and package goods. We are helping them to leverage this technology and their product development structure. It is very much a social process involving bi-directional communication. Companies in these other industries take input from the community, and they push out a lot of content. That kind of interaction in aerospace is largely absent, but we see it as a burgeoning area of opportunity for the aerospace industry. In other industries it has become a matter of life and death.

What is the Holy Grail in terms of PLM (product life-cycle management) software, Dassault Systems' specialty?

PLM most directly affects the time it takes to build a platform or whatever the product happens to be, and the Holy Grail equivalent of PLM in the A&D industry has several components. One of them is pure efficiency. When you're developing something new you can throw 500 engineers at it, but the results won't necessarily be any different than if you assigned 100 engineers to the project. That is because A&D is not a volume-driven business; it is more about quality and creativity.

Therefore, our goal is to help our customers to be as efficient as possible in creating new products and getting as much mileage out of their R&D investment as possible. It starts with leveraging institutional knowledge to create value. There are different sources of innovation that companies can tap into to help them accomplish this, including academia and examples from other industries. But this requires A&D companies to stop being so insular.

What is the missing ingredient that generally characterizes under-performing companies in Aerospace & Defense?

I'll answer the reverse: top performing companies usually have a focus on the future and focus their investment in new areas of technology.

This process—letting go of previous-generation products and creating the next generation—is essential to remaining relevant and ensuring your long term future.

We use Product Lifecycle Management (PLM) software to help our customers feel more at ease outside their comfort zones. We just invested several billion dollars to create what we call the 3DEXPERIENCE platform, which is the next generation PLM software aimed at optimizing product creation. We believe it represents the state of the art, and we are now deploying it to customers in multiple industries, including A&D.

A&D traditionally has been characterized by transformational technologies. Is there still a place for such R&D investment in this industry?

Let's be fair—there is a lot going on already. We just want to see more. But you can't sustain a business by doing science projects. That doesn't mean companies need to pursue applied and basic R&D in-house. There may be other places where that research can be done more efficiently. Either way, incremental technology innovation in this industry is not going to cut it, because there will always be a competitor looking to leapfrog you [in the marketplace]. Also, any new technology will have to go through a lengthy commercialization process before it can be introduced to the marketplace; that is where companies need to concentrate their investment.



A 24-year veteran of *Aviation Week*, Tony Velocci is former editor-in-chief of *Aviation Week & Space Technology* magazine as well as editorial director of Aviation Week Group.

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