

HONDA LIFE CREATION CENTER

Case Study



Photo courtesy of Honda

Challenge

Honda Life Creation Center, producer of powered products such as lawnmowers, needed to transform its business by combining innovation with attractive design in its products. Known as robust and reliable, products are made to enrich people's lives, and create more enjoyable user experiences for consumers, while remaining sustainable in this changing market.

Solution

The company uses Dassault Systèmes' 3DEXPERIENCE platform including CATIA for creative design that is sparking people to be on the move and to improve the aesthetic appeal of its products.

Benefits

Honda Life Creation Center designers now enjoy a more intuitive way of designing products leveraging 3D and virtual reality as well as collaborative applications that make it easy for colleagues to share ideas and innovations through the 3DEXPERIENCE platform, and ultimately create better products to improve consumers' lifestyles.



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Honda Life Creation Center

HELPING PEOPLE GET THINGS DONE

Honda Life Creation Center is a department of Honda R&D, a subsidiary of Honda Motor, that provides people with advanced engine technologies to enrich their daily lives at home and at work. The first utility engine was developed mainly for agricultural equipment, and today, the company has expanded with the development that now includes power generators, lawnmowers, outboard engines and snow blowers accumulating a total of more than 100 million power products adopted by its customers worldwide. With a desire to spread the “joy of usefulness”, Honda Life Creation Center has, to this day, developed high-quality products that meet its customers’ needs and expectation.

In recent years, in addition to its traditional engine product portfolio, Honda Life Creation Center has begun to put another focus on electric products for home use. The company believes that attractive design is a way to catch the consumer’s attention and influence their purchase decisions. “We want people to find our products very aesthetically appealing. We want people to find them sparking joy in their daily lives. The product design itself should be able to appeal new value to people, which was out of our scope in the past,” said Toshinobu Minami, senior chief engineer, Honda Life Creation Center.

They found the key to its transformation with Dassault Systèmes **3DEXPERIENCE**® platform and the design application CATIA. It is the foundation upon which new designers, particularly young designers, build their ideas. “Compared to when things were designed only by hand, having humans and software work together to create new spatial designs becomes a force for creating new things,” Minami said. “The evolution of the consumer buying psychology means we need to put more emphasis on product design, which would motivate people to take action just by looking at our products. If it is a generator, for example, it would be a design that would make people want to go camping with it. That is the kind of highly-elevated design we want to achieve,” he said.

PEOPLE ARE AT THE HEART OF INNOVATION

“Innovation, although certainly at the heart of Honda’s objectives, is not a means to an end,” said Minami. It means looking at things from a fresh perspective so that the result is inspiring the consumer. “We’re not looking for innovation that would make our products successful simply because they’re new,” Minami said. “We put people at the center of our strategy. Even something that does not seem convenient

at first sight can be a type of innovation if it enables people to live fuller lives. This means implementing a new design approach that focuses on human beings. “To enable this new approach, designers and engineers need to have a wide range of possibilities to choose from. The more ways there are to express oneself, the more ideas can become possible. Innovation is bringing the axis of thought to a different place, which leads to more diversity,” Minami said.

A MORE REALISTIC WAY TO DESIGN

Honda Life Creation Center designers have new-found capabilities using the **3DEXPERIENCE** platform to design based on the power of 3D and digital imaging. “CATIA is my unique modeling tool,” Michihito Okado, strategic planning for product and technology division designer and CATIA expert said. “I previously used various tools and converted data from one to the other, which was tedious and time-consuming. With the **3DEXPERIENCE** platform, all my tools are integrated on one single platform. My design methods have evolved as well. Whereas in the past, I first used to think about the shape and then consider the material I will use, I can now create the shape while simultaneously applying colors and materials to the design. CATIA is a very strong and intuitive tool for designers because it makes it easy to imagine, in advance, what the final state will be like,” he said.



“Each design reflects a designer’s individuality, experience or technical level and working together on the same platform we can now tweak each other’s work, which I think leads to a greater breadth of design.”

— Michihito Okado, strategic planning for
product and technology division designer and
CATIA expert, Honda Life Creation Center

Okado finds design reuse another one of CATIA’s strong points. “Data-sharing has been enhanced more than ever with the **3DEXPERIENCE** platform,” he said. “For example, since we are in a mass-production market, we reuse common parts like bolts. With everything on the same platform, I can easily and more quickly find things during a search.”

Tatsuya Amano is a digital modeler at Honda who is mindful of conveying what the designer wants to express in his digital representation of the product. He uses CATIA’s Imagine & Shape’s clay-like capabilities to create a precise volumetric model of a designer’s sketch. “Imagine & Shape allows me to work directly with a designer and manipulate a model because we are looking at the same design via the platform. Then, using virtual reality, we check a model right away with a designer to get a sense of the actual size and volume. We

can validate if everything fits into the required space and check if the size is accurate,” Amano said. “We can even ask the engineer to join us to check practical things like whether the product is easy to maintain.” he said.

Michihiro Okado often collaborates with his fellow designers on the **3DEXPERIENCE** platform to share individual thoughts and ideas. “Different designers create designs that are unique because each design reflects a designer’s individuality, experience or technical level,” Okado said. “We can look at those differences as being the same design with a new personality or perspective added to it yet by working together on the same platform we can tweak each other’s work, which I think leads to a greater scope of design.”

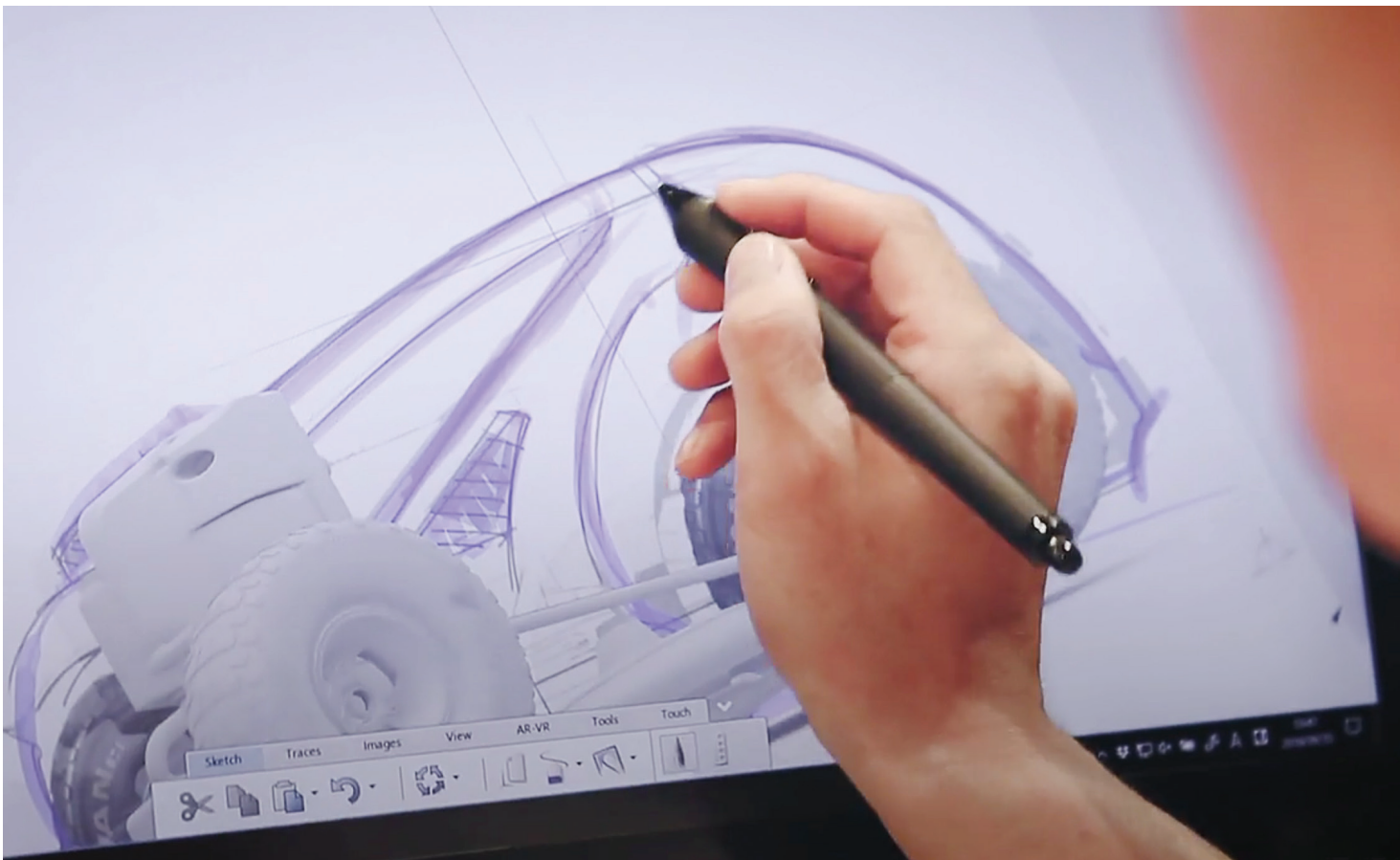
FUTURISTIC DESIGN

Yuichi Yokoyama, senior designer at Honda’s Future Proposal and Creation division is currently working on a prototype design of a new unmanned automatic lawn mower using CATIA. In his mind, there were two ways to approach the design of this lawn mower. One was to focus on the power of the Honda engine, which is something in which Honda Life Creation Center excels. The other was to emphasize the smartness of the unmanned driving powered by artificial intelligence. He decided to express both aspects in his design.



Top image: Prototype of the lawnmower of the future, designed with the **3DEXPERIENCE** platform.

Bottom image: Honda designer using Sketch Tracer to style a prototype of an unmanned automatic lawnmower.



Focus on Honda Life Creation Center

Research and develop power products that benefit people's everyday life.

Products: Garden tillers, generators, snow blowers, outboard engines, lawnmowers, electric power products, cultivators

Headquarter: Asaka City, Saitama, Japan

For more information

global.honda/innovation/technology/power.html



"3DEXPERIENCE has strengthened not only modeling but product visualization as well."

— Michihito Okado, strategic planning for product and technology division designer and CATIA expert, Honda Life Creation Center

"I began by drawing a two-dimensional sketch, import it to CATIA using Sketch Tracer, and created my surfaces using Imagine & Shape followed by Part Design to create a realistic volumetric solid," he said. "I think the most difficult thing about a designer's work is that they often use 2D sketches, which makes it hard for others, such as a modeler, engineer or tester, to visualize the same image in their minds. Because we cannot see things like depth with a two-dimensional sketch, a better way is working in 3D where you can see what you get. Everyone is able to see things in 3D and to share ideas during the process in real time, which is a major benefit of the 3DEXPERIENCE platform. A 3D model can also be created for quick confirmation, which is another major advantage," Yokoyama said.

Digital modeling has changed the way Honda Life Creation Center's designers and engineers approach product design. But combining this with virtual reality has elevated the design process even further. "3DEXPERIENCE has strengthened not only modeling but product visualization as well," Okado said. "Previously, styling and design were limited to the drawing board, but expressing the final virtual product in a photo-realistic digital environment is a very powerful combination for designers," he said.

"We are in the business of power products, but our motivation is to 'serve the world'," Minami said. "Honda Life Creation Center is a business that started with the desire to extend engine applications. To express our origin and our value, I believe that the role of the design is highly important.



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