



Ford Puts a Spin on Virtual Reality; Melds Gaming Technology with Power of Virtual Engineering for New Vehicle Design

- While the new innovations in virtual reality headsets are created with gamers in mind, Ford engineers found ways to use the technology to speed up development of new vehicles
- Immersive visualization increases the amount of configurations Ford studies in the vehicle prototype phase while reducing the number of physical prototypes needed
- Ford engineers from around the globe can connect together, seeing not only inside a vehicle but also through it, for perspective on how structural, mechanical and electrical systems interact within the vehicle architecture

DEARBORN, Mich., Jan. 13, 2014 – When virtual reality headsets came to market, many wondered what possibilities gamers would dream up for their use. But gamers were not alone; Ford engineers looked at how the technology could save time in the development of new vehicles.

Those ideas are put into practice at Ford Motor Company's Virtual Reality Immersion Lab, where engineers use headsets to get inside the latest design. OculusVR's Rift virtual reality platform is a perfect fit to perform rapid studies of vehicle interior and exterior designs, and to evaluate crafted quality in a virtual setting.

It starts when an engineer dons the OculusVR Rift headset after loading up the virtual environment of a vehicle in development. In the Virtual Reality Immersion Lab, motion-capture cameras track the engineer's position and orientation, adjusting his or her point of view in the digital world as the person moves about in the physical realm.

With the OculusVR Rift wide field-of-view headset, new photorealistic VRED software from Autodesk and a newly installed 4K-resolution powerwall, Ford engineers can now see full-scale, 3D images of a vehicle in development in an experience almost indistinguishable from a real vehicle.

"We use this technology to rapidly go through different proposals for a vehicle's design, aesthetics and crafted quality," said Elizabeth Baron, Ford virtual reality and advanced visualization technical specialist. "Being able to alter light, for example, is very important – one type of light may reveal a design flaw that can't be seen in another. And being able to instantly switch from a high-contrast view in bright sun to a low-contrast view in a cloudy scene, then again to nighttime city lights is phenomenal."

Employees in Dearborn can link with other Ford engineers in a similar facility located in Australia, thereby simultaneously analyzing the same virtual vehicle. Additional collaboration facilities exist in Germany, China, India and Brazil, allowing Ford engineers from all of the major regions to transition from one car design proposal to another, working together to identify which is the best option.

The power of virtual reality technology is that it not only permits engineers to see inside a vehicle, but also through the vehicle structure. In this way, Ford can view how various structural, mechanical and electrical systems interact within the architecture of the vehicle.

“Being able to develop vehicles faster than ever without making sacrifices in quality is imperative to remaining a market leader in the auto industry,” added Baron. “Performing comparisons in the virtual space increases the amount of configurations studied while significantly reducing the number of physical prototypes needed.”

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About Ford Motor Company

[Ford Motor Company](http://www.ford.com), a global automotive industry leader based in Dearborn, Mich., manufactures or distributes automobiles across six continents. With about 180,000 employees and 65 plants worldwide, the company’s automotive brands include Ford and Lincoln. The company provides financial services through Ford Motor Credit Company. For more information regarding Ford and its products worldwide, please visit <http://corporate.ford.com>.

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