

ENTERPRISE-WIDE EXTENDED REALITY ADOPTION AT FORD

Virtual Reality for Transport Innovation
Northwestern University Transportation Center
November 12 2019
Ilan Weitzer

- Historic VR at Ford
- Flavors of Enterprise XR
- XR in Design and Product Development
- Outlook

ENTERPRISE-WIDE ADOPTION OF VIRTUAL/EXTENDED REALITY

Why?

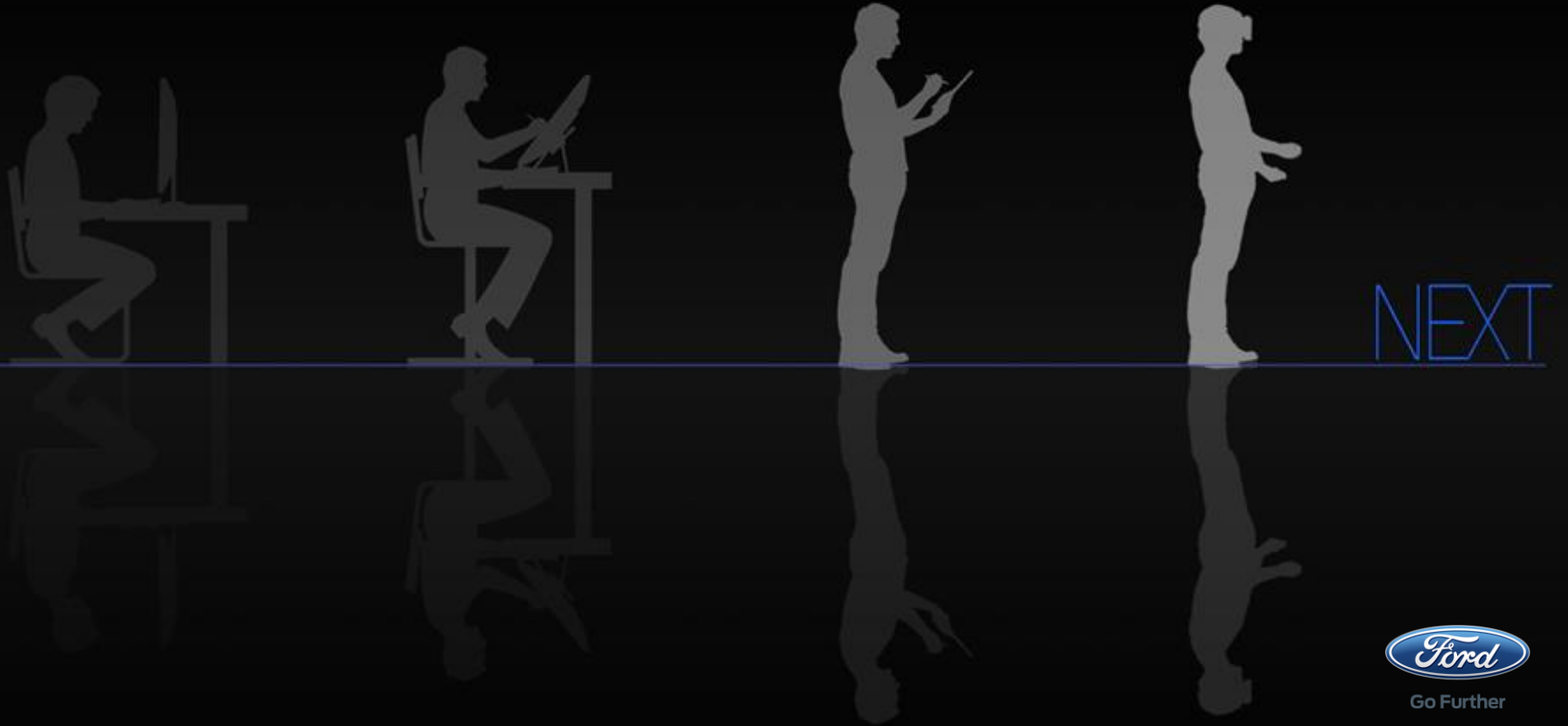
Virtual / Extended Reality has the potential to become the next interface to directly experience your creations and collaborate digitally with others.

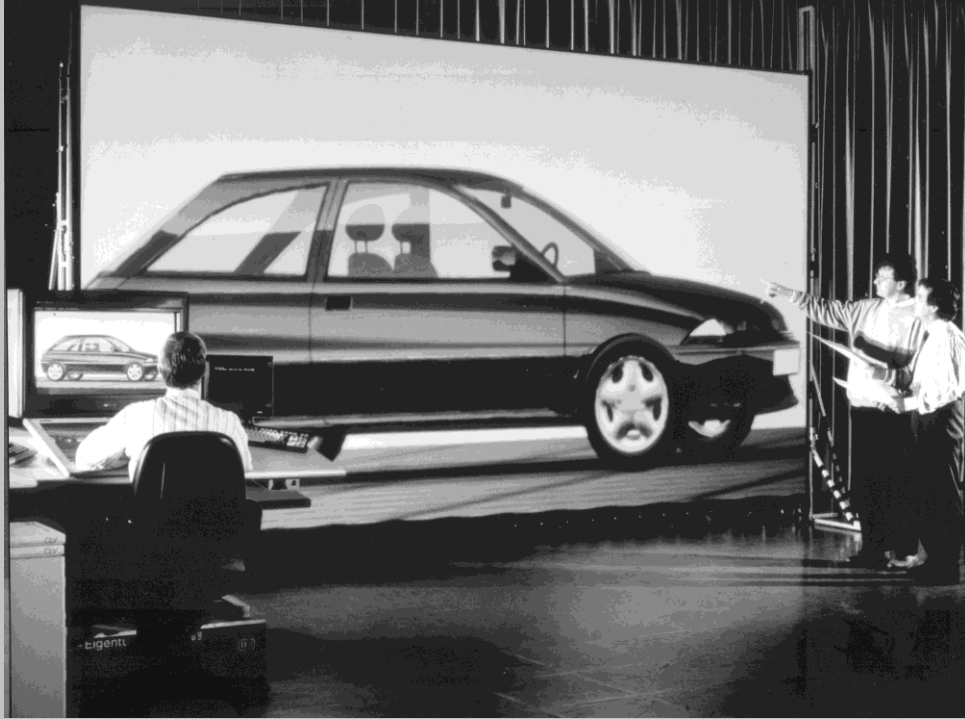


MS HoloLens pilot in Dearborn Studio



EVOLUTION OF THE DIGITAL DESIGNER/ENGINEER

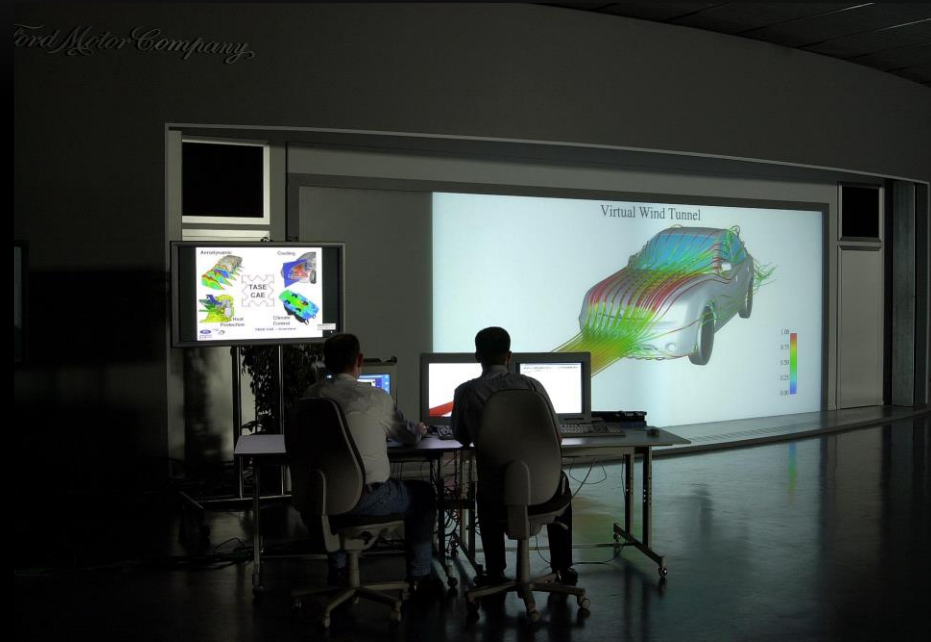




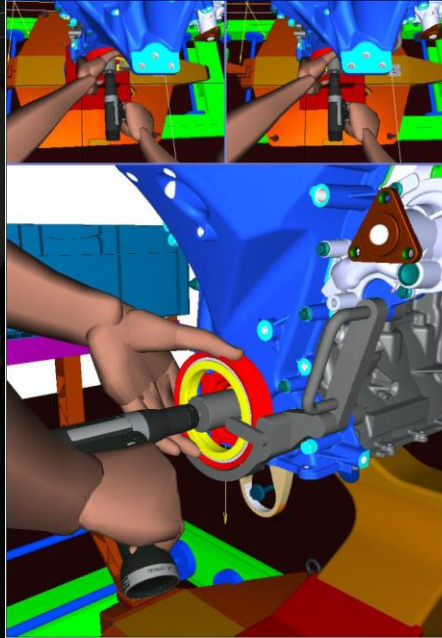
HISTORIC “VR” AT FORD

1990's IMMERSIVE LABS AND POWERWALLS

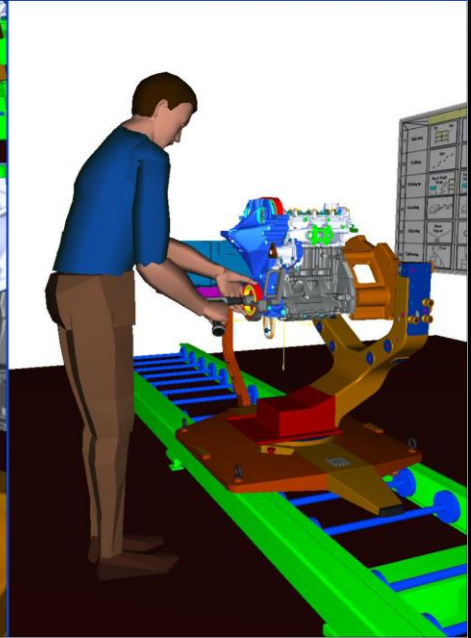
Ford Motor Company



Interactive Powerwalls [Infitec stereo]



Ergo Lab [Jack]



2000-2010 FORD IMMERSIVE VEHICLE ENVIRONMENT

Head-mounted display-based



FIVE lab

Projection-based



4-sided CAVEs



2010-TODAY: 2ND GENERATION XR AND HIGH-END VISUALIZATION



Presentation [4k Powerwall]



immersive review [HMD or 4k CAVE]

2015 AND ONWARD: CONSUMER XR DEVICES - PERVASIVE



low-cost HMD

Mixed Reality wearables





FLAVORS OF FORD ENTERPRISE XR



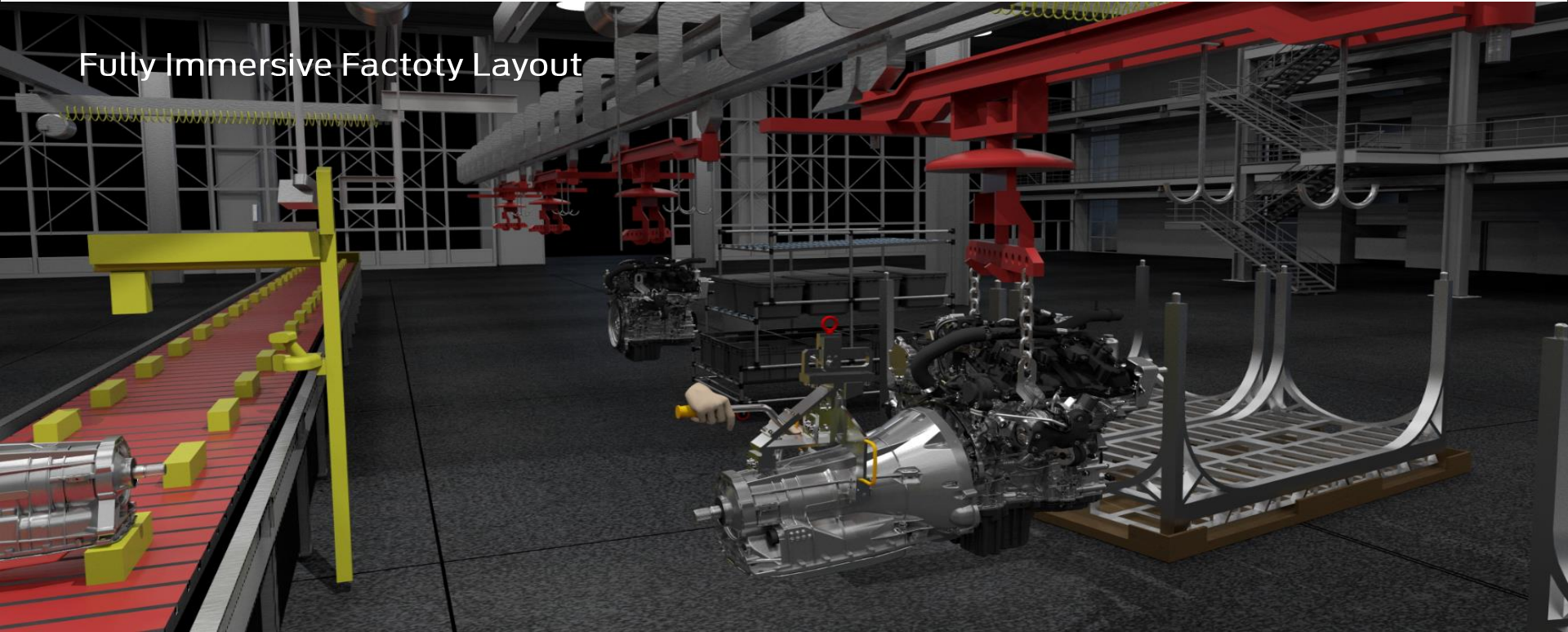
PRODUCT ENGINEERING



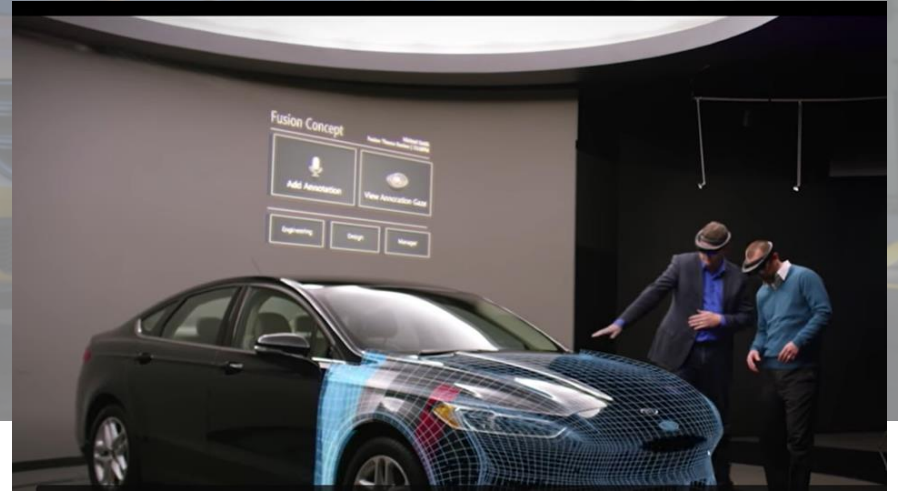
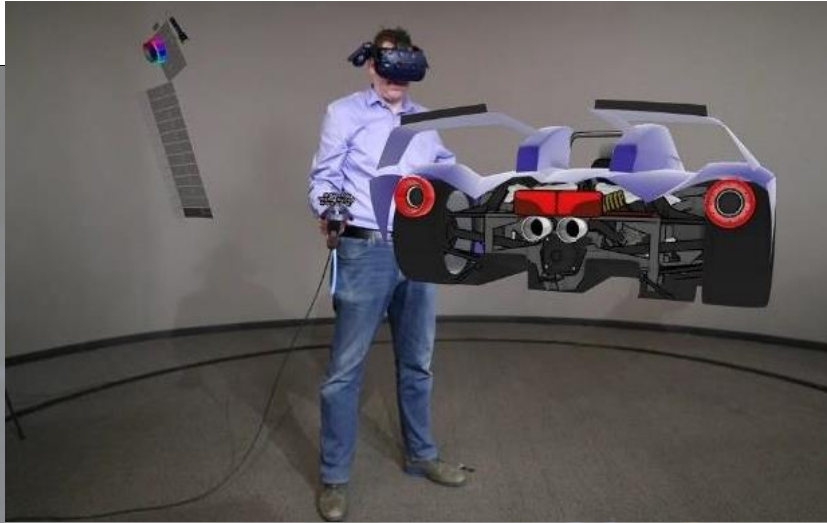
Fully Immersive Vehicle



Fully Immersive Factory Layout



STUDIO AND DESIGN



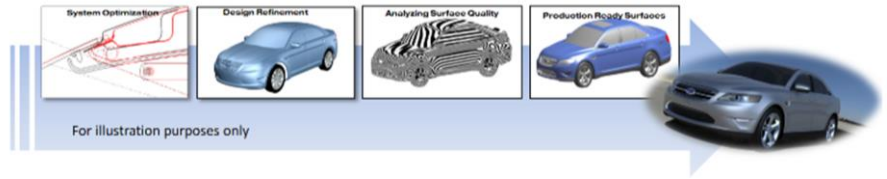
XR IN DESIGN



For illustration purposes only



 https://www.youtube.com/embed/WZQ_DQD7F3U



Design Engineering Visualization

- Review character lines and other surface information
- Quickly and accurately overlay new designs on an existing car to evaluate changes.
- Save time and money by easily toggling between different designs or see a split view to look at multiple designs at same time.
- Allows data owner to maintain better visibility and access control for their designs

Collaboration

- Annotations (voice or text) are created which include gaze to issue noted
- Tour mode for exploration of current vehicle status at any point in time
- Share content with multiple virtual users (or non-users via projected view)



STUDIO - NEW PHILASOPHY

Create Tomorrow

not just creating new designs, but the tomorrow we will design in

Be Curious

how can we do this differently, and get to the good stuff faster?

Put People First

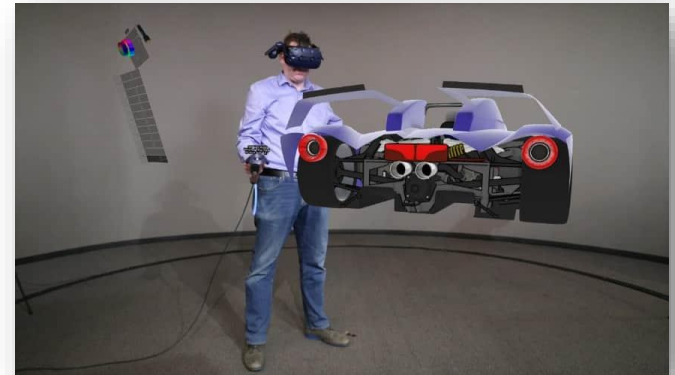
become the customer, live with the design before they do

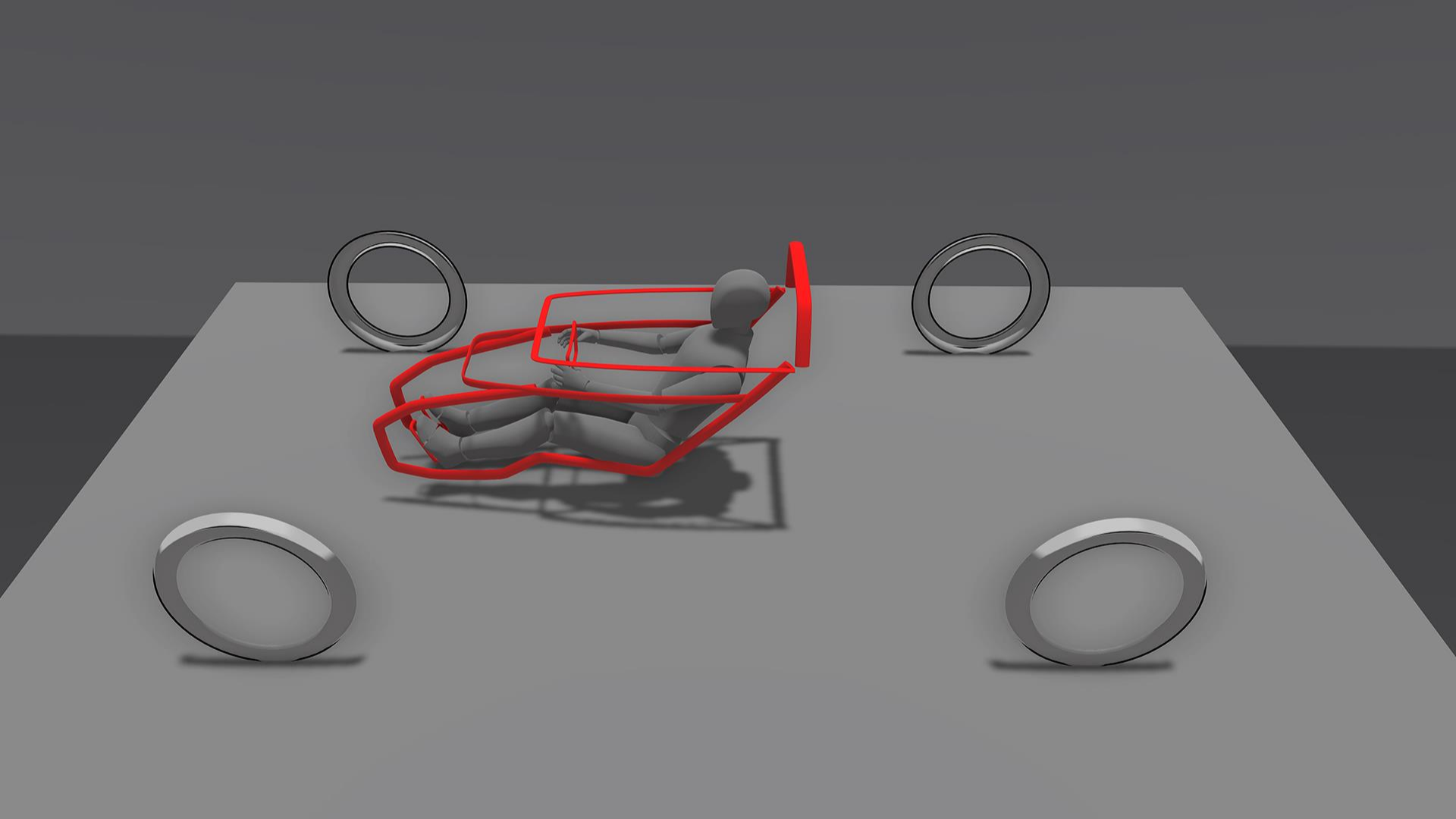
An immersive 3D design, for creating, iterating and communicating three-dimensional ideas between designers, engineers and decision makers.

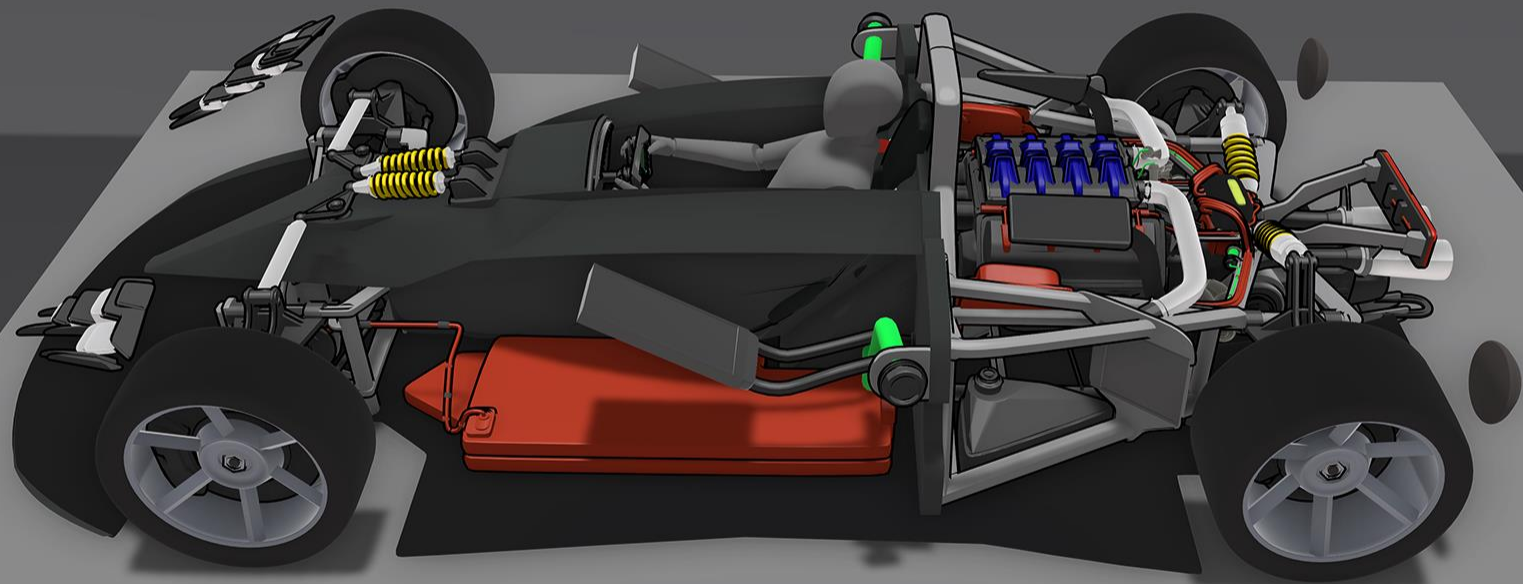
NEW OPPORTUNITY WITH GRAVITY SKETCH

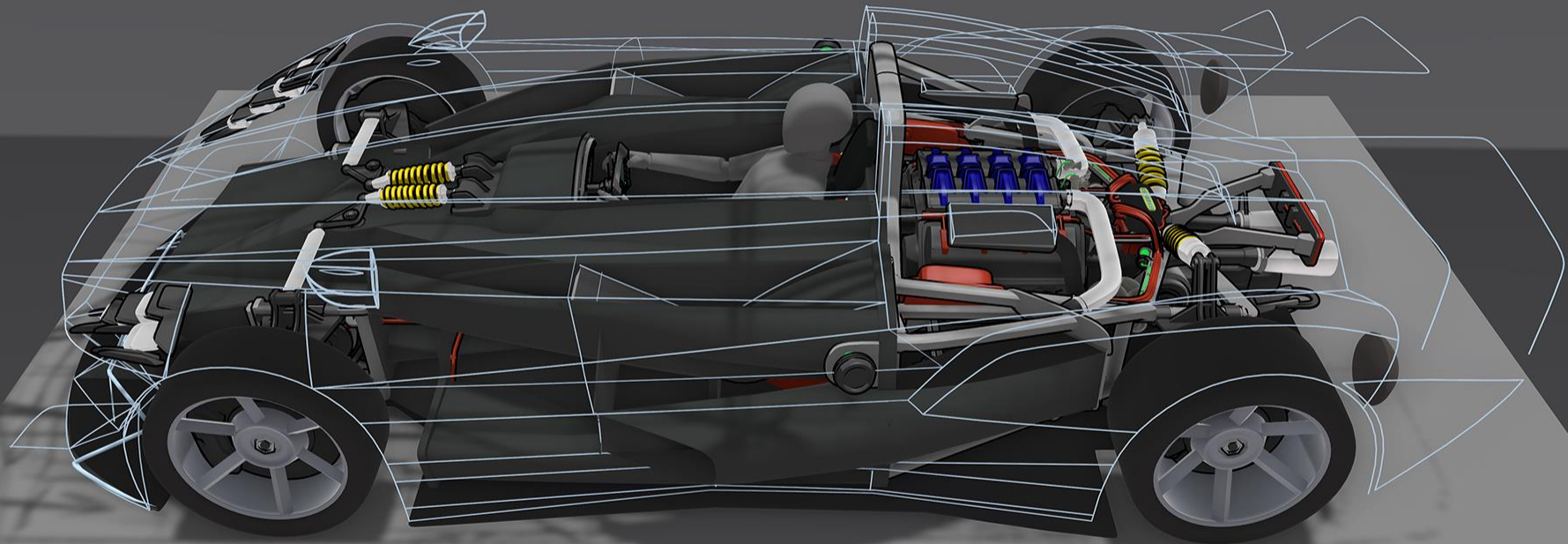
Transforming digital creation by developing an interface that puts the user at the center of the creation process, bringing back craft into the digital world.

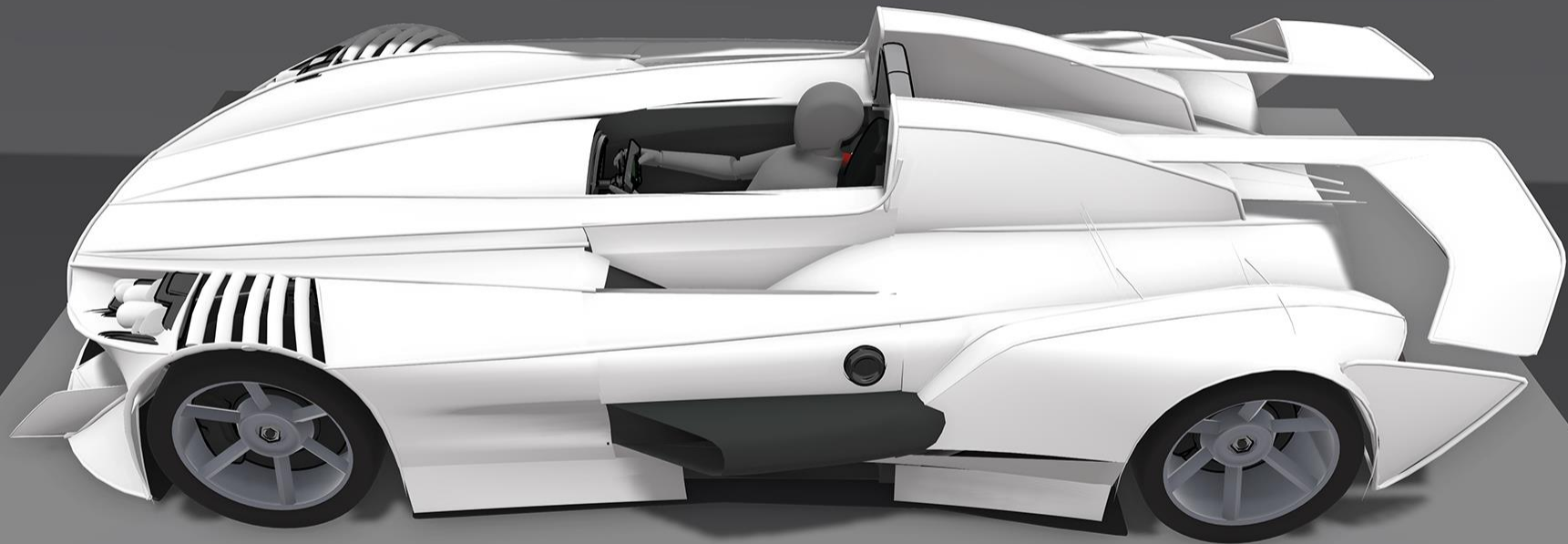
- Fast, intuitive, and fun.
- Gives the Designer creativity with control
- No mystery in a 3D curve, if it looks good... it is good.
- Instant evaluation from any angle, any scale
- Enable collaboration in the same virtual space, from within studios around the globe (7), in real time!
- A change of behavior, start in 3D... stay in 3D ... we sell 3D cars not 2D drawings!



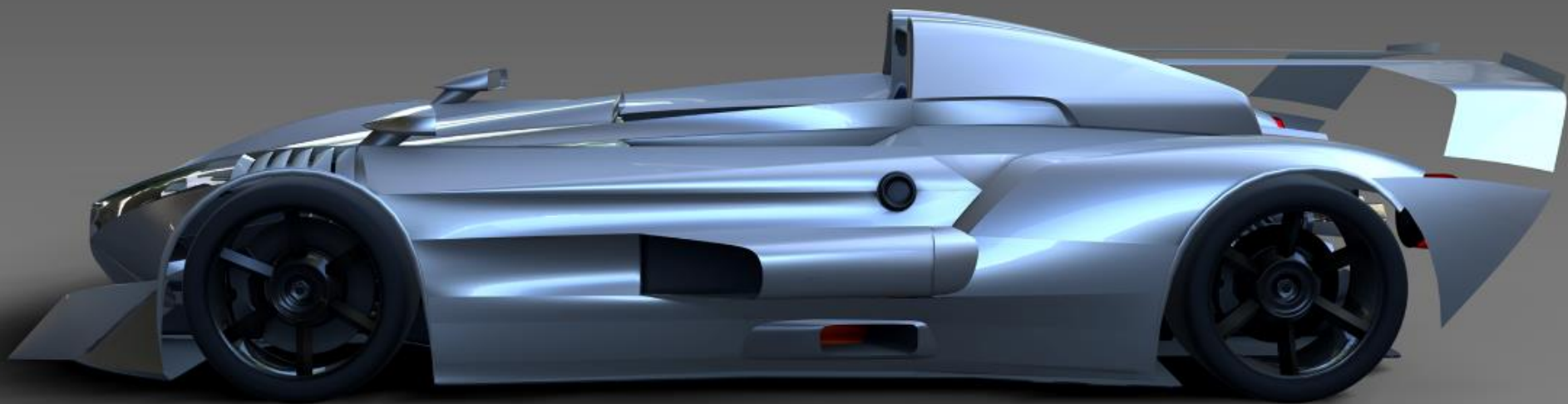












<https://media.ford.com/content/fordmedia/fna/us/en/permalink.html?Videoid=5996370290001>

OUTLOOK

A black and white photograph of Jean-Luc Picard from Star Trek: The Next Generation. He is wearing his command uniform and is pointing his right index finger towards the viewer. The image is set against a light gray background.

*'Things are only
impossible
until they are not.'*

Jean Luc Picard



Thank You.

FORD | DESIGN | 2000X
Ilan Weitzer

iweitzer@ford.com

