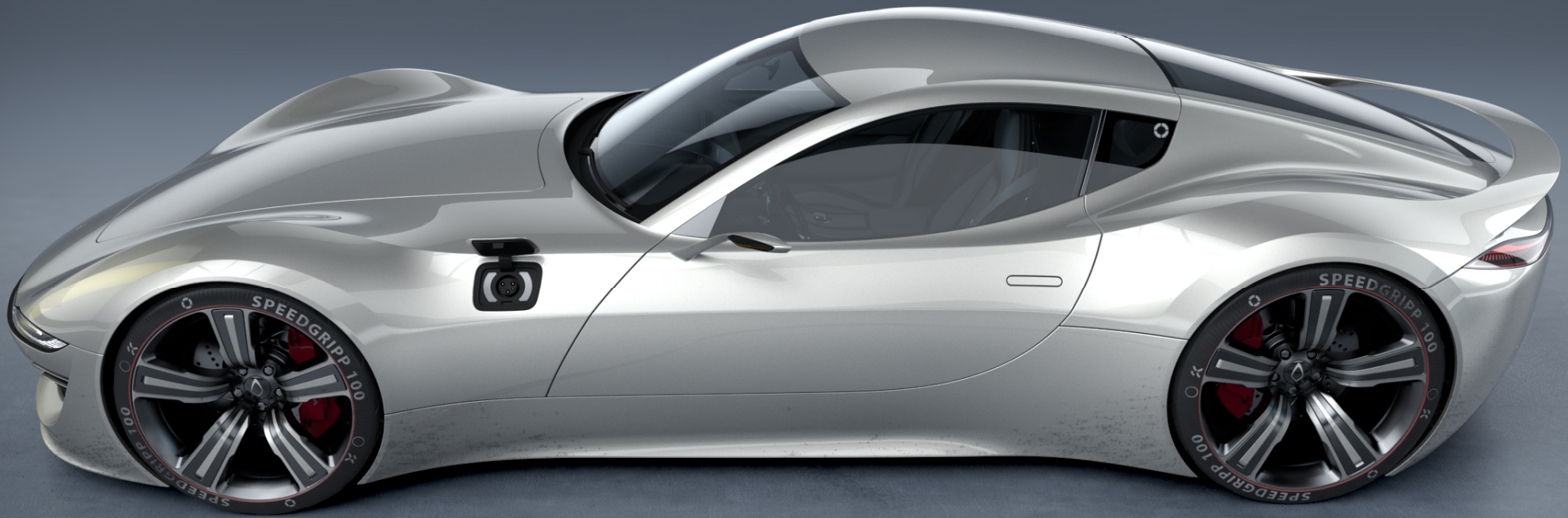




AUTODESK® VRED™

What's New in VRED 2019



*“To empower Design Studio’s with technology to push the **boundaries of creativity** and **collaborate radically** with the goal of **making better products, faster!**”*



VRED | Product Strategy



Perfecting
customer experiences



Differentiating
through innovation



Bridging
to the future



VRED | 2018 Recap

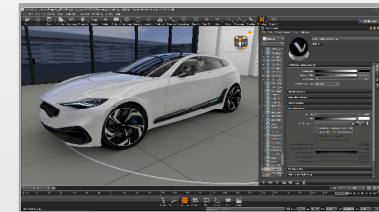
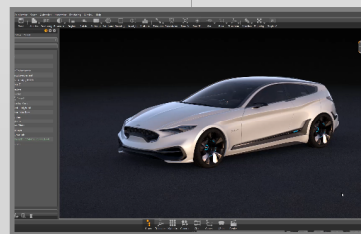


VRED 2018

Camera & Navigation
File IO & Interoperability
Custer Manager
Data Preparation & Scene Handling
Lights & Variants
Virtual Reality Enhancements
Human Machine Interface

Copy / Paste between Instances
Annotations
Decal Handling
Real-time IBL Lighting
Cluster Queue
Virtual Reality Enhancements
Human Machine Interface

VRED 2018.2



VRED 2018.4

Image Sequences
Animated Textures
Render Settings Dialog



Differentiating

Shared Views

VR Hands Interaction

Bridging to the Future

VRED Server API

Perfecting

File Specific Import

Lens Flares & Fog

Joint & skin import

X-Ray Material

Script Editor



Perfecting VRED Design



VR at every Designer's Desk

General Improvements



- ▶ Rendering: Shadow maps for Point- & Spherical Light in OGL
- ▶ Stereo SLI support for VRED Design
- ▶ Oculus SDK 1.19 & OpenVR 1.12 Update



- ▶ Web Engine: Improved HTML5 rendering performance
- ▶ 3D sound perception improvements in VR
- ▶ Tone Mapping: ACES Color space for Reinhard RGB & Logarithmic RGB



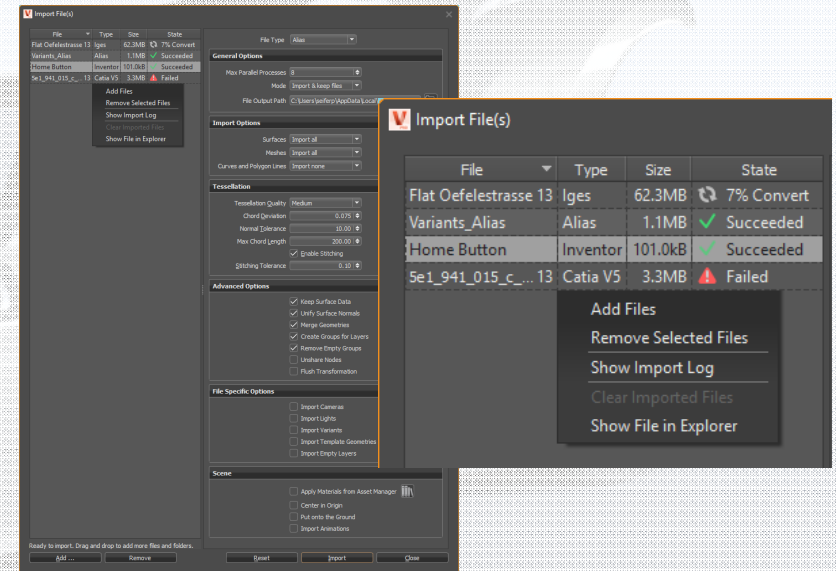
Perfecting Customer Experience

- File specific IO
- Joint & Skin support for FBX files
- Lens Flares & Fog
- Script Editor
- X-Ray Material



- ▶ Redesigned File Menu and Import Dialog
- ▶ Import State Overview
- ▶ Batch conversion into OSB

- ▶ Automate repetitive work
- ▶ Get reliable results/ reports
- ▶ Streamlined export pipeline



Perfecting Customer Experience

File specific IO
Joint & Skin support for FBX files
Lens Flares & Fog
Script Editor
X-Ray Material



- ▶ Pose Characters inside VRED
- ▶ Import animated Characters via FBX



Perfecting Customer Experience

File specific IO

Joint & Skin support for FBX files

Lens Flares & Fog

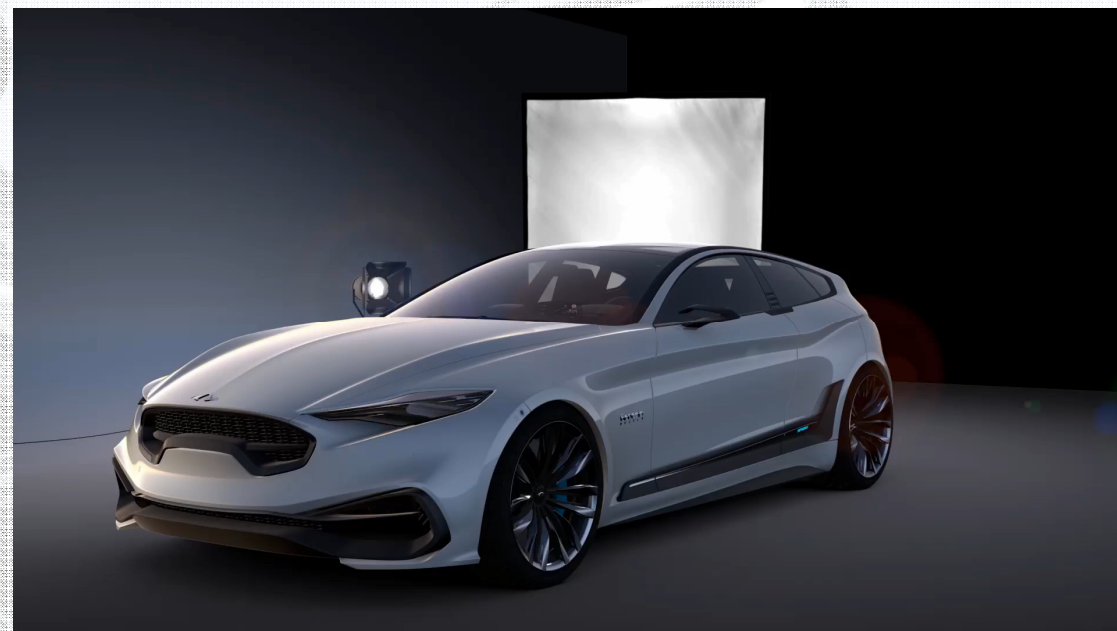
Script Editor

X-Ray Material



- ▶ Artistic Lens flares
- ▶ Light Extension
- ▶ Flexible Flare Compositing
- ▶ Presets as entry point
- ▶ Storable in Asset Manager

- ▶ Enable Life-like presentations



Perfecting Customer Experience

File specific IO
Joint & Skin support for FBX files
Lens Flares & Fog
Script Editor
X-Ray Material



- ▶ Fog effect as Camera Extension
- ▶ Distance and Height Fog with generic Noise
- ▶ Render Pass Support
- ▶ Animatable and python access

- ▶ Enable Life-like presentations



Perfecting Customer Experience

File specific IO

Joint & Skin support for FBX files

Lens Flares & Fog

Script Editor

X-Ray Material



- ▶ Dark theme with coding font and syntax highlight
- ▶ Search bar,
- ▶ Find and Replace
- ▶ GoTo Line
- ▶ Auto Complete for VRED Commands

```
12 ## Controller Movement
13 def leftControllerMoved():
14     leftNode.setTransformMatrix(
15         leftNode.getWorldMatrix(), false)
16
17 def rightControllerMoved():
18     rightNode.setTransformMatrix(
19         rightNode.getWorldMatrix(), false)
20
21 ## Button presses
22 def buttonXPressed():
23     print "button X pressed"
24     leftController.setPickingAxis(0)
25     leftController.showPickingAxis(true)
26
27 def buttonXReleased():
28     print "button X released"
29     leftController.setPickingAxis(0)
30     leftController.showPickingAxis(false)
31
32 def buttonXIsPressed():
33     print "button X is pressed "
34
35 def buttonXTouched():
36     print "button X touched"
37
38 def buttonXUntouched():
39     print "button X untouched"
40
41 def buttonXIsTouched():
42     print "button X is touched"
43
44 [out]
45 setStillDOF
46 setSurfaceAnalysisSurfaceLightingMode
47 setCameraScale
48 setNodeMaterial
49 setDistance
50 setDistanceCulling
51 setRenderPremultiply
```

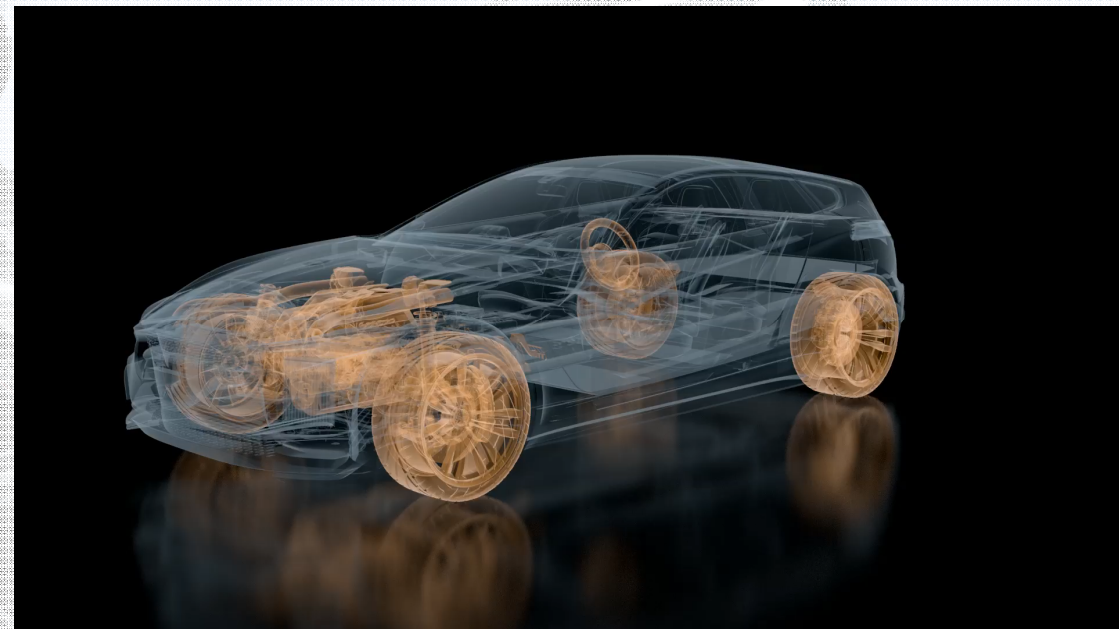
Perfecting Customer Experience

- File specific IO
- Joint & Skin support for FBX files
- Lens Flares & Fog
- Script Editor
- X-Ray Material



- ▶ X-Ray Material
- ▶ Back face culling and adjustable Fresnel
- ▶ OGL & RT support
- ▶ Realtime Shadow

- ▶ Create Technical visualization



Perfecting Customer Experience

File specific IO
Joint & Skin support for FBX files
Lens Flares & Fog
Script Editor
X-Ray Material



Differentiating Through Innovation

Shared Views
Hands in VR



- ▶ Share data quickly and easily from inside VRED
- ▶ Foster Project Collaboration



Differentiating Through Innovation

Shared Views
Hands in VR

- ▶ Hands for VIVE and Oculus Controllers
- ▶ Pre-defined Poses
- ▶ Interact with HTML5 Content and Touch Sensors
- ▶ Visual and haptic collision feedback
- ▶ Advanced Interaction with digital Prototypes in Virtual Reality

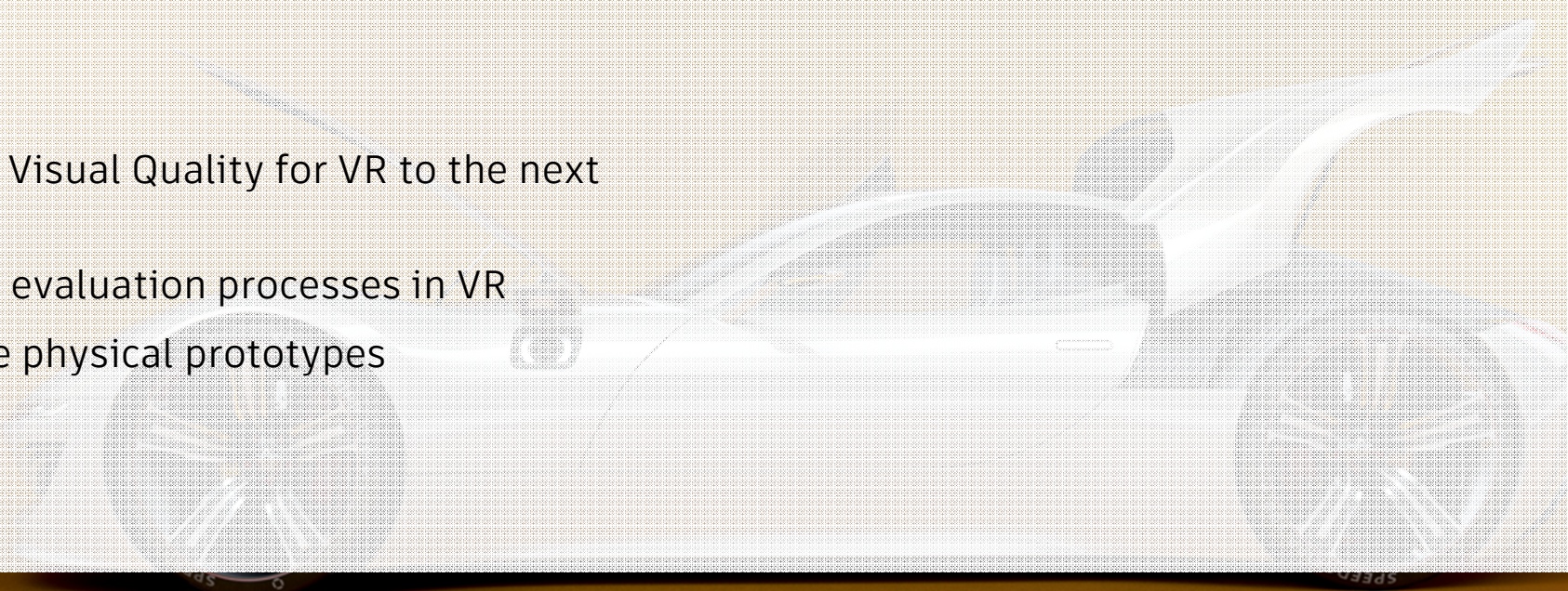


Differentiating Through Innovation

Shared Views
Hands in VR



- ▶ Taking Visual Quality for VR to the next level
- ▶ Enable evaluation processes in VR
- ▶ Reduce physical prototypes



Differentiating Through Innovation

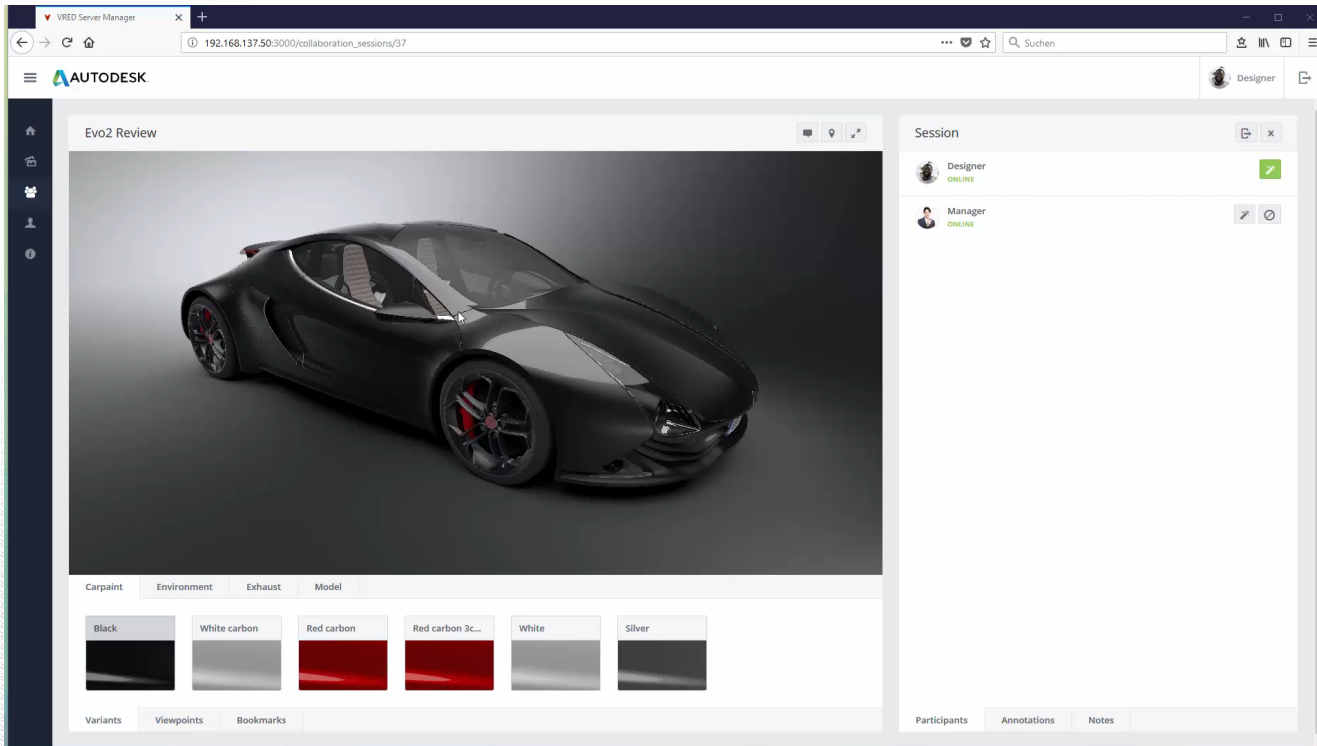
Shared Views
Hands in VR

Raytraced Virtual Reality



Bridging To the Future

VRED Server Design Collaboration
VRED Server Manager API
Scalability



- ▶ Share Designs Quickly and Easily
- ▶ VRED Quality through streaming
- ▶ Access from anywhere, anytime
- ▶ Speed up informed decision making
- ▶ Allow Pipeline Integration through API

Bridging To the Future

VRED Server Design Collaboration
VRED Server Manager API
Scalability

