# design solutions

## DS SOLIDWORKS
## Visualize Product Matrix

| FUNCTIONALITY | Visualize Professional | Visualize Standard |
|---|:---:|:---:|
| **RENDERING** | | |
| Hardware agnostic, unbiased, interactive wysiwyg pathtracing using NVIDIA iray (Accurate Mode) | ● | ● |
| Hardware agnostic, biased, interactive wysiwyg raytracing using NVIDIA iray (Fast Mode) | ● | ● |
| Hardware agnostic, high quality, interactive wysiwyg rasterizer (Preview Mode) | ● | ● |
| Supported techniques such as global illumination, ambient occlusion, screenspace shadows, IBL, color bleeding, dispersive caustics, unlimited raybounces, refraction, rough reflections and more. | ● | ● |
| Automatic "Blending" between rendering modes | ● | ● |
| HDRI lighting | ● | ● |
| Light emission from geometry | ● | ● |
| Ground reflectivity and roughness | ● | ● |
| Rasterized baked lighting | ● | |
| Rasterized accumulation | ● | |
| **INPUT** | | |
| Solidworks (SLDPRT/SDLASM) | ● | ● |
| Alias (WIRE) | ● | ● |
| 3D PDF | ● | ● |
| 3DXML | ● | ● |
| ACIS (SAT) | ● | ● |
| IGES | ● | ● |
| STEP | ● | ● |
| Collada (DAE) | ● | ● |
| Pro/E / Creo (PRT) | ● | ● |
| Filmbox (FBX) | ● | ● |
| Animated Filmbox (FBX) | ● | |
| 3D Studio Max (3DS) | ● | ● |

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| Rhino (3DM) | ● | ● |
| Wavefront (OBJ) | ● | ● |
| SketchUp (SKP) | ● | ● |
| Maya (MB) | ● | ● |
| SolidEdge (ASM/PAR) | ● | ● |
| Autodesk (DWG/DXF) | ● | ● |
| Inventor (IPT/IAM) | ● | ● |
| CATIA | ● | ● |
| ICEM | ● | ● |
| U3D (Unigraphics) | ● | ● |
| Parasolids | ● | ● |
| NX | ● | ● |
| VDA | ● | ● |
| Live Update from CAD | ● | ● |
| **OUTPUT** | | |
| Unlimited resolution offline rendering | ● | ● |
| Alpha Channel | ● | ● |
| Early image save | ● | ● |
| Threaded offline renderings | ● | ● |
| JPG, BMP, PNG, TIFF, HDR and PSD output | ● | ● |
| Built in image viewer tab | ● | ● |
| Render Profiles | ● | ● |
| Preview (raster) output | ● | ● |
| Render all Configurations | ● | |
| Render all Cameras | ● | |

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| Render Passes | ● | |
| Turntable rendering | ● | |
| Automatic movie (.mp4, .mkv, .flv) output | ● | |
| Browser based VR output | ● | |
| Browser based Panoramic output | ● | |
| **SCENE PREPARATION** | | |
| CAD Live-Update | ● | ● |
| Auto-Paint | ● | ● |
| Direct manipulation of parts | ● | ● |
| Surface/Part Splitter | ● | ● |
| Group and reorganize parts in the tree view | ● | ● |
| Model/Part reset and freeze | ● | ● |
| Formation tool | ● | |
| Part re-tessellation | ● | |
| Multiple model sets | ● | |
| Simple vehicle wheel building | ● | |
| **ANIMATION** | | |
| Proprietary "3D graph editor" Ribbon | ● | |
| Turntable Animations | ● | |
| Sun Study Animations | ● | |
| Keyframe animations of Models, Groups and Parts | ● | |
| Keyframe animation of Materials | ● | |
| Keyframe animation of Cameras | ● | |
| Keyframe animation of Environments | ● | |
| Keyframe animation of Lights | ● | |
| Realtime turntable | ● | |

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| **MATERIALS** | | |
| Scientifically accurate preset and adjustable materials | ● | ● |
| Supported techniques such as fresnel reflections, absorbtion, transmittance, anisotropy (mappable), emission. | ● | ● |
| Color/texture, opacity, specular, anisotropic, bump and normal mapping | ● | ● |
| Advanced materials: Subsurface, Thin Film, Backscatter | ● | ● |
| Flexible local or cloud based asset storage | ● | ● |
| Sharable material definition files (.svap) | ● | ● |
| Drag and drop materials/textures from desktop or any folder | ● | ● |
| Unique in and out of app color picker/dropper | ● | ● |
| Save favorite colors | ● | ● |
| Texturable and paintable decals | ● | ● |
| Layered decals | ● | ● |
| Decal projection | ● | ● |
| Controllable decal depth | ● | ● |
| Multple part decals | ● | ● |
| Displacement Mapping | ● | ● |
| **LIGHTING** | | |
| Lighting, shadow and reflection casting from HDRI | ● | ● |
| High Dynamic Range Image (HDRI) interation and control | ● | ● |
| HDR Light Studio Live plugin | ● | ● |
| Prop creation for additinal light sources | ● | ● |
| Time of day (Sun and Sky) lighting model | ● | |
| Photometric lights (Point, Spot and Directional) | ● | |
| Raster object reflections (Preview Mode) | ● | |
| Raster culling (Preview Mode) | ● | |

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| **CAMERA OPTICS** | | |
| F-Stop, Focal length, Field of view and Perspective settings | ● | ● |
| Exchangeable camera files (.svcm) | ● | ● |
| Interactive depth of field with focal point selection | ● | ● |
| Multiple cameras with individual aspect ratio and settings | ● | ● |
| Orthographic camera | ● | ● |
| Walk-around camera | ● | ● |
| Rule of thirds overlay | ● | ● |
| Preset photographic camera filters | ● | ● |
| Real-time customizable photographic camera filters | ● | |
| Follow and aim cameras and objects | ● | |
| Real world camera positioning | ● | |
| Motion blur | ● | |
| Region rendering | ● | |
| FBX camera export | ● | |
| **PRODUCTIVITY** | | |
| Highly optimized parallel architechture | ● | ● |
| Hybrid Based CPU and GPU rendering | ● | ● |
| Near Linear performance scaling with added CPU's and GPU's | ● | ● |
| 3D Connexion device support | ● | ● |
| SOLIDWORKS Visualize cloud community connection | ● | ● |
| Queue rendering manager | ● | |
| Configurations | ● | |
| Multiple viewports (Dual, Quad and Orthographic) | ● | |