



Elevating Vision

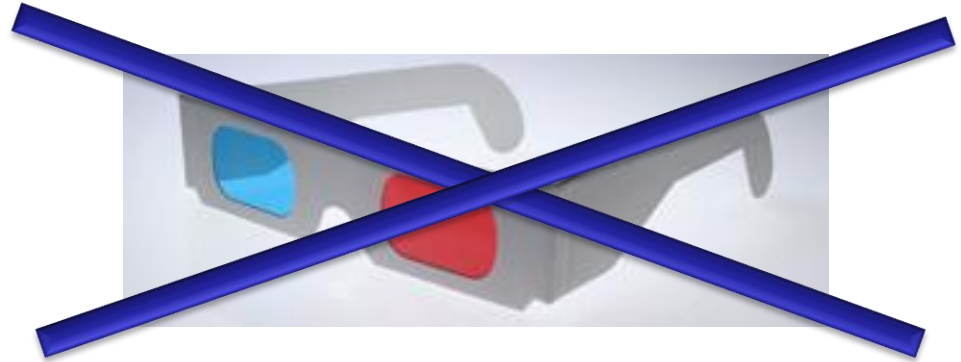
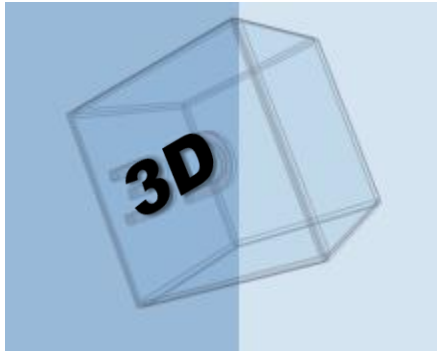
Presentation of Tridelity Display Solutions GmbH

Michael Russo – General Manager

Oct. 16th, 2009



Glasses-free!!!



3D Visualization

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INTRODUCTION

TRIDELITY has been pioneering the development of autostereoscopic (**No glasses required!**) 3D displays.

We are proud to offer a wide range of award winning SINGLE and MULTI-VIEWER displays (from 19" to 57") which truly Elevate Vision and enable the viewer to Jump Into The Next Dimension!

Our displays provide unprecedented quality and viewing comfort, exceptional 3D depth and the highest resolution per view.

LOCATIONS

St. Georgen, Germany (HQ)

Jersey City, NJ





TARGET INDUSTRIES

There are multiple applications in various industries, including:

- Scientific Visualization
- Advertising & Digital Signage
- Media & Entertainment
- Design Visualization
- Government & Military





UNIQUE SELLING PROPOSITIONS

- All TRIDELITY displays are **autostereoscopic 3D** displays. No special glasses or goggles are required!
- All TRIDELITY displays provide **True 3D** – no 2D plus dept map
- TRIDELITY displays provide the **highest resolution per view in the industry** (491K pixel per view) for its Multi-Viewer displays, for maximum sharpness and the crispiest images.
- TRIDELITY provides the **broadest range** of Multi – and Single Viewer displays in the industry – from 10.4” to 57”
- TRIDELITY 42” display MV4200PC is the **ONLY autostereoscopic 3D display with an integrated PC.**
- TRIDELITY delivers a **one-stop-solution** for all your 3D needs, including content creation, 3D modeling etc.





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Single-Viewer Displays

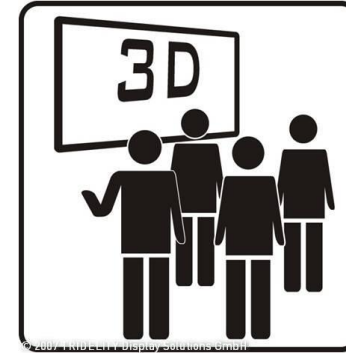


- 3D workstation for one single user
- Highest quality 3D imaging
- User tracking systems available



Applications:
Desktop modeling and engineering

Multi-Viewer Displays



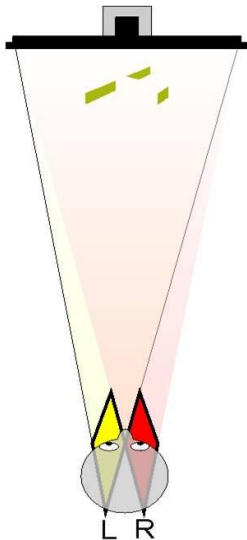
- Multiple users at any time
- High viewing comfort
- Impressive 3D pop-out effects



Applications:
Digital Signage, Group presentations,
Events, Trade Shows, ...TV



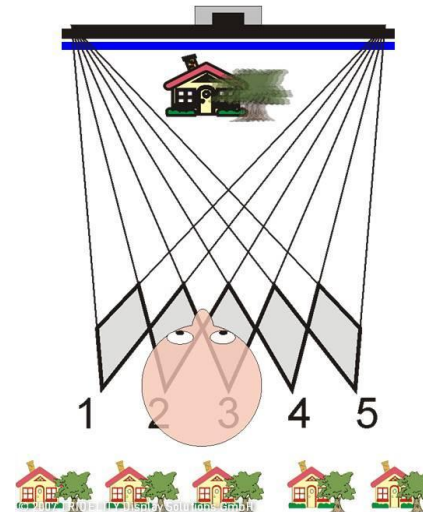
Single-Viewer - Characteristica



- 2 views (stereo) of content (L+R eye)
- Intended for one user only
- Very high resolution (50% per eye)
- Low bending between L and R
- Best and ‚deepest‘ 3D quality
- Head / Eyeball-Tracking-Systems for higher viewing comfort



Multi-Viewer - Charakteristica



- 5 views of any content
- Multiple users at any time
- High viewing comfort and wide viewing area
- Impressive 3D pop-out and in-depth effects even outside the ‚perfect viewing area‘
- Smooth transition from view to view



Single-Viewer Displays

SV 2100
21" Portrait Format
Display

SL 2400
24" High Resolution Display



Multi-Viewer Displays

MV 1000
10" POS Display

MV 2450
24" work place & kiosk display
– short distance

MV 2700
27" Mid Range Display

MV 4200PC
42" Large Signage Display
With integrated PC

MV 5700
57" Extra Large Signage
Display

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The following peripheral software packages are available to make your 3D project a truly ‘Plug ‘n Play” experience:

- | | |
|--|--|
| • TriView – Media Player | Enables TriView enhanced 3D files to be displayed |
| • TriMediaBox | Visualization of real time 3D content from 3D software applications for Single Viewer Technology |
| • TriTechDriver | Driver for interactive compatibility with any Open G/L based 3D application, such as Google Earth, AutoDesk, and many more |
| • TriCapture | Visualization software for 3D-live-video in connection with the Dentaloscope 3D Play Center |
| • Plug-Ins for 3D Studio Max® and Maya® | Plug-ins for 3D content creation and rendering of animations with Maya®, 3D Studio Max® |
| • Post Production Toolkit | Assembly of pre-rendered content into multi-view AVI file |

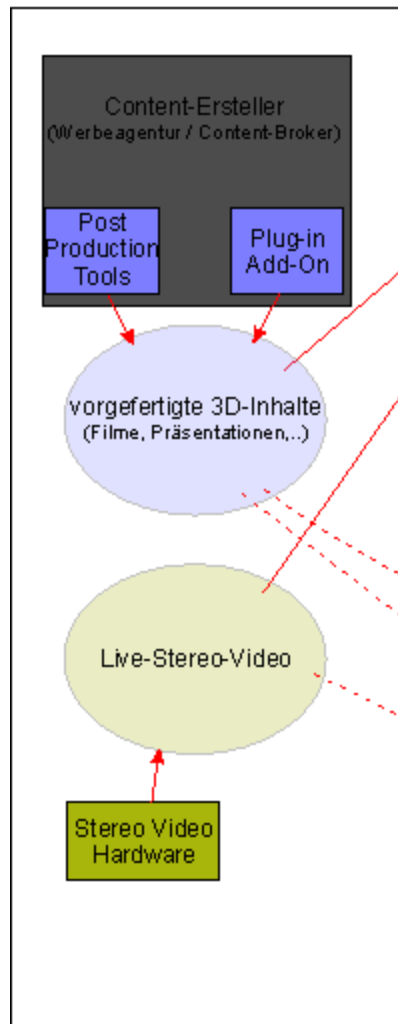


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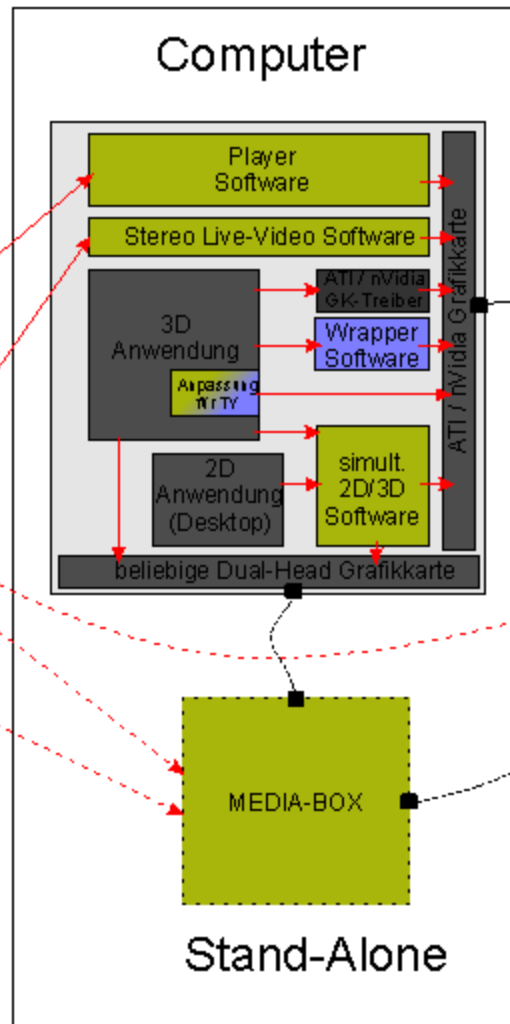
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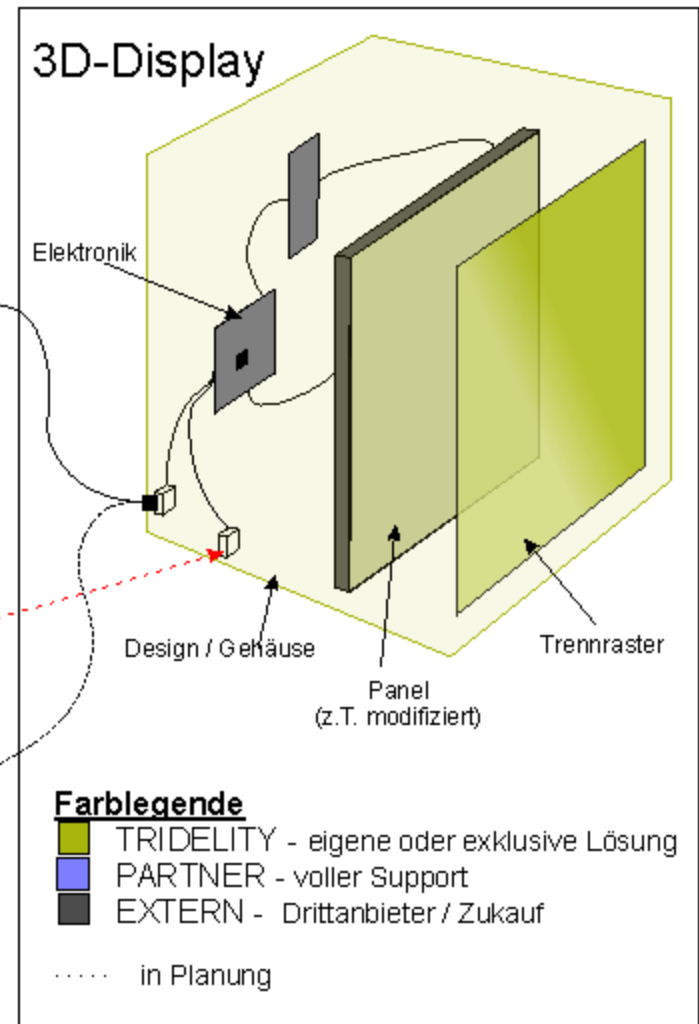
Daten



Ansteuerung



Visualisierung





Animated (pre-rendered) content via plug-ins for Maya & 3DS Max

Pricing based on different levels of complexity:

1. **basic,**
like one modeled logo over a static/2D movie background, no changes in scene.
2. **middle,**
like “cans” content: one modeled simple product plus modeled logo, animated movement of the product over a static/2D movie background, no changes in scene.
3. **complex,**
like Tridexterity content or Dreher content: one or two modeled simple products, changing, animated background, scene changes (1 change per 10 sec).
Additional cost if product is complex, which has to be modeled. Simple products have simple shapes, like bottles, boxes, logos. Additional price modeling: medium complexity are mobile phones, high complexity is electronic units (home equipments) or cars. In case client supplies the 3D model in file, then no additional cost for the model.



Pure 3D rendering based on regularly made 3D animations/ advertisements

>>through this method agencies may follow the work steps they are used to and just prepare the animation via Maya or 3DS Max normally in 2D – we offer to take this material and render it to 5-views 3D.



Live 3D video content recording service via 3D camera acquisition system:

>> The production of 3D content for multi-viewer screens is similar to that for single-viewer screens: two basic technologies are feasible. First, computer generated data can be also “rendered” for 5 (or “n”) views, and live content can be also produced by a camera with “n” lenses instead of 2.

Pricing : Tridelity offers the service of 3D film making through professional personnel plus post processing of filmed 3D material at // in case agencies prefer to do 3D filming themselves the prices of a 5-view or 2-view camera vary from 25k EUR/unit to 35kEUR/unit.

At a later stage TRIDELITY will be able to provide GLASSES FREE – LIVE 3D.



3D camera w/5 lenses



3D camera w/2 lenses



Stereo-to-5-views Conversion

>> this becoming of interest for all content which was made or animated in 2-views-stereo such as with respect to all 3D Hollywood movies coming out recently; furthermore once marketing agencies start shooting with stereo cameras (2-views based) this conversion becomes relevant.

Pricing based on different levels of complexity:

1. **basic quality,**
just conversion through conversion algorithms without post processing
2. **medium quality,**
conversion plus post processing of scenes with evident quality defects
3. **high end quality,**
conversion plus intense high-end post processing. like one modeled logo over a static/2D movie background, no changes in scene.



Mono-to-5-views Conversion

>> it is possible to convert also 2D “mono” content into 3D and/or combine 2D videos with 3D elements; this becomes relevant once the customer wants to use already existing 2D material also for the new medium of an autostereoscopic 3D display. However the 2D to 3D conversion is a more costly solution due to the fact that evident working steps have to be done manually.

Pricing : highly complex, guideline 215 EUR/sec.

price however depends on the length, for up to 5 minutes this price will be valid - like for Cinema intro of movies combining 2D movie content with 3D content in a way that 3D animated part fully follows the original movie. So at the end it looks like it was a one content, synchronized content.



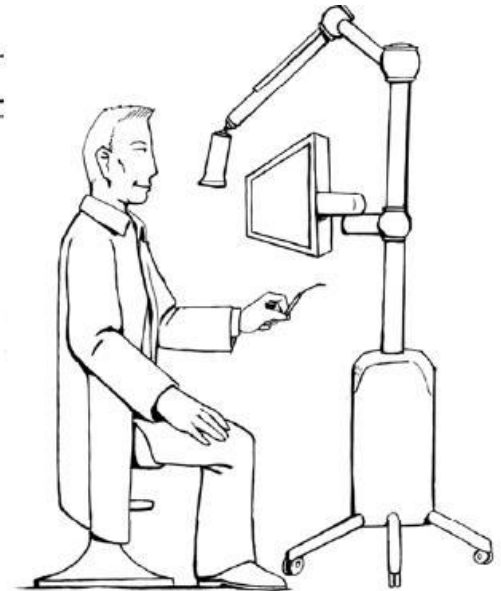
Dentaloscope



Courtesy by SMT



From a crooked position at the mikroscope....



QUELLE: Swiss Medical Technology GmbH

...to ergonomic working with a 3D display!





amira® 5

Visualize • Analyze • Present

amira is the leading software solution that satisfies even your most demanding needs to work with clinical or preclinical image data, nuclear data, optical or electron microscopy imagery, molecular models, vector and flow data, simulation data on finite element models, and all types of multidimensional image, vector, tensor, and geometry data (Source: www.amira.com)

- Enjoy this great software solution in direct interaction with Tridexterity 3D displays!
- Enlarge the functionality of your amira software by real glasses-free 3D visualization!



TT for OpenGL applications in 3D

- Creates glasses-free 3D with any of your OpenGL applications in use
- Great for group discussions & evaluations with the data you need
- Easy handling through clever Joy Pad navigation

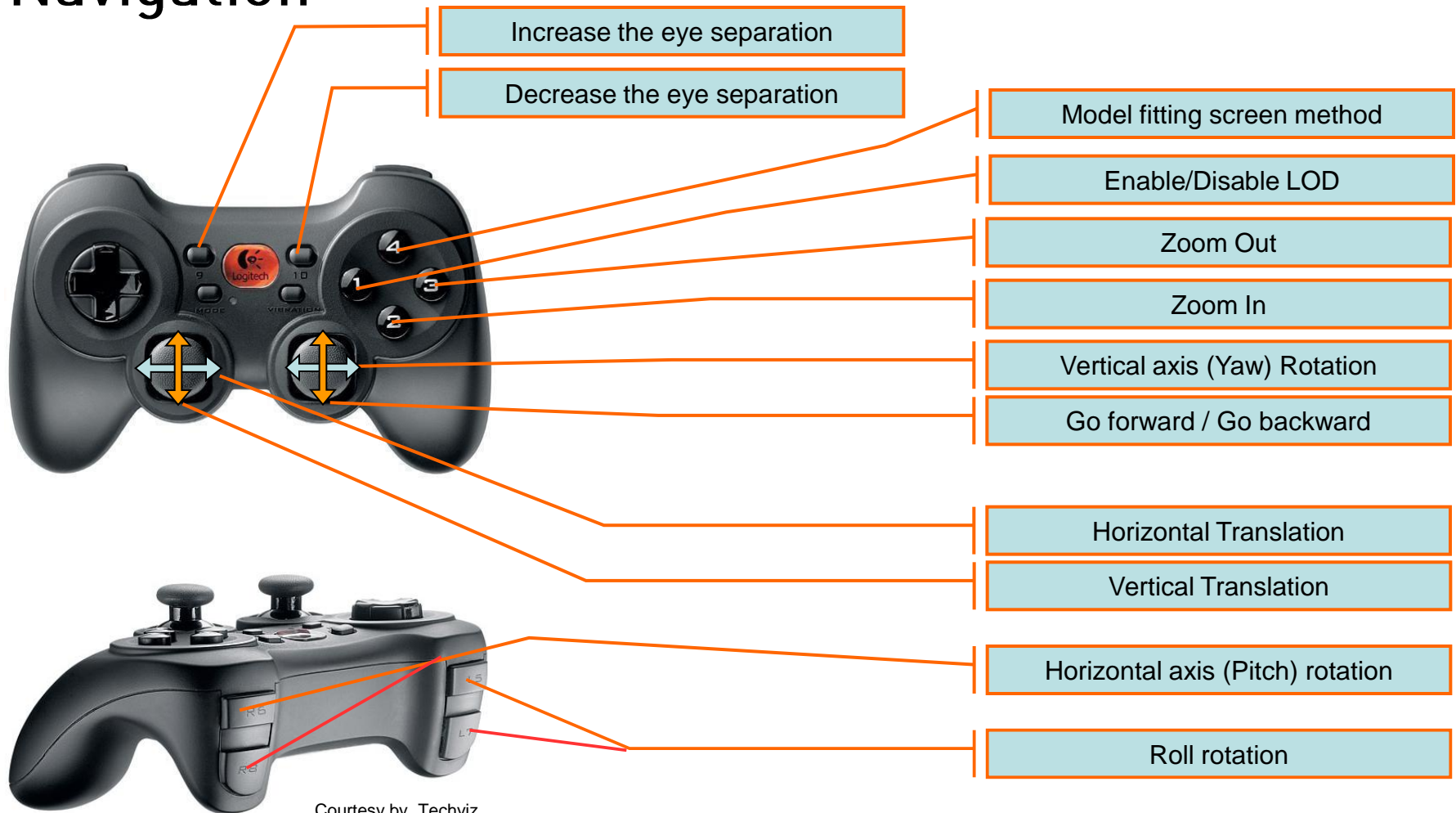


Alias Studio, Alias Motionbuilder, Maya Altair Hyperworks, Arevi toolkit, Autodesk Autocad, Autodesk Inventor, Autodesk Showcase, Autodesk Revit, AVEVA Vintage 3DStudio Max, Dassault Catia / Enovia / Delmia / 3dxml Player, CEI Ensignt, Enliten, Icem Surf, Intergraph Mercury / TGS Inventor (toolkit), VTK (toolkit) / Paraview, Amira, Multigen-Paradigm Vega Prime, PTC Division 2000i2 PTC ProE WildFire, PTC ProductView Rhino 3D, Right Hemisphere, SolidWorks Tecnomatix EmPower/EmPlant, UGS Teamcenter /VizMockup /J T2GO, UGS, Unigraphics NX, SolidEdge, Petrel, Gigaviz, Eclipse, RTT DeltaGen, DeltaView, Opticore Realizer, Ogre toolkit, ESRI, ArcGIS, Virtools, VMD, MOE, Seemage, Bentley Microstation 8.1, MAXXON Cinema 4D, DeepExploration, GNS Animator Lumiscaphe Patchwork3D, Powerviz SGI Performer, Google Sketchup Walkinside, Microsoft Office (Powerpoint/Excel/Word), Internet Explorer /Firefox, Photoshop, Acrobat Reader, Google Earth, Second Life, Quake 4, Doom 3, Video player : mplayer, Videolan Pymol, FieldView, Fluent, Abaqus, 3DNature, CoCreate ...

- Over 120 applications certified
- Commercial and custom OpenGL 3D application compatibility
- Immersive visualization & virtual reality of 3D model on Trideltity ASDs
- Optimize 3D Display performance
- No Data conversion required to a secondary VR application
- No programming required
- Transparent technology to work with applications

Courtesy by Techviz

Navigation



Courtesy by Techviz



Why we say „The world´s most simple VR solution“:

- ★ glasses-free -> any person can watch 3D without the glasses
- ★ mobile -> the TT setup can be used for different conference rooms, for exhibitions or in the company´s lobby
- ★ direct -> any OpenGL application runs directly; no need for special VR software, no need for specially trained personnel; no hurdle for its usage – people keep working with software they know!
- ★ small budget VR -> compared to the investments for VR walls, VR caves, or Head-Mounted Displays the TT solution is affordable also for small & medium sized companies or for certain departments each within large companies
- ★ all this at TT´s optimized high performance starting with simple equipment (FX3700 is enough)



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