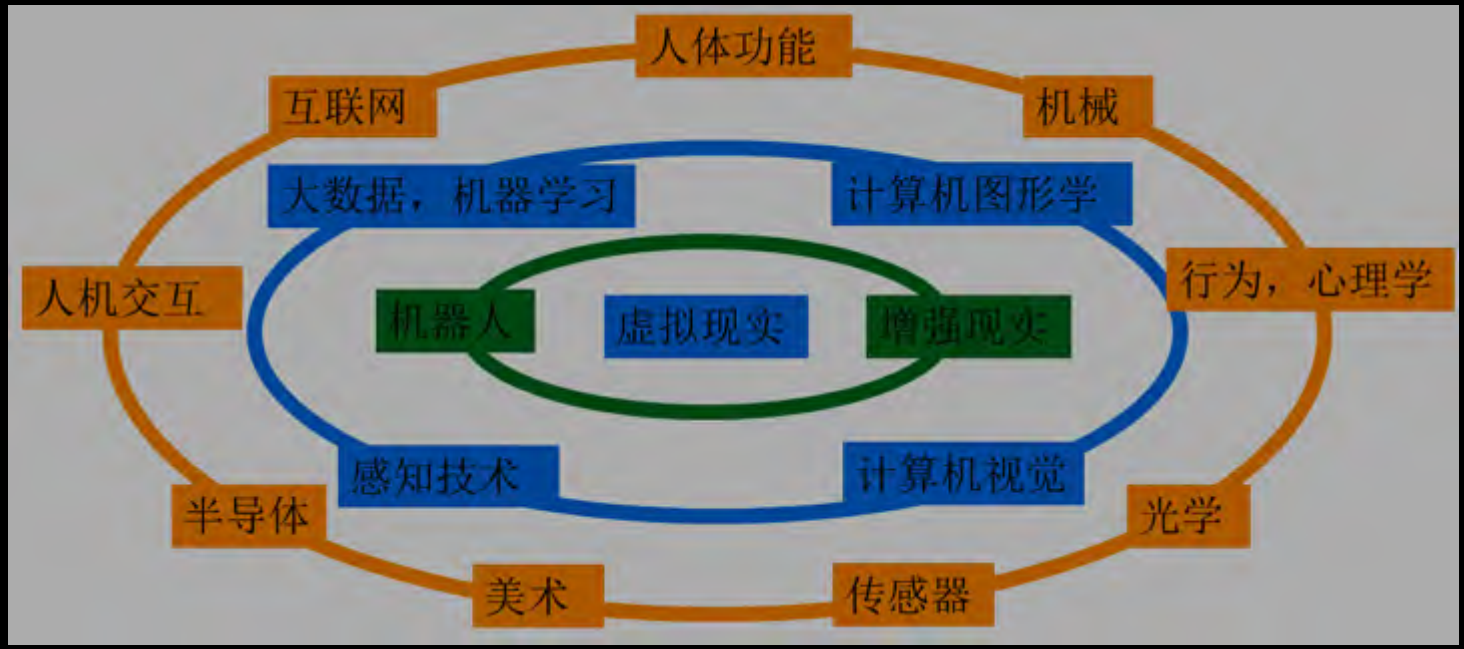
RADEON
TECHNOLOGIES GROUP

还原真实的虚拟世界

楚含进
VR，计算平台与方案，AMD
Aug 2016

VR的支撑是人工智能与计算机图形技术

AI and compute graphics are the key two tech foundation supporting VR development



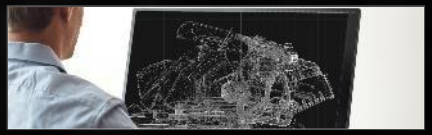
From individual smart devices, Internet, big data to AI tech. VR is a combination subject of all previous main technology

人工智能技术是互联网海量数据不确定性与人体行为所需确定性需求的发展必然结果

AI and VR tech is the necessity of Human demand to accuracy data vs. massive Internet big data creation

GROWING THE VR ECOSYSTEM – VR产业的蓬勃发展
THE EMERGENCE OF VRaaS

VR PLATFORMS

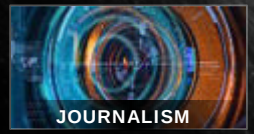


FORM FACTORS

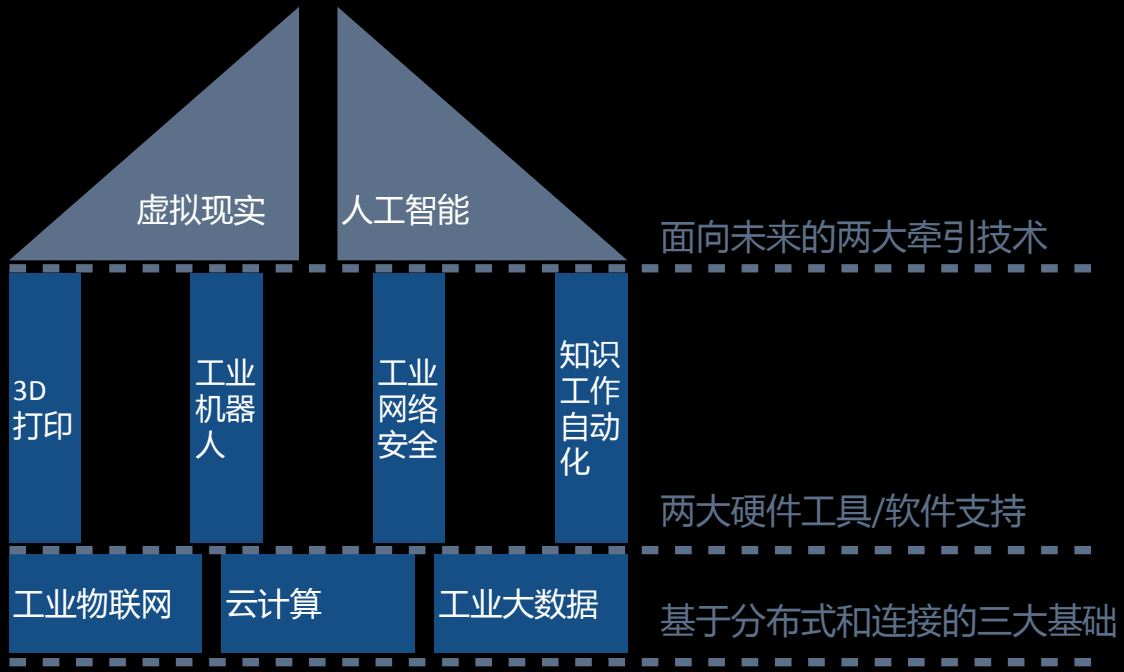
LOCATION BASED VR

VR CAFES

VR INDUSTRIES



虚拟现实对工业的影响(绿色制造2025)



工业4.0九大技术支柱

传统虚现实与当今虚拟现实的区别 Current VR raise more requirement than old days.

更加强调交互和感受

HMI tech and human nature feeling

更加强调故事的叙事性 story in VR

- 行业应用突出虚拟现实精确性要求 2B is more simulation
- 消费级用户对于基于故事性，交互的沉浸感要求更高

  2c is more entertainment driven

VR电影是当今VR技术发展的产物

VR movie is new and drive innovation

与internet, AR、MR的融合

fusion with AR/MR and Internet

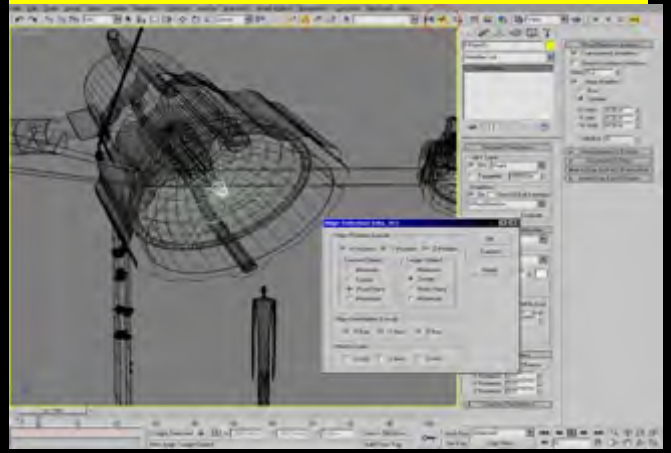
虚拟现实作品的四大大技术要素 VR 4 key tech focus

模拟器晕眩程度, health sickness

交互呈现, interact tech

叙事方式,how tell story in VR

实时建模还原技术real time modeling



AMD利用芯片技术与软件驱动着VR产业的技术和生态（GPU driving VR industry）

DirectX 12 | Vulkan | LiquidVR by AMD | Asynchronous Compute | ProRender | Rays

内容素材源

Cameras

Lightfields

Renderers

HMDs

引擎

unity

UNREAL

FROSTBITE 3

lumberyard

CRYENGINE

OXIDE

工具

NUKE8

AVID

Revit

Pr

内容产生

THE THIRD FLOOR

VRC VIRTUAL REALITY

DIGITAL DOMAIN

IM360

BETHESDA

id

DICE

SECRET LOCATION

MATTER

ST SPECULAR THEORY

硬件平台

Console

Location based

PC

VR requires endless computing vs. people wants portable and cost effective devices

随身化portable

无线化Wireless

集成化integration

交互趋于人体感知 human simulation interact

实时场景化real time construction

真实世界化

CPU成为本地计算中心

软件 Plug&Play

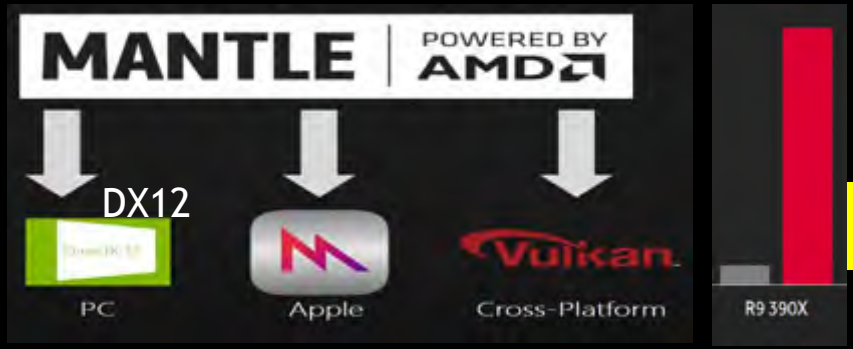
GPU成为真正协处理器

- 90 fps
- 2160 x 1200 (2K)
- <10ms
- 8 TFLOPs

→

- 144 fps
- 15360 x 8640 (16K)
- Zero latency
- 743 TFLOPS!

更高更快更专业的显卡



全力释放GPU潜能

降低用户成本

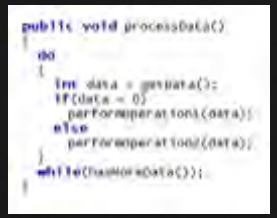
THE DESKTOP PC FOR VR;
4800RMB WITH RX 480 FULLY CERTIFIED, RUNS ALL VR

the SSG Developer Kit

NDA

Radeon Pro SSG (Fiji) Card

Drivers



Code samples

Documentation

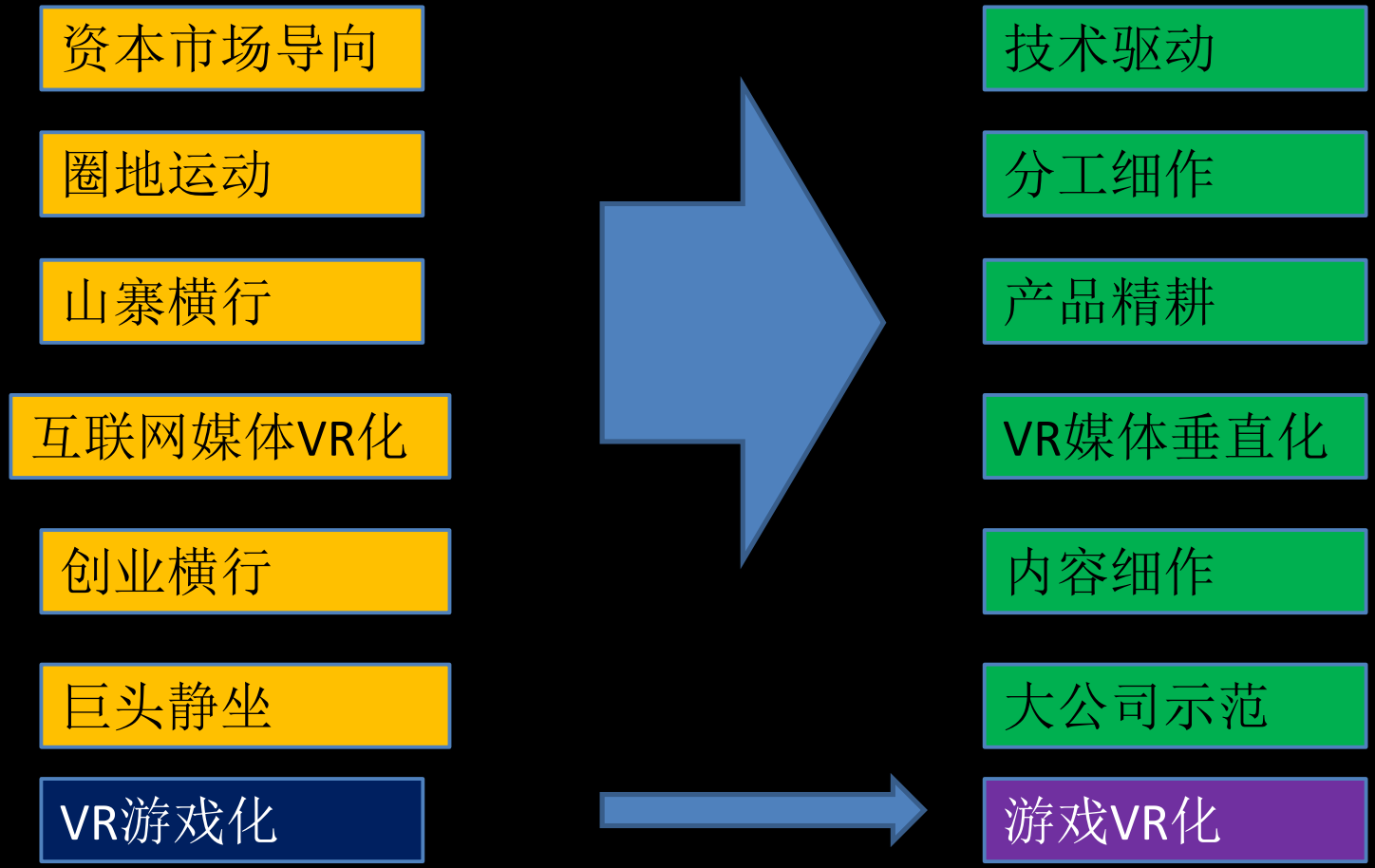
- 16k Video Playback
- High End Rendering
- Non-Linear Video Editing
- Advanced Visualization, Healthcare

Support

gpuopen.com –Radeon显卡开源工具网站

Effects	Tools	Libraries and SDKs
TressFX 3.0 (DX11)	CodeXL static analyzer CLI	Firerays SDK
Shadow Filtering (DX11)	CodeXL DX12 plug-in	FireRender SDK
High Definition Ambient Occlusion (HDAO) 2 (DX11)	Tootle (Triangle Order Optimization Tool)	RapidFire SDK
Compute Triangle Filtering (DX11)	2016 – All Tools will be moved into a single Open Sourced CodeXL Tool set	AMD Compute Tools
Many more Effects to come in 2016!		Vulkan SDK and samples
		DX11 samples • ForwardPlus • GPU Particles • SSAA11 • Silhouette Tessellation 11 • SeparableFilter 11 • TiledLighting 11 • MLAA DX11
		DX12 samples • Hello Triangle • Async nBody simulation • Multithreaded Rendering
		Liquid VR SDK
		AMD Graphics Services
		Tootle
		GPUPerfAPI
		New Libraries and SDKs to come in 2016!

从不良开始到良性循环(China VR trend)



AMD与广大中国公司合作推进VR产业发展
Growing with China VR industry

Technology Partners

htc

pimax

Pico

Dëe Poon

CRYTEK

PLEX

亿道数码

市场媒体

VRCORE

YIVIAN

87870.com

moduo 魔多

網易 NETEASE
www.163.com

内容制造与集成

仓鸟飞数码

北京伯瑾文化传播有限公司
Beijing Bojing Culture & Media Co., Ltd

钛核网络

硬件

SAPPHIRE 蓝宝石

lenovo 联想


见所未见
未来已来