Government Partnership Presentation

The World Leader In Augmented Virtual Reality (AVR) Based Knowledge Transfer

Company Highlights

- **Market-leading Position:** world leader in Augmented Virtual Reality (AVR) based knowledge transfer

- **Proven Staged Strategy:**

- **Eon Human 2.0** government solution that can uplift millions of smart student & smart workers

- **Classroom 3.0** that enables academic institutions to help students Learn faster, remember longer and make better decisions and

- **Industry 4.0** that enable enterprises to upskill their workers

- **Mission-driven Organization:** EON Human 2.0 is bridging the gap between man and machine

- **Track Record With Blue-chip Customers:** including Exxon, GSK, Honeywell, GE, Mercedes, China Merchant Group, NTU, J&J, Shell and Pearson.

- **Massive, Disruptive And Growing Market**: AVR $100B by 2020.

- **Enterprise-class Avr Saas Platform:** Securely creates, stores, analyzes, distributes and publishes AVR agnostically fueled by AI, IoT and GIS

- **Industry-leading Management Team:** proven experience in Enterprise solutions, Education and ICT.

- **Scalable Saas Based Platform**: compound annual growth rate of the order values is expected to grow with over 50% annually over the next 3 years

VIRTUAL REALITY
(encapsulated environment)

→

AVR

←
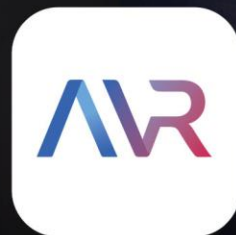
AUGMENTED REALITY
(digital content overlayed on real world)

IDC Inauguration
Italy Bologna
November 14, 2018

IDC Morocco Inauguration Event
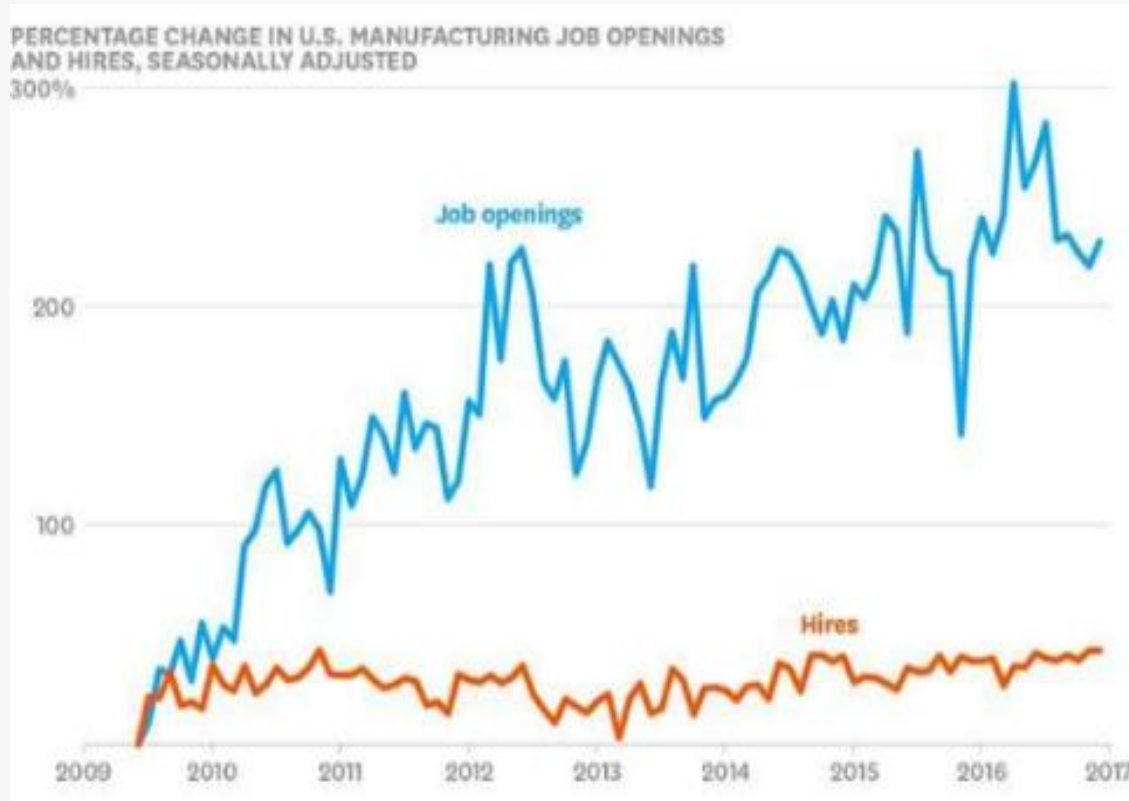## Rabat, May 10, 2019

The Problem

Technology Disruption Kills Jobs But It Also Creates Them

- The rapid **technology disruption kills millions of jobs** every day.

- Paradoxically, **technology disruption creates also most of the new jobs.**

- The disruption of killing existing jobs and **creating new ones is accelerating.**

- **Traditional knowledge transfer** in the education and work sector **cannot cope with this rapid pace of change.**
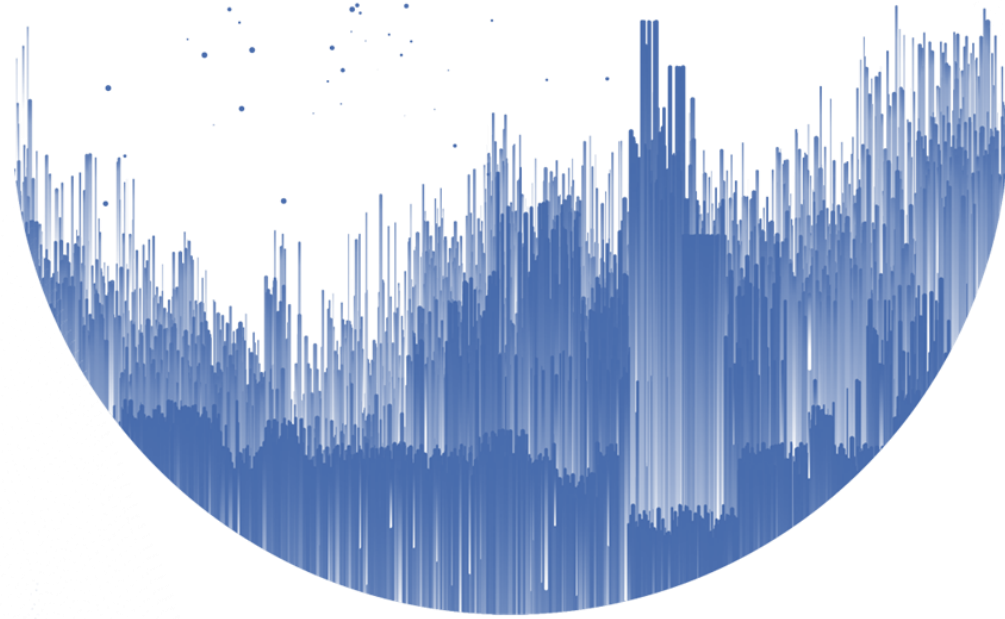
The Growing Gap Of Skilled Smart Workers

Lack of skills needed for full-time employment

PERCENTAGE CHANGE IN U.S. MANUFACTURING JOB OPENINGS
AND HIRES, SEASONALLY ADJUSTED

300%

Job openings

200

100

Hires

2009 2010 2011 2012 2013 2014 2015 2016 2017

There are **3 billion workers** in the world of which increasingly too many will **not have the skills needed** for employment
Of the **3.5 million new smart manufacturing jobs** that will be available in the US, **2 million will go unfilled**

BY2030, HALF

Of All Workers In Japan And 33 Percent Of The U.S. Workforce Will Require Retraining

What Will The World Look Like In 2030 ?
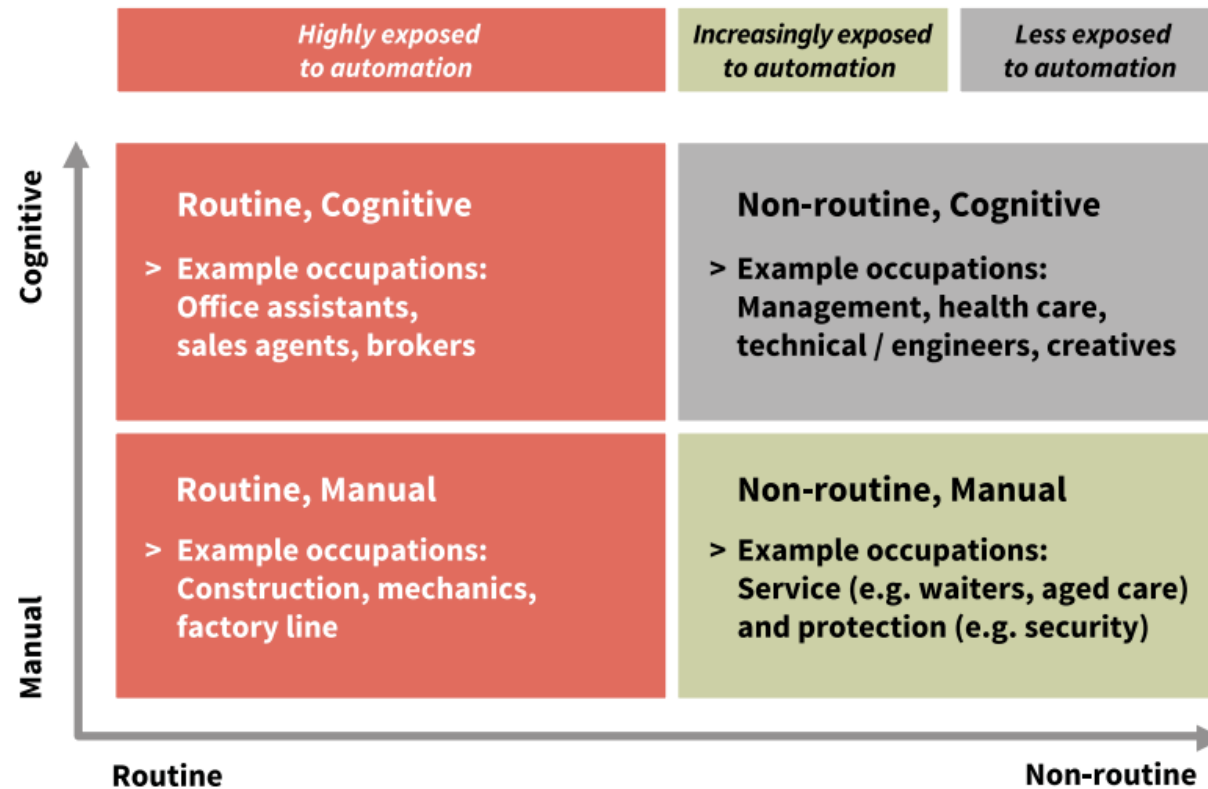
A McKinsey Global Institute report

[McKinsey Global Institute report](#)

- A McKinsey Global Institute report estimates that automation will **displace between 400m and 800m people worldwide by 2030**, but the report also suggests that automation can **create enough new jobs if the workers are retrained**
- McKinsey says that **countries should invest heavily in retraining workers** that need to change careers.
- **375 million workers who lose their original jobs** may need to **switch careers and retrain by 2030.**
- The shift could be on a scale **not seen since the transition of the labor force out of agriculture** in the early 1900s in the United States and Europe
- Governments, Academic institutions and enterprises need to **invest in a new innovative knowledge transfer solutions**
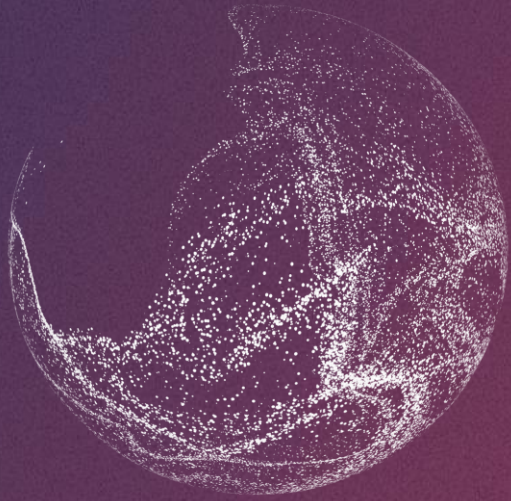
Which Jobs Are In And Which Jobs Are Out

Fig 1. Smart machines will impact different types of jobs in different ways

	Highly exposed to automation	Increasingly exposed to automation	Less exposed to automation

Routine, Cognitive
> Example occupations: Office assistants, sales agents, brokers

Non-routine, Cognitive
> Example occupations: Management, health care, technical / engineers, creatives

Routine, Manual
> Example occupations: Construction, mechanics, factory line

Non-routine, Manual
> Example occupations: Service (e.g. waiters, aged care) and protection (e.g. security)

Cognitive / Manual

Routine / Non-routine

Source: Adapted from Autor, Levy and Marnan (2003)

The Negative Scenario: Ai Empowered Machines

Most jobs that exist today will disappear within decades.

- As artificial intelligence empowered machines outperform humans in more and more tasks, it will replace humans in more and more jobs. Consequently, by 2050 a new class of people might emerge – the displaced & useless class.

- People who are not just unemployed, but unemployable

- However, this is not a humane solution: a job is more than salary: it's purpose, it's meaning, it's identity and it is dignity.
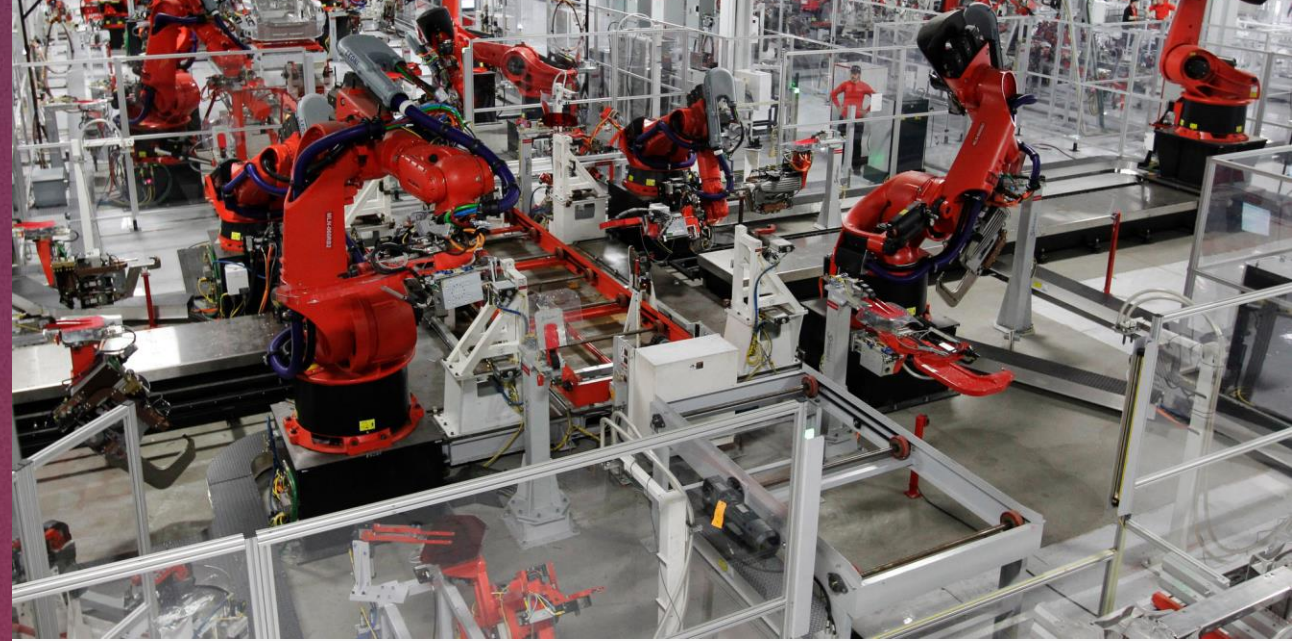
Elon Musk Replaces Robots At Tesla Factory:

Humans Are Underrated

- Elon Musk has **replaced the highly-touted automation system** at Tesla with a better, more intelligent paradigm: **humans.**

- Tesla's Model 3 production facility is regarded as one of the most advanced car manufacturing plants in the world but has been a complete failure.

- Musk chose to make the 'last mile' of production entirely automated, and it blew up in his face.

The Solution
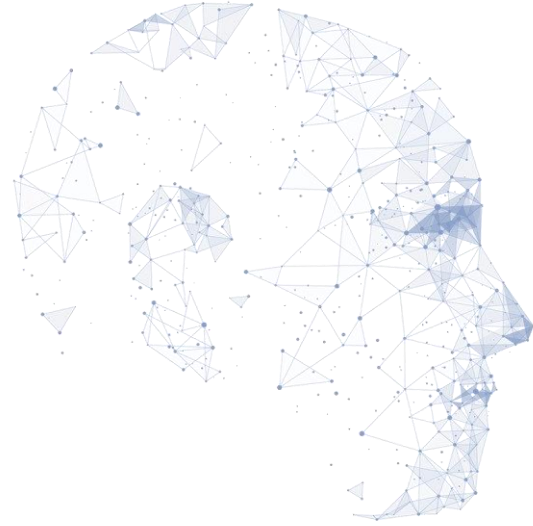
The Positive Scenario:

Human 2.0: Enhanced Humans

- **Empower 3.8 billion people** to **grow beyond their current human constraints**
- EON Human 2.0 Vision is to **blend man & machine** in a **symbiotic partnership**;,
- **Democratize access to fast knowledge transfer** for everybody on the planet,
- Ask the big questions and **Create new exciting Job opportunities**

Increasing The Speed Of Communication Between Man & Machine

- "Speed Of Thumb" Too Slow, Neural Lace Too Far Away

- Today the **bandwidth is too slow,** we communicate at the **"speed of thumb" with mobile devices.**

- While futuristic technologies such as **neural lace** supported by Elon Musk could achieve instant connection with machines, they **will take too long time** to develop to prevent the negative scenario.

- **Humanity Needs A Solution Today!**

- We believe that **EON H2.0 can provide this solution** and significantly **increasing the speed of communication between man-machine** by using **Augmented Virtual Reality (AVR)** fueled by Artificial Intelligence (AI) and Internet of things (IoT)
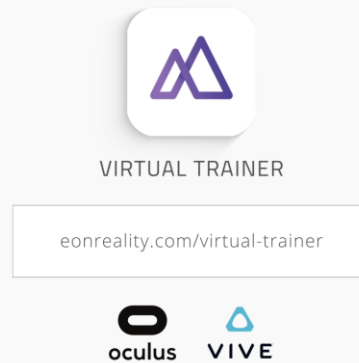
Learn

Train

Perform

EON CREATOR AVR

Available on the App Store

GET IT ON Google Play

VIRTUAL TRAINER

eonreality.com/virtual-trainer

oculus   VIVE

AR ASSIST

CREATOR AVR

VIRTUAL TRAINER

AR ASSIST

**Onboarding
Familiarization
Pre-training
Sales Training**

**Procedure Practice
Remote Training
Virtual Certification**

**AR Assisted MRO
Remote Expert Assistance
Real Time Data Display**

2.5B Workers Need Fast-knowledge

- 2.5 billion workers are not supported by ICT today
- Contextual knowledge on the spot

1.3B Students Need Fast-knowledge

- Student Statistics
- Primary: 719,059,053
- Secondary: 568,019,151
- That's about 17% of the world population.

Industry Adoption

EON Industry Customers

63% Reduction in Training Costs with AVR

Service Technicians Training

12 times faster
Cost Savings: 92%
For Shank Adapter Change
SOP using **AR Training**

2000 * 32 EUR/h * 2
= 128 KEUR
2000 * 32 EUR/h *
1/6 = 10,7 KEUR
Savings: 117 KEUR

Operators Training

2.7 times faster
Cost Savings: 63%
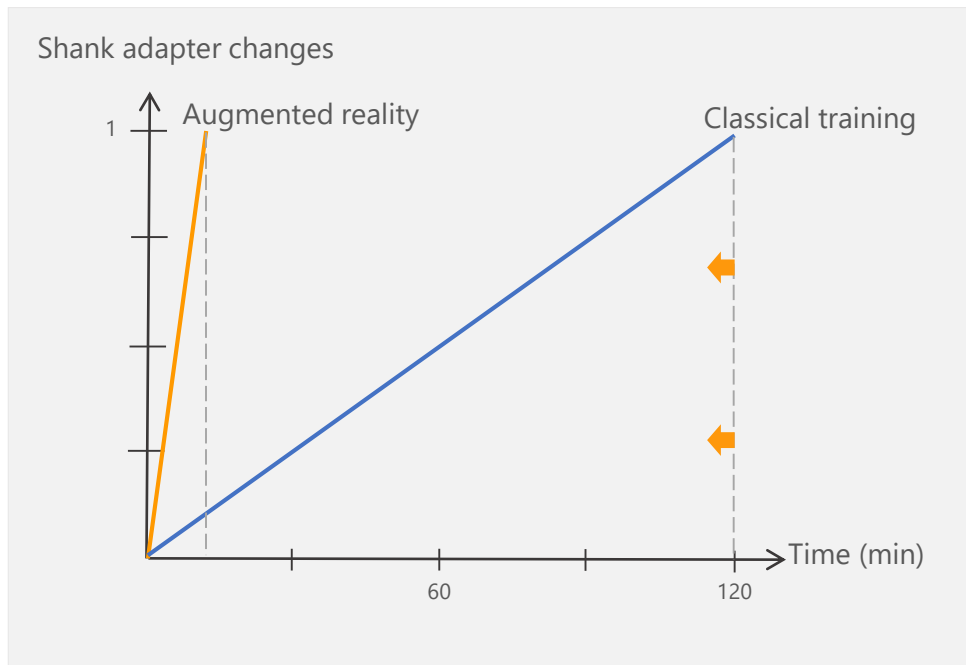For Oil Rig Operator Training using
a **Simulator**

2000 * 32 EUR/h * 2 * 225 * 8
= 230 400 KEUR
2000 * 32 EUR/h * 9/12 * 225 *
8 = 86 400 KEUR
Savings: 144 000 KEUR
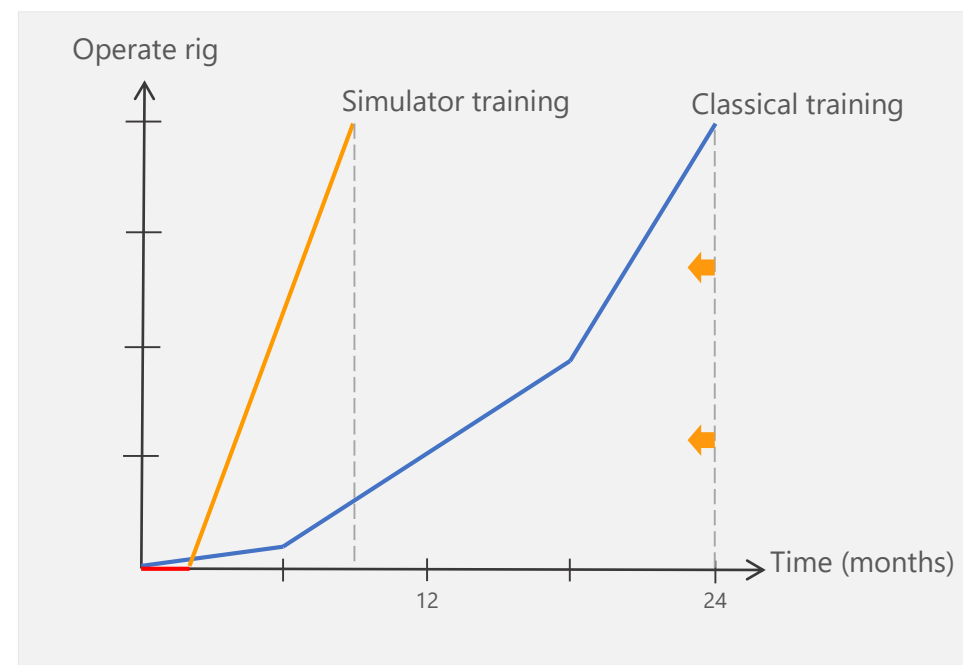
Source: The diagrams are from Atlas Copco's http://en.wikipedia.org/wiki/Atlas_Copco, an EON customer that have implemented VR and AR

34% Increase in Productivity

Independent Analyst ROI Studies

- In this [AVR Benefits](#) document we have compiled a number of studies made by global leading analysts
- They conclude that that using Augmented and Virtual reality provides significant **improvements in knowledge transfer**
- **along with 34% to 40% productivity** improvements

Harvard Business Review

MANUFACTURING

Augmented Reality Is Already Improving Worker Performance

by Magid Abraham and Marco Annunziata

MARCH 13, 2017

+34%

Boeing's use of augmented reality for technicians has increased productivity by 40% and reduced wiring production time by 25%.

Industry Use Cases

ExxonMobil

IMMERSIVE 3D TRAINING ENVIRONMENT

ExxonMobil and EON Reality Inc. partnered to deploy the AVR immersive training platform that improves the way field training is done.

0 MISTAKE

PARKING
BRAKE

SPEED LIMIT 30KM/H

R

N

D
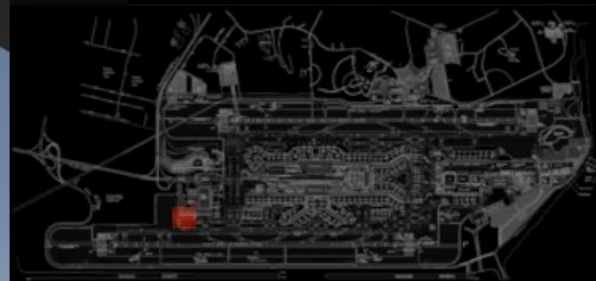
Academic Adoption
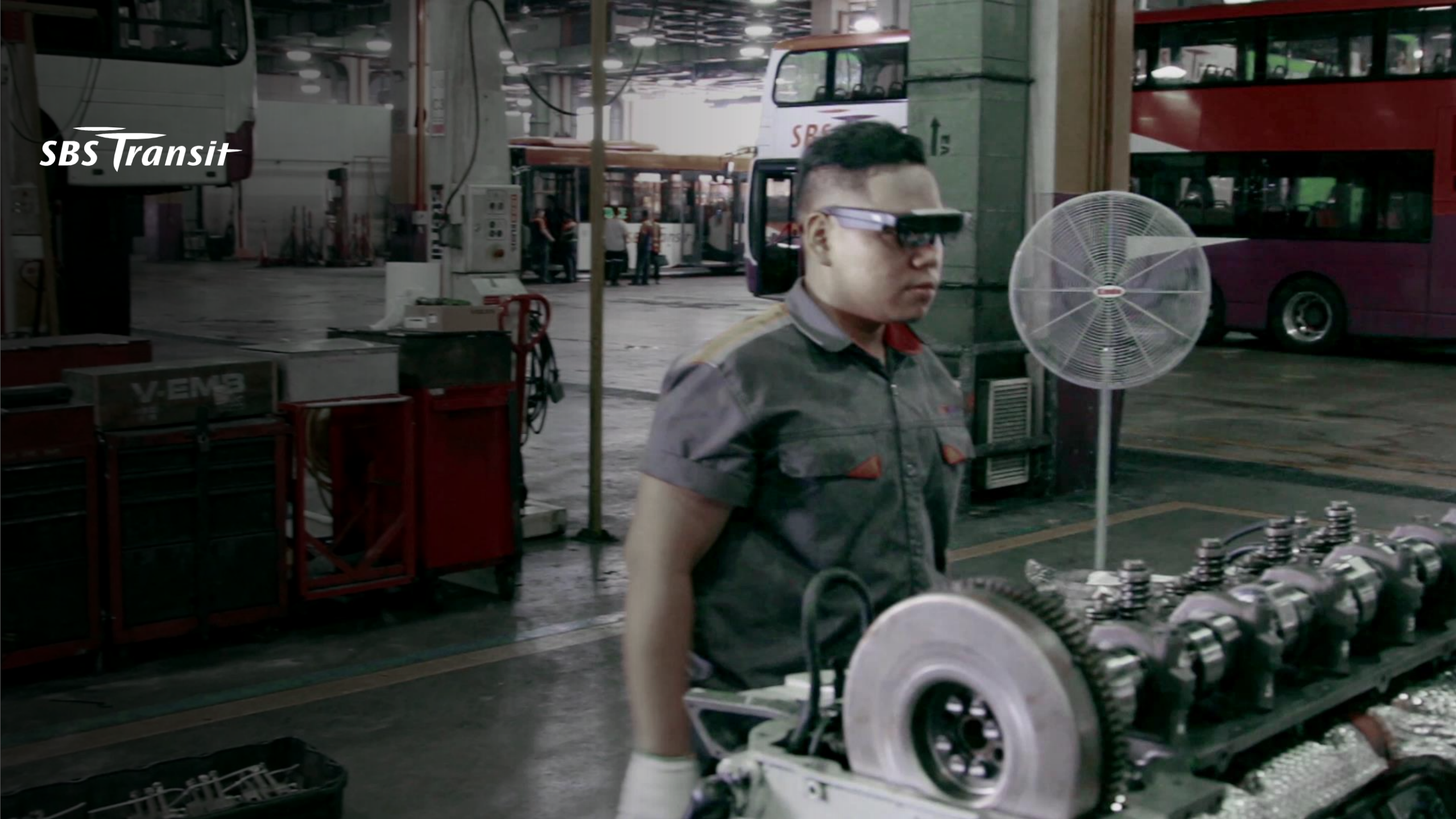
Education Customers & Partners
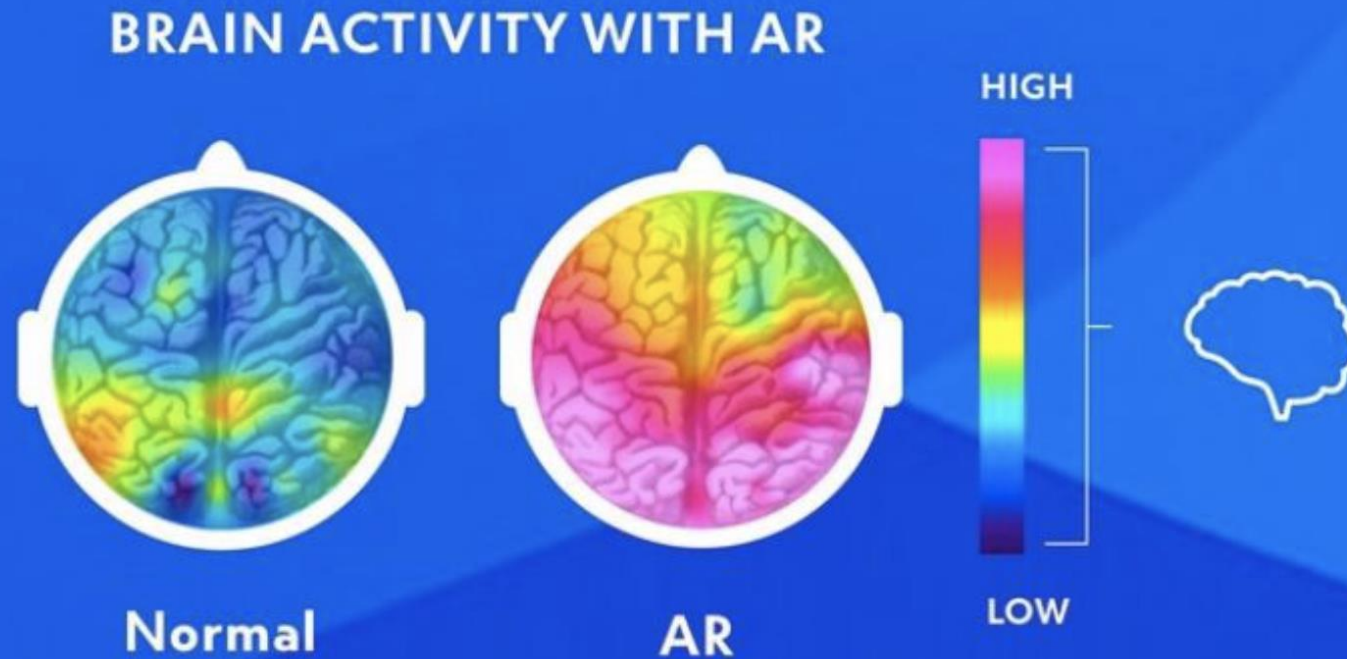
35% Increase in Test Scores

Students Remember Longer And Increase Test Scores
86% of Students in the VR Classroom **improved their Test Results**
Attention levels doubled **(92% vs 46%)**
Test Scores increased with **35%**

BBC Published study
"Students can see how things function. Instead of learning about the heart statically they can see it in a solid way, literally see blood passing through the valves, see exchange of oxygen, rotate it, tilt it and zoom in," Said Prof Bamford.
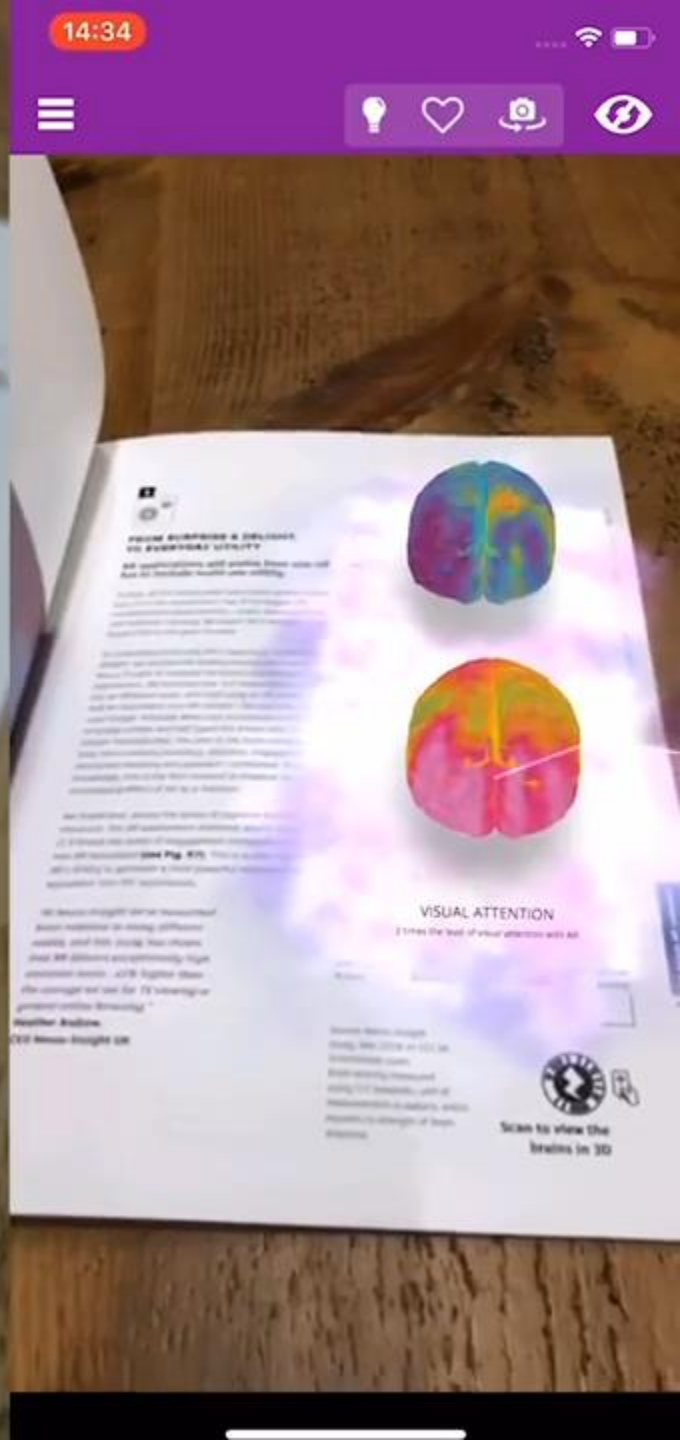
BBC

1) From http://www.bbc.co.uk/news/technology-15115059
2) From http://www.dlp.com/downloads/DLP-CaseStudy-Classroom3.pdf

70% Increase in Memory Encoding

BRAIN ACTIVITY WITH AR

Normal

AR

HIGH

LOW

AR delivered **almost double (1.9 times) the levels** of visual attention compared to their non-AR equivalent.

What they found was that memory encoding was **70% higher** in the AR tasks compared to the non-AR tasks.

https://www.zappar.com/blog/how-augmented-reality-affects-brain/

Using SST Brain-Imaging Tech

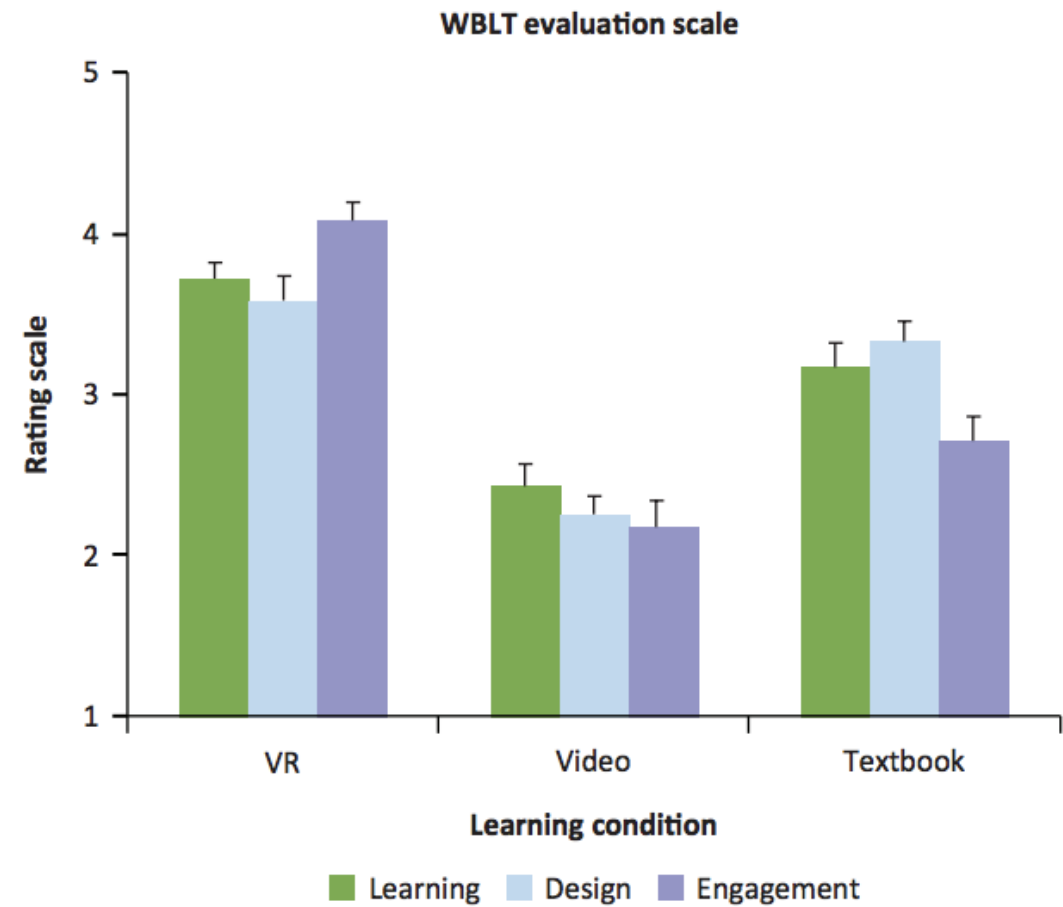# Learning In Virtual Reality: Effects On Performance, Emotion And Engagement

WBLT evaluation scale

Figure 5. Mean WBLT ratings and SEM (error bars) for learning, design and engagement. WBLT, Web-based Learning Tools.

Journal Of Engineering Education

"Post- test results showed that participants in the virtual lab condition **outperformed participants in the traditional condition** on conceptual understanding. ...

...Participants in the virtual lab condition also **outperformed participants in the traditional condition** with regard to procedural skills."

Journal of Engineering Education, 2008
Bas Kollöffel and Ton de Jong University of Twente

"Conceptual understanding of electrical circuits in secondary vocational engineering education: Combining traditional instruction with inquiry learning in a virtual lab"

"Overall, **well-designed combinations** of virtual and physical experiments compared with either one alone allow students to **gain a more nuanced understanding of scientific phenomena and a more robust understanding of inquiry.**"

Science, 2013
Ton de Jong, Marcia C. Linn, Zacharias C. Zacharia

"Physical and Virtual Laboratories in Science and Engineering Education"

Improving Biotech Education Through Gamified Laboratory Simulations
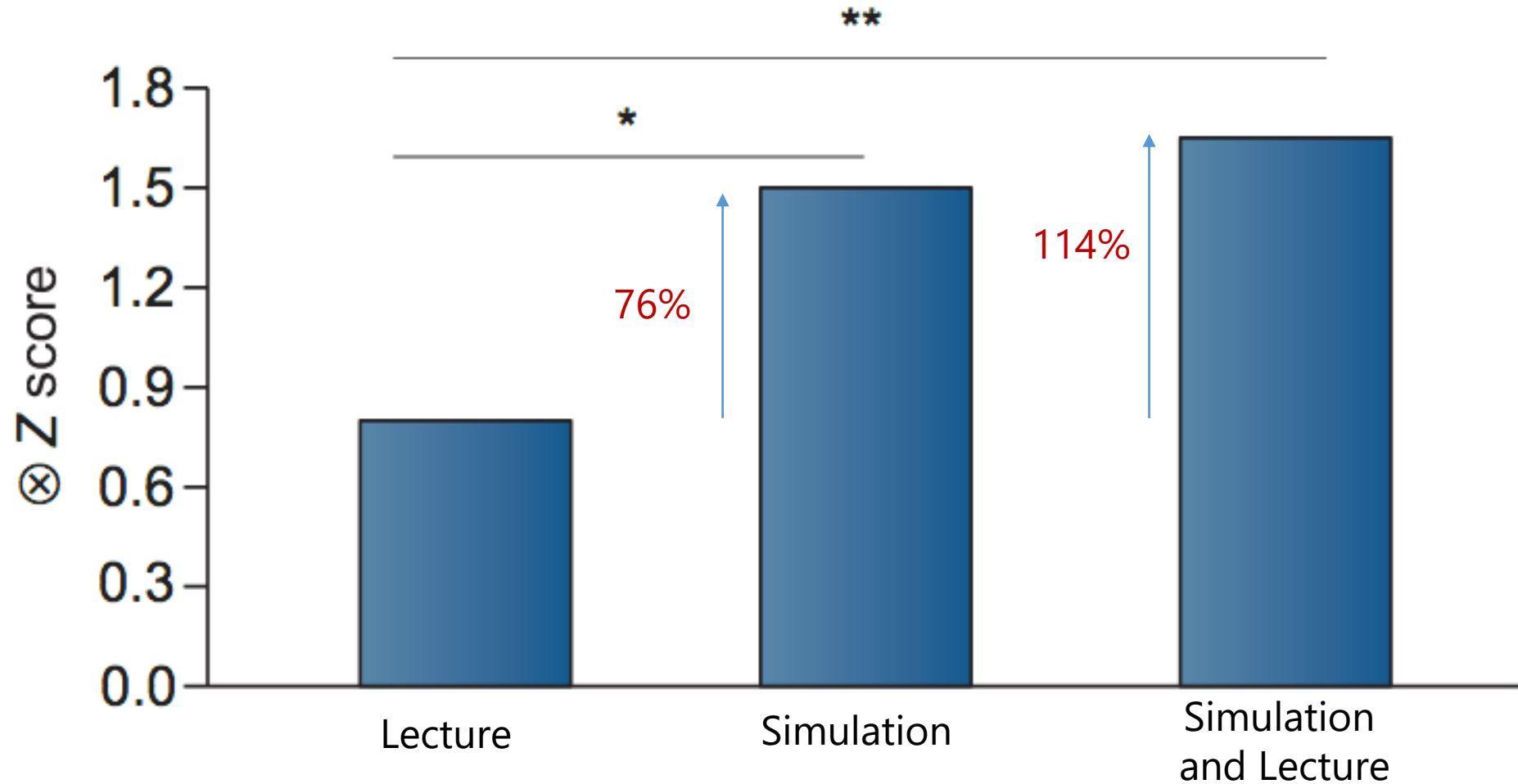
PUBLISHED IN NATURE BIOTECHNOLOGY 2014

28%

of Higher Education institutions (>26,000) have engaged in some level of VR deployment.

82% of which remain in pilot stages
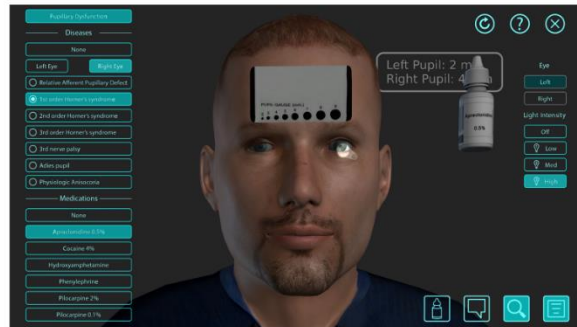
Academic Use Cases

Learning pupillary examination using the Advanced Pupil Simulator among medical students and residents

Sachin Kedar[1,2], Jideofor K Ndulue[1], Deepta Ghate[1],

[1]Stanley M. Truhlsen Eye Institute; [2]Department of Neurological Sciences, University of Nebraska Medical Center, Omaha, NE, United States.

Advanced Pupil Simulator ®

- We recently designed a virtual reality-based application, Advanced Pupil Simulator® (APS) in collaboration with EON Reality Inc. and A Nu Reality
- EyeSim APS is a virtual reality application that allows trainees to work in a simulated environment to identify and master pupillary examination
- The APS consists of a monitor (HP Zvr), 3D goggles and a stylus. The stylus replicates the experience of holding a handheld light used in eye exams. The goggles gives a 3-dimensional representation of the image on the monitor and helps the image track the eye movement of the user.
- The APS has an interactive interface that simulates how medications and lighting affects the pupil. Eight pupillary conditions (normal, relative afferent pupillary defect (RAPD), Horner's, 3rd nerve palsy, Adie's pupil and physiologic anisocoria) can be simulated and confirmed using appropriate pharmacologic eye drops.

Methods

- 145 trainees (126 first-year medical students, 15 neurology and 4 ophthalmology residents) participated. All trainees reviewed an online power-point module, received a 15 minute demonstration and practiced pupillary examination in groups of 3 assigned to an expert faculty on the APS for 30 minutes.
- All trainees completed a Likert-type questionnaire (1 = not confident, 5 = very confident) before and after the session to assess confidence in performing pupillary examination.
- All trainees were objectively assessed for knowledge, comprehension, application and analysis using test mode on the APS..
- Statistical methods: Differences in pre-and post-training confidence was tested using
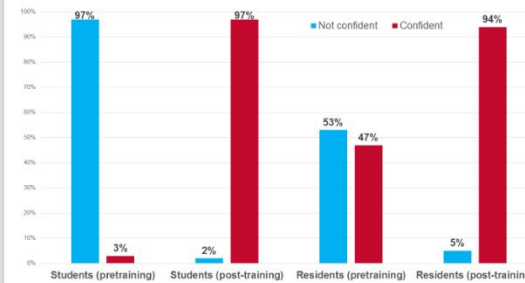
Results

Figure 1. Participants confidence to perform pupillary examination before and after training with the Advanced Pupil simulator.
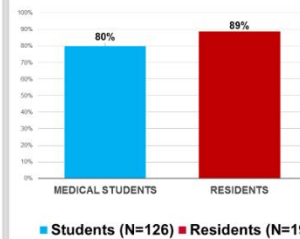

Figure 2. Proportion of participants who correctly demonstrated all steps of pupillary examination after training with the Advanced Pupil Simulator
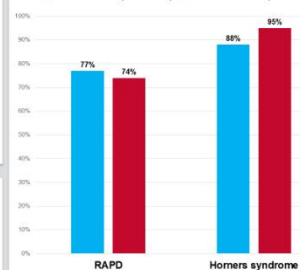

Figure 3. Post training assessment: Correct diagnosis of RAPD and Horner syndrome
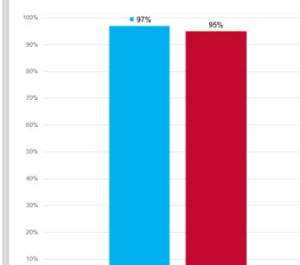

Figure 4. Post training assessment: pharmacological confirmation of Horner's syndrome

- 97% (122) students and 10 (52%) residents reported improved confidence in performing pupil examination after training with APS.
- 80% (101) students and 89% (17) residents were able to correctly list and demonstrate all steps in pupillary examination.
- 77% (97) students and 74% (14) residents correctly identified RAPD while 88% (111) students and 95% (18) residents correctly identified Horner's syndrome.
- Post training, students reported improved confidence in identification of all pupillary abnormalities (p=0.00), while residents reported improved confidence in diagnosing Adie pupil (p=0.00) and using pharmacologic agent to confirm anisocoria (p=0.00).

Conclusion

- Virtual-reality based practical training can shorten time to competency for critical medical examination techniques
- All trainees showed improved confidence in pupillary examination after using the APS.

Results
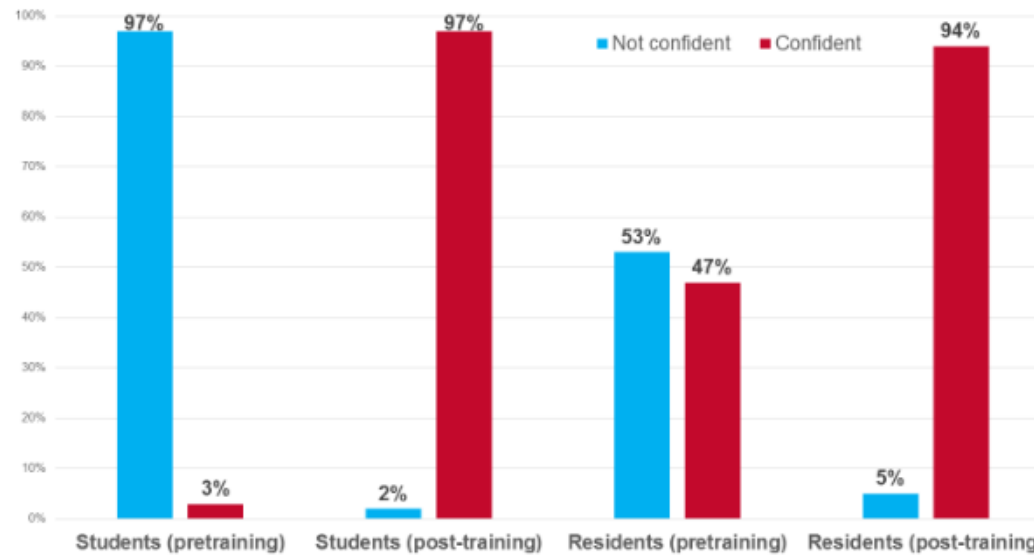
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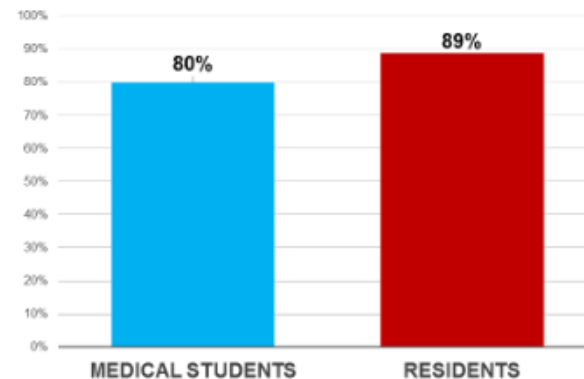
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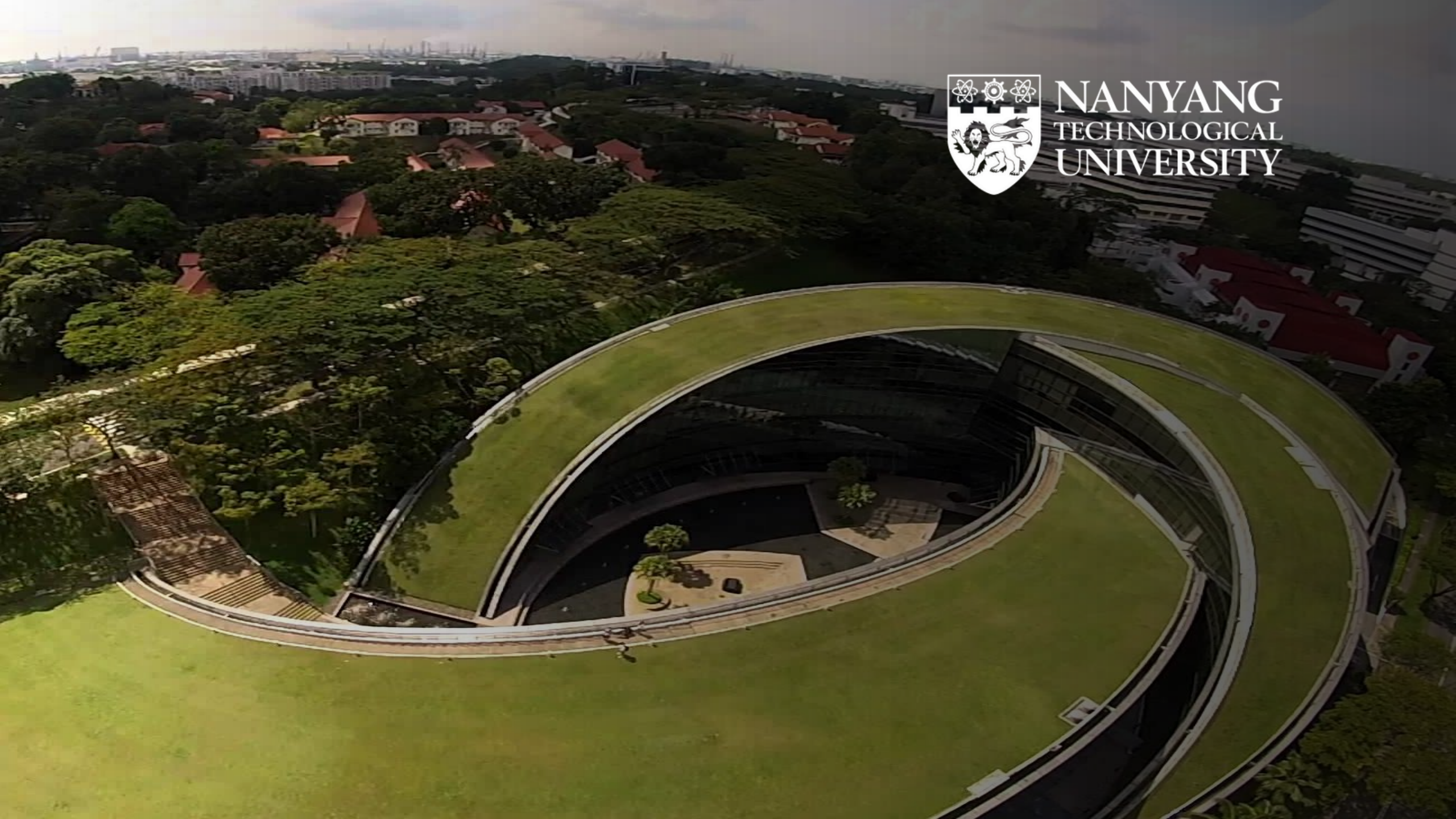
AVR For Education

In 2015 NTU launched a 5 year, **$75 million** project in TEL (Technology Enhanced Learning) to further enhance its strength in the face of global competition. Read more [here](). 🔗

In 2017 EON Reality was selected to provide the needed *AR/VR infrastructure* – including a scalable software platform, a wide range of AR/VR systems and more.

The use of AR and VR in education enables a "*flipped classroom*" solution for millennial generation:

- *On campus*; Virtual Labs for Engineering, Physics, Social Sciences and more

- *Off campus*; students experiencing AVR contents on their own devices

ITE

Institute of Technical Education

Institute Of Technical Education

ITE, Institute of Technical Education, educates and trains over **25,000 students** each year.

ITE is using EON Reality's technology platform for delivery of education and training in courses within:

- Marine and Offshore

- Aerospace Technology

- Space Design

- Facility Management

- Hospitality

- and more.
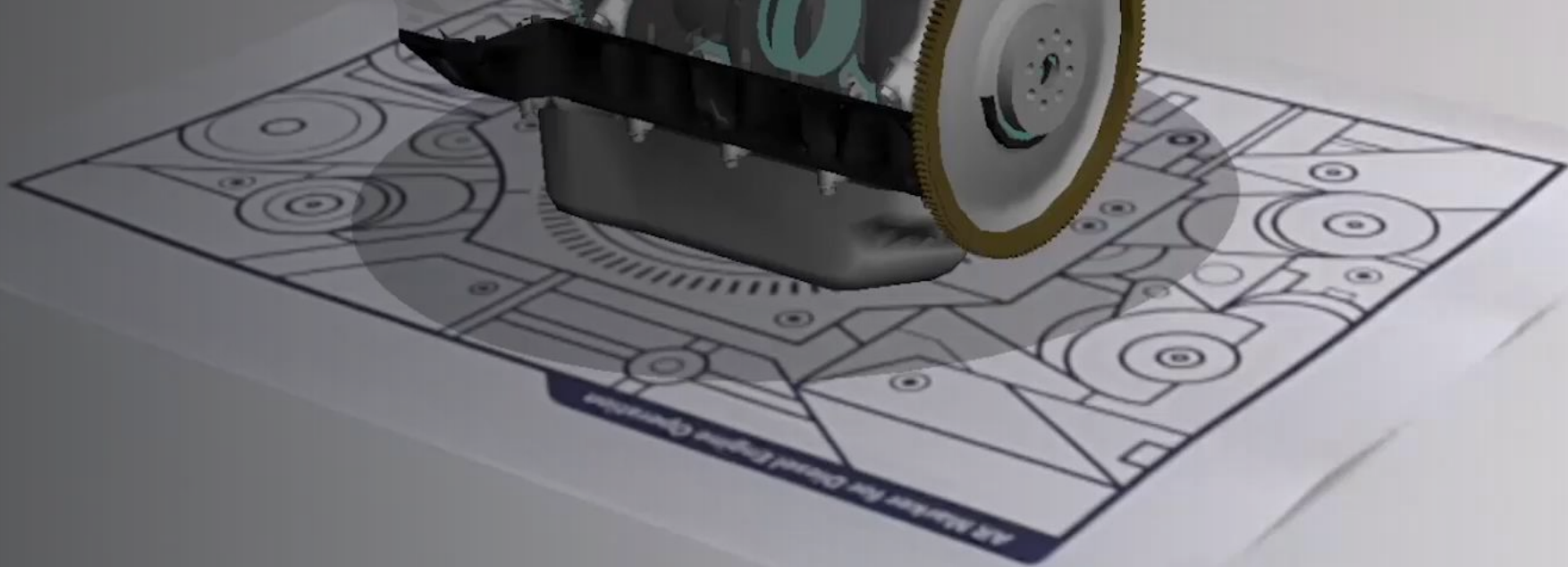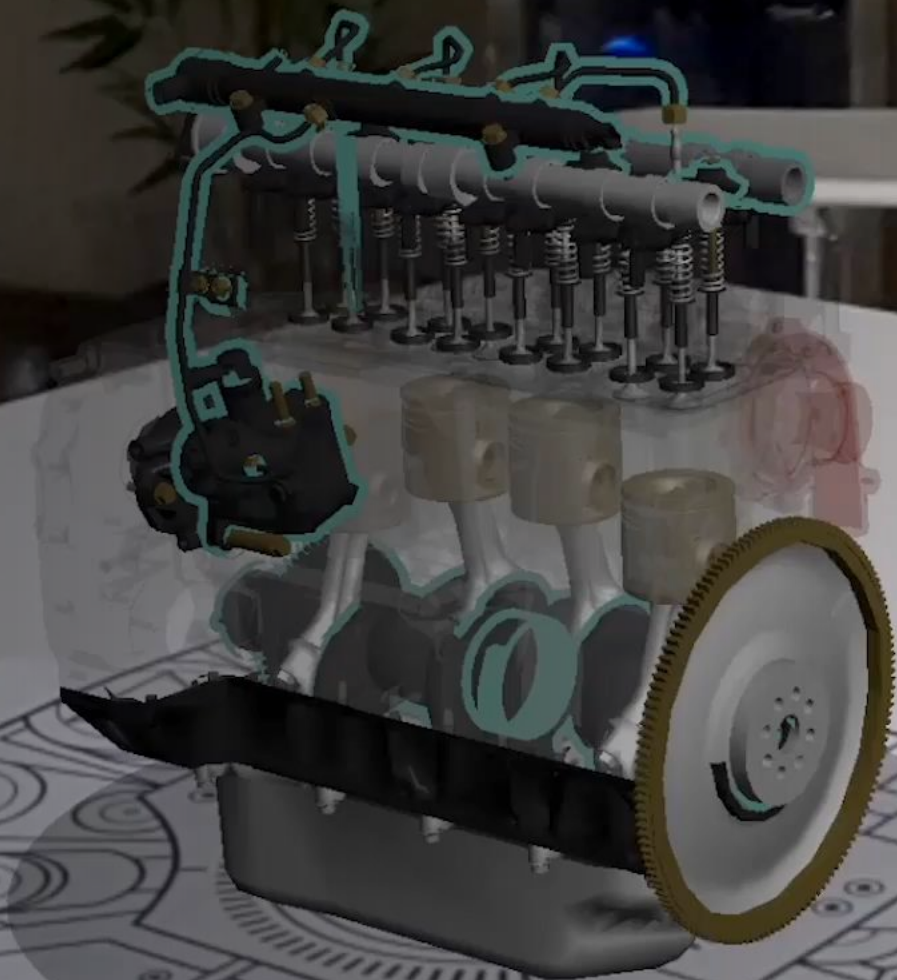
The AVR Platform
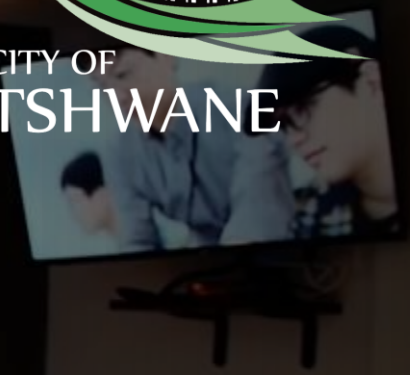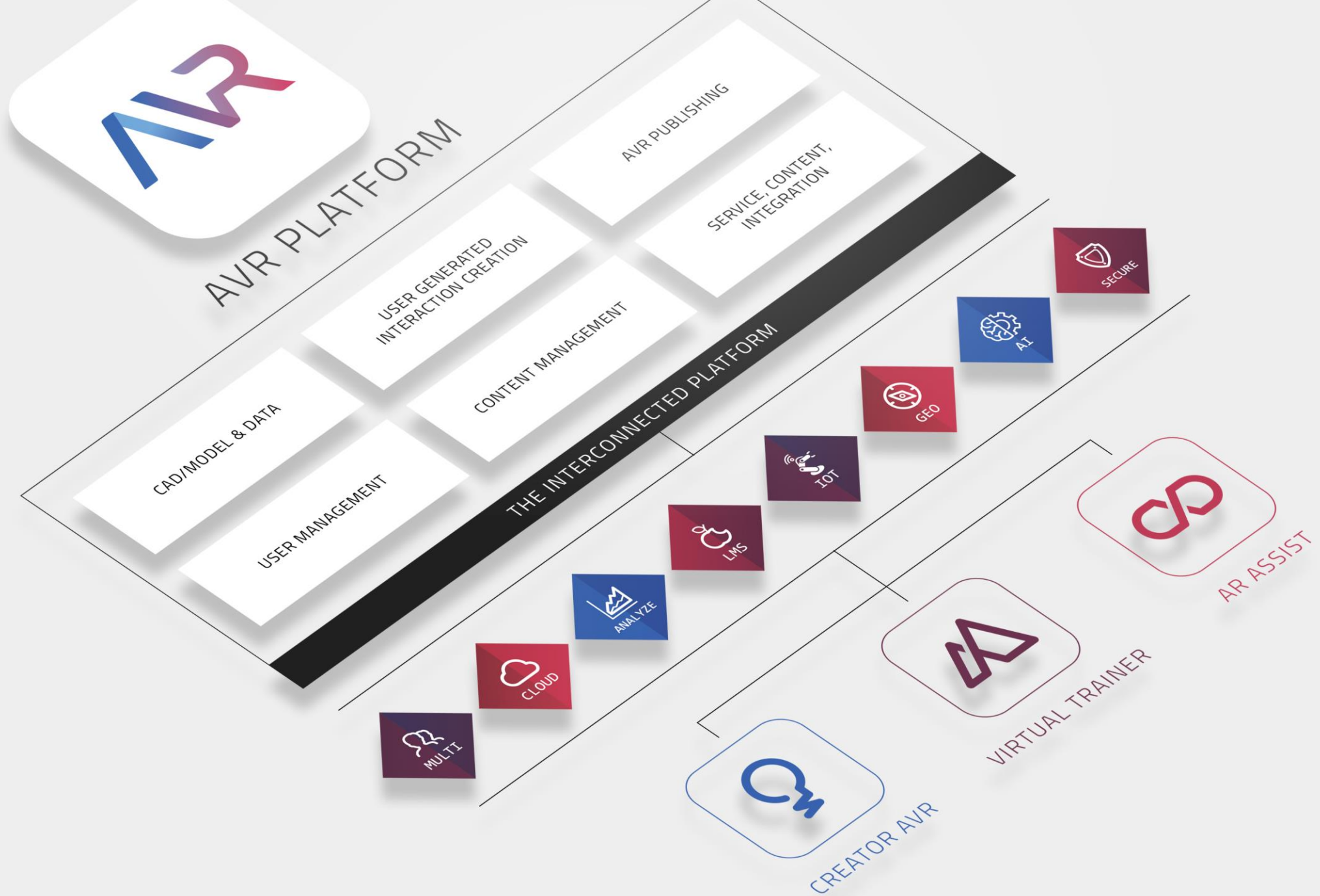
End To End Solution For AVR Knowledge Transfer

AVR PLATFORM – Comprehensive AVR Platform to Develop, Run, Manage, Access, Store, Host & Distr. AVR

- Effortless
- Affordable
- Self service
- Interconnected VR AR Mobile
- Access to 870,000 3D assets
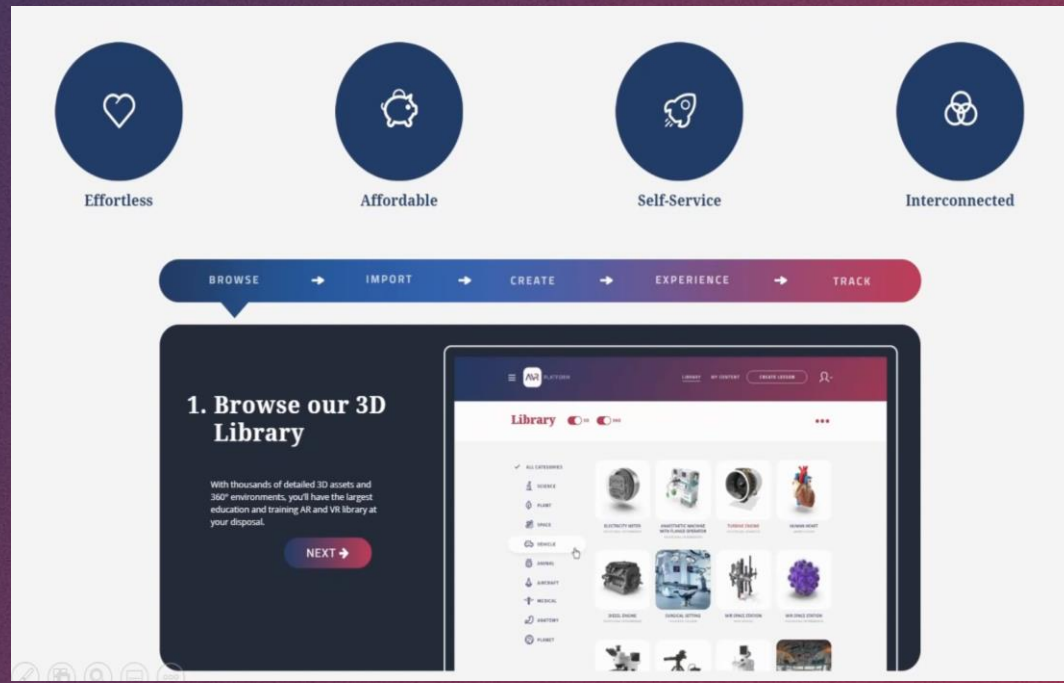
VAULT - Vast Catalog of Augmented and Virtual Reality Applications

- Advanced Complete Application
- Addresses Specific Needs
- Supports advanced AVR Systems
- Certified by Academic Customers
- Marketplace with Revenue opportunities

https://betaaccount.avrplatform.com/Home/IndexV2

https://www.eonreality.com/press-releases/eon-reality-vault-announcment/

End To End Solution For AVR Knowledge Transfer

Vault

- Complete AVR applications that address specific needs and support advanced systems
- $67MUSD worth of content

Marketplace

Partner Developed Applications

- Partners and customers developed applications for the AVR platform - uploaded on the Marketplace and secure passive revenue
- OR outsourced applications to EON partners for example Moldova or India
- OR use VR Academy resources in centers

AVR Platform

- Effortless
- Affordable
- Self service
- Interconnected
- 870,000 assets

Top Down Bottom Up Approach

AVR Platform Vs. Project Approach

THE AVR PLATFORM IS COST-EFFICIENT, FASTER AND BETTER

PROJECT APROACH
Need to build the AVR functionality for knowledge transfer from scratch, requires skilled coders, time & significant investment

- SERVICE, CONTENT, INTEGRATION
- REAL-TIME REMOTE GUIDANCE
- KNOWLEDGE MARKERS
- GUIDANCE AND ASSESSMENT
- INTEGRATED COMMUNICATION
- MULTI-PLATFORM
- MULTI-USER
- USER MANAGEMENT
- CONTENT MANAGEMENT
- AVR PUBLISHING
- USER GENERATED INTERACTION CREATION
- CAD/MODEL & DATA
- CLOUD BASED

AVR PLATFORM
Uses existing Build-in functionality, does not require skilled coders, nor significant time & investment. In addition service & integration costs are included.

AVR
Cloud Based, Cad/Model & Data, User Generated Interaction Creation, AVR Publishing, Content Management, User Management, Multi-User, Multi-Platform, Integrated Communication, Guidance And Assessment, Knowledge Markers, Real-Time Remote Guidance and service, content, integration

GAME ENGINES
unity
CRYENGINE

>60% MORE COST EFFICIENT

- Less upfront investment with the AVR Platform as:
- The key required AVR functionality is already developed & included
- $25K of service, content & integration is already included
- No need to use programmers to build the required functionality from scratch on top of Game Engines
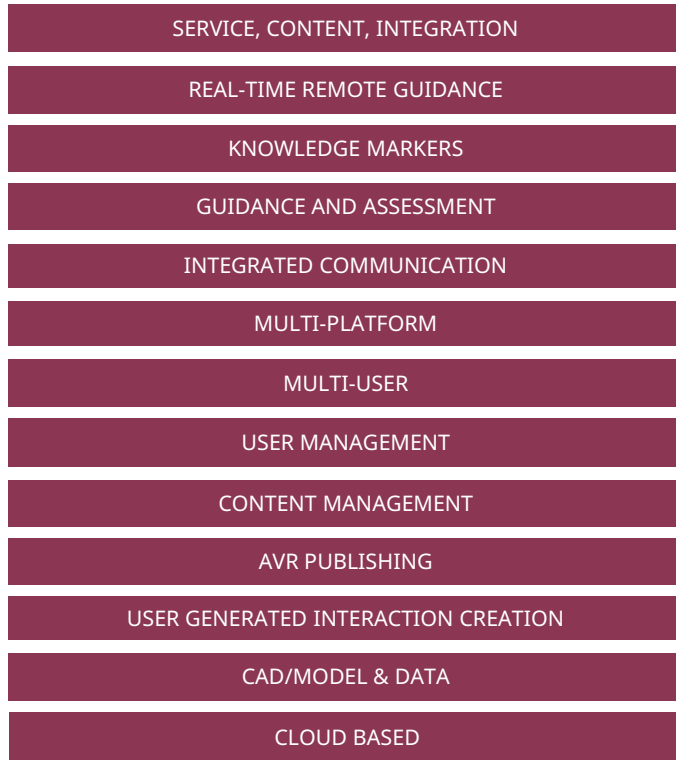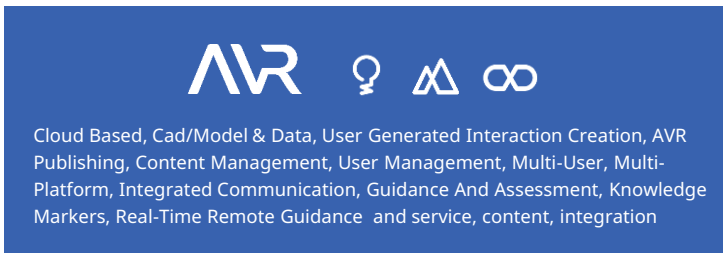- Typically cost savings are in the range 60% to 80% for pilots and more for implementations

> 70% FASTER

- Less Time required for implementation as:
- AVR platform can deliver the required functionality upfront
- We have seen an average reduction in time > 70% up to several hundred percent depending on the scope of the implementation

BETTER

- Scalable & interconnected platform from pilot to corporate wide deployment
- Existing knowledge transfer products for learning, training and performing
- Built-in Features needed for a vast majority of use cases.
- Architecture allows for reuse of assets between AVR products
- Data integration and sharing between AVR platform and legacy systems
- Robust backend capabilities that use AVR platform products as a front end

AVR Landscape

AVR Landscape

Hardware Platform Providers - Eon Partners Not Competitors
Eon's AVR Platform Agnostically Publishes To These Hardware Devices

B2C Entertainment, Gaming & Consumer
Eon Does Not Compete In This Space

B2B Enterprise & Education AVR Platform
Knowledge Transfer

For details please see Competitive Landscape & Why is EON uniquely positioned (33 pages PP)

Game Engines - Eon Partners Not Competitors
Eon's Avr Platform Can Agnostically Integrate With These Engines

Key Benefits

Benefits For The Region

- **Fast-track employable students** through AVR classroom 3.0
- **Fast tracking & uplifting workers** for the job of the future with AVR Industry 4.0
- **Strengthen Partners academic Institutions** by benefiting from the faster knowledge transfer capabilities & VR/3D based learning
- **AVR Knowledge Hub** for the region will develop workforce to address exploding demand
- **Competitive Advantages for local Companies** up to 12 times faster knowledge transfer & improved Quality assurance up to 40%
- **Global distribution for Region** Access to the worlds leading AR VR distribution network
- **State-of-the-Art AVR Center** Leading State-of-the-Art VR AR Center in the Region
- **Local IP Development** New own IP yields sustainable revenues through global IDC network distribution
- **Local produced AVR curriculum** Develop own VR AR curriculum that enables its own students to learn up to 12 times faster while remembering longer and deciding better

IDC Hub

Education
Fast-track Employable Students

Industry
Deliver Industry Competitive Advantage

Edutainment
Awaken Curiosity

Benefits For Academic Institutions

- **Accelerate AVR Campus wide and National Roll-outs** helps people with knowledge transfer, learn faster, remember longer, make better decision, experiential learning
- **Multi- Campus** Collaboration & rollouts
- **Challenge based and experiential AVR curriculum** Vault with a vast catalog of AVR applications on 20 years of development helps to get a flying start
- **Innovative** – Transform education for the 21st century with AVR Experiential learning based on AVR Platform
- **Regional Center of Excellence** - Become the Exclusive Regional Center of Excellence, Hub vs. Satellite
- **Pioneering AVR volume roll-outs** – Be first to do wide roll-outs to more than 8,500 users
- **It Works** – Hard Evidence that AVR works, see statistics
- **R&D & IP partnership** Commercialization opportunities for your existing IP
- **Research grant Leverage** - help securing grants through EON's industry partnership that provides leverage through in-kind contribution and commercialization opportunities of the research outcome
- **The AVR Marketplace** - provides you with opportunities to have passive income from your developed AVR applications
- **EON's global network** - international collaboration in more than 70 countries that you can access
- **Students Love AVR based Education** – Higher retention and engagement from students
- **Scale AVR online** – Enables AVR Experiential Education Online
- **Virtual labs** – Expand Lab equipment at lower Costs Virtually
- **EON is covering 75% of the initial investment** for qualified regions and partners

Benefits For Local AVR Companies

- **Actively assist to commercialize & distribute local AVR Companies products,** intellectual property and applications. Global distribution of locally developed IP, applications and products.
- **Evolve the local Region AVR eco system**, enhancing the awareness understanding and belief around augmented virtual reality solutions
- **Scale local engagements with local customers from pilots to large mass deployment**, to avoid proof of concept (PoC) dead-ends. Helping the local company to expand customer accounts from a few users to thousands of users
- **Share EON's 20 years of experience and EON's global AVR network.** Provide mentorship and advisory position to the Association companies in augmented virtual reality as well as introduce the Association companies to Silicon Valley based leaders in AVR as well as Eon's network of 50 centers.
- **Free access for the Association companies to the AVR Platform** and EON Reality software development tools.
- **Free training on the AVR Platform**
- **Commission on Sales**: For any sales on AVR Platform, Association companies will receive commissions of at 30%.
- **Services executed by Association companies** All services related with the AVR Platform will be executed by local companies.
- **Global revenues from AVR company products and applications**: Selected product developed by the local companies will be sold internationally, local AVR partner will receive 70% of revenues, while the global partner that sells the products receives 30%.
- **Becoming part of AVR Growing Development IDC Community** with outsourcing and other networking opportunities .

Benefits For Local Companies

- **Segment focus** Initial focus is segments where Region is strong such as in industry & advanced manufacturing followed by medical and energy
- **Improve the competitiveness** of these companies by
  - Increasing their **productivity**
  - **Decreasing their training** costs using "Learn-Train-Perform" approach
  - Lowering their **maintenance, repair and operation** costs
  - **Making their products more attractive** based on digital support in knowledge transfer and sales globally
  - **Securing Access to recruit new talent** consisting of local AVR resources from the IDC VR Innovation Academy

Thank You