

E-book

The 8-Step Guide to Virtual Reality Training



VOBLING™

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INTRODUCTION



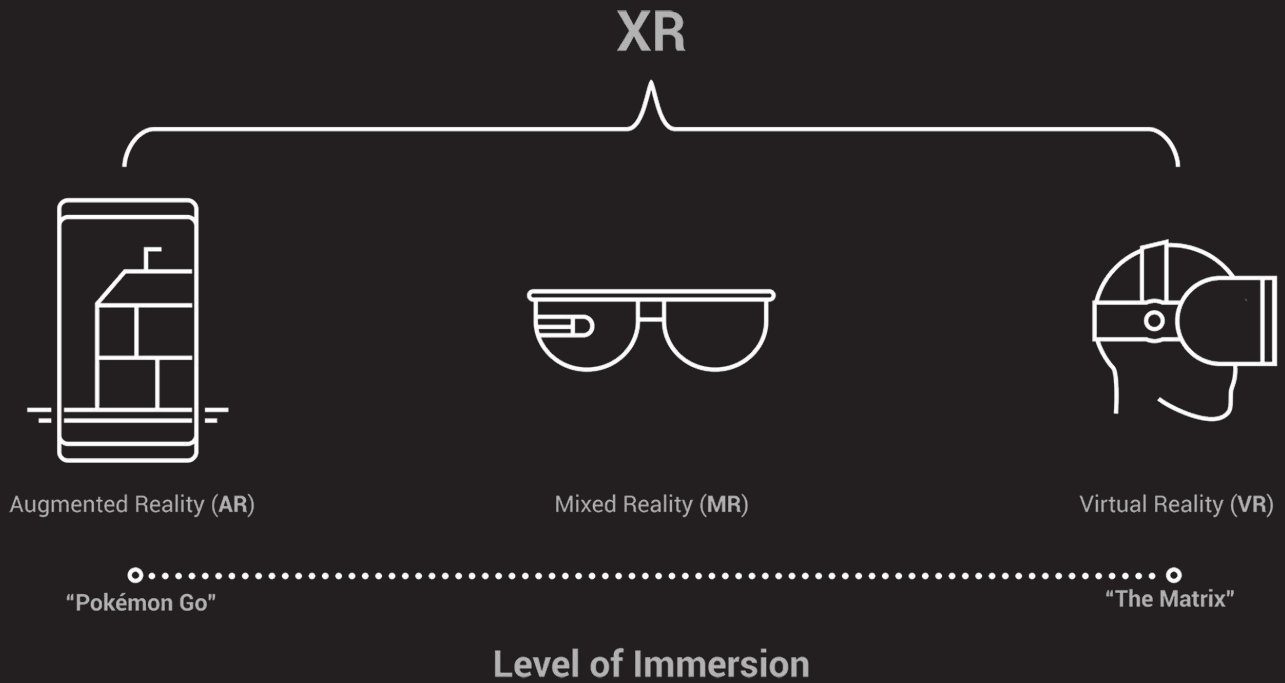


The pandemic has accelerated the demand for virtual reality in training areas hampered by travel restrictions and social distancing policies. From machinery and equipment usage to scenario-based training, VR can provide immersive and impactful experiences to employees, wherever they are.

Aside from enabling remote training capabilities, virtual reality solutions have been largely motivated by tangible benefits such as cost and time savings, and increased learning efficiency. With scalable and interactive simulations, results from VR-led training programs can match, and even surpass, the outcome of traditional training methods- at lower costs. As a result, many companies are finding that the answer to training during the pandemic lies in XR technology.

This e-book provides a step-by-step guide on how you can digitize and scale 'learning by doing' with virtual reality as we navigate the global crisis.





XR: an umbrella term that encompasses AR, MR, VR, and other forms of alternate, expanded, or immersive reality applications, including those not yet invented.

Virtual Reality: an immersive medium that has the power to replace a user's reality with a new virtual reality.

Augmented Reality: an augmented environment layers virtual content, such as digital objects or information, onto a real-world image captured from a device's camera.

Mixed Reality: an enhanced version of AR, offering additional interaction between the real world and the digital elements added to it.



RETURN ON INVESTMENT



VR and AR has potential to add

US\$ 1.5 Trillion

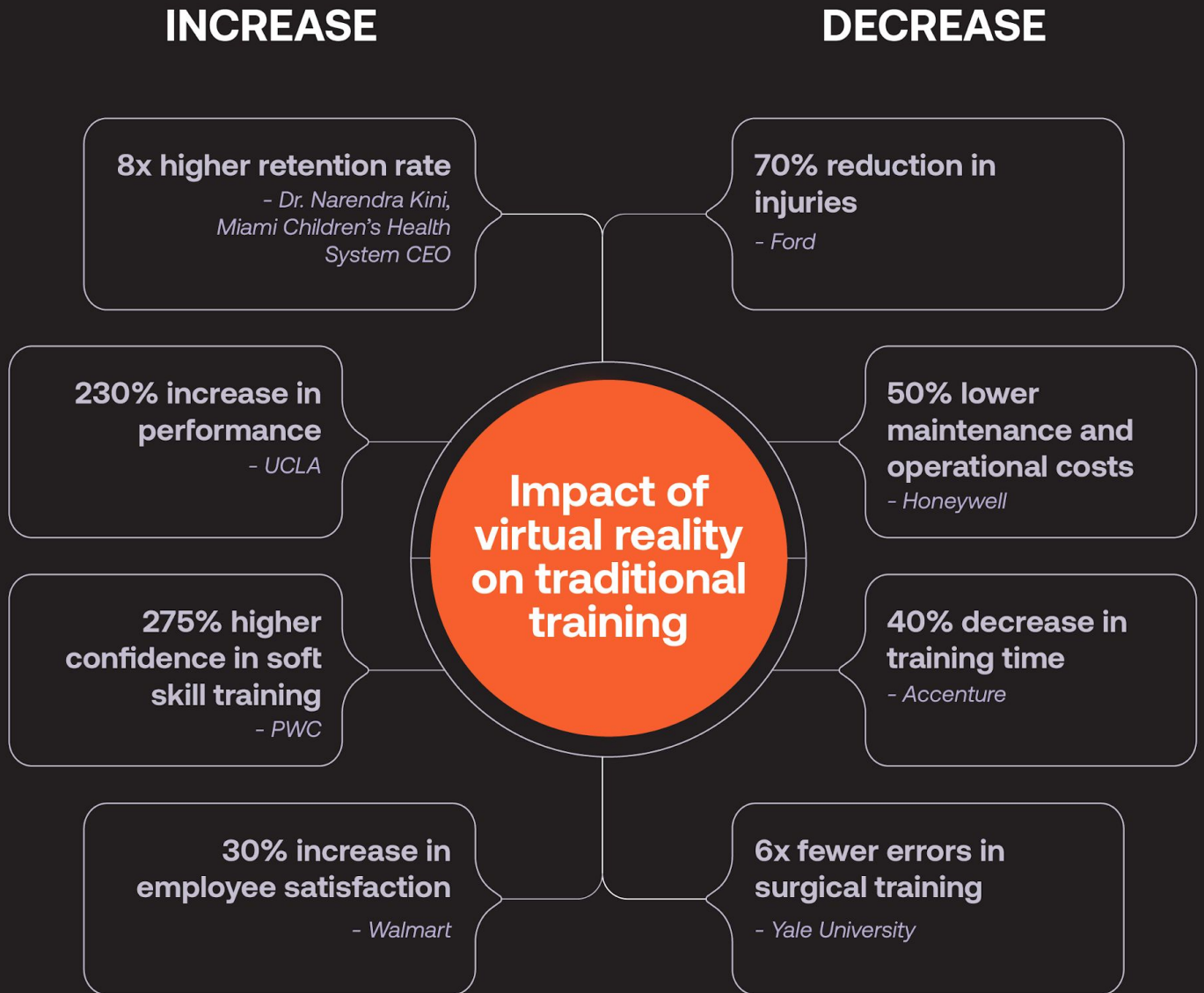
to the global economy by 2030

Up to

US\$ 294.2 Billion

of that amount will be in training

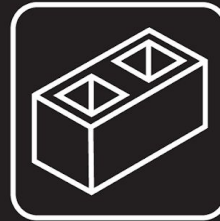




THE STEPS



**Identify
Training Areas**



**Build the User
Experience**



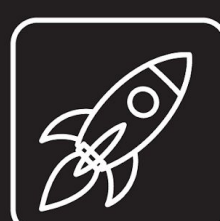
**Know your
Objectives**



**Choose the Right
Technology**



**Develop a
Strategy**



**Launch the
Program**



**Finalize
KPIs**



**Evaluate
Results**



1.**Identify training areas that can be enhanced or replaced by VR****QUESTIONS TO ASK:**

- Which learning areas have been affected by issues caused by the pandemic?
- Which tasks require repetition and hands-on practice to learn and master?
- Which training programs are difficult and costly to conduct and scale?
- What are the high-risk training scenarios that need a safer and more engaging program?
- Which training programs disrupt operations and cause major inconvenience in terms of manpower and logistics?
- What are the pain points in real-life training that are hindering workforce development?



VR APPLICATIONS IN TRAINING



Fire Emergency Training Simulator

SAFETY TRAINING

Virtual reality simulations let employees practice in potentially hazardous situations without real-world consequences. With a safe and interactive environments, VR-based safety training programs allow trainees to develop life-saving skills and retain knowledge by learning from errors and repetition.



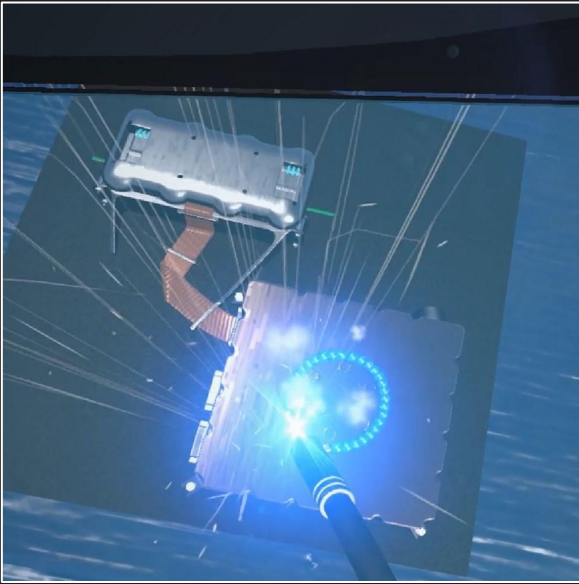
Train Conductor Simulator

MACHINERY AND EQUIPMENT USAGE

Operational shutdowns and logistical hurdles may occur when implementing and conducting traditional programs, particularly when methods involve heavy equipment and complex scenarios. VR technologies can train staff on usage and operational processes by generating 'digital twins' or virtual prototypes of machineries in a customized environment.



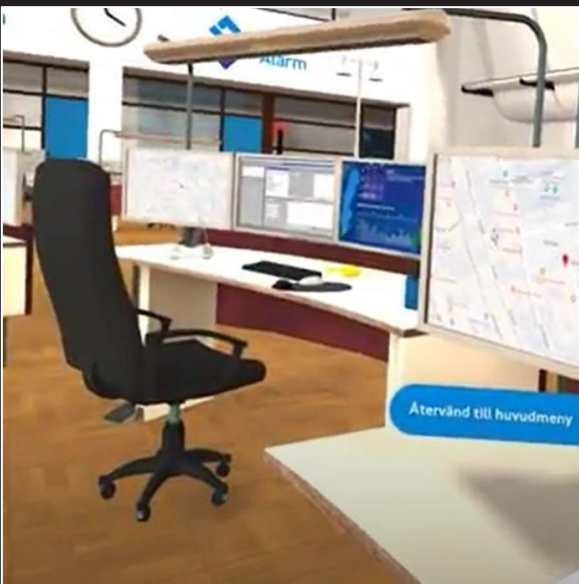
VR APPLICATIONS IN TRAINING



Welding Simulator

TECHNICAL TRAINING

Virtual reality can transform passive observers into active participants with a self-paced immersive and procedural learning experience. VR environments can deconstruct complex concepts and scenarios into manageable data, accelerating knowledge acquisition and retention.



911 Emergency Call Simulator

SOFT SKILLS TRAINING

VR enables employees to develop soft skills and empathy while eliminating environmental stressors in a controlled space. Moreover, recent research from PwC found that VR-trained employees were 4x faster to train and 275% more confident to apply skills in the real world compared to classroom learners.



2. Know your objectives

Oculus listed “[VR superpowers](#)” that enable remote collaboration, higher efficiency and greater outcomes. These capabilities include:



Real-time Collaboration



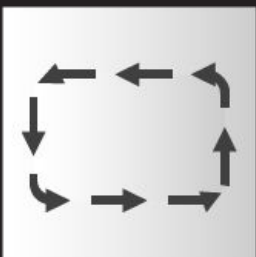
Spatial Memory



Big Dollar Savings



Time Efficiencies



Unlimited Redos



High Stakes, Less Risk



Impossible Scenarios



Varied Perspectives



3.

Develop a strategy

CUSTOM

A custom application is fully based on company requirements - from design to deployment.



Vobling provides on-demand, full-stack immersive technology expertise. From augmented reality visualizations to fully customized virtual reality software, we offer top-of-the-line [XR solutions](#) tailored to achieve company goals.

[SCHEDULE A MEETING](#)

OFF-THE-SHELF

An off-the-shelf application is a ready-to-use training solution that allows customization to a certain degree.



The VR Fire Trainer is Vobling's off-the-shelf solution that enables companies to raise the bar in fire emergency training with safe, measurable and scalable immersive scenarios.

[SCHEDULE A DEMO](#)



3.**Develop a strategy****CUSTOM**

Considerable investment

Tailored to all training requirements

Longer development process

Highly customizable

OFF-THE-SHELF

Limited investment

Feature-rich

Quick implementation

Rigid structure

FORMS OF VR CONTENT**360-Video**

This approach utilizes a specialized camera rig to capture the real world in order to create an interactive 360 visual experience for the user. User interface features are overlaid on the video footage as the trainee navigates scenes displayed in the VR headset.

Computer-Generated Imagery (3D)

With this approach, new environments are built from scratch using 3D modelling and rendering. This form features a greater level of detail for environments and avatars, controllable scenarios and interactive simulated experiences.



4.

Craft new experiences and finalize KPIs

Karl Kapp, Founder of The Wisdom Learning Group, LLC, listed [7 principles](#) for Creating a Successful Virtual Reality Learning Experience in his book entitled Learning in 3D: Adding a New Dimension to Enterprise Learning and Collaboration.

Instructionally Grounded

- This principle highlights the importance of ensuring that virtual reality technologies are the best approach to address a specific business need.

Participant Centered

- The overall learning experience should be user-centered, where the contextual design accommodates all trainee interactions within the VR environment.

Contextually Situated

- This principle states that the VR experience should aim for contextual authenticity while attaining learning objectives.

Action Oriented

- This emphasizes the capability of virtual reality to digitize 'learning by doing'. Training should go beyond passive participation and deliver an action-oriented experience.

Consequentially Experienced

- This shows that training should provide an accurate and realistic demonstration of consequences to human errors.

Collaboratively Motivated

- VR-based training should encourage collaboration and connectivity among learners.

Reflectively Synthesized

- User evaluation should be conducted after the training program to ensure efficiency of the learning experience.



4.

Craft new experiences and finalize KPIs

“Beyond simply improving how well learners retain information, VR-based training helps learners when they get it wrong. The ability to track all of a trainee’s actions and inputs as he or she moves through a scenario reduces the cost of providing individual feedback and giving tailored feedback.”

— Deloitte Insights 2018



USAGE

training frequency, duration and completion



ATTENTION

head movement, eye tracking



ENGAGEMENT

interactions and clicks, focus



PREDICTIVE ANALYTICS

combining immersive and real-world data with a machine-learning model



PROFICIENCY

false alarm versus mastery



SENTIMENT

qualitative feedback



5.

Build the user experience

Accenture's [ebook](#) entitled 'Immersive Learning for the Future of Workforce' outlined considerations in designing a compelling user experience.

Interface/Interaction Design

- A simple and well-designed UI is crucial in maximizing the effects of presence and interactivity.

Fidelity level

- The program should define the level of visual fidelity that the experience requires, often relayed in terms of polygon counts and head-mounted display (HMD) resolution.

Multi-participant

- Learning scenarios with multiple participants in the same VR environment can generate higher impact towards the user.

Physical environment

- Consider physical layout and configuration of the setup, particularly in learning experiences that require movement.

Integrate touch

- Leverage on haptic technology to deliver a higher sense of presence in various training scenarios.



6.

Choose the right technology



PC-based VR includes both tethered and untethered headsets that require a PC to function. These headsets often have built-in motion sensors and external cameras that track the headset and controllers in space. Some examples are Oculus Rift, HTC Vive and Playstation VR headsets.



Standalone VR refers to the all-in-one headsets which have built-in rendering capabilities and batteries. These headsets do not require cables, phones or computers to run. Examples of standalone VR headsets include the Oculus Quest and Vive Focus systems.



7.

Launch the VR training program

ROLLOUT PLAN TEMPLATE

	Location 1	Location 2
Devices	✓	✓
Goals	✓	✓
KPIs	✓	✓
Participants	✓	✓
Duration	✓	✓
Training Infrastructure	✓	✓
Integration	✓	✓
Implementation Lead	✓	✓
Facilitators	✓	✓



8.

Evaluate outcomes.

The Kirkpatrick Evaluation Model

The [Kirkpatrick Model](#) is developed by Donald Kirkpatrick, former Professor Emeritus at the University of Wisconsin, to evaluate and analyze training and educational programs. The model has four basic steps:

Reaction: How the participants felt about the training program. What type of response does the program elicit from them?

Learning: How much knowledge or skills the participants gained. How much have they retained?

Behavior: The degree to which participants applied what they learned.

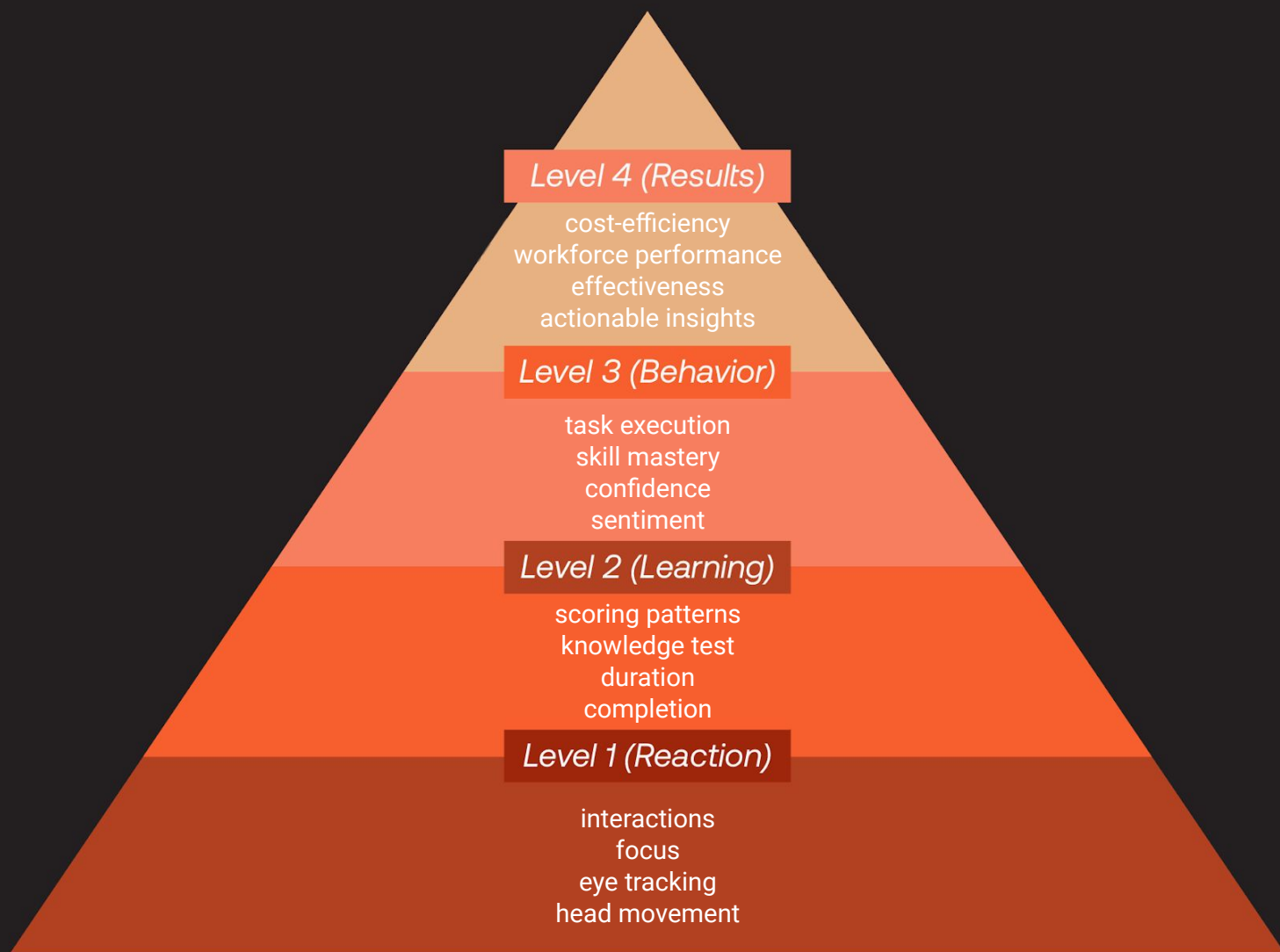
Results: The benefits the business sees as a result of the training. What does the business get out of the training investment?

This has been widely used by companies to quantify the effectiveness of a virtual reality-led program from trainee responses to business outcomes.



8.

Evaluate outcomes.



The Kirkpatrick Evaluation Model



BEST PRACTICES



RECOMMENDATIONS

- Set goals and KPIs for both facilitators and participants.
- Make VR experiences social.
- Avoid nausea by keeping segments short, using a high frame rate, and moving the user's point of view gradually.
- Create empathy and make the narrative engaging.
- Integrate VR training into the learning management system for a seamless user experience.
- Define and enforce ethical standards.
- Scale successful training programs across the organization.
- Measure employee effectiveness on the job after VR training.
- Keep iterating.



IMPLEMENT XR TRAINING SOLUTIONS



Implement XR Training Solutions

The examples of successful implementations of XR solutions are countless, and the ones listed in this guide are only a select few that Vobling has developed. It is high time to adjust to the new normal and implement XR solutions that allow your business to operate efficiently regardless of global pandemics.

Contact us today for a free consultation of how your organisation can leverage XR technologies.

Vobling is a Virtual and Augmented Reality agency based in Sweden, Singapore, and the Philippines that powers the adoption of immersive technologies (XR) in business. Reach out to us personally or at <https://www.vobling.com/contact/> to learn how you can utilize immersive technologies for remote work.



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