

## 5G MALAYSIA DEMONSTRATION PROJECTS

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### FREQUENTLY ASKED QUESTIONS

#### Smart Street Lighting

##### 1. How does the Smart Street Lighting solution work?

Smart Streetlight systems with centralized and remote control technology are one of the most innovative smart city applications with great potential to save energy, reduce maintenance costs and enhance public safety. It starts with changing from conventional HID to LED for better light quality and lower energy consumption.

A smart module is installed to control the lighting operation remotely for better control of light output at anytime from anywhere. This also helps to identify lamp failures, achieve energy savings, reduce maintenance costs and ensures smooth operation. Security can also be enhanced by coupling with safety solutions on the smart pole.

##### 2. How does the use case benefit society?

The Smart Street Lighting solution can enhance public safety by providing critical information on the smart pole such as surrounding conditions which can then be communicated to the public easily via an optional LED display panel. The solution also improves cost efficiency by having better control of the lighting. By having a scheduled light output, planned maintenance action can be taken which will in turn reduce costly ad-hoc maintenance activities.

##### 3. How is monitoring and tracking done?

There will be a platform to enable managers to easily connect, simultaneously monitor and manage multiple street lightings remotely and in real-time.

##### 4. How will this solution improve operational efficiency?

Being able to monitor activities remotely, lamp failures can be easily identified and help reduce costly night patrols. There will also be usage visualisation, as well as usage reports available for further analysis.

## **Smart Agriculture**

### **1. What is the Smart Agriculture solution?**

Smart Agriculture or Smart Farming is a farming concept that helps to increase yield, resource efficiency and quality of produce by using advanced technological solutions. The Smart Agriculture Solution leverages Maxis IoT technology to enable automated sensing of environments to monitor and detect farm/environment operating conditions. Measurement and analysis of collected data can be used to build operating insights and enable counter measures to maximize yield and reduce wastage of resources. For example, sensors can be implemented to monitor soil moisture levels. Soil moisture analysis can also be linked to a water irrigation system to create a system to maintain soil moisture.

### **2. How do farmers benefit from the Smart Agriculture Solution**

The growth of agriculture crop is highly dependent on various factors such as soil condition, water content, temperature and the presence of pests within the plantation. Current practices in monitoring these variables are undertaken through manual checks, which can be improved through automation, enabling better value of crop yield.

Through the use of precision agriculture enabled by the Maxis NB-IoT, farmers are now able to remotely monitor their crop conditions through a web application, and receive pre-emptive alerts on the possible detrition of environmental variables, enabling them to take pre-emptive action to maximize yield value attained from the planted crop.

## **Maxis eKelas VR Experience**

### **1. What is the Maxis eKelas Virtual Reality use case about?**

Maxis eKelas will be conducting Virtual Reality (VR) Biology classes for a focused group of students at Pusat Internet Kg Padang Wahid. A curated playlist that lets students virtually immerse into living cells, DNA, human anatomy & organs, all remotely guided by a teacher based in Kuala Lumpur. Students will be equipped with a Virtual Reality headset complete with a unique student-friendly interface, gesture controls, embedded educational resources and simple-to-use teacher controls.

### **2. How does this use case benefit students?**

The curriculum is brought to life by letting students virtually explore for example, the DNA strand or hold the human heart in their hands. Each lesson

is accompanied with worksheets for students to complete. This VR experience is designed to raise engagement and increase knowledge retention.

## **Fixed Wireless Access (FWA)**

### **1. How does the use case benefit society?**

5G FWA will be able to provide high speed internet and connectivity to areas where there are no fixed High Speed Broadband. The technology will improve productivity and enablement of new use cases such as high definition streaming 4K/8K, VR and faster internet transactions

### **2. What type of hardware is required for FWA?**

A 5G Base Station and a 5G CPE (Customer Premises Equipment) that supports 5G will be required to fully utilize the FWA service.

### **3. Do you need an external antenna?**

For this deployment, no external antenna is required while the indoor CPE has a built-in 5G antenna.

## **Augmented Reality (Aquaria KLCC)**

### **1. How does 5G power up the Augmented Reality experience?**

Embedding virtual components in a real world view requires powerful processors, sharp cameras, a range of advanced sensors and software.

Data needs to be rendered in real time in order to produce a smooth and responsive AR experience. 5G has the capacity to bear the weight of more connected or shared AR experiences, and has the required low latency – that is, the time between an input and data being sent in response – for real time responsiveness.

### **2. What is this 5G consumer use case about?**

Working with Aquaria KLCC, Maxis is using AR technology to take visitors through a journey of the ocean floor for an up close and immersive experience of the ocean and to learn how it affects the entire ecosystem.

## **Robotic Concierge and AR at Gamuda Cove**

### **Robot Concierge**

#### **1. What is this use case about and how does it benefit society?**

A humanoid robot will be stationed at Gamuda Cove's Experience Gallery's front door and is tasked with greeting customers and answering simple queries. When customers ask specific questions about the property, it will trigger a 3D hologram that displays key development highlights.

This use case provides a novel experience for customers, as well as to help relieve desk staff of simple, repetitive questions. The addition of a hologram also visually engages with customers.

#### **2. How does Maxis 5G enable this technology?**

The ability for the robot to engage with customers becomes more natural due to the fast speeds and low latency as it is able to extract information from its database in real time.

### **Augmented Reality**

#### **1. How does the use case benefit society?**

Space and distance is no longer a limiting factor in showcasing objects in real time to an audience. AR provides a real life preview of an object or experience without it being physically there.