ASVDA
亞洲矽谷 ASIA SILICON VALLEY DEVELOPMENT AGENCY

Asia Silicon Valley
5G Innovative Application Program Achievements

Take 3 Minutes to Understand

The Booster for Industry Evolution

Read more to find out how 5G O-RAN "is boosting Taiwan's industry" ▶▶

5G O-RAN

- Breaking the monopoly of traditional telecom networks by major providers
- Building networks independently for enhanced autonomy and privacy
- Freedom of choosing equipment to reduce costs and increase flexibility of expansion

What is 5G O-RAN?

An Open Radio Access Network (O-RAN) is a new telecom network architecture commonly known as a "base station." In the past, building a telecom network relied on large equipment providers to ensure the interoperability between different equipment. However, with the O-RAN architecture in the 5G era, mobile networks can be composed of hardware and software systems from different providers. With open standardized interfaces as the core, a network may be built independently with a high degree of autonomy and privacy, which helps lower the costs and increase the flexibility of equipment expansion.

5G O-RAN Booster

Keeping Domestic Equipment Abreast With International Standards

The establishment of a domestic 5G open network can achieve netcom equipment integration, system integration, and application services, not only to facilitate the verification of the security and reliability of the domestic 5G equipment, but also to help relevant providers participate in international standards testing.

Key to align the industry with the international community swiftly

Building an international laboratory

Building Asia's first OTIC laboratory certified by the international O-RAN Alliance to provide international standards testing, conduct interoperability, reliability, and stress testing, as well as carry out information security assessment testing.

Assisting Taiwanese vendors in quickly passing international testing

Currently, 21 vendors in Taiwan have been guided to pass testing and keep abreast with the international supply chain. This has facilitated the cooperation between domestic and major international vendors to secure business opportunities of international O-RAN products.

5G O-RAN Booster

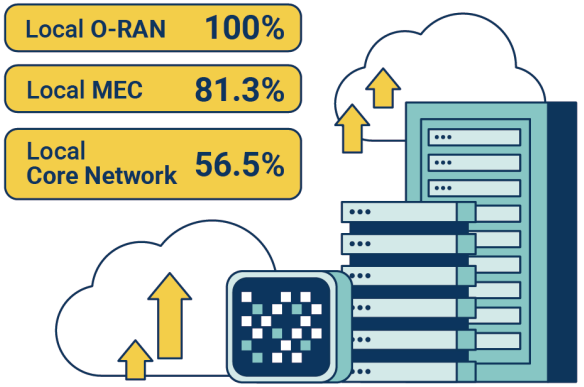
Enabling Local Trials and the Vertical Integration of Domestic Technologies

Develop comprehensive solutions integrating AIoT and 5G O-RAN through subsidies and encourage the netcom industry to cooperate with academic and research institutes as well as start-up teams to conduct feasibility verification.

Key to promoting local trials

In-depth development of smart urban and rural applications

Cooperate with start-up teams to develop application solutions and promote smart urban and rural applications with 5G O-RAN as the core.



Enhancing 5G domestic proprietary key technology

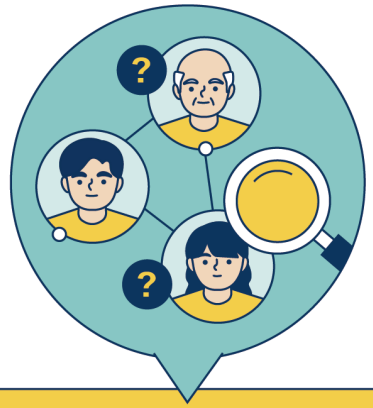
Provide more flexible, low-cost, secure and reliable networks through domestically manufactured equipment, accelerate the system integration of 5G vertical applications, and assist domestic enterprises in entering the global telecom supply chain by integrating field demonstrations to secure the huge business opportunities arising from 5G open networks.

5G O-RAN Booster

Upgrading the Industry and Venturing into Overseas Markets

Develop innovative solutions related to people's lives, such as smart transportation, smart healthcare, and smart disaster prevention, as well as establish an ecological chain for Taiwan's smart urban and rural industries based on 5G O-RAN technology.

Key process to upgrade the industry



Industry Proposals

Understand industry pain points and focus on market needs.

Gain insight into the pain points of the domestic industry and focus on the needs of overseas markets to create innovative services in line with the 5G open network architecture.

Central Subsidies

Inventory industry gaps and accelerate the digital transformation.

Facilitate innovative applications and technology R&D through policies to assist the digital transformation of domestic industries and establish an ecological chain of smart urban and rural industries.

International Export

Provide innovative solutions to secure international business opportunities.

Enhance proprietary 5G netcom-related technologies of the domestic ICT industry, and establish exemplary cases of digital transformation of domestic industries for export to the international market through the development of innovative 5G O-RAN solutions.

5G O-RAN Booster

Making Local Lives Easier!

From 2021 to 2024, a total of 23 industries have evolved with guidance, making Taiwan an export country of smart application services in the Asia-Pacific region!

Cases of industry evolution

A Taipei city

- TAIWAN FIXED NETWORK CO., LTD. — Smart governance/ security
- TATUNG SYSTEM TECHNOLOGIES INC. — Smart transportation

B Taoyuan city

- CHUNGHWA TELECOM CO., LTD. — Smart healthcare
- WIADVANCE TECHNOLOGY CORPORATION — Smart show
- LEO SYSTEMS, INC. — Smart manufacturing

C Hsinchu city

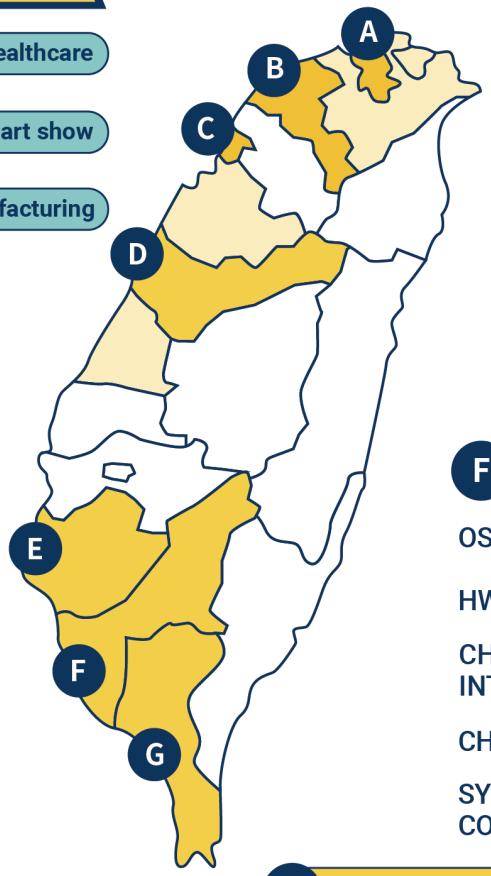
- PEGATRON CORPORATION — Smart disaster prevention

D Taichung city

- TAIWAN INFRASTRUCTURE TECHNOLOGIES CO., LTD. — Smart live broadcast
- DA-TUN CABLE TV CO., LTD. — Smart governance/ security
- BIG DATA MOBILE COMPANY — Smart healthcare

E Tainan city

- PIONEER MACHINERY CO., LTD. — Smart manufacturing
- HSIN YEONG AN CABLE TV CO., LTD. — Smart education
- LIGHT MATRIX INC. — Smart show



F Kaohsiung city

- OSENSE TECHNOLOGY CO., LTD. — Smart show
- HWACOM SYSTEMS INC. — Smart education
- CHUNGHWA SYSTEM INTEGRATION CO., LTD. — Smart healthcare
- CHUNGHWA TELECOM CO., LTD. — Smart transportation
- SYSTEX SOFTWARE & SERVICE CORPORATION — Smart manufacturing

G Pingtung county

- LEADTEK RESEARCH, INC. — Smart agriculture

Cases in other counties and cities

New Taipei city, Taoyuan city

- ASKEY COMPUTER CORP. — Smart manufacturing

Domestic cargo ship

- PEGATRON CORPORATION — Smart ship

Keelung city, Changhua county

- IINTERNATIONAL INTEGRATED SYSTEMS, INC. — Offshore wind

Tainan city, Kaohsiung city

- CHUNGHWA TELECOM CO., LTD. — Smart tourism/retail

New Taipei city, Miaoli county, Kaohsiung city

- HTC CORPORATION — Smart education

5G O-RAN: Uninterrupted Communications for Disaster Relief in Rural Areas

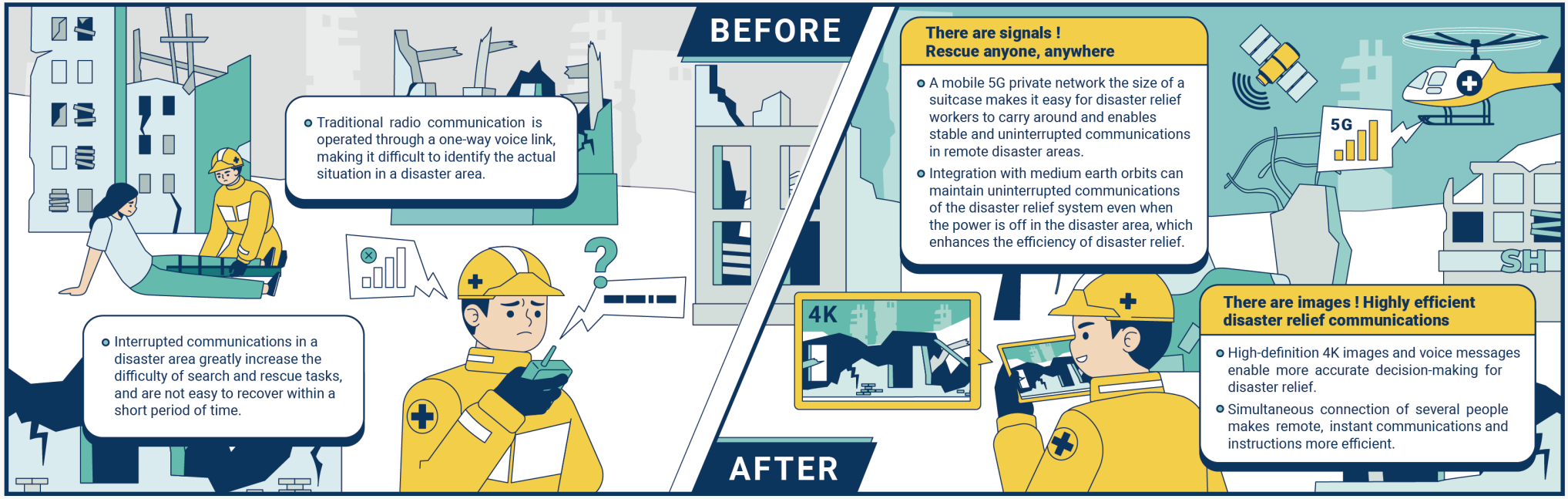
The Integration of Portable 5G O-RAN Private Network with Resilient Digital Satellite Communications Solution

Difficulties may arise in disaster rescue due to communications disruptions. The high transmission and low latency of the 5G O-RAN, among other features, help maintain stable communications during disaster relief. This project integrates a mobile 5G base station with medium earth orbits to improve communications coverage and undertake missions such as communications, images monitoring, and disaster reporting of the disaster relief system.

Project Results

#First in the World | The world's first digital resilience application integrating domestic 5G O-RAN with satellite communications for smart disaster prevention.

#Recognized by Major International Vendors | The CEO of Intel personally demonstrated Pegatron's O-RAN private network equipment and relevant 5G products at Intel Vison.



Key Technology #5G O-RAN #Satellite Digital Communications #Mobile Base Station

Technology Unit PEGATRON CORPORATION

Domestic Trial Site Hsinchu city

International Export Site Japan, Indonesia

5G O-RAN: Smarter Long-Term Care Services

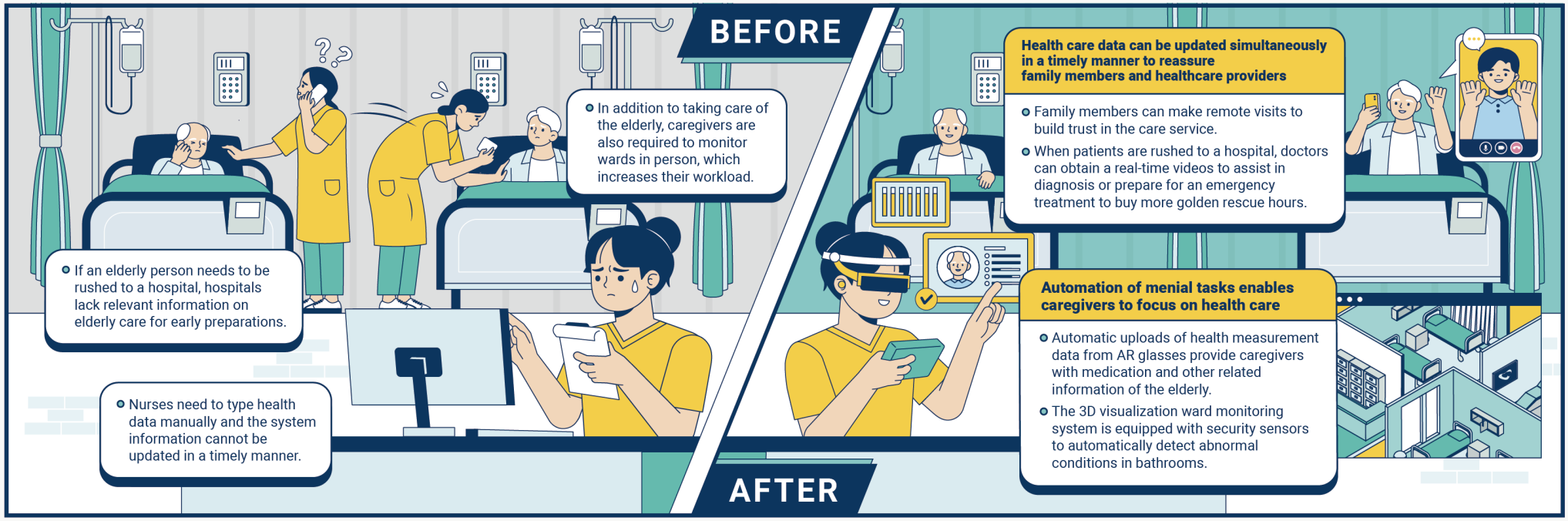
5G Electronic Long-Term Services and Supports (eLTSS) System in Kaohsiung Veterans Home

In light of the rapid increase in demand for long-term care in an aging society, 5G O-RAN can assist in data integration and connections among multiple parties. This project integrates 5G + AR + AIoT applications in long-term care institutions, helping to reduce the burden of long-term care services, and further enhancing the efficiency and quality of care services.

Project Results

#First in Taiwan | First in Taiwan to integrate 5G + AR + AIoT with the long-term care system, promoting the digital transformation of the long-term care industry.

#Accelerating the Digital Transformation of the Domestic Long-term Care Industry | Adjust services and technology gaps on a rolling basis through small-scale demonstration sites.



Key Technology #5G O-RAN #AR Augmented Reality #3D Visualization Ward Monitoring System

Technology Unit CHUNGHWA SYSTEM INTEGRATION CO., LTD.

Domestic Trial Site Kaohsiung city

5G O-RAN:
More Flexible Interactions for Exhibitions

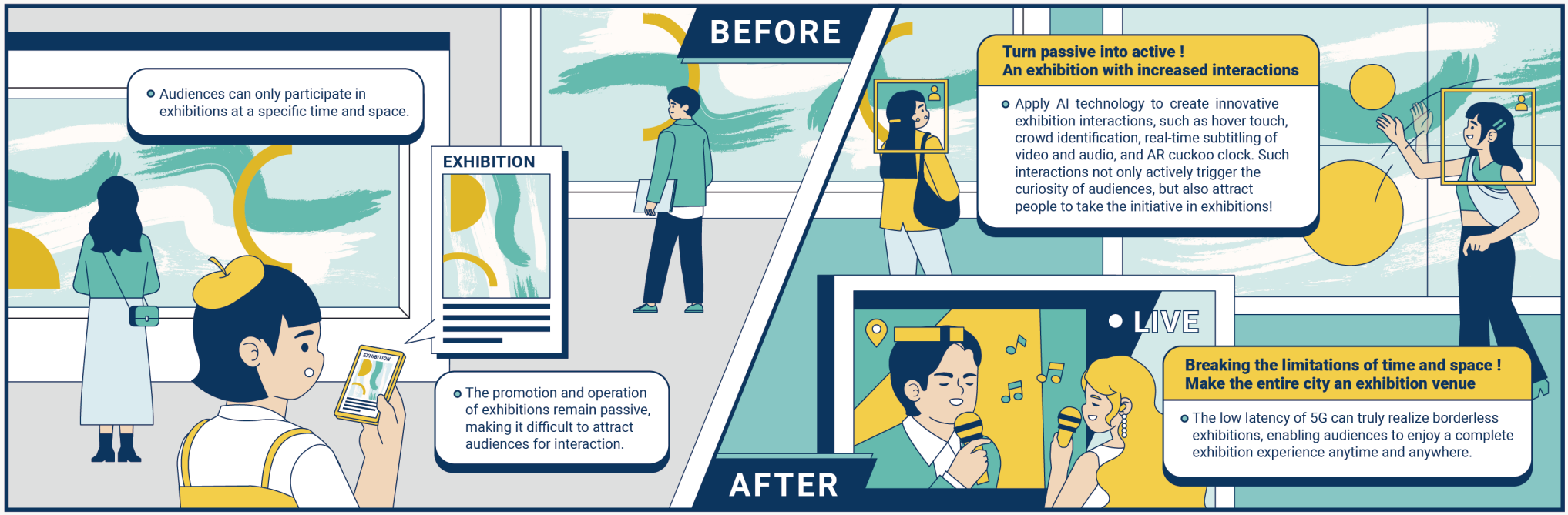
5G Cross-Platform OMO Multi-Functional Interactive System

In the post-pandemic era, more flexible interactions with audiences are required for large-scale exhibitions. The high bandwidth and low latency of 5G can solve the problems of difficult integration across virtual reality and locations. 5G borderless exhibitions, AR marketing for landmarks, OMO smart commercial exhibitions and other applications are provided.

Project Results

#Move Exhibitions Outside | It has been utilized in large-scale exhibitions, including Smart City Summit & Expo, Vision Get Wild, City Lecture Room, and Creative Expo Taiwan, breaking free from time and space limitations and creating more diversified possibilities for exhibitions.

#Innovative Applications of AI Technology | Replace contact touch with contactless, gesture hover touch to reduce the risk of infection and screen damage rate.



Key Technology #5G O-RAN #AI Hover Touch #Borderless Exhibitions

Technology Unit OSENSE TECHNOLOGY CO., LTD.

Domestic Trial Site Kaohsiung city

5G O-RAN: Facilitating the Transformation of Channel Operators in Central and Southern Taiwan

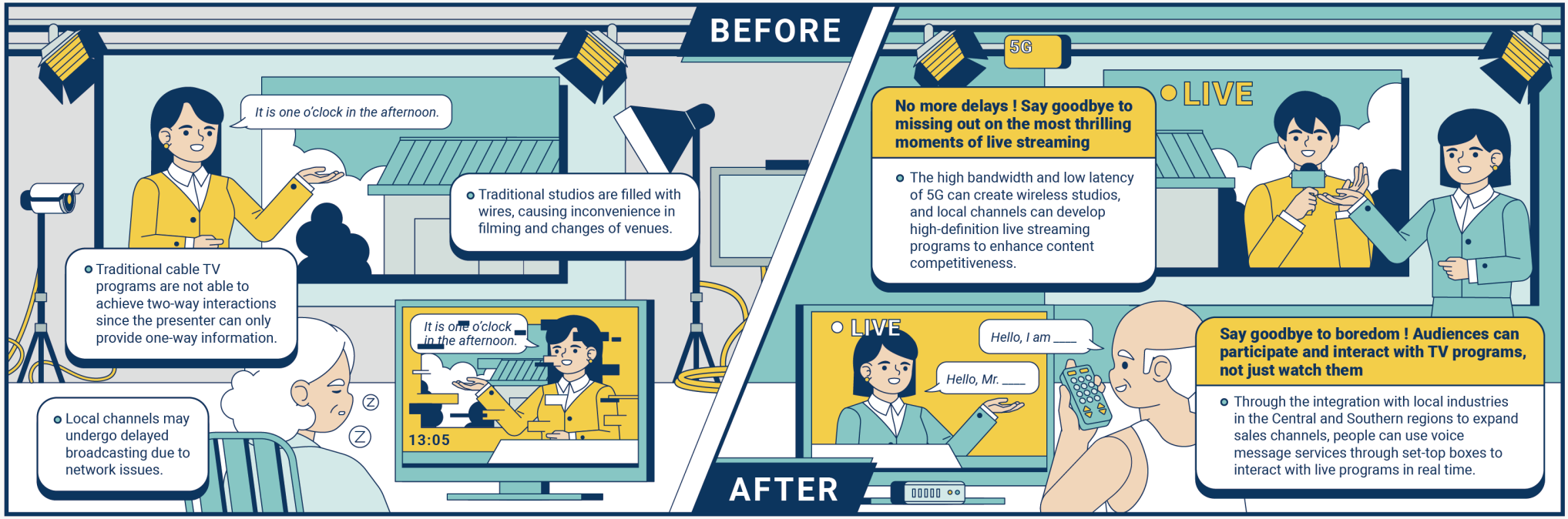
A Wireless 5G O-RAN Studio for Cable TV Interactive Services Engagement

Rich, diversified, and cross-border audio and video contents are the current trend of the industry. A 5G private network can create the necessary audio and video platform for the transformation of channel operators located in Central and Southern Taiwan, providing a foundation for innovation for channel operators through 5G live streaming solutions.

Project Results

#Strengthening Local Channels | The first 5G private network includes the entire industry supply chain to drive the development of the local industry.

#Commercialized Live Steaming Interactions | Broadcasting live news of local channels through digital set-top boxes provides the elderly with a better viewing experience.



Key Technology #5G O-RAN #5G Private Network Studio #Real-Time Live Streaming Interactions

Technology Unit TAIWAN INFRASTRUCTURE TECHNOLOGIES CO., LTD.

Domestic Trial and Promotion Site Taichung city

5G O-RAN: More Flexible Production Lines

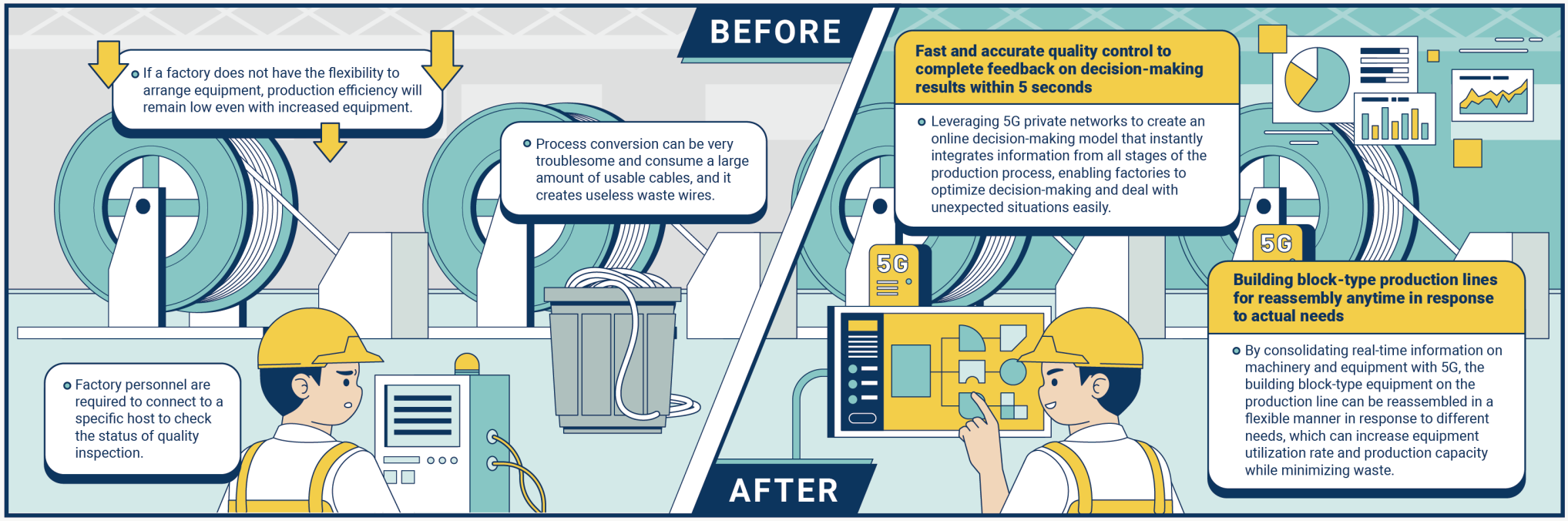
Smart Wire and Cable Factory 5G Private Network Flexible Production Turnkey Factory Solution

Traditional production lines of factories lack systematic integration even with a large amount of production and quality control data. A 5G private network integrated with AIOT technology can help create building block-type, flexible and smart production lines, enabling production lines to meet the demands of high customization.

Project Results

#Significant Increase in Production Capacity | A 6.6 times increase in machinery and equipment utilization and a 15% decrease in process conversion costs compared to that prior to improvement.

#Replicable Successful Experiences | Driving other cable factories in Taiwan to comprehensively introduce smart factory equipment, and attracting relevant industries to jointly expand the export sales market.



Key Technology #5G O-RAN #Building Block-Type and Flexible Production Lines #Online Decision-Making Model

Technology Unit PIONEER MACHINERY CO., LTD.

Domestic Trial and Promotion Site Tainan city

5G O-RAN: Simplifying Training for Wind Power Operations

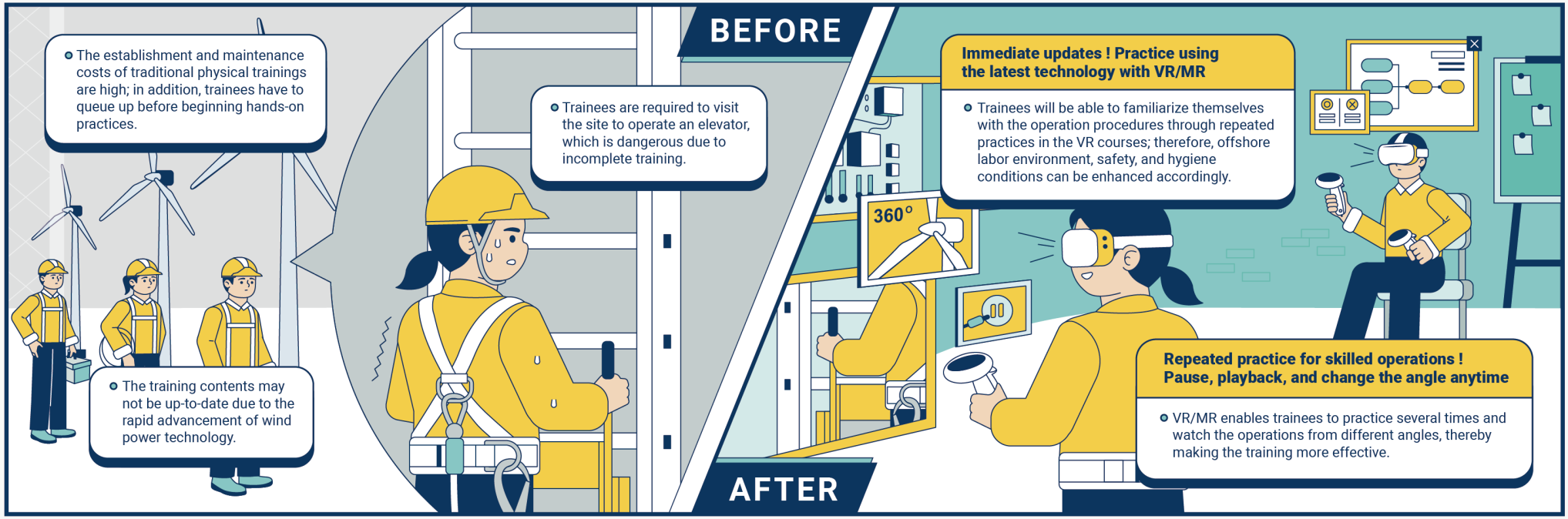
Smart Wind Power - Virtual and Real Integration Training System

Wind power plays a crucial role in Taiwan's goal of achieving net-zero emissions. However, the operation of wind turbines requires professional training. 5G private networks integrated with VR/MR technology can simplify such training.

Project Results

#First in the World | The 5G XR wind power virtual reality integration and simulation training system reduces the costs of offshore wind power training and significantly enhances the education and training of professionals.

#Enhancing the Competitiveness of the Wind Power Industry | Creating a domestic wind power industry cluster, and driving the transformation and upgrade of the wind power industry chain.



Key Technology #5G O-RAN #XR Virtual Reality Integration and Simulation Training System #Self-Developed Network Management System

Technology Unit HWACOM SYSTEMS INC.

Domestic Trial and Promotion Site Kaohsiung city

5G O-RAN: Creating a Hospital-Like Experience for Emergency Rescue Situations

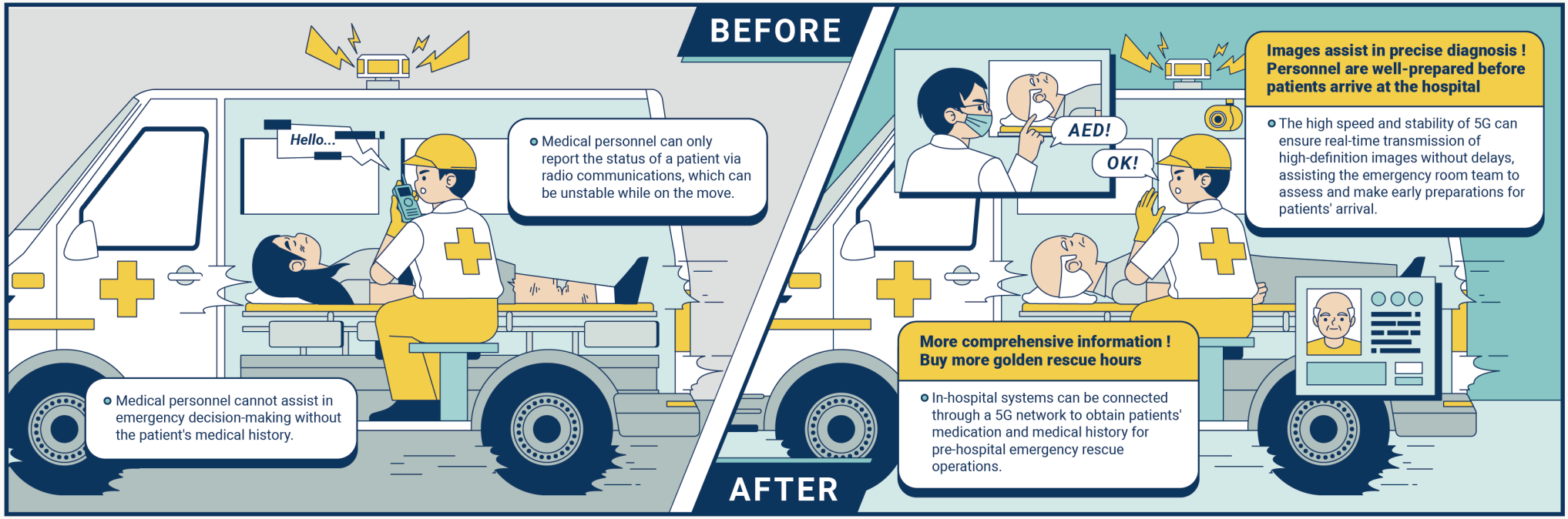
5G Precision Networked Medical and Emergency Rescue System

Buying more golden rescue hours is the key to emergency rescue! 5G private networks can help improve the standardization and automatic exchange mechanism of emergency medical rescue information, enabling the emergency rescue to achieve the efficiency of "hospital-like rescue," thereby improving the quality of emergency rescue.

Project Results

#A New Benchmark for Smart Rescue | Through the 5G mobile precision medical system, personnel can contact emergency rooms through video to buy more golden rescue hours.

#Innovative Medical Network | By eliminating the gap between emergency rooms and ambulances, together with past medical records and health insurance information, medical personnel can have a better understanding of a patient's condition in a timely manner.



Key Technology #5G O-RAN #In-Hospital Medical Information System Integration #Mobile Precision Medical System

Technology Unit CHUNGHWA TELECOM CO., LTD.

Domestic Trial and Promotion Site Taoyuan city

5G O-RAN: A New Generation of Safe and Smart Transportation

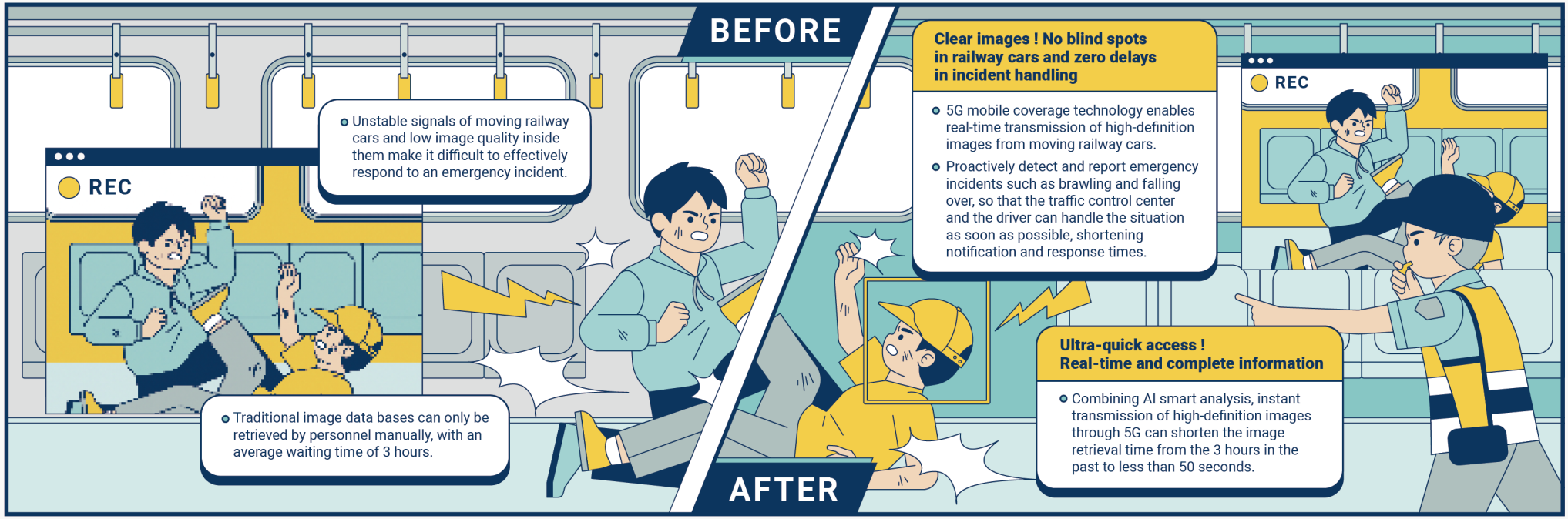
5G Intelligent Transportation Platform

Passenger safety is the most important task of public transportation. The integration of a 5G private network with mobile communications indoor coverage technology enables rail transportation operators to develop smart application services with safety as the priority, enhancing passenger comfort.

Project Results

#First Case in Taiwan | Through the integration of 5G system complete services in high-speed mobile application scenarios, trains traveling in tunnels at high speeds can also effectively receive 5G signals.

#Passenger Safety Upgrade | 5G technology can send real-time information back to AI to identify abnormal passenger movement, falling over, and fighting, ensuring the safety of passengers.



Key Technology #5G O-RAN #Tunnel Mobile Signal Coverage #AI Real-Time Response System **Technology Unit** TATUNG SYSTEM TECHNOLOGIES INC. **Domestic Trial Site** Taipei city

5G O-RAN: Attend a Concert in Person Without Leaving Home

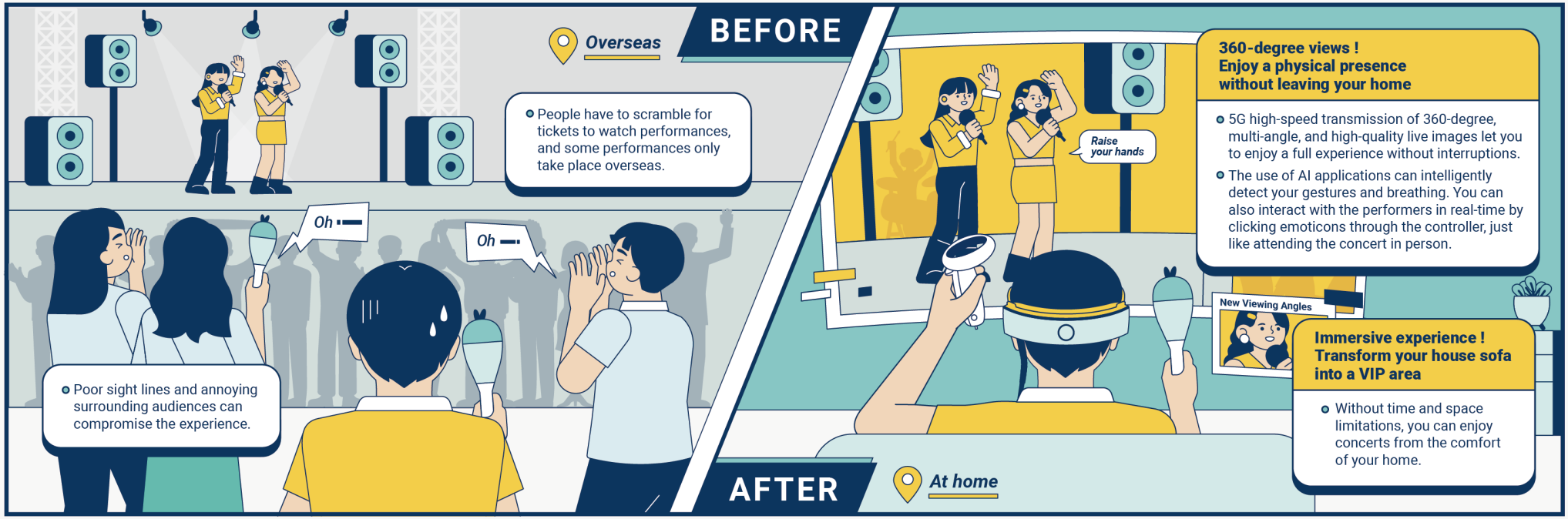
Smart Show - 360° Virtual Reality Concert

Concerts attract thousands of fans every year. However, physical performances are definitely subject to space and time restrictions. The high bandwidth, low latency, and multiple connections of 5G can power wearable VR devices to transport people to a different location and create a sense of physical presence.

Project Results

#Innovative Experience | Enjoying live performances through VR terminal devices can promote innovative viewing models of domestic singing groups.

#Driving the Upstream and Downstream Industries | Establish an AI interactive model and back end management, introduce VR/MR interactive applications, and obtain sales orders.



Key Technology #5G O-RAN #VR 360 Virtual Reality #AI Application for Real-Time Feedback

Technology Unit WIADVANCE TECHNOLOGY CORPORATION

Domestic Trial Site Taoyuan city

5G O-RAN: Providing Ultra Clear Clarity for Marine Communication

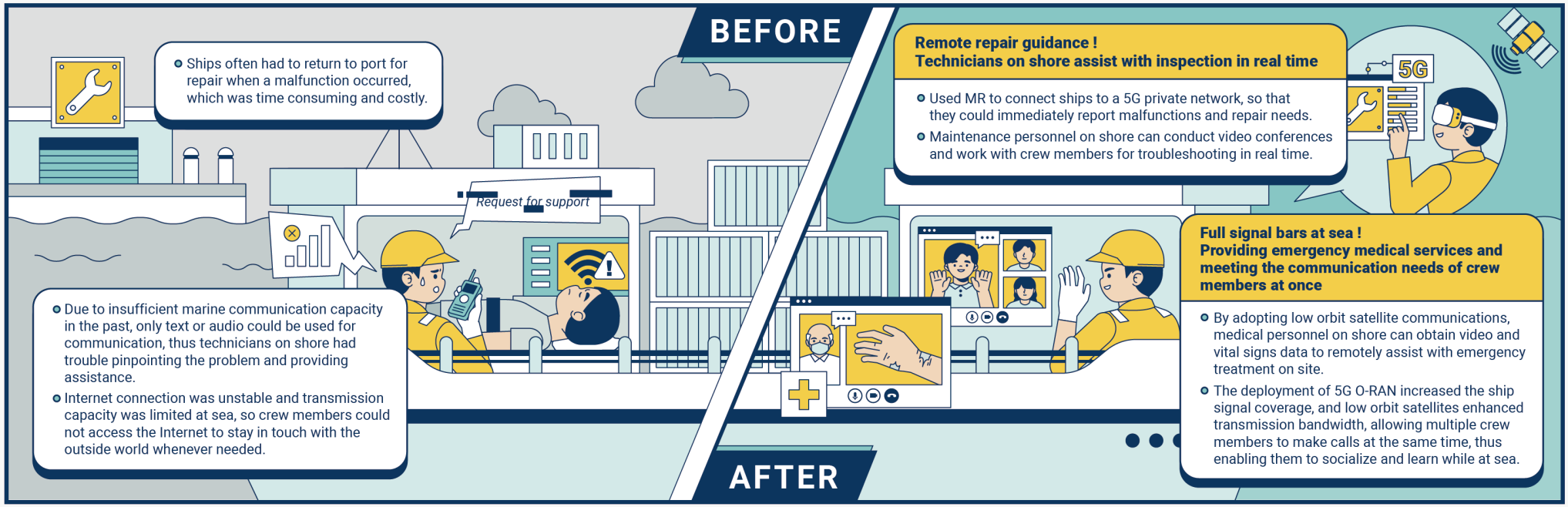
5G O-RAN Private Network System Combined with Low-Orbit Satellite Communication for Application on Freighters

Seafarers are often out at sea for about a year; however, the deployment of low orbit satellites coupled with 5G network infrastructure has increased transmission capacity and network coverage while sailing, meeting the urgent needs of crew members for healthcare, ship troubleshooting, communication, and socialization.

Project Results

#Significantly Improved Communication Efficiency | Network transmission capacity increased by at least 10 times compared to the transmission rate of high orbit satellites currently used by ships, making application services available on ships.

#International Cooperation | Cooperated with low orbit satellite service providers worldwide, linking domestic 5G proprietary technology solutions providers and increasing the network coverage on ships.



Key Technology #5G O-RAN #Low Orbit Satellite Communications #Remote Assistance to Handle Any Situation

Technology Unit PEGATRON CORPORATION

Domestic Trial Site Domestic Cargo Ship

5G O-RAN: Driving the Sustainable Development of Offshore Wind Power

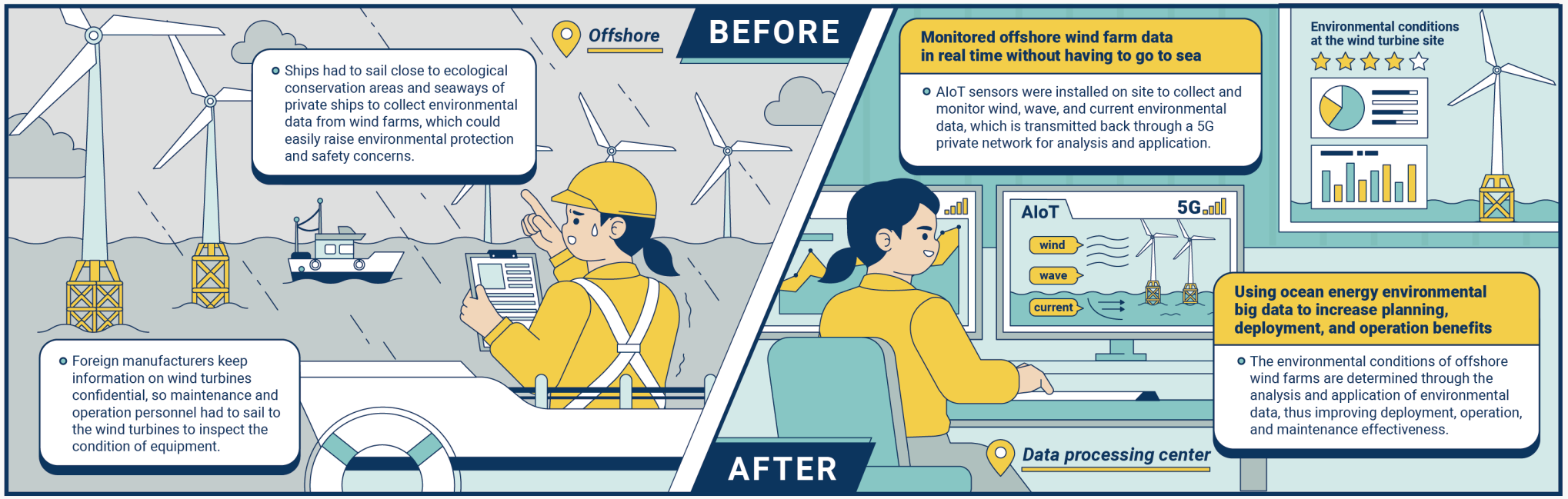
Taiwan Domestic 5G Private Network Integrate with Oceanic & Meteorological Applications for Offshore Wind Farms

Offshore wind power is a renewable energy with great potential in Taiwan, but its installation, maintenance, and operation require analyzing a large amount of environmental data. Domestically produced 5G O-RAN equipment provide adequate resilience in complex outdoor environments at sea, and the integration of AIoT can facilitate the analysis of metocean and geological big data of offshore wind farms.

Project Results

#First Case in Taiwan | The first domestically produced offshore 5G O-RAN standalone has increased the resilience of marine communication and elevated the capabilities of domestic 5G integrated AIoT network solutions, thus aligning with international standards.

#Sustainable Development Infrastructure | Integrated information and communications with AIoT to collect data on the meteorological, marine, and geological environment, provided data for offshore wind power operations, reduced the number of offshore inspections, and established Taiwan's environmental big data on ocean energy.



Key Technology #5G O-RAN #AIoT Sensors #Satellite Link

Technology Unit INTERNATIONAL INTEGRATED SYSTEMS, INC.

Domestic Trial Site Keelung city, Changhua county

5G O-RAN：Optimizing Efforts in the Production and Sale of Agricultural Products

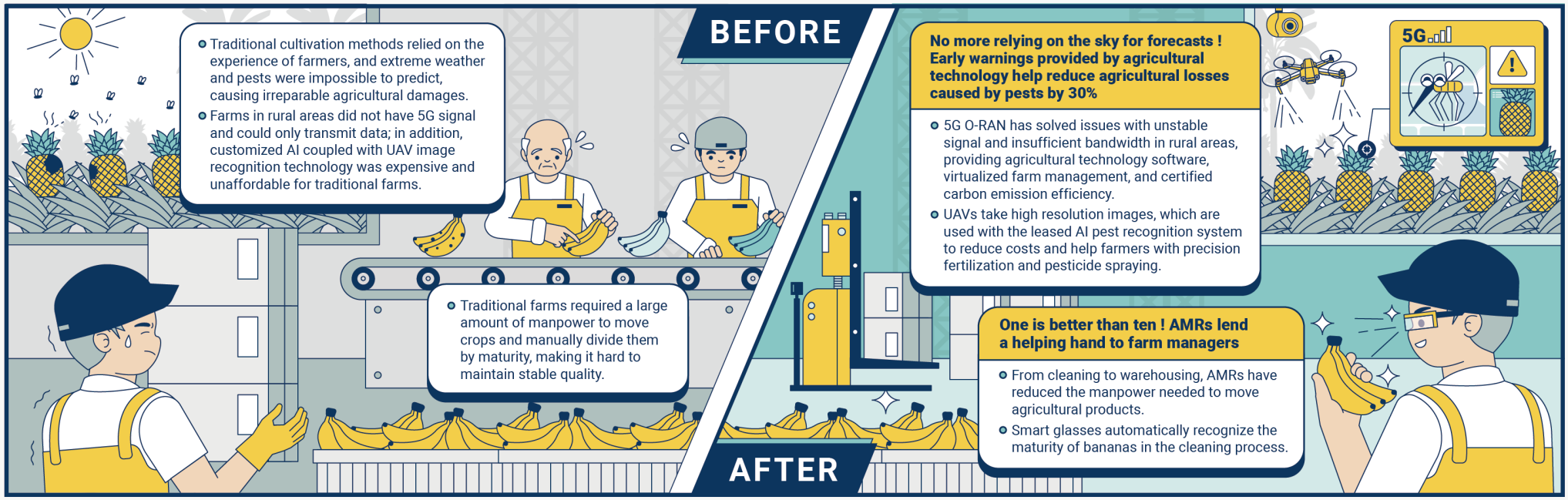
Integrate All-Round Green 5G Private Network AIOT Smart Agricultural Applications and Plan Global Market Promotion

The imbalance between production and sales as well as labor shortages in agriculture have always been massive challenges for farmers. A 5G O-RAN standalone private network has allowed the effective implementation of an affordable smart agriculture system via a leasing model, and established a smart farm production management platform combined with UAV and image recognition, among other information and communication technologies.

Project Results

#Increased Operational Efficiency and Income | Improved efficiency through automated mobile robots (AMR). Increased the overall revenue of farms by 15% using AI and 5G technologies.

#Promoted the Industry's Net Zero Transition | Obtained the international certification for carbon emissions in the key role of agriculture in ESG through new applications of 5G private networks.



Key Technology #5G O-RAN #UAV #Smart Glasses **Technology Unit** LEADTEK RESEARCH, INC. **Domestic Trial Site** Pingtung county

5G O-RAN: Improving Tourism and Maintenance of Historic Sites

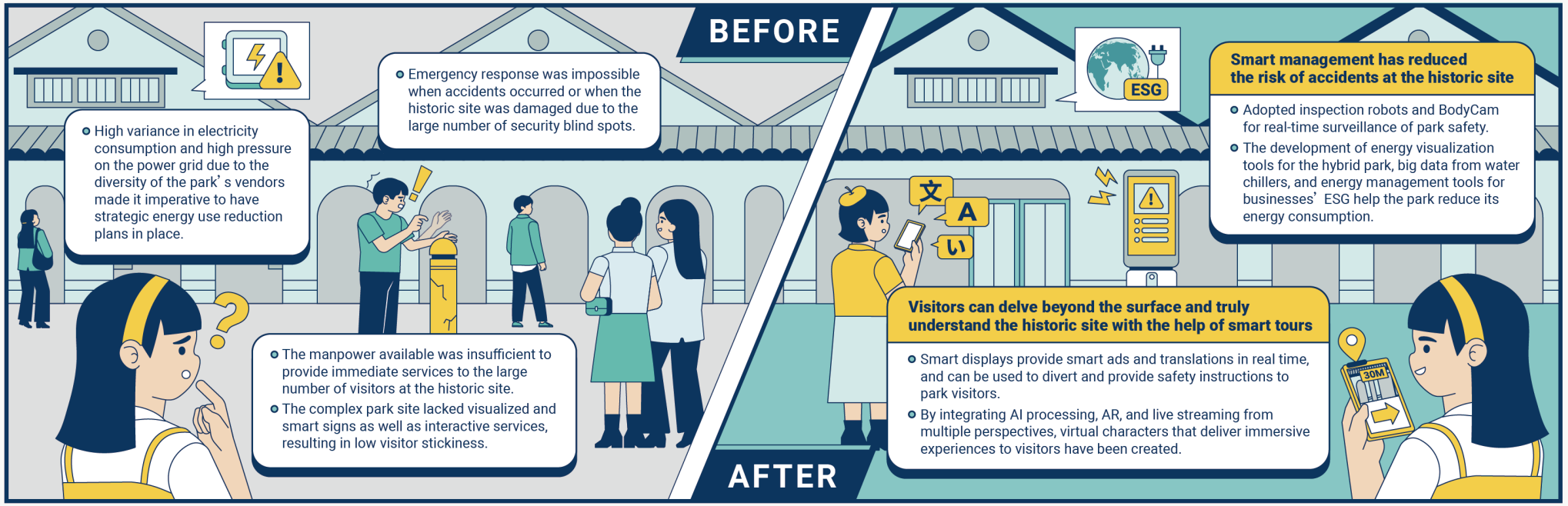
5G Private Network Smart Application Integration and Development Plan for Historical Sites – Songshan Cultural and Creative Park

The maintenance and operation of historic sites involve visitor services, safety management, and electricity use planning, among other complex tasks. The use of 5G private networks and AIoT technology has allowed service robots to be adopted in large open hybrid spaces, creating a smart sustainable historic site.

Project Results

#First in Taiwan | The technology for merging indoor and outdoor 5G networks has created a performance venue that combines a historic site, cultural and creative industries, and technology at the Songshan Cultural and Creative Park.

#The First Historic Site Energy Monitoring System in Taiwan | Installed 5G AIoT equipment to develop energy visualization tools for the complex park, collecting power data and analyzing solutions.



Key Technology #5G O-RAN #AR Interactive Tour #Inspection Robots **Technology Unit** TAIWAN FIXED NETWORK CO., LTD. **Domestic Trial Site** Taipei city

5G O-RAN:
Upgrading Golf Course Experiences

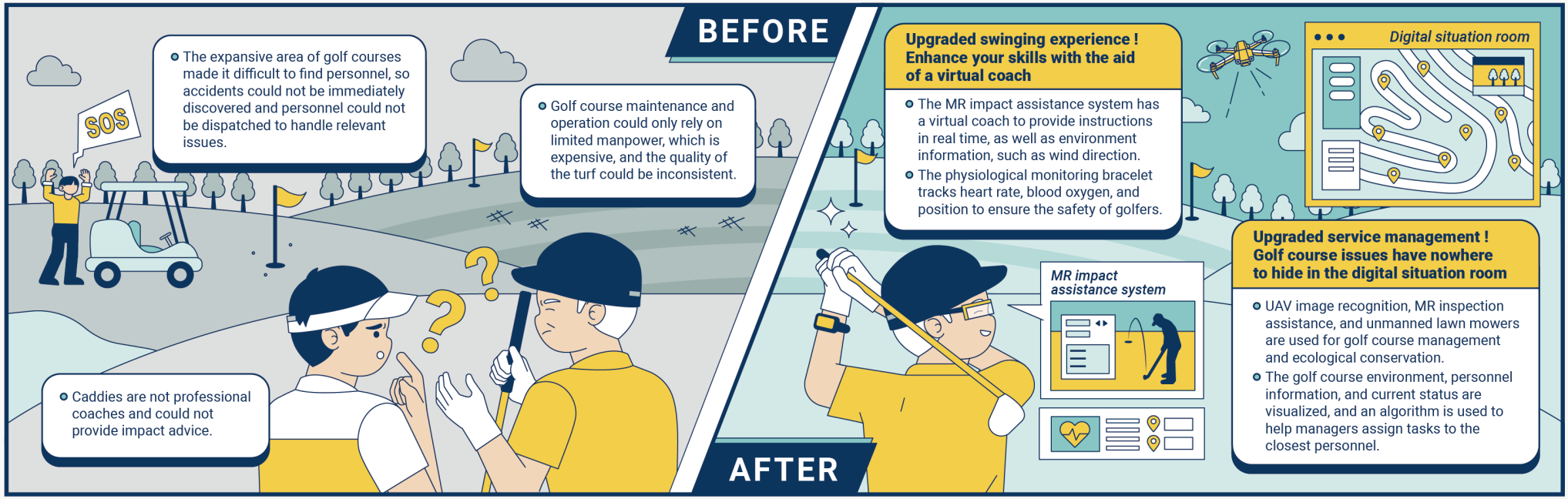
Smart Operation and MR-Enhanced Golf Experience via 5G Network Upgrade

Golf courses cover a large area of land; therefore, comprehensive operation, maintenance, and management cannot be completed by manpower alone. Outdoor and mobile 5G can solve issues with hillside signal strength and insufficient manpower, not only improving service quality and operations management, but also incorporating ESG into the corporate culture by developing 5G sustainable golf courses.

Project Results

#First Case in Taiwan | Domestically produced outdoor 5G O-RAN has the widest coverage, and numerous technologies of cross-domain applications have driven the digital transformation of golf courses.

#Improved Work Efficiency | Monitoring the condition of golf courses through UAV inspections combined with dispatching and situation systems has solved the labor shortage issue while effectively managing employee performance.



Key Technology #5G O-RAN #MR Impact Assistance System #UAV Inspection

Technology Unit DA-TUN CABLE TV CO., LTD.

Domestic Trial Site Taichung city

5G Private Network：Doubling the Efficiency of Factory Production Lines

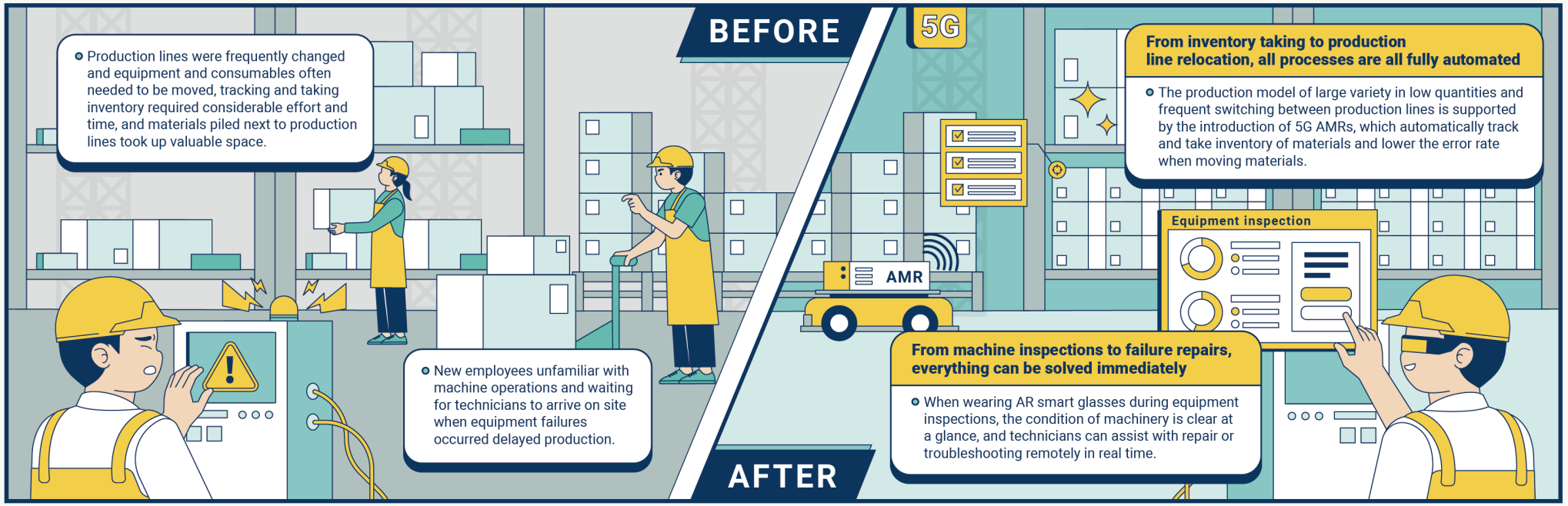
5G AIoT Smart Manufacturing Cross - Field Application

As factory production lines face growingly diverse needs, the application of 5G AIoT in factory production lines has created smart warehousing across domains and optimized the efficiency of multiple processes, from material tracking and management to machinery and equipment maintenance and operation. This is evidence that production capacity can be doubled with limited manpower.

Project Results

#Significantly Reduced Labor Costs | AMRs automatically move materials and finished products in the warehouse and between production lines, reducing labor costs and lowering the error rate.

#Lowered the Equipment Failure Rate | The introduction of the AR smart glasses system situation room has reduced the time required by the central control room for monitoring. In addition, remote assistance from experts has decreased the time to fix production line failures.



Key Technology #5G Private Network #5G AMRs #AR Smart Glasses

Technology Unit ASKEY COMPUTER CORP.

Domestic Trial Site New Taipei city, Taoyuan city

5G O-RAN：Enhancing the ESG Competitiveness of Traditional Industries

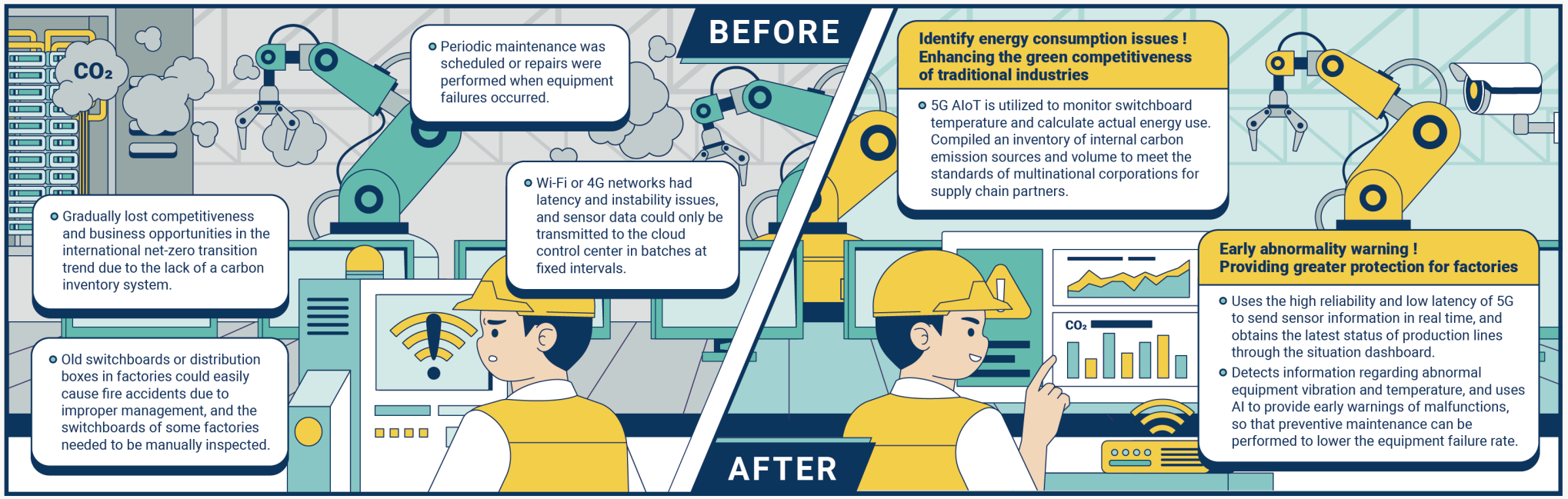
Green Competitiveness ESG Digital Transformation - 5G Smart Manufacturing AI Efficiency Enhancement and Energy Saving Technology Platform

The manufacturing sector plays a crucial role in driving Taiwan's economic progress. Apart from production capacity and efficiency, ESG and digital transformation are key issues for future development. Solutions that integrate 5G networks with AI help the electronics, metal, and machinery manufacturing industries compile their carbon inventory, perform preventive maintenance, and implement electricity safety management to undergo ESG transformation.

Project Results

#Average Energy Conservation of 10% | Established just-in-time, energy-efficient, safe, and sustainable smart manufacturing systems, and utilized innovative technologies to implement energy conservation and carbon reduction.

#Improved Industrial Safety | Collected and transmitted operating parameters of machinery and equipment in real time, and used AI image analysis for real-time monitoring and warning of switchboard temperature, as well as preventive maintenance.



Key Technology #5G O-RAN #Equipment Warning System #Carbon Inventory System

Technology Unit LEO SYSTEMS, INC.

Domestic Trial Site Taoyuan city

5G O-RAN: Insights into Factory Pipelines Protect Labor Safety

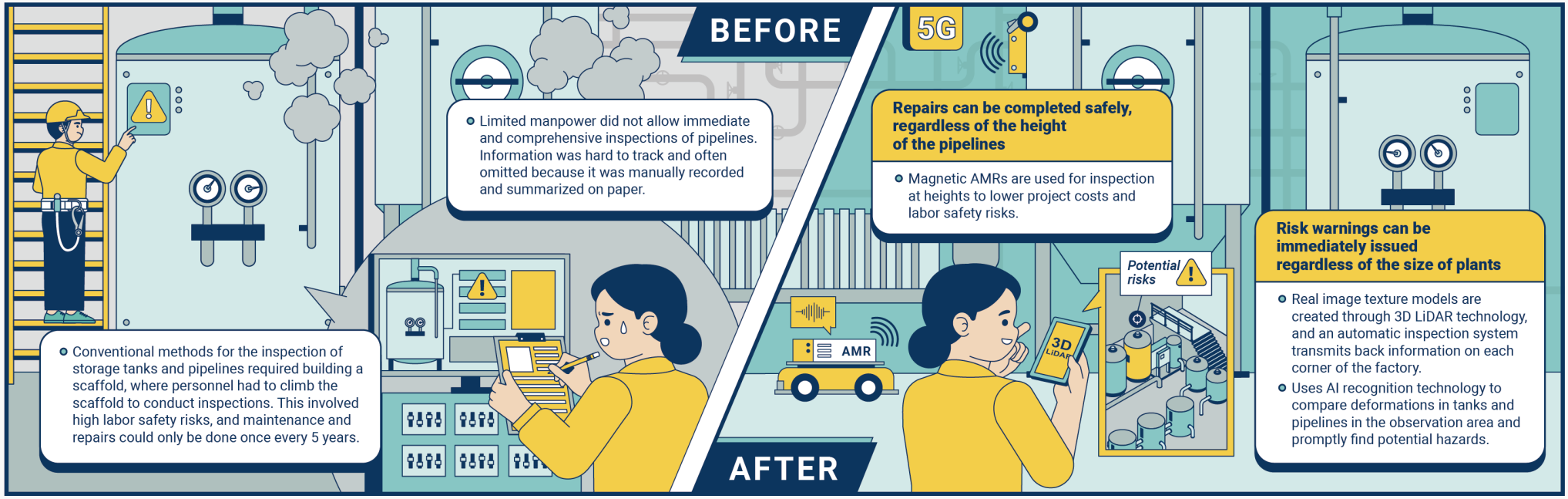
Using 5G O-RAN Communication to Develop Digital Twin Maintenance and Inspection of Large Industrial Objects

Storage tanks are often used to store high pressure or corrosive substances, which can easily cause corrosion defects and result in labor safety accidents. Inspections are a demanding and time-consuming task due to labor shortages and difficult terrain conditions. However, multiple sensors and AMR inspections have been integrated using the multi-link capabilities of 5G to improve the quality of the environment and equipment safety management in factories.

Project Results

#Creating a Safe Factory Environment | Inspection AMRs have been equipped with FPV, obstacle avoidance LiDAR technology, and gas sensor modules to lower the risk of labor safety incidents and shorten the time of operations.

#Improved Operational Efficiency | Established centralized management of plant-wide and multi-plant equipment and environment through cloud management, and integrated information to increase inspection frequency and stability.



Key Technology #5G O-RAN #AMR Integrated Inspection Service #Digital Twin Modeling

Technology Unit SYSTEX SOFTWARE & SERVICE CORPORATION

Domestic Trial Site Kaohsiung city

5G O-RAN: Bridging the Educational Gap Between Urban and Rural Areas

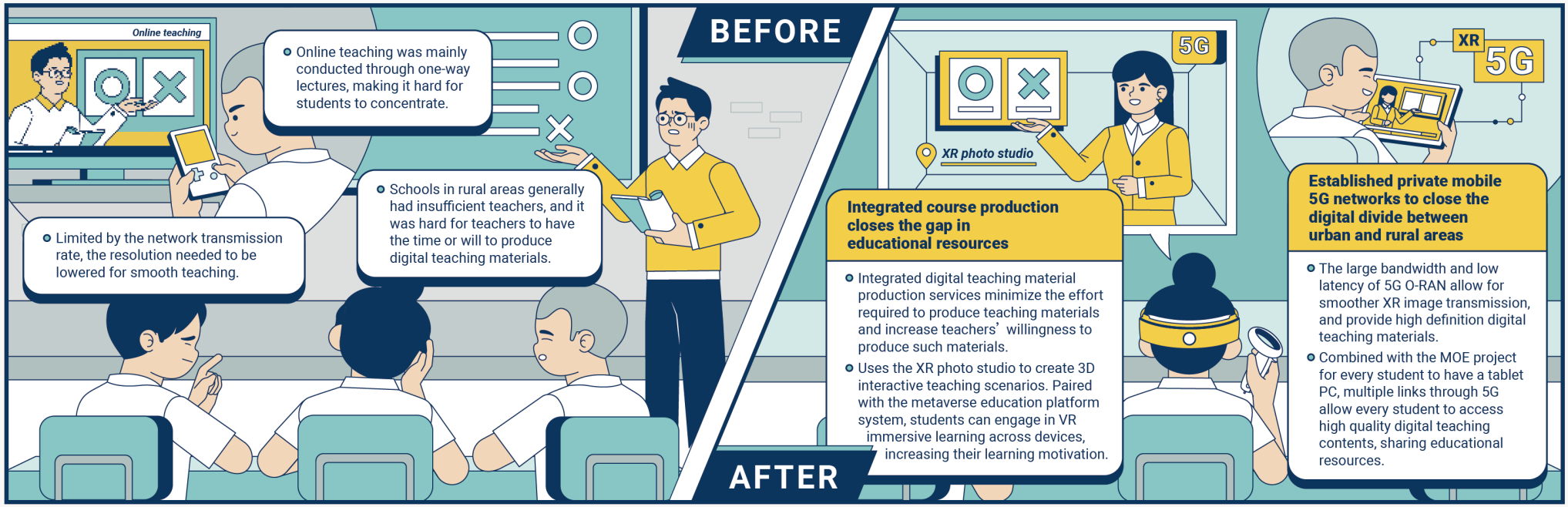
5G Smart Education Metaverse Urban and Rural Shared Forward-Looking Production and Broadcasting Platform

The gap in educational resources between urban and rural areas has become more apparent in the digital era. A demonstration academy serving as the 5G XR teaching benchmark for rural areas was established, in order to integrate the production of teaching materials and support carriers across platforms, closing the gap between urban and rural areas.

Project Results

#First in Taiwan | Integrated 5G O-RAN and XR technologies to establish the first 5G O-RAN XR photo studio, and used XR technology and special effects post-production to enrich teaching materials.

#Increased Interest in Learning | Produced at least 10 teaching videos and increased students' interest in learning through diverse digital teaching materials.



Key Technology #5G O-RAN #Immersive VR Teaching Materials #XR 3D Photo Studio **Technology Unit** HTC CORPORATION **Domestic Trial Site** New Taipei city, Miaoli county, Kaohsiung city

5G O-RAN: Delivering a Livelier Approach to Learning English

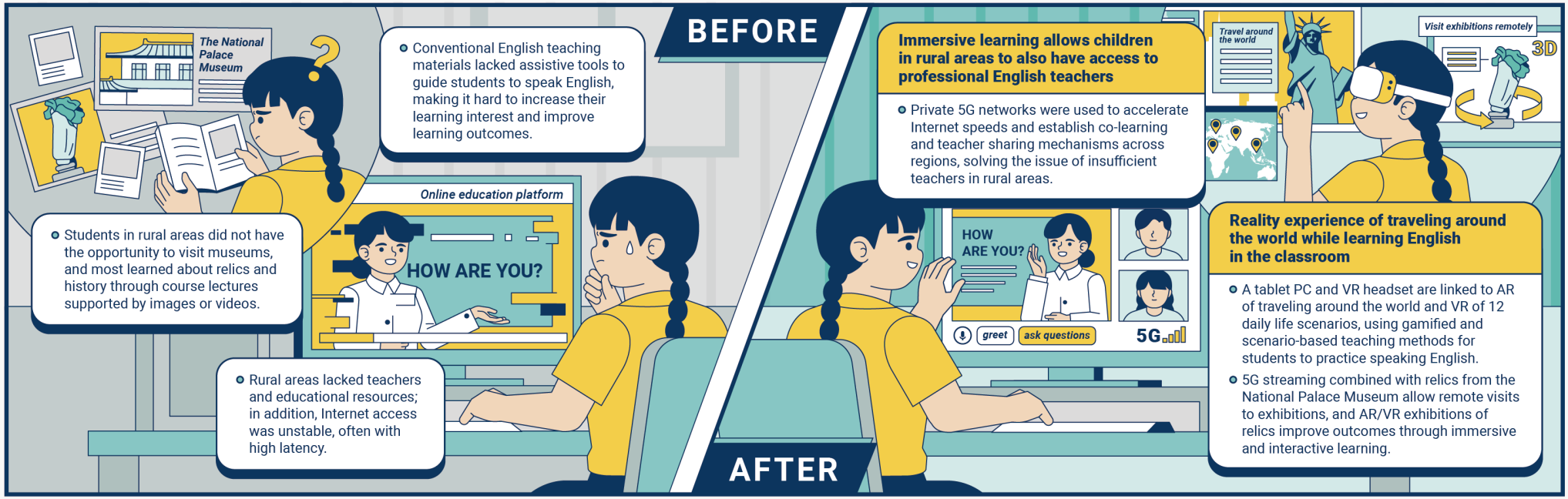
5G Rural Smart VR/AR Gamified Educational Scenario Project

Language proficiency is essential for the next generation to stay competitive. By applying private 5G networks in smart digital education on campuses in rural areas, we can close the learning gap between urban and rural areas caused by unequal resource distribution. Besides co-learning and teacher sharing across regions, AR/VR scenario-based gamified teaching makes learning methods more diverse and interesting.

Project Results

#Closed the Educational Gap Between Urban and Rural Areas | Increased the educational resources and learning interest of junior high school students in rural areas, improved their learning outcomes, and reduced the digital divide with the assistance of technology.

#Helped Students Align with International Standards | Created a smart English campus through gamified digital teaching materials and improved students' language proficiency through immersive learning.



Key Technology #5G O-RAN #Immersive VR Teaching Materials #Interactive AR Digital Teaching Materials

Technology Unit HSIN YEONG AN CABLE TV CO., LTD.

Domestic Trial Site Tainan city

5G O-RAN：Providing a Greater Sense of Participation in Live-Streamed Events

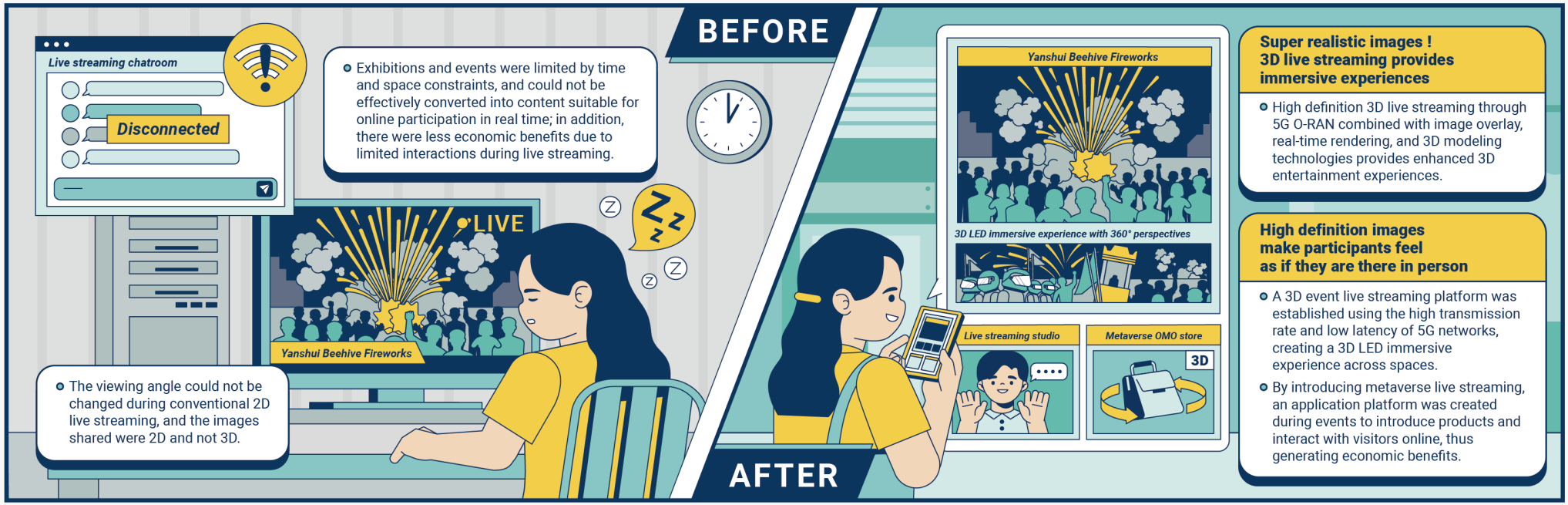
5G Metaverse Technology Promotes Innovative Development of Urban Marketing Services

Online events are no longer substitutes for in-person events. The combination of digital content, somatosensory equipment, and marketing providers integrates verification platform services for urban events, exhibitions, and commercial spaces, offering complete metaverse services and setting new standards.

Project Results

#First Case in Taiwan | 5G metaverse technologies have led to the development of city marketing services. Besides being used in meetings and events, these technologies have linked together city marketing, driving the development of OMO marketing services.

#Increased Economic Benefits | Combined virtual space models, 3D modeling of products, product launch modules, and an e-commerce platform to create a metaverse OMO store. Businesses can release 3D specialty products and increase online purchase intention through exquisite product models and interactions during product launches. The platform's accumulated transaction volume is expected to reach five million.



Key Technology #Avatar Creation and Simulation Technology #Multi-Person Scenario Analysis and Synchronization Technology #Realistic 3D Modeling

Technology Unit CHUNGHWA TELECOM CO., LTD.

Domestic Trial Site Tainan city, Kaohsiung city

5G O-RAN:
Making Light Rail Transit Safer

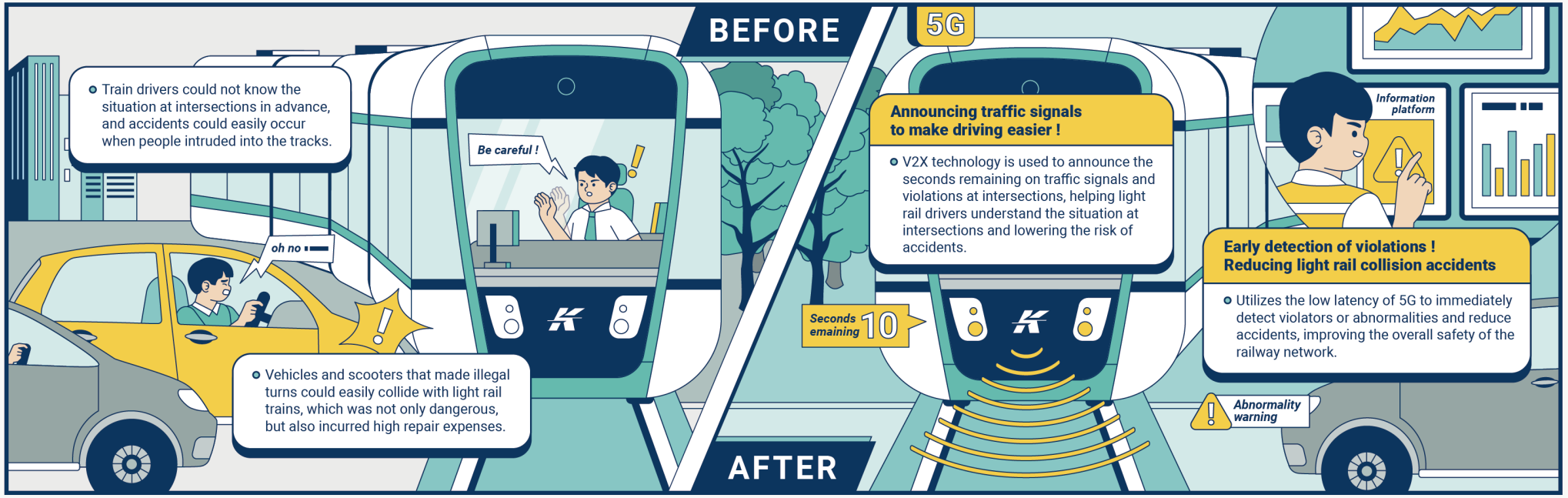
An Intelligent Light Rail Intersection Safety Assistance System Using 5G Internet of Vehicles Technology

Trains have occasionally collided with vehicles and scooters violating traffic rules since the light rail began operations. A light rail intersection safety assistance system was established utilizing the low latency of 5G combined with the virtual RSU technology of Chunghwa Telecom, which examines intersection risk events for light rail trains, increases response time, and improves the quality of traffic safety.

Project Results

#Improved Traffic Safety | Reduced train collision accidents through the combination of light rail signal push notification services and the event detection and warning system, which provides information on intersection signals and violations in advance.

#Drove the Development of the V2X Industry | The development of event detection technology and its integrated application with the V2X cloud platform increased the added value of V2X, driving the development of hardware and software industries, and creating business opportunities through cooperation with domestic companies.



Key Technology #5G Smart V2X Cloud Service #Virtual Roadside Unit (RSU) #Event Detection Technology **Technology Unit** CHUNGHWA TELECOM CO., LTD. **Domestic Trial Site** Kaohsiung city

5G O-RAN：
Ensuring Greater Stability in Heart Surgeries

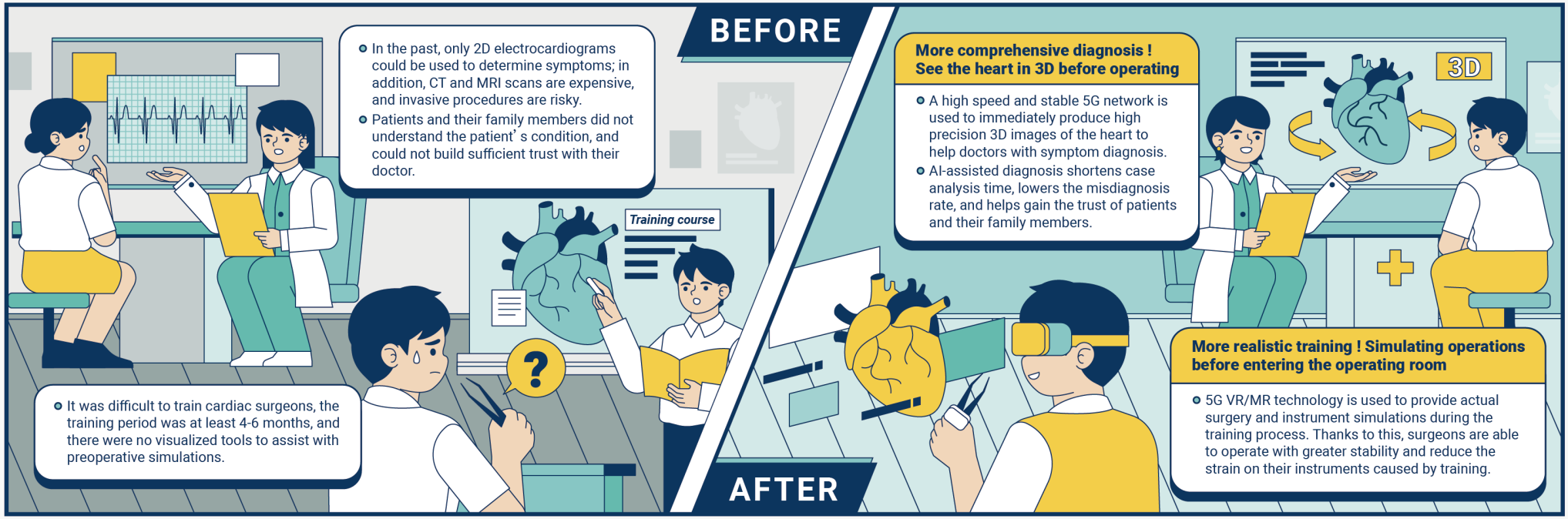
Assisted Cardiac Medical Imaging Development Plan Based on 5G Technology

High risk heart surgery is a major challenge for surgeons, patients, and their family members. Stably transmit large amounts of data and generate images using the ample bandwidth and capacity provided by 5G, thereby improving the efficiency and accuracy of medical diagnosis.

Project Results

#Improved Medical Teaching Efficiency | Utilized 3D images for simulated surgery practice and solved the pain points of cardiac surgeon training.

#Assisted the Advancement of the Healthcare Industry | Assisted domestic 5G companies in entering the healthcare industry's supply chain, and helped medical institutions with their digital transformation and technology upgrade.



Key Technology #5G O-RAN #3D Heart Navigation #AI-Based Fully Digital Diagnosis **Technology Unit** BIG DATA MOBILE COMPANY **Domestic Trial Site** Taichung city

5G O-RAN：Making Live Broadcasts of Baseball Games More Engaging

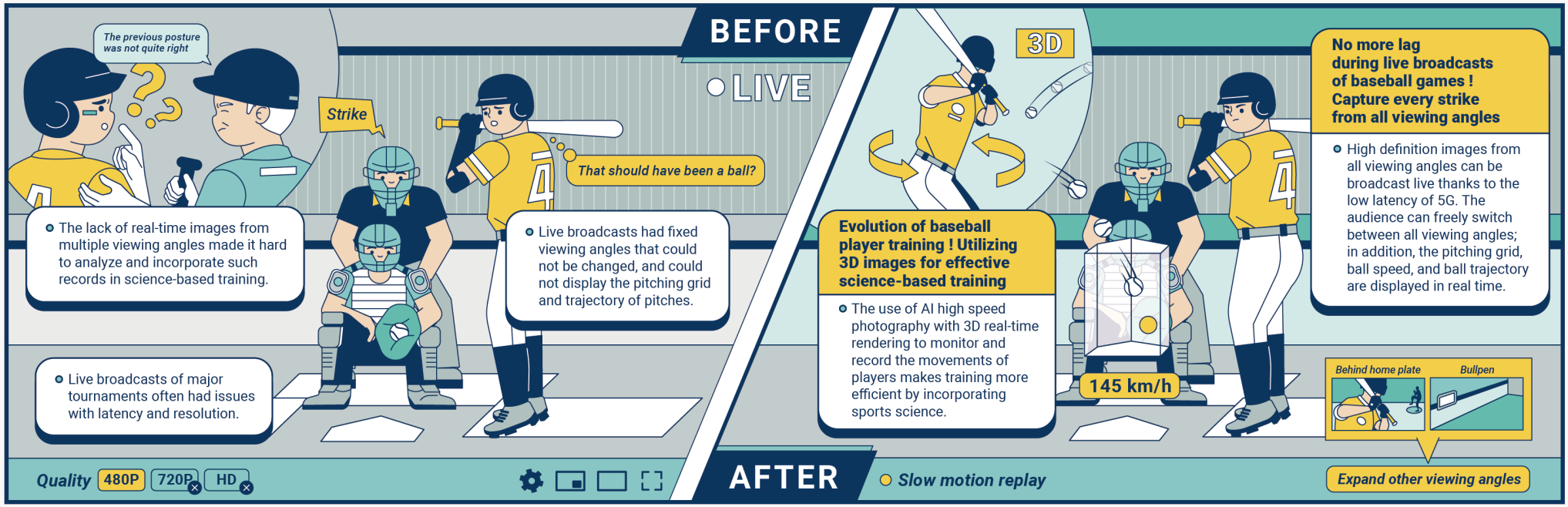
360 Free View System — Three-Dimensional Strike Zone with 5G Smart Baseball Field Establishment

Baseball is a highly popular sport in Taiwan. Live broadcasts via 5G can display the pitching grid and track the ball from all angles from the moment it leaves the pitcher's hand to when it is caught by the catcher. Furthermore, accurate records from multiple viewing angles allow efficient sports science to be further implemented in training.

Project Results

#First in the World | The strike zone can be displayed from all angles through the 5G live broadcast to effectively improve viewers' experience.

#Improved Training Efficiency | The full viewing angle baseball sports science training record system monitors and records the movements of baseball players, so that coaches and sports science teams can more effectively help baseball players improve their sports performance.



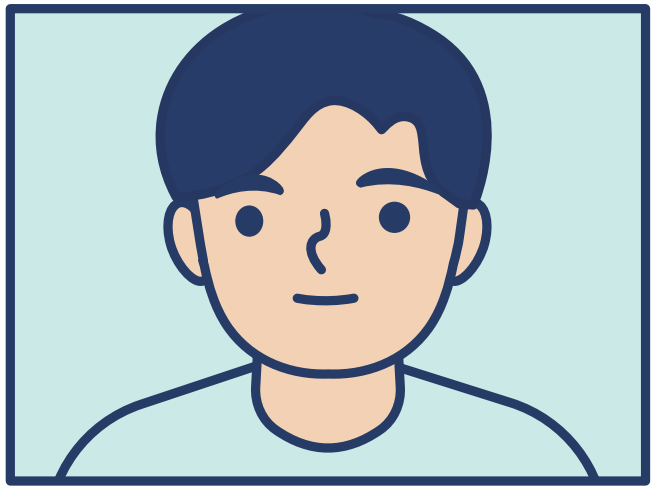
Key Technology #5G O-RAN #AI High Speed Photography #3D Real-Time Rendering

Technology Unit LIGHT MATRIX INC.

Domestic Trial Site Tainan city

Contact information

Asia Silicon Valley Development Agency



Alston Sun, Manager

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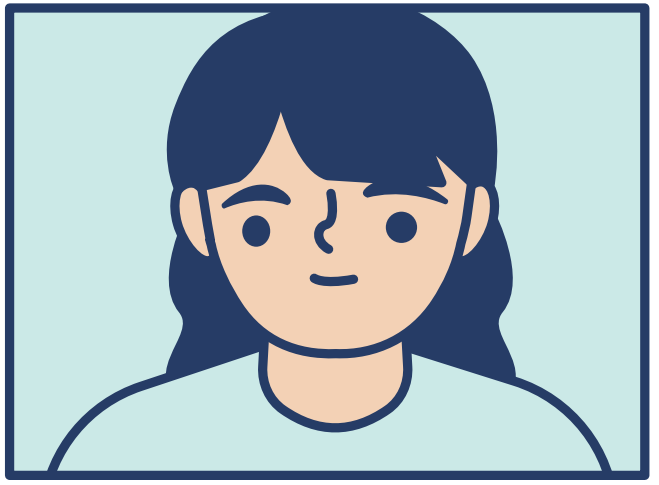

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