VR and AI among 5 key tech trends to watch, says IMDA

ST reporter Osmond Chia playing a game inspired by Korean drama Squid Game on an omnidirectional treadmill for virtual reality at IMDA's Pixel Innovation Hub on Monday. The treadmill developed by start-up StepVR was among VR technologies presented to the media to highlight the progress of digital products made here. ST PHOTO: RYAN CHIONG

Discussions with industry partners on how Singapore can anticipate demands for tech in these areas
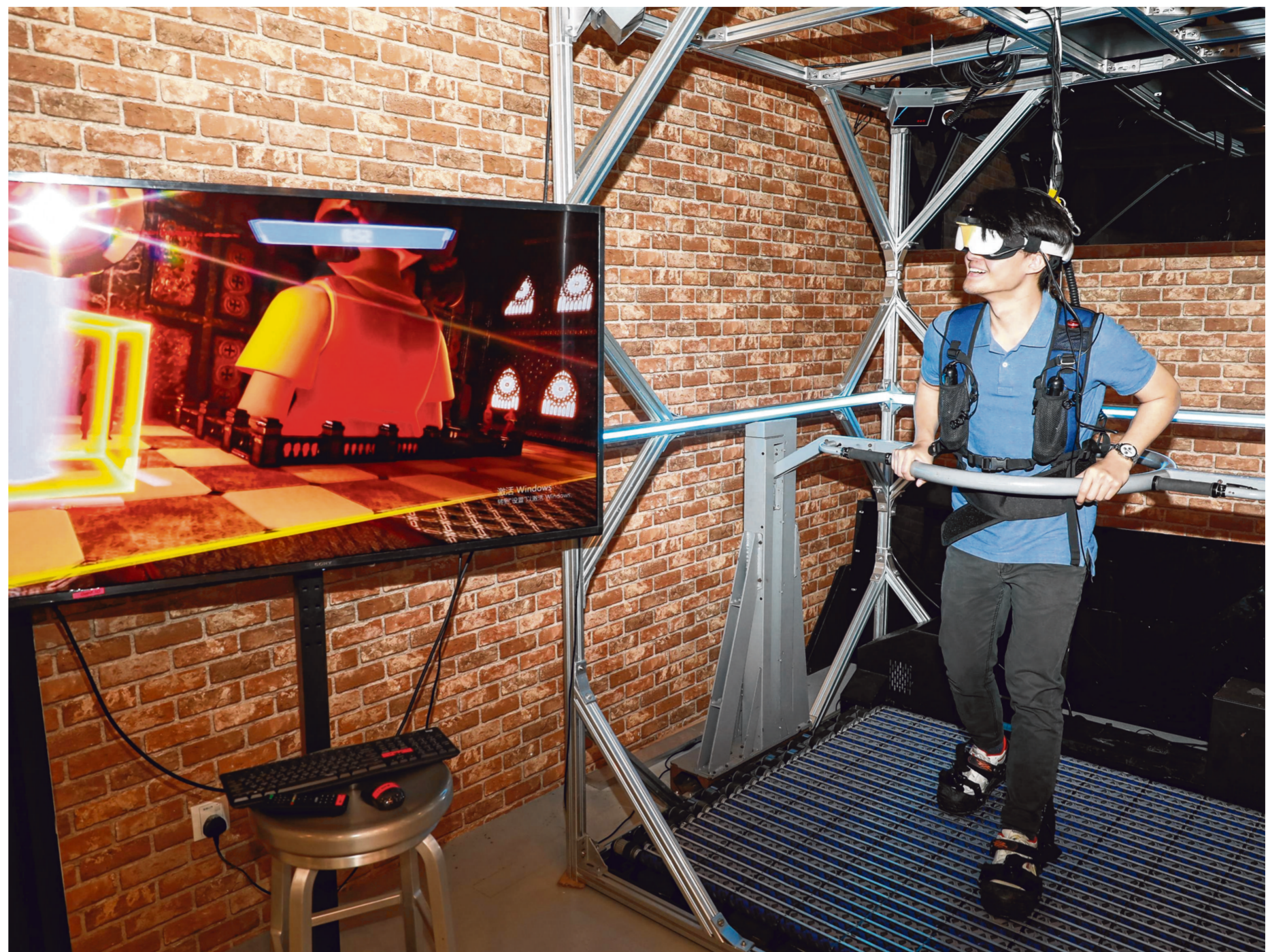
Osmond Chia

Like a scene out of Steven Spielberg's science-fiction film Ready Player One, virtual reality (VR) treadmills that move along with a user's footsteps in any direction are one step closer to being used beyond gaming.

Synchronised with a user's suit, the omnidirectional treadmill rolls along by anticipating the movement of a player's legs to give the illusion that the player is physically travelling in the virtual world.

The technology is mostly used in gaming today but can open doors to make online training in healthcare, education and other industries more immersive, said Senior Minister of State for Communications and Information Janil Puthucheary at a media briefing on Singapore's digital infrastructure.

VR, artificial intelligence (AI), autonomous vehicles, edge computing and quantum computing are five key areas in the tech sector to build to cater to anticipated demand and maintain competitiveness, said the Ministry of Communications and Information (MCI) at the briefing to provide updates on its digital infrastructure.

The authorities are discussing with industry partners on how Singapore can anticipate demands for tech in these fields. Dr Janil said an advisory panel that was formed to discuss these matters will publish a blueprint in June to detail steps for industries to take in their digitalisation.

These are the five tech trends highlighted:

1. VIRTUAL REALITY

The $10,000 omnidirectional treadmill, developed by Singapore-based tech start-up StepVR, was among VR technologies presented to the media to highlight the progress of digital products made here.

Innovations in gaming are often at the forefront of what technology can offer as video games require high processing power and the ability to play with others, said Dr Janil, adding that these developments pave the way for the technology to be used in other sectors.

The same software and graphics processors used to make video games have also been used in healthcare training in hospitals here, such as simulators to prepare surgeons for the operating table.

Multiplayer interactions that allow groups of users to meet online

will also be key to VR's development in the next decade, said MCI.

2. ARTIFICIAL INTELLIGENCE

Data centres and other physical infrastructure need to be upgraded to accommodate a rise in AI applications, which need more computing power than usual programmes, said the Infocomm Media Development Authority (IMDA).

It added: "The increased use of AI will result in more data going the last mile to users as there is a growing need to process and analyse the data in real time to support AI applications."

AI programmes have been propelled into the mainstream since the launch of ChatGPT in November 2022, making sophisticated chatbots accessible to the average user.

3. AUTONOMOUS MOBILITY

Expect self-driving electric vehi-

cles and more autonomous options for those with disabilities within the next decade.

However, safety protocols will need to improve before autonomous vehicles can be widely adopted. This includes digitalising infrastructure to ensure that autonomous vehicles are able to recognise obstacles and drive safely, said IMDA.

4. EDGE COMPUTING

Edge computing refers to bringing processors and data storage closer to the devices they serve, instead of the cloud thousands of kilometres away, which could cause delays.

This is critical to allow autonomous vehicles to drive safely as it would reduce any delays in connectivity, or doctors the confidence to perform surgery from remote locations.

With more of such services, businesses are likely to adopt more

edge computing options in addition to cloud computing, and to require the technology to be faster and more reliable, said IMDA.

5. QUANTUM COMPUTING

Current cyber-security measures that form the basis of today's Internet can soon be cracked by quantum computers that can easily hack into systems.

Quantum computers harness the quantum properties of light particles to compute data far faster than traditional computers. In the wrong hands, they can potentially crack traditional code exponentially faster than even the best of non-quantum machines.

Critical information infrastructure providers will need to update their cyber-security measures to ensure their data is protected as quantum computers are ushered in, said IMDA.

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Vernon Lee to take over as NCID head from Leo Yee Sin

Isabelle Liew

Public health specialist Vernon Lee will helm the National Centre for Infectious Diseases (NCID) from July 1, the National Healthcare Group (NHG) said on Monday.

Professor Lee, now the senior director of the Communicable Diseases Division in the Ministry of Health (MOH), will take over the role of NCID executive director from Professor Leo Yee Sin. He will concurrently hold his MOH appointment.

Prof Leo helped set up NCID and has helmed it for the past six years.

From July 1, she will be appointed senior consultant at MOH and senior adviser at NHG, where she will "lend her wealth of expertise and experience in the area of infectious disease and outbreak man-

agement", NHG said in its statement.

NHG said Prof Leo had been instrumental in establishing NCID since July 2017, before its official opening in September 2019.

During her tenure, NCID successfully managed Singapore's first imported case of mpox – previously known as the monkeypox virus – in May 2019, and effectively managed the mpox outbreak in June 2022.

The centre also responded swiftly to the Covid-19 pandemic, which hit months after its official opening in September 2019.

Prof Leo also led the establishment of the Covid-19 research workgroup, which conducts studies on Covid-19 transmission in Singapore.

"The workgroup's findings have since brought about improved infection control methods, relevant

public health policies, as well as diagnostic and treatment methods that benefit patients locally and worldwide," NHG said.

As an infectious diseases specialist, Prof Leo established the first HIV programme in 1995 to provide equitable care and support to HIV patients.

She also led teams through several outbreaks in Singapore, including Nipah in 1999, Sars in 2003, the pandemic influenza in 2009, Zika in 2016 and multiple surges of dengue.

Before her role at NCID, she was head of infectious diseases at Tan Tock Seng Hospital in 2003 and director of the Institute of Infectious Diseases in 2012.

Professor Philip Choo, group chief executive officer of NHG, said: "On behalf of the NHG, I would like to extend our deepest appreciation and heartfelt grati-

tude to Prof Leo for her unwavering dedication and significant contributions to healthcare in Singapore and internationally."

Prof Lee, an adjunct professor at the Saw Swee Hock School of Public Health, has extensive global health experience in pandemic preparedness and response, infectious disease epidemiology and health policy and management, NHG said.

He played an instrumental role in Singapore's response to Covid-19, such as advising the multi-ministry task force, and designing and implementing national policies on preparedness and risk management.

He was also involved in Singapore's response to other outbreaks, including the 2009 influenza pandemic, Zika and tuberculosis.

Congratulating Prof Lee on his appointment, Prof Choo said: "I look forward to his leadership in building upon NCID's capabilities to strengthen the delivery of clinical care, research and education of infectious diseases, public health services in Singapore when he takes the helm."

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From July 1, Professor Vernon Lee will take over as NCID executive director from Professor Leo Yee Sin, who will be appointed senior consultant at MOH and senior adviser at NHG.

LTA to repair footpaths in older town centres, central area

Judd Siow

The Land Transport Authority (LTA) will be repairing damaged footpaths in some central areas and older town centres, to ensure these remain safe for pedestrians to use.

It called a tender on April 14 to repair and renew about 5 per cent of the footpaths that it oversees across Singapore. Works are expected to begin in the first quarter of 2024 and conclude in the fourth quarter of 2026.

An LTA spokesman said in response to queries that the authority has identified certain stretches in central areas such as in Waterloo Street and older town centres such as Jalan Bukit Merah and Queensway for footpath renewal works.

She said the LTA will prioritise areas with footpaths that have greater wear and tear, so that they remain safe for pedestrians to use.

She added that the LTA regularly checks the condition of footpaths under its purview and routinely calls tenders as part of its footpath maintenance regime.

According to tender documents, the contract comprises two packages – one for the central sector and the second for the non-central sector.

The works include the renewal of tiled walkways and repaving concrete footpaths, as well as other related footpath elements such as kerbs and railings.

A 23-year-old resident, who wanted to be known only as Ms Nehathakaur, said she has not been affected by uneven footpaths in the area where she does her grocery shopping.

However, a cyclist, who wanted to be known only as Ms Elaine L., said the state of the footpaths in Jalan Bukit Merah was concerning.

"As I'm not a good cyclist, potholes or cracks in the footpaths will affect me. They are hazards," the 35-year-old said.

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Police probe bomb hoax at McDonald's in Yishun

Yong Li Xuan

The police are investigating an alleged bomb hoax at a McDonald's outlet in Yishun last week.

The police said they were alerted to a bomb threat at Block 846 Yishun Ring Road at 10.25pm last Thursday, but found no "threat items" after completing security

checks.

"The police take all security threats seriously and will investigate persons who intentionally cause public alarm," they said, adding that they are investigating this as a case of communicating false information about something harmful.

Shin Min Daily News reported the incident on Sunday, citing a food delivery worker who had no-

ticed police officers on the scene when he was picking up an order from the outlet on Thursday.

The man, who gave his name as Mr Zhuo, 40, said the officers appeared to be looking for something. He said he noticed that customers were not allowed to dine at the outlet and could order only takeaways.

He added that McDonald's employees were tight-lipped when he asked them what happened.

For communicating false information about a bomb threat, an offender can get a jail term of up to seven years, a fine of up to $50,000, or both.

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The police said they were alerted to a bomb threat at Block 846 in Yishun Ring Road last Thursday night, but found no "threat items" there. PHOTO: SHIN MIN DAILY NEWS READER