LOGISTICS SUMMIT 2018
2018 物 流 高 峰 會

Actions in the Belt and Road Initiative
with Innovation and Technology
貢獻大灣區創新科研
實踐多元化一帶一路

Innovation and Impact of Virtual Reality

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October 5, 2018

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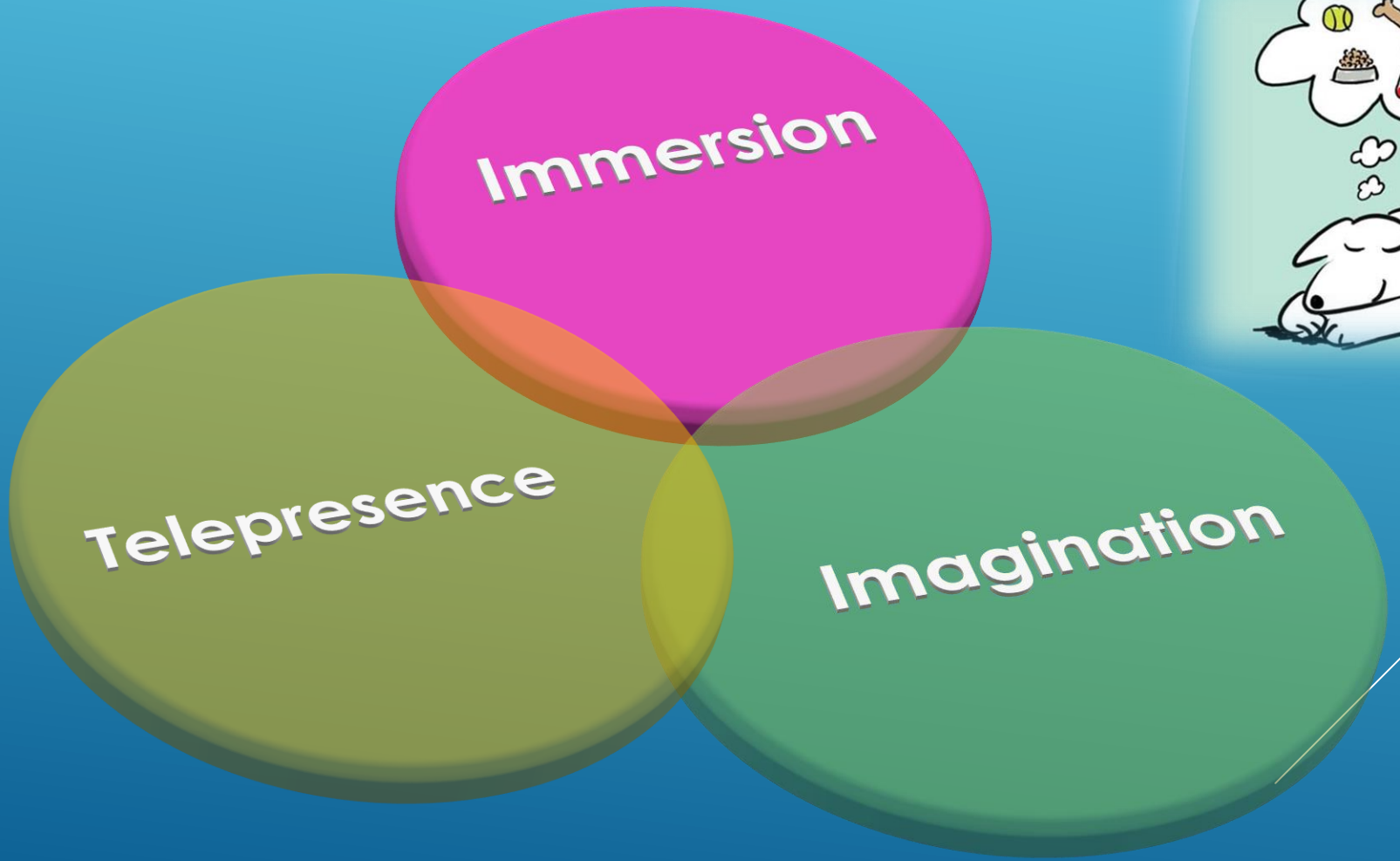
Department of Industrial and
Manufacturing Systems Engineering

香港大學 工業及製造系統工程系

imseCAVE

imseDOME

Virtual Reality (VR)



Reality-Virtuality continuum

Mixed Reality (MR)

Real Environment

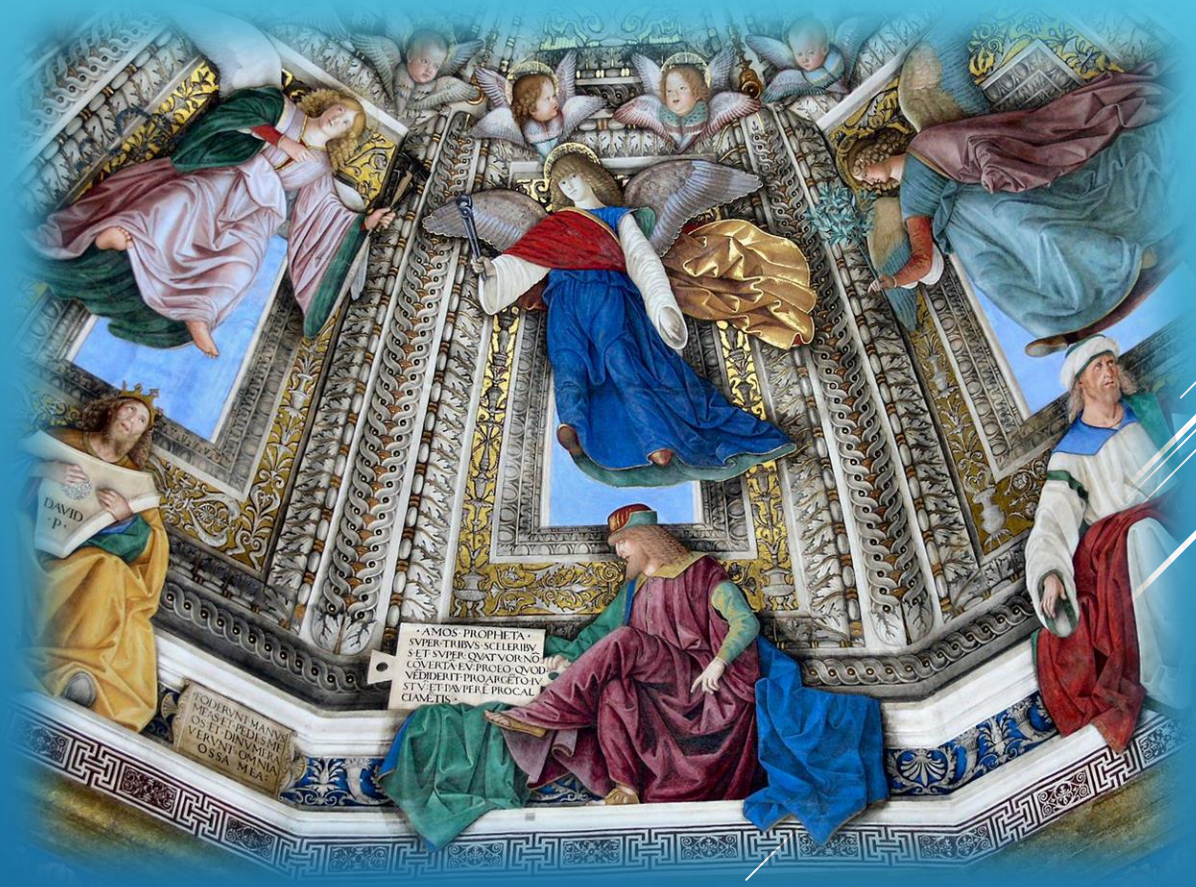
Augmented Reality (AR)

Virtual Environment

Department of
Industrial and Manufacturing Systems Engineering

Perspective paintings

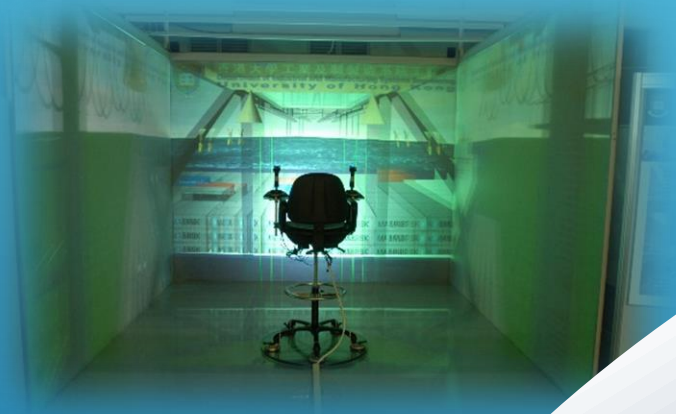
- Create a sense of depth and space
- Melozzo da Forli Frescoes (1438 – 1494) at Loreto



Panoramic paintings

- Image that fills the viewer's entire field of vision to make them feel present at the scene
- Franz Roubaud panorama 'Siege of Sevastopol (size: 14m x 115m, 1900s)

R&D Road Map



2015 – 2018

Mobile imseCAVE, imseDOME – CPSL, Police, LSCM, CSD, CIC, OSHC, HKU SPACE, HSMC, VTC , MTRC, FSD for enterprise training

2013 - 2014

MagicPad, MagicPen 3D user interface
CIC Tower crane simulator

2010 - 2012

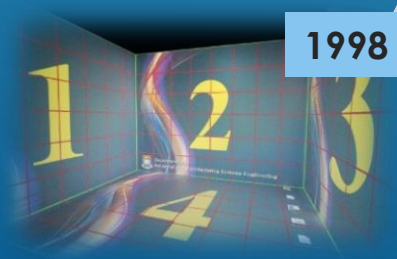
imseCAVE, motion tracking and stereographic projection

2005

Tsinghua University Center for Modern Logistics Research
DHL Central Asia Hub

2003

1998 HIT Quay Crane simulator



Projection-based VR systems

- imseCAVE VR systems
  - Sense of reality perceived in an immersive virtual environment
  - Interaction with virtual objects with a natural feeling of 'living in a virtual space'
- 360 degree imseDOME

LSCM
Logistics and Supply Chain MultiTech R&D Centre
物流及供應鏈多元技術研發中心
VTC
HKUSPACE
香港大學專業進修學院
HKU School of Professional and Continuing Education
CPSL
CATHAY PACIFIC SERVICES LTD
國泰航空服務有限公司
恒生管理學院
HANG SENG MANAGEMENT COLLEGE
香港機場管理局
AIRPORT AUTHORITY HONG KONG
CONSTRUCTION INDUSTRY COUNCIL
建造業議會
香港 HONG KONG POLICE 警察
FIRE SERVICES
消防
香港 HONG KONG
三東華院
TUNG WAH GROUP OF HOSPITALS
SINCE 1870
職業安全健康局
OCCUPATIONAL SAFETY & HEALTH COUNCIL
CORRECTIONAL SERVICES
懲教
HONG KONG
LI KA SHING FACULTY OF MEDICINE
THE UNIVERSITY OF HONG KONG
香港大學李嘉誠醫學院
MTR

Work safety training

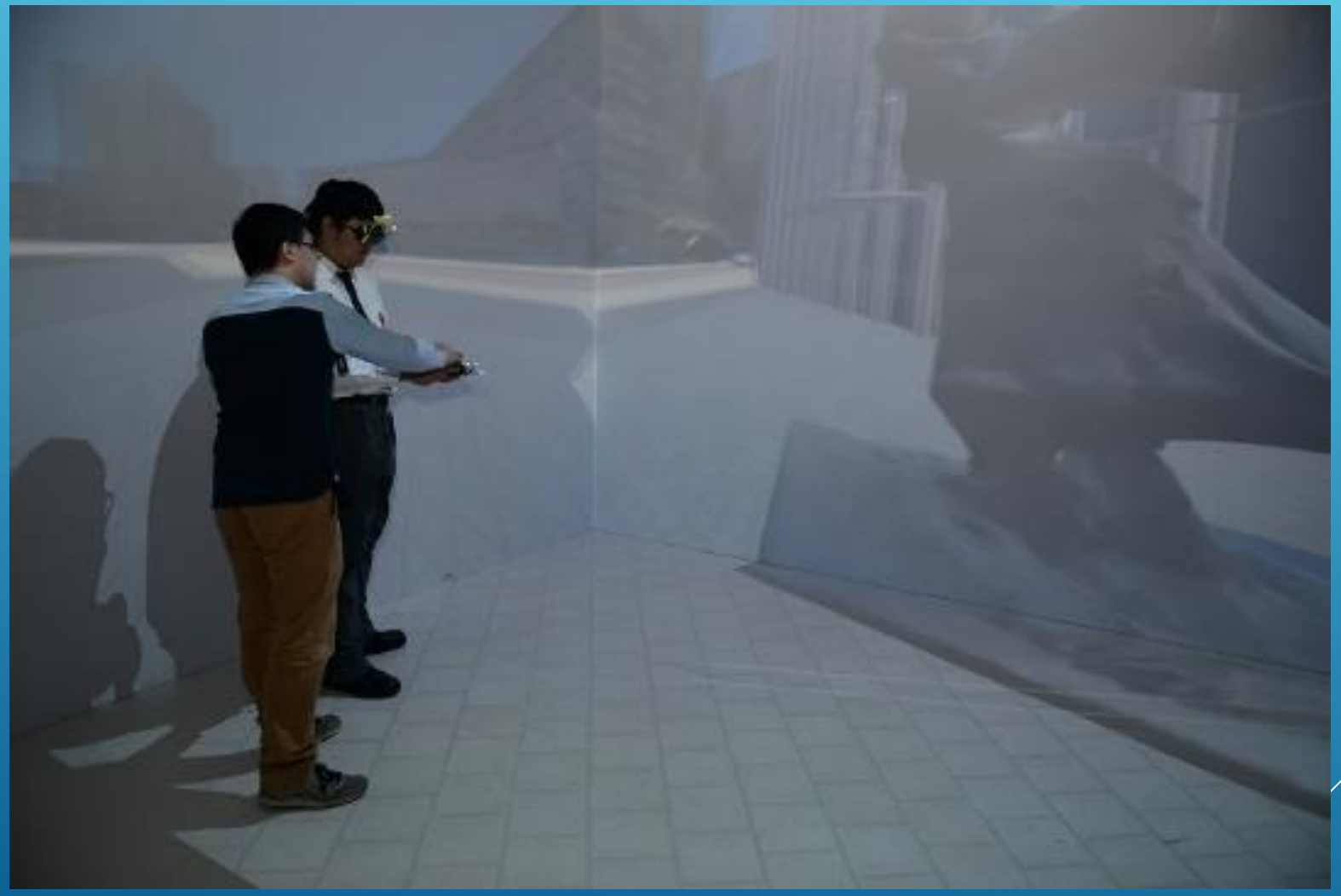
職業安全健康局
OCCUPATIONAL SAFETY & HEALTH COUNCIL

Cathay Pacific ramp operation training

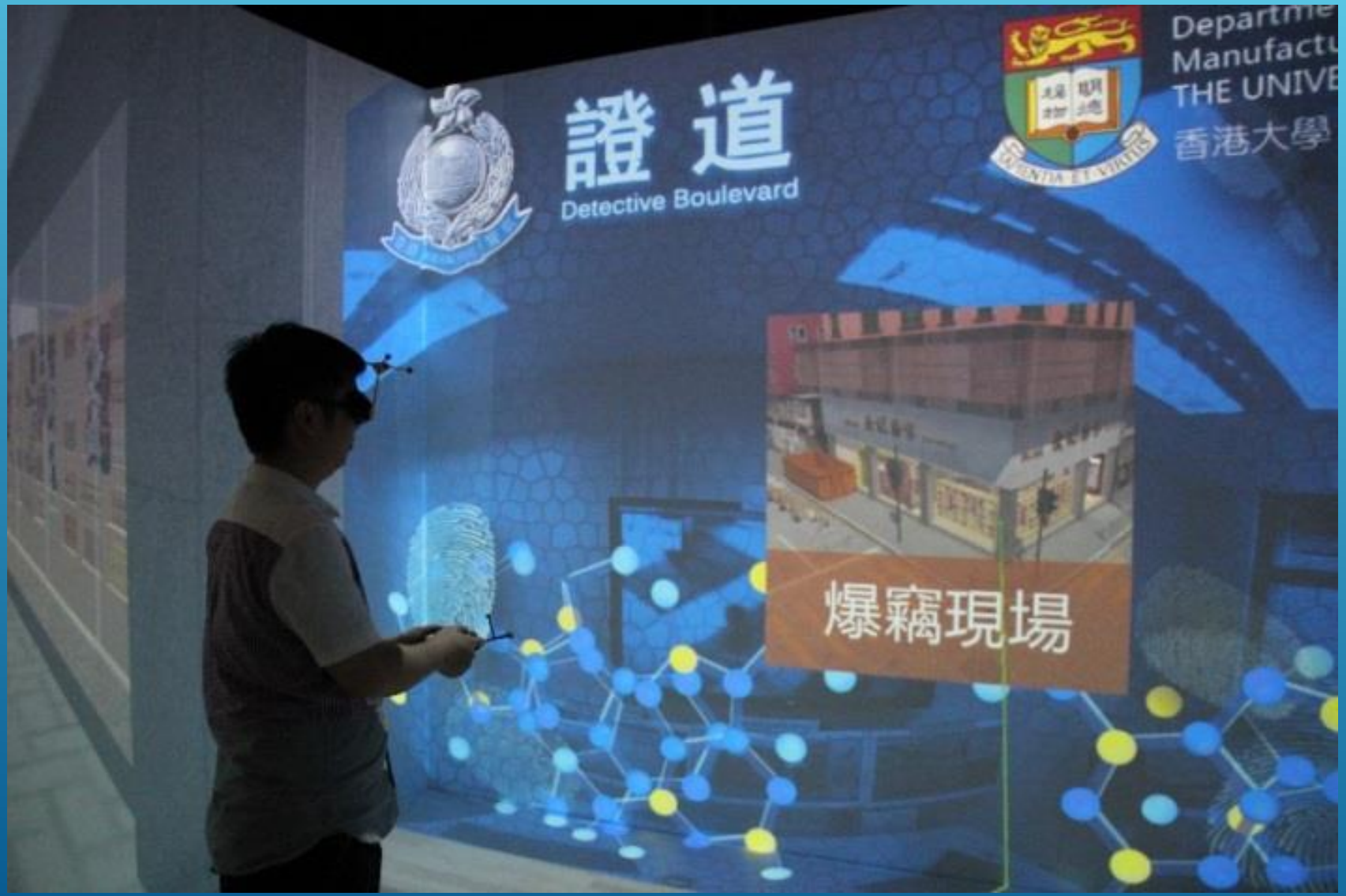
CPSL
CATHAY PACIFIC SERVICES LTD
國泰航空服務有限公司

LSCM Logistics and Supply Chain MultiTech R&D Centre
物流及供應鏈多元技術研發中心

Media art appreciation



Police detective training



LSCM Logistics and Supply Chain MultiTech R&D Centre
物流及供應鏈多元技術研發中心

AAHK Airbridge training

香港國際機場 HONG KONG INTERNATIONAL AIRPORT

VALBOT

Virtual Aircraft Loading Bridge Operations Training

imseCAVE

In the virtual world …

- Resource is more available
- Time is more abundant
- Distance is less relevant

- More choices
- More space
- More efficiency

‘In virtual reality, you are only limited by your imagination’

Thank you