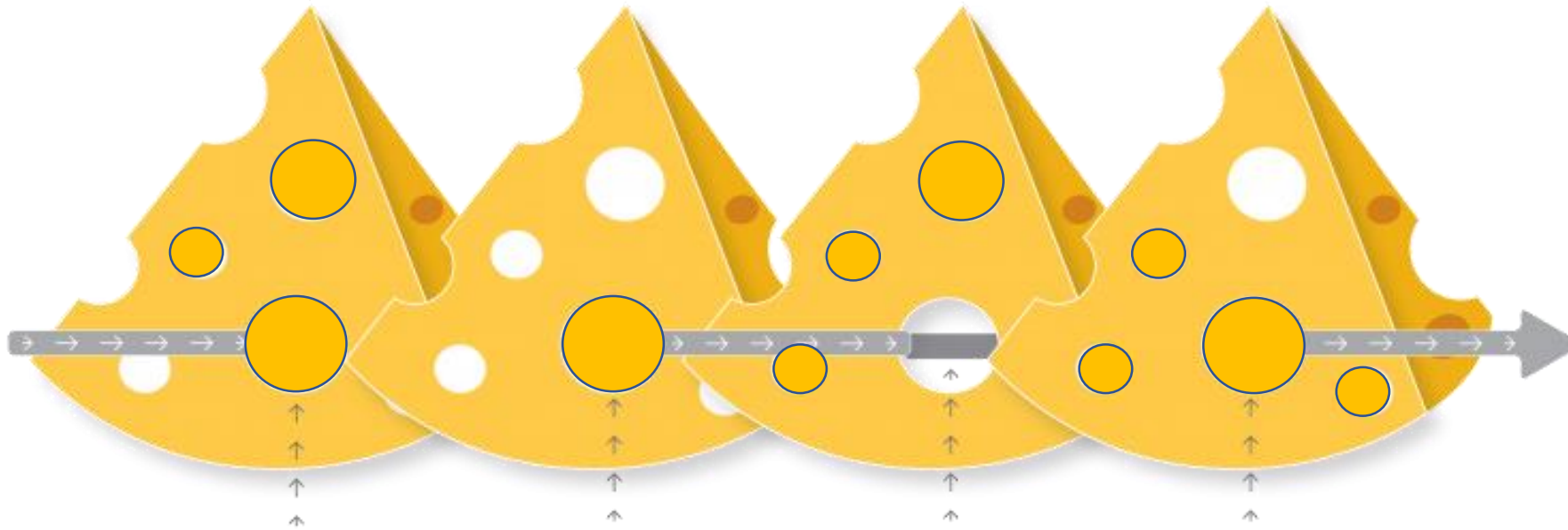




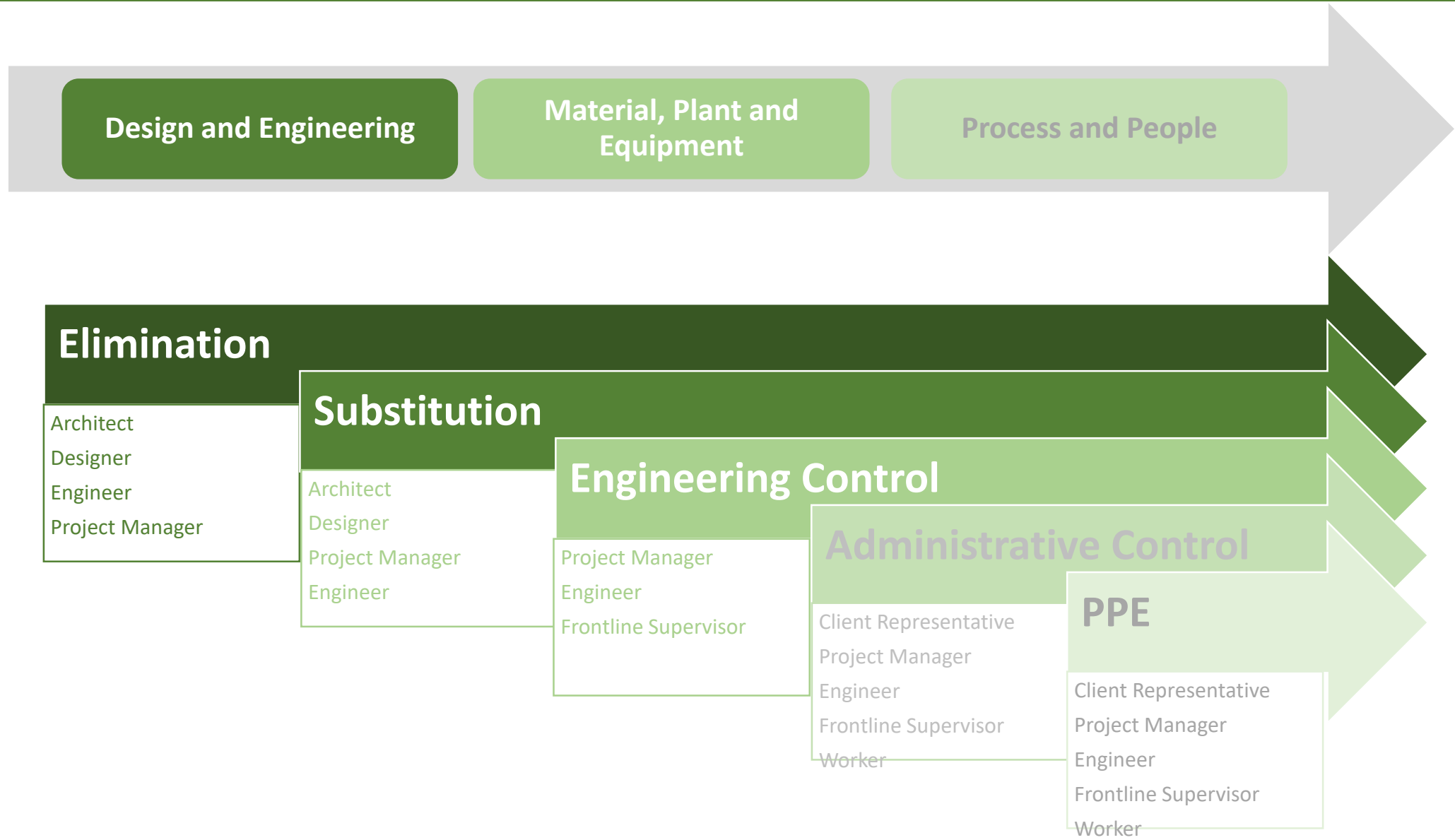
HAZARDS



ACCIDENTS

Technologies to Enhance Construction Safety

Hierarchy of Safety Control



Collaborative & Buildable Design in Digital Environment

3D REPO - SafetiBase

- Visualise & Identify potential risks (permanent/temporary large slab openings, site machinery manoeuvring, material transportation, logistics, etc.)
- Design to mitigate, substitute or control risks in planning stage by competent engineers
- Visualise safe working procedure/methodology

#Planning

#Design&engineering

#BIM



Elimination

Design and Engineering

Collaborative & Buildable Design in Digital Environment

3D REPO - SafetiBase

- Project Reference:
 - Advance Manufacturing Centre
 - Lyric Theatre
 - Cyberport development phase 2
 - Chun Tin Street redevelopment project
- CITF pre-approved list application is in progress



Advanced Manufacturing Centre – TKO Project

#Planning
#Design&engineering
#BIM

Elimination

Design and Engineering

Modular Riser Cover + MiMEP Installation Approach

- Utilise MiMEP solutions and work zone control to increase productivity and eliminate risks



#Planning
#Design&engineering
#BIM

Elimination

Design and Engineering

**Material, Plant and
Equipment**

Synthetic Grating (CITF PA20-084) for Riser Cover



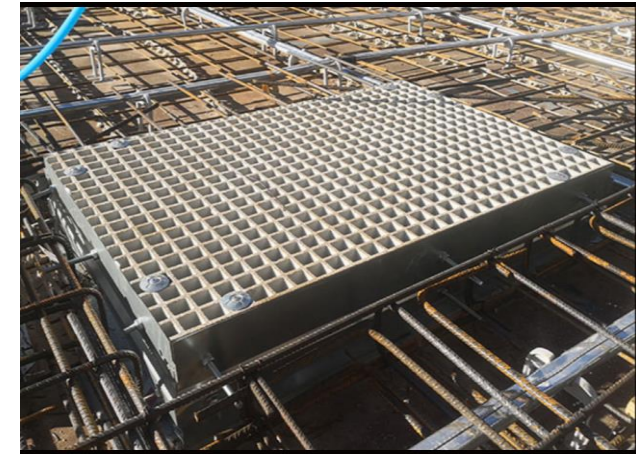
Light Weight



Loading Sustainable



Non-Slip Surface



Riser Cover Application

- Easy to install, easy to form pipe opening but remain strong loading capacity

#Planning
#Design&engineering
#BIM

Elimination

Design and Engineering

**Material, Plant and
Equipment**

Robotic outdoor window testing, spray and cleaning solutions to eliminate on-site risk

- Eliminate the hazard of work from height
- Functionalities
- Job Reference
 - Swire - Taikoo Place 2B



#robotic
#eliminatetherisk

Elimination

Substitution

**Material, Plant and
Equipment**

Aquajet Aqua Cutter 710H

- Eliminate the hazard of work from height
- Accurately remove concrete with steel
- Reduce the vibrations created to the surrounding
- CITF pre-approved
- Job Reference
 - Kai Tak Development Stage 3 Infrastructure Works



we applied an innovative approach by deploying proprietary machine

#robotic
#substitution

Elimination

Substitution

**Material, Plant and
Equipment**

Jackbot - demolition and chiseling robot

- Eliminate the hazard of work from height
- Battery-operated
- Remote control
- Stop automatically when people enter the operation zone
- CITF pre-approved




#robotic
#substitution


Elimination

Substitution

**Material, Plant and
Equipment**

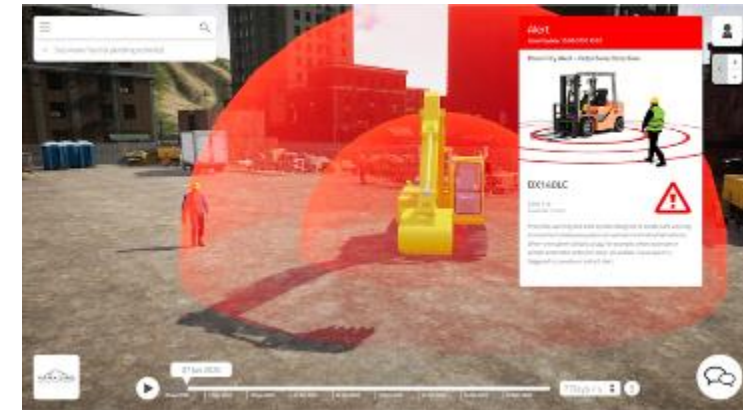
Engineering Control to Identify & Isolate Fatal Zones

 CONSTRUCTION INDUSTRY COUNCIL
建造業議會



**Reference Materials -
Sample Specification for Provision of
Site Safety Monitoring Services
Using Artificial Intelligence**

www.cic.hk September 2021



5G+AI Floor Measurement Technology

- Facilitated construction measurement
- Improve the on-site floor measurement
- Floor opening detection



#AI
#comparewithplanning
#realtimemonitoring
#alertandwarn

Process and People

Administrative Control

Unsafe Act and Safety Harness Detection System

- Detect workers unsafe behaviours
- Notice the supervisor to follow up immediately



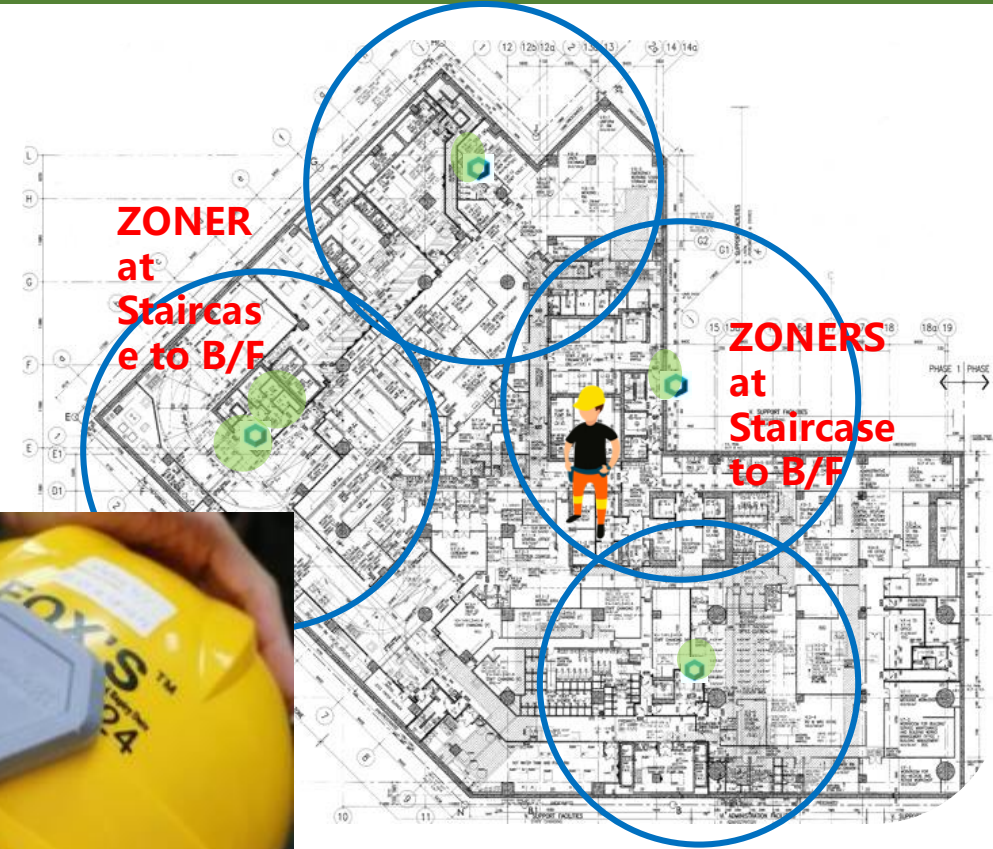
#AI
#comparewithplanning
#realtimemonitoring
#alertandwarn

Process and People

Administrative Control

InfoSMART - Smart Helmet

- Access control for **specific control zone**
- light-weight - 26g
- Safe for human – near-to-zero RF emission
- Exceptional long battery life - 2.5 years
- water and dust proof



#Supervision
#Monitoring
#realtimemonitoring

Process and People

Administrative Control

InfoSMART – Smart Helmet

- Project Reference:
 - North Lantau Hospital (HKICC)
 - Hong Kong Palace Museum
 - Baptist University
 - Kwong Wah Hospital Extension
 - Civil Engineering & Dev Dept (Ngong Ping)
- CITF pre-approved



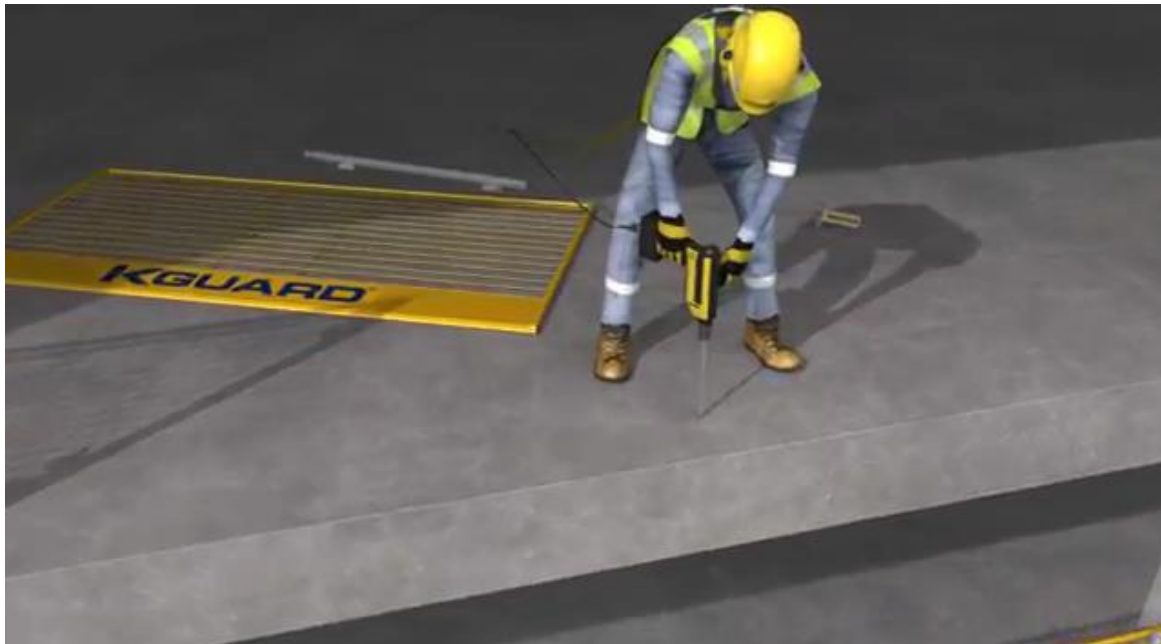
#Supervision
#Monitoring
#realtimemonitoring

Process and People

Administrative Control

KGUARD Fall Protection System

- Edge protection solution
- Flexible and fit for many situation
- Reusable



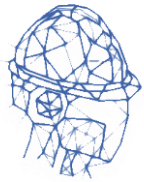
#readytoinstall
#reusable
#flexible



Process and People

Administrative Control

Construction Innovation and Technology Fund (CITF)



Project Adoption (safety-related technology)

(Under Advanced Construction Technology (ACT) – General Adoption)

Funding Mode

- Co-fund with **70%** grant from CITF
- **Rental** of equipment for experiential adoption, co-fund with **50%** grant from CITF

Funding Ceiling

- **HK\$2,000,000** for **safety-related** technology
- Funding ceiling for rental: **HK\$300,000** per technology for a maximum rental period of **6 months**
- **Cumulative** maximum funding ceiling for rental: **HK\$600,000** per applicant



Consultants



Contractors



Sub-contractors

Remarks:

- The combined funding ceiling for BIM and ACT is **HK\$6,000,000** per applicant
- CITF will bear a higher maximum ratio of **80%** of the total costs of the Approved Project which involves the adoption of locally developed innovations or products
- In general, CITF will not fund the maintenance cost, office overheads, materials cost, consumables, spare parts, solutions, services and other administrative expenses incurred in the project



[CITF Website](#)