CEO Safety Forum 2025

THE Loop

A Successful Story about Design for Safety in the Loop Project

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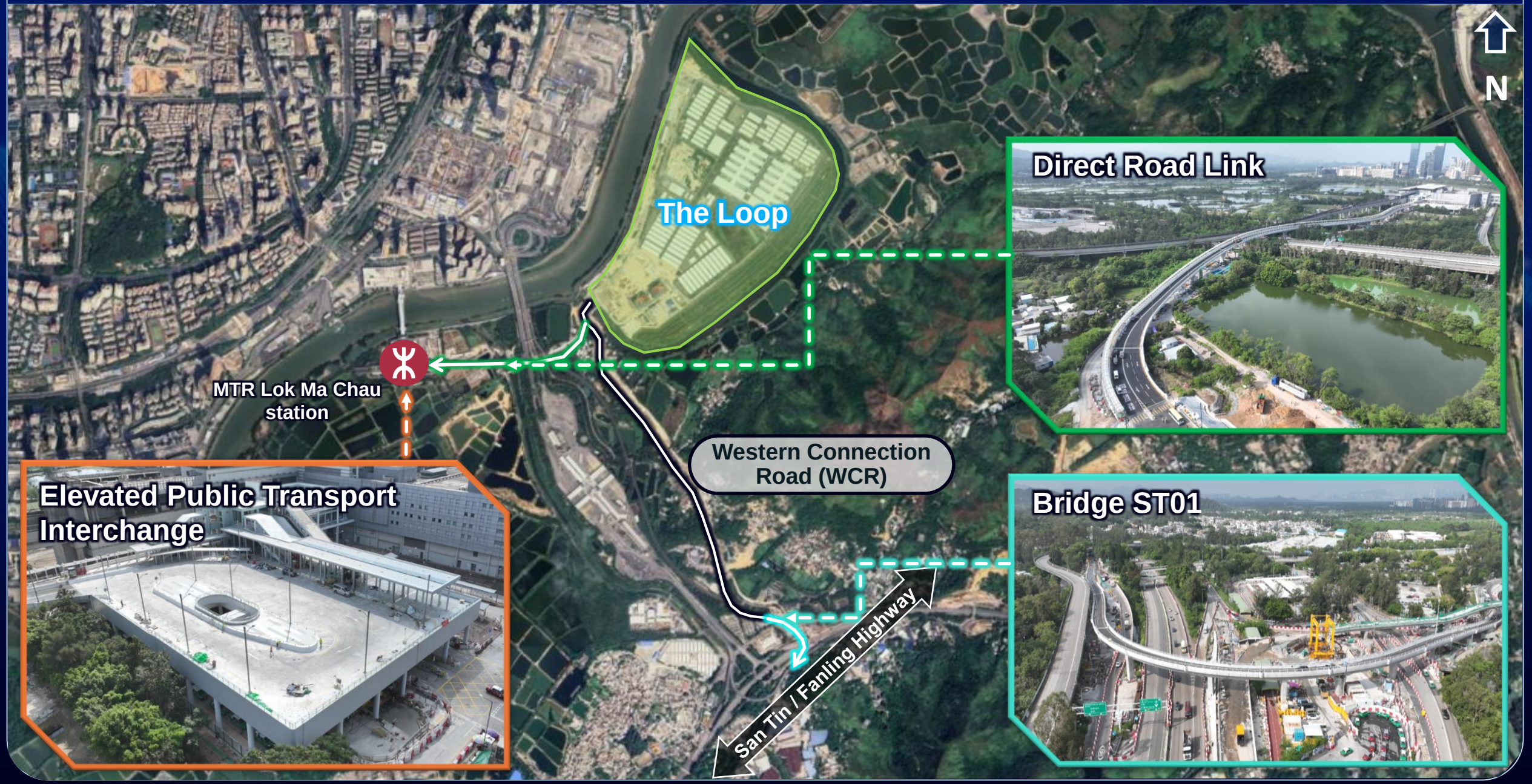
15 October 2025

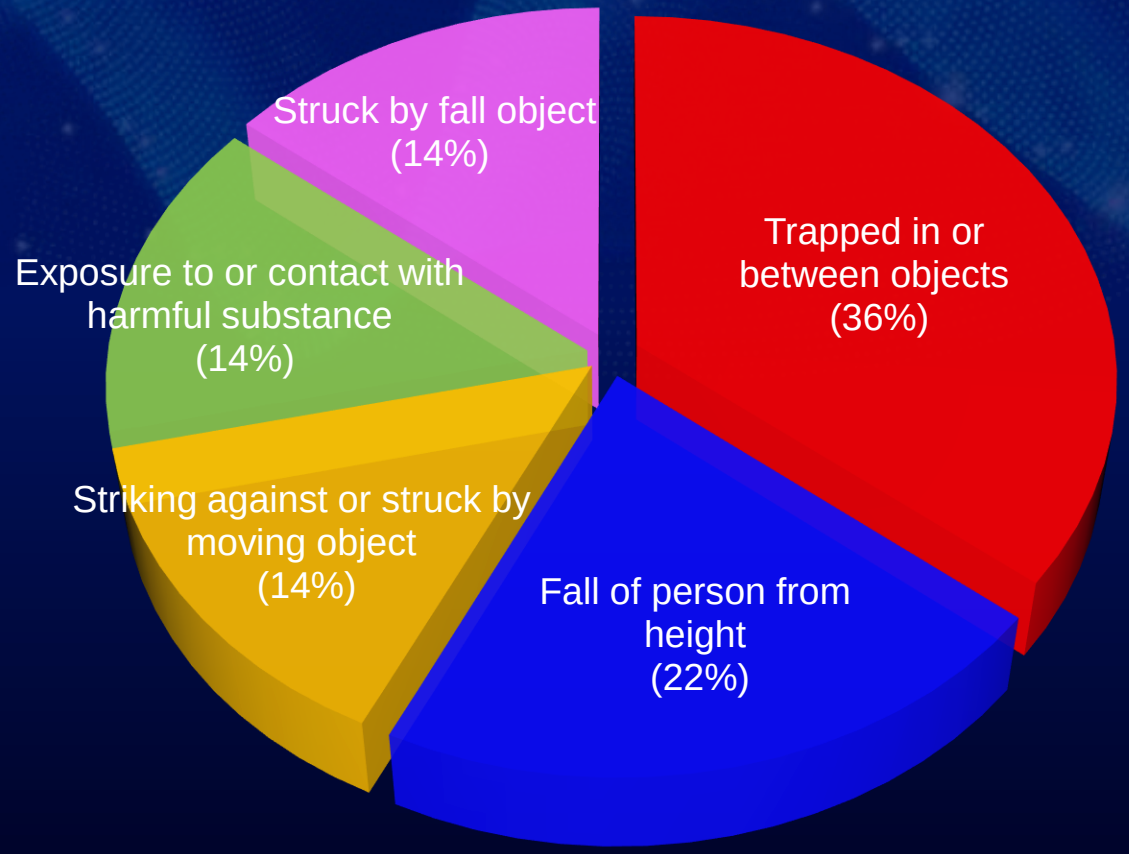
CEDD 土木工程拓展署 Civil Engineering and Development Department

PROJECT BACKGROUND



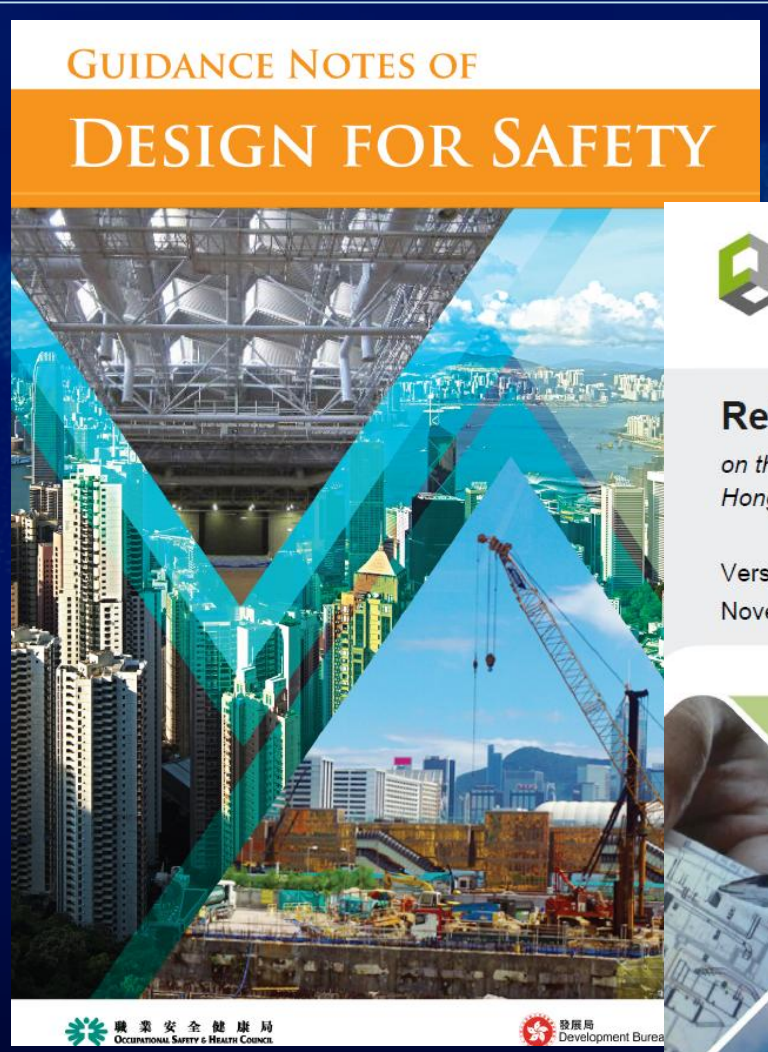
CONSTRUCTION HAZARD IN THE LOOP

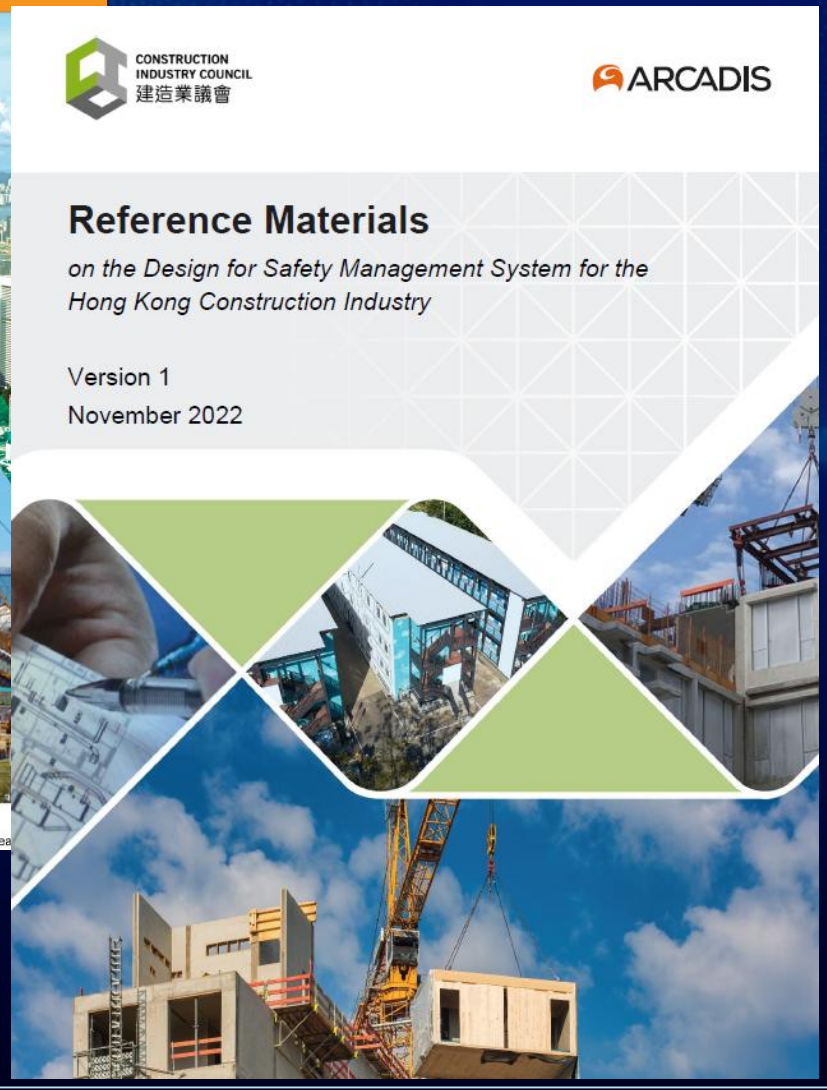
Fatal Accidents in Construction Industry in 2024



Major Hazards in the Loop

DESIGN FOR SAFETY - PRINCIPLES





- **Hazard Identification**
- **Risk Elimination**

BRIDGE ST01

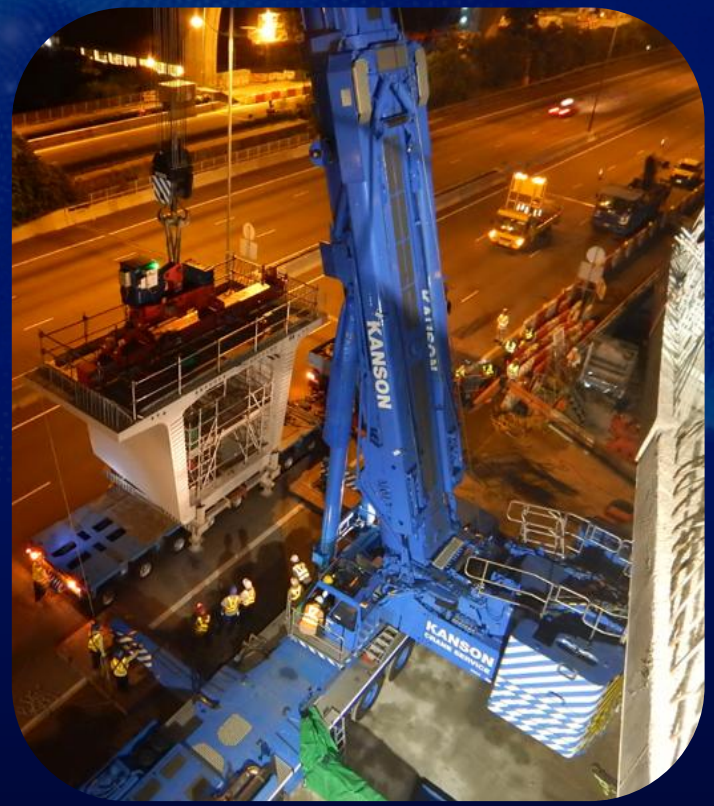
FULL-SPAN DECK ERECTION METHOD

BRIDGE ST01 - SITE CONSTRAINTS

BRIDGE ST01 – HAZARD IDENTIFICATION

Risk of Conventional Methods

Road closure
(41 nights)



Heavy lifting

Working at height

BRIDGE ST01 – RISK ELIMINATION

Innovative “Full-Span Deck Erection Method”

BRIDGE ST01 - RISK ELIMINATION

Innovative “Full-Span Deck Erection Method”

High-position Delivery

Low-position Delivery

BRIDGE ST01 – RISK ELIMINATION

Innovative “Full-Span Deck Erection Method”

1 **Ground assembly of precast segment**

BRIDGE ST01 – RISK ELIMINATION

Innovative “Full-Span Deck Erection Method”

1. Ground assembly of precast segment
2. Transportation of full-span deck by SPMTs

BRIDGE ST01 – RISK ELIMINATION

Innovative “Full-Span Deck Erection Method”

1. Ground assembly of precast segment
2. Transportation of full-span deck by SPMTs
3. Lifting of full-span deck by strand-jack lifting system

BRIDGE ST01 – ADVANCED BIM

3D LiDAR Scanning with
Drone-based Photogrammetry

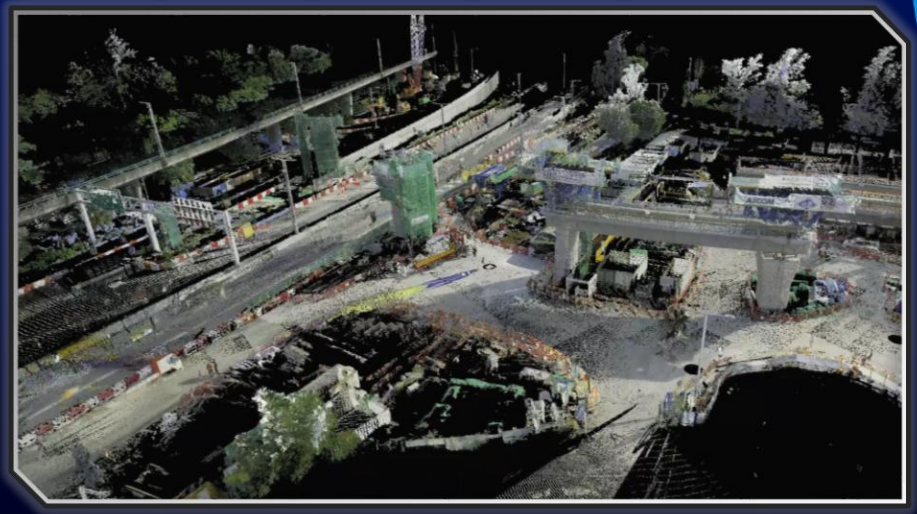
Minimum clearance to adjacent structure

Photogrammetry with drone

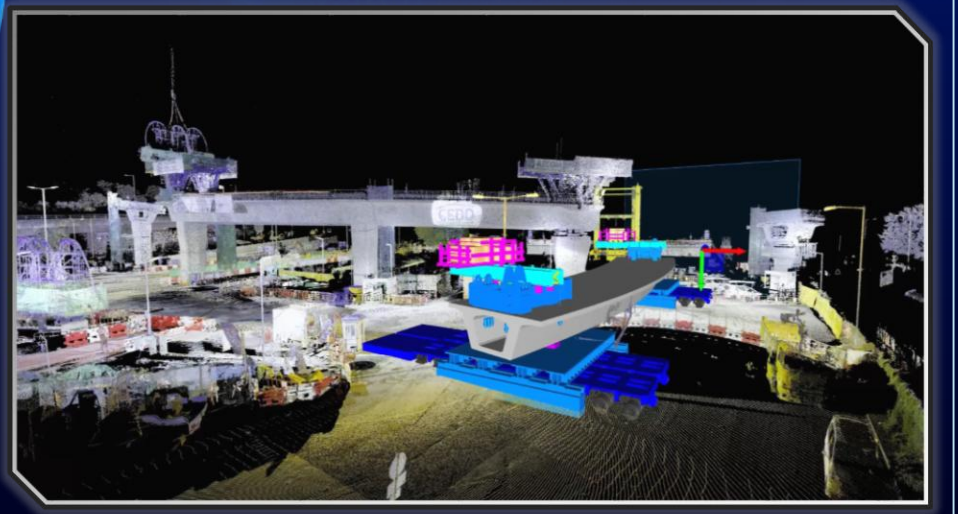
LiDAR Scanning

Engineering Analysis

Augmented Reality



BIM integration with existing environment



Maximum gradient of existing roads

BRIDGE ST01 – TRIAL RUNS

Trial run across Fanling Highway

Trial run across Castle Peak Road (Chau Tau)

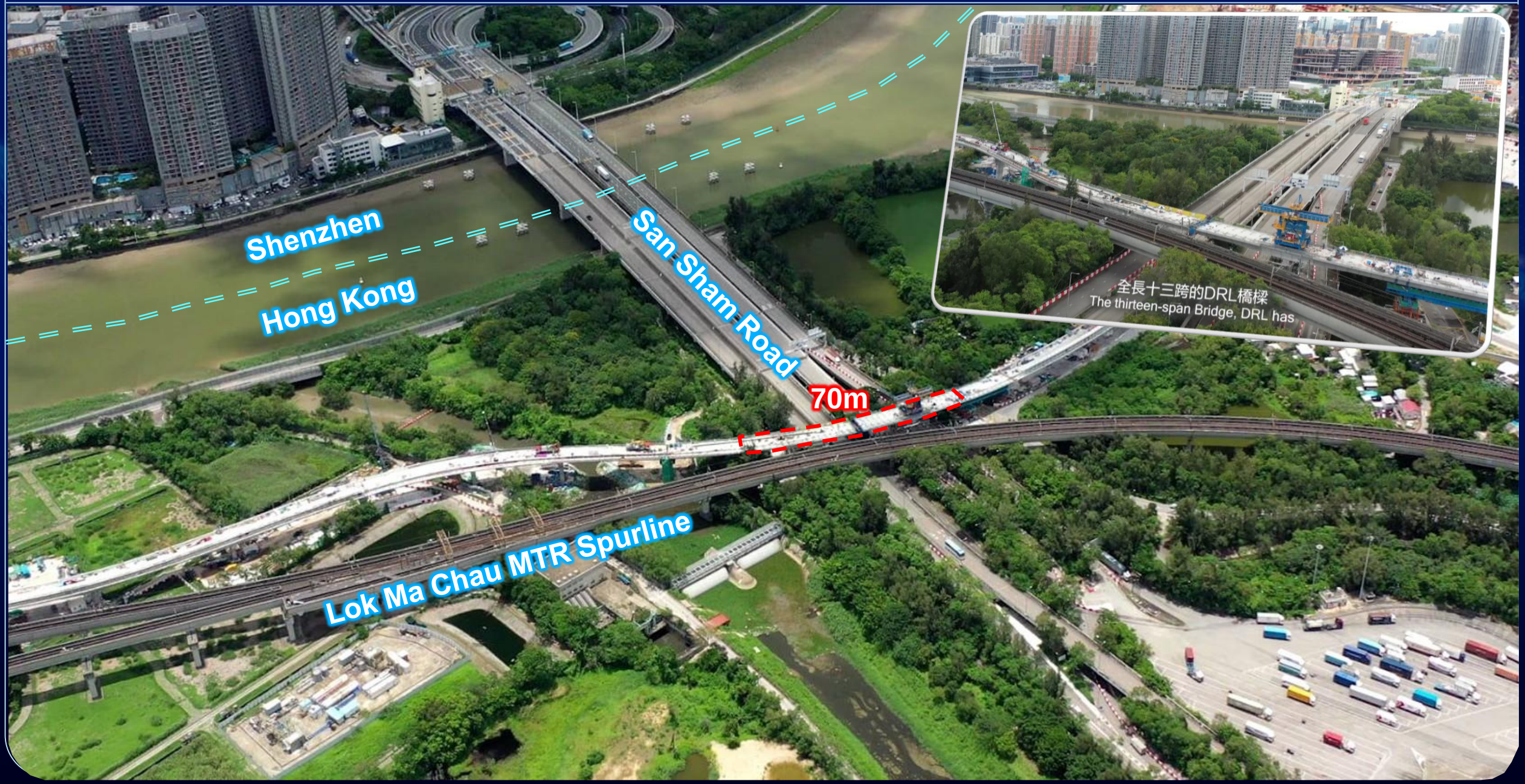
BRIDGE ST01 – COMPLETION

BENEFITS OF "FULL-SPAN DECK ERECTION METHOD"

DIRECT ROAD LINK

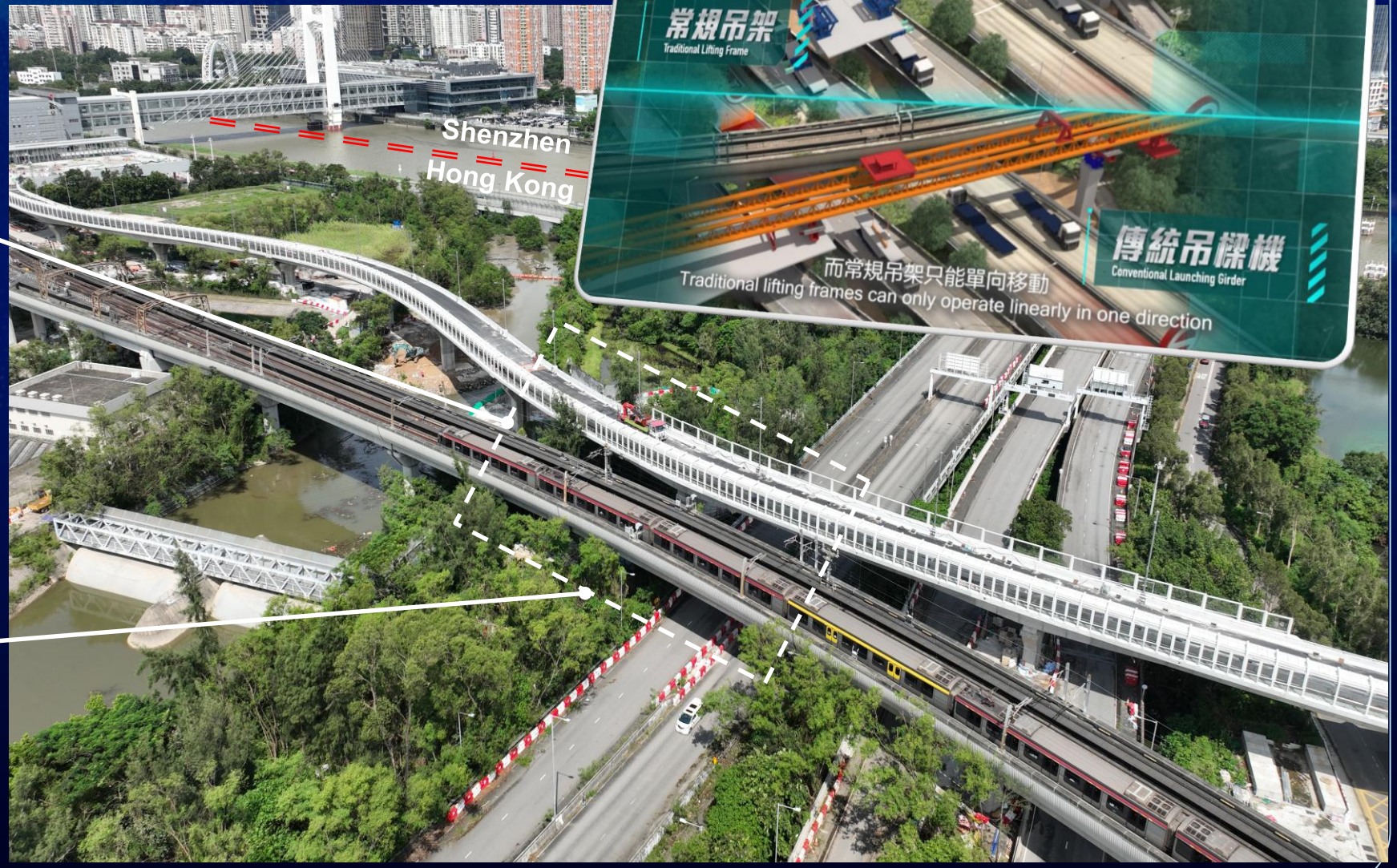
SPECIAL LIFTING FRAME ERECTION METHOD

DIRECT ROAD LINK - SITE CONSTRAINTS



DESIGN FOR SAFETY – HAZARD IDENTIFICATION

Risk of Conventional Launching Girder



DIRECT ROAD LINK – RISK ELIMINATION

Innovative “Special Lifting Frame Erection Method”

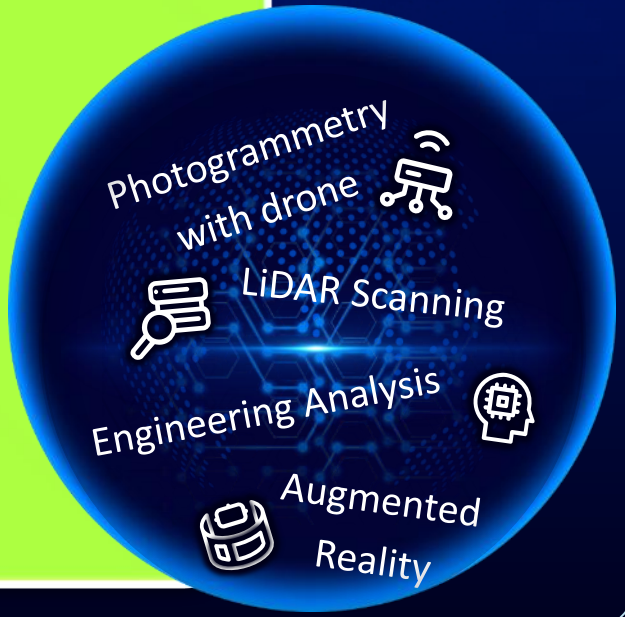
1 **Compact in size**
suitable for congested location

DIRECT ROAD LINK – RISK ELIMINATION

Innovative “Special Lifting Frame Erection Method”

1. **Compact in size** suitable for congested location
2. Lifting and erection **in all direction**

Digitalization Study for Lifting Operation



BENEFITS OF "SPECIAL LFITING FRAME ERECTION METHOD"

TAMAGO

INDUSTRY ACADEMIC COLLABORATION

REAL TIME SUPPORT MONITORING SYSTEM “TAMAGO”

TAMAGO

RECOGNITIONS AND AWARDS


THANK YOU
二零二五年六月二十八日
THE Loop
河套區發展
CEDD
土木工程拓展署
Civil Engineering and
Development Department
AECOM
R.B.
中國路橋
CRBC
「全跨度橋樑吊裝工程」完成里程典禮
合約編號:YL/2020/02
河套區發展:第一期主體工程 - 合約二