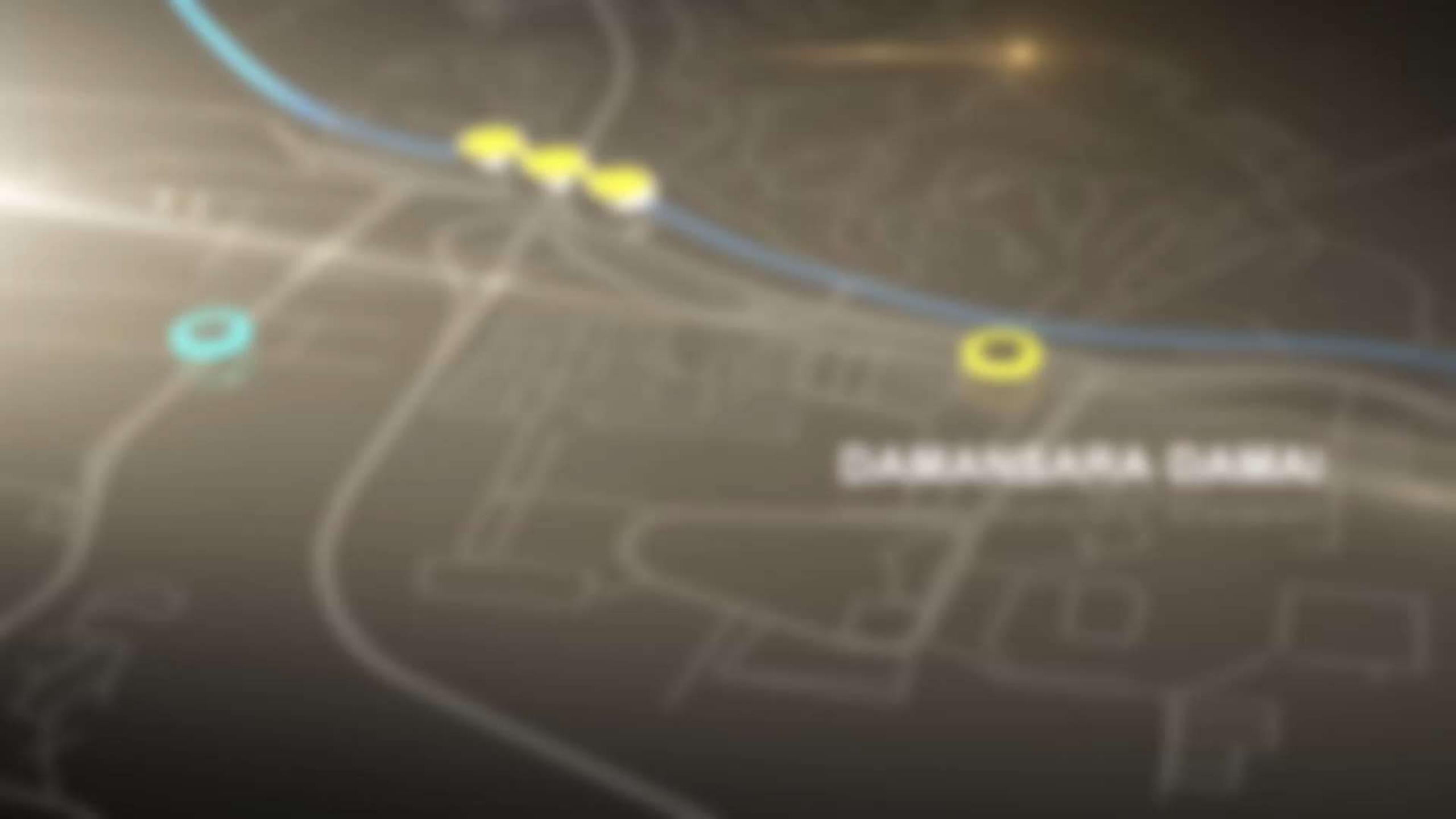
CLICK HERE TO KNOW MORE

Advancing Geospatial Engineering in KVMRT SSP Line Project

- Project Brief
- Project Challenges
- BIM Programme
- Collaboration
- Integrated Design
- Reality Modelling
- Web Mapping

GEOSMART ASIA 2017

NEGARAKU

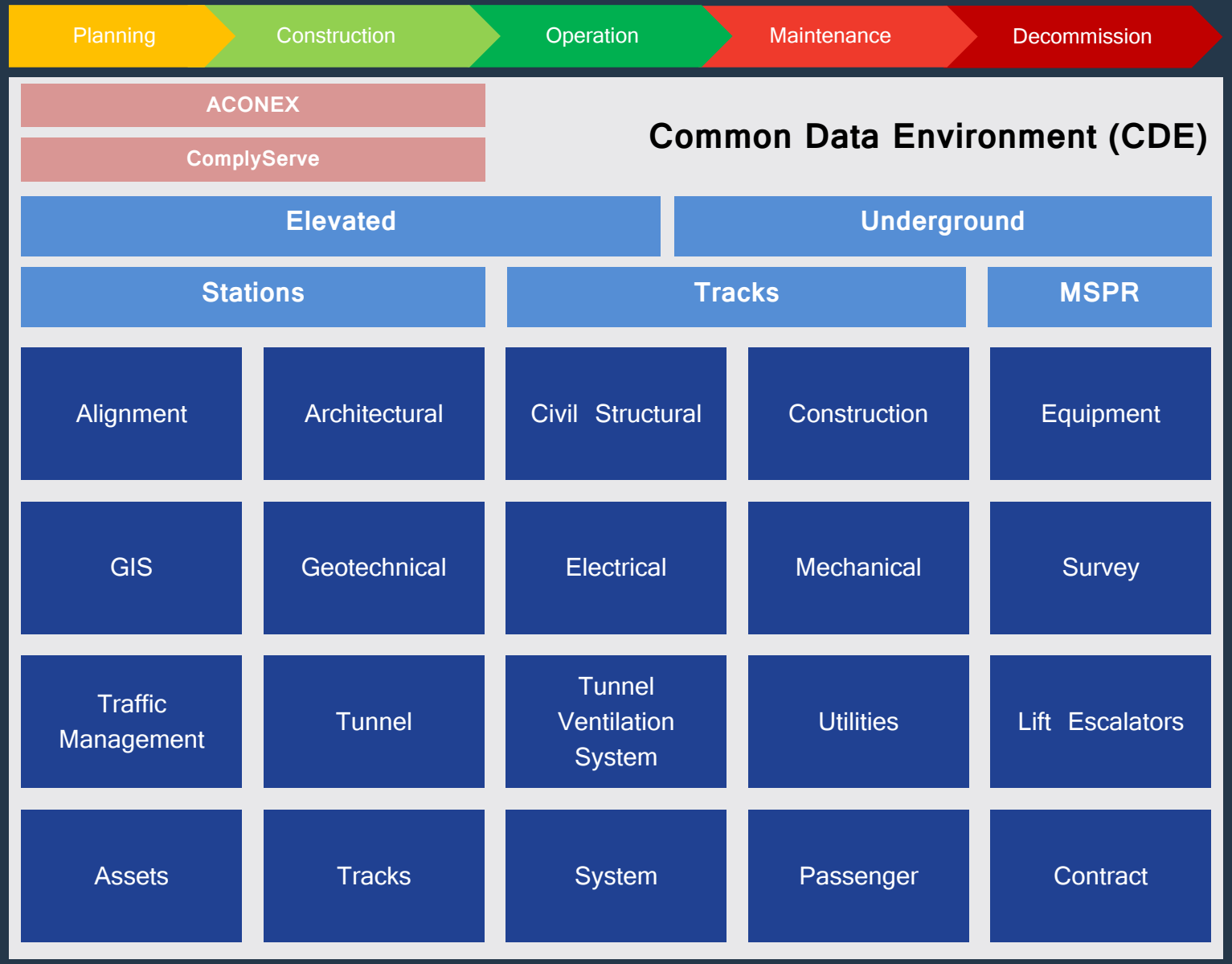

SAMARINDA BARU

Project Brief – Alignment and Stations

Line 2	Length	Elevated	UG	Stations	Stations	Stations	Ops Ph1
SSP LINE	52.2 km	38.7 km	13.5 km	37	26 Elevated	11 UG	Q2 2021

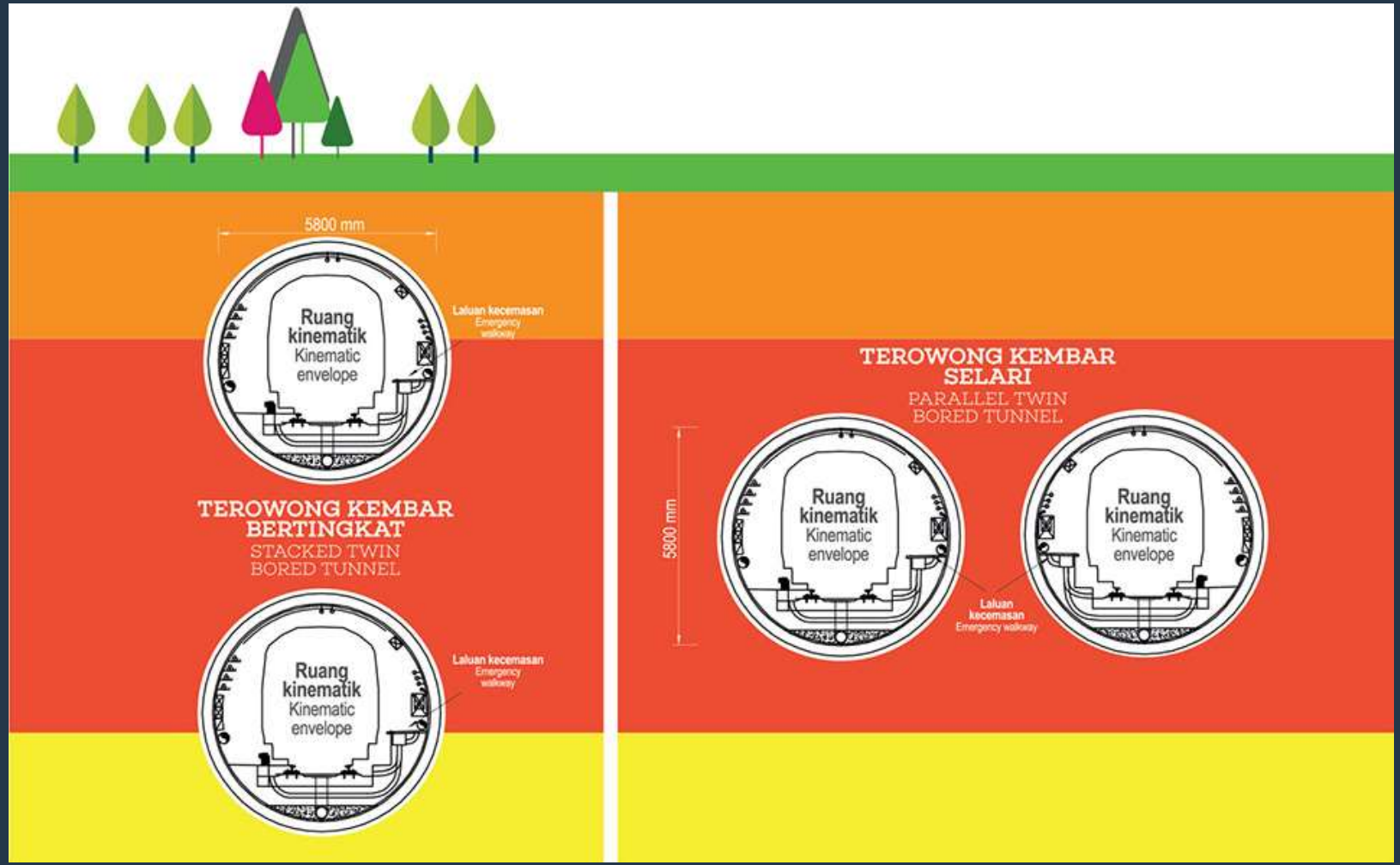
http://www.mymrt.com.my/hawk-eye-view/

Project Challenges – Planning/Design



Project Brief – Technical Design

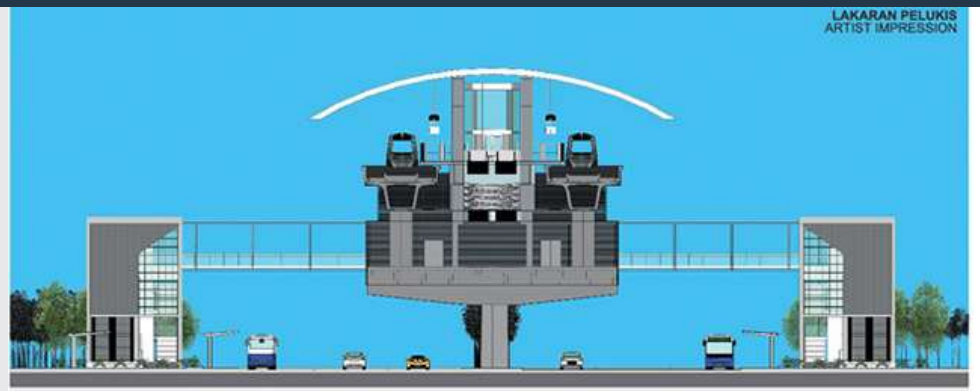
Elevated Guideway Design



Tunnel Design

Project Brief – Technical Design

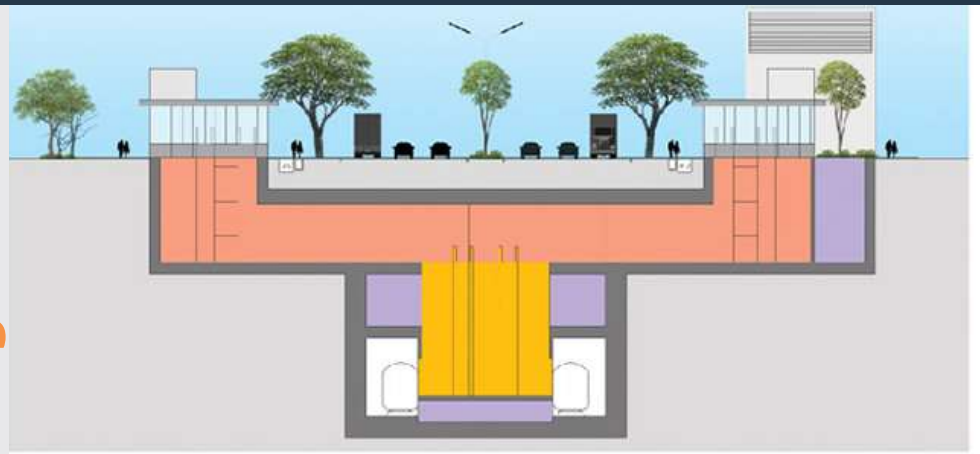
Elevated



STESEN DENGAN PLATFORM TENGAH
ISLAND PLATFORM STATION

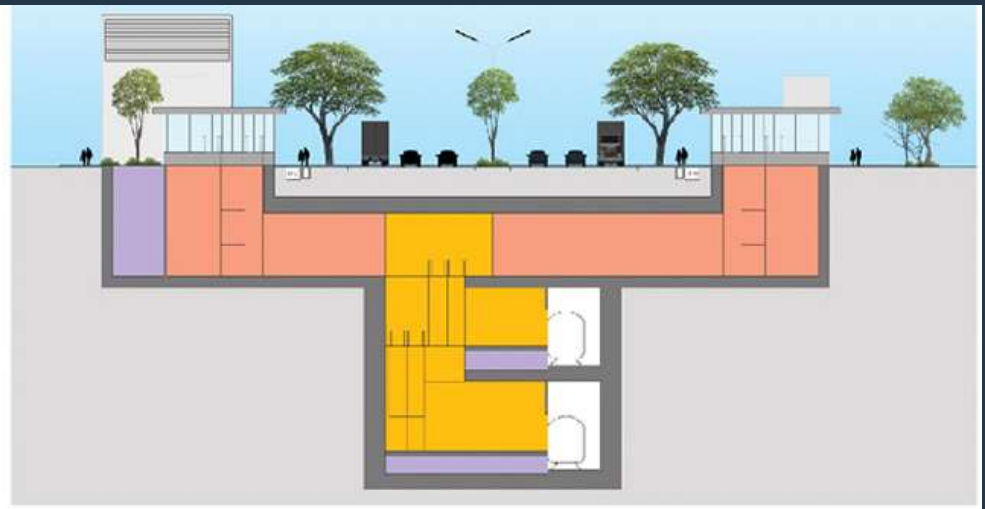
STESEN DENGAN PLATFORM SISI
SIDE PLATFORM STATION

Underground



KERATAN RENTAS
CROSS SECTION

STESEN DENGAN PLATFORM TENGAH
ISLAND PLATFORM STATION



KERATAN RENTAS
CROSS SECTION

STESEN DENGAN PLATFORM BERTINGKAT
STACKED PLATFORM STATION

Station Design

Project Brief – Technical Complexity

Structural Gauge | Kinetic Envelope | Depot Equip. & Maint. Vehicles | Radio Leaky Cable | Signaling Leaky Cable

Tunnel Ventilation System

Over Track Exhaust

Signaling & Train Control System

Electric Train

Stray Current Corrosion Monitoring

Power Supply & Distribution System

HV Cabling | LV Cable

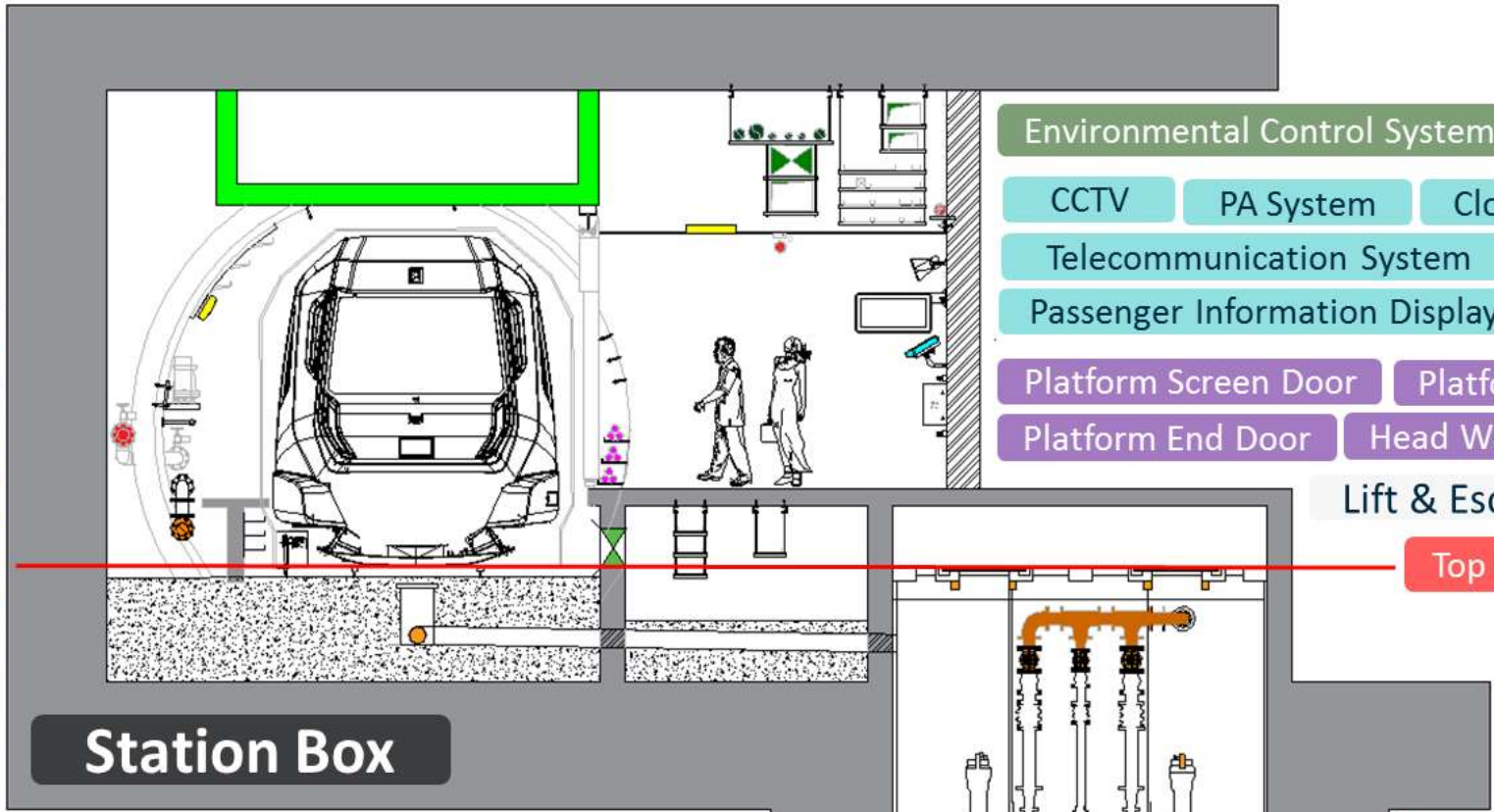
Tunnel Lighting | Station Lighting

Fire Phone | Fire Protection System

Smoke Detector | Linear Heat Detector

Handrail | Axle Counter

Third Rail | Track Works



Environmental Control System

CCTV | PA System | Clock | Telephone

Telecommunication System | Help Point

Passenger Information Display System

Platform Screen Door | Platform Header

Platform End Door | Head Wall Unit

Lift & Escalator

Top of Rail Level

Drainage

Sump Pump

Sump Pit

Automatic Fare Collection System | Reflected Ceiling | Facility SCADA

Building Management System | Electronic Access Control System | Earth Map

Government Integrated Radio Networks

Touch Voltage Membrane

Illuminated Tunnel Evacuation Signage System

Technical Earth Conductor Cable

BIM Programme

BIM Objective

"An effective **control** of the project **information** to be **shared**, used without loss, contradiction or misinterpretation for the whole project life cycle"

BIM Mission

"To adopt an integrated approach to achieve Level 2 on BIM maturity for SSP Line 2 design, procurement, delivery, construction, operational & maintenance and asset management"

BIM Programme

2015

Plan

- BIM White Paper for SSP
- Employer Information Requirement （EIR）
- Function Requirement for Common Data Environment

2016

Execute

- Award of Common Data Environment （CDE） to Bentley
- CDE Go Live
- Forming of BIM Working Group & Steering Committee
- Published Project Glossary & Naming Convention

2017

Develop

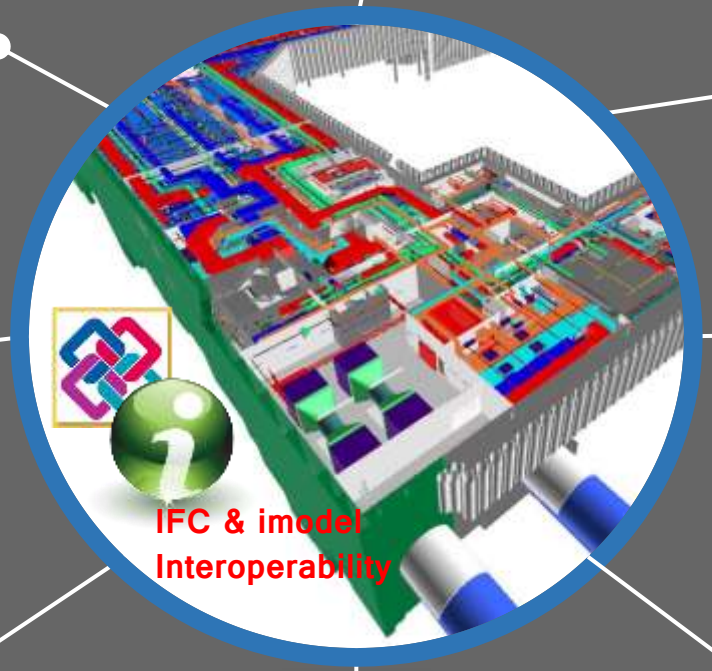
- KVMRT Classification Standard
- BIM in Rail Academy Centre （BIRAC）
- Finalist in Bentley Year in Infrastructure “Be Inspired “ competition
- BIRAC open house and BIM Forum

2018

Roll-Out

- Accreditation of BIRAC training programme
- Roll out training module to SSP work package contractor & supply chain
- Publishing BIM White Paper for Digital Engineering

BIM Programme



Revit

AECOsim

STAAD.Pro

Bentley
AECOsim & STAAD Pro

Bentley
Common Data Environment
ProjectWise & eB

aconex
Document Management System

Naviswork

SOLIBRI
BIM Model Checker

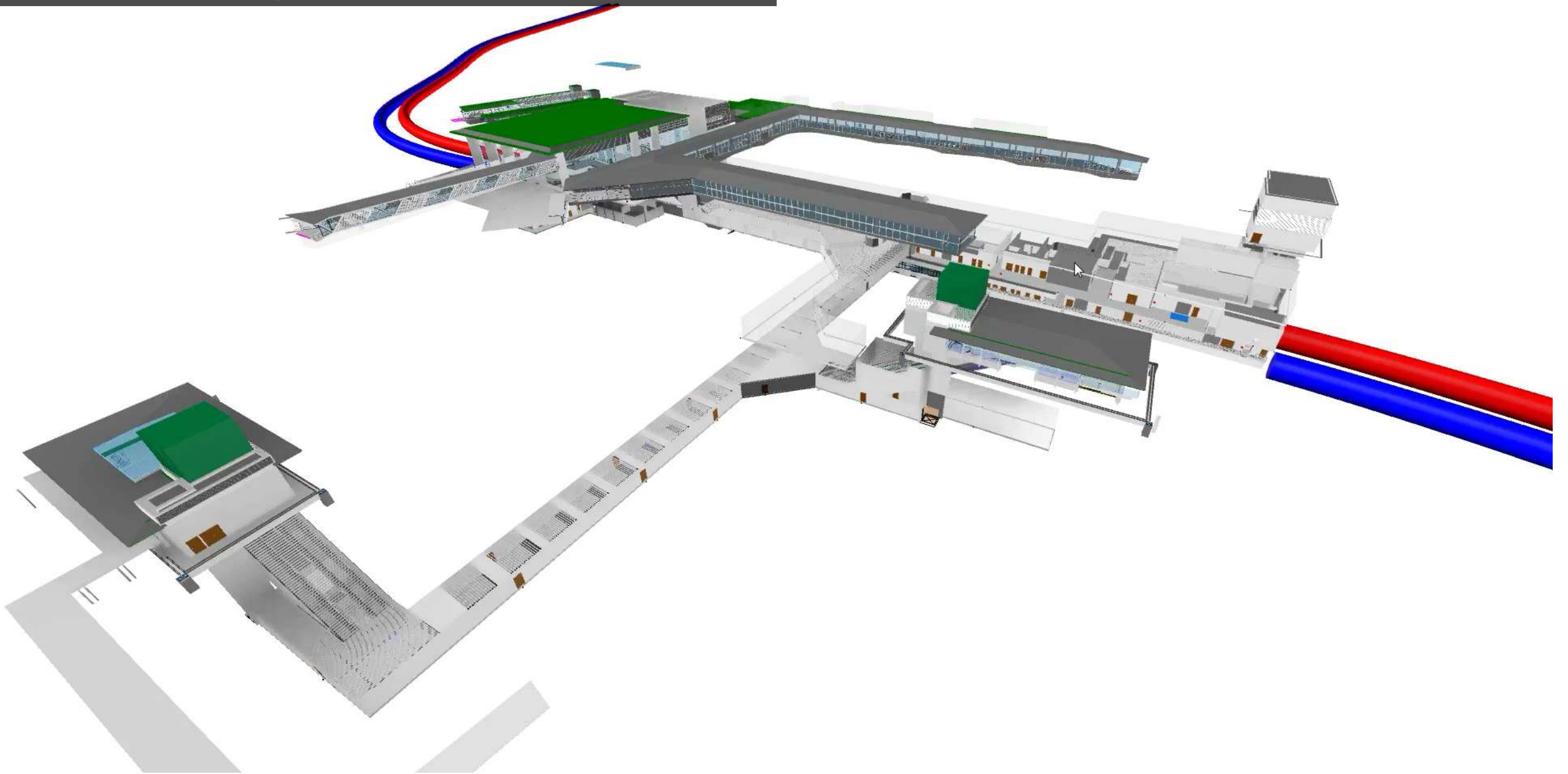
Bentley
ComplyPro

Bentley
ContextCapture

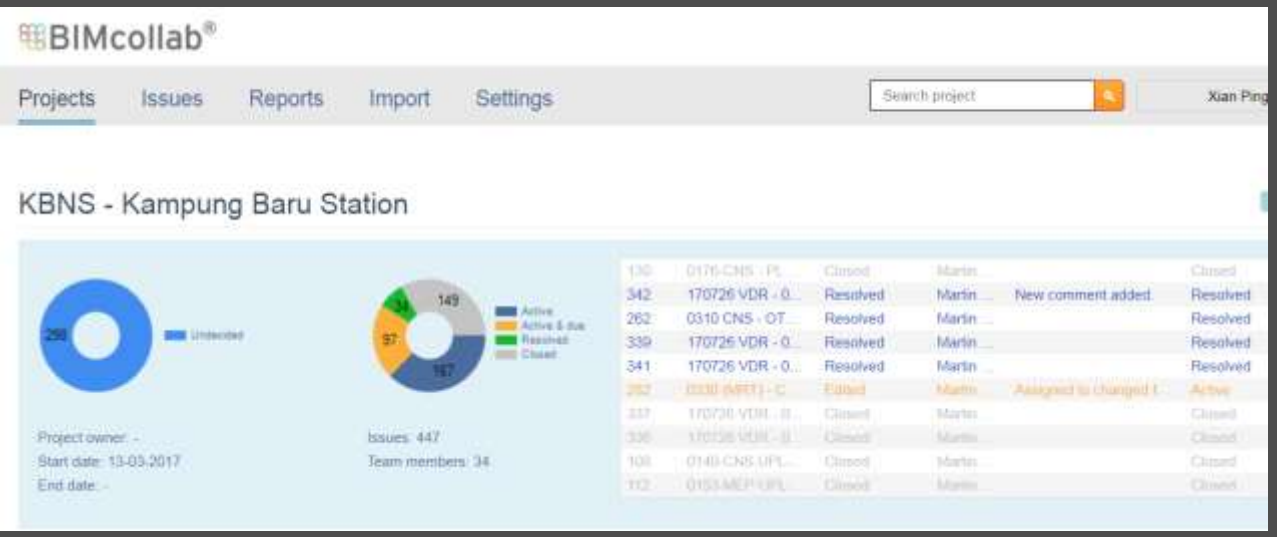
BIMcollab
BIM Issue Management

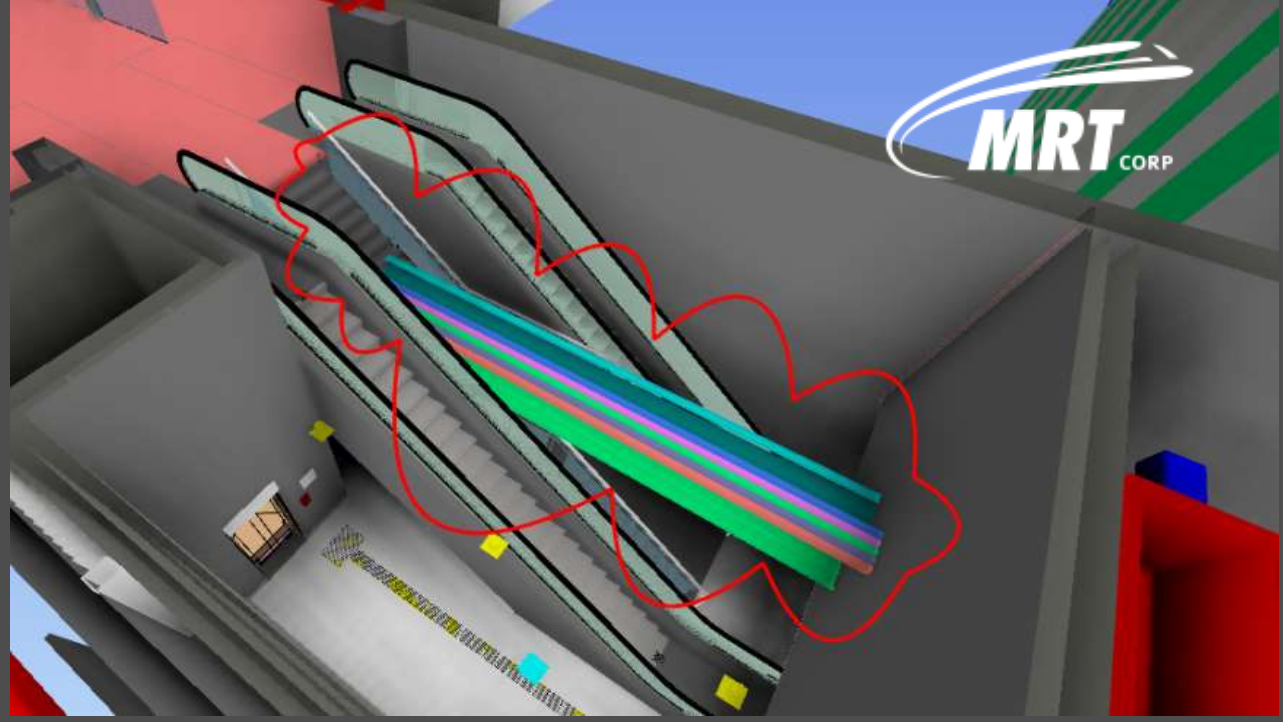
A360
BIM Web Portal

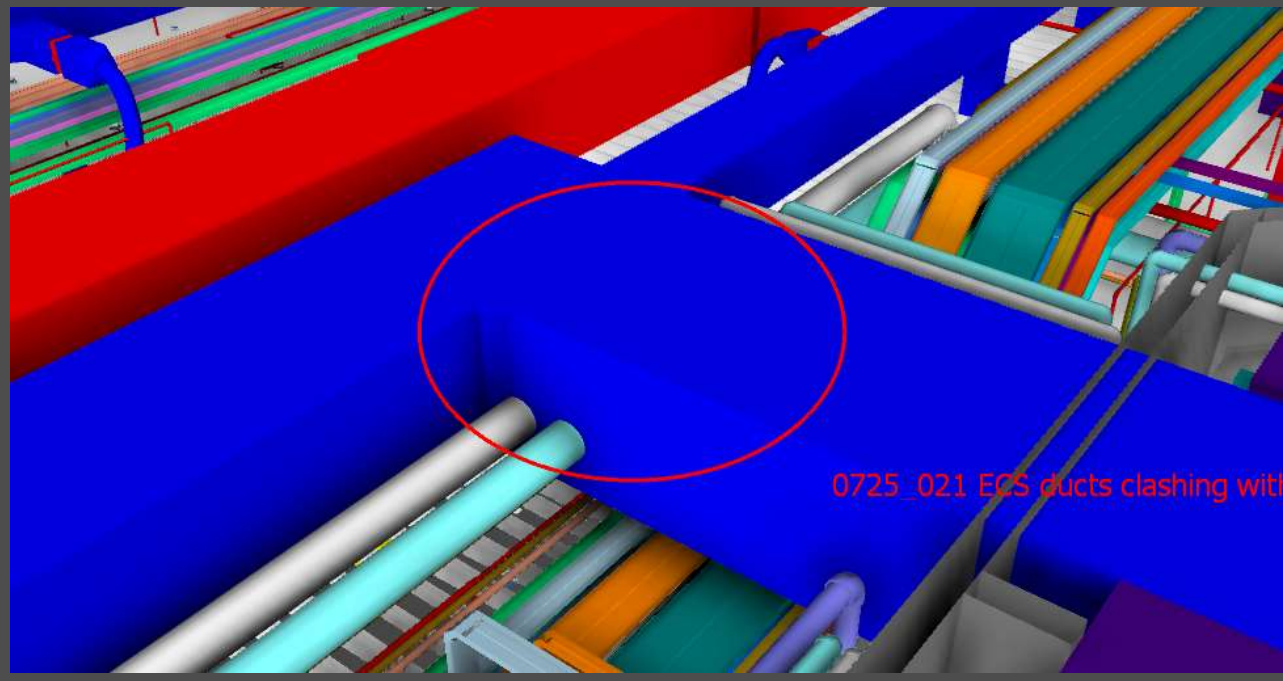
Virtual Design Review (VDR)



Collaboration



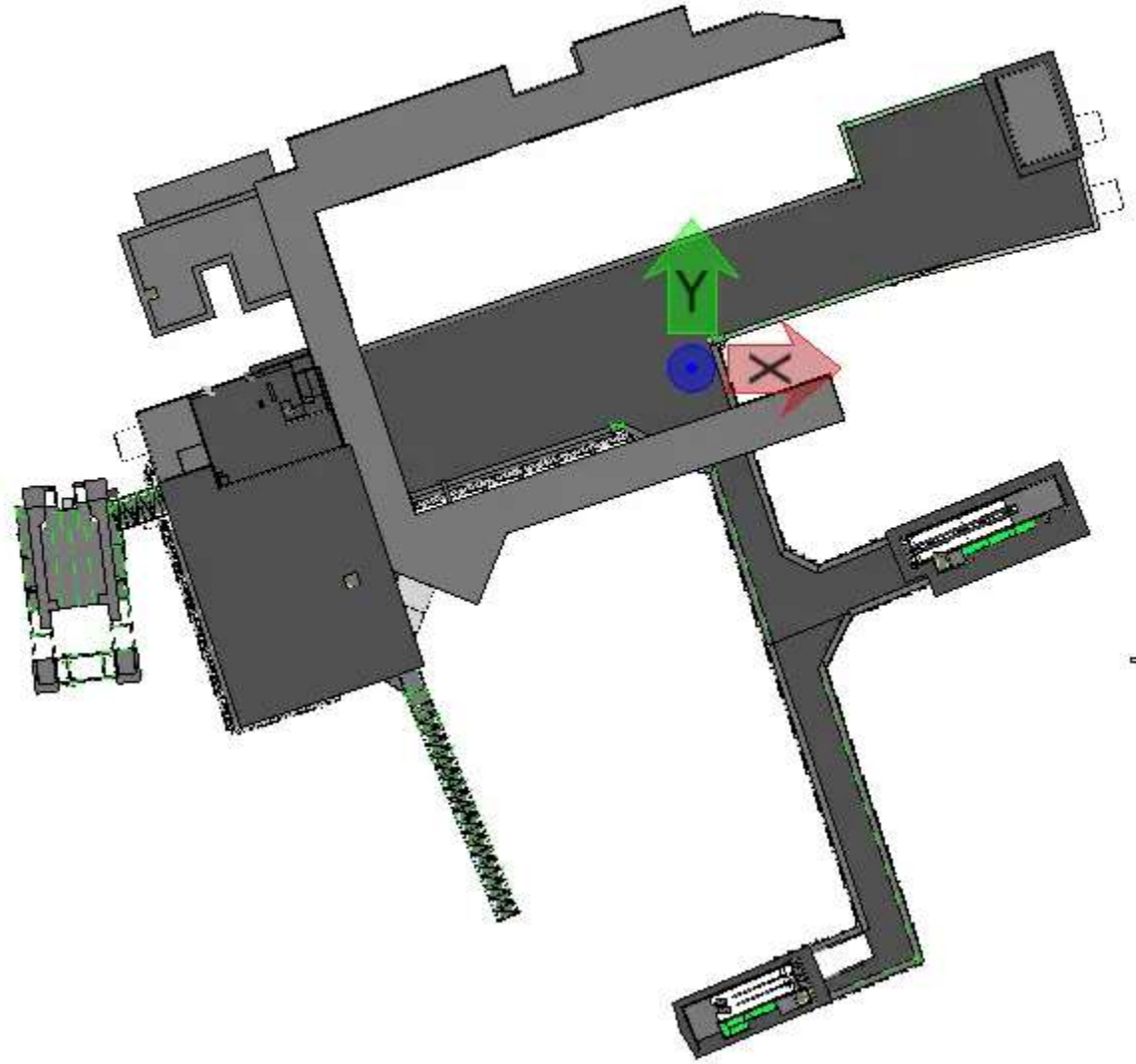




Reality Modelling

View 2 - Top, Design Model

Construction Monitoring



Rotate View

Method: Top

Tunnel Monitoring - PoC

SSP Line Map Portal

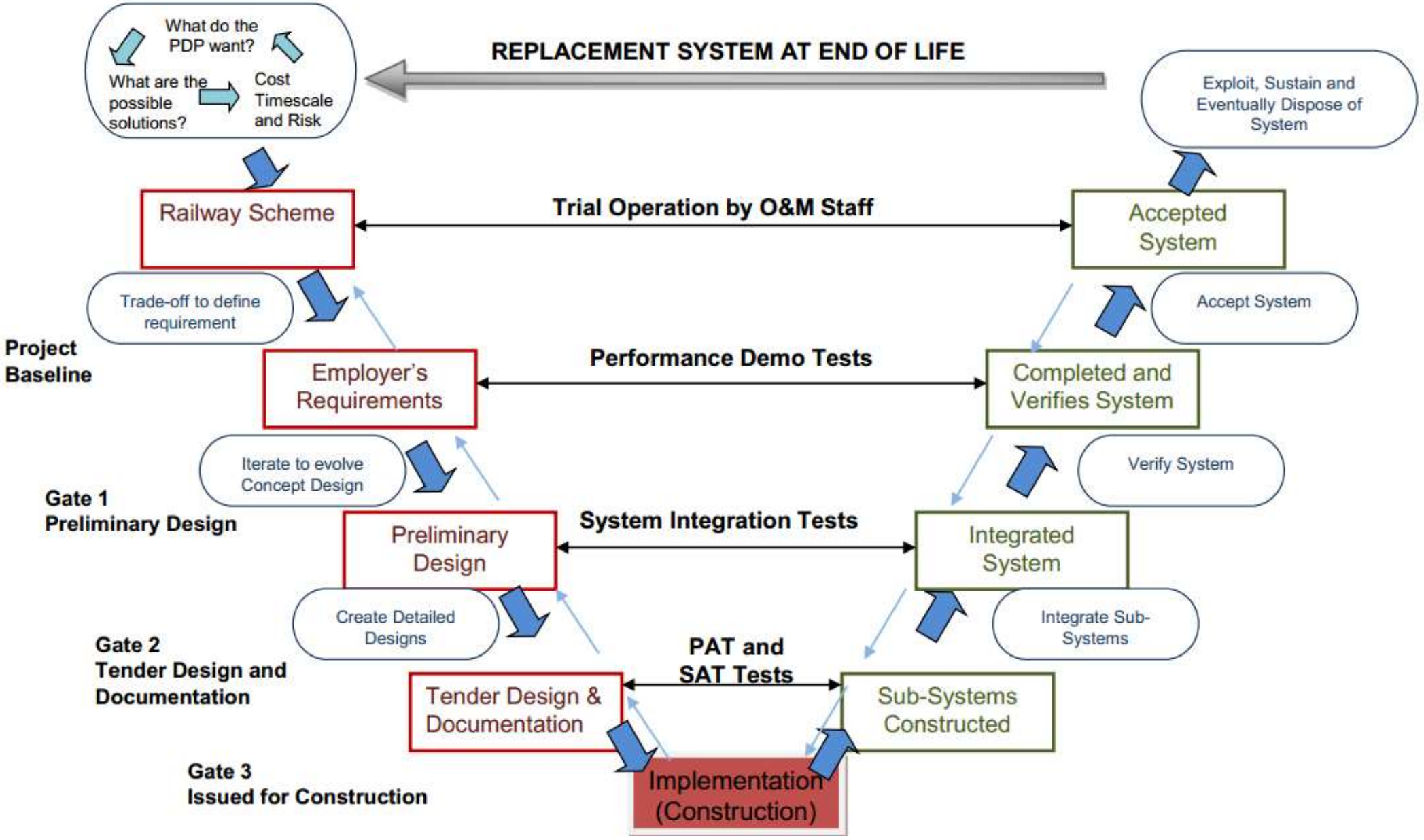
MMC-GAMUDA

MRT corp

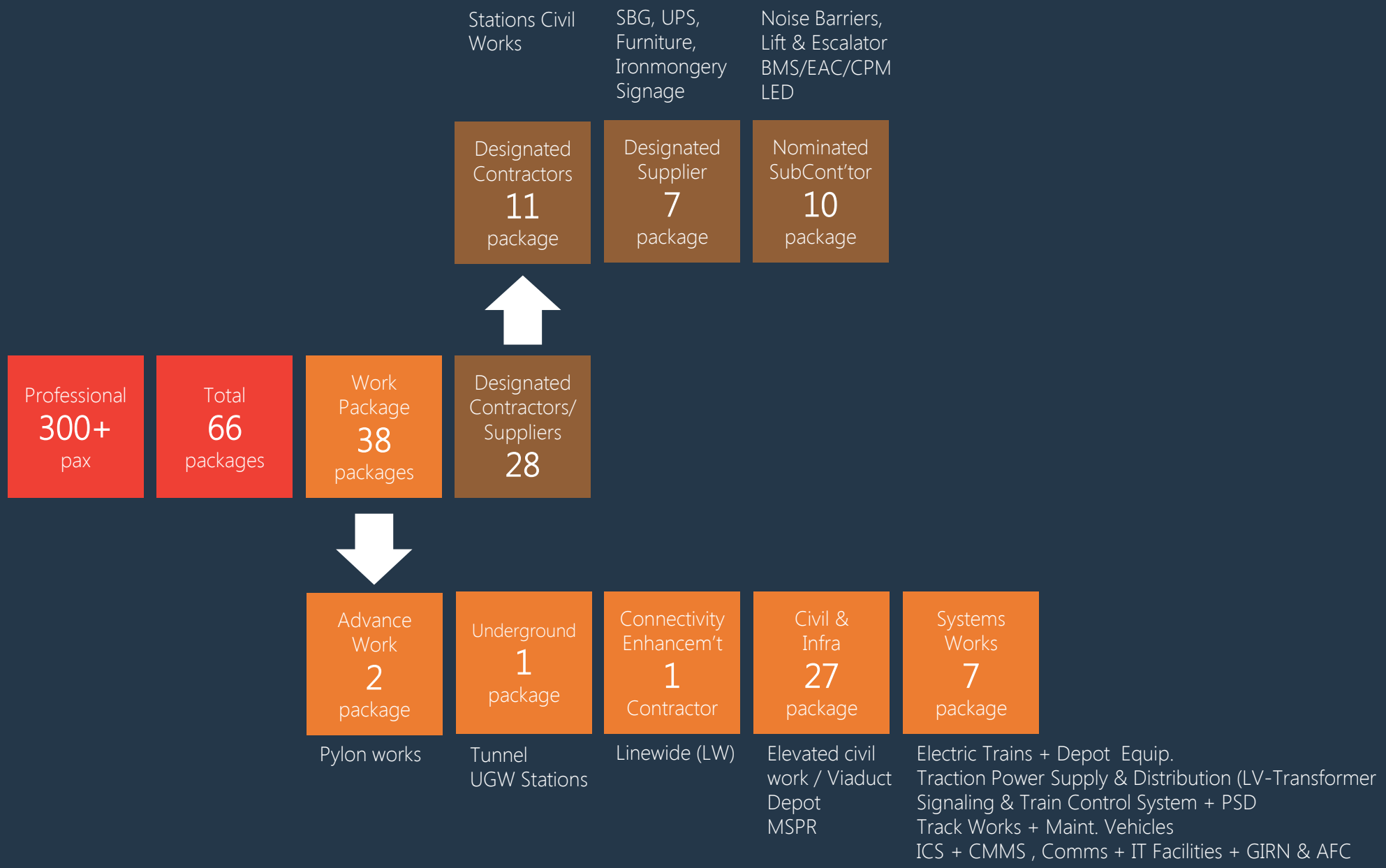
Waiting for kvmrtgis.mymrt.com.my...

https://bim.mymrt.com.my
bim@mymrt.com.my
03-2081 3000

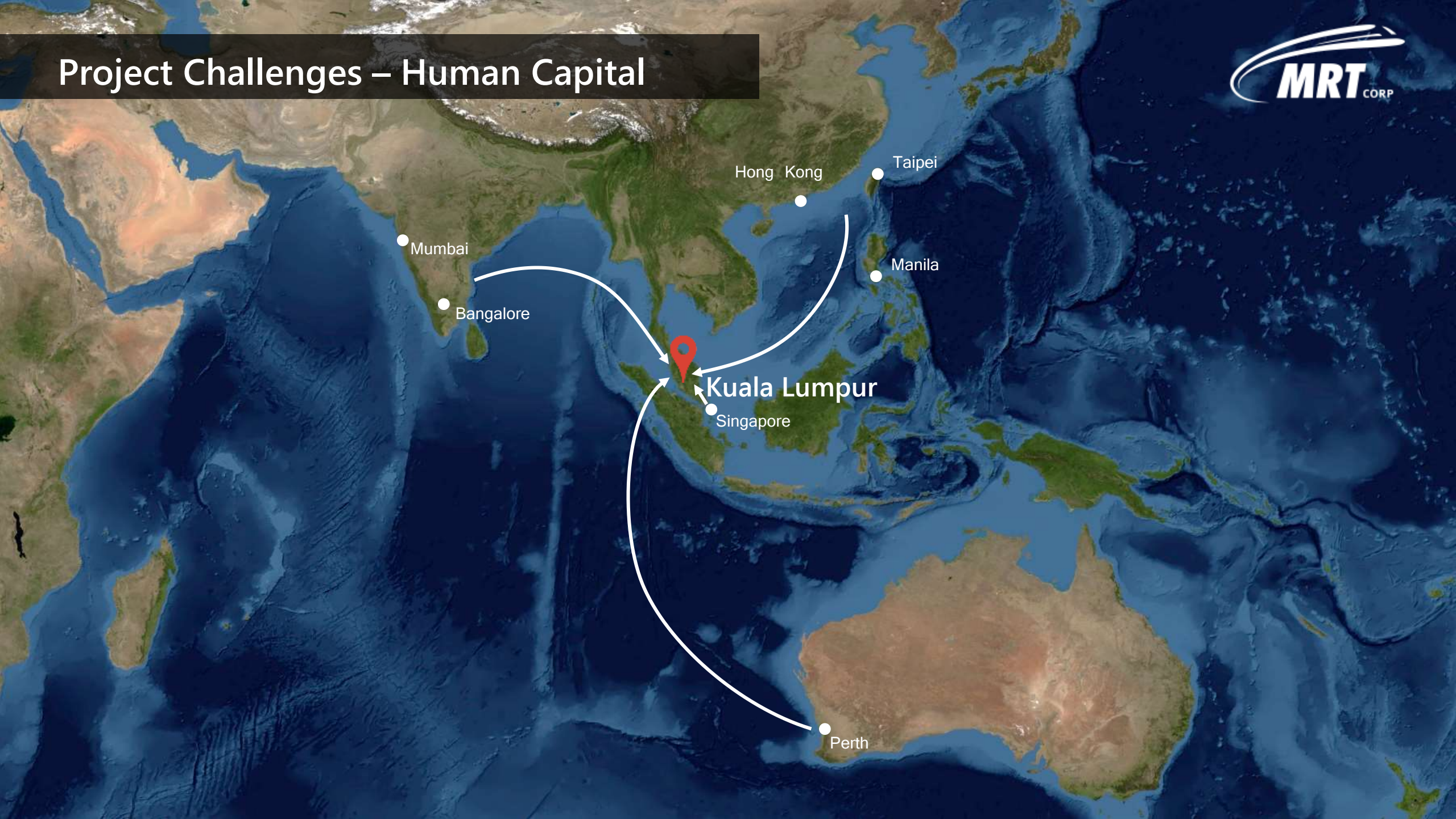
Project Brief – Stations Design



Project Challenges – Planning/Design

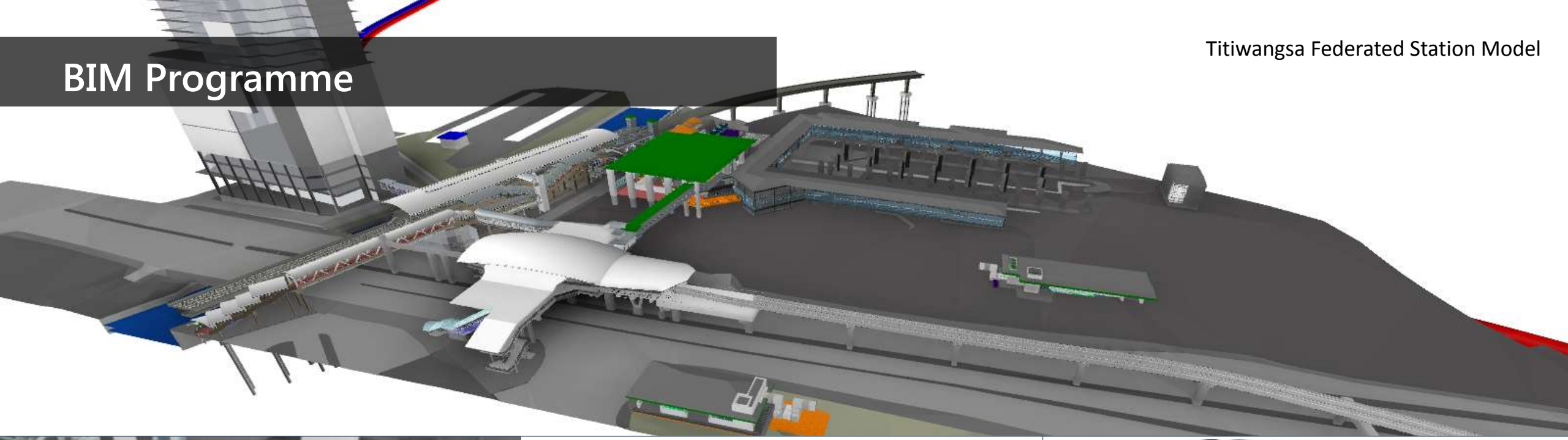


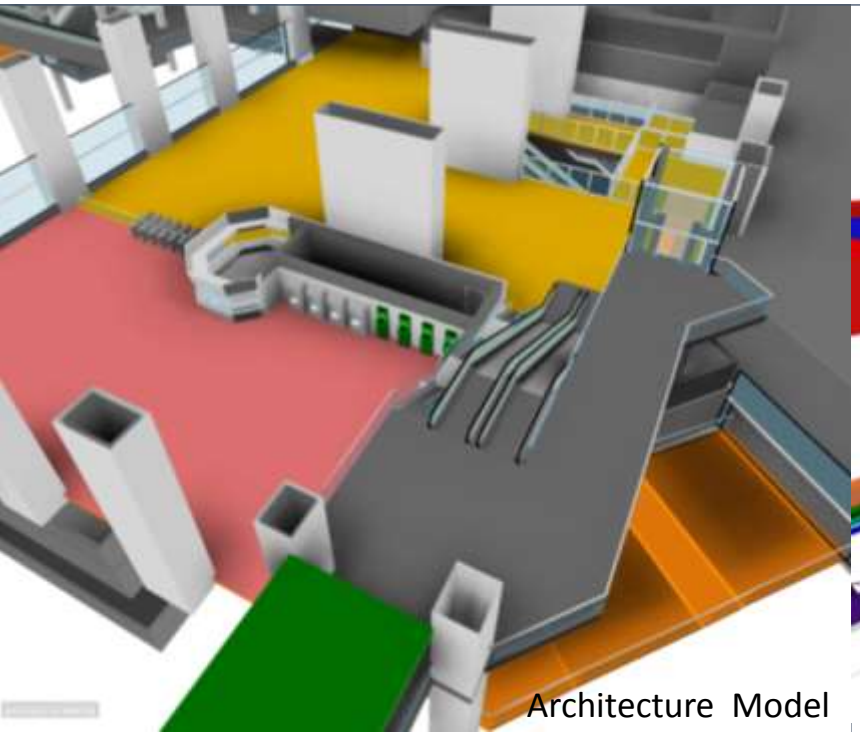
Project Challenges – Human Capital



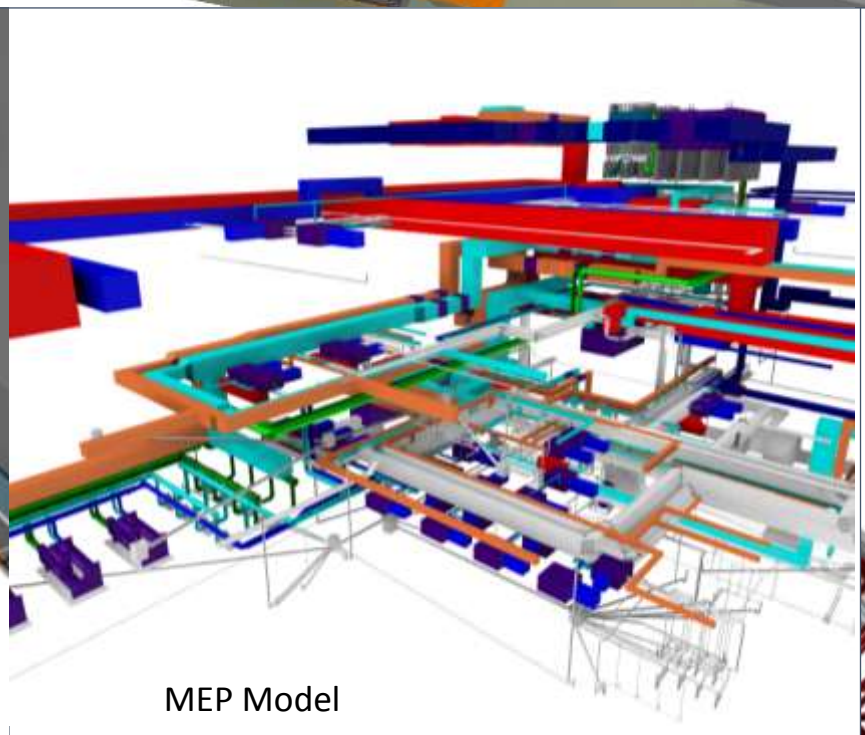
BIM Programme

Titiwangsa Federated Station Model

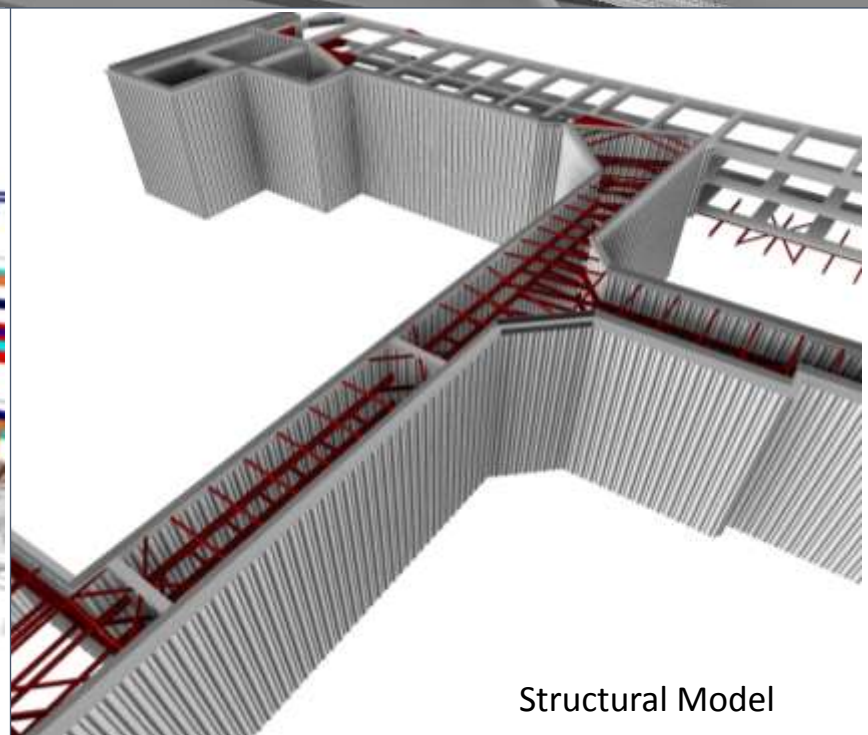




Architecture Model



MEP Model



Structural Model

BIM in Rail Academy

BIM Leader Course (Corporate)

- BIM Business Value 1
- BIM Business Value 2

BIM Manager Course (Management)

- BIM Planning & Execution
- BIM Contract & Legal
- Model Clash Analysis, Collaboration & Review
- Planning & Construction Sequence
- Construction Simulation
- Cost Estimation & QS
- Advance Model

BIM Engineer Course (Engineering)

- MEP Fundamental Modeling
- MEP Advanced Modeling
- C&S Fundamental Modeling
- C&S Advanced Modeling
- Archi Fundamental Modeling
- Archi Advanced Modeling
- Model Clash Analysis, Collaboration & Review
- BIM for Asset Management
- Laser Scanning Acquisition and Processing
- Geographic Information System

Coming Soon