



Sungei Kadut Eco-District



Punggol Digital District



# Digitising JTC's Industrial Development Projects



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Building Projects, Digitalisation  
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For Presentation

[CONFIDENTIAL/SENSITIVE NORMAL]

# Industrial Infrastructural Challenges

## Growing Portfolio

- Increasing Properties to Manage
- Increased Workmen under Supervision



## Sustainability

- Increasing Focus on Sustainability
- Rising Operating & Energy Costs



## Manpower

- Labour Crunch
- Low Productivity



## Challenges

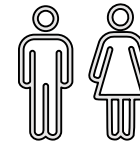
## Workplace Safety

- More Complex Buildings Leading to More Safety Risks On-site



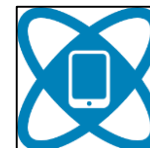
## Customers

- Rising Expectations for Service Levels
- Increasing Demand for Shorter Down-times, preferably No Down-times



## Technology

- Rapid Technological Advancements



# What is Digitalisation?

Digitalization is about the use of the essential data and information built into digital businesses processes to drive business needs. At the very core of digitalization is the people, who is complemented by technology. It's only when processes are well designed, data well defined and the competency of the people improved that we will see the benefits of digitalization.

Digitalisation must not be technology driven.



**People**



**Process**



**Technology**



**SMART Estate** is the enabling of public users and tenants to utilize/interact with the as built environment in a smart and integrated way through technology

### District Data

Machine Learning  
Data Analytics  
Artificial Intelligence

### Customer Portal

Marketing  
Leasing  
3D Walkthrough

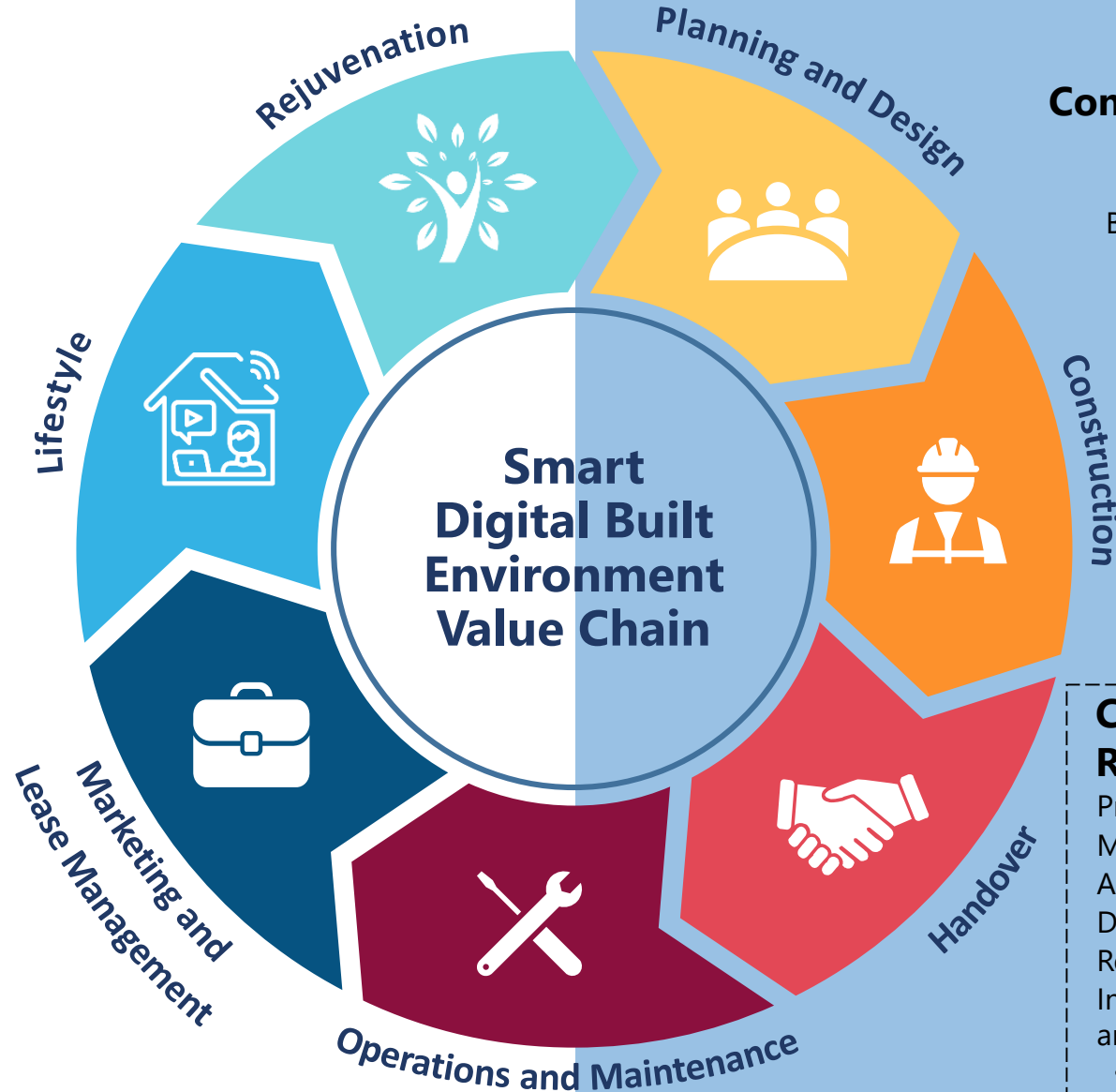
**ODP** is primarily focused on  
(1) Operations & Maintenance  
(2) Lifestyle

### Improved User Experience

E-payment	Access Control
Smart Parking	District App
Urban Logistics	Smart Retail

### Centralised Systems

SMART FM  
ODP  
AI-operated District



**IDD** is the digitalisation and integration of project execution activities from planning/design all the way to handover

### Content Creation & Checks

BIM-GIS Integration  
Computational Design  
Building Performance Analysis

### Project Delivery Management

Submission Module  
File Management Module  
Records Module  
Project Management Module  
Project Reporting Dashboard  
Payment Module  
Model Server  
Corp Data Hub

**OPTIMUS  
& JTC's  
Connected  
Environment**

### Construction & Resource Management

Project Progress Module  
Manpower Management  
Access Control  
Defects Management  
Reality Capture  
Integration with site installations and devices:

- Bluetooth Tracker/Wearables
- Drones, CCTV, AI Cameras
- Biometric Gantries

**BUILDING**

**INFORMATION**

**MANAGEMENT**

*Enhanced by  
technology!*





INFORMATION REQUIREMENTS	MANAGEMENT	TECHNICAL
Information Exchanges	Modelling/ Drawing Standards	Data Exchange Formats
Information Delivery Plan	Coordination and Clash Detection	Virtual Design Construction (VDC) Requirements
BIM Deliverable	Compliance (Quality Assurance)	Integrated Digital Delivery (IDD) Requirements
Asset Information Requirements	Schemas, Codes and Nomenclature	BIM Project Requirements
Model Content Plan	Data Security	Project Information Plan





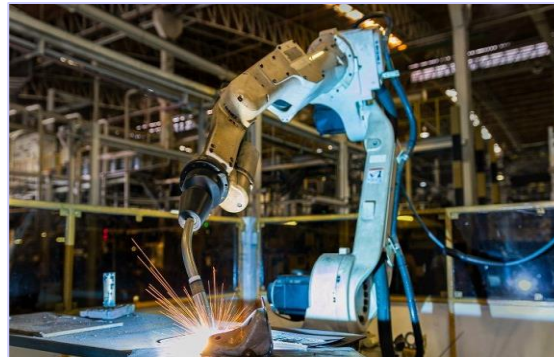
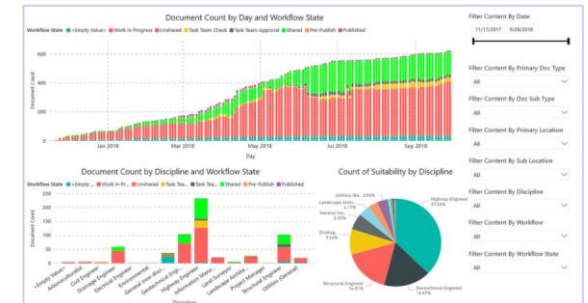
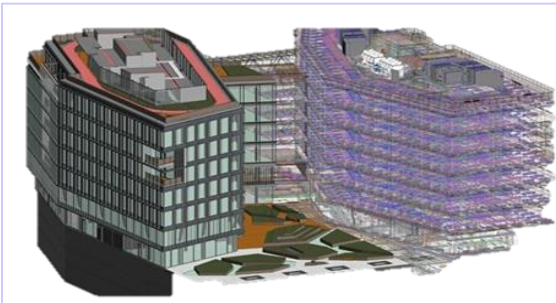
# Integrated Digital Delivery (IDD)

Digital Design

Digital Manufacturing  
& Fabrication

Digital Construction  
(+ Quality and Safety)

Digital Asset Delivery  
& Management





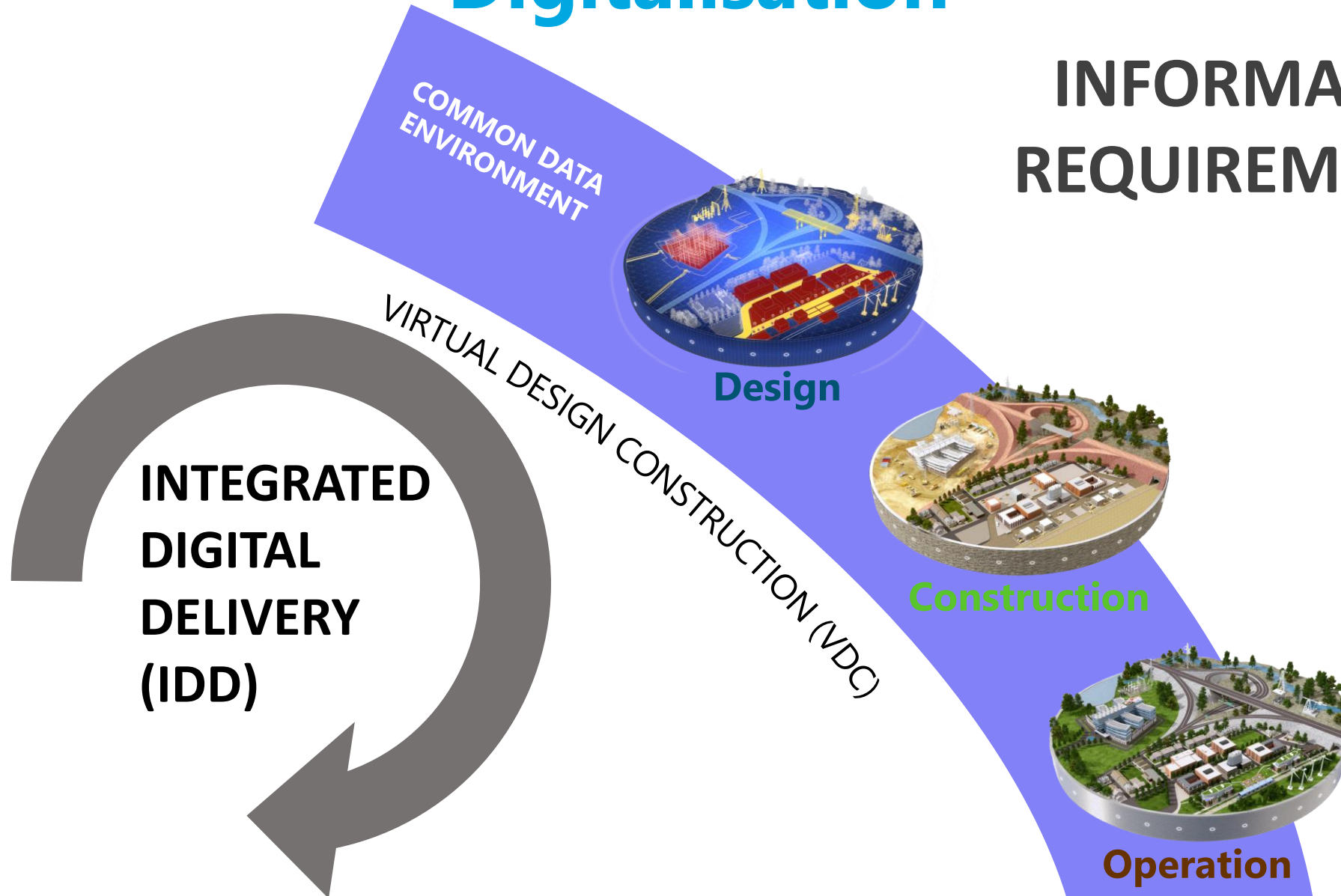
# Common -> Connected Data Environment (OPTIMUS)





# Integrated Digital Delivery End to End Digitalisation

**INFORMATION  
REQUIREMENTS**





# DELIVERING KRANJI GREEN (MULTI-STOREY RECYCLING FACTORY) THROUGH IDD-DFMA

Developer



Main Contractor



Consultants

architects61



Davis Langdon KPK  
An AECOM Company