

Gathering21

Construction Innovations
for Future Generations

CitA

Day Two

Wednesday 22nd September 2021

Gathering21

Construction Innovations
for Future Generations

CitA

Applied Innovation Approach for Digital Transformation at the House of Commons Canada: *How Digital Delivery and Digital Twins are Challenging Norms in Public Sector Asset Lifecycle*



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5th CitA BIM Gathering Virtual Conference

21 - 23 September 2021

2021-09-22

CITA 21 | S. KEENLSIDE



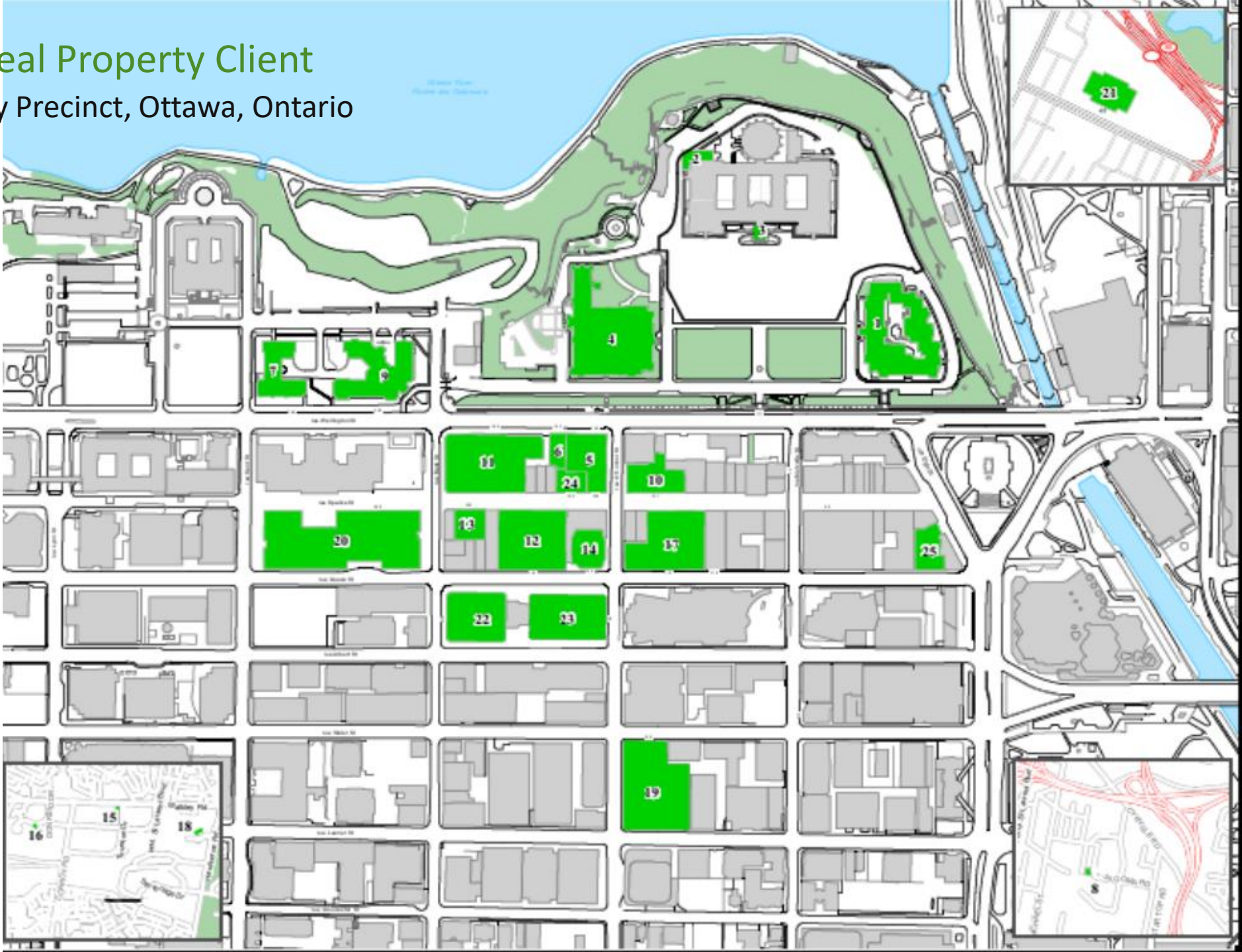






HOC is a Real Property Client

Parliamentary Precinct, Ottawa, Ontario





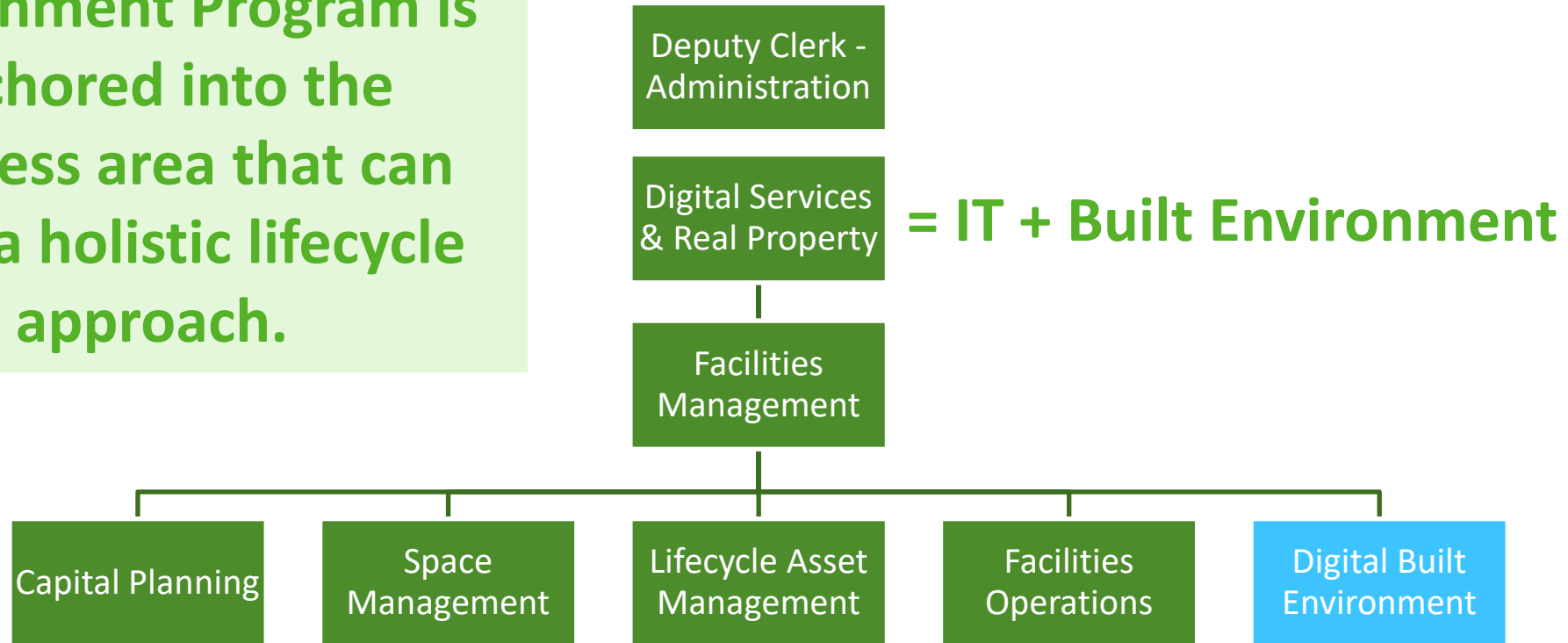
HOC is an Asset Owner

- Physical Assets
 - Space
 - Furniture
 - Equipment
 - Connectivity
- Digital Assets are Assets Too
 - Geospatial Data
 - Operational Data
 - Project Data

The information must be coordinated across various stakeholders and service areas.



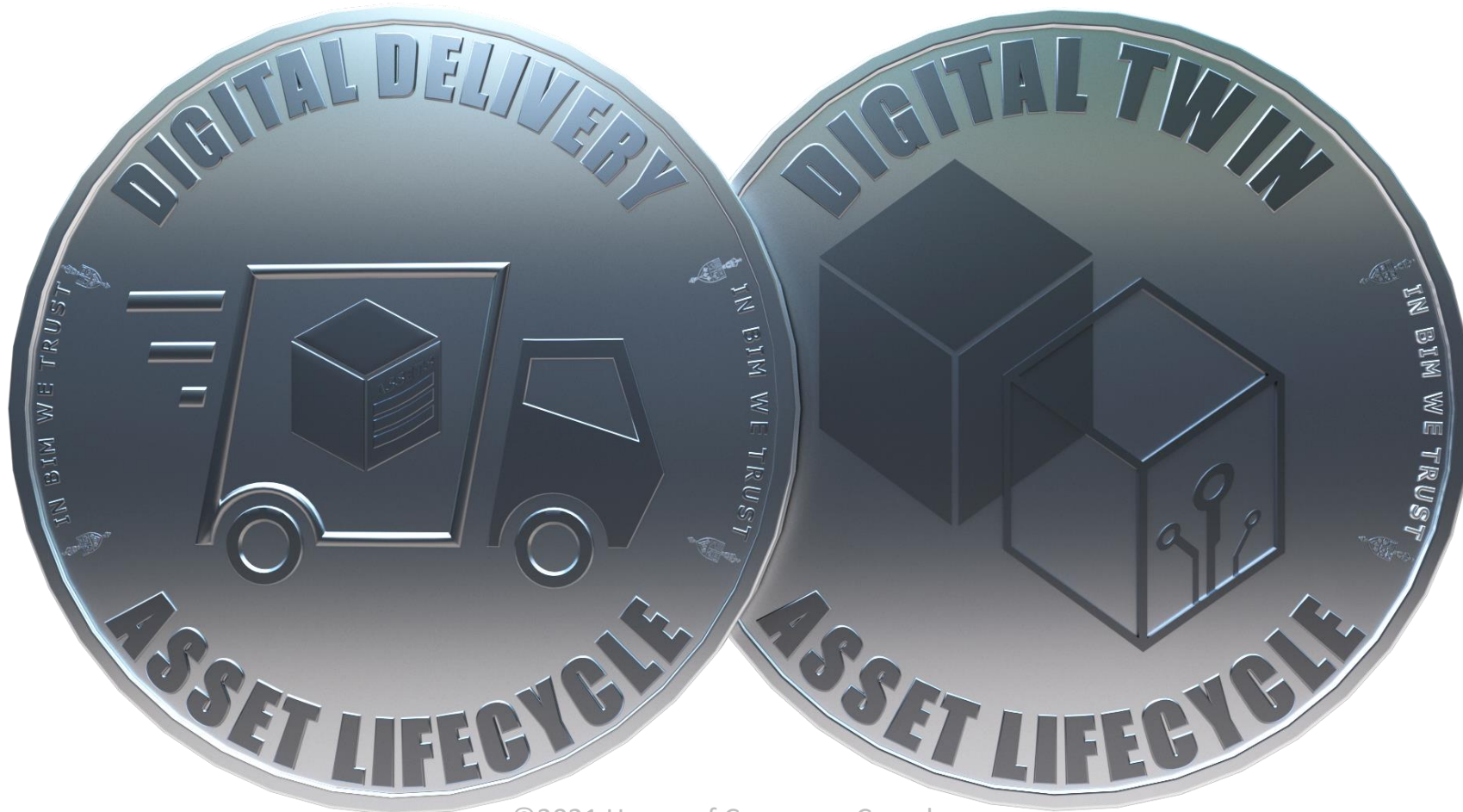
The Digital Built Environment Program is anchored into the business area that can drive a holistic lifecycle approach.



DIGITAL Semantics with a History



PLAN
DESIGN
CONSTRUCT
COMMISSION



HANDOVER
OPERATE
MAINTAIN
LIFECYCLE

Digital Built Environment Strategy at HOC



Vision

A coordinated, real-time digital repository of built environment information.

Mission

Digitally transform to a Digital Built Environment ecosystem of applications and processes inline with industry standards, project requirements and business use cases.

Digital Built Environment Strategy at HOC

Implementation Plan

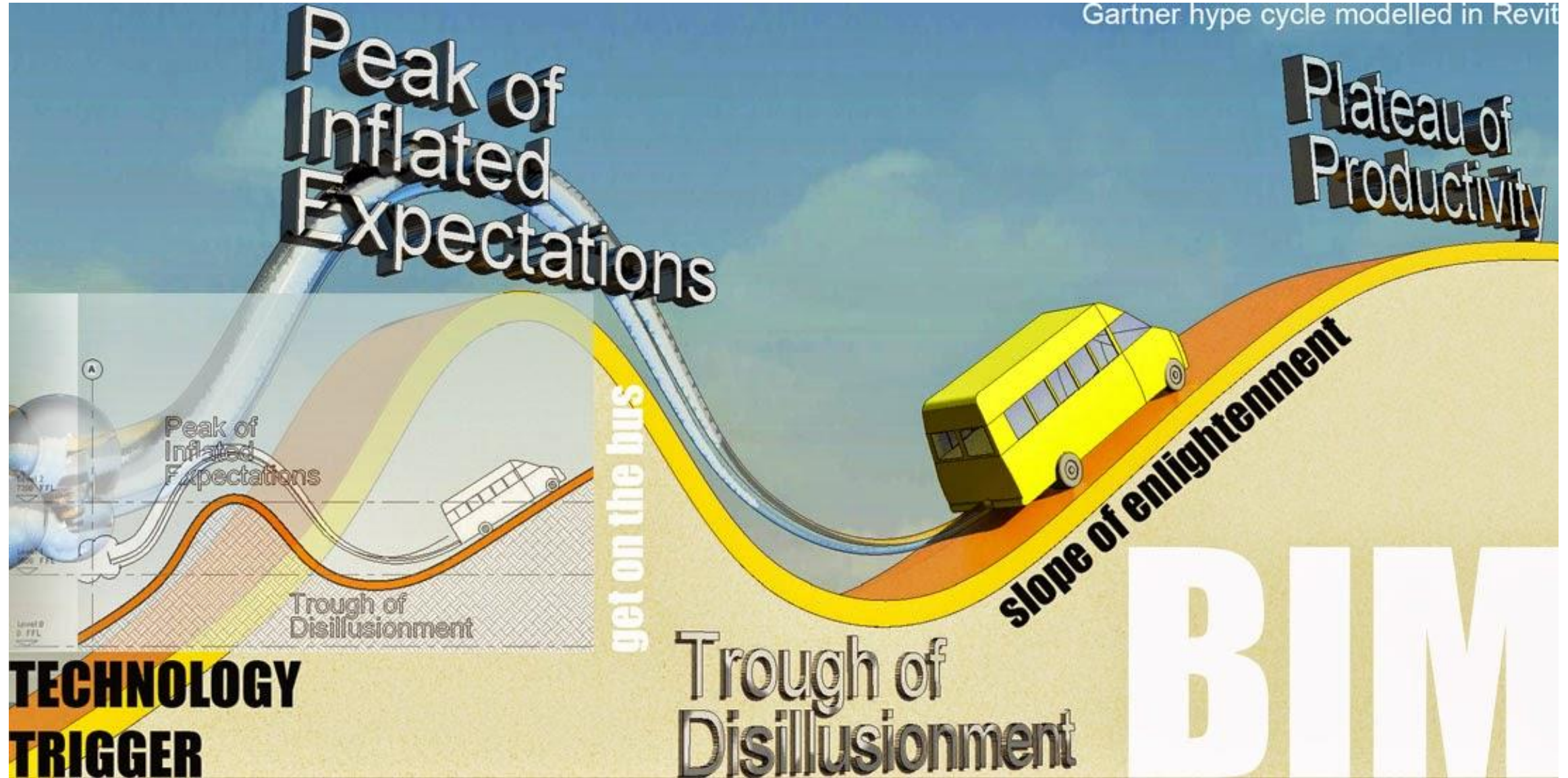


- ‘Use Cases’ are a Focal Point for Deployment
 - High priority business needs / Low hanging fruit concept
 - Clear Objective(s), Scope & Timelines / Metrics of Success
 - Proof of Concept, Agile and Pilot Project concepts leveraged
 - PM/Lead & SMEs assigned; Governance for oversight
- Upskilling using Just-In-Time Training, supported by Mentoring and Reference Documentation
- Upgrading hardware, software & licensing types where needed



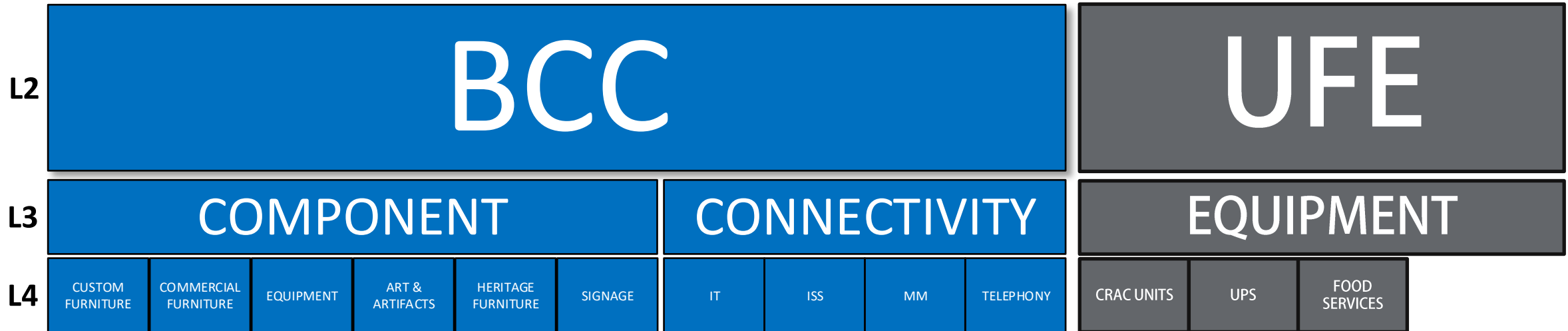
High Level Use Cases @ HOC

- #1: Building Components and Connectivity with Data Management/BIM
- #2: Facilities Management, Lifecycle Asset Management & Facilities Operations
- #3: Existing Conditions with Real-Time Visualization
 - *N.B.* Other use cases have been identified for our business as part of our Roadmap, yet to be deployed.



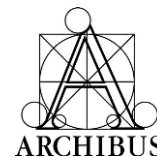
Digital Delivery Scope for CBR

Standard BCC WBS + Unique Facility Elements

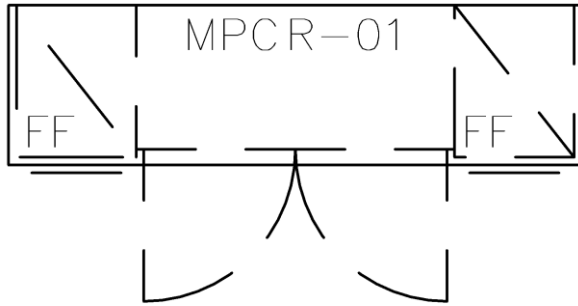


CLIENT REQUIREMENTS + LIFECYCLE ASSET MANAGEMENT

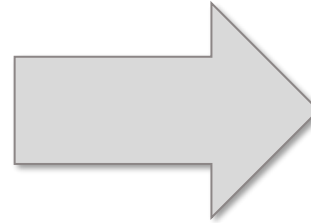
MODEL-BASED AS-BUILT HANDOVER



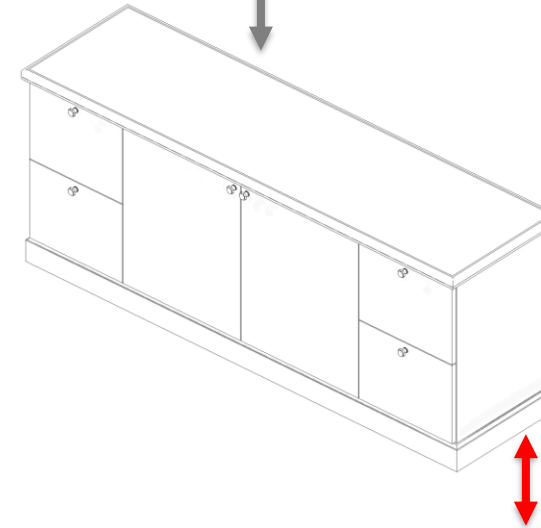
CAD & BC Library



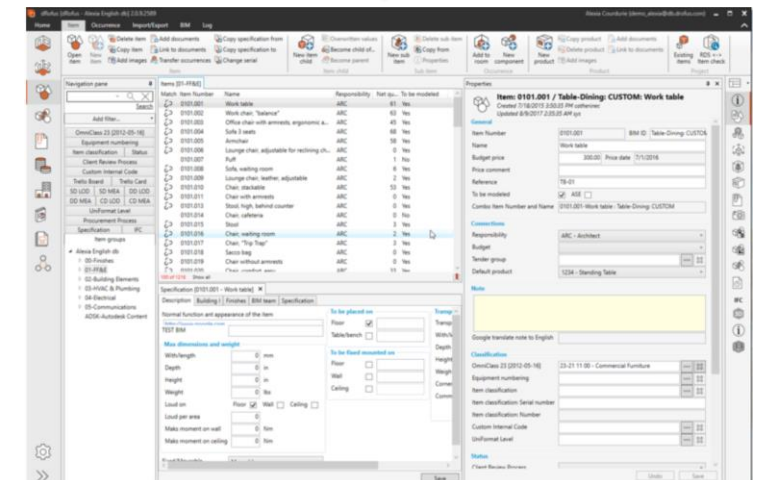
Process Step-Change



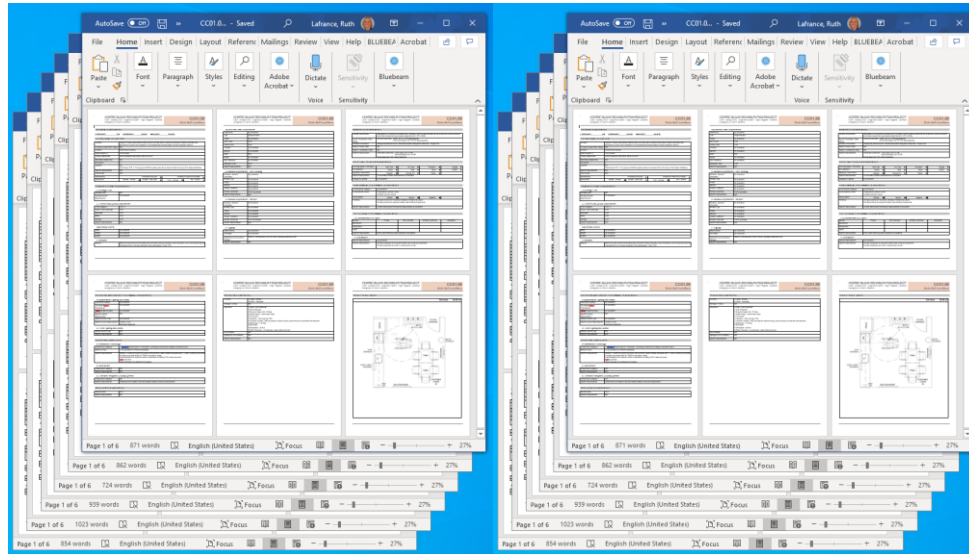
BIM (Revit) & dRofus



COMPONENT_CODE	COMPONENT_NAME	DESCRIPTION	COMPONENT_TYPE	CATEGORY	MANUFACTURE	MODEL	MANDATORY	MANDATOR FROM	CAD BLOCK	SPECIFICATIONS / NOTES
MPCB-01	Cabinet - MP	Cabinet - MP	Furniture	402 Custom - Casework	Custom		CUSTOM COMPONENT - NO MANDATORIES REQUIRED. REFER TO CUSTOM DRAWING PACKAGES		5-UP/ACT-000000-CAD001-INC CAD BLOCK: 5-UP/ACT-000000-FURNITURE & 5-UP/MP/ACT-000 Custom Casework.dwg	
MPCT-01	Table - MP Coffee	Table - MP Coffee	Furniture	402 Custom - Tables Custom			CUSTOM COMPONENT - NO MANDATORIES REQUIRED. REFER TO CUSTOM DRAWING PACKAGES		5-UP/ACT-000000-CAD001-INC CAD BLOCK: 5-UP/ACT-000000-FURNITURE & 5-UP/MP/ACT-000 Custom Tables.dwg	
MPCD-01	Chair - Dining, MP High	Chair - Dining, MP High	Furniture	303 Seating	Cape Contract	Cape Contract, Linka K232	<ul style="list-style-type: none">- Medium height side chair with contemporary design. Fully upholstered with solid wood legs. Connected back.- Chair height: 40.5" (10.27") x 18.5" (46.95 cm) x 21.5" (54.61 cm) x 18.5" (46.95 cm)- Integrated seat cushion height: 13" (32 mm (3.1"))- 4" (10.16 cm) solid wood backrest back and the rear cross member as the back.- Back angle: 105-121°; Back thickness: 30-40 mm (3.1-4.7")- Seat height: 47.6-48.9 mm (1.87-1.93")- Floor to top of seat: 19.5-20.5" (49.13-51.67")- Customer message on chair cushion: 18.5" (46.95 cm) x 18.5" (46.95 cm) or height as used. Floor legs to be vertical and back legs to be angled away from chair.- To be constructed from solid wood and/or using laminated veneer.- Legs to be integral to the frame for additional strength.- To suit high resistance and wear bars.	Logo: Manger KDS	https://www.mangerkds.com.au/ https://www.mangerkds.com.au/ https://www.mangerkds.com.au/ https://www.mangerkds.com.au/	
	Desk - MP		Furniture	402 Custom - Casework	Custom		CUSTOM COMPONENT - NO MANDATORIES REQUIRED. REFER TO CUSTOM DRAWING PACKAGES		5-UP/ACT-000000-CAD001-INC CAD BLOCK: 5-UP/ACT-000000-FURNITURE & 5-UP/MP/ACT-000 Custom Casework.dwg	



CB Functional Program



What used to be 500+ individual Room Data Sheet digital files...

...is now in one structured database.

dRofus [House of Commons - HoC-Centre Block Rehabilitation] 2.5.22.5514 Ruth Lafrance (ruth.lafrance@parl.gc.ca) - hoc-cbr@ca.drofus.com

Home Rooms Items Import/Export BIM Log

Copy Room Mark room as deleted Reactivate room Add Images Add documents Link to documents Open Create Unique Create from Template Create Derived Copy Room Data from Room Delete Room Data View Filter Room Name Manager Room Data <-> Item Checks Check for 'over specified' Project

Navigation pane

Search

Add filter...

Functions Groups Phase

HoC-Centre Block Rehabilitation

- CA - Chamber & Support Spaces
- CB - House Officers
- CC - House Officials
- CD - Committee Rooms
 - CD.01.0 - Large Committee Room 1
 - CD.02.0 - Large Committee Room 2
 - CD.04.0 - Meeting Room
 - CD.04.1 - West Block Re-fit
 - CD.05.0 - Special Events Room
- CE - IT/Multimedia
- CF - Protective Services
- CG - Food Services
- CH - Operational Services
- CI - Multi User Support Spaces
- CJ - Ceremonial Spaces
- CK - Parliamentary Press Gallery
- CL - Curatorial Services
- CM - Sourceplus
- CN - Welcome Services

Rooms [CD.01.0 - Large Committee Room 1]

Room Function #	HoC Functional...	Room Name and Room Description	1.0 SPATIAL CRITERIA - 1.1 A...
CD.01.0.0003	CD01.01	Large Committee Room 01	314.00
CD.01.0.0001	CD01.02	CR Crush Space	120.00
CD.01.0.0009	CD01.03	CR Vestibule	7.50
CD.01.0.0004	CD01.03a	CR BOH Vestibule	0.00
CD.01.0.0008	CD01.04.01	CR Telephone Booth	6.50
CD.01.0.0007	CD01.04.02	CR Telephone Booth	6.50
CD.01.0.0006	CD01.05	CR Coat Room	48.00
CD.01.0.0005	CD01.07	CR PVO Console	0.00
CD.01.0.0014	CD01.08	CR AV Tech Booth	7.00
CD.01.0.0016	CD01.09	CR TSA Equipment Closet	3.00

19 of 19

Sum Programmed Area: 800.50 Sum Designed Area: 0.00

Room Data [CD.01.0.0003 - Large Committee Room 01]

Derived from CD06.01

7.0 ELECTRICAL	8.0 LIGHTING AND CONTROLS	9.0 CONNECTIVITY	10.0 SECURITY	11.0 BUILDING COMPONENTS	12.0 REFERENCE LAYOUT
1.0 SPATIAL CRITERIA	2.0 FUNCTIONAL DESCRIPTION	3.0 ARCHITECTURE	4.0 ACOUSTICS	5.0 LIFE SAFETY	6.0 MECHANICAL

1.1 Area Criteria

Existing Area: 253.27 m² Existing Address:

Functional Program Area: 314.00 m²

Building Program Area: 0.00 m²

Functional Area within Space: 0.00 m²

Included in RDS:

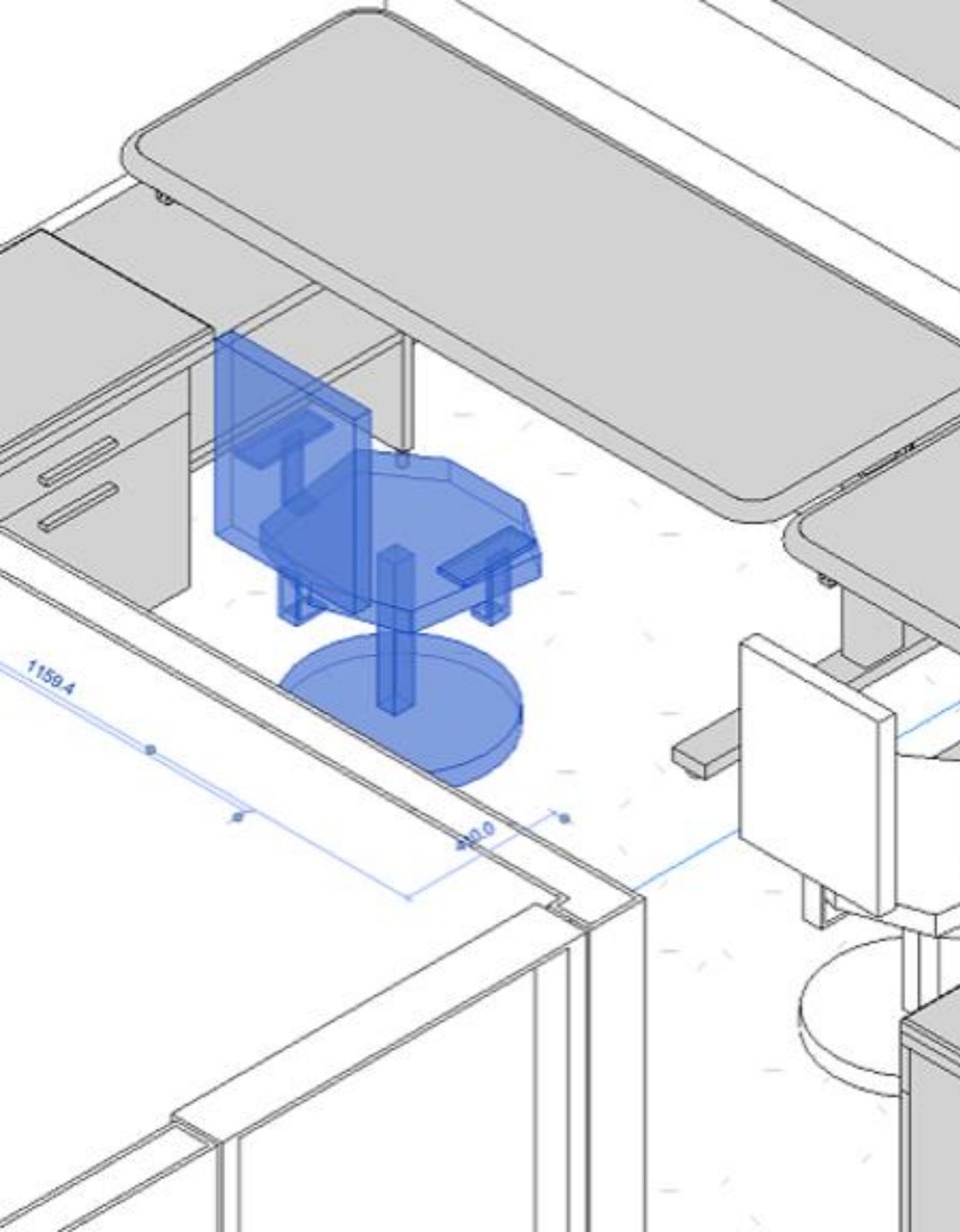
1.2 Functions included in RDS:

☒ CD06.07 CR PVO Console

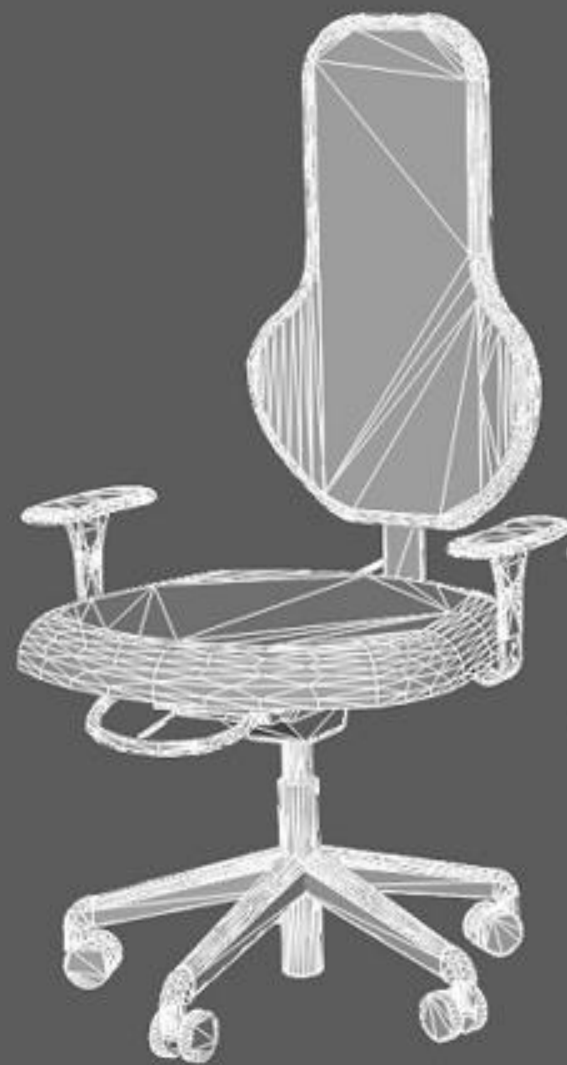
1.3 Specific Requirements:

Minimum clear height 4500 mm. To be reviewed during design based on the length and width dimensions of the room.

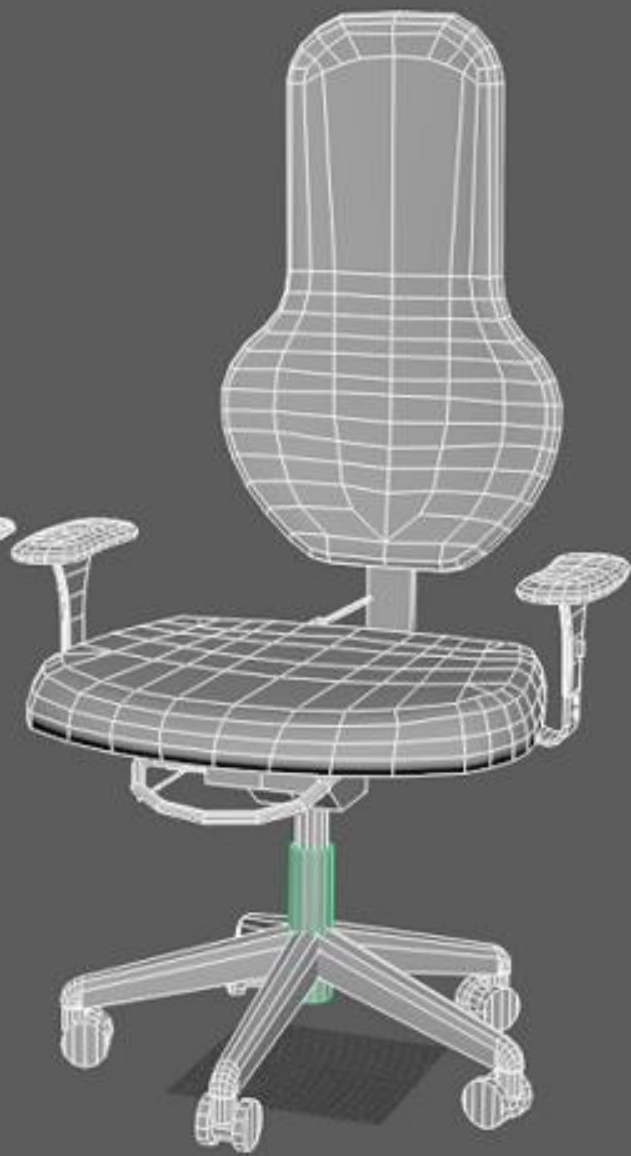
Save



10603 polygons



4334 polygons





A background image showing a group of business professionals in an office setting. A man in a grey shirt and striped tie stands in the center. To his right, a woman in a striped top is partially visible. In the foreground, several hands are reaching towards a table with papers, a pen, and sticky notes. The overall tone is professional and collaborative.

The HOC recommends...

Digital Delivery Office for LTVP Projects

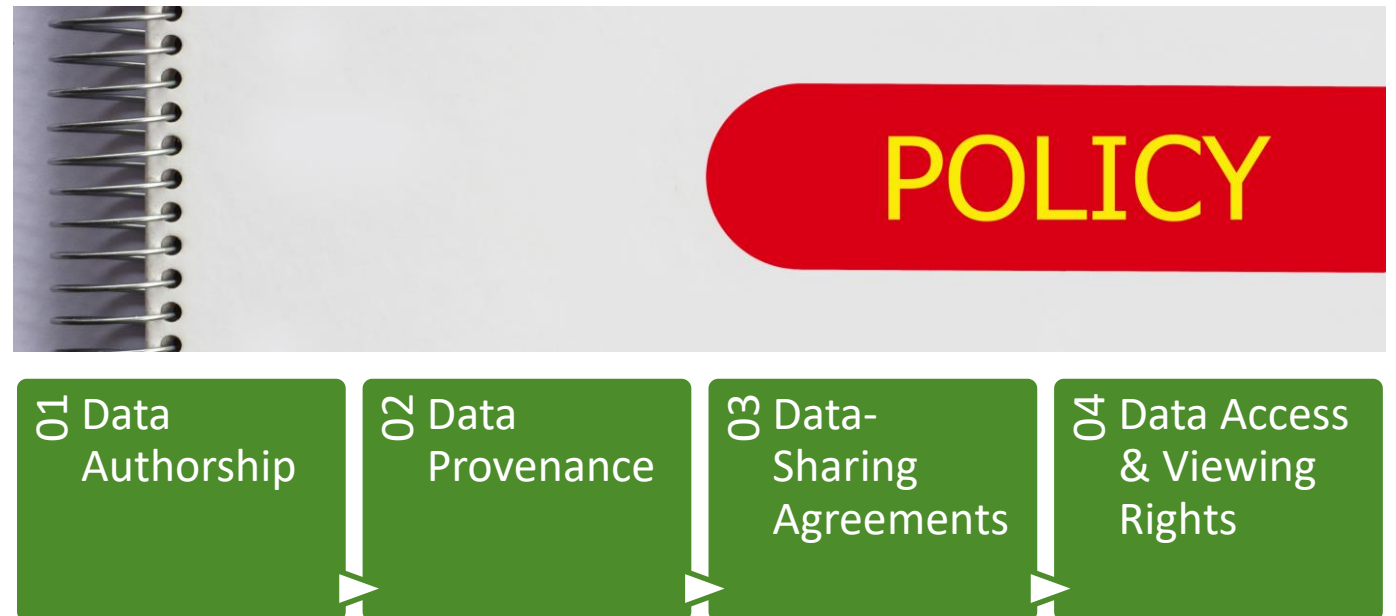


Using Policy to Address Change

- *Our Next Frontier:*
 - Exploring what Policy can do to set up a DBE outcome for success in our public sector multi-stakeholder reality

Digital Assets are Assets Too

- Geospatial Data
- Operational Data
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Thank You.

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