



Jafriandi, A.md.

ME BIM MODELER
PT. JAYA OBAYASHI

MagiCAD Implementation In Jaya Obayashi



MECHANICAL & ELECTRICAL DESIGN DIVISION

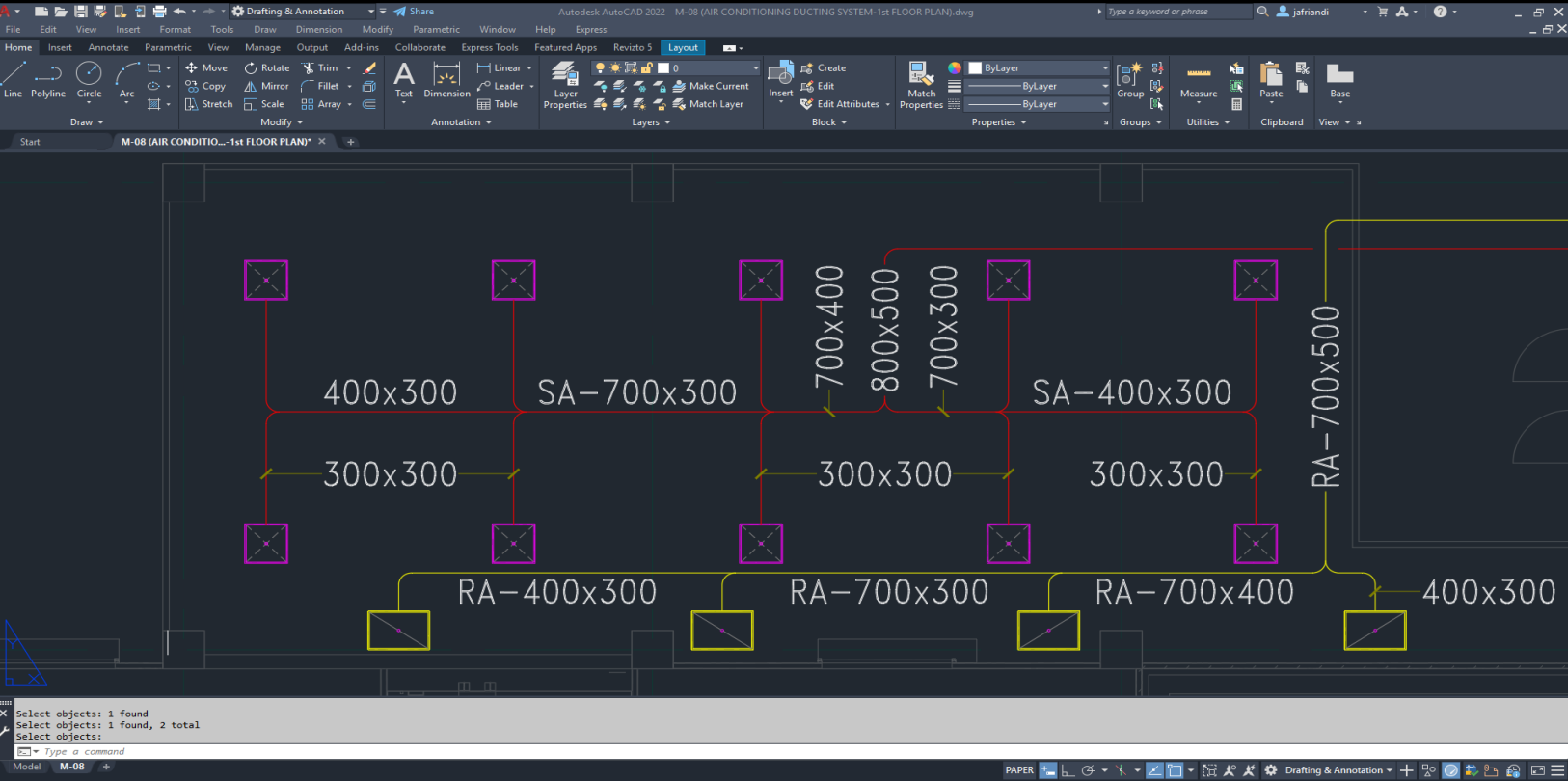
JAYA OBAYASHI – INTEGRATED DESIGN & BUILD SOLUTION PROVIDER



	Step 1	Step 2	Step 3	Step 4	Step 5	Step 6	Step 7
PROCESS	CLIENT'S INFORMATION	MARKETING REVIEW	DESIGN & ENGINEERING	COST ESTIMATION	CLIENT SUBMISSION	BUILDING PERMIT	CONSTRUCTION
WHO'S INVOLVED	<ul style="list-style-type: none"> GA/ADMIN DEPT. (MARKETING DIVISION) JAYA OBAYASHI BOD OBAYASHI APRHQ (SUPPORT) 	<ul style="list-style-type: none"> GA/ADMIN DEPT. (MARKETING) JAYA OBAYASHI BOD OBAYASHI APRHQ (SUPPORT) 	<ul style="list-style-type: none"> DESIGN DEPT. ENGINEERING DEPT. OBAYASHI APRHQ (SUPPORT) 	<ul style="list-style-type: none"> ESTIMATE DEPT. ENGINEERING DEPT. OBAYASHI APRHQ (SUPPORT) 	<ul style="list-style-type: none"> MARKETING DEPT. GA/ADMIN DEPT. 	<ul style="list-style-type: none"> BUILDING PERMIT CONSULTANT DESIGN DEPT. (SUPPORT) 	<ul style="list-style-type: none"> CONSTRUCTION DEPT.
WHAT WE DO	<ul style="list-style-type: none"> Gather relevant project information and client's requirement 	<ul style="list-style-type: none"> Communicate the project requirements to relevant stakeholders Identify the project risks & feasibility study Setup a project delivery strategy 	<ul style="list-style-type: none"> Design & technical specification review by design team Design compliance study Planning, schedule, and cost review Value Engineering Study 	<ul style="list-style-type: none"> Cost estimation based on client's requirement Cost estimation based on JO's value engineering proposal. 	<ul style="list-style-type: none"> Submission of project deliverables as per client's requirement. Contract documents preparation 	<ul style="list-style-type: none"> Engage with long-time partner consultant specialized with building permit application in Indonesia with support from design team 	<ul style="list-style-type: none"> Construction process with QA/QC assurance as per Jaya Obayashi's standard. Maintenance & defect liability period.

BIM TECHNOLOGY JOURNEY

FOR MEP SYSTEM IN JAYA OBAYASHI



<2018

2018

2019

2020

2021

2022

ME Designs are all done using 2D methods in AutoCAD

BIM TECHNOLOGY JOURNEY

FOR MEP SYSTEM IN JAYA OBAYASHI

Glodon 10TH

2020

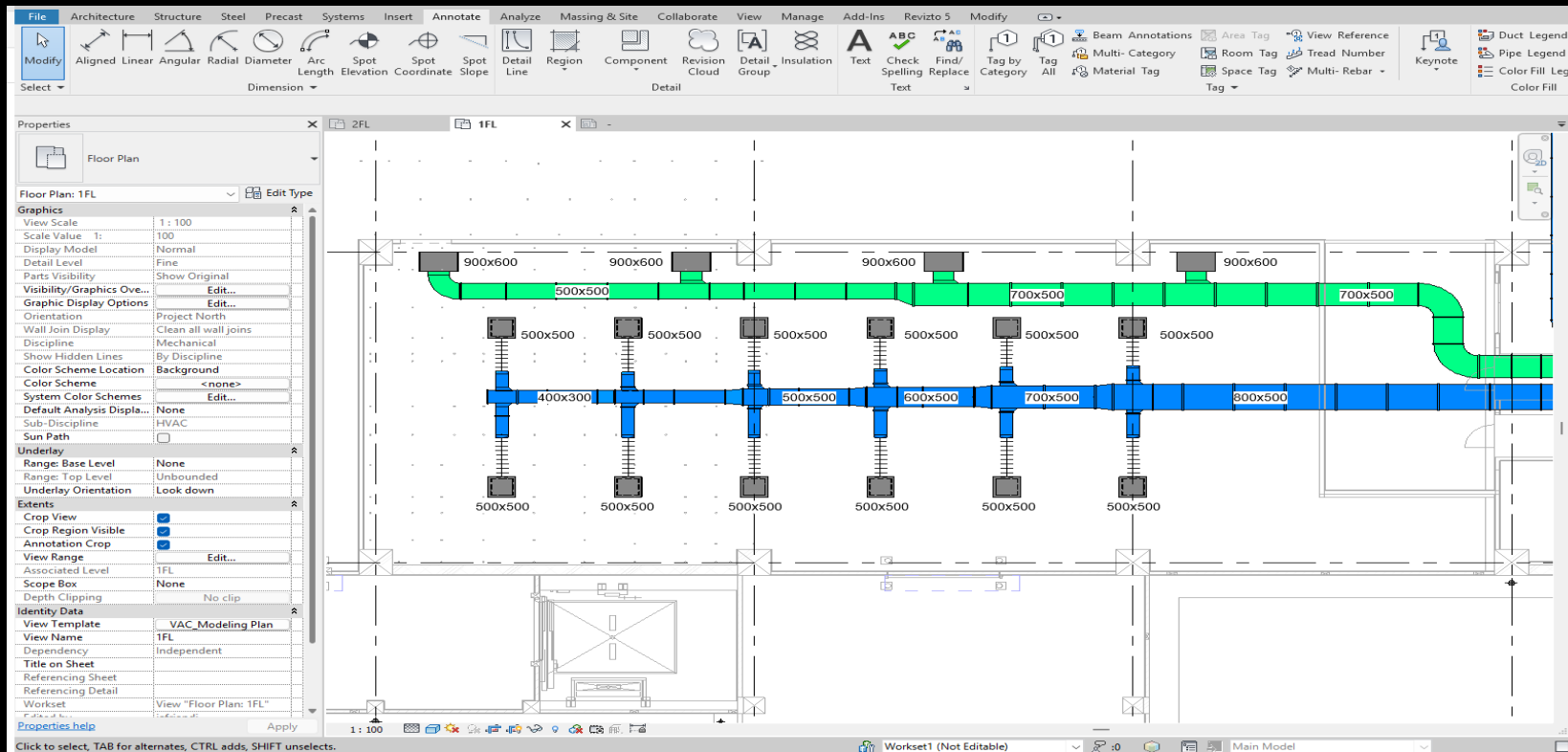
2021

2022

2023

Tipping Point

ME Designs are all done
using **BIM Technology**
in Autodesk Revit

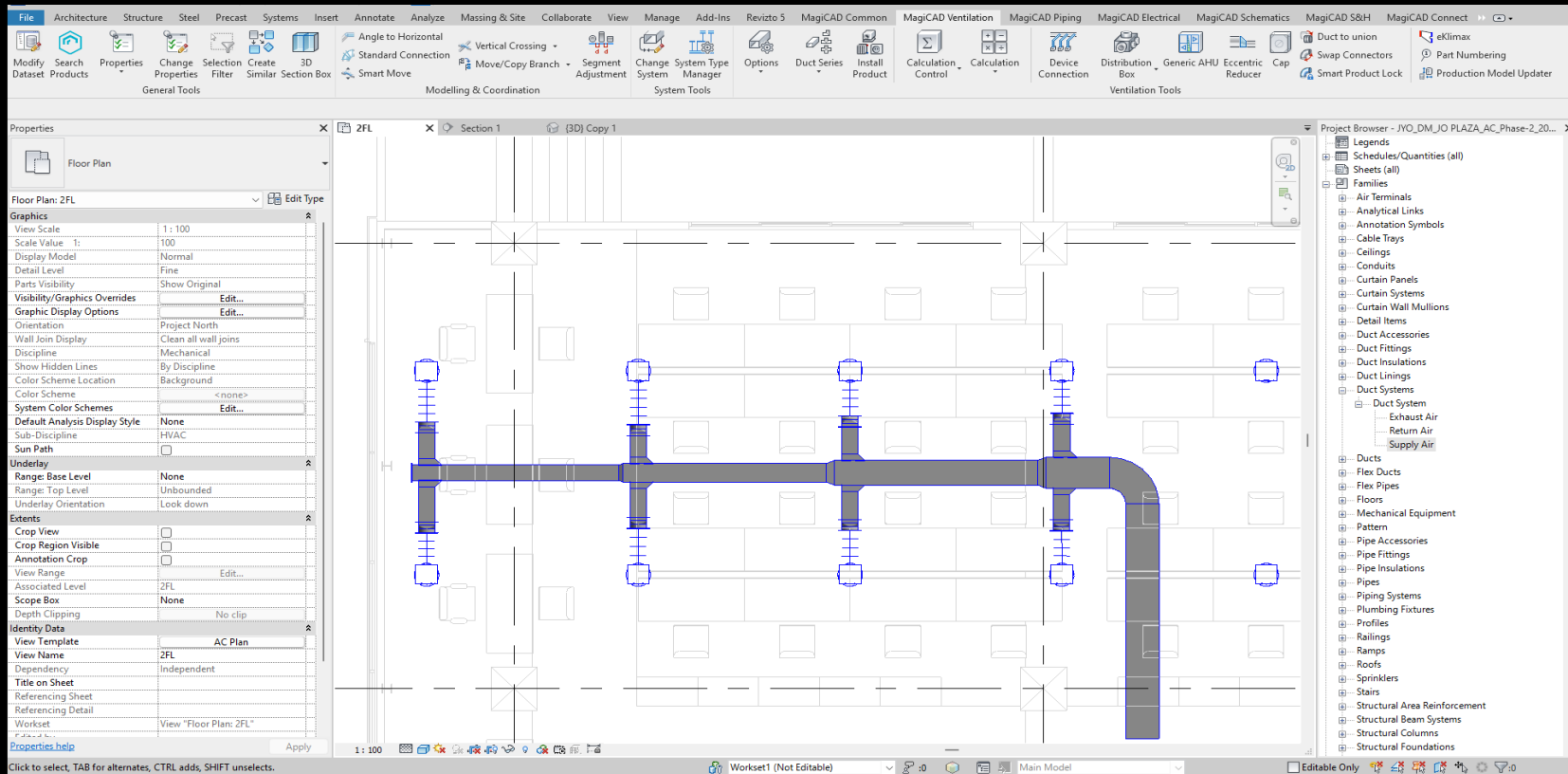


BIM TECHNOLOGY JOURNEY

FOR MEP SYSTEM IN JAYA OBAYASHI



2024

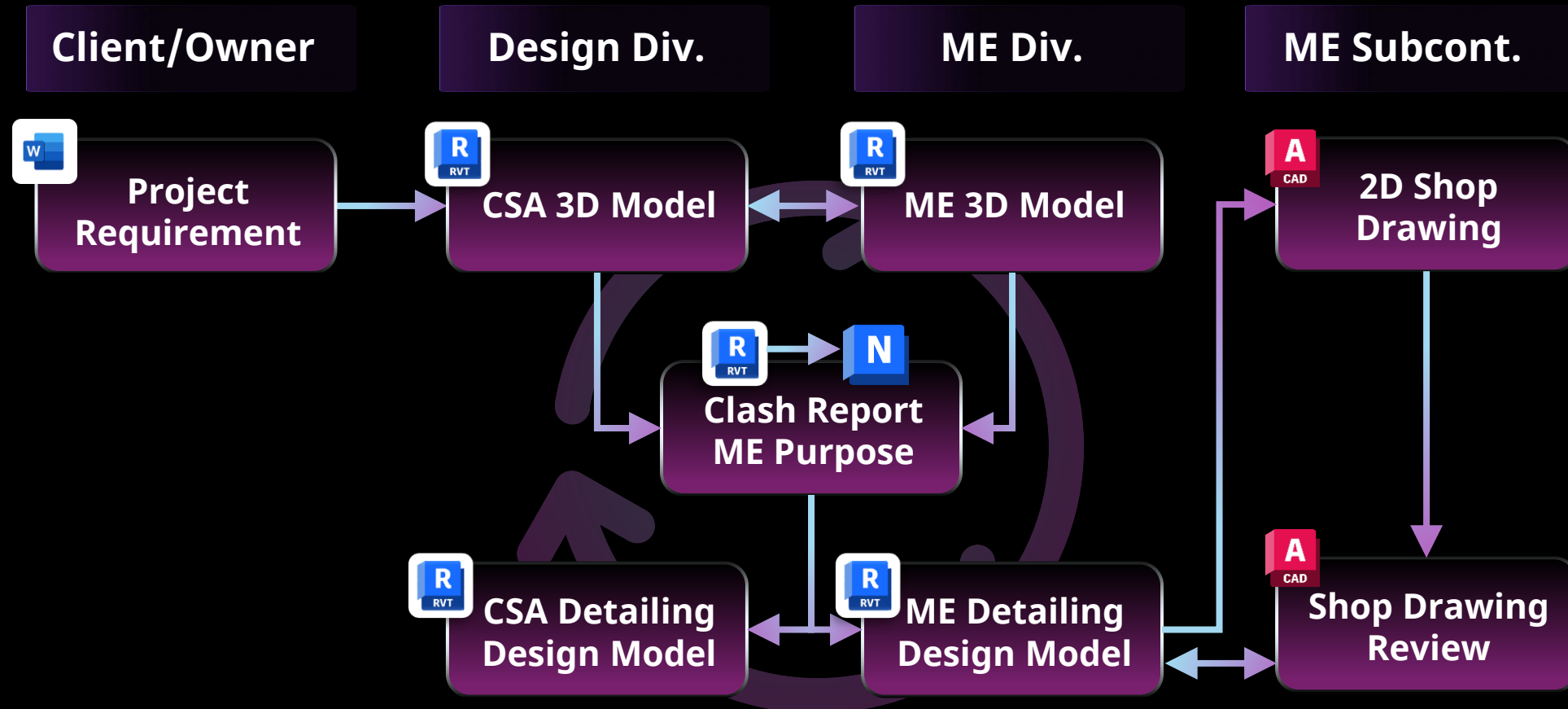


2025

Acceleration
ME Designs are all done
using BIM Technology
in Autodesk Revit
with MagiCAD

BIM WORKFLOW

BEFORE MAGICAD ADOPTION



BIM CHALLENGES

AND HOW MAGICAD HELPS

Family in Revit

QPD in MagiCAD

Limited Family

No Specification
Diagram in Family

More Choices QPD
from MagiCAD

Specification
Diagram Available

Specification data
is used for
duct/pipe sizing

ME Detailing Design Model

Glodon 10™

General Properties

User code:

Description: Adjustable Radial Outlet

Manufacturer: Krantz

Product: RA-V CON K RS

National code:

URL address: <https://www.krantz.de/en>

Object ID Format:

Product variables

Pv-1:

Pv-2:

Pv-3:

Pv-4:

Pv-5:

Defaults

Installation level of device: 2400 mm

Additional properties:

Installation code: - Not defined -

Open in MagiCAD Create:

BWO product offsets:

☐ Use limits from the balancing method

Limits of the pressure drop: Pa

Limits for Throttling: %

2D symbol

Air flow arrow:

2D symbol:

Update to project:

Product

Select...

Properties...

RFA in Revit project

RFA name: RA-V CON K RS

Category: Air terminals

Product Selection

Ventilation Piping Electrical

Supply Extract Outdoor supply Outdoor exhaust Climate beam Fan coil unit Air handling equipment Air flow damper Fire damper Silencer Other component Access panel Distribution box

Dataset

Filter text

User code Product

S5 VIVA-S-1 Climecon Supply air grille

S6 IN-V3 AKMR-Z-D Krantz Adjustable Induction Outlet

S7 ALE Halton Universal Grille

S8 DGA-4 Gilberts 4 way blow diffuser with standard border

S8 CBA Lindab Perforated diffuser - semicircular

S9 RA-V CON K RS Krantz Adjustable Radial Outlet

Specification Diagram

RA-V-D-RS-DN250-KOI-E

Ap [Pa]

qv [m³/h]

28 34 31 28 27 23 14

63 125 250 500 1k 2k 4k 8k

Sound power level [dB]

Total pressure level: 27 Lp10A

Flow: 350.0 m³/h

Velocity: 2.0 m/s

Pressure drop: 20.9 Pa

Install To Space...

BIM CHALLENGES

AND HOW MAGICAD HELPS



CLASH DETECTION IN REVIT

Check Clash with Naviswork

Clash report with HTML format

Only can locate clash elements by input Element ID manually

Can NOT update clash report after fixing

CLASH DETECTION WITH MAGICAD

Check clashes inside Revit

Report with BcfZip or PDF or Excel format

Locate clash elements by one click

Update clash report after fixing

Clash Detection in Revit

CLASH DETECTION BY MAGICAD

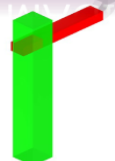
Topic title: Hard clash

Topic type: New clash

Last: 02/05/2025 14:03:09

Axis number: 10-C/11-B

Space:



Component name	Discipline	Category	Level	System	Element Id
Flanged Radius Bend / Shoe Branch	Mechanical	Ducts	1FL	Mechanical Ducting-6	1995575
2C3	Structural	Structural Columns	2FL		12769082

Topic title: Clash-000005

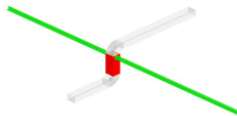
Topic type: Hard clash

Topic status: New clash

Last: 02/05/2025 14:03:09

Axis number: 9-C/10-C

Space:



Component name	Discipline	Category	Level	System	Element Id
TX_CT-250x200x10x16	Structural	Structural Framing	T.O.C.2		10038010
Flanged Radius Bend / Shoe Branch	Mechanical	Ducts	1FL	Mechanical Ducting-6	1994583

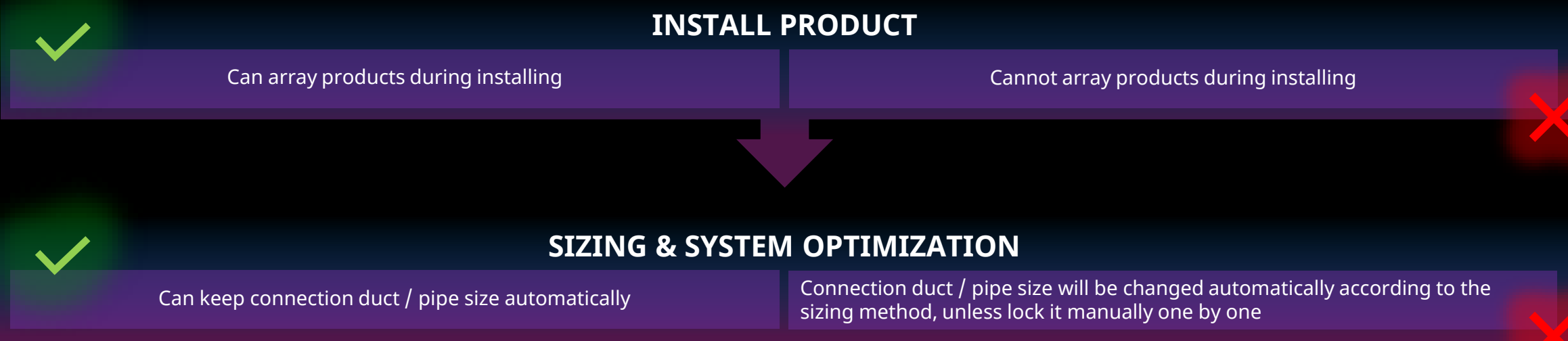
Topic title: Clash-000006

MagiCAD has been able to reduce the time required by **±40%** for the report clash detection process

Revit + MagiCAD offers more capability for Product Database and Engineering Calculation



Revit + MagiCAD

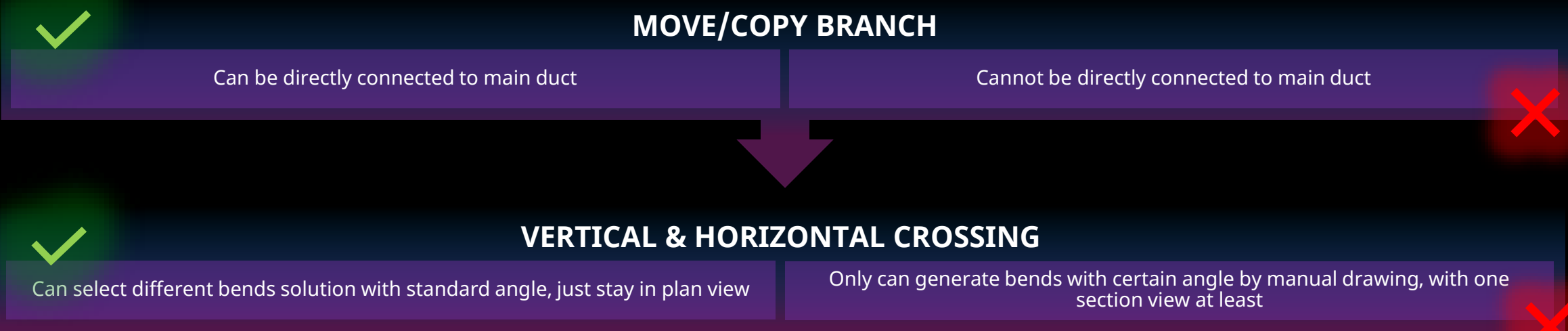


Revit Only

Revit + MagiCAD offers more capability for Productivity and Collaboration



Revit + MagiCAD

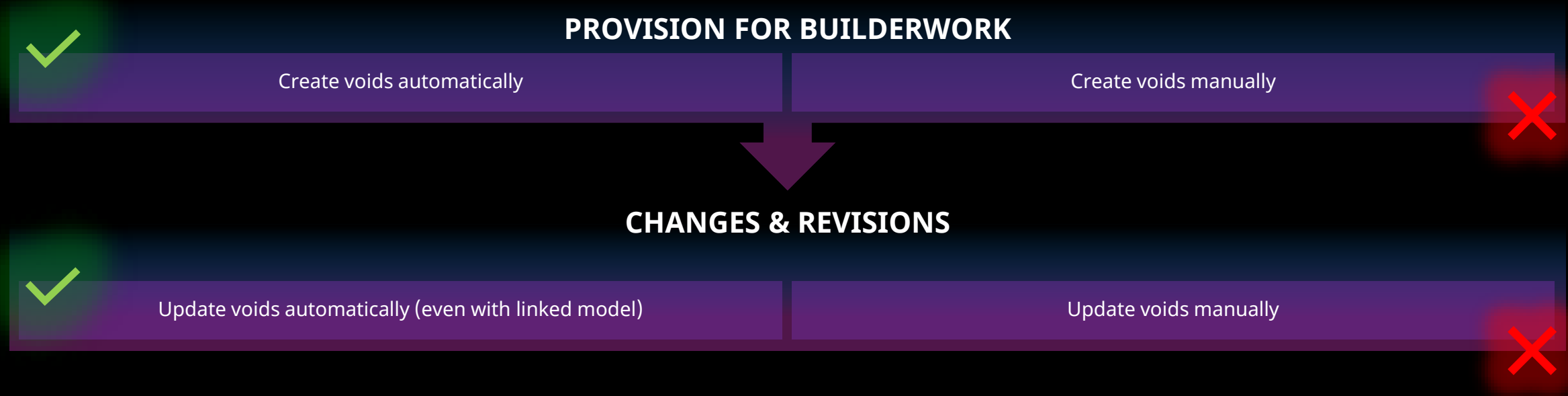


Revit Only

Revit + MagiCAD offers easier provision works in Advance Collaboration Function

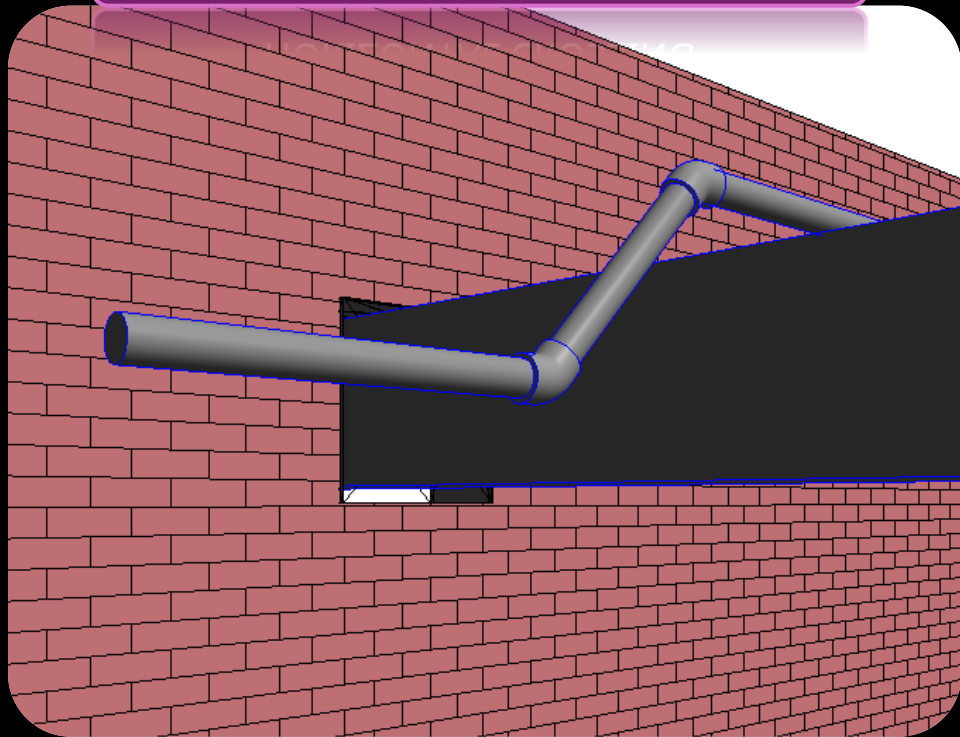


Revit + MagiCAD



Revit Only

PROVISION FOR BUILDERSWORK & HORIZONTAL CROSSING



SIZING IN MAGICAD

MagiCAD - Ductwork Sizing Report

☒ Supply
 ☐ Outdoor supply
 ☐ General results
 ☐ Ignore diversity

☐ Extract
 ☐ Outdoor exhaust

Update sizing

Location	Level	Node	Type	Series	Product	Size	Old size	L [m]	Insulation	qv [m³/h]	v [m/s]	dp/L [Pa/m]	Sizing method	Warnings
2FL			DUCT	Flanged Radius	Flanged Radius	500x300		0.9		2800.0	5.2	0.79	1 Pa/m	
2FL			DUCT	Flanged Radius	Flanged Radius	500x300		0.3		2800.0	5.2		1 Pa/m	
2FL		23	TAP	Flanged Radius	Standard	300x300				1400.0	4.3			
2FL			DUCT	Flanged Radius	Flanged Radius	300x300		1.1		1400.0	4.3	0.75	1 Pa/m	
2FL			DUCT	Flanged Radius	Flanged Radius	300x300		0.4		1400.0	4.3		1 Pa/m	
2FL		18	TAP	Flanged Radius	Standard	250x250				350.0	1.6			
2FL			DUCT	Flanged Radius	Flanged Radius	250x250		0.5		350.0	1.6	0.15	1 Pa/m	
2FL			REDUCER	Flanged Radius	Standard	250x250/250				350.0	1.6			
2FL			DUCT	Flex - Round	Flex - Round	250		0.5		350.0	2.0	0.23	1 Pa/m	
2FL		13	SUPPLY	RA-V-D-RS-DN	250					350.0	2.0			
2FL		19	TAP	Flanged Radius	Standard	250x250				350.0	1.6			
2FL			DUCT	Flanged Radius	Flanged Radius	250x250		0.5		350.0	1.6	0.15	1 Pa/m	
2FL			REDUCER	Flanged Radius	Standard	250x250/250				350.0	1.6			
2FL			DUCT	Flex - Round	Flex - Round	250		0.5		350.0	2.0	0.23	1 Pa/m	
2FL		11	SUPPLY	RA-V-D-RS-DN	250					350.0	2.0			
2FL			REDUCER	Flanged Radius	45 Degree	300x300/250x				700.0	2.2			
2FL			DUCT	Flanged Radius	Flanged Radius	250x250		2.8		700.0	3.1	0.51	1 Pa/m	
2FL			DUCT	Flanged Radius	Flanged Radius	250x250		0.3		700.0	3.1		1 Pa/m	
2FL		20	TAP	Flanged Radius	Standard	250x250				350.0	1.6			
2FL			DUCT	Flanged Radius	Flanged Radius	250x250		0.6		350.0	1.6	0.15	1 Pa/m	
2FL			REDUCER	Flanged Radius	Standard	250x250/250				350.0	1.6			
2FL			DUCT	Flex - Round	Flex - Round	250		0.5		350.0	2.0	0.23	1 Pa/m	
2FL		17	SUPPLY	RA-V-D-RS-DN	250					350.0	2.0			
2FL		21	TAP	Flanged Radius	Standard	250x250				350.0	1.6			
2FL			DUCT	Flanged Radius	Flanged Radius	250x250		0.5		350.0	1.6	0.15	1 Pa/m	
2FL			REDUCER	Flanged Radius	Standard	250x250/250				350.0	1.6			
2FL			DUCT	Flex - Round	Flex - Round	250		0.5		350.0	2.0	0.23	1 Pa/m	

Previous warning/error:
 Next warning/error:
 OK - Update to model
 Cancel

MagiCAD has been able to **reduce** the time required by **± 40%** for the Modeling process.

AFTER MAGICAD ADOPTION



GLODON TEAM SUPPORT ON MAGICAD ADAPTATION



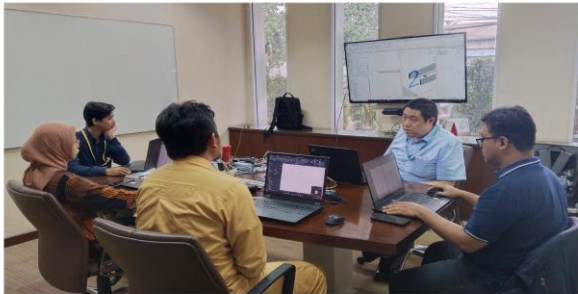
Date/Time	: Wednesday, February 26, 2025
Vanue	: Training Room - 1
Agenda	: MagiCAD Training (Day 1)
Speaker	: Pak Adam - PT Glodon Indonesia
Speaker	:



Date/Time	: Thursday, February 27, 2025
Vanue	: Training Room - 1
Agenda	: MagiCAD Training (Day 2)
Speaker	: Pak Adam - PT Glodon Indonesia
Speaker	:



Date/Time	: Friday, February 28, 2025
Vanue	: Meeting Room - 2 (Day 3)
Agenda	: MagiCAD Training (Day 3)
Speaker	: Pak Adam - PT Glodon Indonesia
Speaker	:



The Glodon team facilitates us by providing training both offline and online. And full support while using MagiCAD

ACTION FOR Next Step

After trying it in our pilot project, this year, we will expand the use of MagiCAD to every Design and Build project we get because *MagiCAD increases the productivity and speed of 3D MEP modeling*. And also try to maximize the features of the MagiCAD software to increase BIM productivity even faster.

And we hope our M&E sub-contractors will soon start using BIM Technology.



The background of the slide is a nighttime photograph of a city skyline. Several tall construction cranes are visible, their structures illuminated with bright red and blue lights. The city buildings in the background are also lit up, with various lights reflecting on the water in the foreground. A large, dark, diagonal shape cuts across the image from the top left towards the bottom right, creating a sense of depth and framing the text.

Thank You