



HBF Future Talent Conference

MMC – Modern Methods of Construction

Wyboston Lakes, Bedfordshire 20/2/20

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Stewart Milne Group

OFFSITE TIMBER EXCELLANCE FOR 40 YEARS

STEWART
Milne
GROUP



MMC Overview

Case Study – Stewart Milne Homes

Discussion – Housing Delivery Challenge: 3 x Questions

Collate & Present Thoughts

TODAYS AGENDA

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#

CATEGORY DEFINITION

1



Pre-manufacturing (3D primary structural systems)

2



Pre-manufacturing (2D primary structural systems)

3



Pre-manufacturing components (non-systemised primary structure)

4



Additive manufacturing (structural and non-structural)

5



Pre-manufacturing (non structural assemblies & sub-assemblies)

6



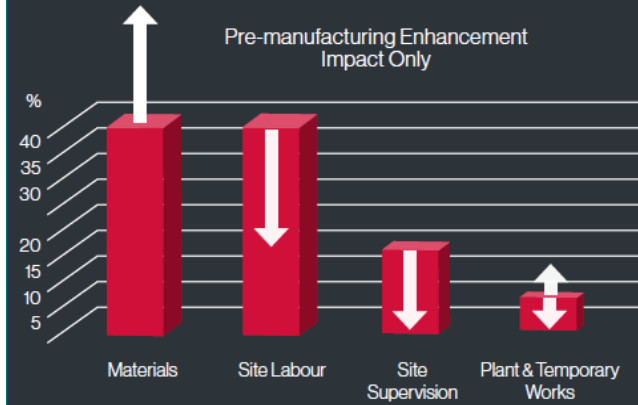
Traditional building product led site labour reduction / productivity improvements

7



Site process led site labour reduction / productivity / assurance improvements

CATEGORIES 1-5 PRE-MANUFACTURING LED APPROACHES



- General shift of site labour to controlled manufacturing processes
- Speed reduces site preliminaries including supervision
- Possible upward pressure on logistics / craneage

Categories

1



2



3



4



5



6



7



Off-site and near site pre-manufacturing

Site based process improvement





DFMA and Standardisation



Off Site Manufacturing & Integrated Suppliers



On Site Lean Assembly



Homes for Sale or Rent



MMC – OVERALL PROCESS



SUSTAINABILITY – ZERO CARBON FABRIC FIRST

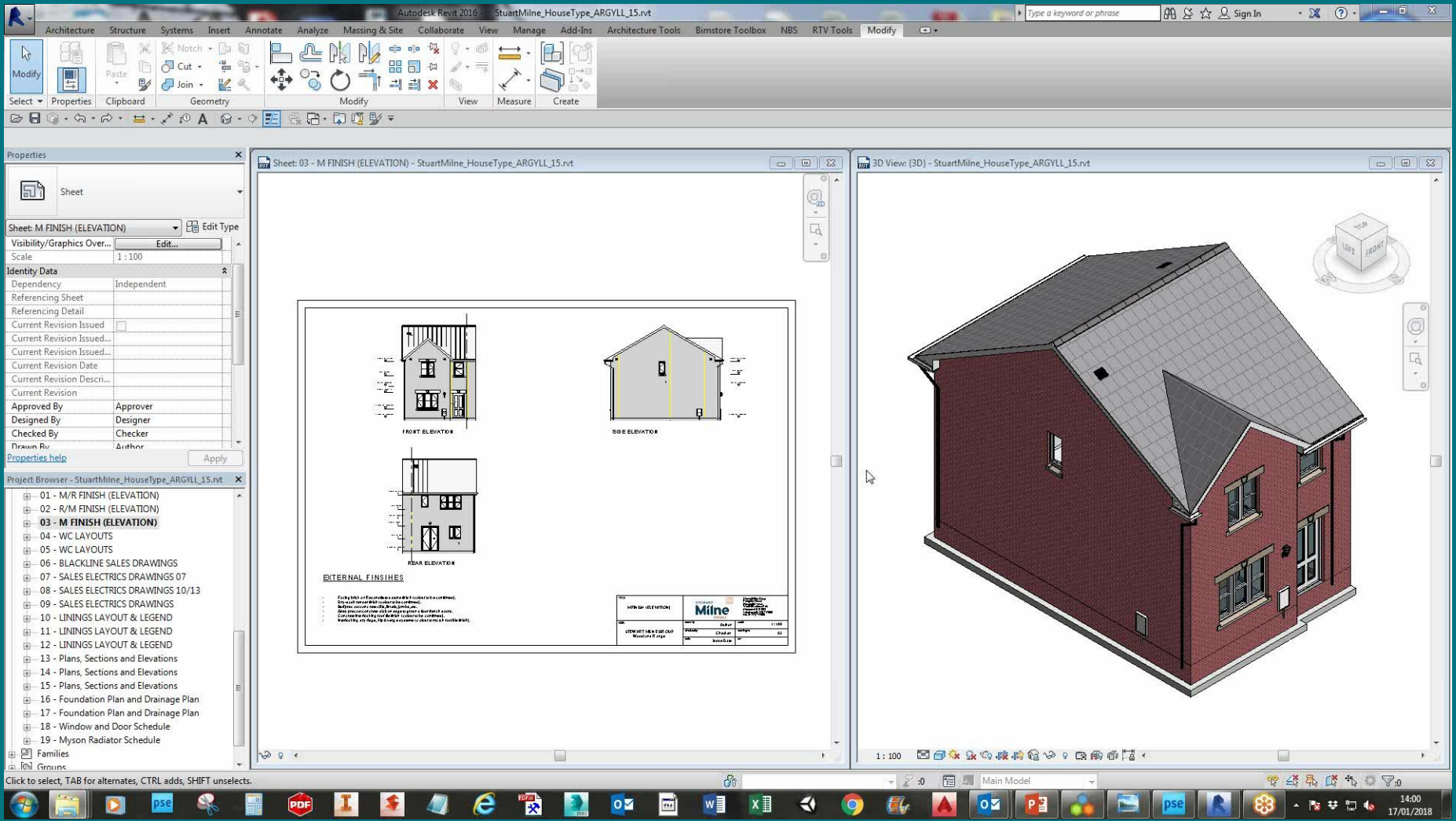
2 Bed House 79m ²	3 Bed House 97m ²	3 1/4 Bed House 119-145m ²	4 Bed House 167-177m ²
2 Storey • Narrow Fronted	2 Storey • Medium Fronted	3 Storey • Narrow Fronted	2 Storey • Wide Fronted
Plotting • Semi Detached • Terraced	Plotting • Detached • Semi Detached	Plotting • Linked Detached • Semi Detached	Plotting • Detached

WC 3bed +	WC 2 Bed
En-suite Shower	Family Bathroom



Narrow Winder Stair	Square Winder Stair	Straight Stair

PRODUCT DESIGN – CONFIGURABLE STANDARDISATION



PRODUCT DESIGN – 3D DIGITAL MODELS



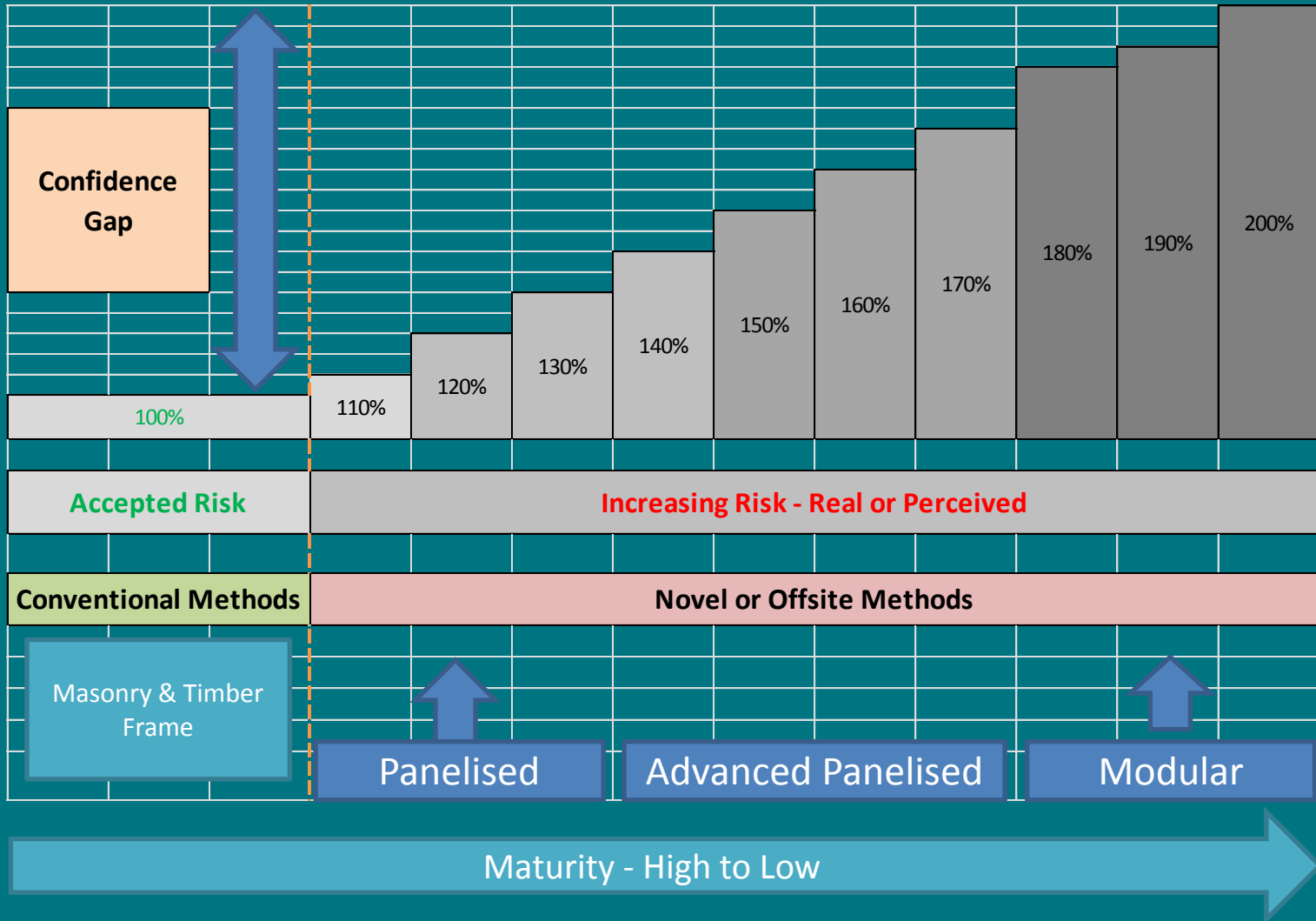
Advanced Manufacturing

- Digitally Driven OSM production lines
- Robots & Automation Technology
- RFID Tracking
- Shift to Industry 4.0
- Digital ERP (enterprise systems)
- Digital Twin & Simulation
- Blueprint - World Leading Factory
- UK Manufacturing Showcase





PROJECT DELIVERY – LEAN SMART ASSEMBLY



PROJECT DELIVERY – MMC MATURITY & RISK

CASE STUDY – STEWART MILNE HOMES





DELIVERING SUSTAINED SUCCESS - SMH

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DELIVERING SUSTAINED SUCCESS - SMTS

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Team Challenge - Question

Considering Sustainability, Housing Design and Project Delivery, as a new developer, what would be your delivery approach, Conventional or MMC ?

Using flip chart, debate and write up.....

1. What method would you deploy, Conventional or MMC ?
2. What are the key challenges ?
3. What methods or approaches, would you put in place, for sustained success?