

+ BOWMER KIRKLAND

*Can MMC drive better climate
outcomes?*

Seya Tansill - B+K





**THE CONSTRUCTION PLAYBOOK:
DELIVERING MODERN METHODS OF CONSTRUCTION (MMC)**

**+ BOWMER
KIRKLAND**

Research & Development Guided Delivery

Configure Offsite
Standard Designs & Specifications

GUIDED DELIVERY

BOWMER KIRKLAND Department for Education

- Based on extensive R&D / testing & research cycles
- Guides architectural teams
- Principles of our MMC offer
- Design information on the built elements

Configure

Configure Offsite

Standard Designs & Specifications

GUIDED DELIVERY ■ ■ ■ ■ ■ ■ ■ ■ ■ ■

BOWMER + KIRKLAND

 Department for Education

 **CONFIGURE CLASSIC**

Traditional steel frame system

 **CONFIGURE CLASSIC OFFSITE**

Timber SIP system partnered with Innovare

 **CONFIGURE HYBRID** ↓ CO₂

NZC Steel frame with panelised wrap. Partnered with Innovare +1 other.

 **CONFIGURE OFFSITE** ↓ CO₂

NZC Timber SIP system partnered with Innovare.

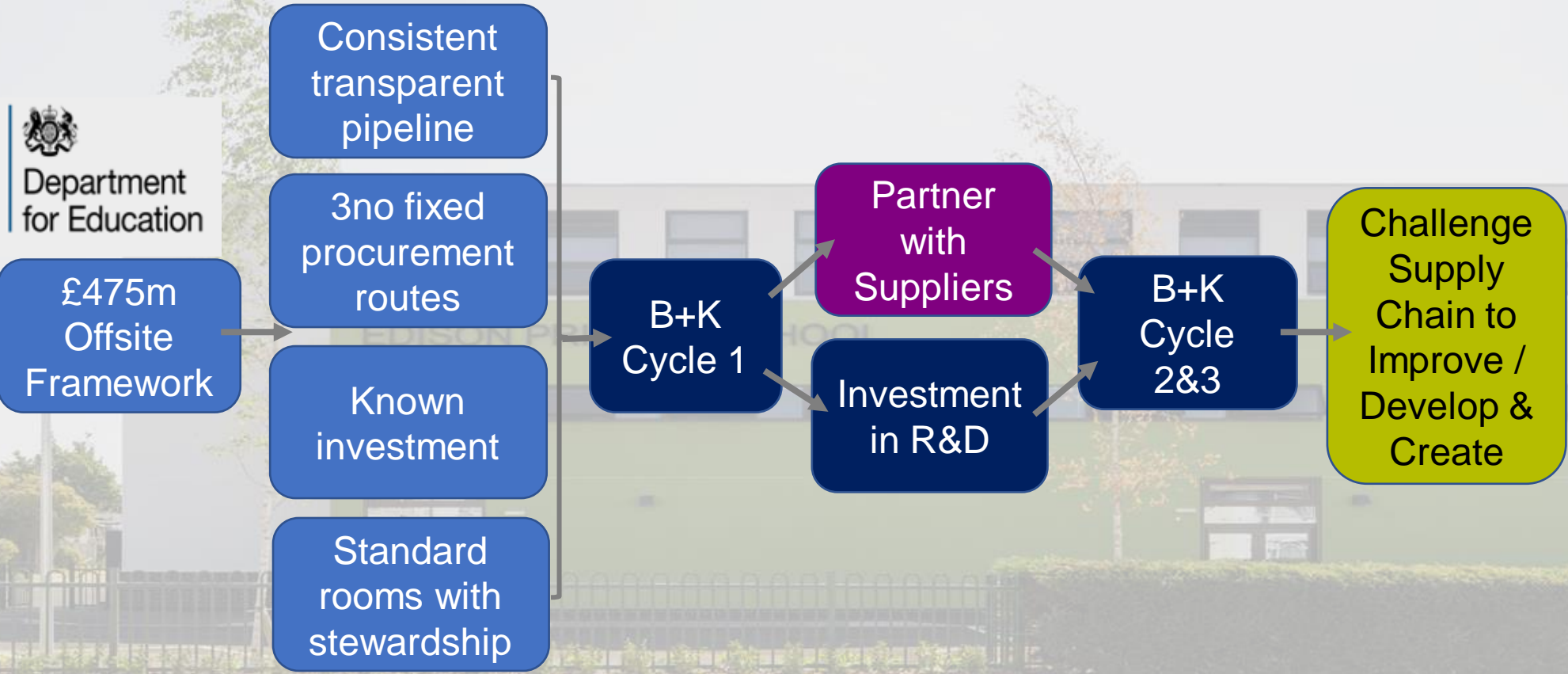
 **CONFIGURE PLATFORM** ↓ CO₂

NZC Interoperable system partnered with Innovare +1 other.

Evolution of B+K Offsite Systems



The Playbook Cascade



What does improvement look like?

Cycle 1

- ★ Productivity increased - by 15%
- ★ PMV increased - **70% to 84%**
- ★ Onsite construction speed – **20% quicker**
- ★ Innovare waste reduced from **20% to 10%** - **50% reduction**

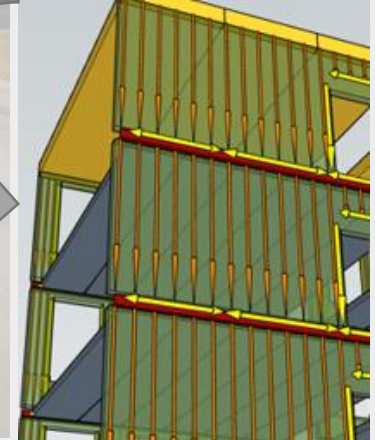
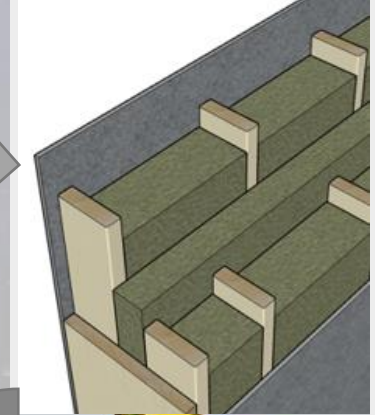
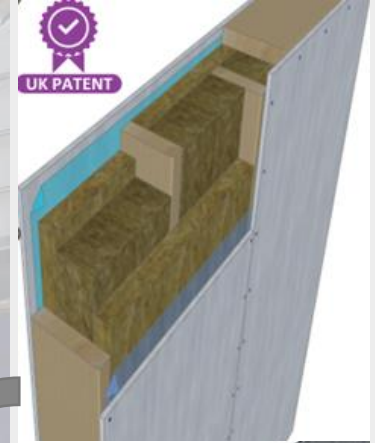




What does improvement look like?

Cycle 2

- ★ Fabric U value significantly reduced 29% improvement
- ★ Cold bridge significantly improved - 56% improvement
- ★ Airtightness has seen a 66% improvement
- ★ Embodied carbon understanding of timber process & product



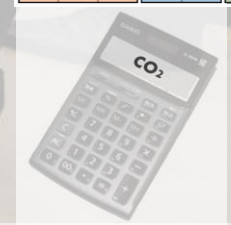
What does improvement look like?

Cycle 3

- ★ Innovation in MEP – Operational & embodied
- ★ Embodied Carbon Measurement
- ★ Capacity Innovation



(A1 – A3)			(A4 – A5)		(B1 – B7)					(C1 – C4)				(D)
PRODUCT stage			CONSTRUCTION PROCESS stage		USE stage					END OF LIFE stage				Benefits and loads beyond the system boundary
[A1]	[A2]	[A3]	[A4]	[A5]	[B1]	[B2]	[B3]	[B4]	[B5]	[C1]	[C2]	[C3]	[C4]	
Raw material extraction & supply	Transport to manufacturing plant	Manufacturing & fabrication	Transport to project site	Construction & installation process	Use	Maintenance	Repair	Replacement	Refurbishment	Decommission	Transport to disposal facility	Waste processing for reuse, recovery or recycling	Disposal	Reuse Recovery Recycling potential
					[B6] Operational energy use	[B7] Operational water use								



Project Case Study

THAMES PARK

Circa £28m / GIFA 6720m²

- Configure Classic Offsite System
- Timber SIP with façade fully integrated as part of Offsite panel delivery.
- Podularised Offsite plant room integrated into the top floor.



Project Case Study

WEST COVENTRY ACADEMY

£Circa £38m / GIFA 12,460m²

- Pathfinder Configure Offsite System
- NZC spec external fabric – Timber SIP – Integrated façade
- R&D focused on passive ventilation strategies



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Thank You

