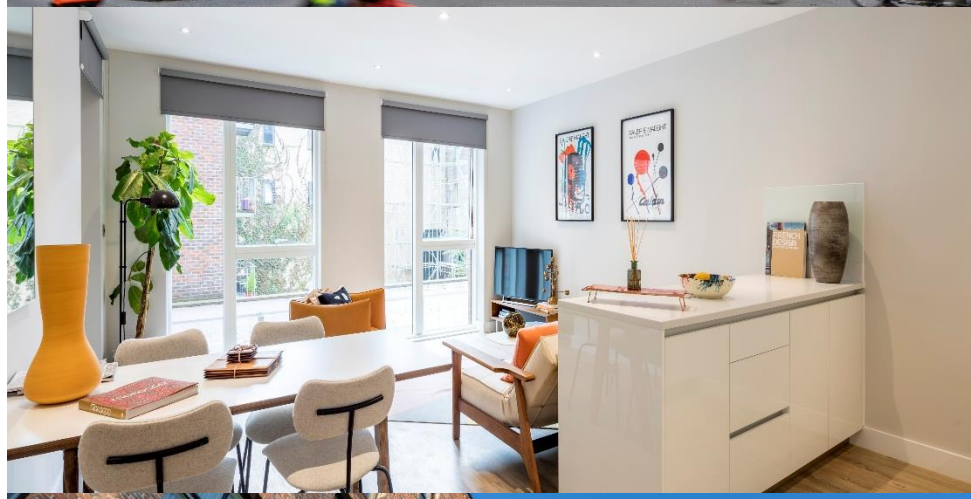
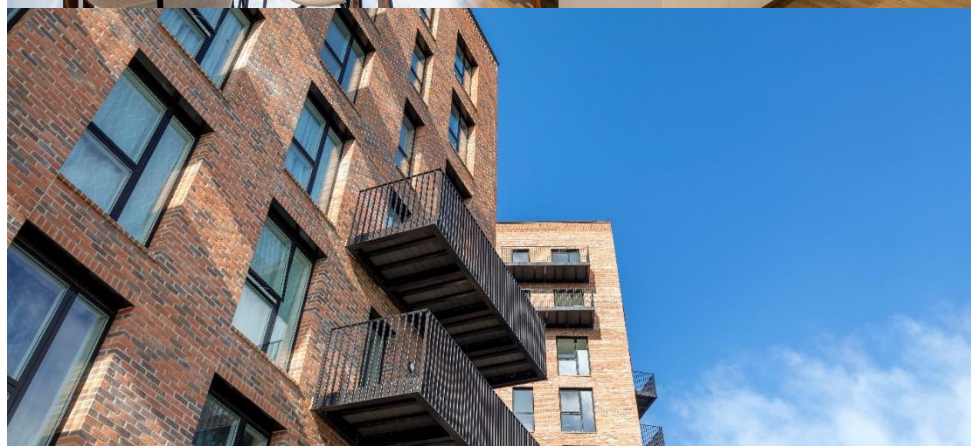

B&K
STRUCTURES
OPTIMISED OFFSITE SOLUTIONS
Wayne Yeomans – B&K Structures

about us....

- Over 40 years experience
- Anticipating £24m turnover for 2017/18
- Forecasting £32m turnover for 2018/19
- Part of Bowmer & Kirkland, a 1bn turnover Construction group
  - Financially robust
- Main products including CLT, Glulam, Structural Steelwork, Wall Cassettes, Roof Cassettes
- In-house Structural Engineers
  - plus external engineering partners
- In-house 3D cad technicians, working to BIM Level 2 protocols
- In-house Project Delivery Teams
- Directly employed Site Management
- Dedicated QA / Environmental Management
- Dedicated Health & Safety Management





CLT.....Markets (Indicative Only)

Residential
Medium Rise • 4-12 Storeys • Pure CLT possible
Medium to High Rise 8-18 Storeys • Hybrid structures above 12-storeys
PRS / Build to Rent
Betterment on foundations
Betterment on programme
Less personnel / trades on site
Less deliveries to site
Less disruption to local areas
Major developers considering CLT as a viable build solution

Commercial
Mixed Use
Commercial Office Space
Hybrid structures most popular using a structural steel frame with CLT floor decks
CLT can be utilised for stair cores, lift shafts and stair cases
Steelwork frame offers a more conventional open plan office arrangement
CLT floor decks can have exposed soffits
Clients such as TFL and Google see benefits of Hybrid offices

Education
Pure CLT
Hybrid structures using a structural steel frame with CLT floor decks – more common with higher education buildings
CLT can be utilised for stair cores, lift shafts and stair cases
Steelwork frame offers a more conventional open plan office arrangement
CLT floor decks can have exposed soffits
Could see a hybrid approach for secondary schools

about Dalston Lane....

- Still one of the UK's tallest timber structures, standing over 33m
- Still one of the world's largest CLT buildings by volume of CLT
- 10 storeys at highest point
- 121 units, expandable to 141 units
- CLT weighing 1/5 of a reinforced concrete frame alternative
- 80% reduction in deliveries
- Approximately 4,650m^3 of CLT
- 3,460m^2 of commercial space
- 10,850m^2 of residential accommodation

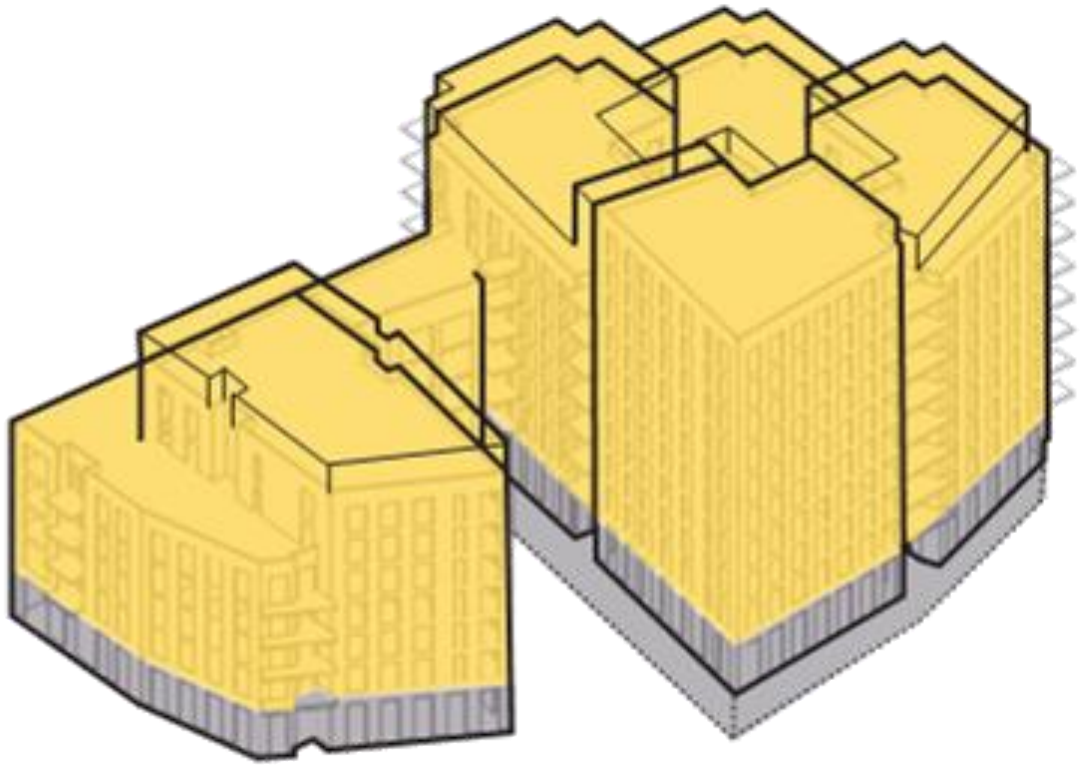
Mass Timber Choice.....

2,300 TONNES OF CLT / RC HYB

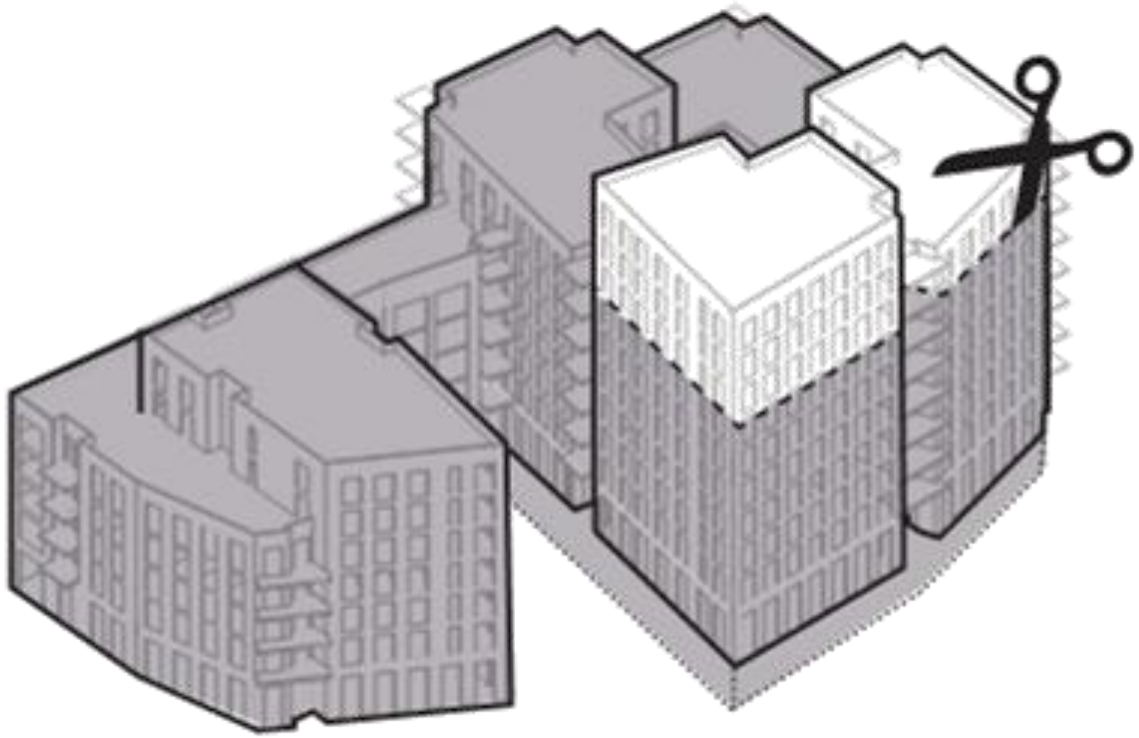
- RC Frame from basement to first f
- CLT utilised for all upper fl
- Significant benefit to foundation de

Benefits of a CLT Hybrid

35% more units achievable compared to original RC frame design



141 FLATS =



106 FLATS =

programme benefits.....

a few stats.....

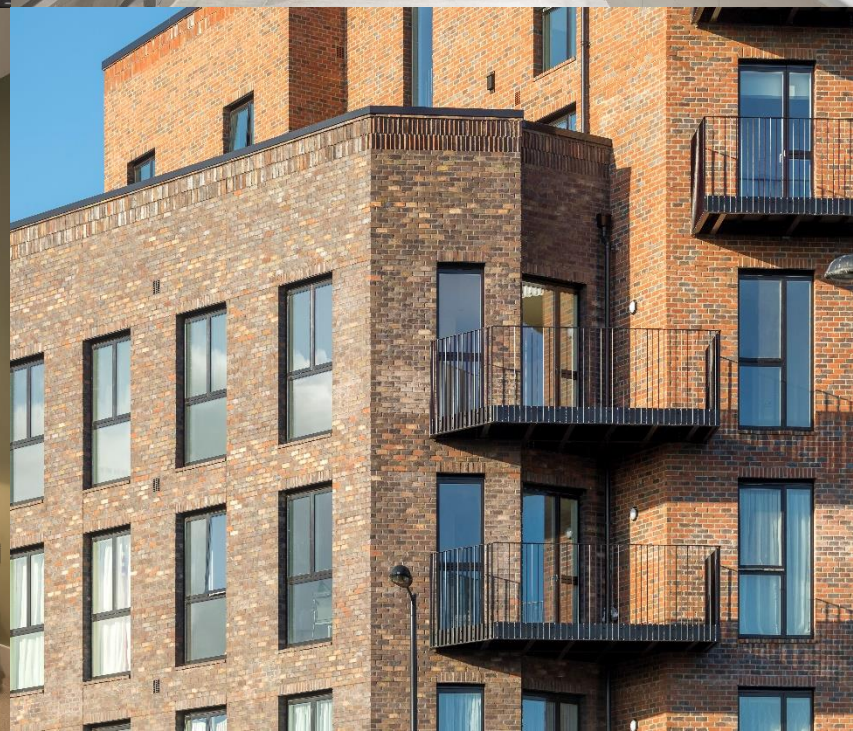
The correct choice of construction materials and techniques is crucial if the UK is to meet its target of a 34% reduction in CO2 emissions by 2020.

Co2 saving could mean that every resident in this development could run a car for 14 years without producing any emissions !

	CLT SCHEME	EQUIVALENT CONCRETE FRAME (ESTIMATED)
Volume timber used	4649 m^3	n/a
Number of trees	2325	n/a
Equivalent area of forest	9200m^2	n/a
Time required to grow the equivalent number trees used in German and Austrian forests	3 hours	n/a
Sequestered carbon*	3576 tonnes CO_2e	n/a
Embodied carbon*	976 tonnes CO_2e	2000 tonnes CO_2e
Net carbon footprint*	- 2600 tonnes CO_2e	+ 2000 tonnes CO_2e
Construction time*	start date: 7/7/15 end date: 3/8/16	Similar (excluding stud framing)
Weight of superstructure*	2300 tonnes	10700 tonnes (incl. approx. 700 tonnes of rebar)
Number of deliveries req.*	111 lorries	700 lorries
Volume of concrete	6000m^3 (foundations, basement to first floor podium only)	6000m^3 (foundations, basement to first floor podium) + 4000m^3 (superstructure above first floor)

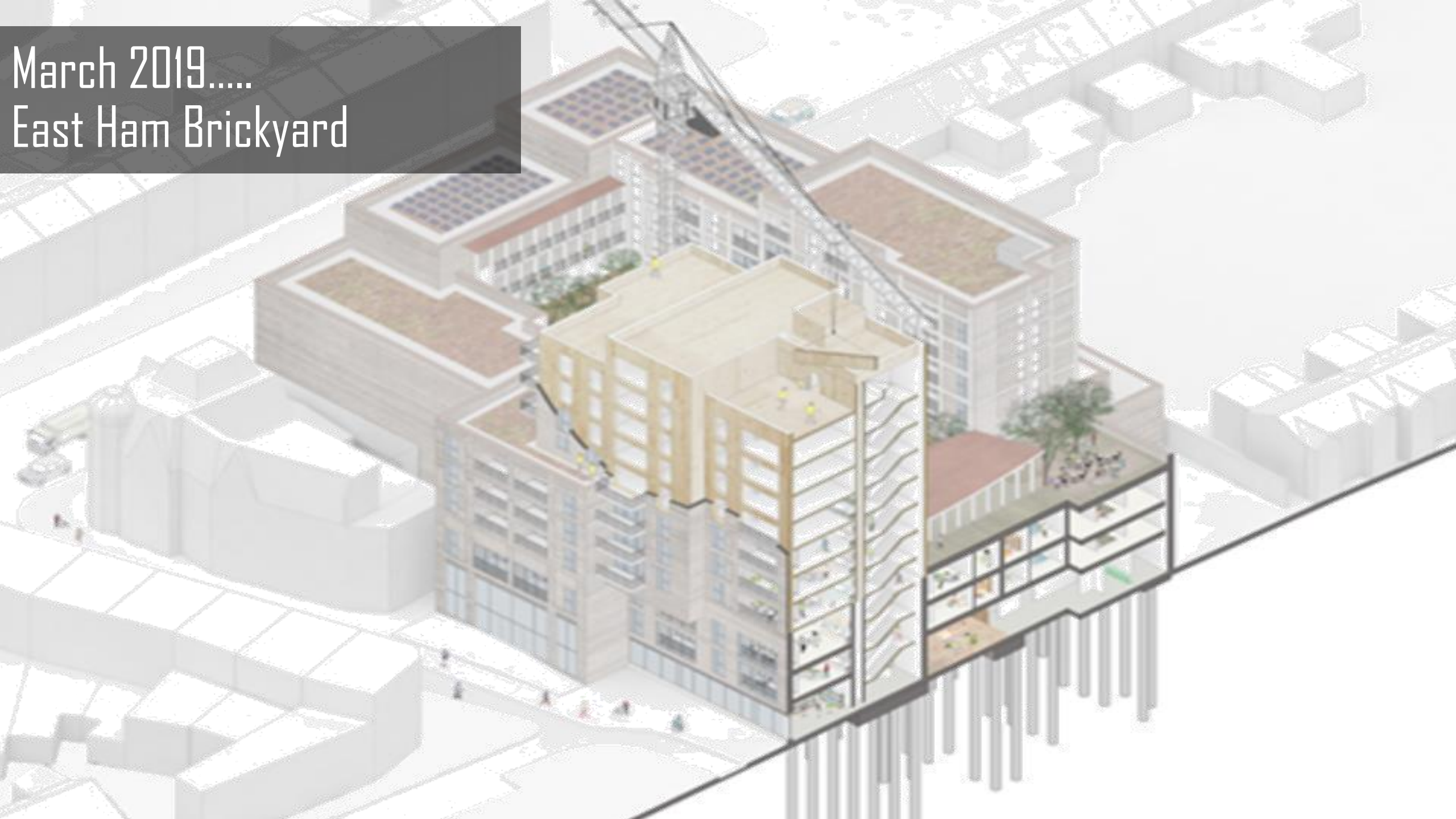
** Figures relate to the (CLT) superstructure only*

Dalston Lane, Hackney



Residential schemes.....

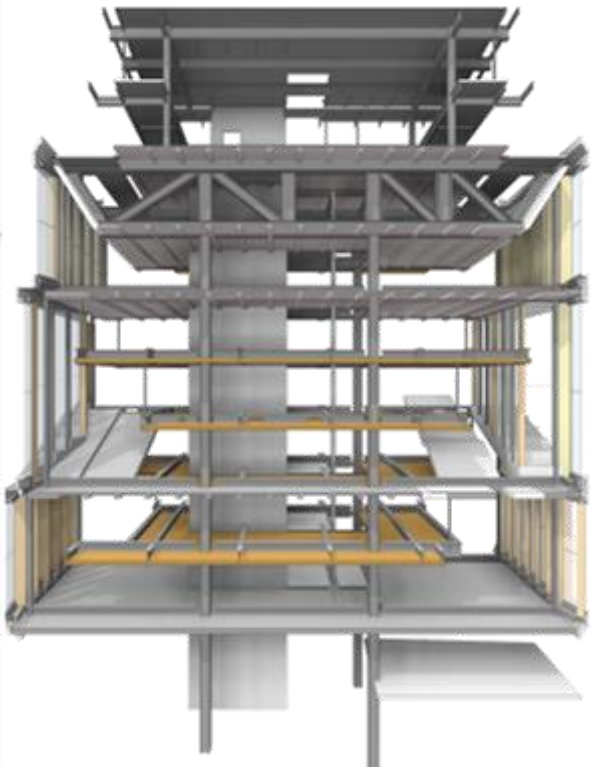
March 2019.....
East Ham Brickyard

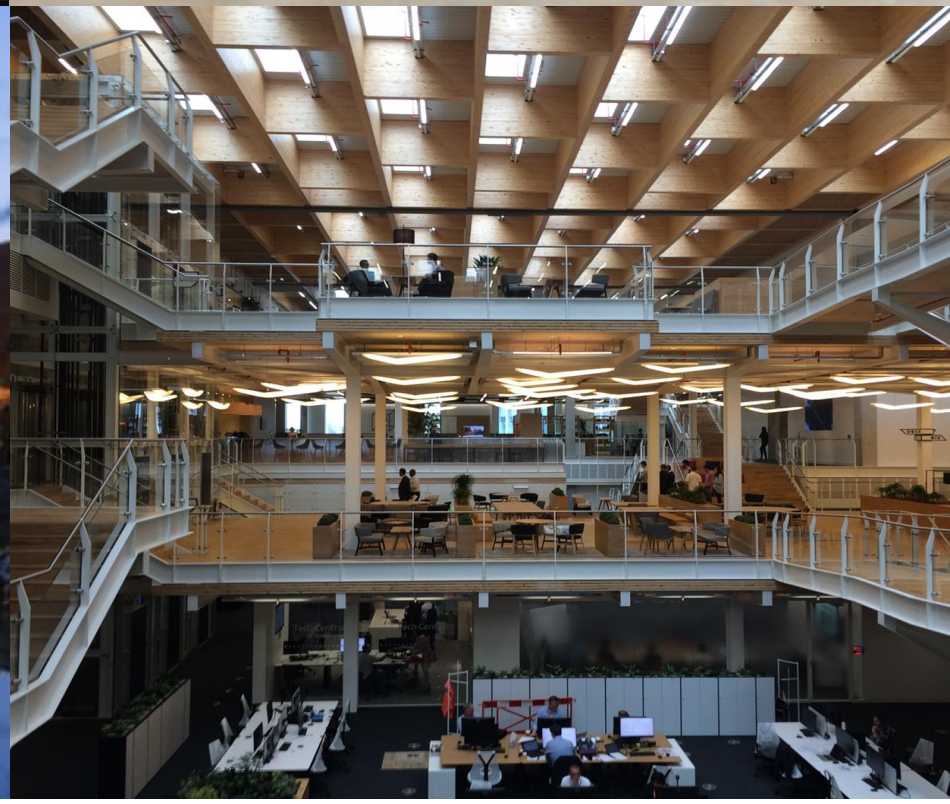


Innovation.....Unitised Wall Panels

Higher Rise, 17-Storeys +

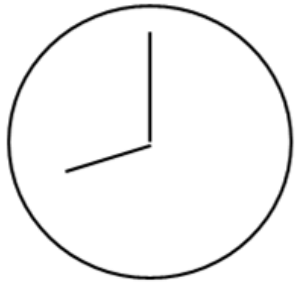

M&S





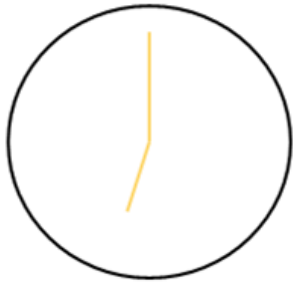
in summary.....

TRADITIONAL

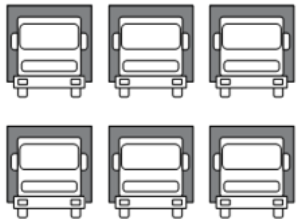


20%
QUICKER
OVERALL
PROGRAMME

TIMBER

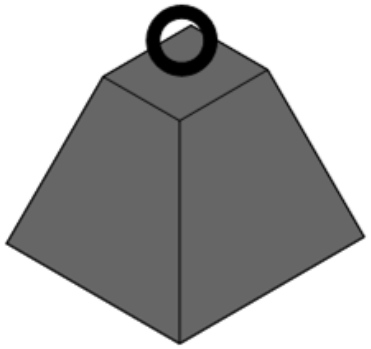


TRADITIONAL

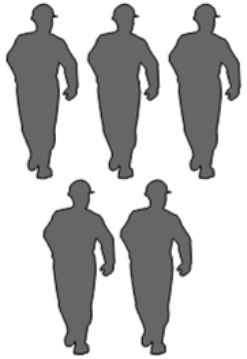


70-85%
FEWER
DELIVERIES
FOR FRAME

TIMBER



80%
LIGHTER



60% FEWER
SITE STAFF
FOR FRAME

Thank You for listening