

Development and use of MMC in Homebuilding

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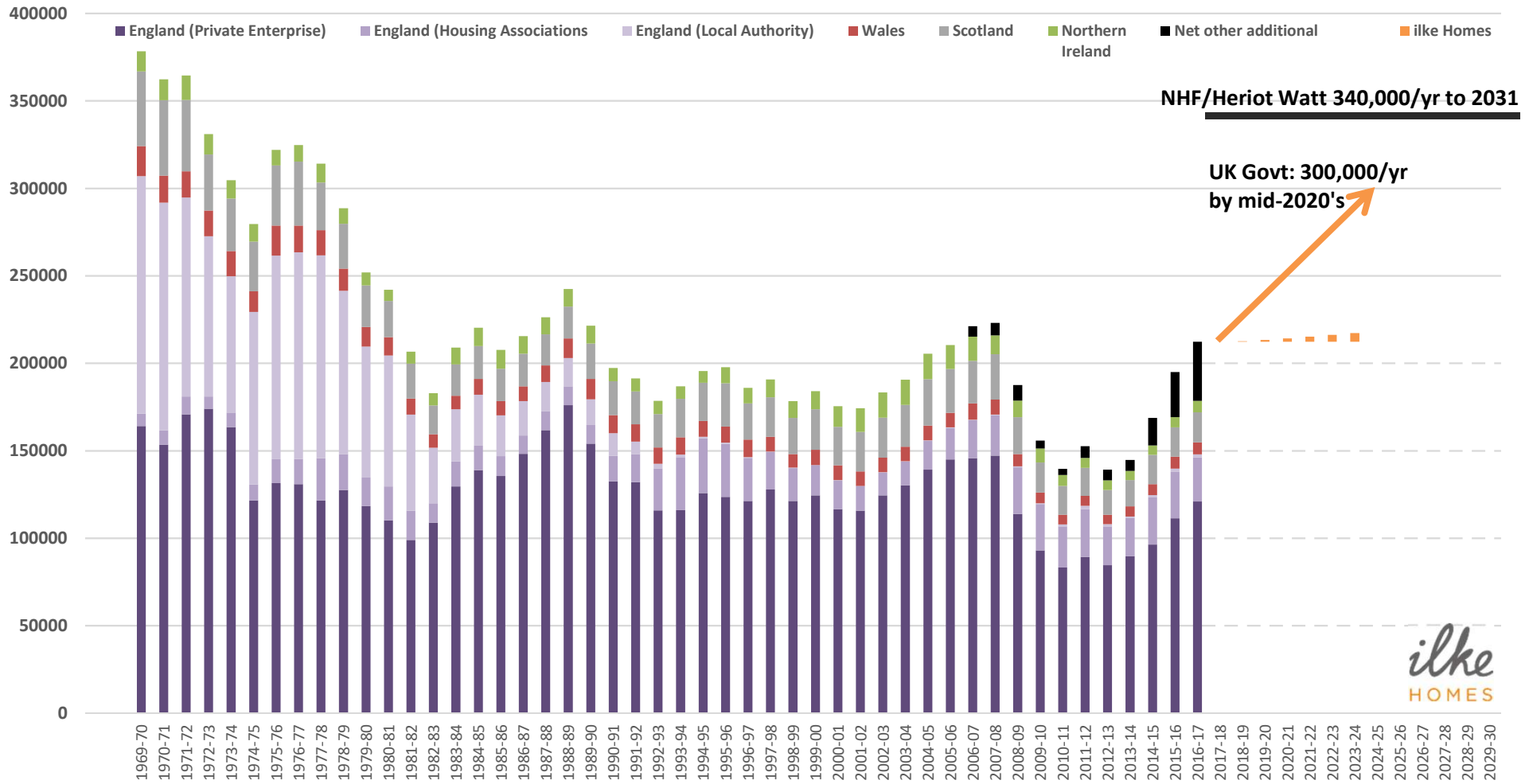
Agenda

- + Why modular/MMC?
- + About ilke
- + Group task – development with modular
- + Lesson learnt
- + Q&A

Why MMC and modular construction?

- + Additional housing capacity to the industry, using multi-skilled labour
- + Engineered quality in a controlled environment
- + Build cost certainty, reduced running and maintenance costs
- + The political landscape – Housing targets, Letwin Review, Homes England Funding

MHCLG Live Tables: Table 209, Permanent dwellings completed; Table 120, Net Additional Dwellings



About ilke

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*“at ilke, our mission is to build better homes
and to build them in a better way....*

*desirable, affordable, energy efficient
homes that people enjoy living in*

*build homes right first time, in half the
time”*

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About us

A unique partnership to bring a fresh perspective....with the assurance of leading businesses and the innovation to stimulate new ideas



Accredited and mortgageable

“You can enjoy living in an ilke home today....

- + Mortgageable
- + Insurable
- + Durable
- + Fully accredited manufacturing process”



Raising Standards. Protecting Homeowners



About our homes

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ilke Homes – CIH Housing Conference, Manchester – July 2018



ilke Homes for Keepmoat Homes, Carr Lodge, Doncaster



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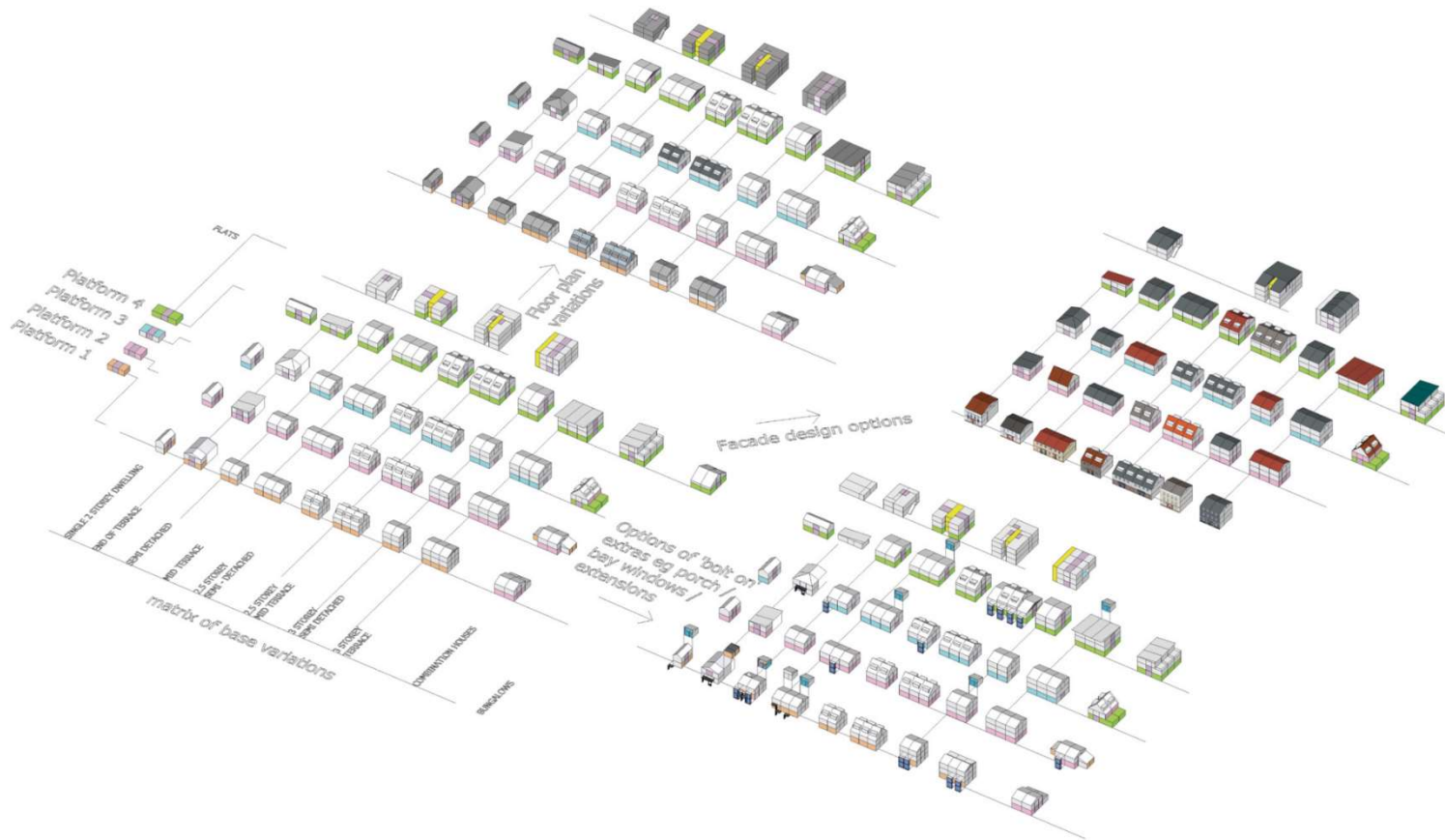
+ Design

“the ilke system has a significant number of combinations to provide flexibility ...

- + exterior options to suit the local vernacular
- + internal configurations for different tenures
- + client specification choices
- + common platforms for manufacturing consistency, quality and efficiency

...delivered to site finished inside and out”

Product Roadmap



Product roadmap: 2018/19 Housetypes:

Name	Housetype Summary	Reference	NDSS	M4(2)	London SPG (2016)
The Haldon	2b4p 2 storey house	60_2b_F			
The Holt	2b4p 2 storey house	80_2b_F	Yes	Yes	Yes
The Cardinham	2b4p 2 storey house	80_2b_W	Yes	Yes	Yes
The Dean	2b4p 2 storey house	80_2b_R	Yes	Yes	Yes
The Dalby	3b5p 2 storey house	80_3b_F			
The Weston	3b5p 2 storey house	80_3b_W			
The Kielder	3b5p 2 storey house	80_3b_R			
The Thetford	3b5p 2.5 storey house	100_3b_F	Yes	Yes	Yes
The Houghton	3b5p 2.5 storey house	100_3b_R	Yes	Yes	Yes
The Bedgebury	4b7p 2.5 storey house	100_4b_F			
The Sherwood	4b7p 2.5 storey house	100_4b_R			
The Rockingham	4b7p 3 storey house	121_4b_F	Yes	Yes	Yes
The Delamere	4b7p 3 storey house	121_4b_R	Yes	Yes	Yes
The Newborough	5b8p 3 storey house	121_5b_F			
The Drummond	5b8p 3 storey house	121_5b_R			
The Ribble	1b1p 2-6 storey apartment	37_1b_A			
The Calder	1b2p 2-6 storey apartment	40_1b_A1			
The Clyde	1b2p or 1b1p 2-6 storey apartment	40_1b_A2	Yes	Yes	Yes
The Avon	1b2p 2-6 storey apartment	50_1b_A1	Yes	Yes	Yes
The Aire	1b2p 2-6 storey apartment	50_2b_A2	Yes	Yes	Yes
The Medway	2b4p or 2b3p 2-6 storey apartment	60_2b_A1	*	*	*
The Mersey	2b4p or 2b3p 2-6 storey apartment	60_2b_A2	*	*	*
The Tees	2b4p 2-6 storey apartment	70_2b_A1	Yes	Yes	Yes
The Tweed	2b4p 2-6 storey apartment	70_2b_A2	Yes	Yes	Yes
The Trent	2b4p 2-6 storey apartment	70_2b_A3	Yes	Yes	Yes
The Thames	2b4p 2-6 storey apartment	70_2b_A4	Yes	Yes	Yes



Our factory

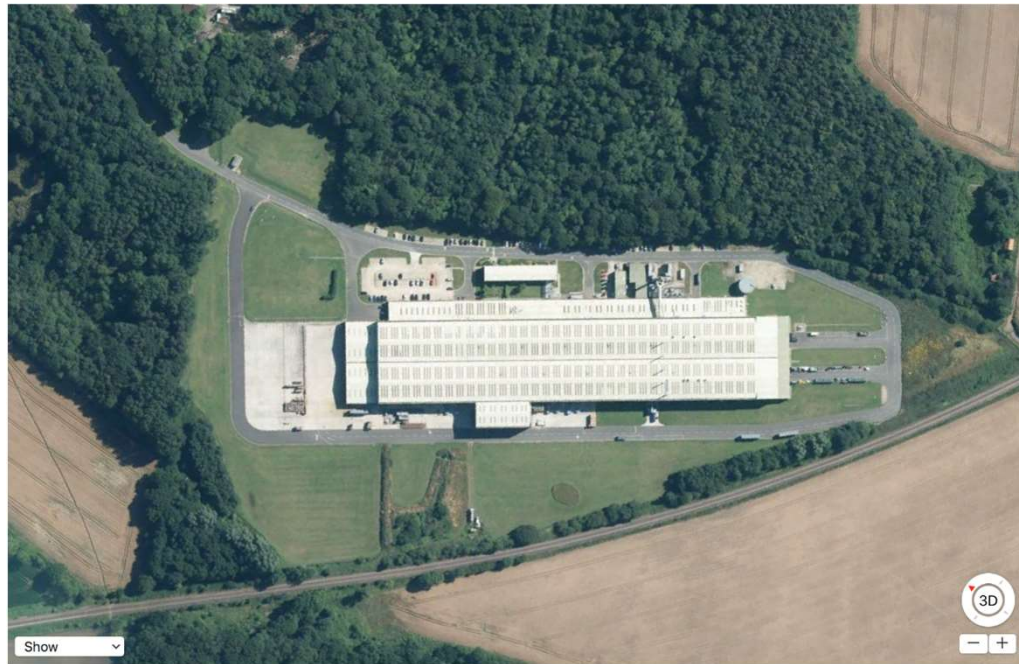
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Flaxby Factory



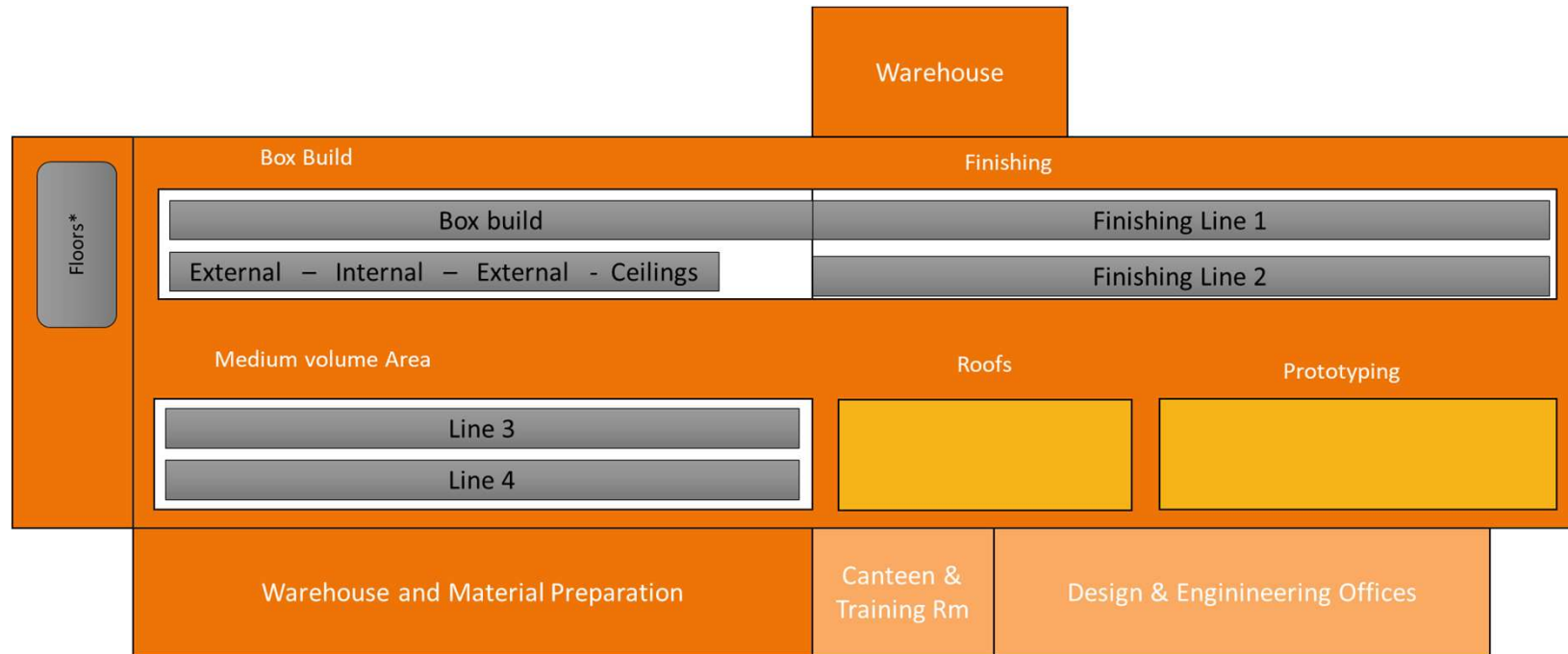
Flaxby Moore, Knaresborough, North Yorkshire

Capacity
25,645m² which can produce 2,000 homes / year.



Factory Schematic

- + Running on 2 shifts Flaxby can produce 2,000 homes per year
- + At full capacity we will employ over 800 people



Factory Feb 2018



Group Task

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Group task – development design



Group task – development design – original design



HOUSES SCHEDULE					
Unit Type	Type	Area m ²	Storey	Total	Area Total
● Holt	2B4P	81 m ²	2	13	1053 m ²
● Weston	3B4P	79 m ²	2	3	237 m ²
● Thetford	3B5P	103 m ²	2.5	10	1030 m ²
● Bedgebury	4B7P	103 m ²	2.5	1	103 m ²

What did we learn? – The benefits

- + Speed of construction
- + Prelim costs
- + Reduced time lost to inclement weather
- + Reduced defects
- + Reduced waste
- + Reduced management time
- + Reduced design fees
- + Cleaner, safer quieter sites with reduced vehicle trips



Enhancing financial viability

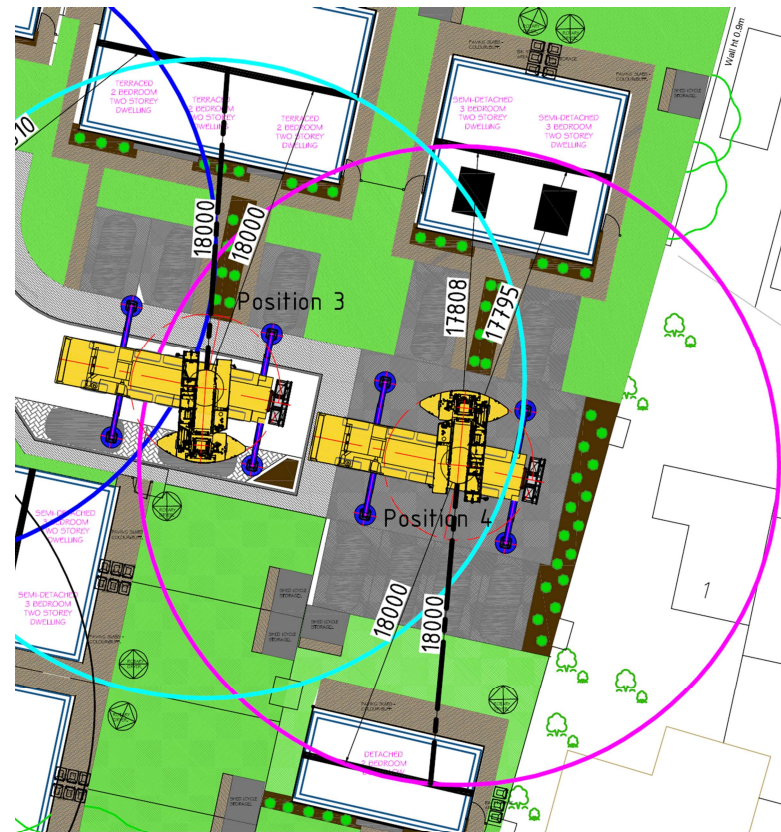
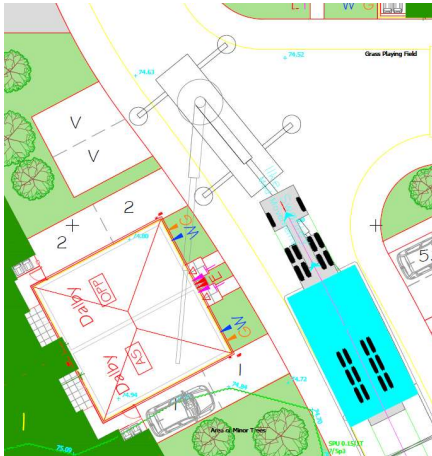
ilke Homes perform better, are better specified and gain enhanced grant; so they can enhance viability over traditionally constructed homes.

Additional financial benefits from ilke Homes include:

- + Rent windfall (typical 50 unit ilke Homes site is completed 6 months earlier than traditional build)
- + Faster cash return and lower peak debt on schemes (from build speed).
- + Lower client side costs (reduced Employers Agent, Procurement, Legal, Project Management costs)
- + Lower ongoing maintenance and defect free, precision engineered product
- + Lower running costs for occupants (reduced rent arrears risk)

What did we learn? – Additional considerations

- + Access for cranes and modules
- + Transportation routes
- + Siting of cranes
- + Temporary works



Summary – Development with MMC

- + Early engagement with the supplier
- + Consider constraints in the design
- + Take time planning the logistics
- + Factor in the benefits to the appraisal

Q & A

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