



# Cast

REAL ESTATE & CONSTRUCTION CONSULTANCY

## ‘Homes Made For Everyone’

The Role of Modern Methods of Construction In Delivering Homebuilding  
Choice & Quality

Mark Farmer

CEO, Cast Consultancy

Japanese Local Government Centre Seminar

8<sup>th</sup> March 2021



<https://www.cast-consultancy.com/wp-content/uploads/2016/10/Farmer-Review-1.pdf>

A REMINDER:

WHY THE  
'MODERNISE OR  
DIE' CHALLENGE?

# We Are Running Out of Competent Resource To Deliver

## Declining construction apprenticeships threatens 'build back better' recovery, says FMB

The year-on-year decline in construction apprenticeships threatens the UK's ability to 'build back better' from the coronavirus pandemic...

Press release | 28 January 2021

BREXIT

## Labour shortages could raise rates 'at least 10%'

29 JAN 2021 | BY DAVID PRICE

The collage features several job ads for construction workers. In the top row, there are ads for 'DORIT' (Muncitori in constructii), 'WANTED' (Construction Labourers), and 'Procurado' (Trabalhadores da construção). In the bottom row, there are ads for 'PRACA' (Poszukujemy budowlańców), 'Ricerca' (Muratori), and 'Търси се' (Строителни работници). A small ad for 'Speedy' (Plus 4 hour delivery) is also visible. Below the ads, there is a 'COVID RECOVERY' link and a 'REBUILDING BETTER' logo.

News

## Construction skills gap 'threatens net zero targets'



CM Staff

23.02.21

## UK construction sector loses 46% of skilled EU workers

20th January 2021

The UK construction sector has lost 46% of its skilled EU workers, according to research by the Migration Observatory at the University of Oxford, as Brexit and Covid-19 lead to staff shortages

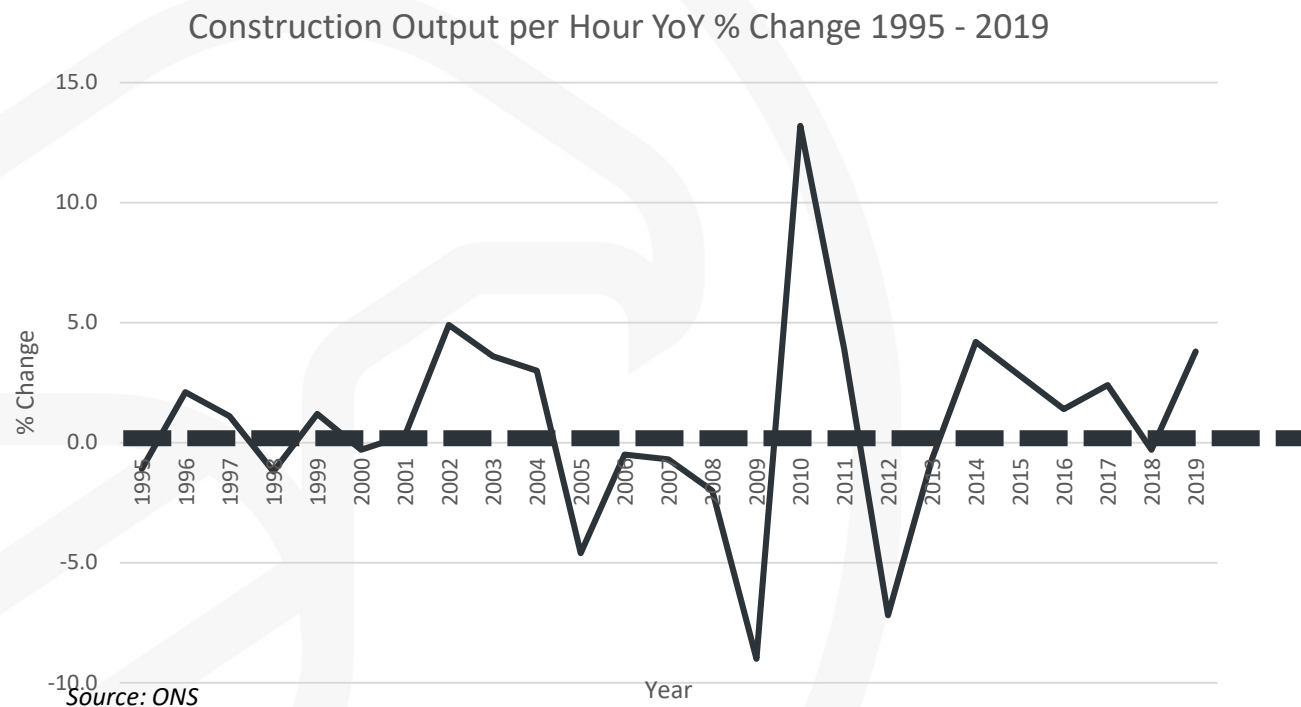
Coronavirus economic impact

+ Add to myFT

## Foreign workers flee UK as pandemic and Brexit bite

An estimated 1.3m have gone home, with hospitality and retail the sectors most heavily affected

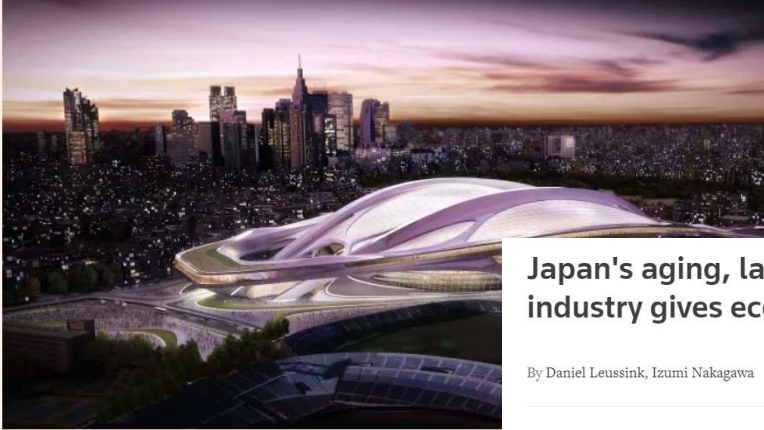
All Of This Is Only Relevant Because We Have Flatline Productivity –  
Labour Intensity Not Process Improvement Has Prevailed



## Japan Is Ahead Of UK When It Comes To Demographic Impact On Construction – Which Is Why It Is Also Ahead on Modernisation!

Japanese economy + Add to myFT

### Tokyo Olympics costs jump amid construction labour shortage

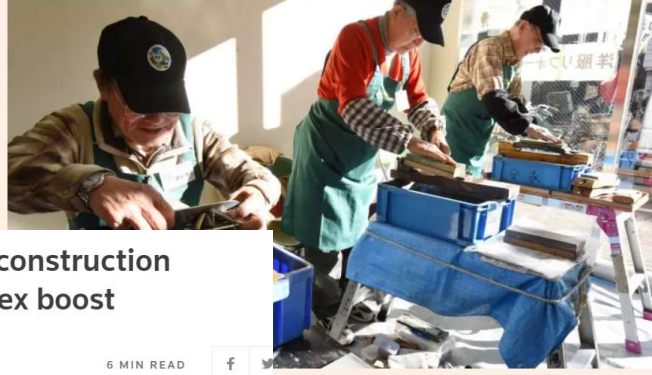


Computer-generated image of Tokyo's Olympic Stadium

Japanese economy + Add to myFT

### Japan's workforce set to shrink by almost 13m in next 20 years

Business must overcome demographic challenge in order to sustain output



will drop from 65m in 2017 to 52m in 2040, a fall of 22% © AFP

### Japan's aging, labor-starved construction industry gives economy a capex boost

By Daniel Leussink, Izumi Nakagawa

6 MIN READ

TOKYO (Reuters) - As Japan's construction firms are squeezed by the tightest labor market since the 1970s and a rapidly ageing population, they are pouring investment into technology - and providing unexpected support to an economy reeling from the bitter U.S.-China trade war.

## Three Big Picture Drivers Now Further Exposing The Resiliency Decline in UK

Building Safety

Climate Change

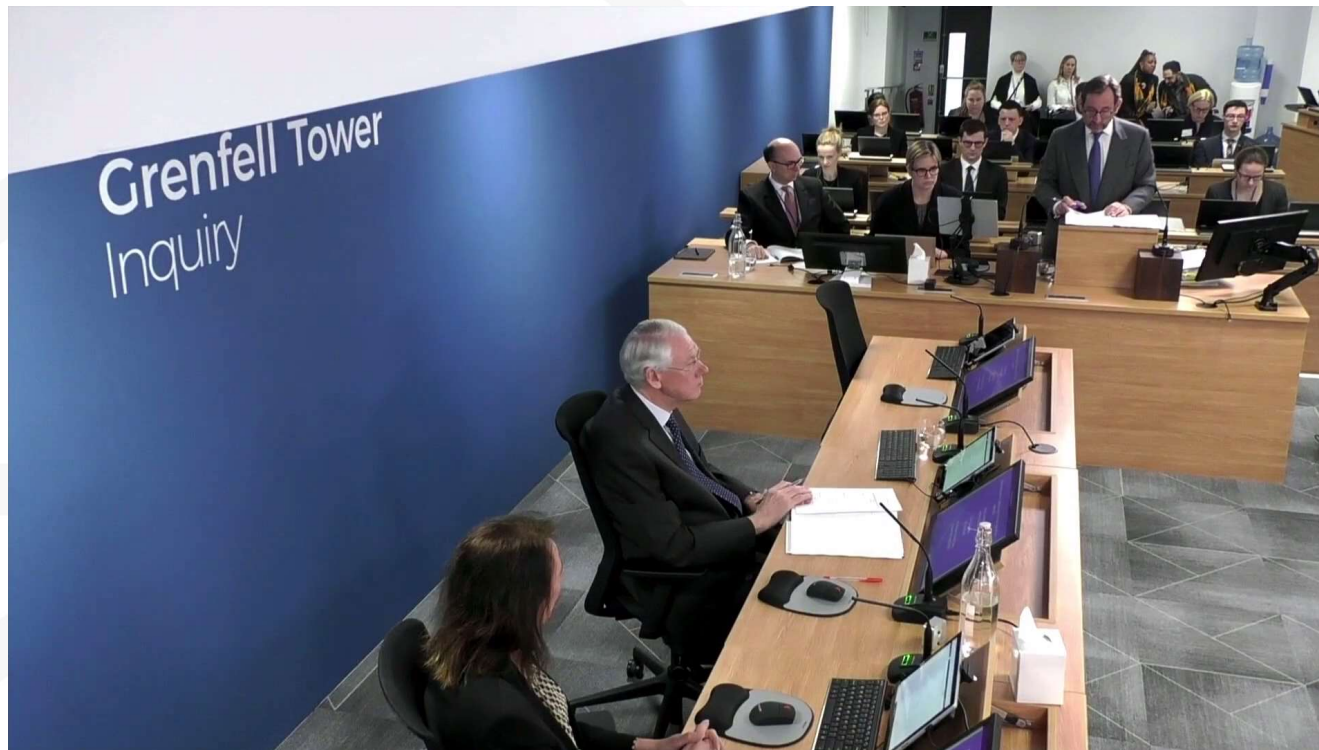
Consumerism



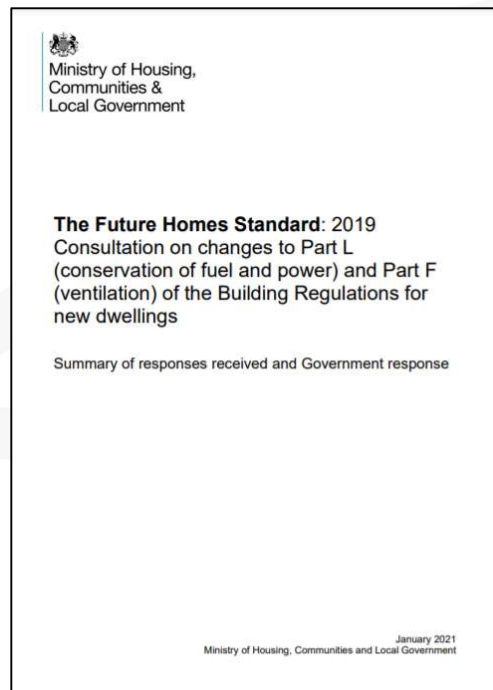
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## The Grenfell Inquiry Has Only Further Weakened Public Confidence in Construction



# Nearly 40% of all Global Emissions Are Related To Built Environment – Circa 50% of Everything Construction Does Is Waste



Buyers of brand-new homes face  
£20,000 bill to make them greener

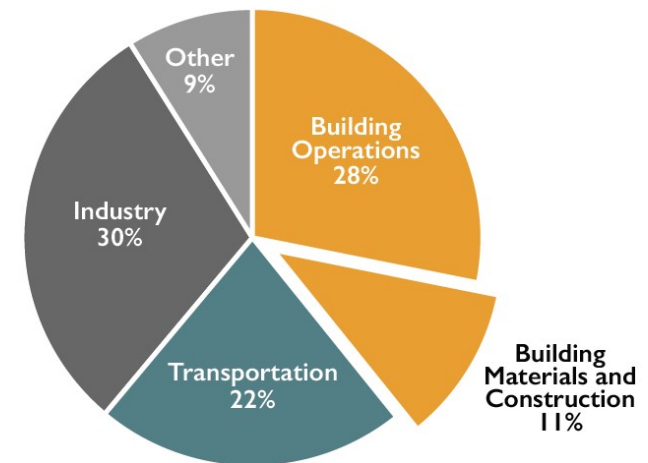
Critics say the costs could have been avoided if ministers had  
agreed to bring in low-carbon standards sooner



Government should consider homebuyer grants for zero  
carbon homes, say sector giants



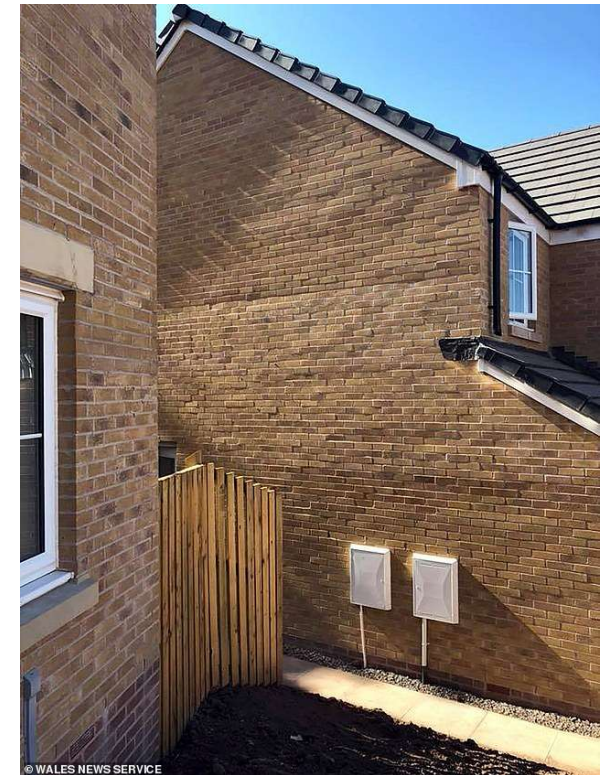
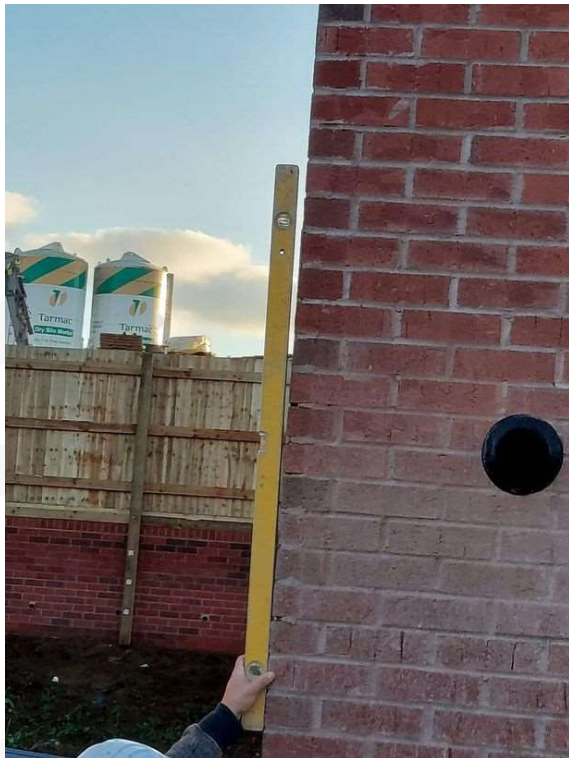
Global CO<sub>2</sub> Emissions by Sector



Source: © 2018 2030, Inc. / Architecture 2030. All Rights Reserved. Data Sources:  
UN Environment Global Status Report 2017; EIA International Energy Outlook 2017



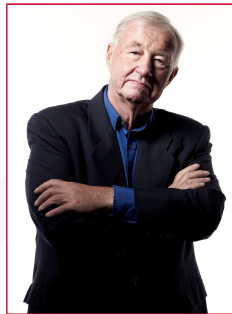
# Labour & Competency Related Symptoms Showing Themselves Like Never Before – Quality Failure & Brand Risk



This Is Also Extending To Poor Design Not Just Workmanship!



# Why Do We Not Have Publicly Recognised Product Design & Quality Led Brands in Homebuilding, Construction & Operations

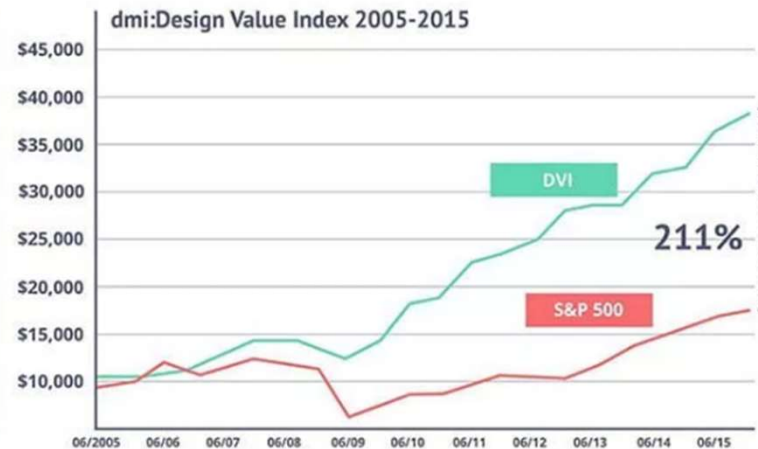


CONRAN



## Design Thinking as a Strategy for Innovation

DESIGN-CENTRIC COMPANIES:  
APPLE  
COCA-COLA  
FORD  
HERMAN-MILLER  
IBM  
INTUIT  
NIKE  
PROCTER & GAMBLE  
SAP  
STARBUCKS  
STARWOOD  
STANLEY BLACK & DECKER  
STEELCASE  
TARGET  
WALT DISNEY  
WHIRLPOOL



© 2016 The Design Management Institute



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## The Well Established Retail Precedent Can't Be Delivered in Construction Without Changing How We Do Things

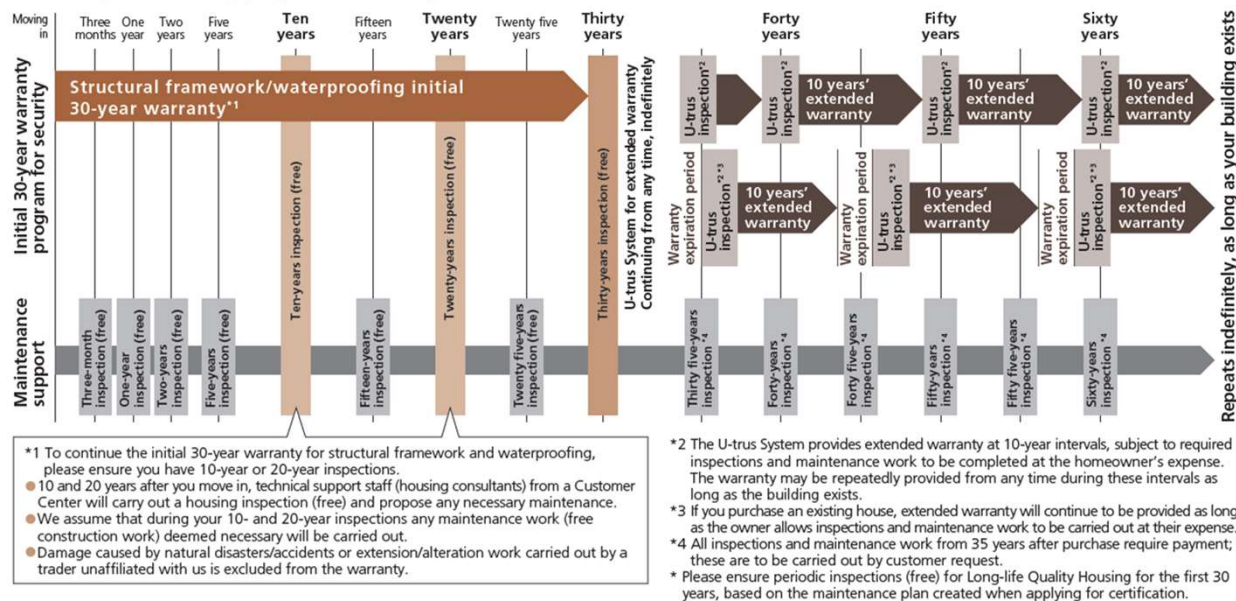


NEVER KNOWINGLY UNDERSOLD

# The Japanese Homebuilding Market Shows A Consumer Centric Approach Is Possible – Using MMC



Initial 30-year warranty program for security (For customers who signed contracts on or after April 1, 2018)



AI-based quality management system for Bellburn earthenware wall panels



Semi-automatically controlled drone

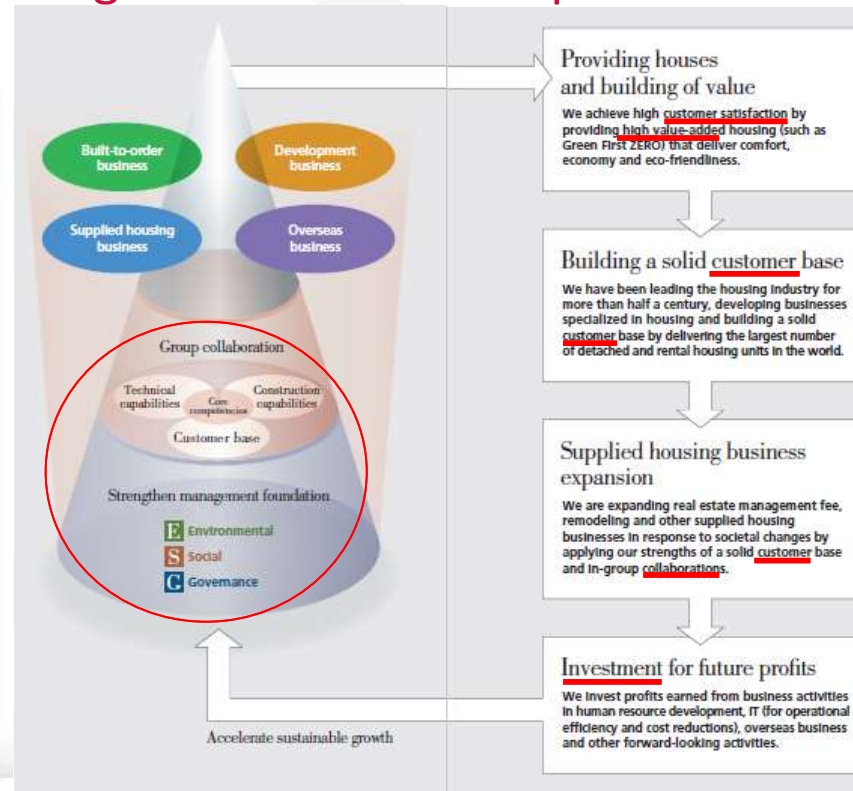


Underfloor inspection robot



Conducting an inspection using a robotic camera designed for attic inspection

# Consumer, Value, Capabilities & ESG Is Seen As Core To Strategy Not Subservient To Increasing Profit From Land Speculation

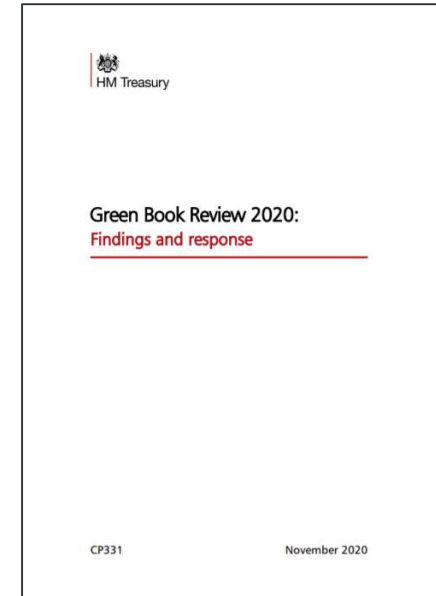
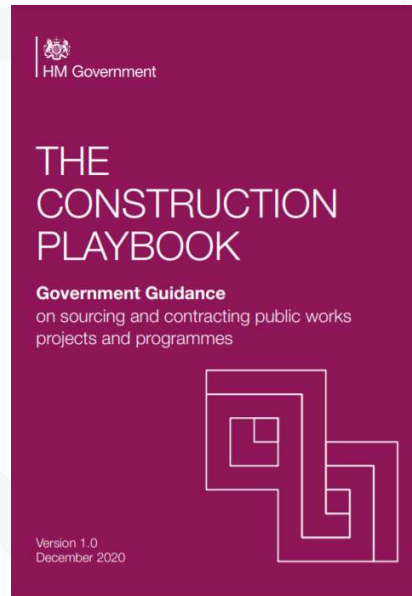
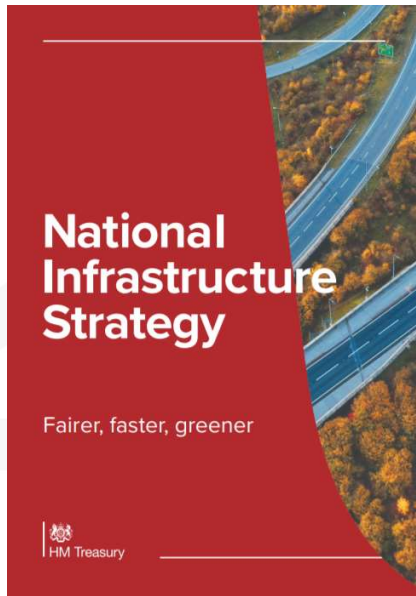


## Sustainability Vision 2050

Our Goals	
	<b>Leading the Way to a Decarbonized society</b> Climate change attributed to global warming is beginning to have a visible impact on our lifestyles. Secure, high-quality lifestyles will realize a sustainable society that is not dependent on fossil fuels or constrained by energy problems.
	<b>Leading the Way to Societies in which humans and nature coexist</b> Rich natural networks contribute to the protection of biodiversity and alleviate climate change, contributing not only to the protection of ecosystem services that support our lifestyles, but also to improving the quality of people's lifestyles and strengthening connections between people. We will maximize this network function to realize coexistence between humans and nature.
	<b>Leading the Way to a Circular economy</b> Amid increasing demand for resources and energy in line with the growing world population, we will work toward a circular economy that uses recycled resources sustainably without depending only on natural resources, through technological and economic system innovations to enable all people to live a stable lifestyle.
	<b>Leading the Way to Society with advanced longevity and diversity</b> We aim to create a society in which the elderly are healthy and proudly participate actively (advanced longevity society) as well as a society in which people of every generation and nationality with disparate values work to realize mutual benefit while realizing sustainable innovation (diverse society).



## The Most Recent UK Government Announcements All Support The Move to MMC & Technology Led Construction



# UK Government Has Turned Up The Gas On Move To MMC Through Both Narrative & Policy Post Covid-19

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TODAY**

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NEWS COMMENT IN FOCUS HOUSING DELIVERY CPD EVENTS PRODUCT SEARCH JOBS

NEWS

## A quarter of affordable homes must be MMC

By Joey Gardiner | 11 September 2020



Homes England to use deals signed under new £11.5bn Affordable Housing Programme to promote off-site build

**HOUSING  
TODAY**

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NEWS COMMENT IN FOCUS HOUSING DELIVERY CPD EVENTS PRODUCT SEARCH JOBS

NEWS

## A fifth of all new affordable homes must be MMC, says Jenrick

By Tom Lowe | 7 October 2020



Housing secretary makes pledge and tells Tory conference any further cash in the spending review will be focused on MMC

**HOUSING  
TODAY**

Nominated for PPA Brand of the Year

Search our site

NEWS COMMENT IN FOCUS PROGRAMMES HOUSING DELIVERY CPD EVENTS PRODUCT SEARCH

NEWS

## Homes England boss says industry “getting away” with low MMC uptake for too long

By Joey Gardiner | 24 November 2020



Nick Walkley says quango will 'ratchet up' offsite requirements and expand strategic partnership programme



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## And There Is A Clear Desire To Better Regulate Quality In Light Of Market Failures

**INSIDE  
HOUSING**

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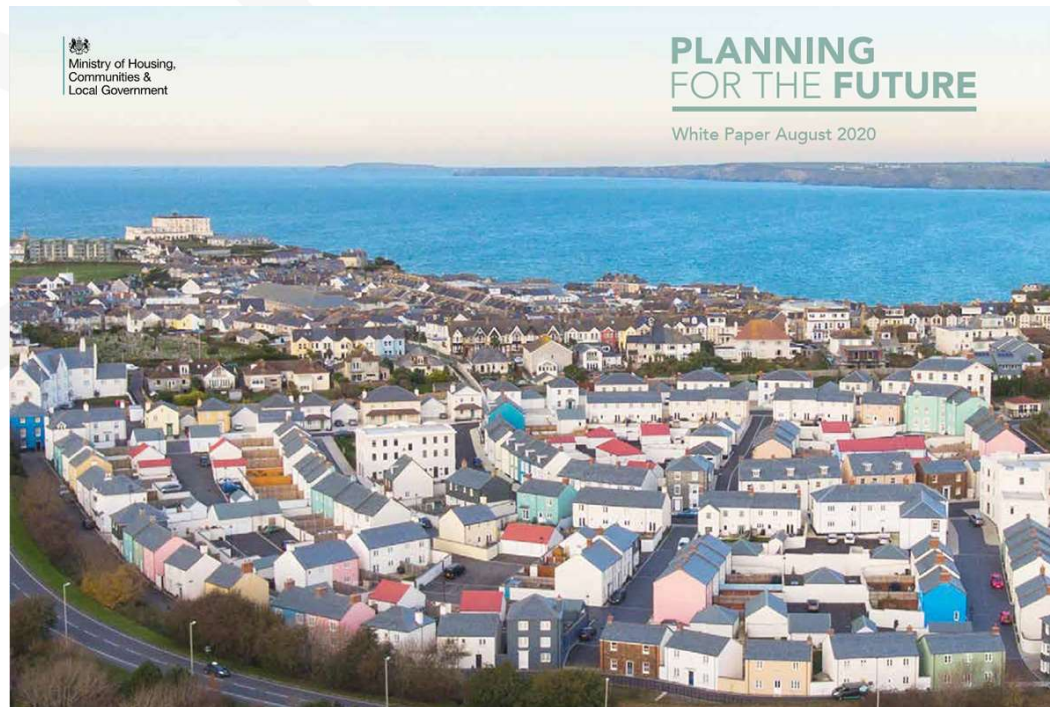
### New Homes Quality Board launched to hold house builders to account over build quality

NEWS 08.02.21 5:10 PM BY JACK SIMPSON

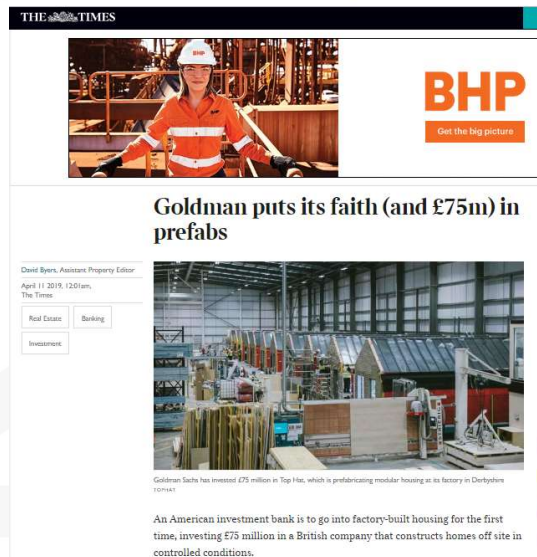
A new organisation charged with ensuring that developers deliver good-quality homes and that homeowners have greater consumer protections has been launched.



Natalie Elphicke will chair the New Homes Quality Board (picture: Peter Searle)



# New International Players, New Capital, New Partnerships in UK Industrialisation Moves

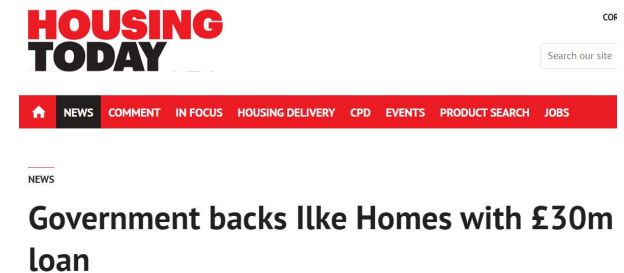


21.01.2020

## Elements Europe Joins Forces with GS E&C, Leading South Korean Construction Firm

London, 21st January 2020 – One of the UK's top off-site manufacturers and constructors, Elements Europe, has joined forces with a leading global construction company based in South Korea, GS Engineering & Construction (GS E&C), who has acquired a ...

[Read more](#)





## ...Including Japanese Expertise Entering The Market

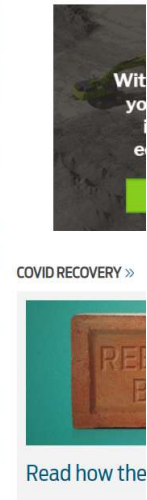


## Modular firm owned by Japan's biggest housebuilder sets up UK arm

02 FEB 2021 | BY LEM BINGLEY



Modular specialist Jan Snel, owned by Japan's Daiwa House, has officially launched a UK arm.



## Overdue External Disruption Of Construction Now Looms Large From Other Sectors

### Amazon build prefab smart homes with integrated Alexa to beat Google



NEWS

Chris Windle

Updated on 05 October 2018 | 0 Comments

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### Toyota to build prototype city of the future in Japan

Jane Lanhee Lee, David Shepardson

3 MIN READ



LAS VEGAS (Reuters) - Toyota Motor Corp (7203.T) said on Monday it planned to build a prototype “city of the future” at the base of Japan’s Mt. Fuji, powered by hydrogen fuel cells and functioning as a laboratory for autonomous cars, “smart homes,” artificial intelligence and other technologies.



# UK Needs To Square Decarbonisation With Building Safety Regulatory Reform

## How is the CLT industry responding to the combustibles ban?

By Joey Gardiner | 31 January 2019



Proponents of cross-laminated timber were up in arms when the government announced its plans to ban combustible materials from the external walls of high-rise buildings. But now the nascent industry is fighting back, reports Joey Gardiner



*Odile Guzy Architectes' social housing scheme in Chalon-sur-Saône, France*

French public buildings to be built with 50 per cent wood

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## Steel and concrete are climate change's hard problem. Can we solve it?

Heavy industry produces more carbon dioxide than the entire US. Perfect the new technologies that could clean it up and we can score a crucial climate victory

### A new report predicts significant demand growth for mass timber components

There should be plenty of wood, but production capacity needs to catch up.

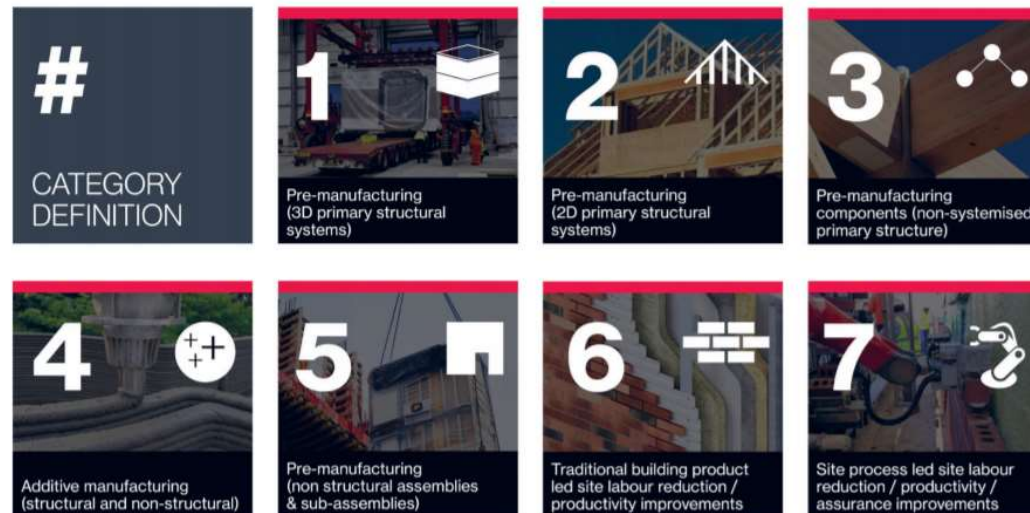
BUILDING MATERIALS | JULY 05, 2020 | JOHN CAULFIELD, SENIOR EDITOR



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## State of UK Current Residential Market & Role of MMC

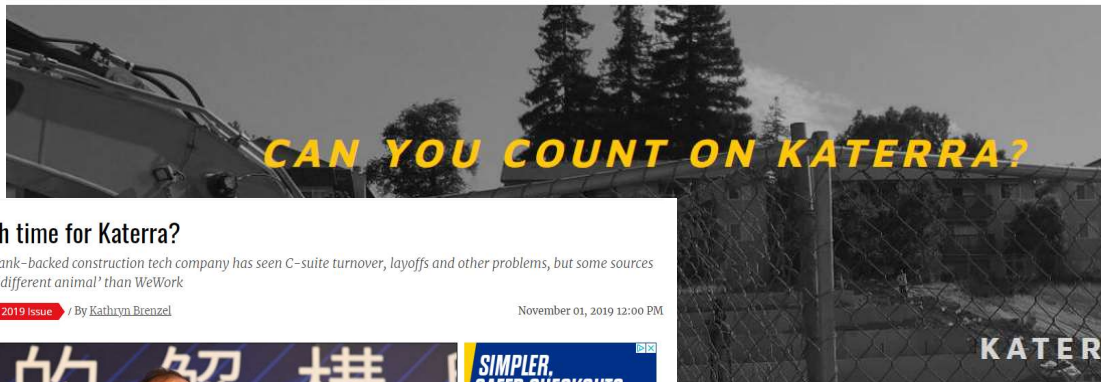
- Last year saw circa 212,000 new build homes built in England; 300,000 target
- There is no source data for the extent of use of MMC in this number
- Often a figure of 15,000 units is quoted – this is wrong, likely current use of MMC is much more extensive across formal 7 category framework – likely 30-40% of all new homes have some form of MMC being deployed
- BUT it is not in the industry's DNA & is still seen as edgy and higher risk than traditional



<https://www.gov.uk/government/publications/modern-methods-of-construction-working-group-developing-a-definition-framework>

## Industrialisation Is Not All Plain Sailing

### KATERRA PROBLEMS



Kattera CEO Michael Marks in Taipei in June

#### THE SUNDAY TIMES

### Losses deepen at prefab home-builder L&G, led by Nigel Wilson

John Collingridge

Sunday August 04 2019, 12:01am,  
The Sunday Times



Nigel Wilson bet on housing  
LUCY DAWSON

Insurer Legal & General has racked up another £20.6m of losses on its venture building pre-fabricated homes.

#### LABOR DISPUTE

### KATERRA HAYWARD PROJECT

Welcome to  
Legacy at Hayward

#### BUILDINGS

## Modular builder backed by Homes England suffers £22m loss

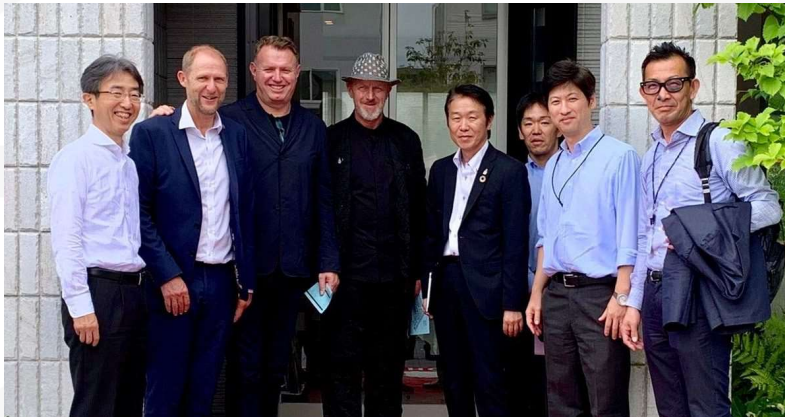
© 19 DEC 2019 | BY ZAK GARNER-PURKIS







## We Can Learn So Much From Deepened Anglo Japanese Collaboration – Across Housing & Planning Policy & Construction



Thank You For  
Listening



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