

FEBRUARY 2023 PRESENTATION



Modular Housing designed and delivered by Engineers.

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01. Who we are



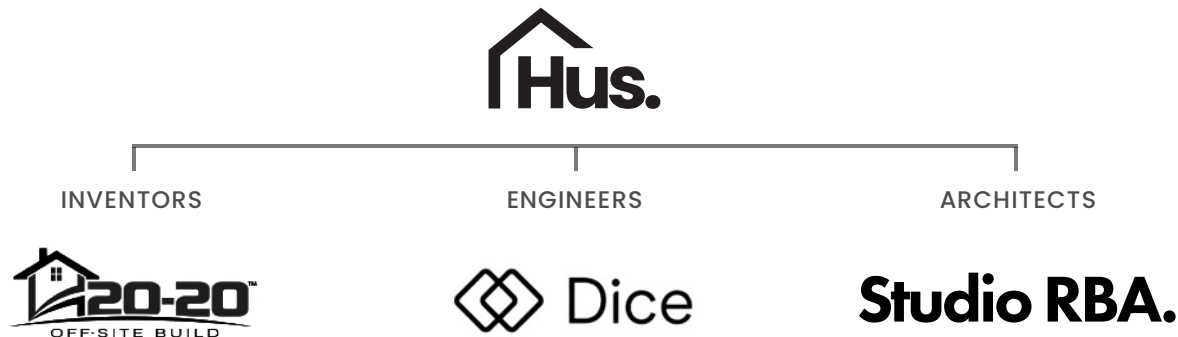
About us.

Our inception

Hus is a collaboration between leading construction professionals that share one vision...to deliver precision engineered, efficient homes to the market.

Background

Hus is a distinctive collaboration between architects, engineers and innovators that offers high-quality, contemporary living space at an affordable price. Aesthetics, efficiency and practicality are at the heart of everything we do, utilising space in a purposeful way to generate positive impacts for current and future occupiers. Its adaptable elements blend seamlessly into both rural and suburban surroundings, making Hus the perfect solution for every type of low-rise residential development. We provide homes that are designed for modern living, manufactured off-site in a controlled factory environment using repeatable processes and cutting-edge technology to reduce risk and uncertainty, whilst also improving quality and affordability.



The Background.

UK Governments Call to Action

The Government has accepted that the UK housing Market is broken, we have a housing crisis, with the need for truly affordable homes at an all time high.



Summary

Over 430,000 homes per year need over the decade to meet requirements. Traditional building methods no longer deliver families and providers value for money, they are looking for better.

The Green Agenda is already a reality and fuel poverty a national crisis at the forefront of home owners minds.

“

Our broken housing market is one of the greatest barriers to progress in Britain today. Whether buying or renting, the fact is that housing is increasingly unaffordable – particularly for ordinary working class people who are struggling to get by.

Foreword from the Prime Minister: Department for Communities and Local Government- Fixing our broken housing market. Ref: ISBN 9781474137966

Our Vision.

Company vision

To assist the housing crisis with off-site construction techniques that benefit from factory conditions and mass production within a local labour market and supply chain.

Background

We work with a broad range of private and public housing providers to deliver high quality, low cost affordable housing stock. Our vision is to assist our clients to create local employment opportunities whilst also building the next generation of housing stock, using the local supply chain for materials. Our aim is to reconnect with communities delivering a better standard of housing at affordable rents and shared ownership opportunities.





02. What we do



Modern Method of Construction (MMC).

Engineering lead design

MMC is a process which focuses on off-site construction techniques, such as mass production and factory assembly, as alternatives to traditional building methods.

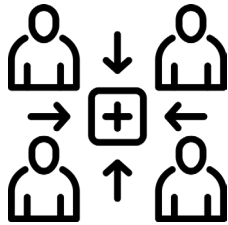
Benefits of Modular Construction as MMC:

- Manufacturing within a controlled factory environment.
- Typically large scale semi-automated manufacturing facilities.
- Reduced carbon footprint.
- Faster production and construction times.
- Less site work and vehicular traffic.
- Quality controlled process.
- 10-year structural warranty.

Why we are different:

- Our process is optimised for low skilled workers.
- We operate local manufacturing sites and operate within the local supply chain.
- Our system is a carbon negative sustainable construction method.
- We only work with dry-formed materials, no hot works or unnecessary risks.
- Faster production and construction times.
- Green mortgageable.
- System approval, not house type approval from Mortgage Lenders and LABC.
- Exceeds fire protection requirements according to UK British Standards.

Our Process.



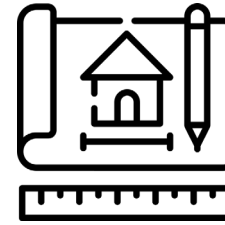
01/ Engagement

Initially our experienced team will meet with registered providers, housing associations and local authorities to discuss opportunities arising where our build system may be suitable to meet their needs.



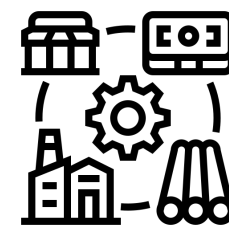
02/ Appraisal

After identifying potential opportunities our team can provide a detailed appraisal of each development site assessing possible unit numbers, site layouts and outline costs to aid the decision making process.



03/ Design

Should a development site be agreed our in house design team will tailor our system to suit the local vernacular and prepare and procure the required information suitable to acquire planning permission.



04/ Fabrication

Subject to planning approval our engineers will manufacture the component parts for the assembly while in parallel starting the infrastructure on site ready to take delivery.



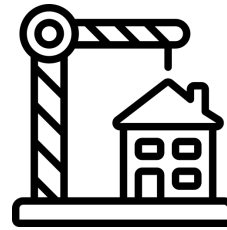
05/ Assembly

Our system is assembled in a factory with an unskilled & semi-skilled workforce delivering a quality beyond that being provided by traditional house builders on site.



06/ Transportation

Once the on site infrastructure is in place and each unit is completed in the factory they are delivered to site via the local highway network.



07/ Installation

Once delivered, our on site team of specialist then assemble the units quickly and efficiently. Site wide finishes are applied and prepared for handover.



08/ Completion

Following the completion of the on site assembly small areas of external and internal finish are installed before handover to the client.



03. Our system



We are Unique.

Primary and secondary frame.

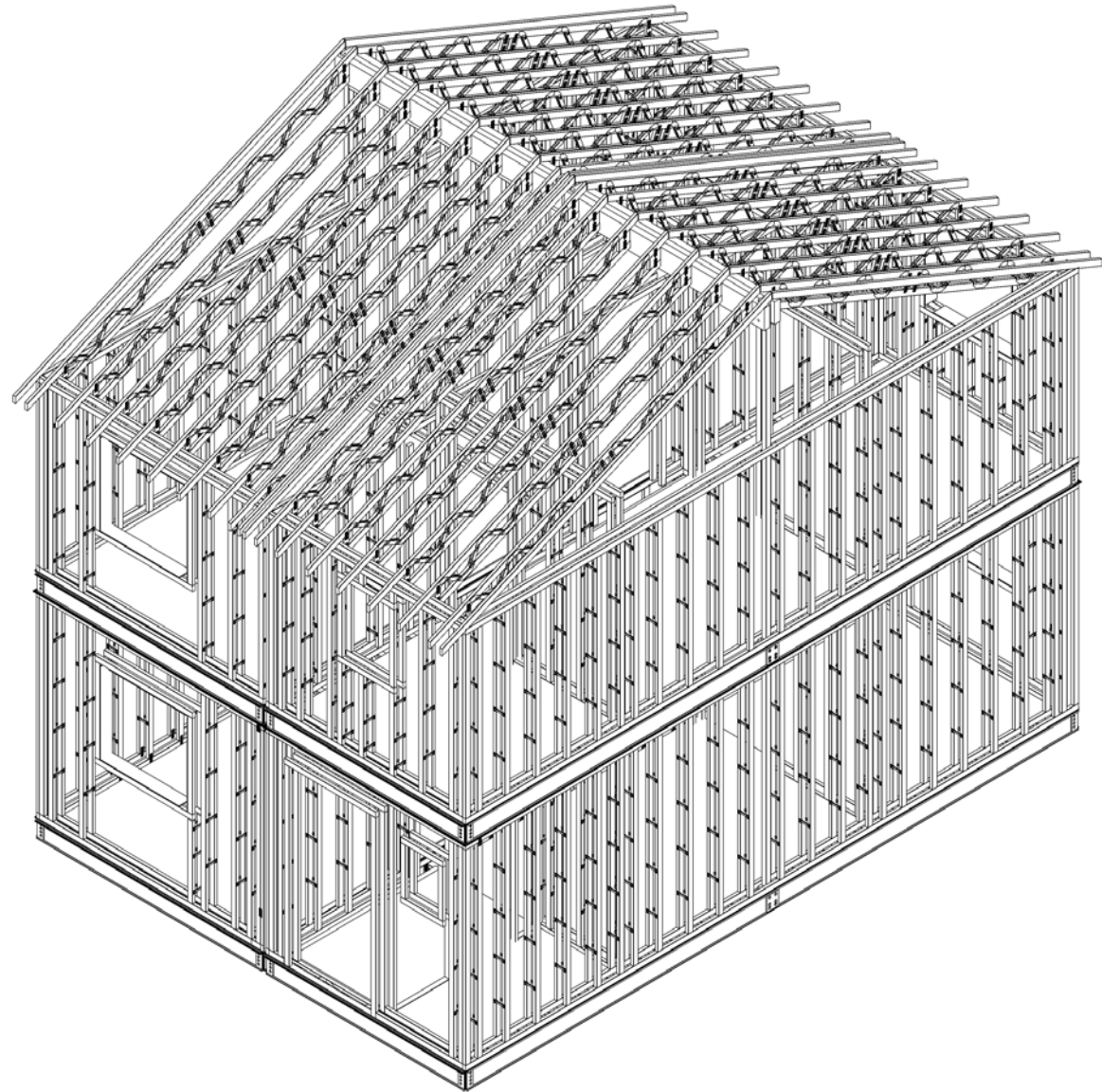
**A hybrid system built
from steel and timber.**

Summary

Our building system is approved for building designs from single to multiple storeys. Multiple units can be slotted together to create buildings for any potential use, although the system was originated for affordable homes.

KEY FEATURES

- Larger
- Warmer
- Stronger
- Quicker
- Higher Quality
- Community Friendly
- Energy Efficient
- Affordable



Production and Assembly.

Bespoke connections

Our patent protected construction system out performs its rivals.

Summary

Our build system is specifically simplified for low skilled operations, enabling precise quality control methods expected from a manufacturing production line. Ideal for the training of the 18 to 25-year-old employment market, teaching next generation Modern Methods of Construction to a new generation of builders.

PATENTS.

2562181	Construction Assembly
2533845	Construction Assembly System
2502659	Beam Locking System
2509964	Non-Blocking Rainwater Gutter
2010/089538	Flat Pack Solar Powered Building System
2015/0033639	Panelised Modular Build System
1132103001	Modern Methods of Construction build System
KLE/P424GB1	Modular Insulation System
KLE/P424GB2	Modular Cavity Connections Insulation



Warranties and Accreditations.

Bespoke connections

An industry certified building system that differs from traditional construction.

Summary

Our Clients have the choice from the following providers BOPAS, Global Warranty, ICW LABC Warranty, Premier Guarantee, Council of Mortgage Lenders, full accept the Build System. All products and materials used within the build are fully BBA Certified for 60 years+.

The system, rather than the house types, have full approvals from, Structural Engineers, Council for Mortgage Lenders, Lloyds Register of Insurers, Local Authorities Building Control, System approval from Premier Guarantee and LABC Guarantee.

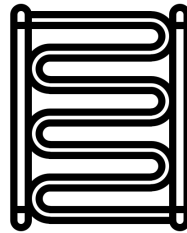


Our Specification.



Larger

We design homes 20% larger than national space standards. This offers the occupants a better living standard with features such as clever in built storage for modern family life.



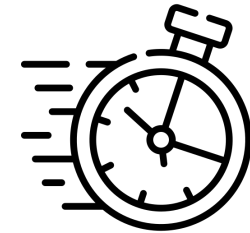
Warmer

Our unique and patent protected build system creates an insulation level way beyond that of traditional buildings. We achieve a u-Value on Floor, Walls and Roof of $0.07 \text{ W/m}^2\text{K}$.



Stronger

Our advanced building frame system offers greater design flexibility while delivering a more robust and stronger construction than that of traditional building materials.



Quicker

Our homes are built to the highest standard over an 8-week period in the factory, simultaneously the site works are underway, resulting in a significant time saving on developments.



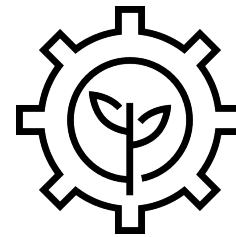
Higher Quality

The use of widely understood and accepted standard materials, assembled in a controlled factory setting delivers a quality beyond that being provided by a traditional builders on site.



Community Friendly

As the build of the houses is off site in the factory the number of trades people and activity on site is much reduced, lessening the impact and disruption to local resident and traffic.



Energy Efficient

High insulation levels and the in built renewable technology systems including the use of solar, thermal and heat pump technologies deliver a true SAP 100 home.



Affordable

A cost evaluation on our system demonstrates an ability to provide a bigger, better built, low energy houses for a cost on par with existing standards of traditional build.



04. Example home



The Newton.

3 Bedroom / 5 Person Home

3 Bedroom Detached.

Summary

The three bedroom Newton features an open-plan lounge/dining space which includes French doors that lead out to the rear garden and provides a great space for entertaining by allowing for the indoors and out to flow.

OTHER STANDARD HOUSE TYPES

Whittel - 2 Bed Apt. / 4 Person
Mitchell - 3 Bed. Apt / 5 Person
Faraday - 2 Bed / 4 Person
Newton - 3 Bed / 5 Person
Darwin - 3 Bed / 5 Person
Brunel - 4 Bed / 8 Person

Example home. | 17



The Newton.

3 Bedroom / 5 Person Home

Ground Floor.

Summary

The three bedroom Newton features large window allowing lots of natural light to fill the room. At ground floor the open-plan lounge/ dining space includes French doors that lead out to the rear garden.

KEY PLAN:

1. Covered Entrance
2. Hallway
3. WC
4. Kitchen/Dining
5. Lounge
6. Dining
7. Staircase



The Newton.

3 Bedroom / 5 Person Home

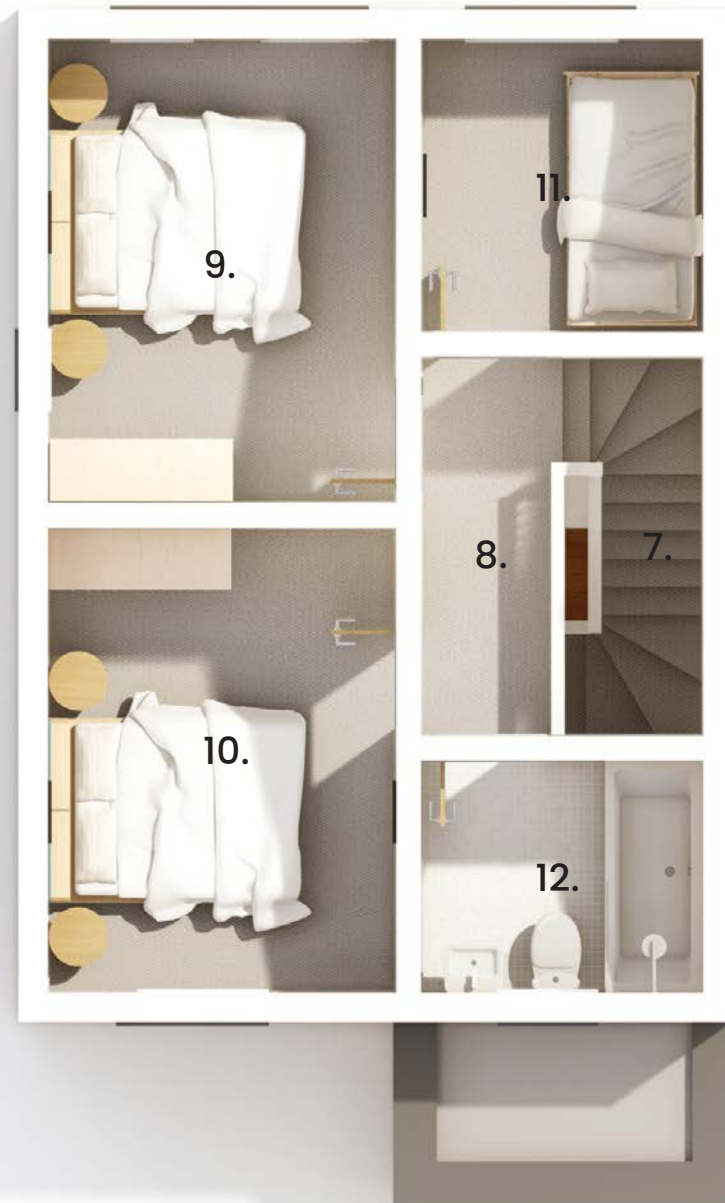
First Floor.

Summary

At first floor the three bedrooms each offer space for wardrobes, ensuring everyone has a place for their belongings and a large family bathroom.

KEY PLAN:

- 8. Landing
- 9. Bedroom One (Master)
- 10. Bedroom Two
- 11. Bedroom Three
- 12. Bathroom



Multiple Configuration.

3 Bedroom / 5 Person Home

**Detached,
Semi-detached or
terrace homes.**

Summary

Our modular housing system has been designed to provide ultimate flexibility to maximise our development sites. The system enables us to configure detached, semi-detached and terrace homes with no disruption to the production line, with each individual unit independent from each other regardless of the configuration.





Below are examples of the same house type used in both a detached and terrace configuration. The changes to the design are minimal with a focus on waterproofing around the adjoining interface.



Adaptable Appearance.

Example options

An Interchangeable and evolving facade system bespoke to the immediate context and client requirements.

The external appearance of our homes is interchangeable and has been designed with flexibility in mind. The proportion of door and window openings can vary in addition to the cosmetic materials that form the buildings aesthetic envelope.







05. Example projects



Redwood Crescent, Beeston, Nottingham.

Project Description

Two sets of 3 bed semi-detached houses,
built beyond NDSS. Offering true Zero
Carbon living with a SAP 100 certification.

Overview

“Our strategic objective is to invest in modern methods of construction, with a focus on high levels of energy performance. This system gave us the opportunity to deliver affordable warmth to our customers, by supporting a new start-up company and investing in a pilot project to deliver 4 single family home”

Alan Boucker Director of Development & Investment



CLIENT:

Futures Housing Group

LOCAL AUTHORITY

Broxtowe Borough Council

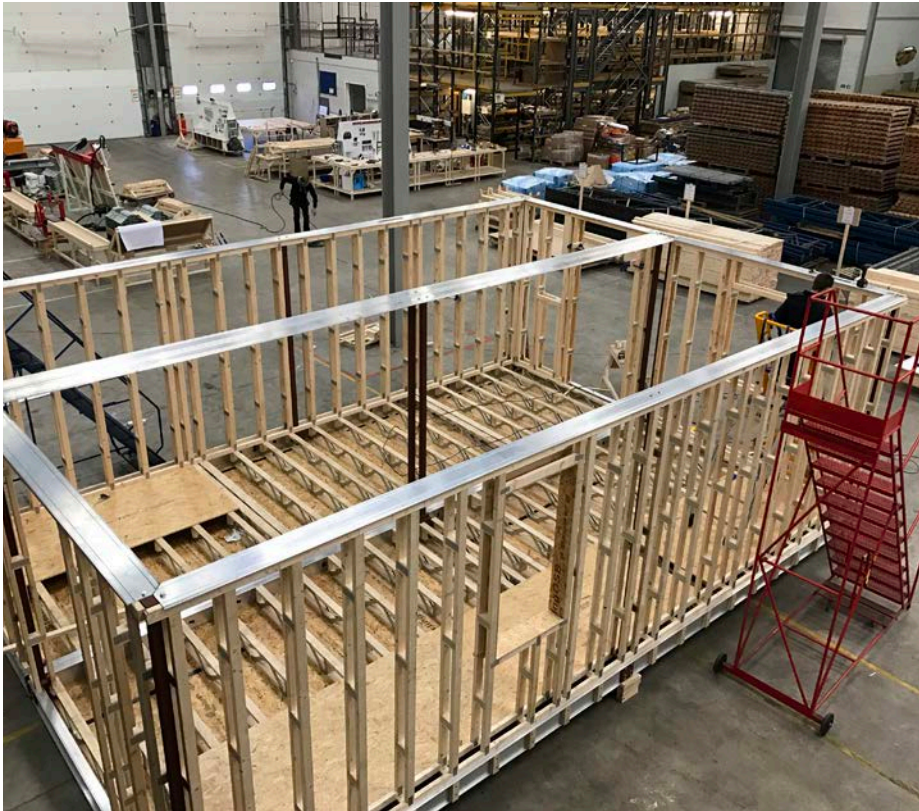
PROJECT DURATION

Factory Assembly	4 months
Site Preparation	4 months
On-site Installation	5 Days

Pre-precision made sub-assemblies are brought together to create the unique floor cassette, which provides a solid surface without bounce or flex.



Steel support columns are inserted which will carry and distribute the building load, around which the advanced timber framing system is built defining the external and internal walls of the building.



The internal wall sub face is added, enabling first fix electrical and plumbing to be installed. This process takes only hours as the building is in skeleton form with free open access to all areas.



Each building section is now structurally solid and can be moved simply, the external sub surface can be added creating the cavity sections, with free open routes between floor-wall, corners, and wall-roof. No joints to seal or cold bridging.



Internal finishes are applied, fire board is installed on all external walls, better than the standards of building regulations. Joint and tape is applied prior to the finished paint being applied.



Doors and windows are fitted followed by the final external finishes. These can represent any type of look and finish to suit the local area of the image required by the customer or planning.



Once the foundations for the building are complete the individual units assembled together in the factory can be separated and delivered to site. Each section of building weighs in at an average of 5.2 ton, so basic crane lifting is all that is required to lift into place.



Units are stacked together using the unique inter-locking design features, enabling the final bolting to finely adjust the build jointing for perfect alignment. This minimises the amount of on site finishing work needed.





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