



EXPLORING MODERN METHODS
OF CONSTRUCTION (MMC) TO
ENABLE COMMUNITY-LED
HOUSING

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FELLOW



NORSCOT: WHO WE ARE

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**TIMBER FRAME
KITS**



DOORS



WINDOWS



OTHER



SERVICES

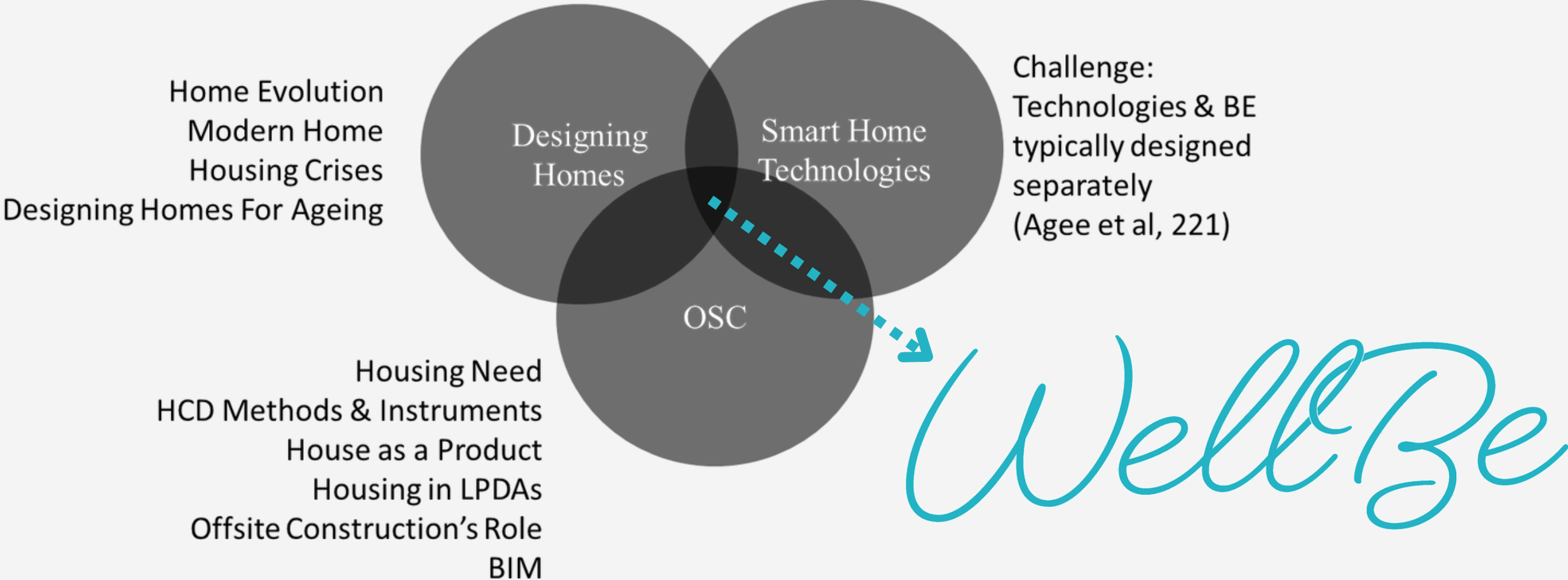
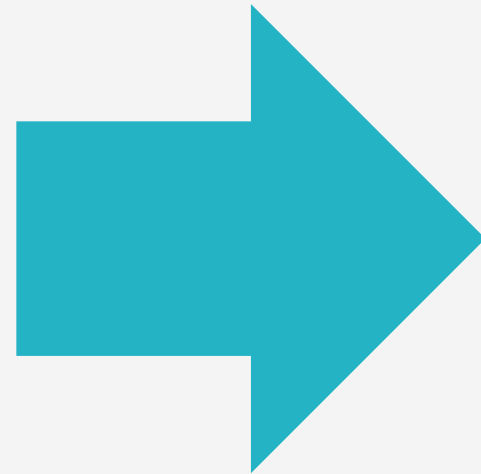


- Established in 1984 in the Scottish Highlands.
- Manufacturer of timber frame kits, windows, doors and building components.
- Committed to sustainable, accessible and enjoyable homes.
- Strong culture of innovation and product development.
- More than 1,000 timber kit homes manufactured over the last 40 years

WHY THIS MATTERS?



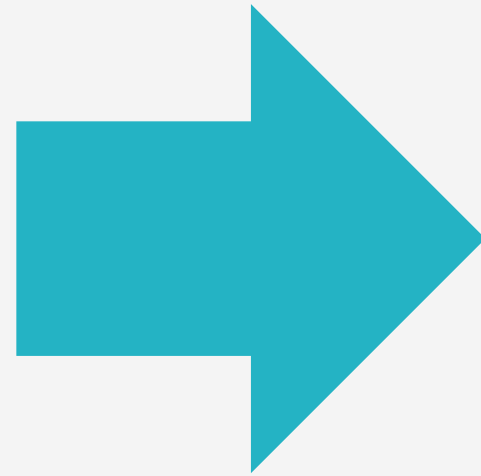
- Homes play a critical role in supporting independence, health and wellbeing.
- People's needs change over time, but many homes are difficult to adapt.



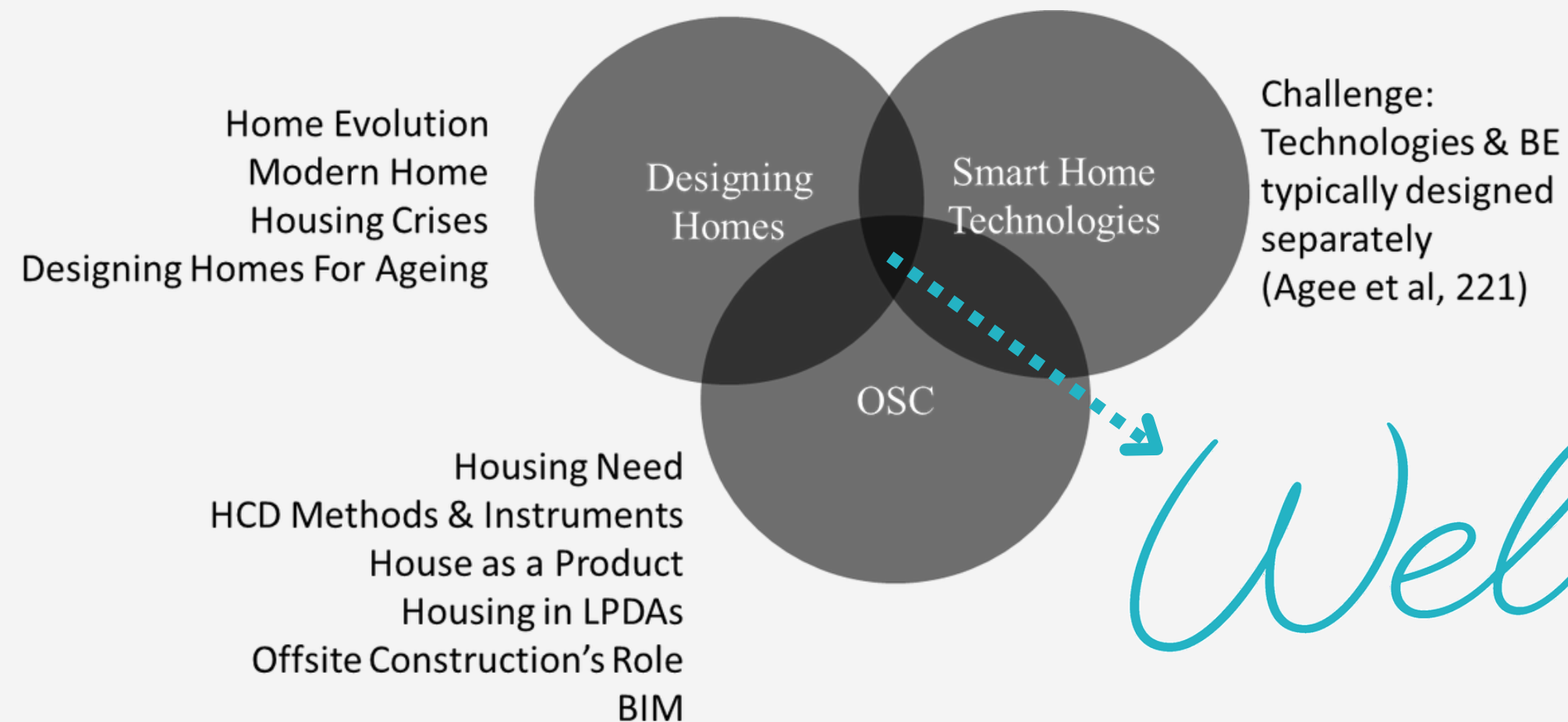
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- The project explores how people use, adapt and imagine future homes.
- We combine design, technology, architecture and social research.
- Focus on creating homes that remain useful throughout different stages of life.

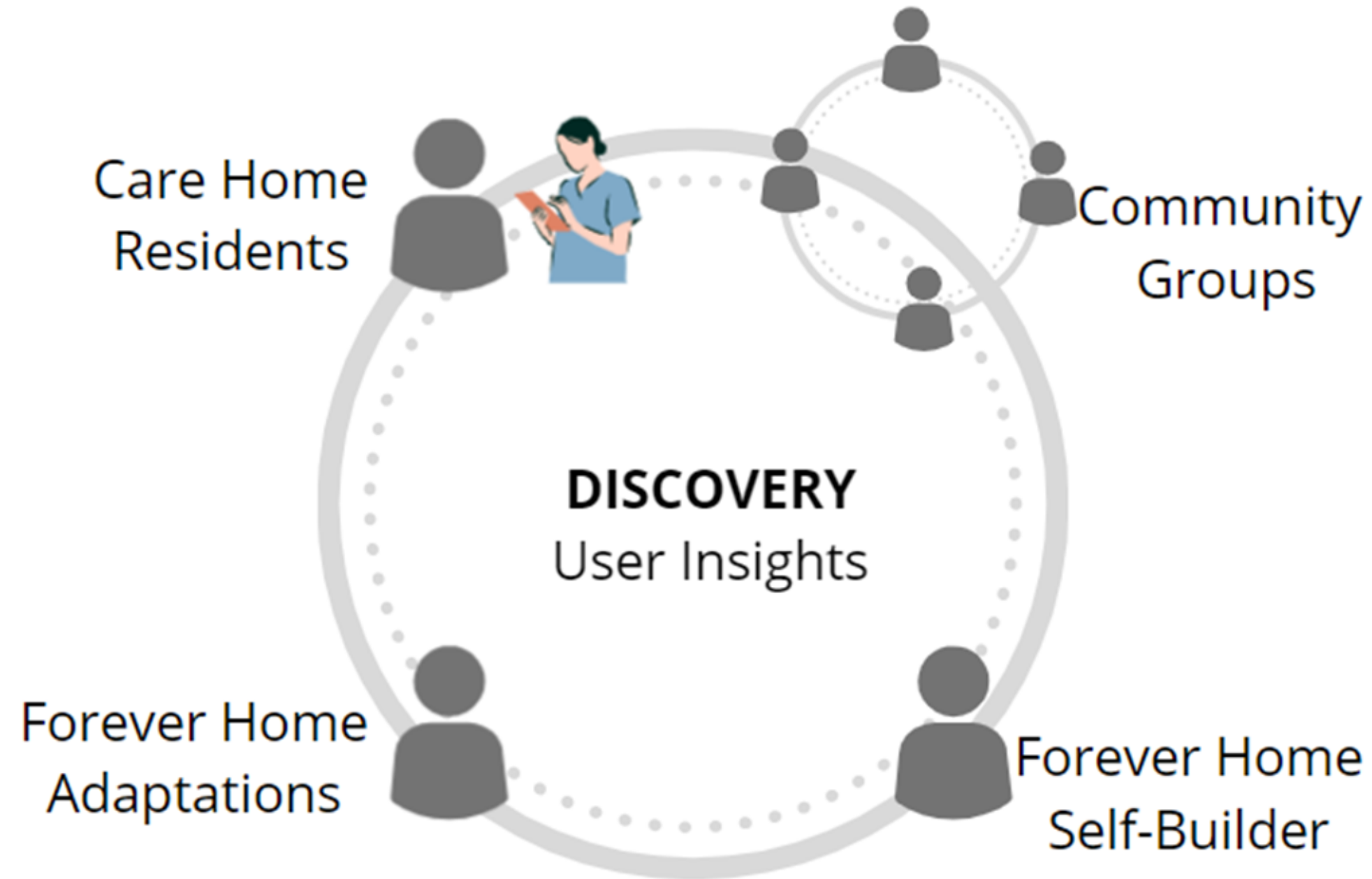


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PARTICIPANTS

2019-2023: Multi-Method Qualitative Study framed by the Double Diamond Design Process (Design Council, 2012)

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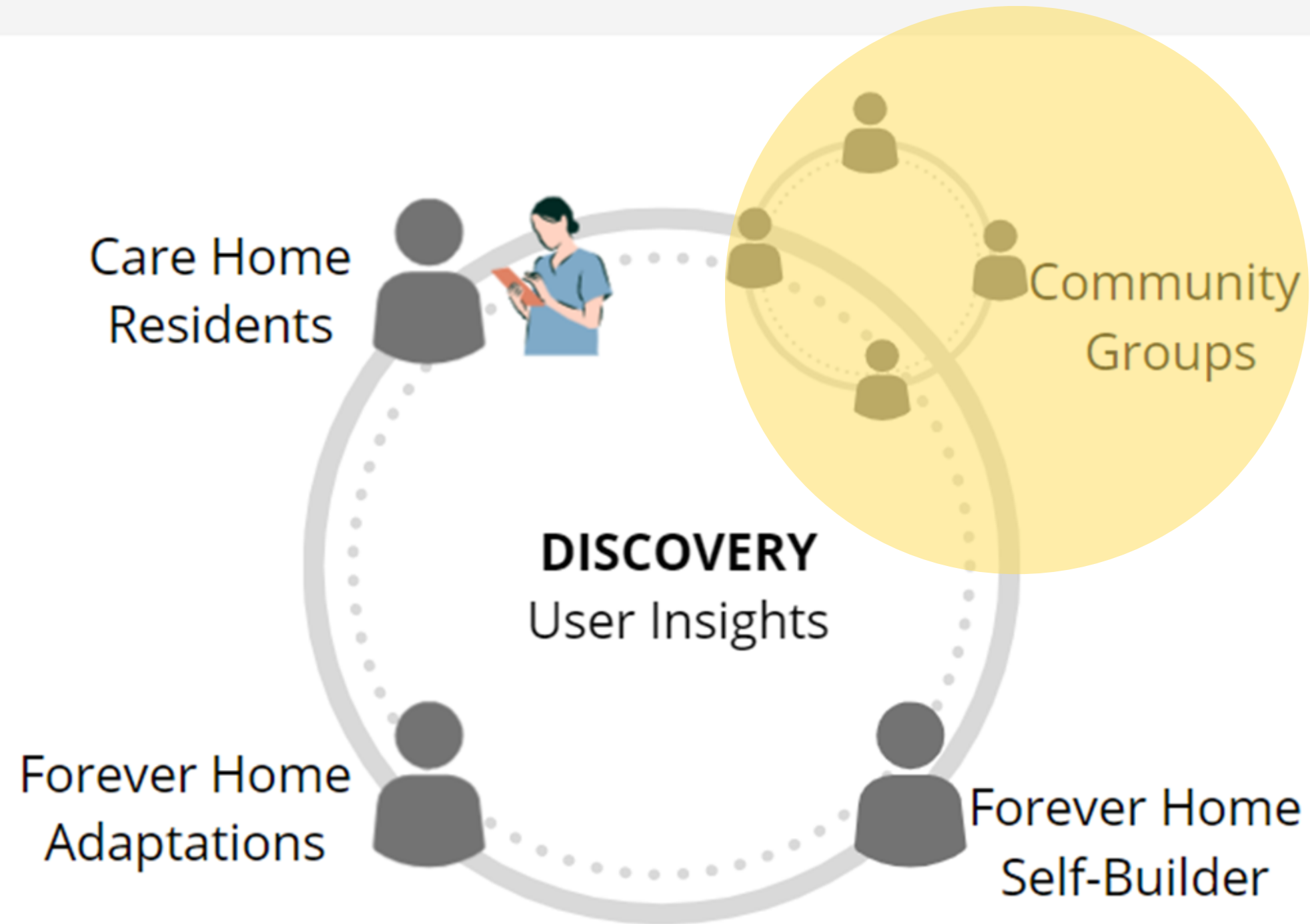


Discovery Phase

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Discovery Phase

WHY MMC?

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- **Factory-built precision:** Building components are manufactured in a controlled environment, improving quality, consistency and reducing defects.
- **Faster construction:** Significant elements are produced offsite and assembled onsite, reducing build times and disruption.
- **Reduced waste and improved sustainability:** More efficient use of materials, less waste generation and lower environmental impact.
- **Flexible and adaptable delivery:** MMC ranges from timber frame panels and modular systems to bathroom/kitchen pods, allowing solutions to be tailored to different projects and future needs.

References: <https://www.gov.scot/publications/modern-methods-construction-mmc-guidance-building-standards-verification/> & Duncheva, T. and Bradley, F. F. (2019) A multi-faceted productivity comparison of offsite timber manufacturing strategies in mainland Europe and the UK. Journal of Construction Engineering and Management, 145(8), 04019043. (doi:10.1061/(ASCE)CO.1943-7862.0001641)

A CASE STUDY

WellBe Homes: Implementation 2024-2025 - Hudswell Community Charity

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MMC: BENEFITS & BARRIERS



Benefits:

1. Accelerated construction cycle and productivity with increased quality
2. Safer and healthier onsite working conditions with fewer onsite workers
3. Reduced costs
4. Reduced onsite storage requirements
5. Improved environmental sustainability

Barriers:

1. High initial costs for capacity building
2. Ineffective transportation logistics
3. Insufficient manufacturing capacity
4. Insufficient market demand due to unawareness and adversary culture
5. Inappropriate business model and supply chain configuration
6. Lack of building standards, design codes, and policy support
7. Lack of skilled professionals

Reference: Deakin et al (2020). Increasing offsite housing construction in Scotland: An evidence base to support new policy and systems.

WHAT ARE WE DOING?

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Future Leaders Fellowship – Innovate UK

- Case Study: Post-Occupancy evaluation to assess performance Vs Design Stage simulations.



how can we remove MMC barriers and amplify benefits for delivering accessible adaptable homes through Community Led Housing?

Bower, Wick. Caithness, Scotland.



WellBe

thank you

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