Question 1
How can innovation and productivity best be improved in the housing sector and construction?

Australia's productivity challenge in housing and construction is structural. The Productivity Commission found that the number of dwellings completed per hour worked has declined by 53% over the past 30 years, and that labour productivity in the broader economy has grown by 49% over the same period. Closing this gap requires systemic action.

This includes regulatory reform through changes to the NCC to facilitate greater innovation and use of pre-fabrication and Modern Methods of Construction (MMC) across building types and locations.

By moving from a project-based approach towards a platform model, the full supply chain can benefit from greater use of pre-fabrication and MMC.

Our view is that they way to systemically improve innovation is through investing in a longer term commitment to R&D by establishing a dedicated Research and Development Corporation (RDC) for the Australian building industry.

The fragmentation of the industry requires an RDC to coordinate research priorities, accelerate diffusion of innovation, inform skills and training pathways, support better measurement infrastructure for the sector, and provide ongoing technical advice to government on regulatory reform. This is a proven model used in agriculture to ensure Australia is contemporary in its approach.

Question 2
Which modern, digital or advanced construction technologies have the greatest potential to reduce build times and costs at scale? Why haven't they yet been widely adopted?

The clearest investment case for advanced technologies fall in the Modern Methods of Construction (MMC) category. This includes prefabrication, modular, panelised and “kit-of-parts” systems.

The most transformative opportunities are platform-based, repeatable building systems built on Design for Manufacture and Assembly (DfMA) principles.

Building 4.0 CRC, in collaboration with the NSW Government, have developed the System 600 platform, which has achieved significant cost and time reductions in NSW social housing construction. There is an opportunity to expand this system across other States and Territories.

The barriers to wider adoption include the fragmentation of the sector, the inconsistent demand levels for MMC technologies, the project based procurement approach and the regulatory uncertainty.

There is a role for governments to establish connective platform infrastructure to support wider adoption of MMC technologies throughout the housing construction sector.

Question 3
What needs to change in procurement, financing or risk allocation for modern, innovative construction methods to move from pilots to mainstream housing delivery?

To move MMC to the mainstream, a coordinated approach across different levels of government, in partnership with industry, could deliver:

- aggregate demand across jurisdictions and across multi-year programs, providing the demand pipelines that justify investment
- nationally coordinated and locally implemented approaches that build capability across industry and locations
- supply chain capability and scale, fostering an ecosystem approach.

To achieve this, procurement, financing and risk strategies would need to be adapted to create: explicit MMC delivery pathways (Government projects and procurement can play a leading role here); change risk weighting to be based on products rather than projects; and adjust payment terms to factor in MMC cost life-cycles.

Question 4
Is there room to improve the National Construction Code (NCC) to facilitate innovation in construction? How could this be best done?

Yes. Building 4.0 CRC has been working through the Australian Building Codes Board review to remove impediments to innovation in the NCC.

In our recent submission to the NCC modernisation review, we set out four reform priorities to bring the Code up to date for a more innovative and productive Australian building industry:

1. A Single, Unified National Code. Variations between states and territories undermine the NCC's national-consistency intent and create unnecessary cost, training and compliance burdens. Jurisdictional variation should be limited to genuinely unique climatic or geographic conditions. The NCC should also adopt tiered, risk-proportionate compliance pathways so that low-risk, repeatable buildings are not assessed with the same effort as complex or novel ones.

2. Using New Technologies and AI to improve accessibility. Enabling digitalisation of the code to support automated and pre-emptive assessment. Referenced Australian Standards should be consolidated into the Code where possible and made freely available, given that they have the practical force of law.

3. Establish an RDC for the Building Industry. An RDC would institutionalise the technical validation, international benchmarking and regulatory-innovation capability the NCC needs to evolve continuously.

4. Future-Proofing Industrialised Building Approaches. The NCC should explicitly recognise repeatable, pre-certified building systems so that the same module, panel or wall system is not reassessed project by project.

These improvements will ensure the NCC drives productivity and should be underpinned by a Research and Development Corporation for the building industry to provide the Australian Building Codes Board access to sustained, evidence-based technical advice as construction methods modernise.