# FUTURE HOMES: WHY TECH-DRIVEN HOUSES WILL IMPROVE SOCIAL WELLBEING

By Ben van Berkel

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**As part of our Far Future mini-series Future Homes, Ben van Berkel, founder and principal architect at UNStudio, discusses how data will positively shape the design and sociability of tomorrow's residential developments.**



Future Experiences, NTT Data, Visuals by Designit

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Technological disruption means that our possible futures are many and it would be a conceit to believe we can predict exactly which will come to fruition. But as architects our role is not only to speculate but to visualise; to quite literally draw the lines of the future we wish to move towards. Guided by ecological and socially sustainable principles, we can then begin to design the steps towards achieving that future.

In the previous century, numerous machines were invented for the home as time- and labour-saving devices: the washing machine, the sewing machine, the dishwasher. Similarly, we welcomed the invention of new entertainment devices to help fill our leisure time.

At the start of this century, following the advent of the digital revolution, not only did we start using smart devices, but we soon decided that we needed even more control over, and convenience, from the machines we already had. Enter the Internet of Things (IoT). Our **household devices are now connected** and can be controlled both centrally and remotely by a simple voice command. Furthermore, our machines now talk to *each other*. Soon our homes themselves will become empathic machines that learn from our preferences and automatically respond to our behaviour and habits. And we won't even have to ask them to do so.

But what is perhaps of more interest for the future is that the technologies involved also – through data collection – make our lives measurable. With the added use of sensor technologies, we will seamlessly monitor the spaces we live in for ideal temperatures, light levels, air quality, humidity and energy consumption – simultaneously improving both our health and that of the planet.

## 'AI and machine learning will enable architects to better understand and measure the impact that their design decisions have on people's lives, reframing architecture as a device that combats issues such as poor health and social isolation.'

*— Ben van Berkel, founder and principal architect, UNStudio*



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It is this facet of new technologies that I predict will cause the greatest shift in how we live in the future – not because data has become a commodity that can be capitalised upon, but because we can now monitor the use and performance of the environments we inhabit. It is this that I believe will nudge us beyond mere convenience and towards improving our behaviour on both an individual and neighbourhood scale.

At present, we can monitor, maintain and improve the performance of buildings and their components by feeding data into a cumulative cloud to create a feedback loop between building and planet. But with AI and machine learning potential, we will be unveiling correlations of data allowing for better understanding of cause and effect. This, in turn, will mean that we can design new, collaborative development models between designers, building developers, residents and systems, where shared outcomes can be **shaped to improve health**, decrease loneliness and lower the use of natural resources.

We will also be able to develop localised solutions to such things as energy production and storage, perhaps with the use of microgrids. All of this will enable us to better understand and measure the impact that our design decisions have on people's lives and to reframe architecture as a device that combats issues such as poor health and social isolation. This knowledge, in turn, can be connected to goals on an urban planning scale. In this way, the future home will contribute beyond the sheltering of individuals and the lure of convenience, towards greater societal goals.

But the need to maintain social contact will also be an important factor in the homes of the future. On the one hand, affordable shared living models will increase as space becomes even more scarce, but in a world where everything can be delivered and we no longer need to leave the house, technology also risks isolating us. Therefore, shared social spaces both in and around the future home will also be paramount.

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