

A ‘Smart District’ Takes Shape in the Netherlands

By Joann Plockova

July 24, 2020, 1:00 a.m. ET

AMSTERDAM — In his late 60s and set to retire in March 2021, Hans Moerkerk, a Dutch water management professional, has plans to move into a 1,500-home development that aspires to be the smartest neighborhood in the world.

Mr. Moerkerk lives with his wife in a small village in the southern Netherlands around two and a half miles from the future site, which won't get its first residents until 2021 at the earliest.

“I realize we are going to live in an experiment,” Mr. Moerkerk said. “Some ideas might not work out the way we expect.”

In the city of Helmond, the Brainport Smart District, which will include a business district and plenty of green space, is not just a new neighborhood but “a new type of living environment,” said the architect Ben van Berkel, the founder and principal architect of UNStudio. The Dutch firm, which has offices around the world, designed the district's master plan.

The mixed-use district, set on 380 acres, will use technology to create an environmentally and socially sustainable community.

“We want to support positive things with technology,” Mr. van Berkel said. “Especially community building.”

- **Thanks for reading The Times.**
[Subscribe to The Times](#)

A living lab where new ideas will be tested and adapted, the district will not be built according to a set design plan but developed in response to the needs and habits of its 4,500 future residents and what is learned along the way.

“We made a framework of how these ambitions can hopefully work very well in the future, but it is fully unpredictable how it's going to operate and what it will look like,” Mr. van Berkel said.

The project is led by the Brainport Smart District Foundation, a partnership among the municipality of Helmond, Eindhoven University of Technology, Brainport Development, the Province of North Brabant and Tilburg University.

The district, which encourages self-sufficiency and self-organization among its residents, is being financed through a public-private partnership, with individual

projects funded privately by the project developers. Costs have not yet been determined.

“One of the key elements in realizing this district is that we have future inhabitants participating in the project from the very beginning,” said Cathalijne Dortmans, a member of the City Council of Helmond and head of the foundation’s board, “We also want them to feel co-responsible for the social cohesion and the community when the district has been finalized.”

The seed for the project was planted by a foundation member, [Elphi Nelissen](#), a professor in the building sustainability department at Eindhoven University of Technology and the chairwoman of the district’s quality team.

“My dream was to create a district with a better quality of life regarding health, circularity, mobility, energy, participation, data, safety, inclusivity that can be an example for the rest of Europe and the world,” Professor Nelissen said in an email. “With an open innovative character, so everyone is able to copy our findings. In a flexible way so that we can implement new knowledge/products into this area and keep on learning from it.”

Professor Nelissen selected Helmond from a host of interested Dutch cities that she had invited to present their ideas.

Part of the Brainport region, which also includes Eindhoven, Helmond’s population is a little over 90,000.

“The whole region there is almost like a small Silicon Valley,” Mr. van Berkel said. It is home to companies like Phillips, Tesla and [ASML](#).

“So I thought, well, this is not just a somewhere location, but a very innovative area where I understood that a new type of people would like to live, people with another background, also having that tech background,” Mr. van Berkel said.

[UNStudio](#) worked with a multidisciplinary team of partners to design the district plan as a flexible grid that can be easily adapted to the agricultural lines of the landscape.

Plans for the district speak more to the atmosphere than to specific housing types.

“Every architect can bring his own style of architecture,” Mr. van Berkel said. “It’s not going to be high rises, for instance, that’s what I can say. It’s all going to be low-rise.”

The dwellings, 20 percent of which will be subsidized housing, will be mixed with businesses and leisure spaces to make it easy to move around by bike and on foot and engage with neighbors.

“We are looking now at at least 50 different types of households,” Mr. van Berkel said in an email. “Beyond generational families, we are also looking at households with single parents, with additional lodgers, with relatives and friends co-living.”

The district will be designed with new forms of energy generation; emissions-free mobility (an electric-car sharing program is being tested); and data sharing.

“Projects that apply to the district are judged based on their innovation level,” Mr. van Berkel said, adding that it is “a process that does not exist anywhere else in the Netherlands.”

Many of those projects, whether housing developments or products and services, have come through so-called business challenges, which invite companies and individuals from the Netherlands and abroad to present ideas. (In the three that were held before 2020, the foundation received over 200 applications, which led to 37 projects.) Among them is the 100 Homes project by UNSense, a sister company of UNStudio that is focused on technology.

This neighborhood of 100 homes, with dwellings designed to easily adapt to climate change and resident use, will be a testing ground for how data and technology can be used to impact the social and economic well-being of its residents.

Built into the infrastructure like the plumbing and electricity, neighborhood-wide smart technology (a network of sensors) will be grounded in a data platform hosting services related to living, mobility, food and health.

Ultimately, the planners believe that such data sharing can improve residents’ quality of life.

For example, energy and food consumption habits can be tracked, leading to adjustments in supply and disposable income savings, which can then be used for more enjoyable activities.

One of the ventures in the Brainport Smart District is the Forty Plot Project, which has asked 50 to 60 people from 40 households to jointly come up with housing concepts and a master plan, and then together to decide which projects would be developed and where.

“We are very free in what we develop, but it has to be done within the standards that the district has written down,” Mr. Moerkerk said. He is developing an apartment building with a shared garden and proposes other collective spaces like a shared guest room for visitors, with 13 other households.

Although the Brainport Smart District is open to everyone, there is a realization that it might not be for everyone and an acceptance that things might not always go according to plan.

“You have to really be a pioneer wanting to do this,” Mr. Moerkerk said, “Of course we’re part of an experiment. That’s not always easy.”

The development of the 40 plots is planned to start in September 2021.

The entire district is projected to be developed over 10 years, “Hopefully we can go faster, maybe five to six years,” Mr. van Berkel said.

“It’s all about thinking about the future,” Mr. Moerkerk said. “I want to show other people that it’s possible to build in a way that helps our grandchildren live in a better future.”