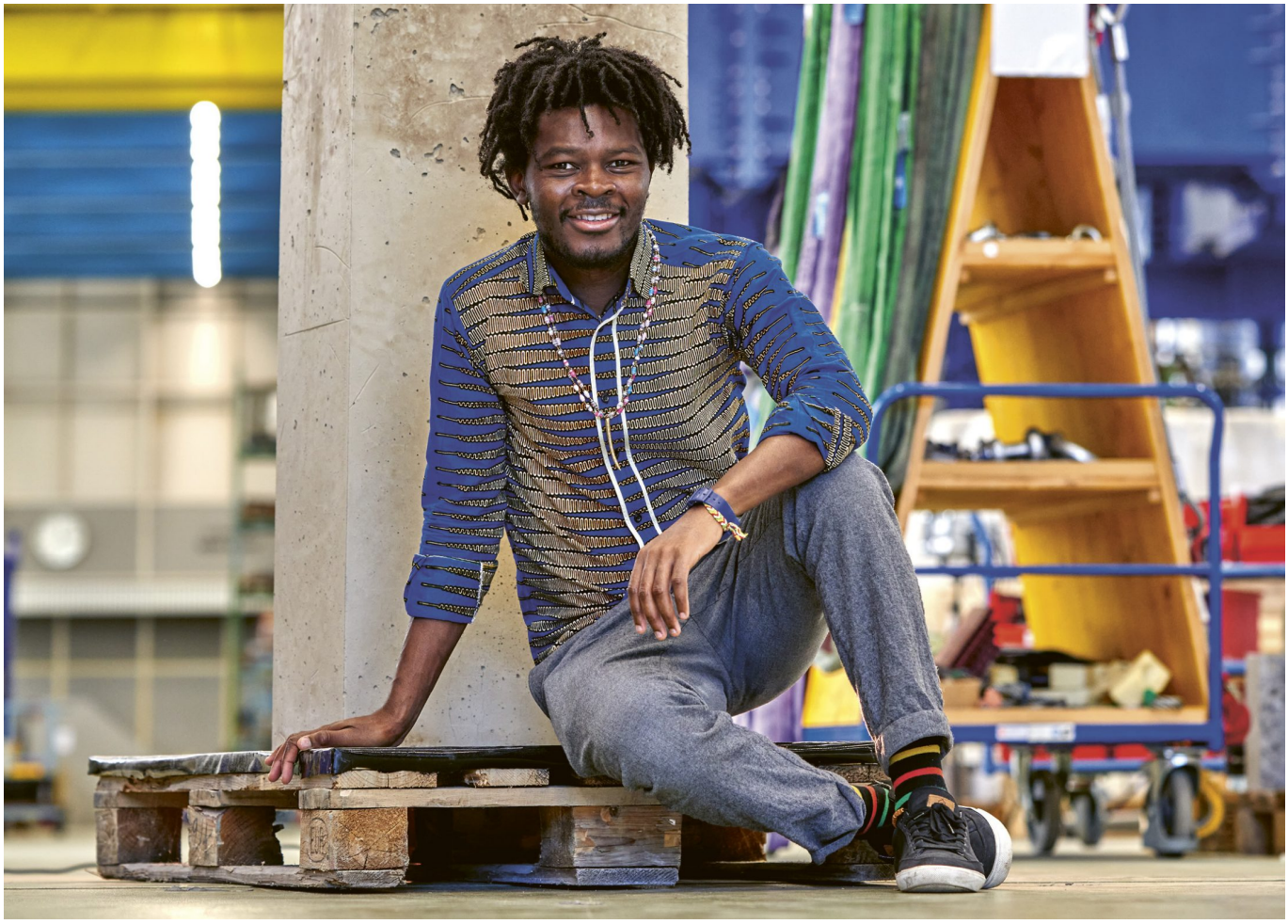
Dignified housing around the world



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Gnanli Landrou and Thibault Demoulin want to stir up the construction industry with cement-free concrete made from clay-based excavation material. Their goal is sustainable, affordable housing all over the world.

“He was always bringing soil into the lab and getting everything dirty,” says Thibault Demoulin, laughing as he describes his first meeting with Gnanli Landrou at ETH Zurich. At the time, Demoulin had no inkling that this soil would lead to the foundation of their spin-off. Landrou, on the other hand, arrived at ETH with a clear goal: everyone in Africa should have access to dignified housing.

New solutions needed

Having grown up in a clay house in Togo, Landrou experienced from a young age how severe the lack of adequate housing is. After travelling to France at the age of 16 and studying materials science, he dug into the challenges facing the global construction industry. It quickly became clear to him that new solutions were needed, solutions that would enable everyone to have sustainable, affordable housing. When he came to the Chair of Sustainable Construction at ETH Zurich in 2014, he focused his research efforts on developing new processes to produce concrete.

The result of these long years of research is the spin-off Oxara, founded by Landrou together with Demoulin, who shares his vision. With cement-free concrete made from claybased excavation material, the two materials scientists are offering an alternative to conventional concrete. As their method requires no cement, CO2 emissions

are lower. In addition, no sand or gravel is required, resources that are becoming ever scarcer. Of the material they need for production, 90 percent is excavation material – so their building material is not only significantly cheaper, it also saves a trip to the landfill. Oxara's concrete is suitable for floors and non-loadbearing walls.

Out of the lab, into the real world

Landrou was supported in developing his spin-off by a Pioneer Fellowship in 2018. The fellowship programme, funded by ETH and private donors, offers ambitious young entrepreneurs start-up aid through access to laboratories, mentoring and start-up capital. "The financial security provided by the Pioneer Fellowship gave us the time we needed to develop our technology further and find partners," says Landrou.

Demoulin and Landrou now employ three more people who contribute expertise in business development, architecture and inorganic chemistry. Aside from continuing to develop the technology, the two founders are working on their business model, clarifying legal issues and talking to potential partners. Their first step is to get a foothold in the Swiss market and continue to optimise their product. There is substantial interest among concrete manufacturers and architects. If everything goes to plan, the first project using Oxara's concrete will be implemented in summer 2020.

Bringing the vision to life, step by step

"We want to help people reconnect to the Earth again," says Demoulin. He and Landrou want to make a positive impact with Oxara, and their chief aim is to work with partners who share their values.

The medium-term goal remains the construction of houses in developing countries, as Landrou clarifies: "I very much hope that in five years, we'll be able to use our sustainable construction material in Africa, India and Latin America." Their idea is making waves: this summer, Oxara was one of five start ups to receive an award from the W.A. de Vigier Foundation of CHF 100,000. And with that, it took another important step closer to achieving its vision of dignified housing for all.

With Oxara, Gnanli Landrou and co-founder Thibault Demoulin want to build a sustainable future, one home at the time.

Support Pioneer Fellowships

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Gnanli Landrou