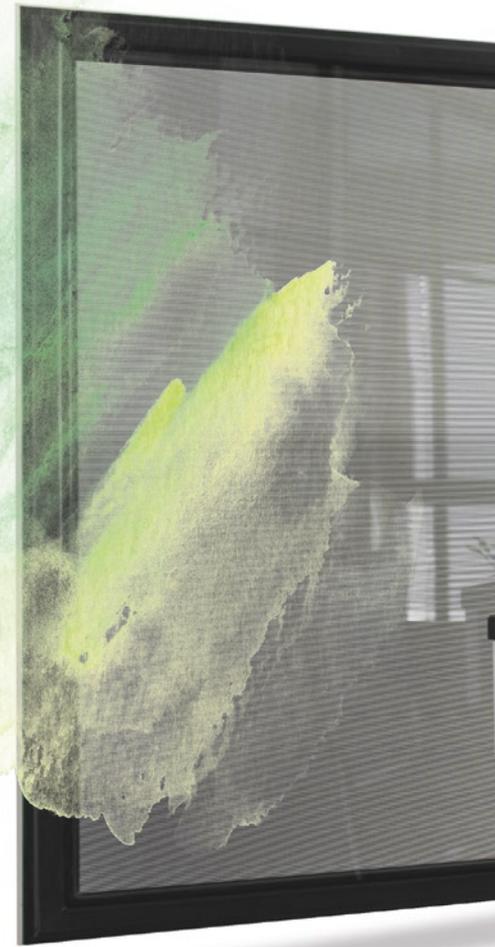


Indoor Greens Go Hightech

The relatively young enterprise Agrilution is bringing vertical farming to the kitchen with a smart greenhouse cube for the home. The device provides the ideal conditions for healthy cultivation of salads, microgreens and herbs.

As more and more people move to urban areas, farmland is gradually giving way to concrete. At the same time, the global population continues to rise. The combined effect of these trends means that land for crops will soon be in short supply. Yet many consumers want food that is fresh, crunchy and free of pesticides. Against this backdrop, interest in vertical farming has been rising in recent years. Instead of growing crops on vast stretches of land, vertical farming stacks cultivation spaces on top of one another, for instance inside buildings.

Company founders Maximilian Lössl and Philipp Wagner seized on this idea and developed it through their startup Agrilution, launched in 2013. They now offer a smart plant cube for private households, enabling anyone to grow their own greens. “We have created a completely new device category and are thus the first provider of this kind of greenhouse box worldwide,” states Lössl. “We give people all over the world the opportunity to harvest fresh, healthy, aromatic vegetables for themselves at home on a daily basis – also giving them access to a wide selection of established, new and international plant varieties. At the same time, we uphold the highest environmental standards.” The “mini vertical farm” has been available since the end of 2018 from upmarket kitchen providers, major electronics retailers and online suppliers. It is a recyclable cube with eight drawers into which seedmats can be placed. These are made of recycled fabric remnants, with the seeds already inserted at appropriate intervals.



The young company offers a smart plant cube for private households, enabling anyone to easily grow their own herbs, salads and microgreens.



Maximilian Lössl and Philipp Wagner founded the company Agrilution, located in the west of Munich, in 2013. The company now has 25 employees.



Watering and climate control



Internet connection



Control via app



Seed mat

Automated irrigation



The nutrients required by the plants are included in water supplied from a tank, so there is no need for soil at all. The manufacturers guarantee that they do not use genetically modified seeds. And since the cube is not accessible to pests, it can also grow proven older varieties that have no chance of thriving in open fields. The company is currently conducting research to expand its offering to up to one hundred new plant varieties.

The greenhouse box is connected to the Internet and uses an app to determine which plants the user has inserted where. Plant-specific parameters are stored in the cloud for the various species to ensure optimum growth. The cabinet accesses these parameters so it knows how much water, light and heat to provide and when. Users can even leave the device to run autonomously for up to three weeks, for instance if they are on vacation.

“Bringing a new kitchen product to market, from vision to series production, is quite an undertaking,” underscores

Wagner, who studied mathematics with a minor in economics at TUM. “The device is extremely complex as it has to control and maintain all the ambient factors for the plants. Aligning hardware and software with biology to obtain predictable, repeatable results was a major challenge.” The young company’s concept has been endorsed by several awards: In 2018, it won the Green Product Award; in 2015, the Ecosummit Award; and in 2013, the Thought For Food Challenge.

In its early days, the startup received support from UnternehmerTUM during the launch phase and was involved in the Kickstarter program. At the same time, it participated in the Climate-KIC accelerator – again backed by UnternehmerTUM. Additionally, the company worked with the University’s Chair of Industrial Design as part of the Design Enterprise program. Agrilution has now brought strong investors on board and the team has grown to over 25 full-time staff. ■ *Brigitte Röthlein*