



Cell Garden

Smart hydroponic system for growing microgreens at home. A state-of-the-art multistorey system with autonomous lights, watering and remote control.



About the client

Cell Garden is an early-stage IoT startup based in Germany. Its core team is a group of very enthusiastic FoodTech entrepreneurs and nutritionists who regularly criticise conventional food industry methods and have developed their own nutritional concept to make our lives healthier and better.

The challenge

The client was looking for a technical partner who can deliver a mass-production-compatible MVP prototype based on their industrial product design. The scope of work would require mechanical design, electrical engineering, firmware and web/cloud development, and further focusing on end-user mobile apps.

Delivered value

Lemberg delivered a 3D-printed and fully assembled device prototype. This prototype helped demonstrate the client's idea to its customers and investors, and convince them to support this project.

All the design files along with a prototype can be further handed over to a mass-production vendor.

The process

The product development was divided into several parallel developments (electrical, mechanical, firmware, web development). From the beginning of the project, our electrical and firmware engineers identified which components were needed for the development and end device functionality.

After that, electrical engineers developed electrical schematics and PCB layouts. To accelerate the development at the initial stages, firmware engineers worked with the development kits only and later switched to factory-manufactured PCBA.

Mechanical engineers built the 3D model based on the industrial design received from the client. Also, mechanical engineers worked closely with electrical engineers to make sure that all elements are correctly positioned in the device housing. The complexity of this device also required several iterations of hydraulic system research for the proper water quantity distribution.

Services

Mechanical design
Electrical design
Firmware development
Back-end development

Technologies

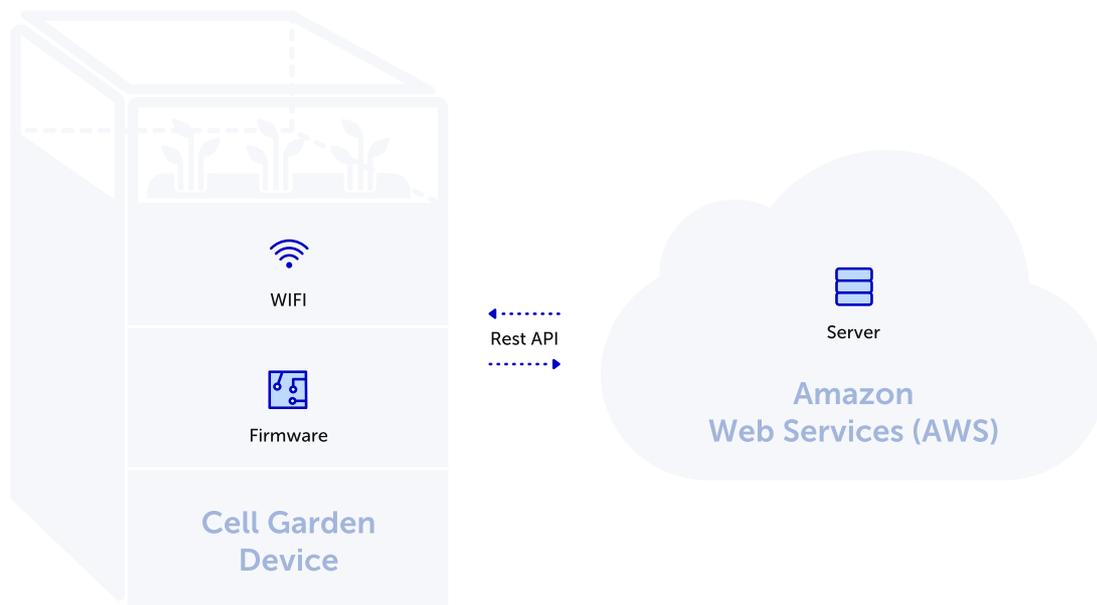
SolidWorks
FDM 3D print
Altium Designer
FreeRTOS
C/C++
Amazon Web Services

Industry

Consumer electronics



How it works



“

Working with Lemberg was very pleasant and professional for us. Every meeting and every work step was transparent and clearly documented. They are fully involved in the project and proactively use their skills. We look forward to further joint projects in the future.

”

Alexander Lier
Co-Founder of Cell Garden



About Lemberg Solutions

Lemberg is a technology consulting, software & hardware engineering company. Startups and established businesses rely on our industry expertise to build new products and deliver digital transformation.

info@lembergsolutions.com

+44 20 7193 4928

lembergsolutions.com