

ESP RainMaker

Case Study - SYNC



Sync Energy, a brand under the Luceco Group, is dedicated to revolutionizing smart energy through innovative and sustainable solutions. By combining advanced technology with a commitment to environmental responsibility, Sync Energy aims to empower consumers to live more sustainably.

Sync Energy’s ambitious product roadmap in smart energy systems starting with EV Charger, required a robust and scalable IoT infrastructure. Espressif’s ESP RainMaker platform, built on **AWS Serverless architecture**, provided the necessary foundation to deliver a secure, customizable, and future-ready solution.

“When developing our smart energy ecosystem, we sought partners who could support us in bringing a complex suite of products to market without compromising control over customer relationships and data ownership. Many existing solutions required us to hand over these critical aspects to the provider, which was not an option for us. Espressif and their RainMaker platform provided great solution that allow us to accelerate development while maintaining full ownership of our ecosystem.”

**Nick Sutton**  
 Product Lead, Sync Energy

“We are proud to partner with Sync Energy in their mission to redefine smart energy systems and deliver the cutting-edge EV charging solution. “

**Amey Inamdar**  
 Technical Marketing Director, Espressif



Residential EV Charging Station  
Smart, Fast, Reliable. Explains the wide range of EV charging options

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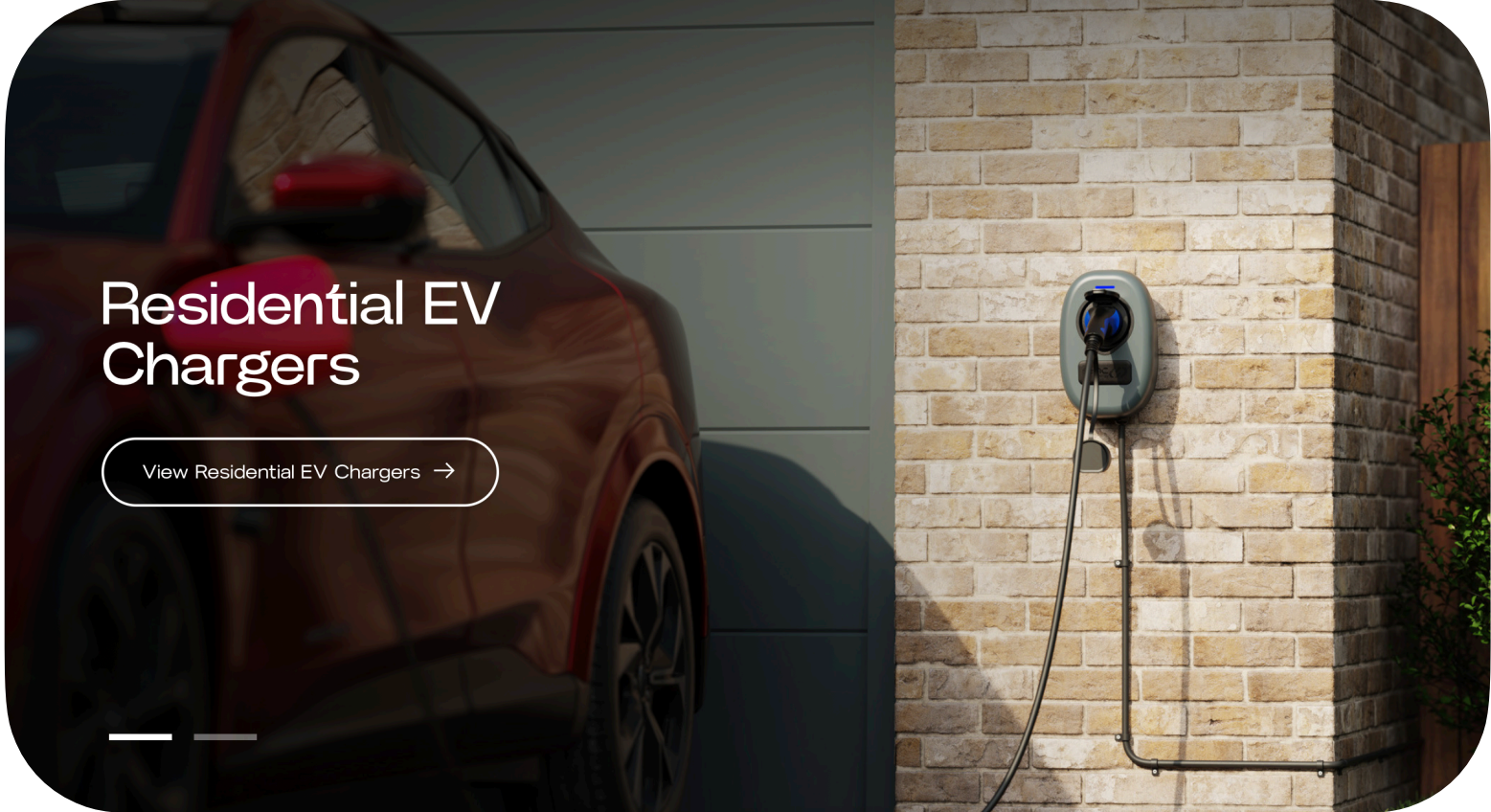
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**ESP RainMaker** has enabled Sync Energy to integrate advanced features while maintaining full ownership of its data and system. While providing the necessary tools to build a **secure**, **scalable**, and **future-ready** smart charging infrastructure. Key features and benefits include fast integration of industry standards, advanced IoT features and accelerated development.

Additionally, Espressif Systems offered critical consulting support, sharing technical expertise and insights that accelerated Sync Energy’s development process. This collaboration enabled Sync Energy to transition from a concept to a market-ready EV charger in just **one year**, showcasing the product at a recent exhibition.

Espressif’s collaboration with Sync Energy underscores its commitment to enable sustainable solutions through innovative IoT technologies. ESP RainMaker platform, combined with close collaboration, empowered Sync Energy to develop a commercial-ready EV charger in record time while ensuring scalability for future growth.”

Sync Energy’s successful product launch is a testament to the potential of combining expert guidance with cutting-edge technology. This marks an important milestone for both Sync Energy and Espressif, as they continue to drive the adoption of energy-efficient solutions that benefit consumers and the planet alike.



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# ESP RainMaker Case Study - GRAVITY



**Gravity** is a user-centric brand that combines cutting-edge technology with art, driven by the vision of "turning science fiction into reality." The company is dedicated to pushing the limits of both technology and imagination by creating tangible experiences that allow everyone to immerse themselves in the wonders of sci-fi. Specializing in consumer-grade black tech products, Gravity designs its offerings to complement futuristic home decor and entertainment. Its product range includes lighting, audio systems, clocks, installation art, wearable gear, and trending collectibles, appealing to technologists, artists, gamers, anime fans, and science fiction enthusiasts alike.

*"By building on **ESP RainMaker**, we streamlined our development process, seamlessly integrating app-device interactions, OTA updates, and other essential features. What could have taken months was achieved in just a few weeks, significantly reducing both development time and production costs while ensuring a smooth path to mass production."*

**ESP RainMaker** provides a comprehensive solution. With its complete suite of firmware, app source code, and ready-to-use examples, we were able to focus on product development without the complexities of server architecture, data storage, or communication protocols."

**ZHAO Zhengdong**  
Executive Director of Gravity

*"We are pleased that Espressif's hardware and software solutions empower our client to accelerate the adoption of its core magnetic induction technology, drive smart product incubation across various niche sectors, and develop more flexible business models."*

**Tong LING (Tony)**  
Commercial Lead, IoT Cloud Solution, Espressif Systems

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As a startup with limited R&D resources, GRAVITY was under pressure to meet production deadlines while striving to build a unique brand capable of competing with the top players in the market. Their first product, the Universe TIME Levitating Clock, was a mesmerizing fusion of sci-fi and visual serenity. It featured a metal sphere floating in the air, rotating on its axis and orbiting around the clock's face. Given the product's need for an intricate user interaction experience, GRAVITY found many third-party platform solutions to be inadequate. Recognizing this, Mr. Zhao quickly realized that ESP RainMaker could be the end-to-end solution they needed. It not only addressed their cloud integration and app development challenges but also allowed them to develop their smart hardware product under an independent brand.

**Within just a few weeks of deploying a private instance of RainMaker on Amazon Web Services (AWS), GRAVITY successfully prototyped the Universe TIME Levitating Clock, establishing seamless communication between the device, the cloud, and the app.** They also implemented essential features, including device certificate generation, registration, and OTA updates. Ultimately, the Universe TIME Levitating Clock product achieved its trial production target by the end of 2024. Meanwhile, GRAVITY is confident about this year's market and is actively expanding into new product segments, applying its core floating technology to diverse scenarios and products.



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# ESP RainMaker Case Study - Sofabaton



**Sofabaton** began with a small team of fewer than 20 people that are driven by a vision to become a global leader in the smart remote-control industry. However, the development journey did not come without its challenges. Sofabaton faced the task of creating a smart hardware product from scratch with a small team, while simultaneously working against a tight deadline to fulfill crowdfunding commitments. To meet these demands, they needed a cost-effective, reliable, and highly customizable end-to-end IoT cloud solution that would seamlessly align with their product requirements.

After an in-depth evaluation of various software and cloud solutions, ESP RainMaker distinguished itself as the top choice, perfectly aligning with the team's needs and requirements. This was a pivotal decision because other solutions were both expensive and lacked the necessary adaptability. With a looming production deadline, Sofabaton and Espressif teams collaborated seamlessly to align on both technical and business aspects in just one week.

*ESP RainMaker has delivered on its promise, providing proven, reliable technology supported by a robust Espressif ecosystem. With prompt responses to client needs and comprehensive technical assistance, Sofabaton was able to focus on product innovation, accelerating the journey from concept to market and establishing a strong foundation for business success.*

*Choosing ESP RainMaker saved us valuable time and resources. Even after the product launch, Espressif's continued technical support played an important role in our products' success across major global markets.*

**HUANG SongLin**  
R&D Director, Co-founder



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**With Espressif's dedicated support like deploying a private cloud and integrating Alexa and Google Voice Assistant (GVA) skills, Sofabaton was able to accelerate its product development and reach small-scale production in just two months.** Furthermore, ESP RainMaker's reliable and scalable ecosystem kept cloud costs low throughout the development process and even small production volumes, ensuring smooth and successful product launches.

Building on the success of Sofabaton X1, iterative development has resulted in the launch of the X1S model, featuring enhanced capabilities. Moreover, the brand has quickly become a top seller in Amazon's niche categories, expanding its reach from North America to Europe. Espressif's powerful ecosystem continues to fuel Sofabaton's innovation and global growth, with exciting new product launches set for early 2025.

This collaboration showcases the power of adaptable and reliable solutions like ESP RainMaker, empowering hardware startups to make strategic decisions that drive market leadership. **Espressif's RainMaker team exemplified professionalism and expertise, playing a key role in Sofabaton's success as they strive to reach new heights in product innovation.** Do visit Sofabaton's website for the latest updates and upcoming product releases as they continue to grow and expand globally!

**Sofabaton X1S**



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# ESP RainMaker Customer Case Study - **Halonix**

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**Halonix** is one of the fastest-growing electrical companies in India focusing on electrical products in lighting, fans and stepping into health and security domains with UV sanitizers and security cameras. With its focus on innovation, Halonix has been at the forefront to adopt emerging technologies and hence the use of connectivity in their devices is a natural progression for them to add value for their customers and business.

Halonix wanted to build their own IoT cloud platform so that they not only maintain privacy but also have full control over the features to meet the business requirements. Scalability, security, reliability, time to market, upfront investment and operational costs were few of the key considerations for the platform. Halonix also wanted the platform to be future-ready for the data privacy laws that may become applicable.

*Espressif's ESP RainMaker has proven to be an excellent technology enabler for us to build our versatile Halonix One Smart IoT platform. ESP RainMaker provided a solid base that enabled us to deliver, meeting our goals with significantly reduced engineering efforts and time to market. We truly believe that this has provided Halonix a platform to continue our innovation and stay ahead technologically.*

**Jinendra Jain**  
Head of IoT Platform at Halonix

**ESP RainMaker** proved to be a great solution for Halonix to create their own "Halonix One" Smart IoT platform for their devices. With ESP RainMaker, Halonix had a very good base platform for their development. **The device SDK, customizable cloud backend, open-source voice assistant skills and phone apps helped Halonix to quickly build all the pieces of their IoT story without requiring reinventing the wheel while continuing to maintain their unique value proposition.** With the cloud backend deployed in their own AWS account, Halonix continues to maintain the required control over the data and keep usage cost well within the budget. With this platform, Halonix also gets OTA, device management and business insights benefits with the web-based dashboard. This furthers the product and user experience improvements.

Halonix has successfully launched Prism Bulbs, Battens and Downlighters on the Halonix One platform in record time. Halonix One phone apps that are based on ESP RainMaker phone app SDK provides an easy and seamless user experience to users. Halonix Smart IoT products work with Amazon Alexa and Google Assistant through their voice assistant skills. **Importantly, with this platform based on ESP RainMaker, Halonix is in a position to launch new connected products and additional features with ease.**



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# ESP RainMaker Customer Case Study - **PitPat**

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**PitPat** is an innovative fitness brand in the United States, dedicated to transforming people's exercise routines and enhancing their health through gamification. The brand offers a virtual running experience for individuals engaging in home-based workouts through smart devices and an associated mobile app. At present, two different series of treadmills and walking machines - Superun and DeerRun have been developed for different groups of people. These devices establish cloud connectivity and allow real-time synchronization of users' workout data with virtual scenarios online. This enables users to effortlessly customize running and fitness modes, redefining the entire fitness journey.

To begin with, the PitPat team had good expertise in software and hardware development. However, with their business goals, they had the challenging task of not only building the device firmware, phone apps, and cloud platform but also quickly iterating the innovative features. So they were looking for a strong platform to base their work upon in order to not reinvent the wheel. Compliance with local regulations, privacy, and security were important considerations for the platform choice. With many additional products in the plan, they also wanted the platform to provide a great amount of flexibility and customizability.

**Espressif's ESP RainMaker has significantly benefited our business development. Embracing this platform streamlined our R&D process and lowered costs. ESP RainMaker offers a robust IoT development environment, expediting the product's path from design to market. In terms of data security, we believe it is highly reliable. Through this partnership with Espressif, we've bolstered product security and availability while efficiently expanding into global markets.**

**Zhang Jie**  
CEO



ESP RainMaker not only met PitPat's requirements but went well beyond to significantly simplify product development for PitPat. ESP RainMaker's serverless instantiation in PitPat's own account provided them with their private IoT cloud. PitPat team could develop the firmware based on ESP RainMaker agents to seamlessly connect their devices to the cloud. ESP RainMaker open-source phone apps provided a very good starting point for the PitPat team to build their mobile apps. Additionally, the PitPat team could easily enable voice integration using ESP RainMaker's voice assistant skills.

**With ESP RainMaker's serverless architecture, PitPat could meet all the compliance, privacy, and security requirements and also helped to have minimal latency for device-cloud communication providing a great user experience.** The serverless architecture also enabled a zero-maintenance cloud for PitPat so that they don't need to spend efforts in cloud management.

By using ESP RainMaker, PitPat could exploit connectivity in their fitness devices to redefine fitness for users through personalized workouts, data-powered training, and gamified experience. With its commitment to innovation and robust platform based on ESP RainMaker, PitPat is spearheading a fitness revolution in the US market assisting users to achieve their health goals.



**Pit Pat**



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