LivingPackets REINVENTS SUSTAINABLE, REUSABLE SMART PACKAGING

Introducing THE BOX. A Perfect Fit for Today's Circular Economy.

LivingPackets, a fast-growing startup specializing in creating innovative, eco-friendly packing solutions for e-commerce deliveries, is propelling last-century shipping methods into the 21st century with THE BOX, a smart, connected packaging solution that provides a sustainable way to ship packages with zero waste. Founded four years ago, LivingPackets grew from an initial research project into a fast-growing company where more than 100 people work on the future of packaging.

THE BOX is now available in its second generation — the culmination of four years of R&D — and is ready for mass production. After successfully engaging with e-commerce leaders like Orange, Cdiscount, and Chronopost in 2020 and attracting the interest of hundreds of other companies, LivingPackets has launched a pilot test of THE BOX with Boulanger, a major electronics retailer in France in 2021, which will kick off a series of new pilot programs this year.

MEETING THE CHALLENGE

Pitney Bowes forecasts that parcel post volume will likely double and reach 220-262 billion parcels by 2026, driving e-commerce companies to continually reduce costs and enhance delivery services. At the same time, e-commerce leaders are seeking sustainable, eco-friendly shipping and delivery options that improve the customer experience and reduce ecological footprints.

Each year, hundreds of millions of trees are harvested to produce over 100 billion cardboard packages for online deliveries, generating an enormous amount of single-use packaging waste that ends up in the trash.*

To accelerate the circular economy and minimize environmental impact, the EU Commission has mandated that all packaging must be reusable by 2030.*

To meet the challenge, LivingPackets has engineered a new generation of smart, secure, durable, and reusable packaging designed to replace hundreds of millions of cardboard boxes in the e-commerce supply chain over the next decade. Replacing cardboard boxes with a reusable solution like THE BOX could help eliminate up to 90 percent of packaging waste.* In addition to reducing the environmental impact of traditional packaging materials, THE BOX provides a dramatically improved experience for e-commerce companies and their customers.

ECO-FRIENDLY SOLUTION

THE BOX is reuseable and outperforms cardboard boxes. Each unit of THE BOX is designed to replace hundreds of cardboard boxes over the course of its lifetime. The case material is more rigid and durable, offering superior shock absorption. Like a traditional box, it can be folded down to save space when stored. It's currently available in 2L and 32L sizes for parcels. In its current form, THE BOX is able to handle between 70 and 80 percent of all online deliveries.

THE INTERNET OF BOXES

THE BOX is packed with sophisticated features to monitor and safeguard each shipment, allowing both retailers and recipients to track the parcel during shipment.

- THE BOX protects every delivery. Integrated sensors measure temperature, humidity and shocks, and sensing data can be accessed in real time throughout the e-commerce journey.

- Weight scales built into the feet of THE BOX provide precise weight measurement.

- An integrated camera enables both the retailer and customer to inspect the condition of the goods.

- A built-in speaker and microphone enable delivery drivers and recipients to communicate during the delivery process.

- An electromagnetic locking system prevents strangers from opening THE BOX, allowing only the authorized recipient to unlock THE BOX with a smartphone app.

- THE BOX's integrated holding mechanism eliminates non-recyclable packaging waste such as tapes, bubble wrap and other filling materials.

- An integrated E Ink display makes disposable, single-use printed labels obsolete, further reducing the carbon footprint of logistics.

- THE BOX's electronic systems are powered by a rechargeable Li-ion battery.

HOW IT WORKS IN THE REAL WORLD

For e-commerce retailers, THE BOX provides a plug-and-play solution that is easily integrated into existing logistics systems for simple, lean warehouse processing. THE BOX uses NXP's edge processing and NFC technology to provide end-to-end visibility of a package's route in the supply chain and failsafe identification to ensure the package goes to the right recipient.

Consumers can track packages in near real time through the LivingPackets app. When THE BOX is delivered, they can simply use the app or tap their NFC-enabled smartphone to THE BOX to accept and unlock their package or reject the parcel upon receipt.

THE BOX also opens up a range of future options for consumers, such as rerouting packages to other recipients or a different address. Vendors and consumers alike have full remote control of every package delivery for easy management, drop off, and return.

SHIPPING AS A SERVICE

THE BOX is more than an IoT product. It's the foundation for LivingPackets' innovative "packaging as a service" business model. Instead of purchasing THE BOX, customers pay a service fee only when they are using THE BOX for deliveries. This sustainable, pay-as-you-go business model enables better delivery service at attractive price points for all customers.

SMART TECHNOLOGY PARTNER

"We teamed up with NXP because we value their knowledge and technical expertise in designing capable SoCs delivering application-critical features. Throughout all stages of developing THE BOX, NXP has always been a trusted partner," said Fabian Kliem, co-founder and CTO, LivingPackets. "The Arm® Cortex®-M7 core embedded in the i.MX RT1062 crossover MCU gives us computing power approaching that of a Cortex-A processor used in smartphones, as well as the ultra-low power consumption of a Cortex-M core. The MCU's processing power, flexibility and ease of use enables us to provide our logistics partners and customers with the best user experience."

LivingPackets partnered with NXP to add edge processing and IoT connectivity capabilities to THE BOX. NXP's technologies help enable THE BOX's innovative shipping, tracking and security features, improving efficiency, traceability and the overall customer experience.

"NXP's complete portfolio of edge and connectivity technologies enables sustainable, efficient e-commerce and smart packaging solutions for innovators like LivingPackets," said Olivier Cottereau, senior vice-president EMEA & SAPAC Sales & Marketing at NXP. "THE BOX reflects our deep commitment to enabling green solutions that support NXP's Sustainability Program."

NXP's i.MX RT1062 crossover MCU powers the tablet-style screen interface attached to each reusable package, giving THE BOX its street smarts. The MCU provides high performance and integration for IoT applications and includes on-chip security capabilities such as secure boot to help protect THE BOX tablet from malware and other unknown software.

NXP's NFC solution combines the CLRC663 plus frontend and NTAG® I²C plus tags to enable seamless IoT connectivity. The frontend solution offers a flexible way to add NFC functionality. When combined with NFC tags, it provides a cost-effective way to add tap-and-go connectivity to THE BOX.

THE *INTERNET OF BOXES* HAS ARRIVED

NXP is committed to helping e-commerce companies advance their operations and become more eco-friendly. Retailers worldwide are using NXP's RAIN RFID technology to securely track and trace parcels along the supply chain, and leading e-commerce brands have adopted NXP's NFC technology to create intelligent, connected packaging solutions.

THE BOX from LivingPackets embodies a successful implementation of NXP's edge and connectivity technologies to enable more sustainable e-commerce operations and better consumer experiences while minimizing ecological impacts.

LIVINGPACKETS THE BOX: CES 2021 BEST IN SHOW

LivingPackets is developing a box. Not just any box, though: the kind that can be reused again and again. The company was honored with an Innovation Award at CES 2020 for its design of the first-generation and another Innovation Award at CES 2021 for the second-generation BOX. The second-generation comes with an integrated camera, a scale, an electromagnetic lock and many additional features that have already been implemented in the first generation, such as a shock and humidity sensor, a GPS connection, an internet connection and an E Ink display which can be used to display human- and machine-readable shipping labels.

The team says that the revamped BOX is rolling off the production line right now. It also used the show to announce a pilot program with Boulanger, a major electronics retailer in France. THE BOX could reduce our reliance on cardboard. It's always been a problem, but the ongoing coronavirus pandemic — which has forced many to shift their shopping away from brick-and-mortar stores — has brought it into sharper focus. If enough retailers jump on board, LivingPackets could help society move away from boxes that are often thrown out after a single use.

— **Nick Summers**
Senior Editor, EnGadget

*All language and claims regarding LivingPackets and related claims regarding Living Packets products are the legal responsibility of LivingPackets.