**PRESS RELEASE**

**Smart labels to reduce food waste and food poisoning: Spanish inventors Granado, Sosa and Chimeno in top 10 innovators of the Young Inventors Prize 2025**

* **Over 59 million tonnes of food are wasted annually in the EU, equating to 132 kg per person and costing EUR 132 billion, according to the European Commission**
* **Spanish entrepreneurs developed biodegradable smart labels that detect bacterial growth in real-time, helping reduce food poisoning and unnecessary food waste**
* **The inventors are among the ten innovators for the Young Inventors Prize, awarded by the European Patent Office (EPO) on 18 June 2025**

**Munich, 6 May 2025** – Food waste is a pressing global challenge and according to the [European Commission (EC)](https://food.ec.europa.eu/food-safety/food-waste_en), the EU alone discards over 59 million tonnes of food every year, equating to 132 kg per person, with an estimated financial loss of EUR 132 billion. A significant portion of this waste stems from uncertainty about freshness, leading consumers and retailers to throw away products that may still be safe to eat. According to [WHO](https://www.who.int/news/item/05-06-2019-23-million-people-falling-ill-from-unsafe-food-each-year-in-europe-is-just-the-tip-of-the-iceberg), 23 million people falling ill from unsafe food each year in Europe. To combat these issues, **Spanish entrepreneurs Pilar Granado (29), Pablo Sosa Domínguez (29) and Luis Chimeno (28) have developed smart biodegradable labels that indicate food freshness** in real-time by reacting to bacterial growth. Their work has **earned them a place among the ten innovators of the Young Inventors Prize 2025, known as Tomorrow Shapers**, selected from 450 candidates by an independent jury.

**A visible colour shift using biotechnology**

Consumers often rely on the appearance of the products or standard expiry dates to judge food freshness, which results in throwing away a lot of edible food. The inventors’ company, Oscillum, produces smart labels that change colour based on bacterial activity related to food decay. The label consists of intelligent indicators embedded in a biodegradable polymer matrix. **As bacteria multiply, they release compounds that cause a visible colour shift in the label.** This allows consumers and suppliers to make informed decisions about food safety and reduce avoidable waste. The labels can also be applied to fruit and vegetables to indicate ripeness, which can prevent the discarding of fresh produce.

The trio’s innovation addresses shortcomings in existing freshness indicators, such as time-temperature labels, which assume spoilage based solely on breaks in the cold chain. By directly analysing bacterial growth and volatile organic compounds, **the smart labels provide real-time accuracy, adapting to both packaged and unpackaged products**, including meat, fish and fresh produce. By minimising unnecessary food waste, the invention helps lowering greenhouse gas emissions and promote a more efficient food system.

**A university project turned industry solution**

Granado, Sosa and Chimeno lived together while studying at Universidad Miguel Hernández de Elche, and founded the company united by their passion for applied science. The idea originated from a common household dilemma–deciding whether to eat or discard food based on appearance alone. The team recalled: *“One Sunday, Pablo found a piece of meat in the fridge that looked and smelled off, however he decided to cook and eat it anyway… in the end, he didn’t get sick. That made us think about how often people, including ourselves, waste food based on appearance alone. That’s when we started imagining simple, intuitive ways to determine if a product is still good”*, explained Luis Chimeno and Pilar Granado.

Turning their concept into a viable business, the team participated in accelerator programmes and industry collaborations to refine their technology. They received funding from the Center for Technological Development and Innovation and participated in various competitions, such as CaixaBank Emprende XXI Award “*Introducing a new product means the industry and consumers didn’t know what it was or how it worked. A lot of effort went into storytelling and demonstrating the benefits of our technology,*" added Pablo Sosa.

Oscillum officially launched in 2019, securing funding and partnerships to scale up production. Today, the company continues to expand its product range, including active packaging solutions that extend shelf life by interacting with food environments. Recognising the importance of securing their innovation, the team prioritised intellectual property protection early on.

**The Young Inventors Prize celebrates worldwide innovators 30 and under using technology to address global challenges posed by the United Nations Sustainable Development Goals (SDGs).** Oscillum’s smart labels contribute to several United Nations Sustainable Development Goals (SDGs), including SDG 2 (Zero Hunger), SDG 3 (Good Health and Well-being), SDG 12 (Responsible Consumption and Production), and SDG 13 (Climate Action).

**The prizes of the 2025 edition** **will be announced during a ceremony** [**livestreamed**](https://www.epo.org/en/news-events/young-inventors-prize/2025-event?mtm_camp=pressrelease&mtm_key=yip2025&mtm_med=press) **from Iceland on 18 June 2025.**

Find more information about the invention’s impact, the technology and the inventors’ story [here](https://www.epo.org/en/news-events/young-inventors-prize/pilar-granado-pablo-sosa-dominguez-and-luis?mtm_camp=pressrelease&mtm_key=yip2025&mtm_med=press).

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**About the Young Inventors Prize**

Aimed at individuals 30 and under, the Young Inventors Prize showcases the transformative power of youth-driven solutions and recognises the remarkable young people paving the way to a more sustainable future. Established in 2022, trophies were first handed out during the European Inventor Award ceremony. From 2025 onwards, the Prize will move up a gear with its own dedicated event, held separately from the Award. Among the 10 Tomorrow Shapers selected for each edition, three will be awarded a special prize: World Builders, Community Healers, and Nature Guardians. In addition, a People’s Choice winner, voted by the public online, will be revealed. Each Tomorrow Shaper will receive EUR 5 000, the three special prize winners will each receive an extra EUR 15 000. The People’s Choice winner will be awarded an additional EUR 5 000. [Read more](https://www.epo.org/en/news-events/young-inventors-prize?mtm_camp=pressrelease&mtm_key=yip2025&mtm_med=press) on the Young Inventors Prize eligibility and selection criteria.

**About the EPO**

With 6,300 staff members, the[European Patent Office (EPO)](https://www.epo.org/?mtm_camp=pressrelease&mtm_key=yip2025&mtm_med=press) is one of the largest public service institutions in Europe. Headquartered in Munich with offices in Berlin, Brussels, The Hague and Vienna, the EPO was founded with the aim of strengthening co-operation on patents in Europe. Through the EPO's centralised patent granting procedure, inventors are able to obtain high-quality patent protection in up to 46 countries, covering a market of some 700 million people. The EPO is also the world's leading authority in patent information and patent searching.