



When less is more: simple innovation offers hope in uncertain times

An EU-funded study showcases innovation that is affordable, sustainable and effective, and may lead to a more resilient and competitive Europe.

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At this year's International Architecture Exhibition in Venice, a small square house set up in Giardino delle Vergini told a story of resilience and ingenuity, demonstrating how innovation does not have to mean huge investment.

Created by the Swedish non-profit foundation [BetterShelter](#), it has become a common sight in emergency situations worldwide – from the impromptu camps that sprang up across Europe for Ukrainian refugees in 2022 to the shelters set up after the Morocco earthquake in 2023.

The success of this unassuming construction lies in its simplicity. It comes flat-packed in two boxes and can be assembled by four people in a few hours – complete with windows, a lockable door and a solar-powered lamp.

Thinking frugally

Such simple and affordable solutions that focus on functionality over unnecessary frills have received increased attention in recent years under the banner of “frugal innovation”.

“These products are usually cheaper to buy and make,” said Dr Max von Zedtwitz, an expert in international innovation who co-authored an [EU-funded study on frugal innovation in Europe](#) published in February 2025. “They also tend to be less wasteful and complicated in their design.”

The study, which highlighted BetterShelter alongside other notable inventions, emphasised that frugal innovation is becoming especially relevant as Europe faces rising costs and growing social challenges.

The shocks of the COVID-19 pandemic, the war in Ukraine, climate change and global trade tensions have all highlighted the continent's urgent need to boost innovation and competitiveness.

Rethinking innovation

Historically, frugal innovations were developed for or by lower-income countries. A related term, “reverse innovation”, refers to when smart ideas created in poorer countries end up being used in richer ones – in a reversal of the usual trend.

In Europe, reverse innovation is still rare, but the potential is huge. These solutions could help Europe do more with less, strengthen local supply chains and reduce dependence on fossil fuels. These are all key goals of the EU's Competitiveness Compass, the strategic roadmap to boost Europe's growth and innovation.

Frugal innovation also aligns with Europe's priorities on sustainability and social inclusion. It means designing tools that are robust, affordable and accessible – whether that's a solar-powered water purifier or a low-cost diagnostic tool for rural clinics.

The approach is well adapted to address social challenges and advance key priorities on the EU agenda. By focusing on using resources wisely and creating easy-to-use designs, they help reduce environmental impact through, for example, efficient desalination systems or fog collectors. They can also support more inclusive healthcare.

These innovations can strengthen local communities by being both more affordable and better tailored to community needs. Simple smartphone-based apps for health diagnostics, for instance, help local clinics tackle everyday challenges with fewer resources.

European twist: sustainability and social purpose

European frugal innovations, said von Zedtwitz, have expanded the concept beyond a mere cost-cutting exercise. “What Europe has added is sustainability, lifestyle and utility.”

According to Jonas Antanavičius, a Lithuanian policy researcher who co-authored the study, they tend to have “a social purpose and a larger goal driven by the founders' ideals”.

The EU study revealed that the main drivers of frugal innovation in Europe are not large corporations, but startups, SMEs and local NGOs – organisations that focus on social impact rather than profit margins.

Citizens are also contributing ideas. For example, an EU-funded project called FRANCIS (2021–2025) ran two open innovation competitions where everyday people co-designed frugal solutions with guidance from scientists and industry mentors.

Modular shelving for compact homes and tablets that dissolve into sunscreen when mixed with water were among the ideas to emerge.

Interestingly, the study found that most frugal innovations come from Europe's high-innovation regions, such as Germany, France and the Netherlands, even though these products are designed for low-resource conditions.

Robust solutions that work

Fundamentally, frugal innovation is about doing more with less.

“It’s not just about reducing cost,” said von Zedtwitz. “It’s also about improving utility for those who need a less complicated, less over-engineered product or service – one that is robust and actually works.”

One example is [ChARM](#), a compact device the size of a digital kitchen timer that supports early detection of pneumonia in children. It has three buttons and colour-coded outputs, allowing community health workers without advanced medical training to use it effectively.

Its battery power and robust design, resistant to dust, water and heat, make it a reliable diagnostic tool in underserved regions of Africa, Asia and Latin America.

“Of course, it’s not perfect,” said von Zedtwitz. “But you get 80% of the data with less than 20% of the effort, even with very young children.”

Key sectors: healthcare and water

The EU study identified healthcare and green technology as standout sectors for frugal innovation.

Healthcare seems especially ripe for these innovations. They range from 3D-printed hand prosthetics by the Turkish institute [Robotel](#) and digital solutions like smartphone eye exams by [Peek Vision](#), to streamlined processes like the [primary care panels](#) used in Croatia to assist in patient monitoring.

Several European companies have also focused on water purification and extraction. In Spain’s Canary Islands, the EU-funded [Life Nieblas](#) project developed low-tech fog collectors that mimic local moisture-trapping trees and rely on wind to capture moist air, without any need for external power.

In the Netherlands, [Desolenator](#) has developed the first fully circular solar-powered water desalination system, which turns seawater and brackish water into safe drinking water.

The product has already been used in the United Arab Emirates, South America and India, and offers a promising solution for Southern European countries facing increasing water scarcity.

The path ahead

Despite its potential, frugal innovation barely registers on most policymakers’ radar, and there is no dedicated strategy or funding for it at this time.

The [European Innovation Ecosystems](#) programme goes in the right direction, supporting a more connected and inclusive innovation network in the EU. However, frugal innovations remain marginal and most innovation policies still favour high-tech, high-profit projects.

“The key first step for frugal innovation would be raising awareness among policymakers and the community,” said Antanavičius.

The study recommends funding reform so people-focused ideas can compete with big-budget tech projects. It also calls for training programmes to help innovators and policymakers better understand the concept.

“We need to spread the knowledge of not only what frugal innovation is, but also how to do it,” said von Zedtwitz.

Europe’s frugal innovators are proving that sometimes the smartest solutions are the simplest ones. The question is whether policymakers will give this quiet revolution the attention – and resources – it deserves.

The views of the interviewees don’t necessarily reflect those of the European Commission. If you liked this article, please consider sharing it on social media.

More info

- [Study on scoping and mapping of frugal and reverse innovation in Europe](#)
- [A new plan for Europe's sustainable prosperity and competitiveness](#)
- [European Innovation Ecosystems](#)
- [The New European Innovation Agenda](#)
- [Competitiveness Compass](#)