

# Junker App

*“The Junker app functions as a bridge between municipalities and citizens.”*

Paolo Fornari, Junker’s Social Media Manager



## The Spark

In 2014, on a sunny afternoon in Bologna, Italy, Giacomo Farneti, a computer science student, finished a refreshing juice. Wanting to avoid the fines Italy imposes on improper waste sorting, he tried to recycle the packaging responsibly. This ends up being a difficult endeavour since the packaging was made from a combination of carton, aluminium and plastic, so where should it go? Determined to find a solution to this question that many people struggle with, he teamed up with two friends and began building a prototype for an app they called Junker.

The trio started small, scanning product barcodes at night in a local supermarket to identify materials in packaging. They created a product database and used artificial intelligence (AI) to expand it. After that, they started adding local sorting rules, which differ across municipalities.

Soon, Junker evolved into a nationwide waste-sorting assistant. Just scan a product’s barcode, and Junker tells you about the components in the packaging and indicates how, where and when to sort these for local recycling in your area. In case the barcode is missing, the app uses image recognition to identify the product.



Today, the Junker app is a virtual assistant for waste sorting used across the whole of Italy. There are 1.8 M classified products in Junker's database.<sup>1</sup> If a product is not in the database yet, a user can alert the Junker team, who will add it within a day. Already 500,000 products have been suggested by users and verified by the Junker team.<sup>1</sup> The Junker app aims to be inclusive, and to leave no one behind. Therefore, the app is available in multiple languages (so that tourists and expats can also use it) and fully accessible for visually impaired or blind people.

## Governance Model

The app was established during the spare time of the co-founders, who worked on it in the evenings and weekends alongside their main job. The developers did not get any public grants or attract capital investments. Winning a prize in a Microsoft competition gave them free access to a powerful AI platform and the company wings to make it really fly.

Junker's success stems from its collaborative model, connecting citizens, municipalities and waste companies. The app is free for users, with municipalities and waste-disposal companies paying a subscription fee, the amount of which depends on the number of inhabitants in the municipality. By 2022, 1500 municipalities (including the cities of Florence and Turin) subscribed, with a 98% renewal rate.<sup>2</sup>

Municipalities provide detailed information on local sorting rules, while citizens can suggest new products. This participatory approach for waste management has driven recycling rates from 20-30 % up to 60-70 % in some areas.<sup>2</sup> This more efficient sorting saves municipalities money – up to €34 per citizen<sup>2</sup> per year – by reducing the volume of mixed waste which is more costly to dispose. They also might get higher revenues from higher quality second life materials. With over 60 million searches to date<sup>1</sup>, Junker is now expanding internationally to countries like Greece and Chile.

## Junker's Impact from 2023<sup>2</sup>

**1.8 Mio.**

Products in the Database

**500,000**

User-suggested Products

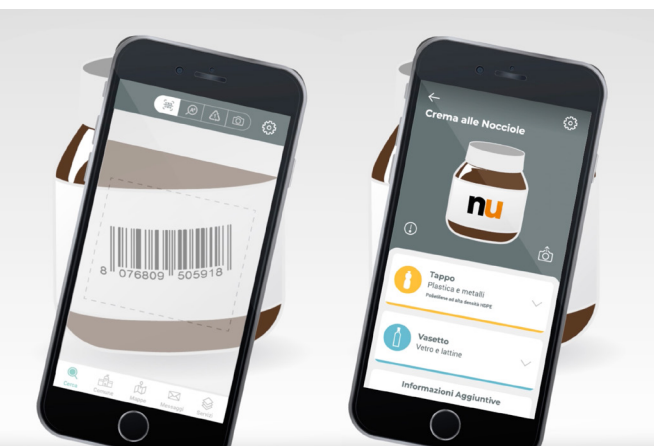
Available in **12** Languages  
for Tourists and Expats

## Social Benefits

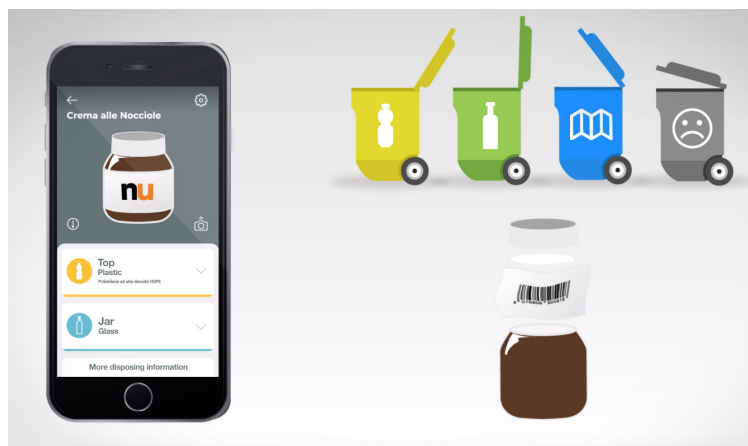
About 30% of households with access to Junker actively use it, creating a strong community of responsible recyclers who, in turn, encourage their municipalities to get on board.<sup>2</sup> According to Noemi De Santis (interview 4th of December 2024), these active citizens see others chat about the app on online platforms (Facebook, LinkedIn) and wonder why the app is not used by their own municipality. They then contact the responsible person for environmental issues in their municipality, either in person or online. At the same time, Junker sends information to the municipality regarding the implementation and benefits. This collective involvement strengthens local recycling efforts, empowering citizens to make a difference in their environment.

By giving citizens real-time sorting information, Junker fosters a deeper understanding of recycling and builds a sense of responsibility. This engagement not only improves individual waste sorting habits but strengthens local recycling efforts, as citizens encourage municipalities to adopt the app, helping everyone do their part for a cleaner environment.

Furthermore, the Junker app enhances social inclusion by breaking language barriers and by ensuring accessibility for visually impaired users.



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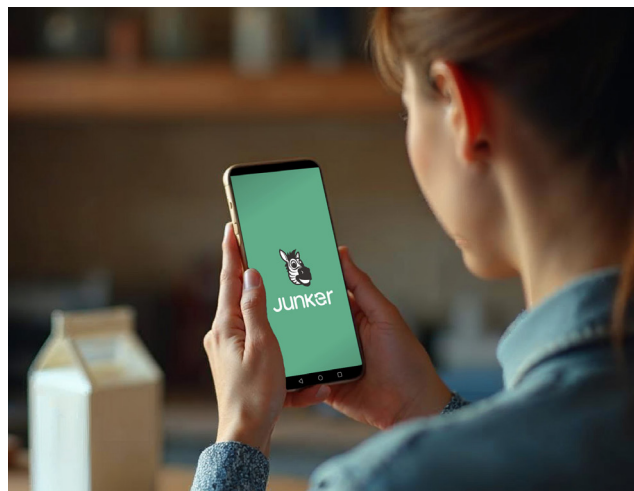
## Environmental Benefits

By improving waste sorting accuracy, Junker helps building a cleaner world. With high-quality sorting instructions tailored to local recycling rules, Junker makes recycling more efficient, which benefits both the environment and local communities.

As citizens sort more accurately, less waste ends up in landfills, preserving land and reducing pollution risks. Properly sorted waste means fewer emissions from waste processing, as recyclable materials are correctly separated and reused.

## Replicability Potential

Junker's model is highly adaptable, making it easy to expand into new regions. Since it is fully translatable, language is not a barrier for Junker. However, for successful rollout, Junker relies on partnerships with local municipalities to keep sorting rules and collection schedules up to date. With ambitious EU recycling targets ahead, the demand for clear and accessible waste-sorting tools like Junker is growing. Now looking towards expanding in countries like Greece, Slovenia, Hungary, and Chile, Junker is ready to help more communities make recycling simpler and more effective.



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### Sources:

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Funded by  
the European Union

The 3-CO project is funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or European Research Executive Agency. Neither the European Union nor the granting authority can be held responsible for them.