

# *Circular Economy and Zero Waste*

## **Maximising biowaste collection in densely populated areas**



Enzo Favoino



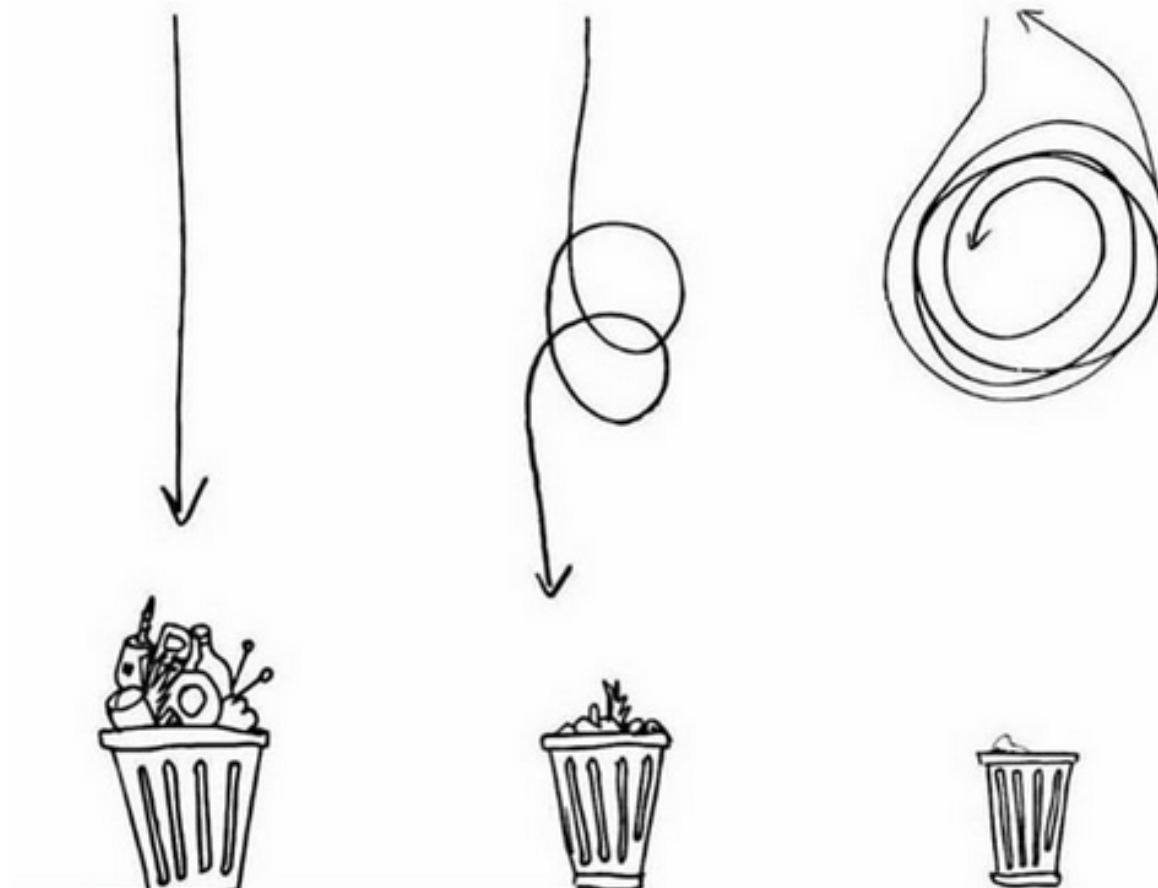
*Scientific Coordinator,  
Zero Waste Europe*

# Circular economy made simple

LINEAR ECONOMY

RECYCLING  
ECONOMY

CIRCULAR  
ECONOMY



# The key role of organics

- **QUANTITATIVE:** fundamental to achieve highest material recovery rates
- **OPERATIONAL:** minimising organics in residual waste makes it possible to cut collection rounds
  - cost-optimisation
  - further driving effect for increased separation of dry recyclables, too)

# Milan



# 5 streams kerbside collection



# CITY OF MILAN – Key numbers



**1.35 million**  
inhabitants

**7,200**  
Inh./km<sup>2</sup>

**800,000**  
Commuters/day

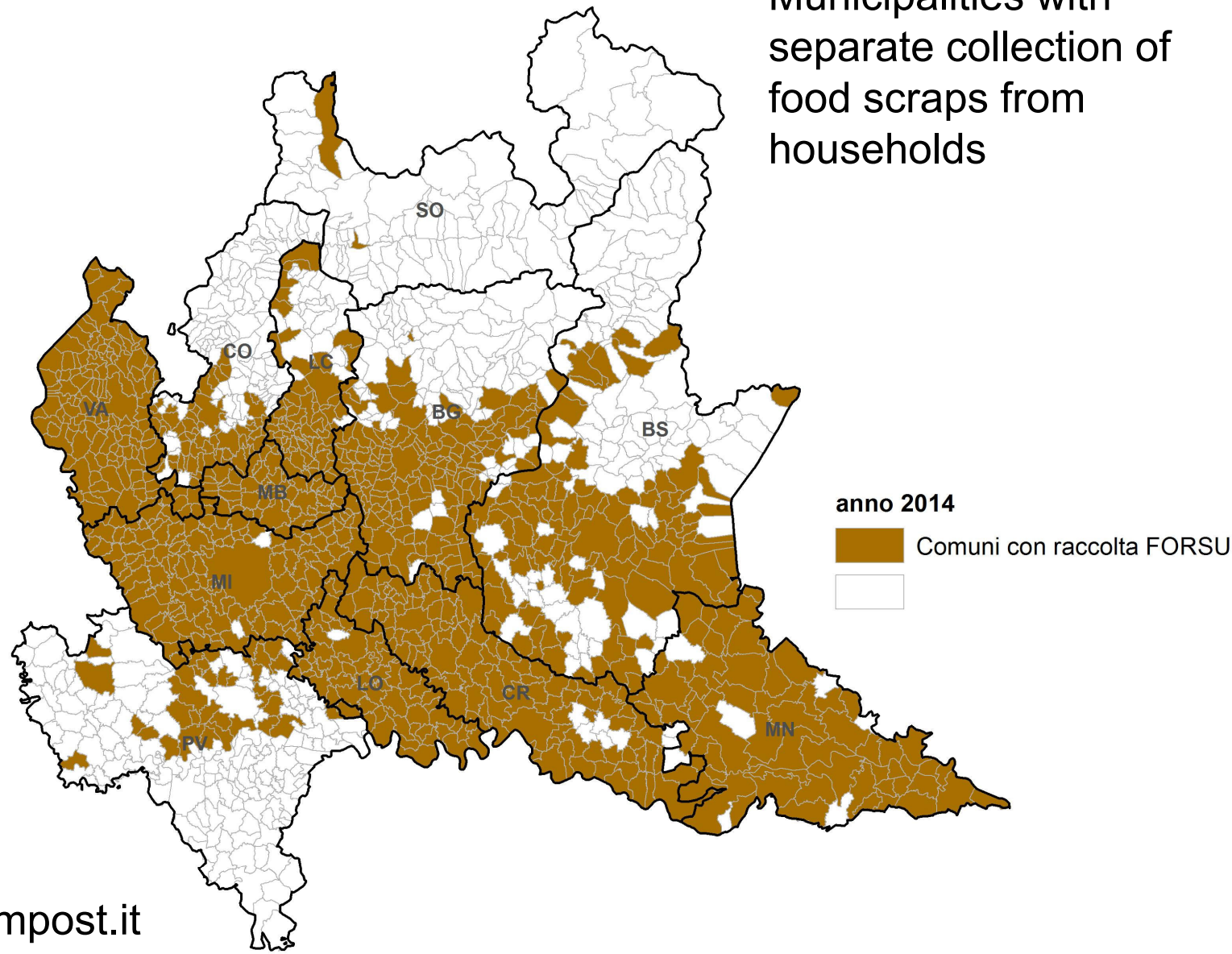
**11 millions**  
Tourists in 2016  
(second city behind  
Rome)

**= 63% separate collection**  
**= 103 kgs food scraps**




# Not viable in densely populated areas?

Municipalities with separate collection of food scraps from households







***“Waste is like water:  
it always flows the  
easiest way”***

***Proper tools for user friendliness  
Collection frequency***



# Source separation of food scraps



# Milan – pop. 1,4 M



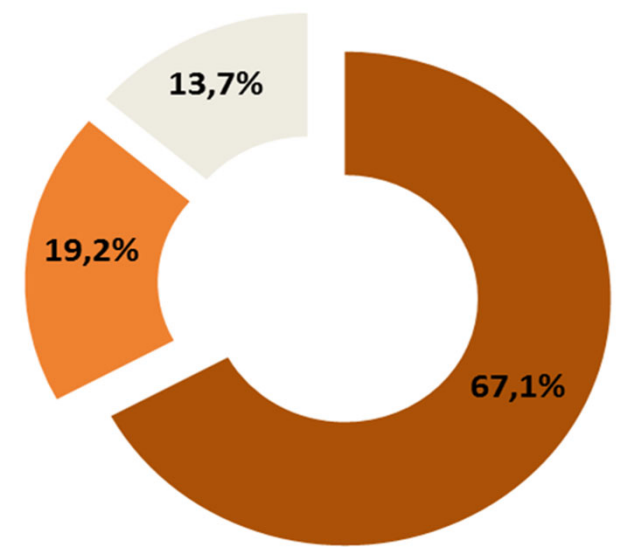
# Key performance indicators (KPIs)

- Captures (kgs/person)
- Quality
- Percentage of organics in residual waste!

# Milan – achievements

103 kg FW

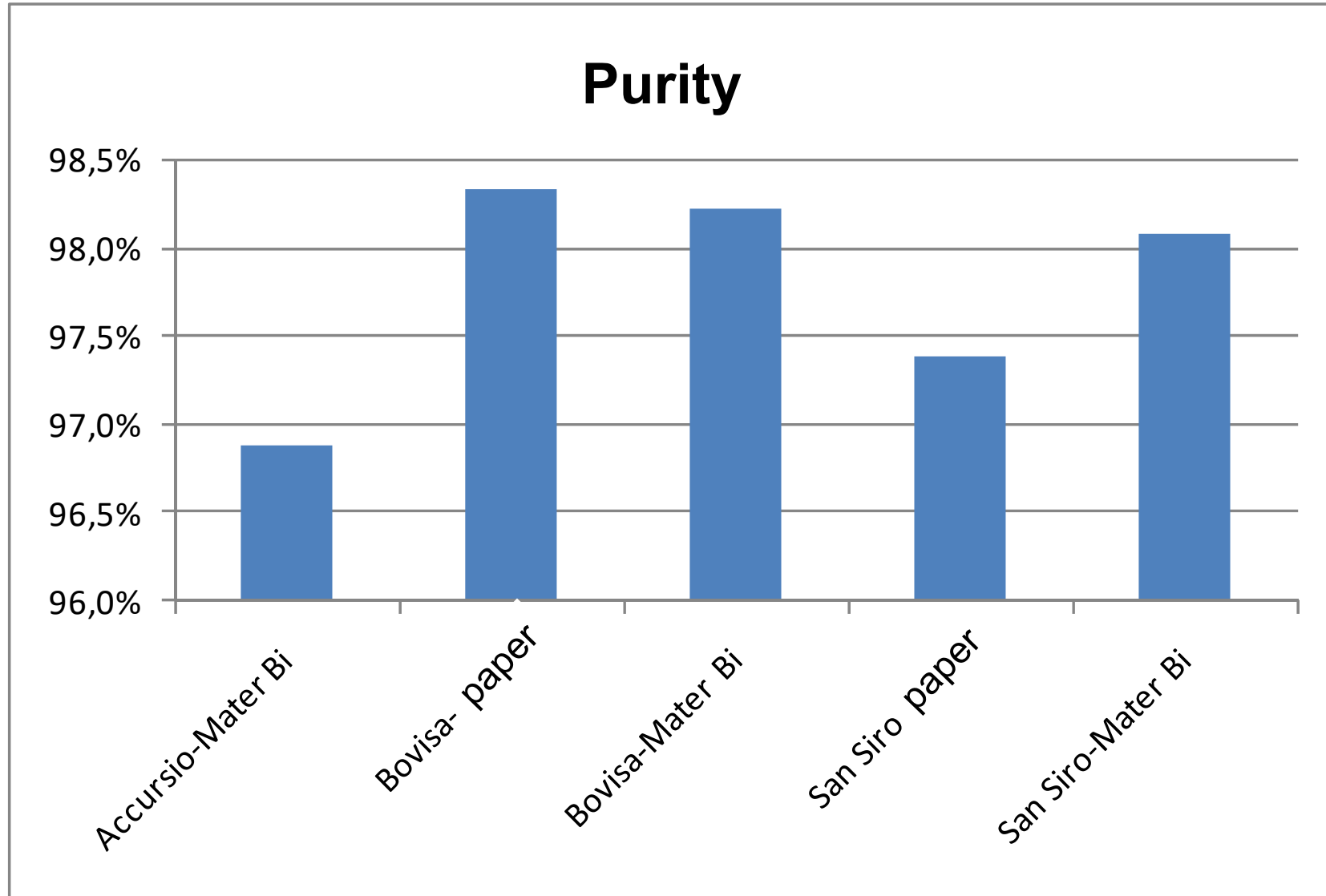
- Residential food waste collection implemented in 2012-2014.
- Results (2017):  
**103 kg/capita**,  
≈30 commercial,  
70 residential



- Residential food waste
- Commercial food waste
- Food waste left in residual waste



# Milan (trial areas)



# THE STARTER KIT



**120 lt. cart**

Or a smaller **35 lt bucket**



**Kitchen caddy 10 lt.**

**25 compostable bags**





Philippines 40.780  
Egypt 35.902  
China 26.889  
Peru 19.590  
Sri Lanka 16.068  
Romania 14.546  
Ecuador 13.229  
Ukraine 8.209  
Morocco 8.152  
Bangladesh 7.563

# TARGETED CAMPAIGNS AND RECALLS



## Campaign on operational info and quality

## Ethnic campaign for separate collection

**Il sacchetto, quale ci metto?**

I sacchetti non sono tutti uguali. Per raccogliere l'umido si devono utilizzare solo sacchetti compostabili, certificati:

**Possano essere utilizzati anche i sacchetti compostabili della spesa.**

Utilizzando i sacchetti compostabili la qualità della raccolta è migliore e si evitano sanzioni.

Per informazioni: [www.amsa.it](http://www.amsa.it) [servizioclienti@amsa.it](mailto:servizioclienti@amsa.it) **800-332298**

Amsa Gruppo A2A

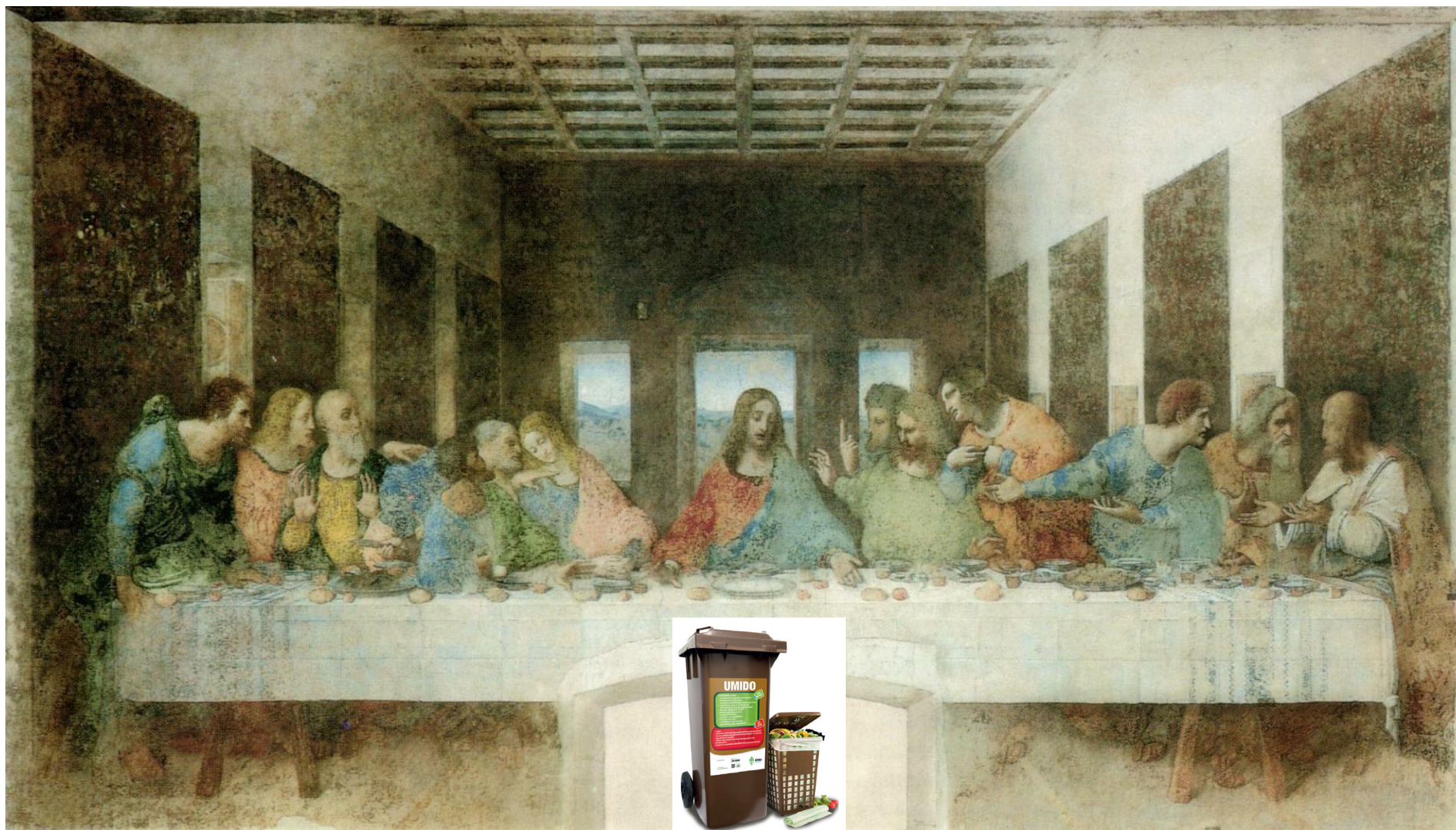


- 180.000 booklets in 10 languages:
- Delivery one-to-one, to foreigners in their own communities.

# “Always happy, never satisfied” – room for improvement

- Reducing sharply the number of street baskets
- Reducing collection rounds for residuals, 2/wk → 1/wk
- The next big stuff: pay–as–you–throw

# Just renewing old traditions



# Thanks for your interest (and commitment)

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