



13th June 2025, Helsingborg

End user acceptance of source separation

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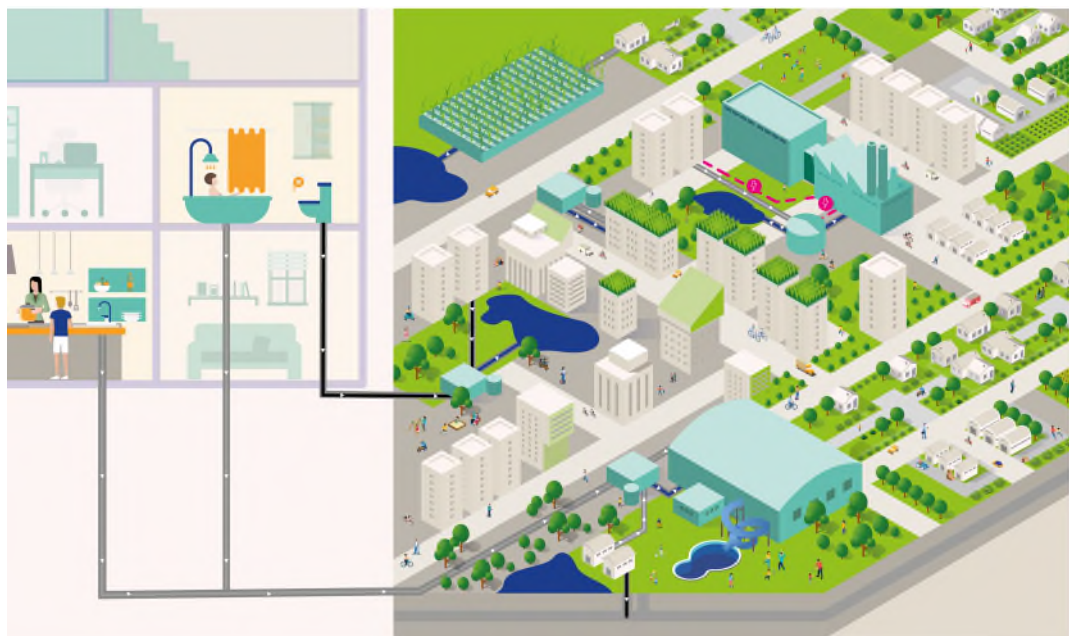
ANCHOR

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SENSE





De Nieuwe Dokken
Ghent
SUPERLOCAL
Kerkrade

Oceanhamnen
Helsingborg

Jenfelder Au
Hamburg

Schoonschip
Amsterdam

IS IT REALLY DIFFERENT?

Business as usual (Europe)

A conventional urban water system in Europe is characterised by a centralised connected network in which potable water is transported over long distances. After usage grey water, black water, and often also rainwater are collected together in a sewage network that transports the mixed waste water to centralised waste water treatment plants. After treatment water is discharged to rivers that are often sources for the production of potable water downstream. Energy production that is linked to the different water streams is not commonly connected to this system. When energy is recovered it is mainly done on a centralised scale at waste water treatment plants. Food systems are only connected for watering purposes and so on.

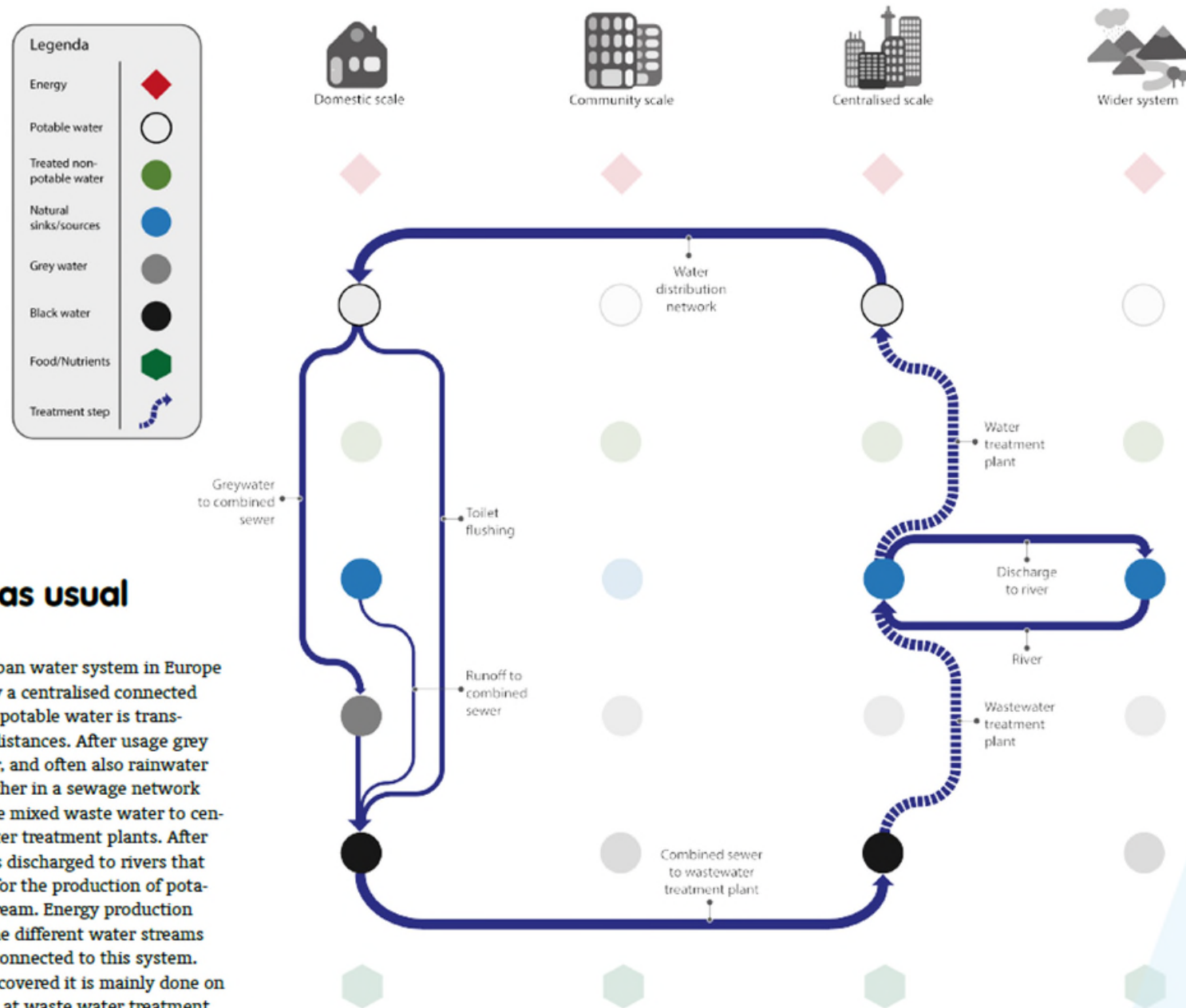


Figure 2: Business as usual urban water system

3.3. De Nieuwe Dokken (Gent, BEL)

1200 inhabitant equivalent

The urban water system in the neighbourhood De Nieuwe Dokken uses centralised produced potable water. For sanitation a source separation system is in place. Grey water is treated (heat is recovered) and after treatment used for toilet flushing and transported to a nearby soap factory where it is treated and used as treated non-potable water (processwater). The heat that is produced in this factory is then transported back to the community and households. A vacuum system - vacuum toilets and shared food grinders - collects the black water that will be treated in an UASB-reactor. Here heat and nutrients are recovered on the community scale. The anaerobic sludge is transported to a centralised waste water treatment plant, treated and later incinerated. The fertilizers are used for farming in the community and blended into fertilizer mixes centrally.

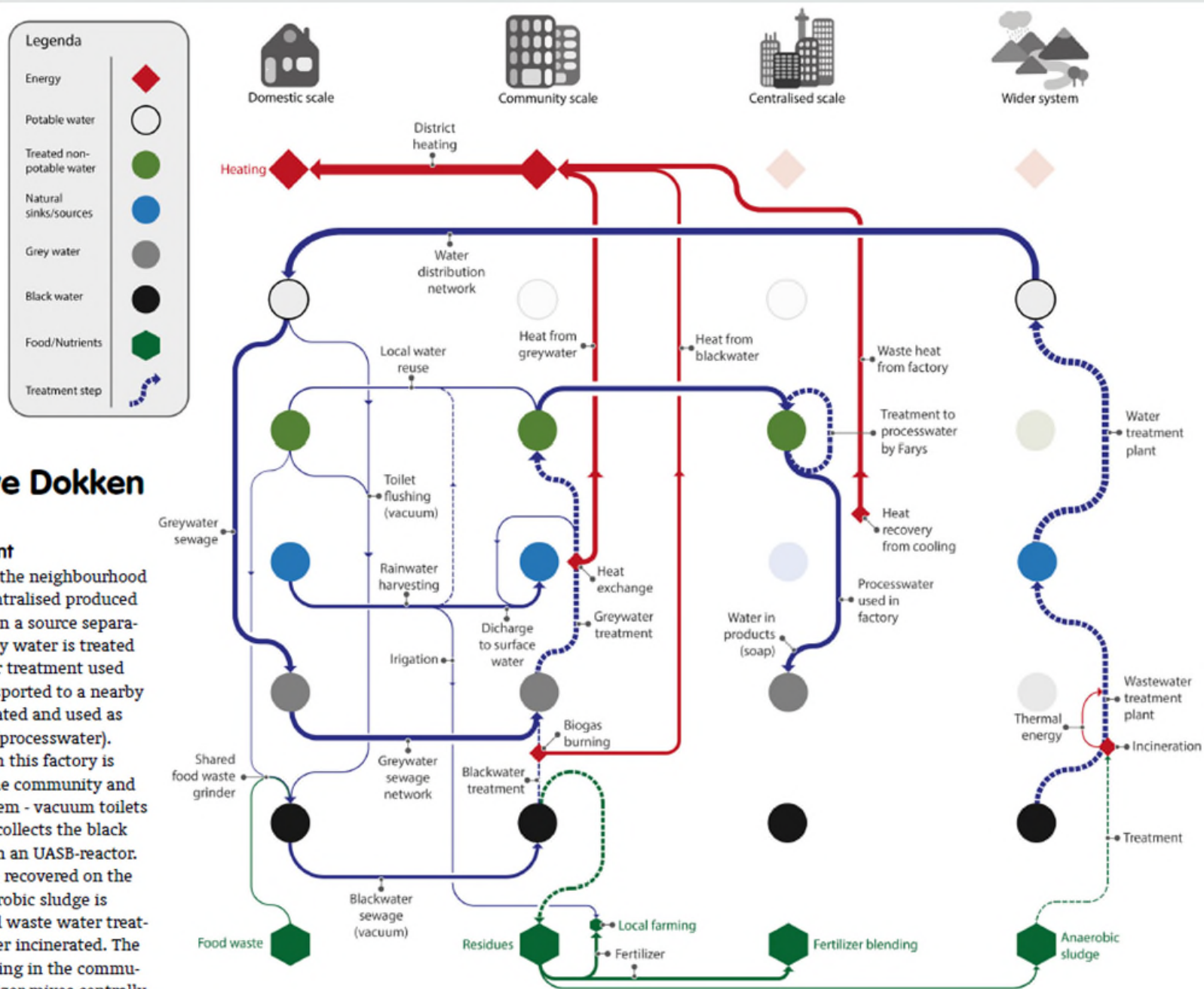
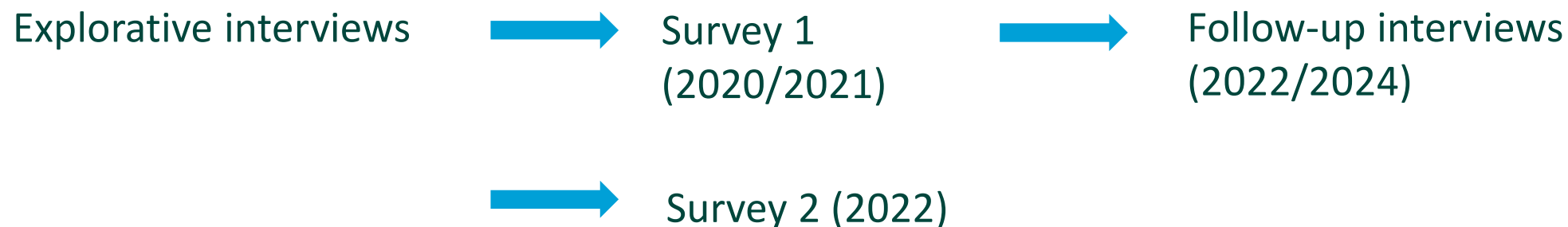


Figure 3: De Nieuwe Dokken urban water system

YES!

Combination of qualitative and quantitative research



What's new?

People's opinion about new sanitation is quite often studied, but less so of actual users of new sanitation

Why explorative interviews? What's on peoples mind...



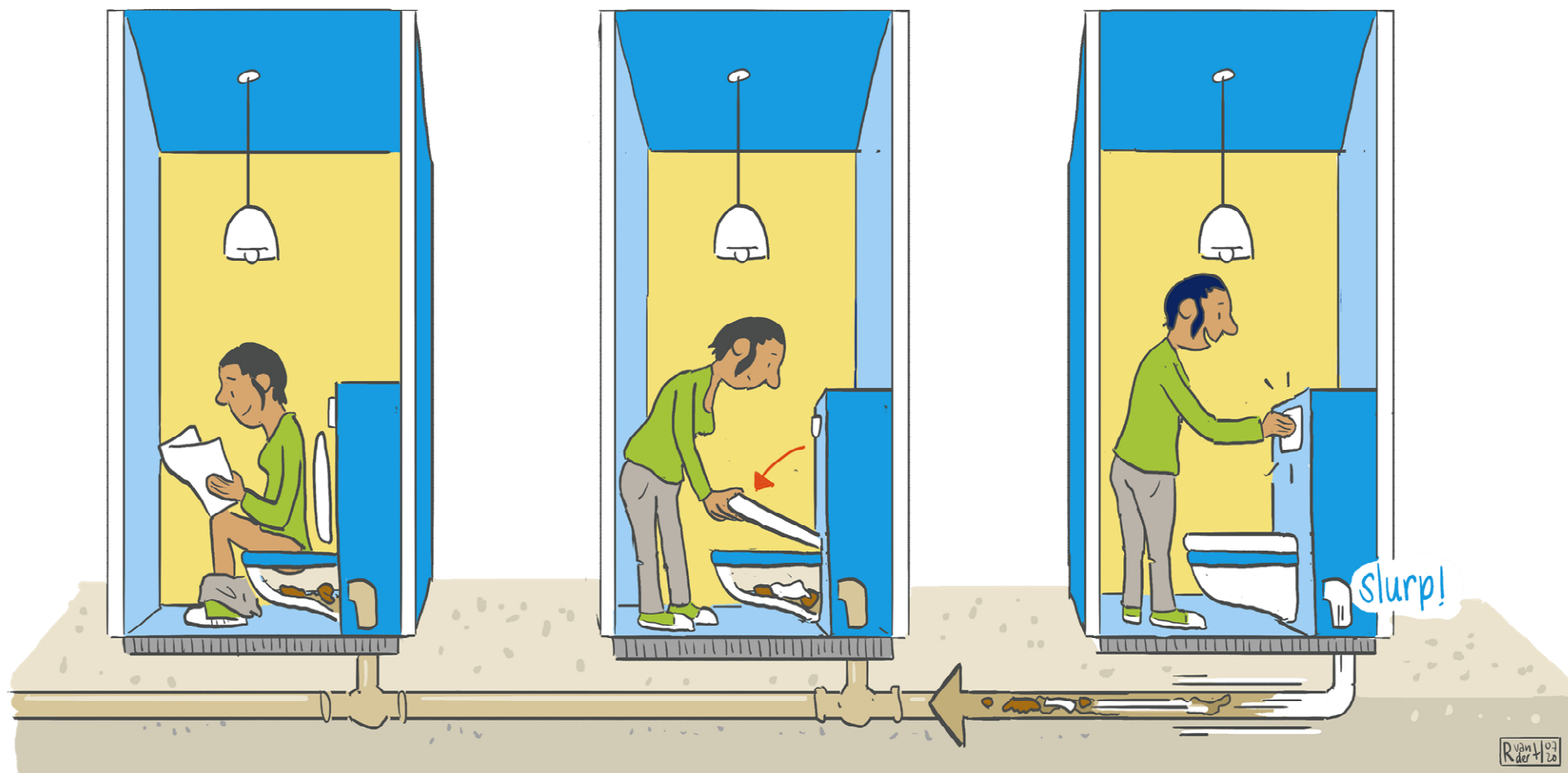
Unforeseen practices



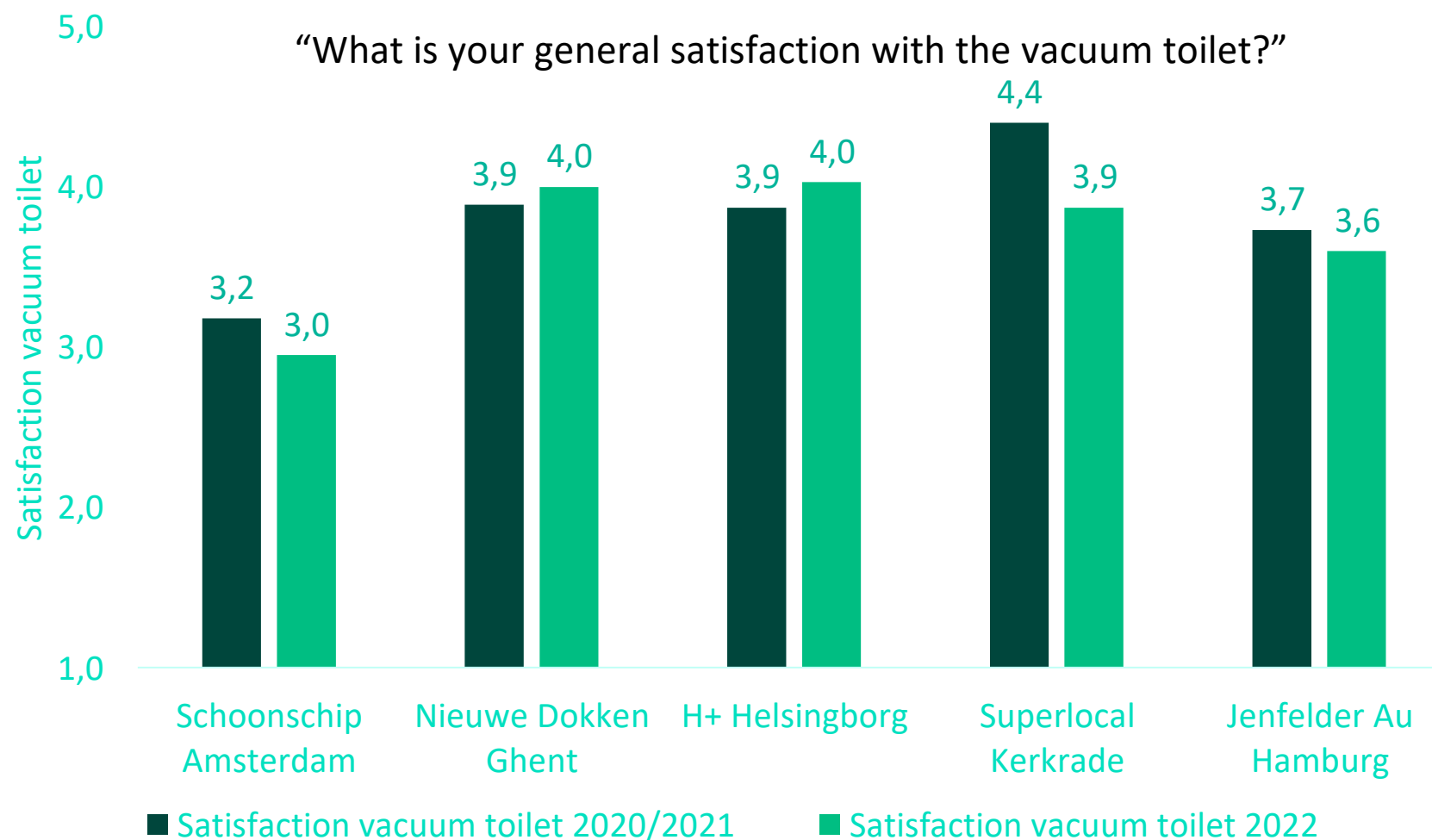
...obstacles



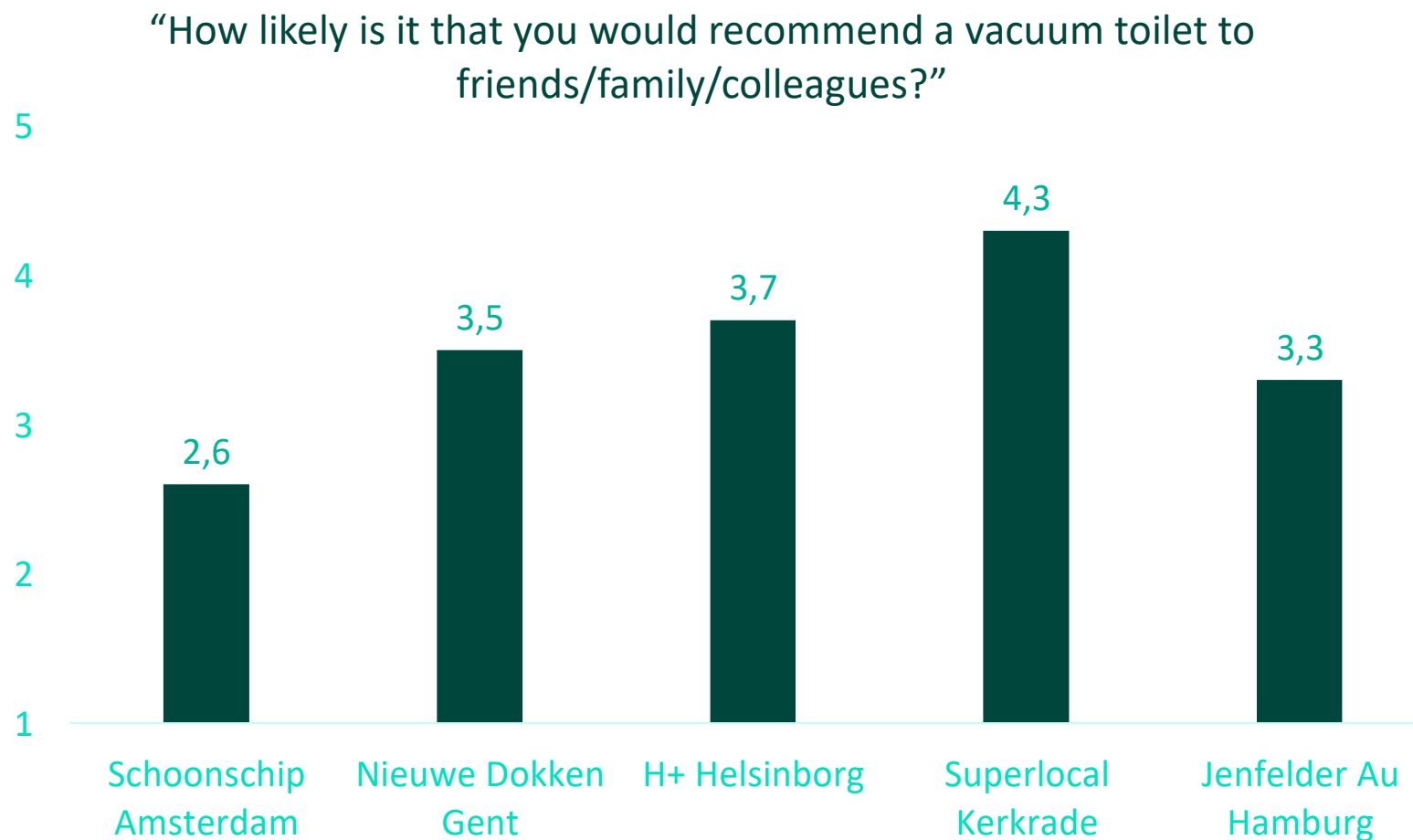
Generally content!



People are satisfied with the vacuum toilet

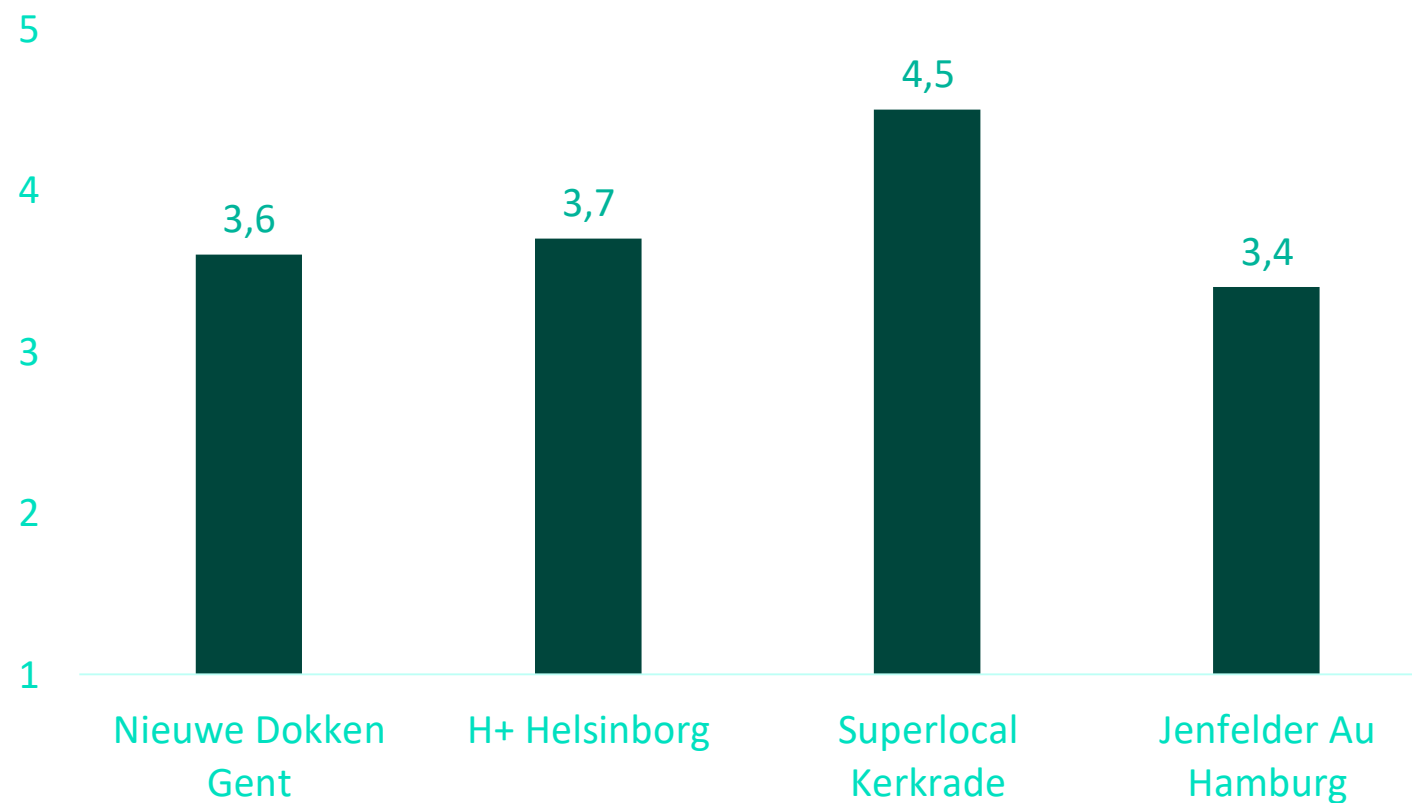


People even recommend it to friends



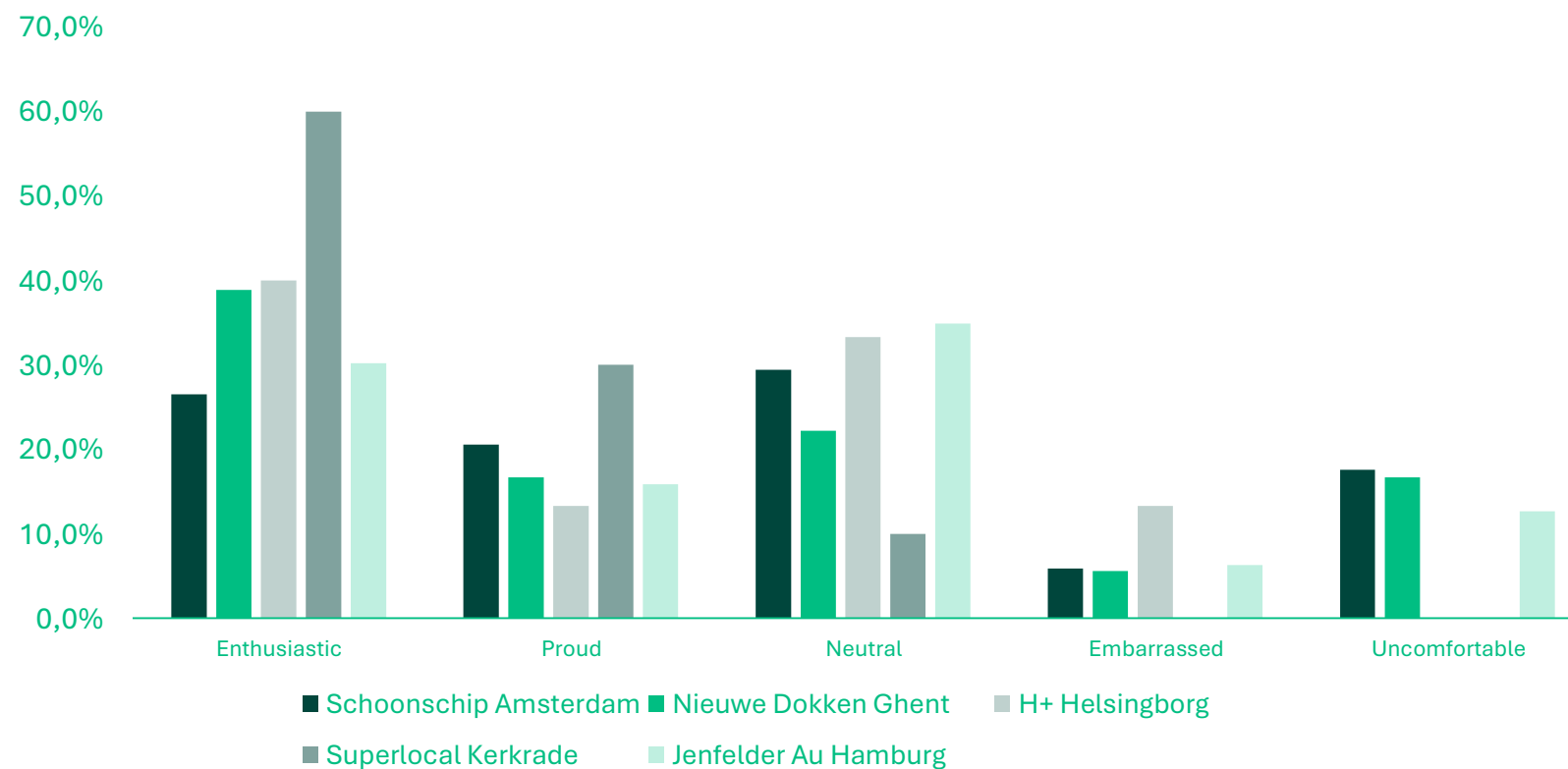
People prefer a vacuum toilet over a traditional toilet

“If I had to choose again, I would choose a vacuum toilet above a traditional toilet”



Feelings when showing vacuum toilet to visitors

"Which description fits your feelings when showing the vacuum toilet to visitors?"



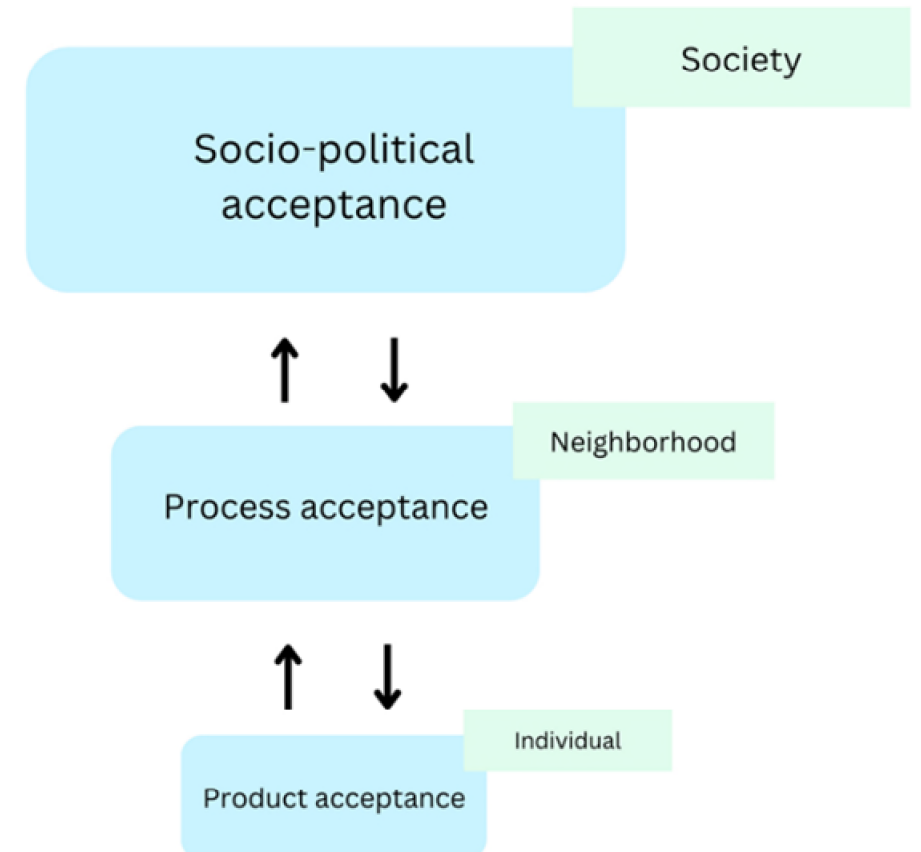
How can we explain this?

- Different levels of acceptance
- Break down into different aspects
- Demographic factors



Different levels of acceptance

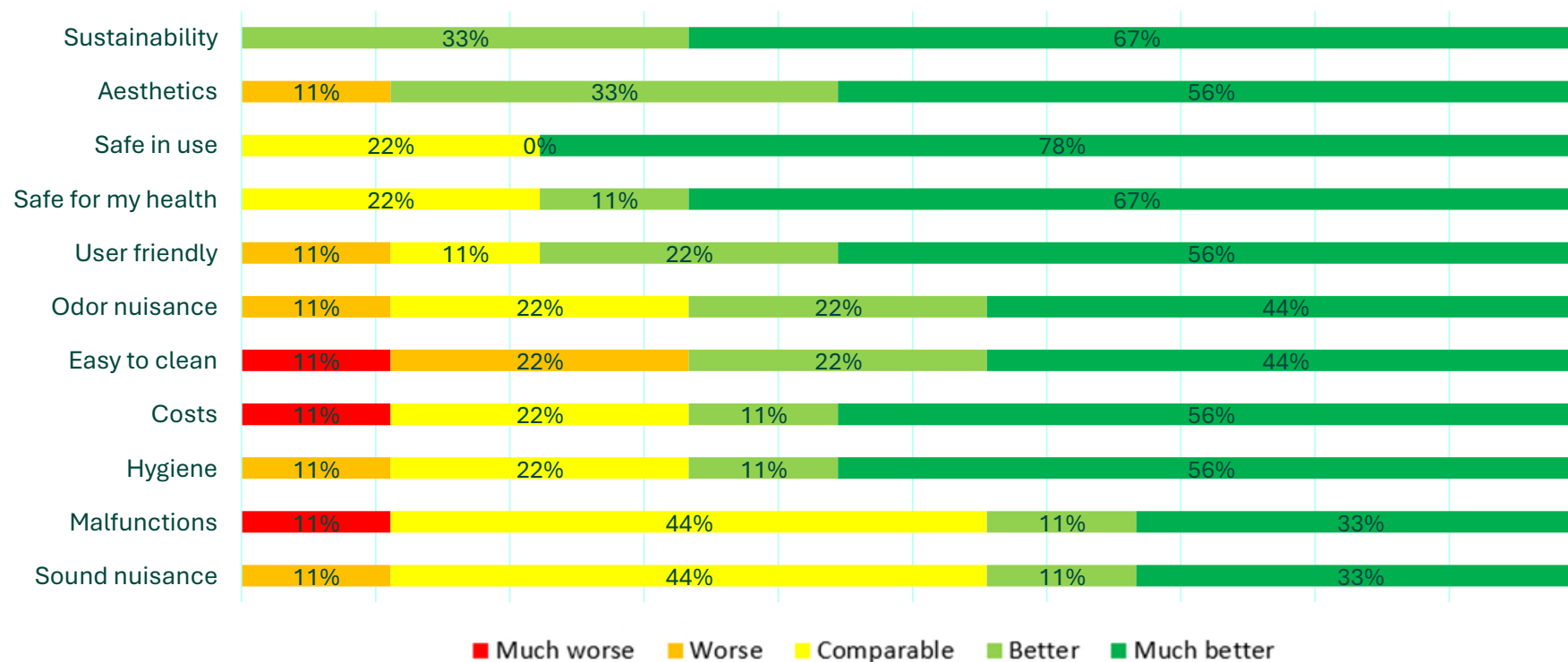
Socio-political and process acceptance tend to be higher than product acceptance in Superlocal and Nieuwe Dokken



Example from Superlocal case

Sustainability and **aesthetics** score positive compared to a traditional toilet, whilst **sound nuisance** and **malfunctions** score negative.

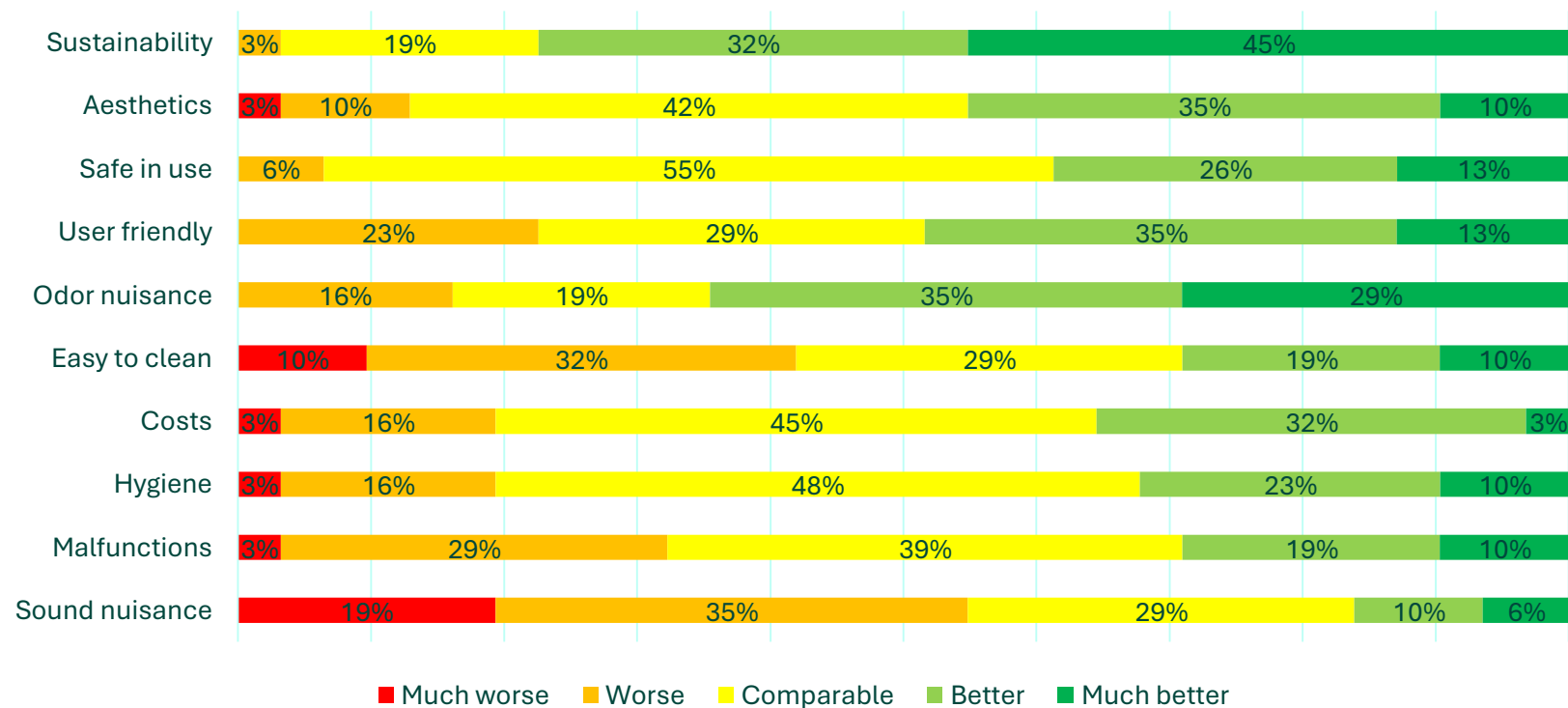
2021 Satisfaction compared to traditional toilet



Example from Superlocal case

Sustainability and **odor nuisance** score positive compared to a traditional toilet, whilst **sound nuisance** and **easiness to clean** score negative.

2022 Satisfaction compared to traditional toilet



Communication with service provider is important

- Having clear signs on the property
- Managing expectations about what is happening
- Good communication can mitigate negative impact of malfunctions and maintenance



It's not about age, gender and education

No significant correlations between age, gender and education and satisfaction with the vacuum toilet



More aware and committed

Aware and committed

Characterised by pro-environmental values and collective sustainability ideals



59%

Egalitarian and solidary

Marked by a great sense of solidarity with less-favoured households, low-income countries, and future generations



28%

Down to earth and confident

Characterised by great confidence in the responsibility of drinking water utilities, along with a desire not to be bothered about drinking water.



4%

Quality and health concerned

Characterised by a focus on personal preferences and needs, especially regarding personal health



9%

Less satisfied with vacuum toilet

The results of 2020/2021 and 2022 surveys

2020/2021

- Satisfaction communication service provider
- Hygiene
- Noise pollution

2022

- Malfunctions
- Acceptance frequency maintenance and repair

Conclusion

- **Satisfied** with vacuum toilet
- Overall feeling is **positive** but over time becomes **neutral**
- In general people have a **high living satisfaction**
- **Demographics** are not very important
- Creating **awareness** about 'experimenting' and sustainable technologies helps
- Over time, the **performance** of the system is what counts



**“Thank you
(waste)water
professionals that
you made it easier
for us to live more
sustainable...”**

TAKE HOME MESSAGE



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