"Are you feeling safe on-board our autonomous shuttles?"
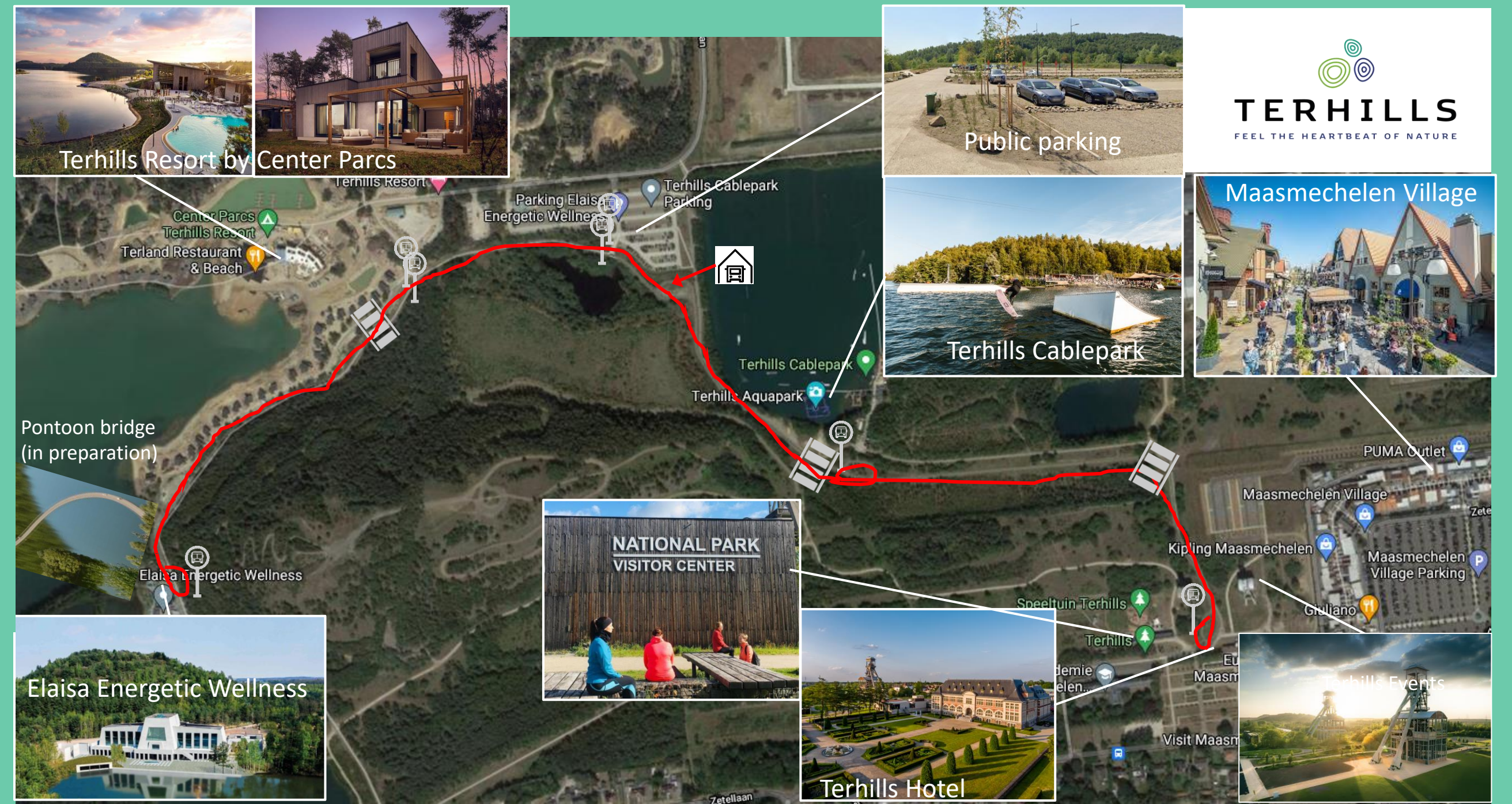# Results from the user experience survey at Terhills, Belgium

Tim De Ceunynck - LRM *   **Mario Cools - University of Liège, KULeuven, Hasselt University**

The first fully autonomous (stewardless) transport system in Belgium

- Fleet of two EasyMile EZ10 shuttles during successfully completed pilot phase, to be expanded to a fleet of five shuttles by Q1 2024
- Connects various points of interest through five stops along a route of 4.5km
- Operations 365/365, 8h/day (pilot phase), 10 hours/day (Q1 2024)
- Frequency: every 10-15 min (pilot phase); every 5-10 min (Q1 2024)

Method

- User experience surveys
- Spontaneous responses and interviewers at bus stops and in Terhills Resort
- Also non-users were interrogated on their reasons for non-usage
- Comparing responses of phase with on-board steward versus stewardless
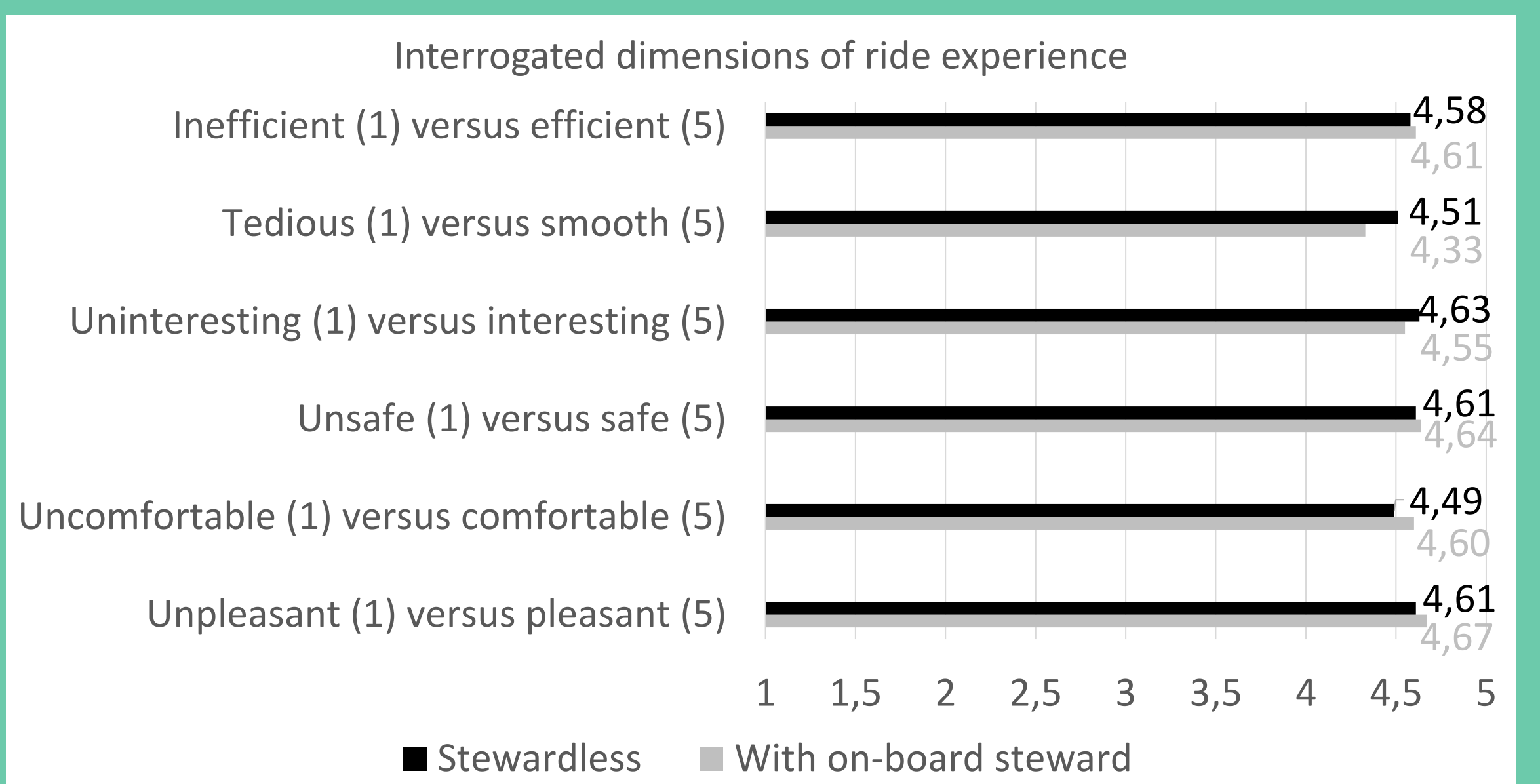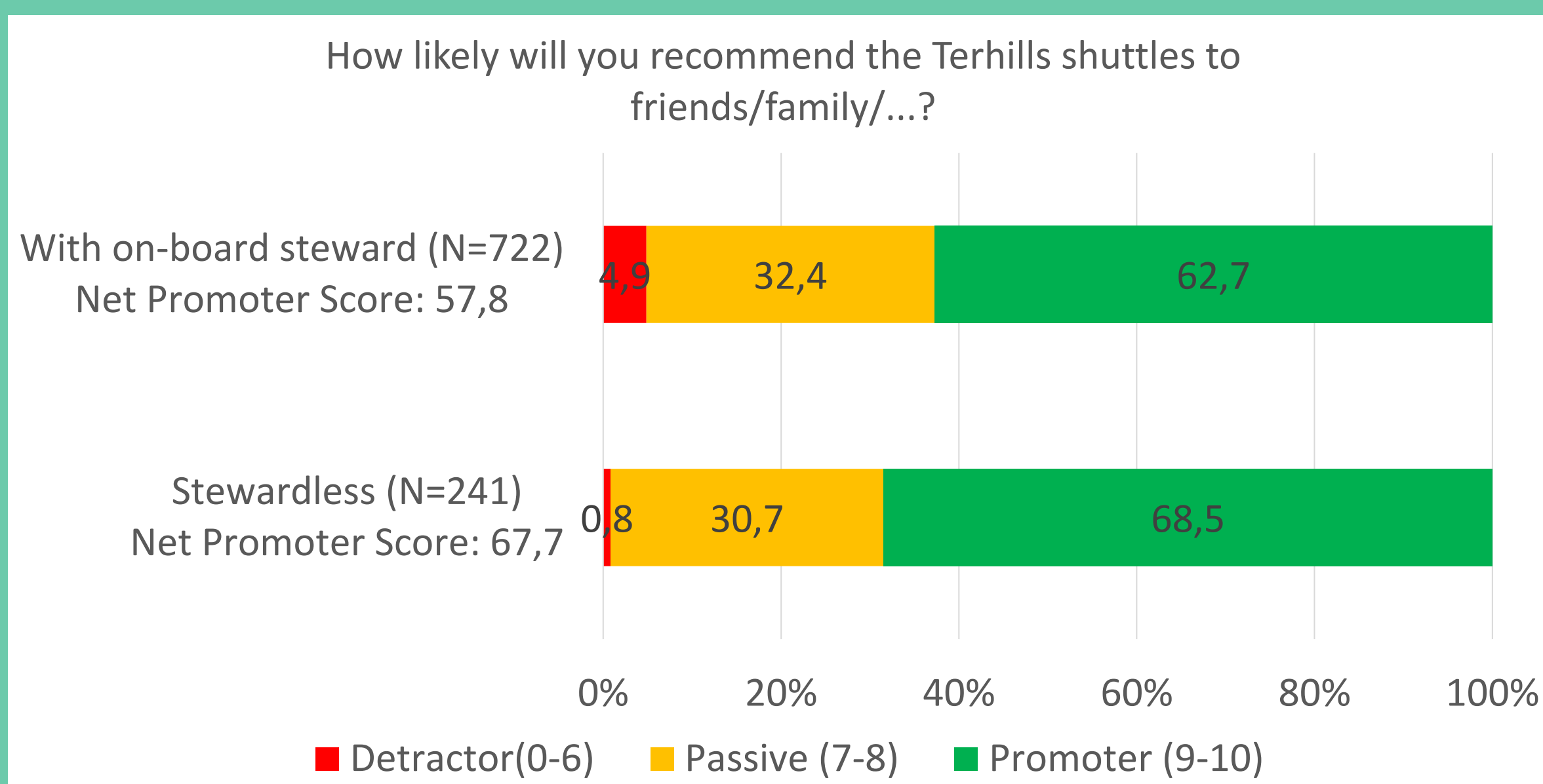
Let's work together!

- Terhills is a living lab for research about autonomous mobility
- Particularly human factor research and technology tests
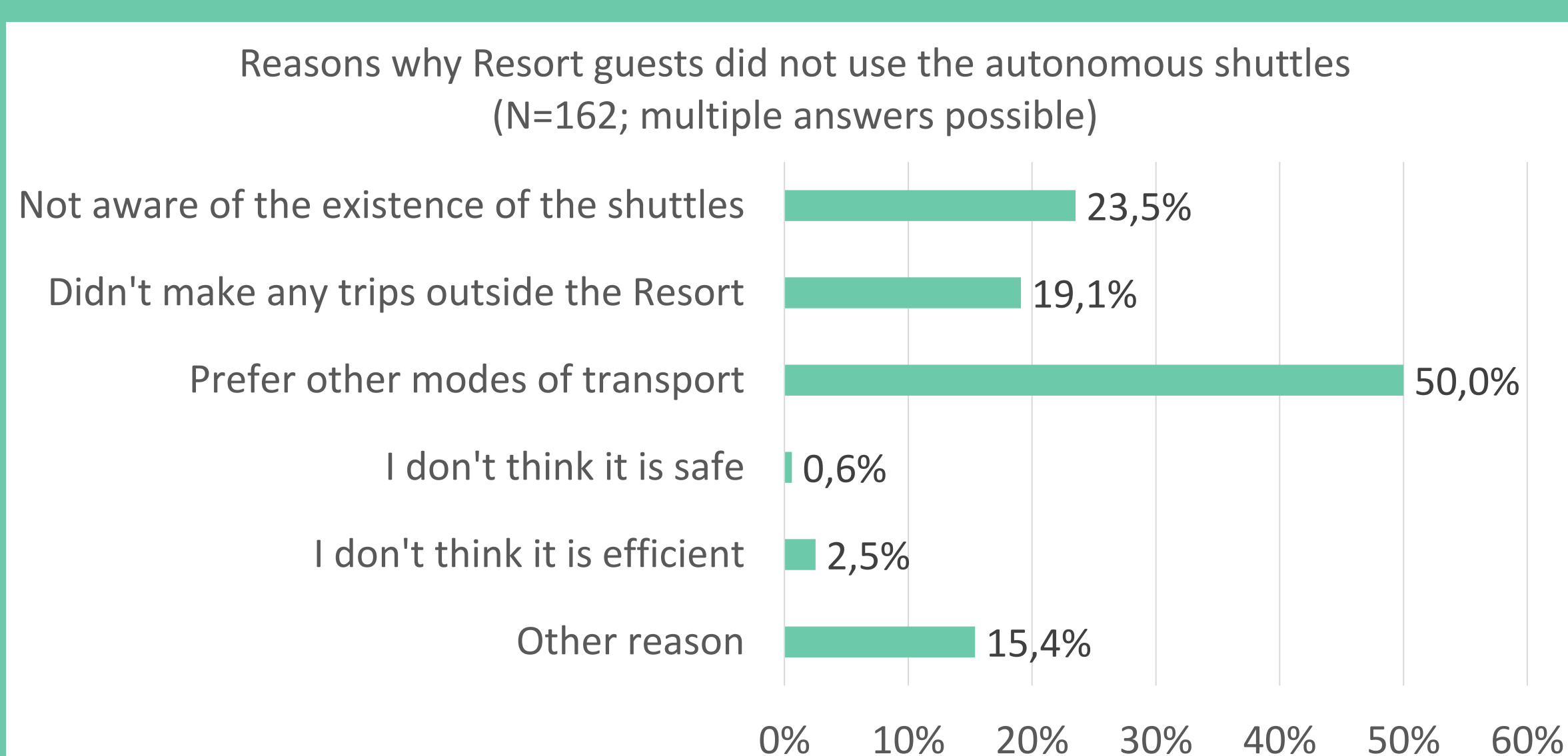- We are open to research cooperation

Results & conclusions

- User experience, expressed in Net Promoter Score (NPS) is very good
- NPS did not decrease after removing the on-board steward

How likely will you recommend the Terhills shuttles to friends/family/...?

With on-board steward (N=722)
Net Promoter Score: 57,8
- 4,9 | 32,4 | 62,7

Stewardless (N=241)
Net Promoter Score: 67,7
- 0,8 | 30,7 | 68,5

Legend: ■ Detractor(0-6) ■ Passive (7-8) ■ Promoter (9-10)

- Experience positive on all dimensions
- People feel very safe on-board the autonomous shuttles
- No negative effect of removing the on-board steward

Interrogated dimensions of ride experience

Dimension	Stewardless	With on-board steward
Inefficient (1) versus efficient (5)	4,58	4,61
Tedious (1) versus smooth (5)	4,51	4,33
Uninteresting (1) versus interesting (5)	4,63	4,55
Unsafe (1) versus safe (5)	4,61	4,64
Uncomfortable (1) versus comfortable (5)	4,49	4,60
Unpleasant (1) versus pleasant (5)	4,61	4,67

- Safety is NOT an important reason for not using the shuttles

Reasons why Resort guests did not use the autonomous shuttles (N=162; multiple answers possible)

Reason	%
Not aware of the existence of the shuttles	23,5%
Didn't make any trips outside the Resort	19,1%
Prefer other modes of transport	50,0%
I don't think it is safe	0,6%
I don't think it is efficient	2,5%
Other reason	15,4%

- Variables significantly affecting user experience (NPS):
  - Women more positive than men
  - Daily car users more positive than non-daily car users
  - Daily bicycle users more positive than non-daily bicycle users

Parameter		Estimate	S.E.	P-value
Intercept		8.109	0.09	<0.001
Gender	Female	0.189	0.077	0.014
	Male	0 (ref.)		
Car usage	Daily	0.652	0.091	<0.001
	Less than daily	0 (ref.)		
Bicycle usage	Daily	0.262	0.093	0.005
	Less than daily	0 (ref.)		

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