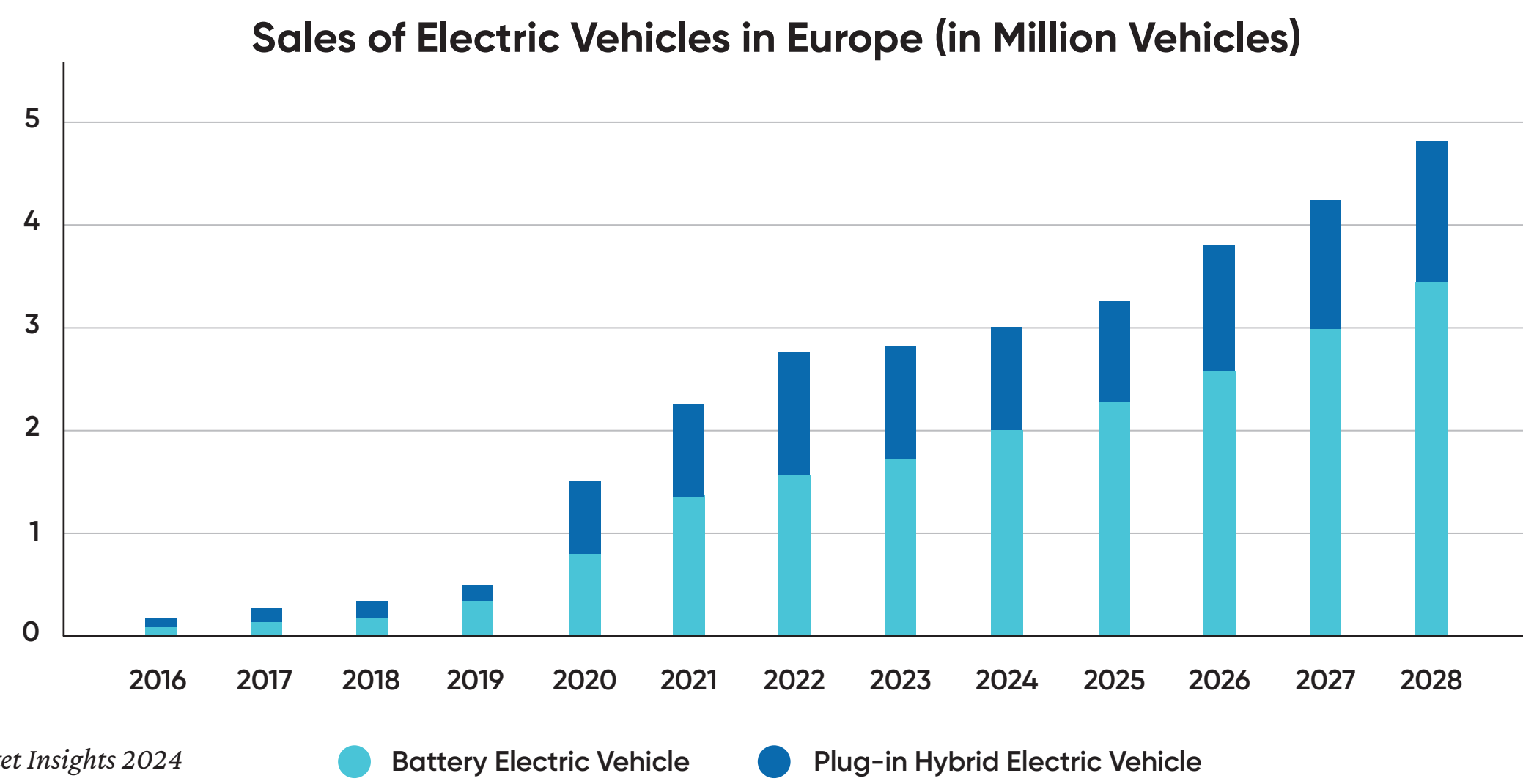


## Relevance



Source: Statista Market Insights 2024

● Battery Electric Vehicle ● Plug-in Hybrid Electric Vehicle

### GOAL

Sufficient number of charging points in the right locations, easy to recognize

Growing Market share of EVs

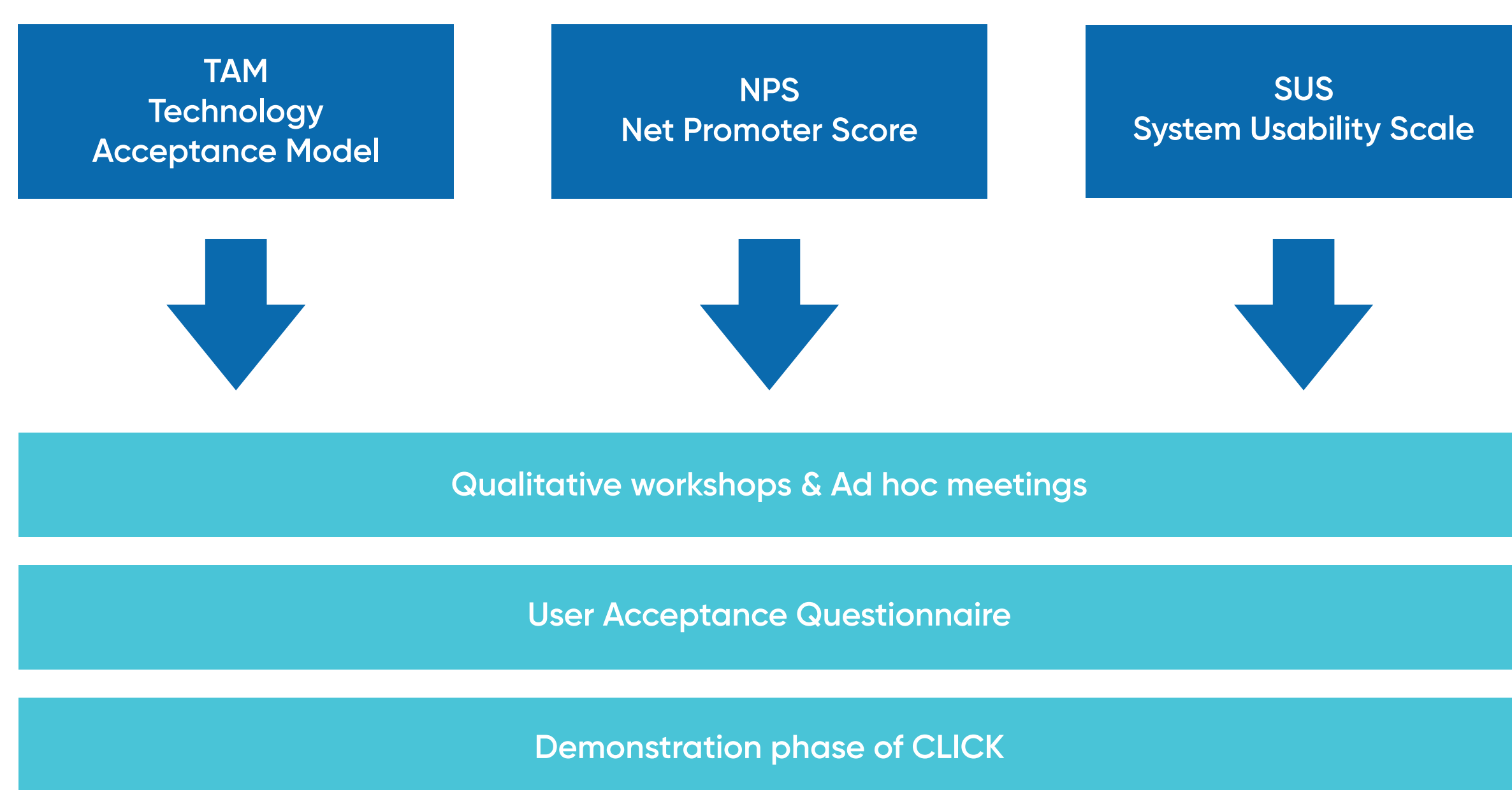
Insufficient Range of BEVs

Insufficient availability and visibility of charging points

Source: own creation

- The **sales of electric vehicles in Europe increased** from **0.21 Mio.** in 2016 to **2.73 Mio.** in 2023 and **are expected to increase significantly further** in the coming years (see Statista Market Insights 2024).
- Following those increasing numbers, the **desire for a broader availability of charging points** and **more interconnected charging infrastructure** can be assumed.
- According to the Consumer Monitor 2022, one of the **main barriers for battery electric vehicle (BEV)** users is the **overview of the public charging points** and **their user perception** (see Barrera et al. 2022).
- The **increase in registrations of electric vehicles (EVs)** also influences the total **share of newly registered cars**.
- From **2020 to 2021**, there was an increase from **11% to 18%** in the share of total new car registrations (see EEA 2023), showing a **growing demand for EVs**.
- Correspondingly, there is also an **increasing demand for user-friendly charging infrastructure**.
- In connection with this, the demand for appropriate **coverage of public charging infrastructure** in **adequate locations** and with **adequate technologies** is given.
- Charging infrastructure planning tools will facilitate coping with this demand. Therefore, an existing incentive exists for implementing a planning tool to plan charging infrastructure.
- The H2020 project "Innovative solutions for USER-centric CHarging Infrastructure" (short: USER-CHI) is working in this field.

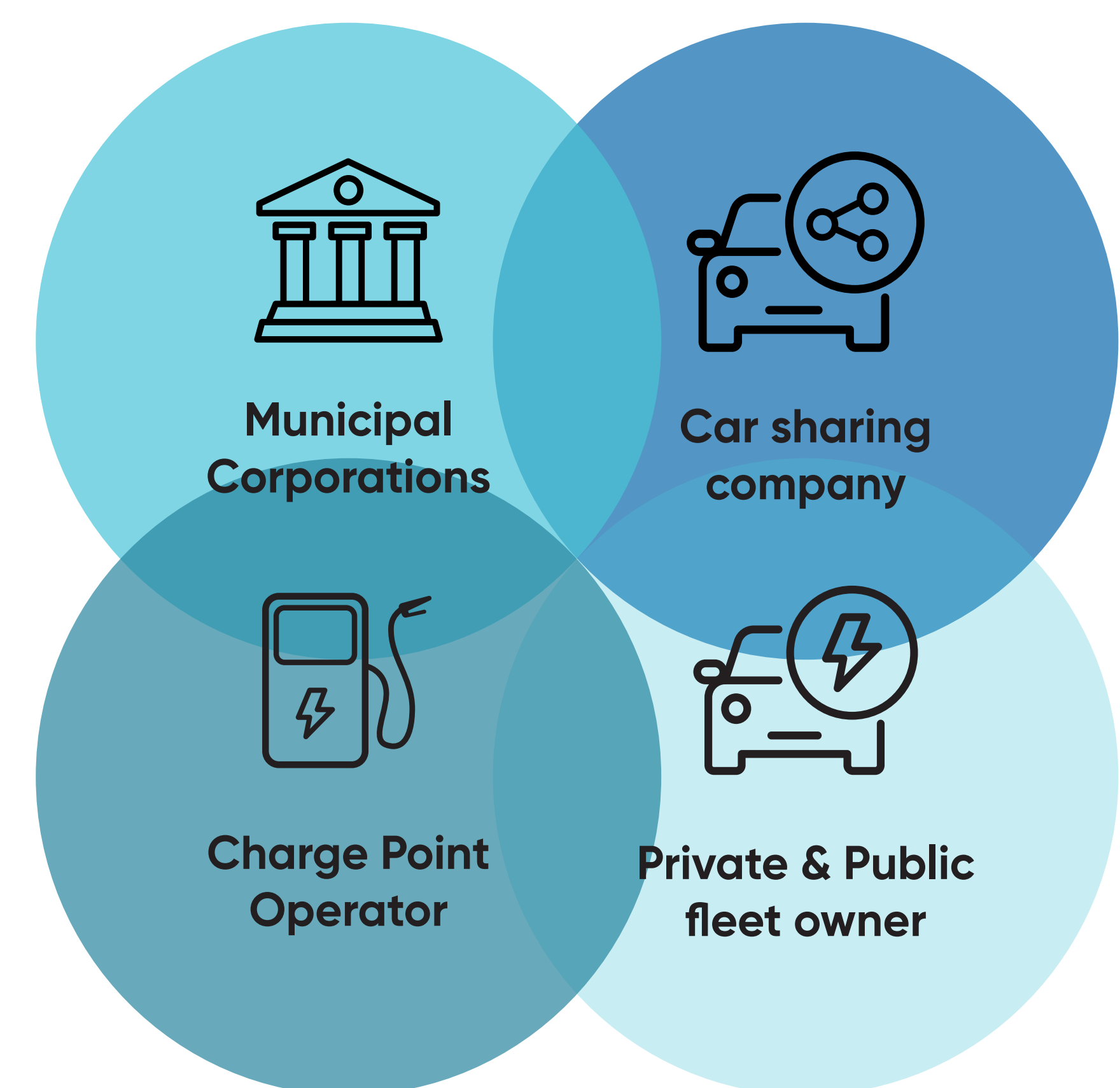
## Methodology



Source: own creation

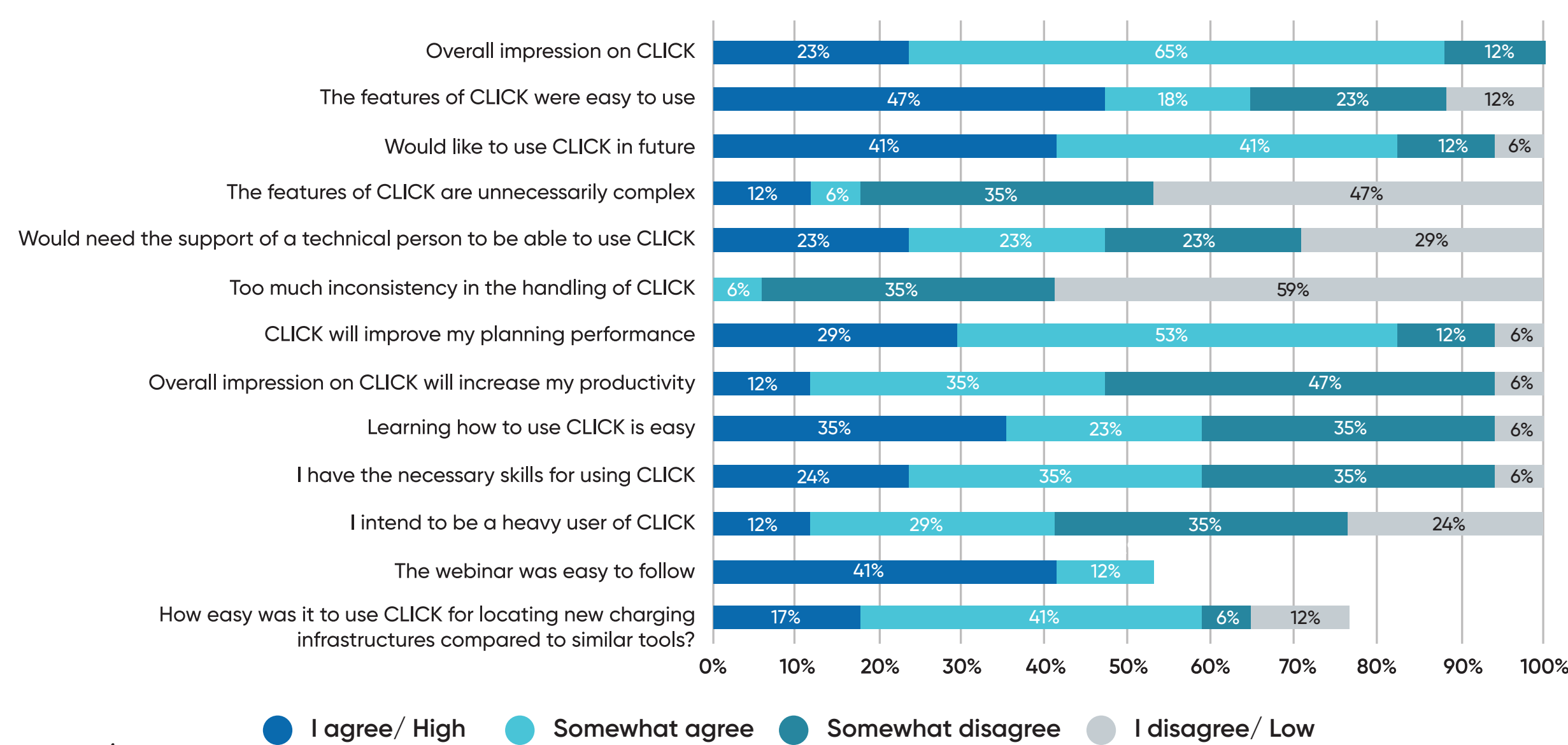
- The combination of the **System Usability Scale (SUS)**, **Technology Acceptance Model (TAM)**, and **Net Promoter Score (NPS)** helps in **assessing usability** and potential future tool usage.
- The **demonstration and development phase of CLICK** involves **diverse test users** from different countries and backgrounds.
- The **target user groups** are meant to **replicate** the targeted **population** as closely as possible to get information on how the software could be further developed.

### Target User Group



Source: own creation

## User Acceptance Questionnaire Results



Source: own creation

● I agree/ High ● Somewhat agree ● Somewhat disagree ● I disagree/ Low

- User acceptance **feedback/surveys may vary** based on participants' **opinions** and **backgrounds**, making generic assessments difficult.
- Positive feedback is emphasised to guide developers in deciding which aspects/ processes of the tool to maintain.
- The survey results show that **feedback** is often **dependent** on the **position**, **background**, and personal **interpretation** of survey participants. Hence, **qualitative interviews** with users are **recommended** to improve the tool further.
- While using **multiple methods** for user acceptance, it is important to remember that one **should not be redundant with the questions**.
- In the more advanced planning stage, **focus** should be switched to more **local sociodemographic, legal and environmental conditions**.
- The **need for data standardisation** in tools like CLICK is acknowledged, and the **potential of artificial intelligence** in handling non-standardized data is highlighted.
- CLICK** is also **relevant** to the **post-planning process**. It **monitors the charging network's utilization** and enables **demand-oriented network expansion**.

## Workshop - Results

- Responses** from users in **Barcelona, Rome, Turku, Budapest, Florence, and Murcia** were received.
- Mainly **technical feedback** has been addressed.
- All in all, the **cities received CLICK very well**, and they were eager to test and evaluate the tool to customise it for their purposes.
- Aspects like the **ratio of the charging type (AC, DC, or HPC)** or the **amount of EVs** should be **individually adjustable**.
- Wish for **more opportunities to type in individual data**, such as numbers and percentages, for the strategy details.

## Sources

Barrera, G.; Vanhaverbeke, L.; Verbist, D. (2022): Consumer Monitor 2022, European Commission, [https://alternative-fuels-observatory.ec.europa.eu/system/files/documents/2023-06/2022%20EAFO\\_CountryReport\\_NL\\_0.pdf](https://alternative-fuels-observatory.ec.europa.eu/system/files/documents/2023-06/2022%20EAFO_CountryReport_NL_0.pdf), 2023/09/26

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