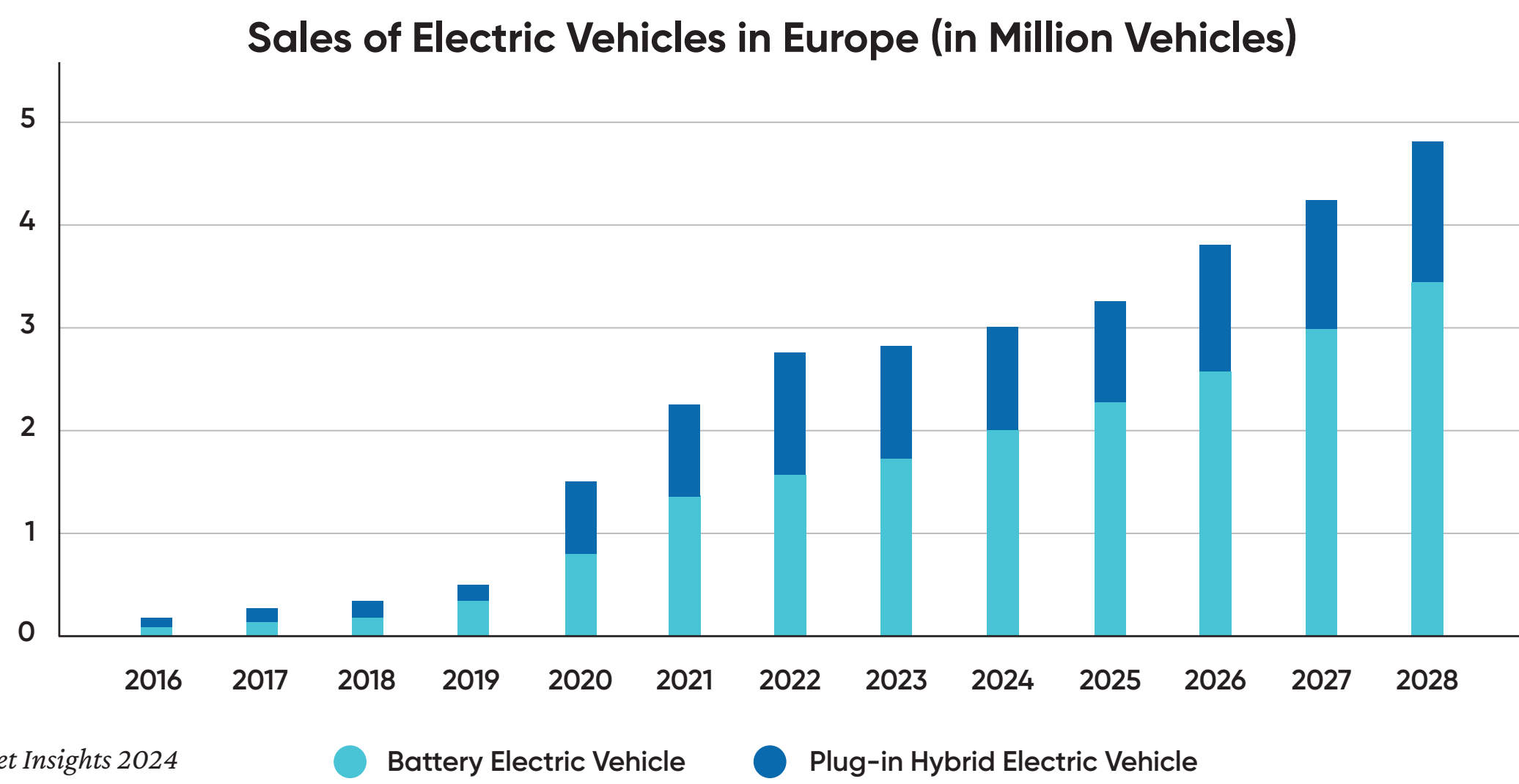


Relevance



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

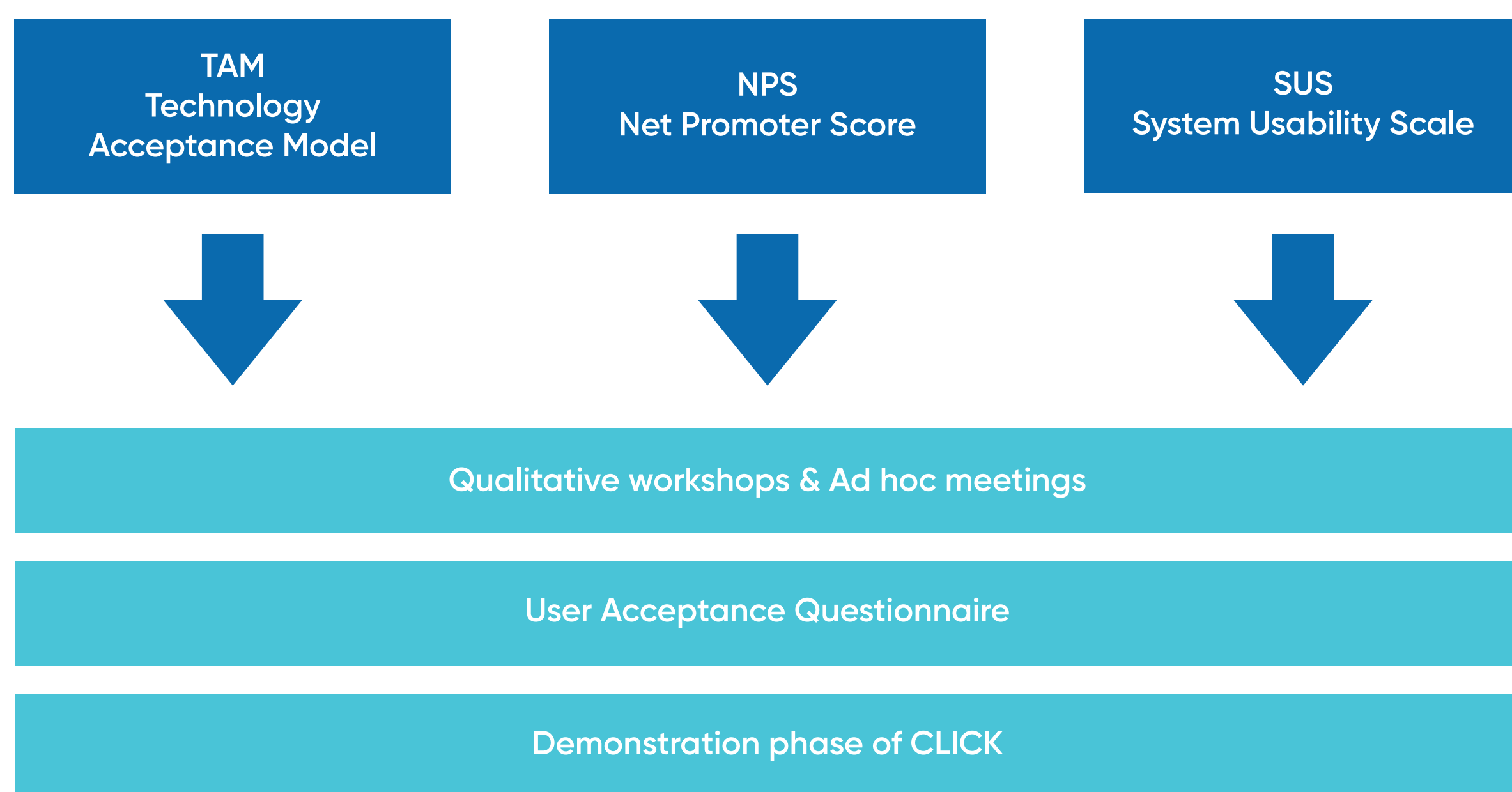
Insufficient Range of BEVs

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.

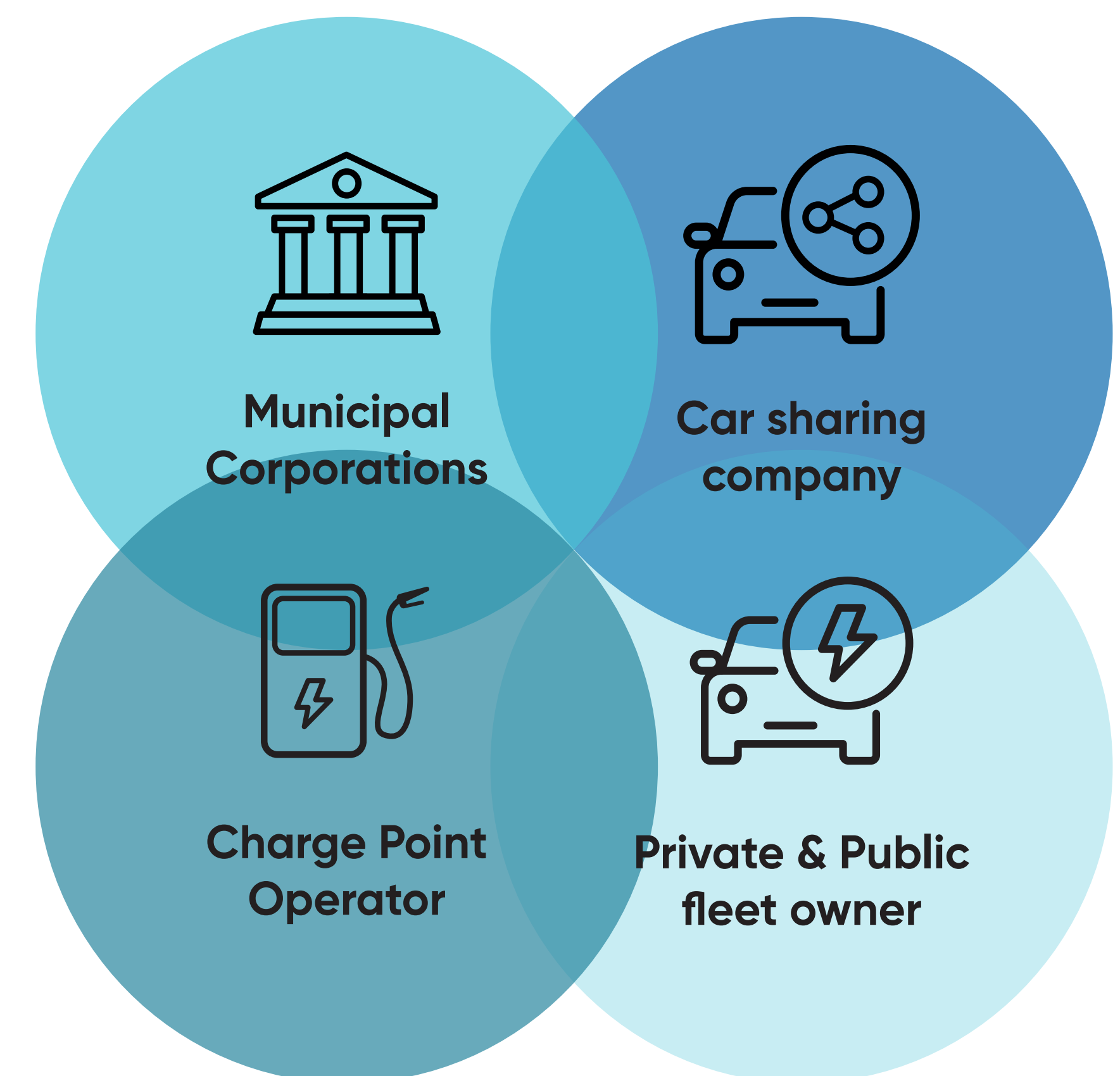
Methodology



Source: own creation

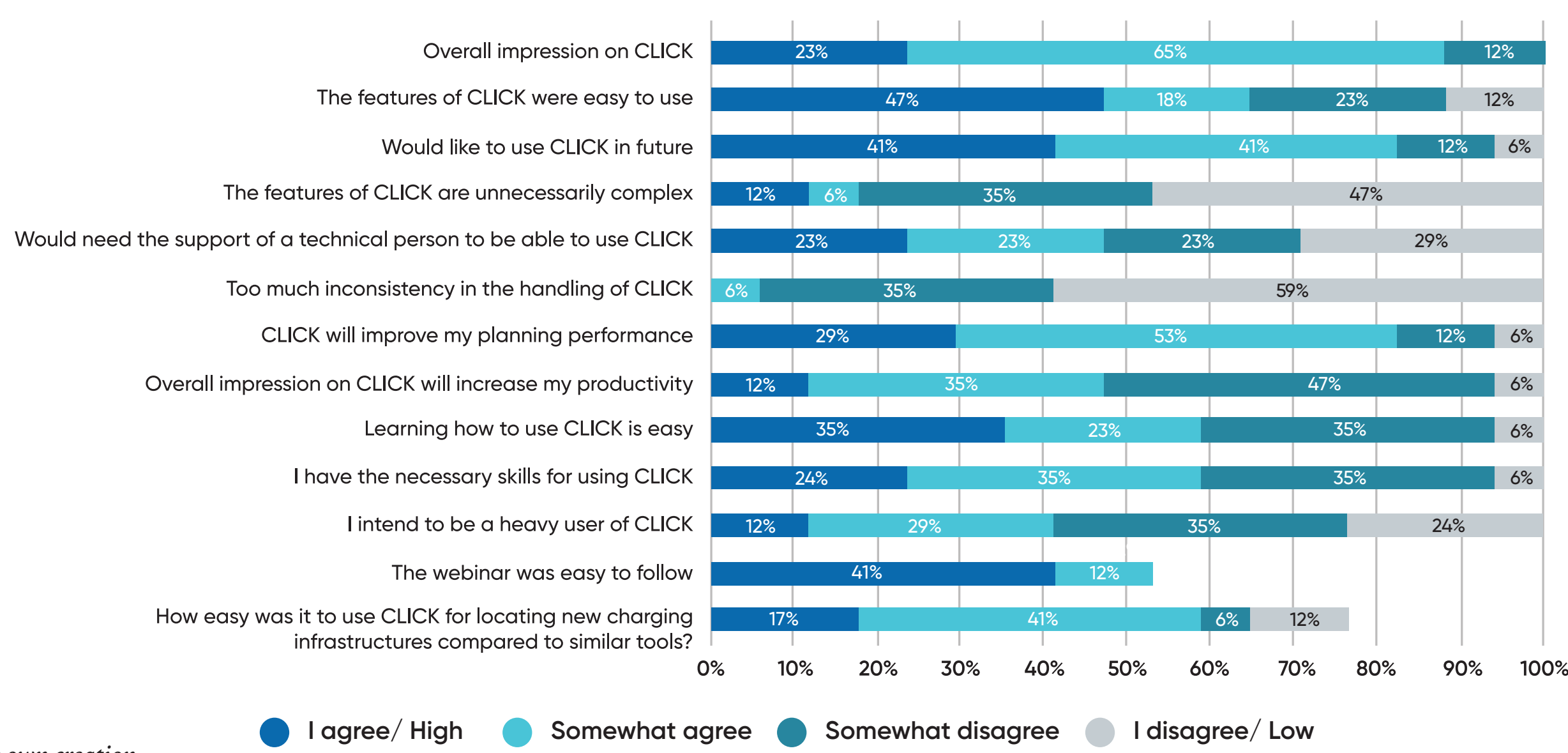
- The combination of the **System Usability Scale (SUS)**, **Technology Acceptance Model (TAM)**, and **Net Promoter Score (NPS)** helps in **assessing usability** and potential future tool usage.
- The **demonstration and development phase of CLICK** involves **diverse test users** from different countries 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

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