

METHODS

- Categorized outdoor lights into 18 discrete types in a co-design process
- Categories include public and private lighting, i.e. streetlights, traffic lights, floodlights, illuminated windows...
- Took hundreds of photographs to develop training materials for uniform observations by citizen scientists
- Measurement campaigns in German cities in fall of 2021 with observations in pre-defined street segments (transects)
- Data submitted via progressive web app

You are **welcome to test the app** and define your own street segments to count all lights!

NACHTLICHT-BüHNE

In this **co-designed citizen science** project we create inventories of urban lights at unprecedented scales.

We will count all artificial light sources visible from publicly accessible spaces for selected areas in several German cities, covering a total of at least 6 km².

In German, **"Bühne" means "stage"**, and citizen scientists take center stage: they are involved in every step of the project.









OUTCOMES

HELMHOLTZ

RESEARCH FOR GRAND CHALLENGES

To date, information on the number, type and location of outdoor lighting is lacking. We will produce the first **large-scale lighting inventories** in urban areas. to answer two questions:

- How do radiance observations from aerial or space-based platforms relate to the actual light sources on the ground? (i.e. ground truthing DNB and Luojia-1 imagery)
- How does the character of lighting change with varying land use?

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