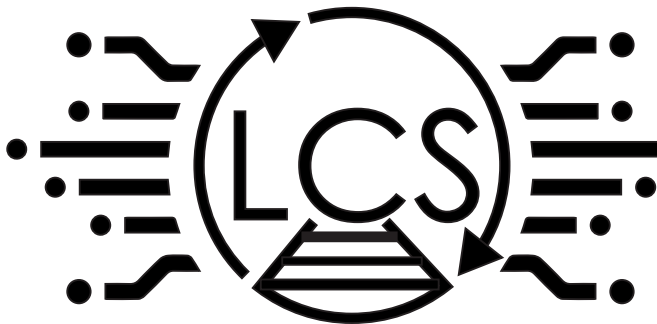


**INTEGRATING
CARBON DATA IN
CROSS-SCALE
STATION DESIGN**

April 23, 2024

15:30-17:00

**AMS Institute
Scientific Conference:
*Reinventing the City***



**Data-hub for
Low Carbon Stations**



**AIDA
DAPT
PTAI**



TU Delft

**KAAN
Architecten**

AMS
AMSTERDAM INSTITUTE FOR
ADVANCED METROPOLITAN SOLUTIONS

Program

15:30 - Welcome and Intro

Welcome: Program and Organizers
Halina Zarate (5min)

Workshop Introduction: The Low-Carbon Data-hub workshop
Manuela Triggianese (10min)

15:45 - Lectures

Sustainable Design: Theory & Practice
Renata Gilio (10min)

Energy and Mobility Transition: Stations as a Resource
Lydia Giokari (10min)

Carbon Data for Architecture Design
Seyran Khademi (10min)

Low-Carbon Stations Data & Activity Intro
Halina Zarate (10min)

16:30 - Data-hub: Data Refinery Session

Hands-on activity and Group Discussion
All participants

The Low-Carbon Stations Data-Hub



The workshop aims to cultivate a community of professionals, academics, and policy makers interested in the convergence of Data, Carbon, Energy and Stations. Its primary objective is to collaboratively design a digital platform to visualize data pertaining to the carbon footprint of stations and their immediate surroundings, contributing to a low-carbon future. Moving towards a CO2-free built environment requires rapid and future-proof retrofits of existing stations. To address the development of cities emphasizing mobility, energy and digital transitions, this workshop responds to AMS Institute's urban challenges of Urban Energy, Smart Urban Mobility and Responsible Urban Digitization. Building upon the 'Stations of the Future' - [AMS/TUD project \(2018\)](#) through the lens of '[Stations as Data Centers](#)', the session will delve into the multifaceted data available in and around stations. This includes building data (construction drawings, materials, structural weight), passenger data (from social media posts), aerial imagery (urban growth and development), mobility data, energy consumption metrics,

and urban data related to the built environment. The workshop will emphasize the gathering of visual data related to carbon footprint of stations, at the building scale. The facilitators will bring along learnings from their ongoing researches [Carbon Image Project](#) and [Karbon](#), a tool developed as part of a [PhD research on Low-Carbon Transit Nodes, by Halina Veloso e Zarate](#). Participants will acquire a comprehensive understanding of stations as data-centers, and the diverse sources of visual data essential for carbon footprint assessment. Attendees will actively contribute to the conceptualization and design of a digital hub for low-carbon stations, fostering a practical and actionable approach to sustainability.

The workshop set-up is twofold:
1- Informative lectures by the organizers and invited experts providing foundational knowledge;
2- Interactive sessions with focus on designing the digital hub for low-carbon stations.
This session will empower attendees to contribute with their insights and data, creating a collaborative learning environment.

Interactive report on the Low-Carbon Stations Workshop, organized by PhD Candidate Halina Veloso e Zarate and Assistant Professor Dr. Manuela Triggianese, TU Delft. By Halina Veloso e Zarate, 2024. <<https://storymaps.arcgis.com/stories/df15890f84064a68ad5654da6c541d>>

Organizers



Halina Veloso e Zarate

Doctoral researcher on Data-supported Design methods in Architecture and Urbanism
h.velosoezarate@tudelft.nl



Dr. Manuela Triggianese

Assistant professor, Research Coordinator of the Building Knowledge Section, Department of Architecture, TU Delft
m.triggianese-1@tudelft.nl



Renata Gilio

General Managing Director,
KAAN Architecten
r.gilio@kaanarchitecten.com



Lydia Giokari

Program Developer Urban Energy, Research & Valorization,
AMS Institute
lydia.giokari@ams-institute.org



Dr. Seyran Khademi

Assistant Professor, Co-director of AiDAPT lab, Department of Architecture, TU Delft
s.khademi@tudelft.nl

Special Thanks:

Olga Surogina

Masters Student, Architecture and the Built Environment TU Delft
o.surogina@kaanarchitecten.com