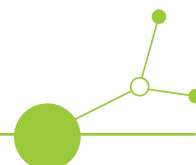


D 1.2.3 MESTRI-CE Smart Data Hub with database of buildings



Version 1
09 2025





Contents

A. Introduction.....	2
B. MESTRI-CE Smart Data Hub.....	2
1. Screenshots of the tool.....	3



A. Introduction

The need for a Smart Data Hub arises from the complexities and challenges involved in building renovations and energy efficiency improvements. Currently, renovation projects are often delayed or even abandoned due to a lack of information. Building owners, planners and policymakers often lack access to reliable data on building conditions, energy performance and detailed cost estimates. Without this information, it is extremely challenging to plan renovations effectively or evaluate the potential impact of different measures.

Moreover, existing data is often fragmented, inconsistent or difficult to use for technical and economic assessments. This creates uncertainty and risk, which discourages investment in renovations, even though these measures could provide significant energy savings and cost benefits in the long term.

A Smart Data Hub should address these challenges by centralising building data, enabling the creation of digital building models and generating energy indicators by running energy simulations, as well as generating detailed renovation roadmaps. In short, a Smart Data Hub is necessary to overcome the current barriers to building renovation and accelerate the transition towards energy-efficient, sustainable buildings.

B. MESTRI-CE Smart Data Hub

The MESTRI-CE Smart Data Hub was developed in collaboration with the start-up Scandens and is available at the following URL: <http://www.mestri-smartdatahub.eu>

In preparation for this, requirements for the Smart Data Hub were defined and formulated together with the project team. These were continuously developed until the decision to collaborate with Scandens was made and served as the basis for the development of the Smart Data Hub. Together with Scandens, the requirements were then specified and transferred to the new tool. The requirements can be found in Deliverable 1.2.1.

In addition, a manual was developed during the development of the smart data hub to assist with the implementation and editing of buildings in the tool. This can be found in Deliverable 1.5.2.



1. Screenshots of the tool

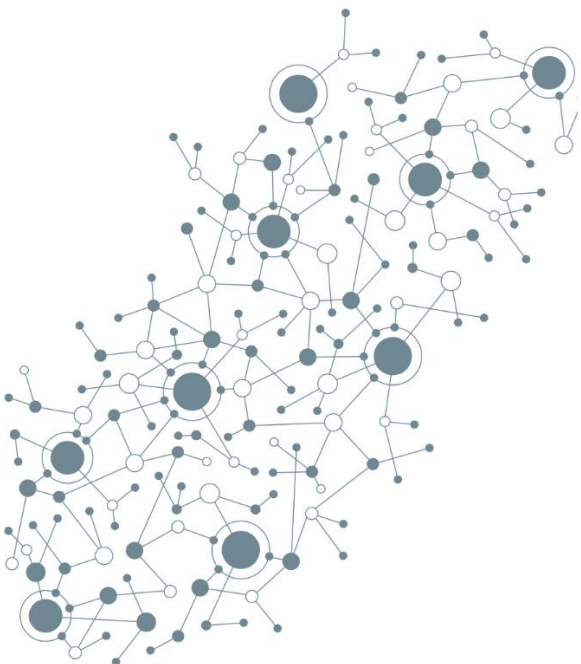


Co-funded by
the European Union

MESTRI-CE

Noch kein Mitglied? [Registrieren](#)

SMART DATA HUB



Log in

E-Mail Adresse

Passwort

☐ Eingeloggt bleiben [Passwort vergessen?](#)

Los geht's

Figure 1 Homepage of the Smart Data Hub



EXPORT: CSV PDF EN DE Logout

Overview **Objects**

OBJECTS

Reload Analyze portfolio + New

ADDRESS	TYPE	CONSTRUCTION YEAR	ITR	EMISSIONS	HEATING SYSTEM	STATUS		
Eschenweg 11, 3072 Ostermundigen	MFH	2013	1.3°C	0.7 kg CO ₂ /m ²	Geothermal heat pump	Completed	✓	✕
Altmannstrasse 28, 8052 Zürich; Altmannstrasse 30, 8052 Zürich	SFH	1926	1.4°C	1.1 kg CO ₂ /m ²	Air-source heat pump	Completed	✓	✕
Eschenweg 11, 3072 Ostermundigen	MFH	2013	1.3°C	0.7 kg CO ₂ /m ²	Geothermal heat pump	Completed	✓	✕
Giraldenstrasse 56, 8048 Zürich; Giraldenstrasse 64, 8048 Zürich	MFH	1949	3.1°C	48.8 kg CO ₂ /m ²	Gas heating	Completed	✓	✕
Grimselstrasse 43, 8048 Zürich; Grimselstrasse 45, 8048 Zürich	MFH	1951	2.9°C	42.4 kg CO ₂ /m ²	Oil heating	Completed	✓	✕
Rue de Berne 10, 1201 Genève; Rue de Berne 8, 1201 Genève	MFH	1897	2.6°C	36.4 kg CO ₂ /m ²	Oil heating	Completed	✓	✕
Spiegelstrasse 14, 3095 Spiegel b. Bern; Spiegelstrasse 18, 3095 Spiegel b. Bern	MFH	1983	1.5°C	4 kg CO ₂ /m ²	District heating	Completed	✓	✕
Sägestrasse 47, 3098 Köniz; Sägestrasse 49, 3098 Köniz; Sägestrasse 53, 3098 Köniz	Office	1954	1.5°C	7.8 kg CO ₂ /m ²	Pellet heating	Completed	✓	✕
Bergstrasse 79d, 8810 Horgen	MFH	2021	1.4°C	1.6 kg CO ₂ /m ²	District heating	Completed	✓	✕
Lindweg 16, 3072 Ostermundigen	MFH	2013	1.3°C	0.7 kg CO ₂ /m ²	Geothermal heat pump	Completed	✓	✕

Figure 2 Overview of the building portfolio

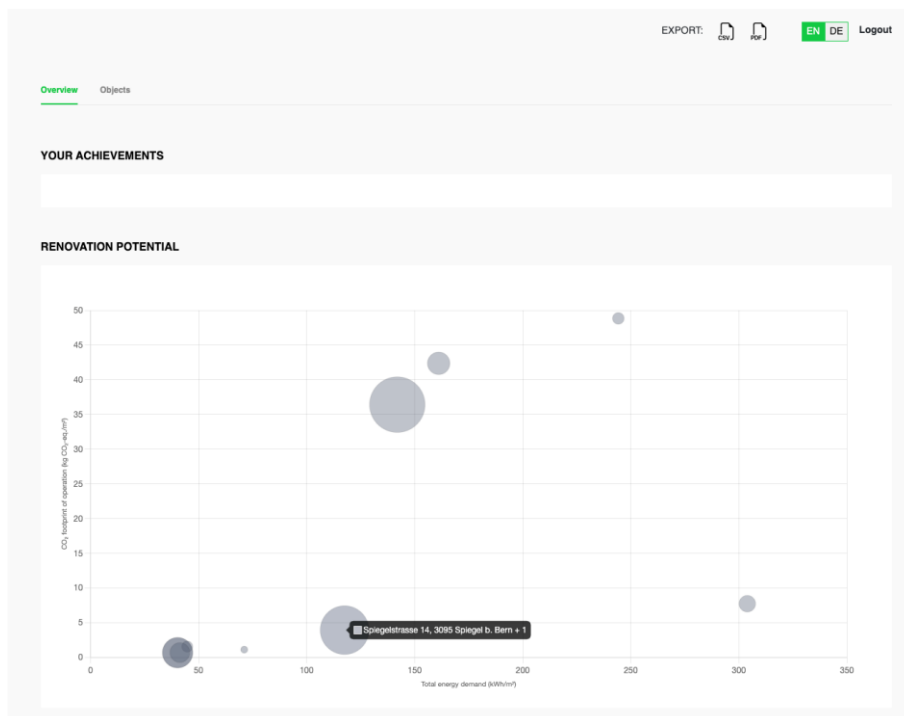


Figure 3 Renovation potential of the buildings



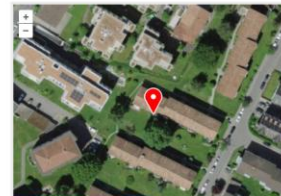
Overview Input parameters

GENERAL BUILDING INFORMATION



Girhaldenstrasse 56, 8048 Zürich; Girhaldenstrasse 64, 8048 Zürich

Building type	MFH
Construction year	1949
Energy reference area (ERA)	551 m²
Minergie	No
Heating system	Gas heating
Thermal solar collectors	No
PV power installed	No



Street view

3D model

MEASURES TO REDUCE EMISSIONS AND COSTS

Optimize building

Show optimization

ENERGY PERFORMANCE



GEAK Effizienz Gebäudehülle

GEAK Effizienz Gesamtenergie

GEAK Direkte CO2-Emissionen

G

E

G

Figure 4 General building information of one building

CLIMATE PERFORMANCE

CO2 footprint (SIA 380)
kg CO₂-eq./m²_{ERA}/year

48.8

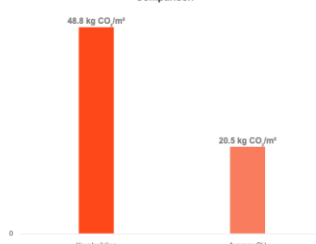
Implied temperature rise
°C

3.1

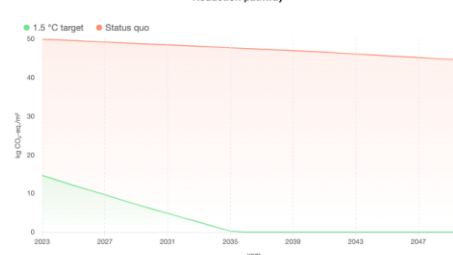
CO2 budget over-/undershoot (2020-2050): 903%



Comparison

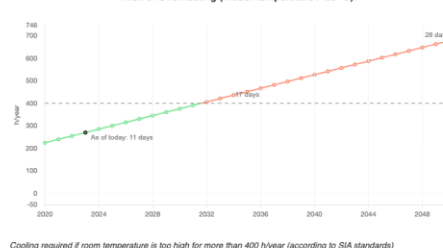


Reduction pathway



CLIMATE RISKS

Risk of Overheating (indoor temperature > 26°C):



Cooling required if room temperature is too high for more than 400 h/year (according to SIA standards)

Carbon Value at Risk

Go to input parameters and add market value of building.

Other climate risks

Additional very hot days until 2035	7
Additional tropical nights until 2035	2
Stranded Assets	Yes
Future emission costs due to carbon tax until 2050	86,900 CHF

Figure 5 Evaluation of one building



scandens

Portfolio

Building

Optimization

Status

EXPORT: Logout

Overview **Input parameters**

BUILDING GEOMETRY



General information

Building type	MFH
Construction year	1949
Residential / usage area	m ²
Energy reference area (ERA)	551 m ²
Basement available	☒
Heated basement	☐
Number of occupants	
Real estate purpose	Home ownership Rental property

Building envelope

Renovation year of roof / attic	
Renovation year of wall	
Renovation year of floor / cellar ceiling	
Renovation year of windows	

Energy systems

Heating system	Gas heating
Installation year	2009
Next installation year	2029
DHW system	Gas heating
Heat dissipation	Radiators

Design supply temperature	50 °C
Temperature spread (supply/return)	10 °C
DHW temperature	55 °C
Heating storage	l
DHW storage volume	379 l

Mechanical ventilation	☐
Active cooling	☐

Figure 6 Overview and model

scandens

Portfolio

Gebäude

Optimierung

Status

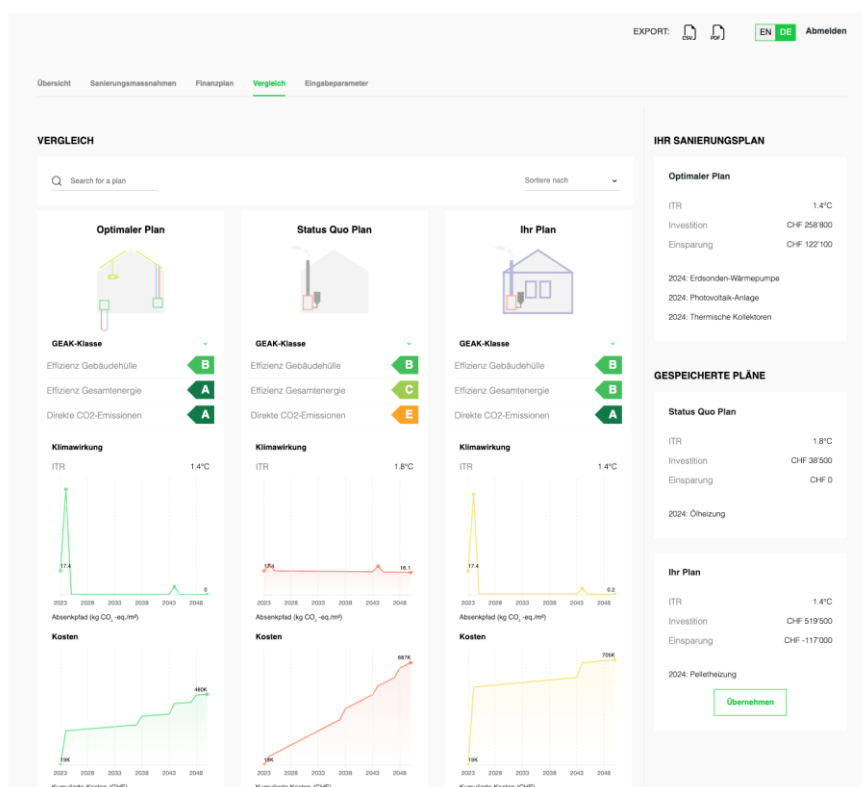


Figure 7 Comparison of the renovation plans