THE ENERGYCITY PROJECT

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WHAT?

EnergyCity is a European-funded project coordinated by the Budapest University of Technology and Economics aimed at ***reducing energy consumptions and CO2 emissions*** of towns and cities in Central Europe

Selected urban areas of ***seven European cities*** have been surveyed with OGS aircraft equipped with remote sensing instruments.

Thermal and ***hyperspectral images*** have been collected in order to detect heat energy losses from buildings

WHY?

EnergyCity intends to contribute to the implementation of renewable energy sources and efficiency practices in cities in Central Europe through the ***implementation*** of these ***activities***:

- Data collection and system development
- Implementation of common actions in cities
- Development of a common transnational strategy

A series of ***pilot actions*** in the seven cities are delivering pilot training for carbon mapping, implementing awareness raising campaigns and fuel poverty reduction plans.

WHO?

Hungary
Budapest University of Technology and Economics
Lead Partner

Germany
City of Ludwigsburg
City of Munich, *Department of Health and Environment*

Czech Republic
Prague 11 Metropolitan District

Italy
CEV - *Veneto Energy Consortium*
Municipality of Bologna, *Environment and Urban Green Department*
Alma Mater Studiorum – *Università di Bologna, DICAM Dept.*
OGS – *National Institute of Oceonography and Experimental Geophysics*

Austria
CERE – *Center of Excellence for Renewable Energy, Energy Efficiency and Environment*

Slovenia
KSSENA – *Energy Agency of Savinjska, Saleska and Koroska Region*

The ***partnership*** of EnergyCity includes a well balanced mixture of partners coming from two main sectors:
- city/local authorities
- research institutions

Together they represent varied views across a range of ***stakeholders*** and interests and provide competent knowledge and experience in the field of energy efficiency, renewable energy sources and geographic intelligence, especially regarding urban environments and infrastructures in Central Europe.

"This project is implemented through the CENTRAL EUROPE Programme co-financed by the ERDF"

TO WHOM?

A jointly developed final ***transnational strategy*** and ***policy guidance*** document will be computed, in order to deliver a series of recommendations that will be supported and complemented by the case studies, tools and examples developed by the EnergyCity partnership.

The recommendations will target all levels of governance, from project stakeholders and partners to ***European institutions*** and ***national governments, regional and local authorities***.
The policy guidance will make a contribution towards the increase of energy efficiency in cities, in line with the ambitious energy and climate objectives of ***Horizon 2020*** to reduce greenhouse gas emissions by 20%, to increase the share of renewable energy to 20% and to make a 20% improvement in energy efficiency.

WHERE?

BOLOGNA (Italy)

TREVISO (Italy)

VELENJE (Slovenia)

BUDAPEST (Hungary)

MUNICH (Germany)

LUDWIGSBURG (Germany)

PRAGUE (Czech Republic)

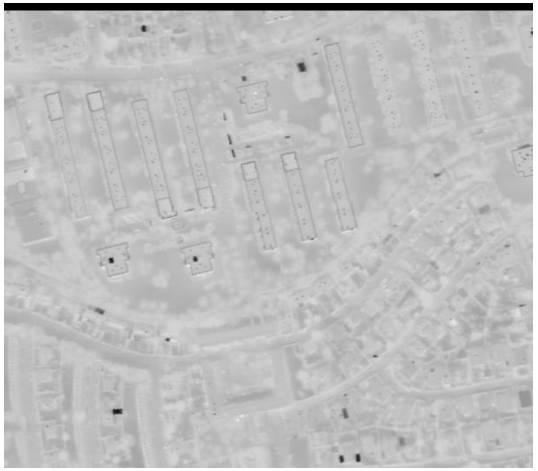
HOW?

Thermo Tracer TS9260 NEC:
a digital thermal camera working in the Near InfraRed spectral field, with a spatial resolution of 640x480 pixel

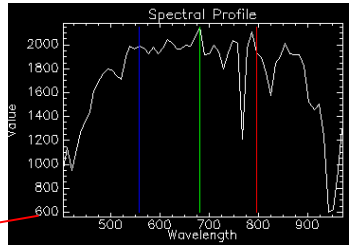
Hyperspectral sensor AISA Eagle 1K:
developed by SPECIM, a digital spectrograph imager working in the Visible Near InfraRed field.

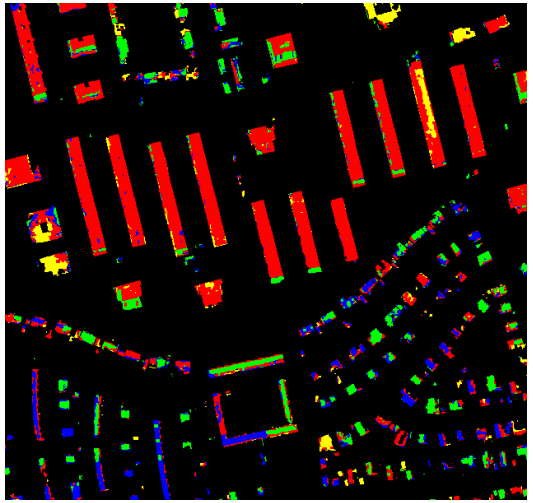
- Airborne thermal images detects on- sensor infrared radiation emitted from roofs
- Hyperspectral images provide information on construction materials through the analysis of spectral signatures
- Images are corrected for atmospheric transmission and surface emissivity effects and therefore provide building's roof surface temperature.

HOW?

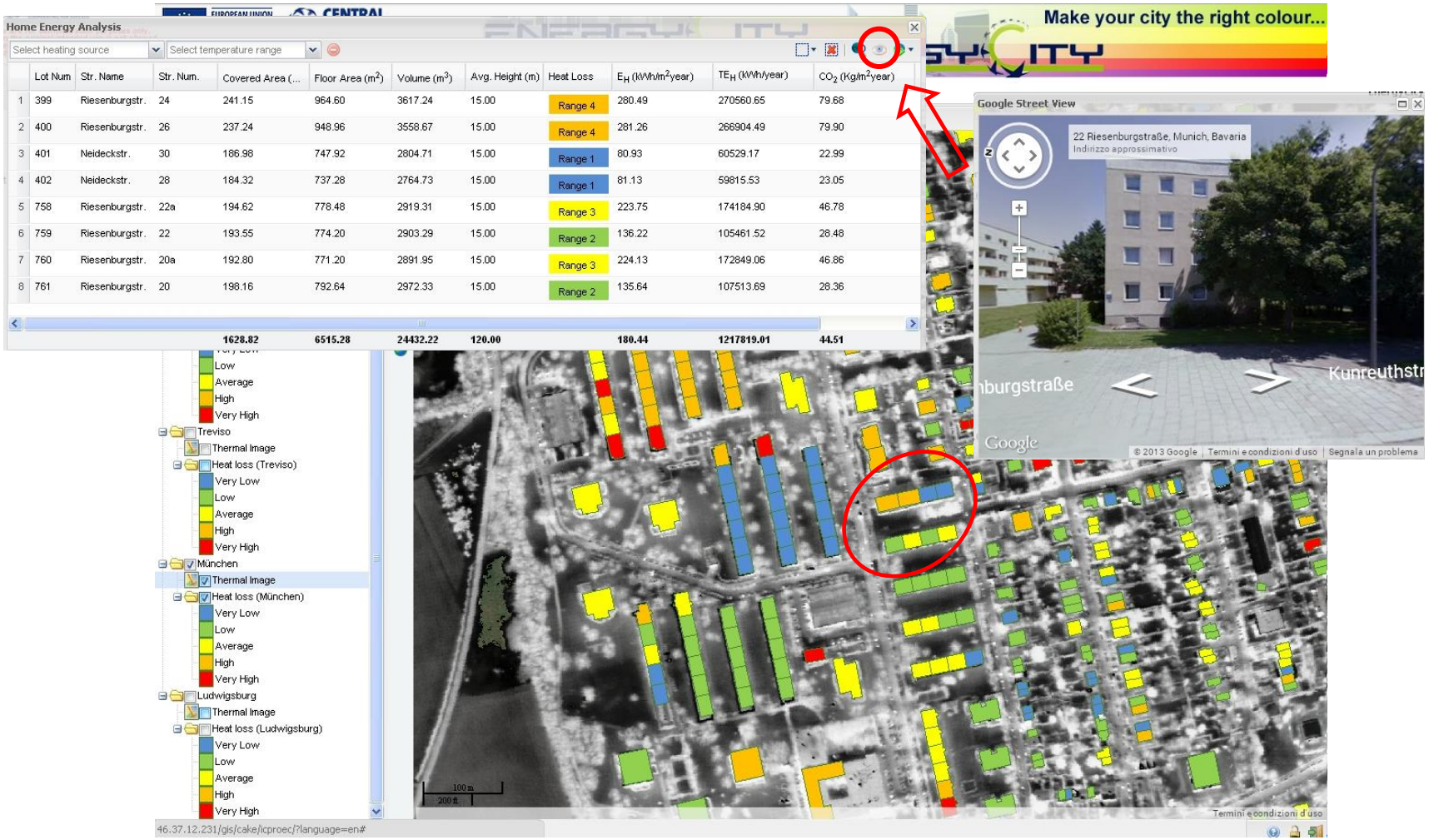


PRES hPa	HGHT m	TEMP C	DWPT C	RELH %	MIXR g/kg	DRCT deg	SKNT knot	THTA K	THTE K	THTV K
1018.0	0	4.4	2.9	90	4.65	0	2	276.1	288.9	276.9
1016.0	28	5.6	3.7	88	4.93	1	3	277.5	291.1	278.3
1000.0	258	5.8	3.6	86	4.98	9	7	278.9	292.8	279.8
993.0	316	6.0	3.7	85	5.05	13	9	279.7	293.8	280.6
979.0	432	5.1	3.4	89	5.01	20	14	279.9	293.9	280.8
963.0	566	4.0	3.0	93	4.95	23	13	280.1	294.0	281.0
953.0	651	3.6	1.2	84	4.40	24	12	280.6	293.0	281.3
950.0	677	3.7	1.1	83	4.39	25	12	280.9	293.3	281.7
937.0	789	4.0	0.8	80	4.35	20	13	282.4	294.7	283.1
925.0	894	3.0	0.2	82	4.22	15	14	282.4	294.4	283.1





RESULTS


Home Energy Analysis
Select heating source
Select temperature range
Lot Num | Str. Name | Str. Num. | Covered Area (...) | Floor Area (m²) | Volume (m³) | Avg. Height (m) | Heat Loss | E_H (kWh/m²year) | TE_H (kWh/year) | CO2 (Kg/m²year)
1 | 399 | Riesenburgstr. | 24 | 241.15 | 964.60 | 3617.24 | 15.00 | Range 4 | 280.49 | 270560.65 | 79.68
2 | 400 | Riesenburgstr. | 26 | 237.24 | 948.96 | 3558.67 | 15.00 | Range 4 | 281.26 | 266904.49 | 79.90
3 | 401 | Neideckstr. | 30 | 186.98 | 747.92 | 2804.71 | 15.00 | Range 1 | 80.93 | 60529.17 | 22.99
4 | 402 | Neideckstr. | 28 | 184.32 | 737.28 | 2764.73 | 15.00 | Range 1 | 81.13 | 59815.53 | 23.05
5 | 758 | Riesenburgstr. | 22a | 194.62 | 778.48 | 2919.31 | 15.00 | Range 3 | 223.75 | 174184.90 | 46.78
6 | 759 | Riesenburgstr. | 22 | 193.55 | 774.20 | 2903.29 | 15.00 | Range 2 | 136.22 | 105461.52 | 28.48
7 | 760 | Riesenburgstr. | 20a | 192.80 | 771.20 | 2891.95 | 15.00 | Range 3 | 224.13 | 172849.06 | 46.86
8 | 761 | Riesenburgstr. | 20 | 198.16 | 792.64 | 2972.33 | 15.00 | Range 2 | 135.64 | 107513.69 | 28.36
1628.82 | 6515.28 | 24432.22 | 120.00 | 180.44 | 1217819.01 | 44.51
Make your city the right colour...
Google Street View
22 Riesenburgstraße, Munich, Bavaria
Indirizzo approssimativo
Google
© 2013 Google | Termini e condizioni d'uso | Segnala un problema
Low
Average
High
Very High
Treviso
Thermal Image
Heat loss (Treviso)
Very Low
Low
Average
High
Very High
München
Thermal Image
Heat loss (München)
Very Low
Low
Average
High
Very High
Ludwigsburg
Thermal Image
Heat loss (Ludwigsburg)
Very Low
Low
Average
High
Very High
100 m
200 ft
Termini e condizioni d'uso
46.37.12.231/gis/cake/icproec/?language=en#

THANK YOU FOR YOUR ATTENTION