



# ENSEMBLE

POUR MOINS DE GASPILLAGE

## THERMOGRAPHY – BRUCITY EXAMPLE

Brucity is a new building that houses the administrative services of the City of Brussels since the end of 2022. Its insulation and energy efficiency are of a high standard. The building produces energy via photovoltaic panels and recovers thermal energy from sewage water to run its air conditioning system.

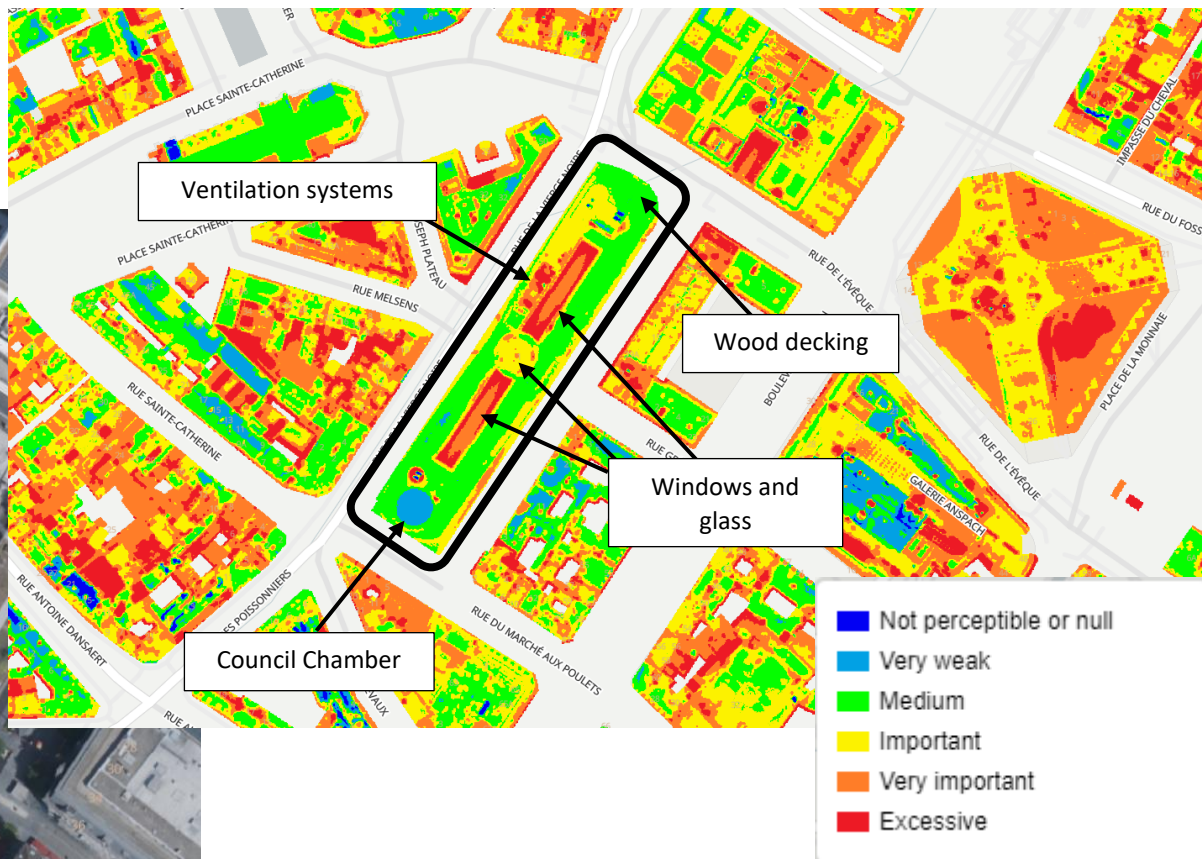
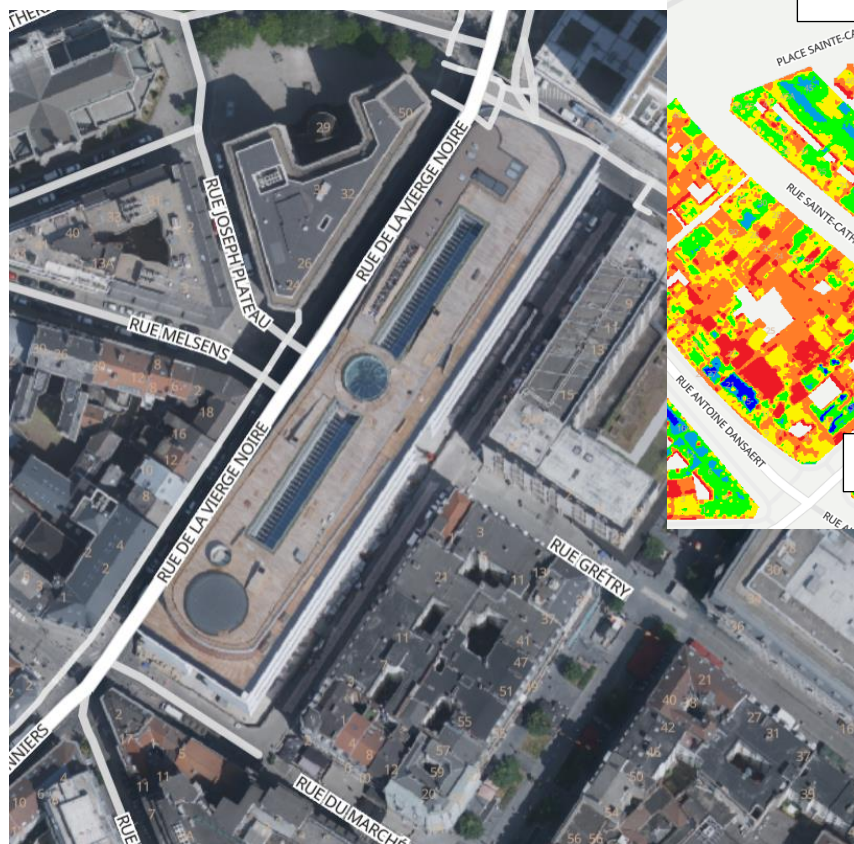
It has been chosen as an example because a series of parameters have a negative impact on the results of thermography. However, when they are analysed more closely, it appears that the building does not in fact have any abnormal energy losses.

On the median layer (the predominant value observed on the roof), we see that the "Brucity" framed in black has green heat loss, i.e. average.

This is not a bad value, but given that this is a new building, we would expect a value closer to blue (very low heat loss). We therefore need to take a step-by-step approach to interpreting the data.



The global layer makes it possible to see, over the entire roof surface, the differences between the roof zones linked to the geometric elements and materials present on the surface.





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By analysing the satellite image, we can see exactly what is on the roof of the building.

We can see that :

- Most of the roof is green. The roof is covered by a wooden deck. Wood is a material that absorbs energy during the day, so this loss value is not representative of the overall insulation of the roof, because even if the roof is very well insulated under the wooden battens, which is the case for Brucity, the area will never appear blue on the thermograph.
- There are zones of glass and windows, such as the two atriums and the central area of the building, which allow light into the building. These areas are orange/red. This may indicate either significant solar reflectance/transmittance, which distorts the reading of heat loss, or greater heat loss than the rest of the roof.
- The area with the technical installations is orange/yellow, because there is heat loss via the pipes/extractors/VMC. This is normal, as the purpose of the pipes is to evacuate heat/ventilate the air. On the other hand, it can happen that a chimney is no longer used in a building. In such cases, this type of infrastructure can be a major source of unwanted heat leakage. In such cases, work can be undertaken to close and insulate the chimney.
- The rooftop/café area at the top left is yellow. We might think that this room is more heavily heated, or that the insulation is less effective than the rest of the building. In fact, it's a green roof, which has the same characteristics as wood (energy radiation). It is therefore not representative of the actual insulation underneath, and this data is not significant in terms of energy losses.
- The council chamber (small round roof bottom left) is shown in blue (very low energy loss) because this small roof is extremely well insulated, and perhaps also because this room was not heated at the time of the photo.