

Building Retrofit using Mixed Reality

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This project is a response to COP26



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The 14th International VR Symposium

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STRONGHOUSE

Sustainable housing for strong communities

€7M budget

Interreg
North Sea Region
Stronghouse

European Regional Development Fund



EUROPEAN UNION

21 partners in Europe

background

- 45% of energy used in the UK is in housing.
- Obligation to reducing CO2 emission by 80% by 2050.
- 40 % of home-owners not confident to improve their homes energy efficiency.
- Teaching technical subject online is challenging.

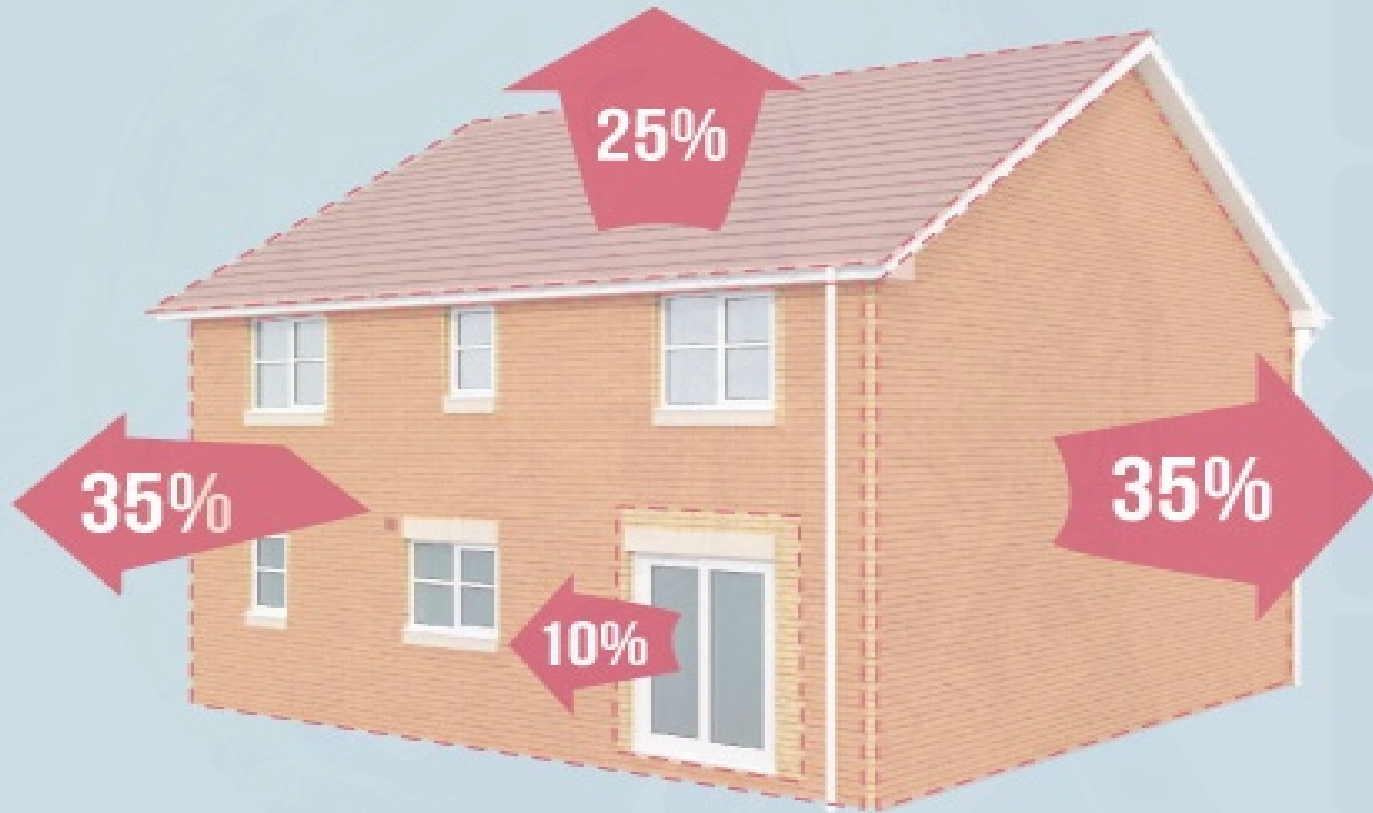
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Objectives

- Home-owners to understand how their homes will be retrofitted.
- To teach practical learning (online) using appropriate technology

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Heat loss in existing buildings



**UP TO 25%
HEAT LOSS
THROUGH
AN UN-INSULATED ROOF**

Old-Existing buildings in the UK



Old-Existing buildings in the Japan





Heat loss of Japanese building (infrared red camera)



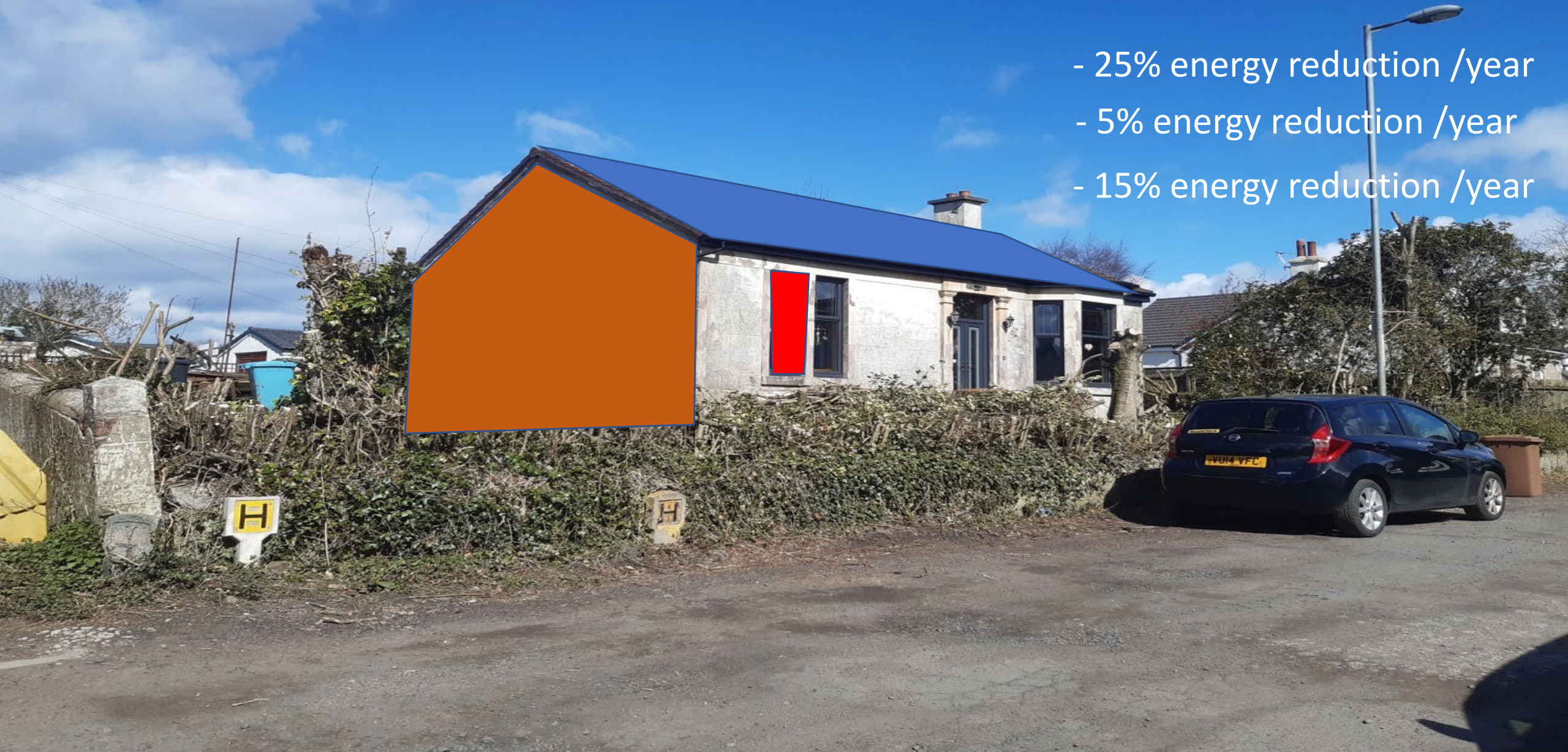
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Case study for experimentation (Glasgow, UK)

- 25% energy reduction /year
- 5% energy reduction /year
- 15% energy reduction /year



Interior of a room to be insulated



Inefficient Tools used to teach and discuss with homeowners



Sitting room used for VR simulation (video to follow)



Further improvement to visualizing the insulation method to homeowners and students.



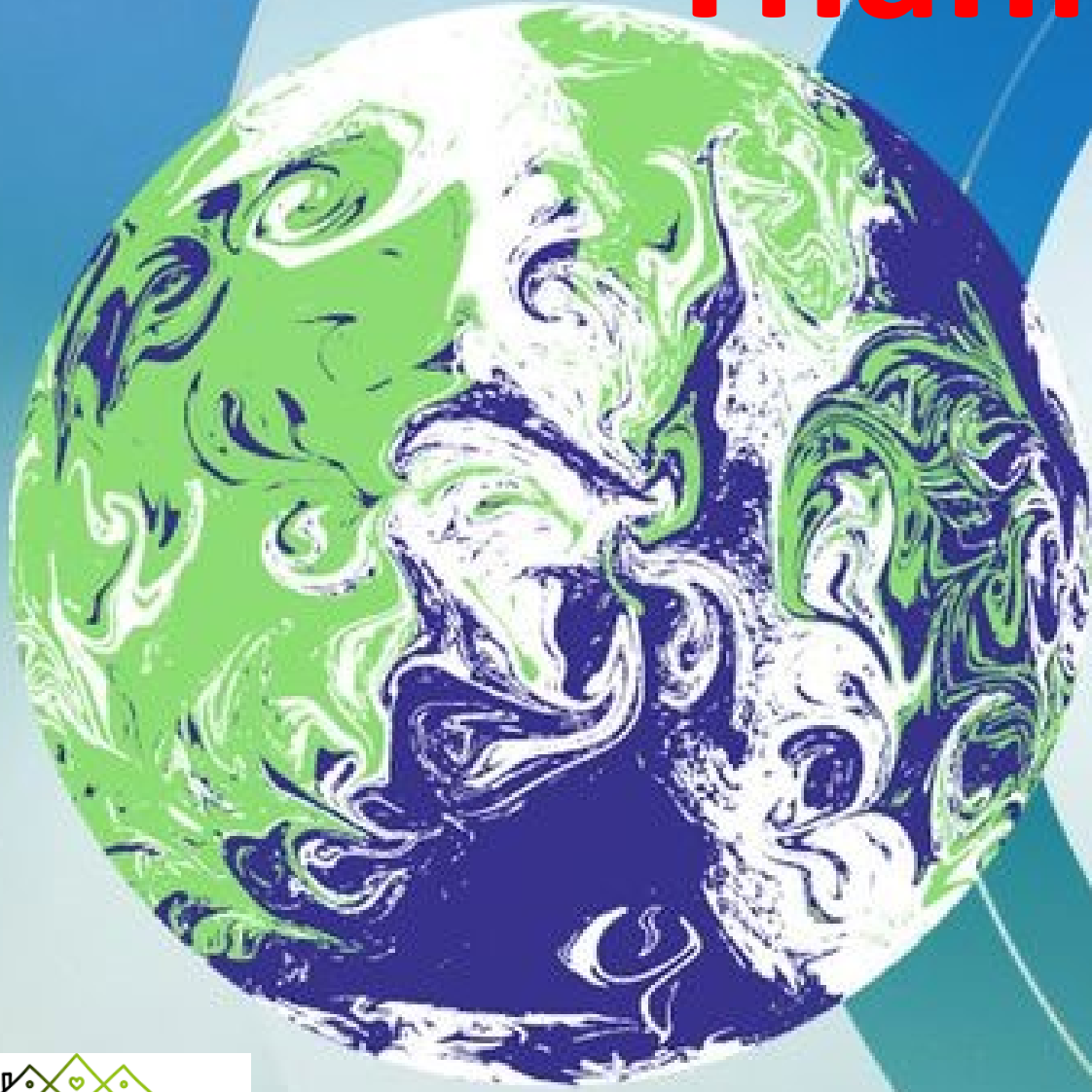
On site with company and homeowner during insulation process.



Job completed as per the visualization



Thank you



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