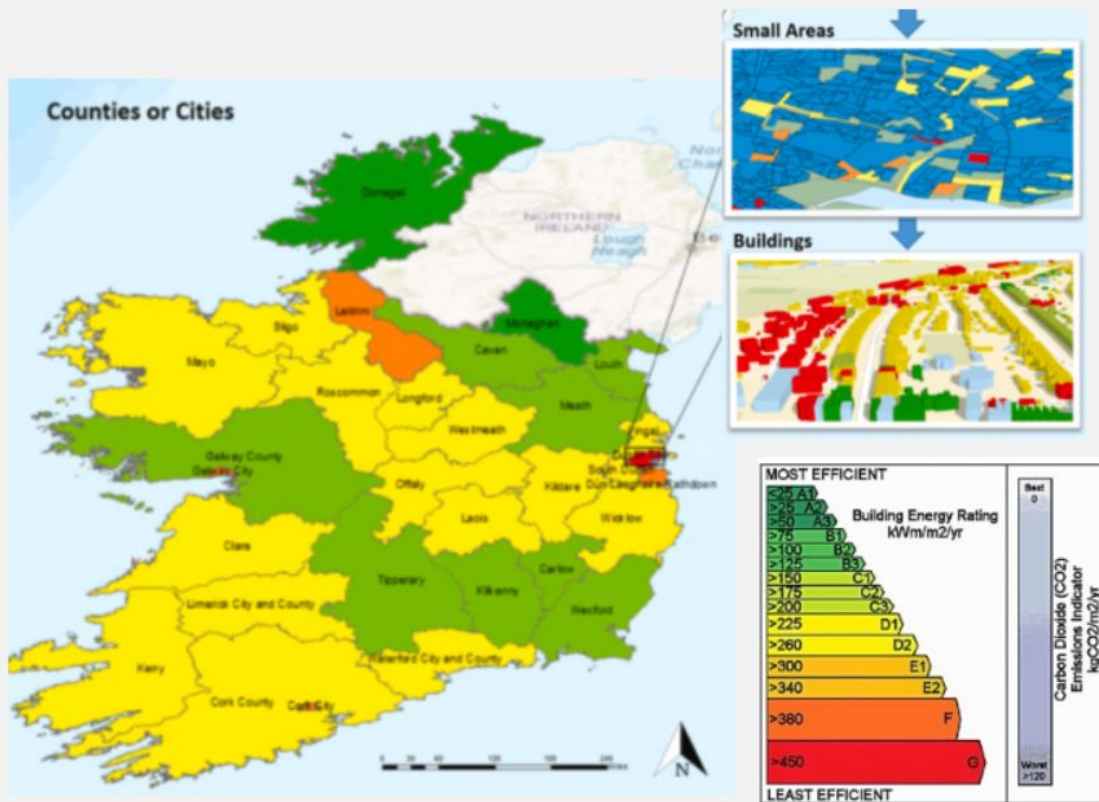


# Building stock insights at multiple scales



source: Ali et al 2020

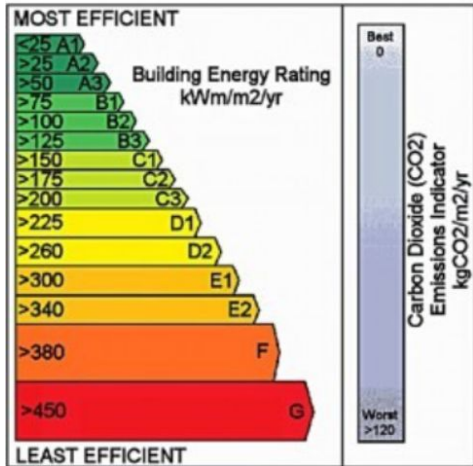
Slide notes:

- Date: 10th June 2022
- Team 1, challenge 1
- EnerGraph application

Members

- Edgar
- Rasmuss
- Francesco
- Conor

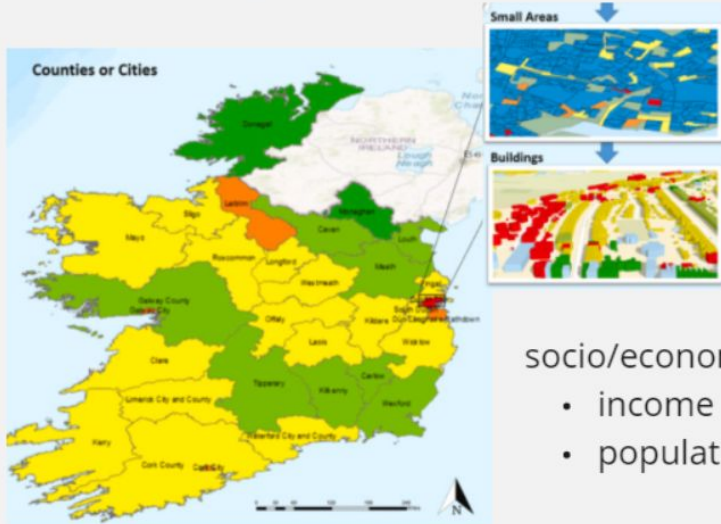
# Energy performance reporting



## Slide notes:

- As consumers we are seeing standardisation of energy reporting
- Buildings included
- Built environment a priority in reducing carbon footprint

# The challenge



source: Ali et al 2020

- Ireland needs to renovate 500,000 homes up to B2 EPC with limited resources

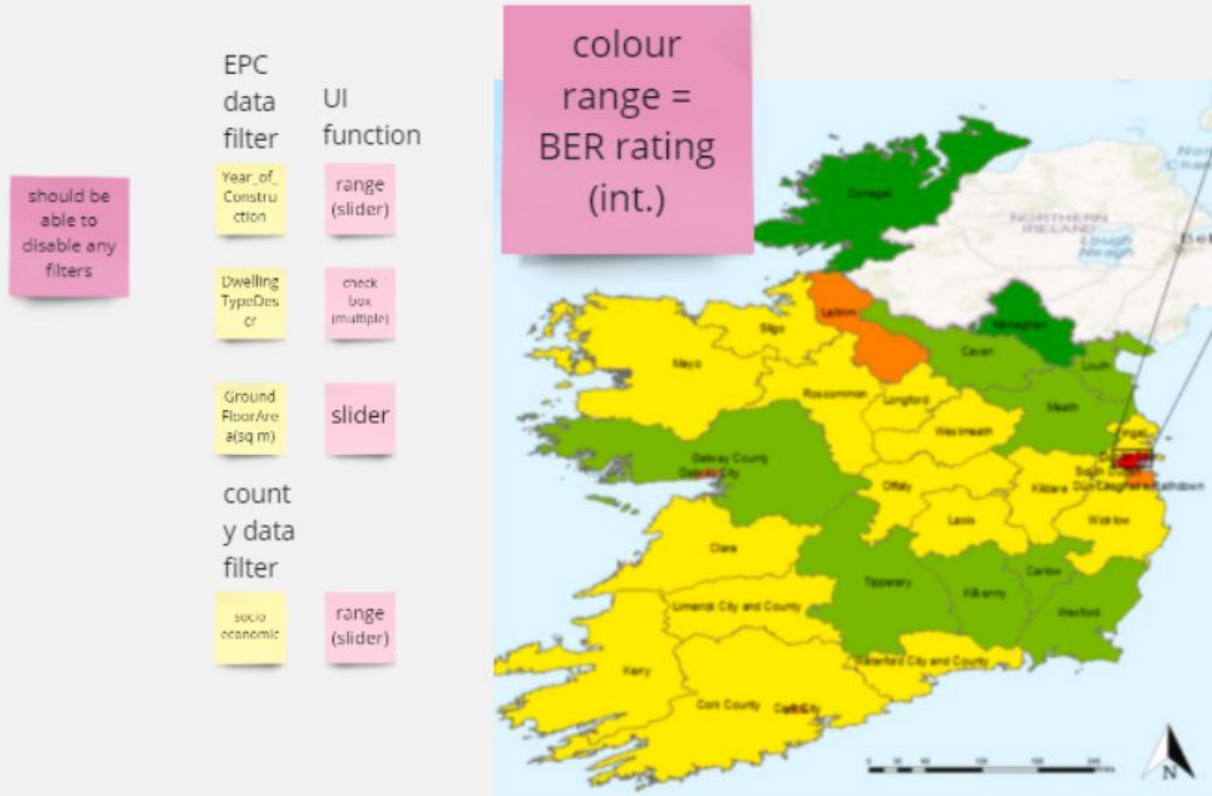
Slide notes:

- Give policymakers ability to drill into and layer on heterogeneous data
- Improve decision making for distribution of scarce resources

socio/economic factors

- income
- population density

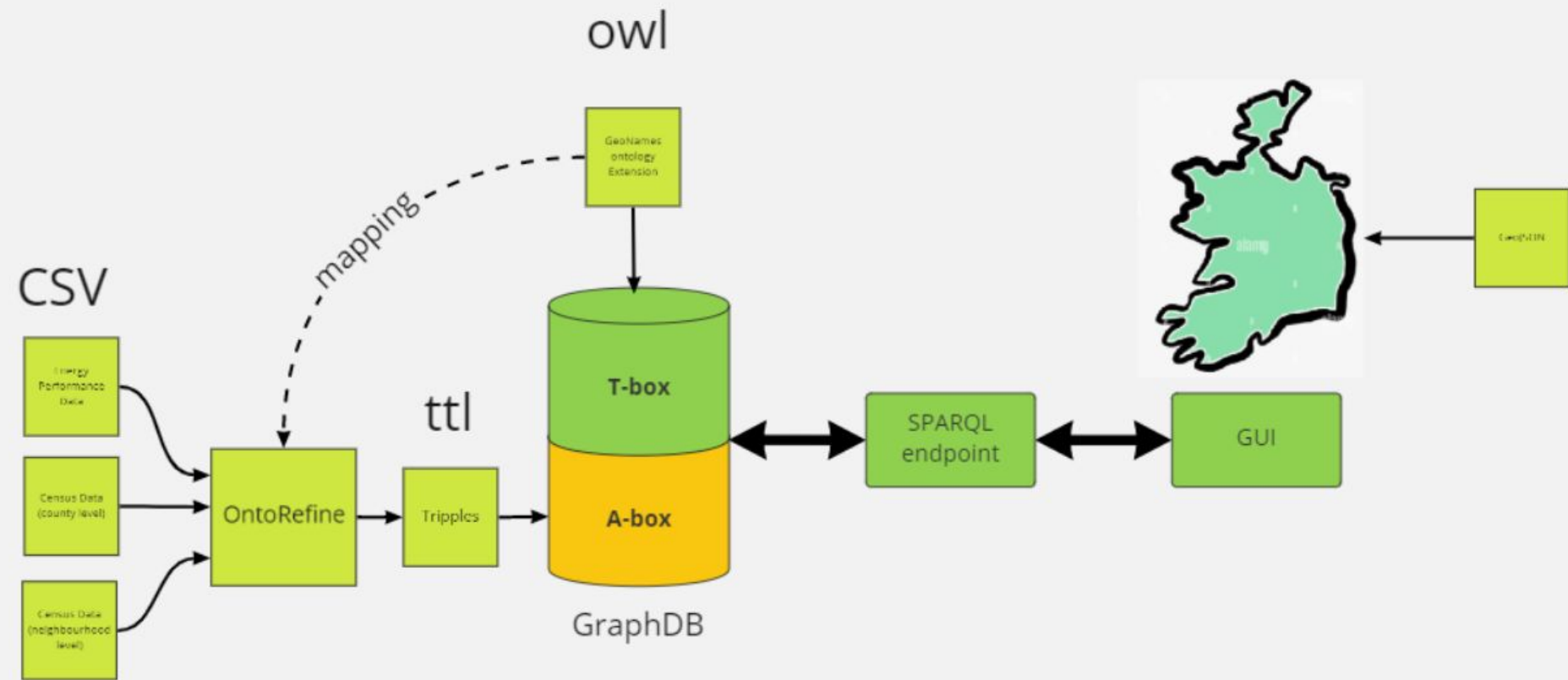
# Sketch development



## Slide notes:

- Define sample energy performance data
- Define sample socio/economic data
- Specify UI functionality

# Development Methodology





# Backend development

See [video](#) for full mapping and conversion to RDF process

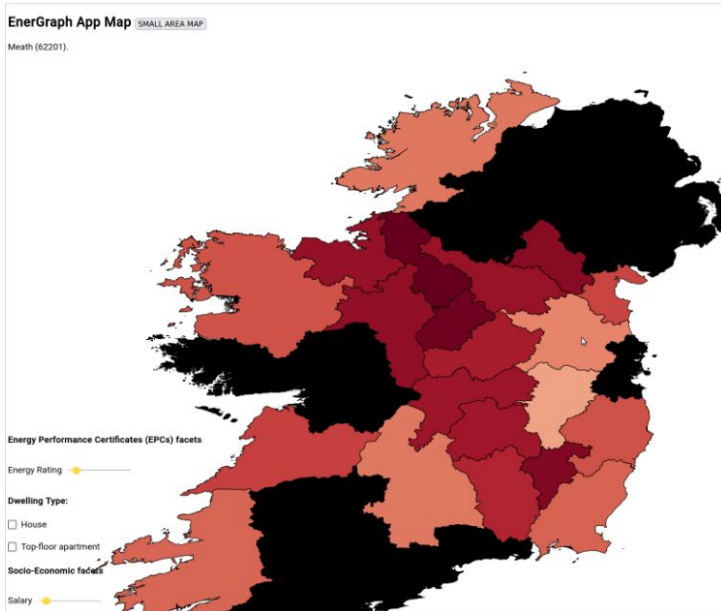


# Prototype GUI demo

Demonstration of pushing data into colour map on county and neighbourhood scale

Slide notes:

- Colour gradient polygons mapped to area data
- Slider bars in bottom left to toggle data streams





# Results

- Demonstrated ETL (extract, transform, load) pipeline, merging 2 datasets
- Mapping capabilities in ontotext were useful
- Existing GeoNames ontology extended for use case aggregation
- RDF tripped created and queried in SPARQL
- User interface demonstrated through prototype
- Enabling policymakers to explore data in an understandable and visual way is an effective means to inform decision making.