

Case Studies





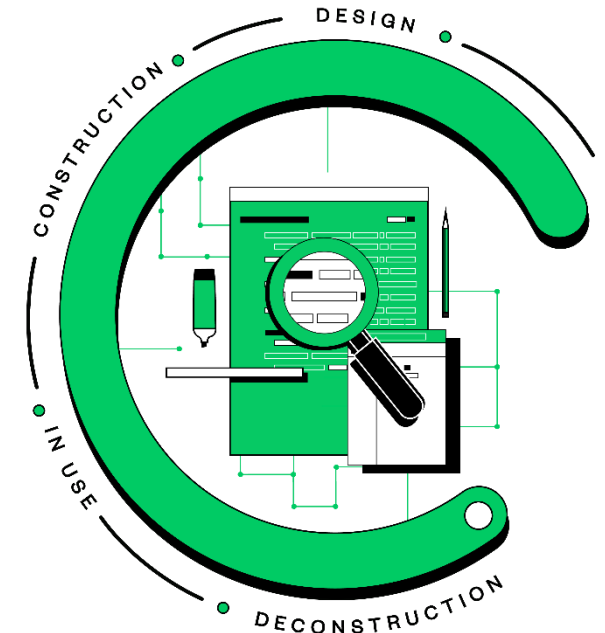
GrowingCircle Project – timeline and goals

September 2020 to September 2022 – 24 months

Awareness and Education of Construction Industry stakeholders for the relevance and role of Data Templates on the construction process and as tool to foster efficiency and circularity.

Development of technical and scientific literature and tools on the topic.

Development of case studies to prove the added-value of using Data Templates, seeking outcomes at construction process, information management and circularity levels.



Partnership with MH, EM for case studies development



Why Custóias?



Custóias is a building complex that is suffering a major refurbishment. The buildings are representative of the social housing in Portugal.

The tasks under development frame on a extensive refurbishment where few building parts are to be maintained.

The ability to follow up the refurbishment is relevant for the development of some case studies.



This refurbishment action, globally or partially, is representative of actions that will take place on a near future.



Case Studies overview



The outcome is to deliver 5 Case Studies targeting the following issues:

- Evaluation of the level of information need for the assessment of sustainable refurbishment actions
- Define requirements to assure Design for Disassembly (DfD)
- Asset Management strategies improvement
- The use of Data for Sustainability – Requirements towards Green Public Procurement
- Ability to perform streamlined waste audits based on Data Templates and BoQ

To support these outcomes there are ground case studies that need to be developed to prepare the data and the elements streamlining the abovementioned analysis.

Case Study#00

Case Study geared to Cost Analysis

Sets the base and comparison framework for other case studies
Characterization of the intervention and economic relevance of building components
Evaluation of the BoQ – Bill of Quantities items and their value
Development of cost KPI's for this type of intervention

New potential deliverable:

Possibility of generating automatic generation
from 2D Plans using Plans2BIM tool





Case Study#01

Data Templates evaluation

Based on the BoQ the case study will identify the total amount of Data Templates for the construction phase of the intervention and how do the Data Templates relate with tasks and construction objects if there was a 3D model.

Following, the analysis of the Data Templates properties aims to set guidance for the level of information need to perform the assessment of more sustainable refurbishment actions.





Case Study#02

Design for Disassembly

This case study aims to explore how BoQ need to be improved in terms of organization and detail for the deconstruction items, seeking to improve several processes and provide the required information to perform pre-desconstruction sustainability and waste assessments.

New potential deliverable:

Use the CAIA tool to perform the assessment and evaluation of the building prior to refurbishment





Case Study#03



Data Gaps and Asset Management

Analysis of the properties defined in Data Templates and the data delivered by manufacturers for specific products to be placed in this intervention.

Definition of requirements to structure the Asset Management dimension at early phases, as design.



Case Study#04



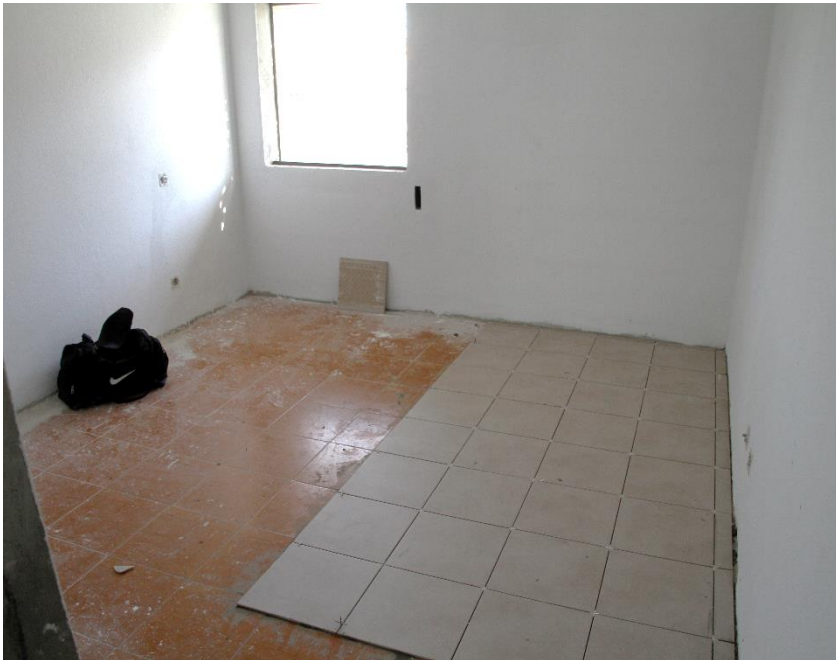
Data for Sustainability

This case study aims to use the intervention characterization to define relevant aspects to consider when suggesting sustainability and green public procurement criteria.

The case study might lead to several outcomes/parts depending on the type of guidance proposed. One of the expected outcomes is the assessment of sustainability and circularity by performing tests with several tools/methodologies.



Case Study#05



Waste Audits

This case study aims to deliver Waste Audits for future projects together with the design documents.

As well, it aims to structure new formats, using Data Templates, to foster products circularity, by using the same data and the same structures used for their initial characterization.

New potential deliverable:

The use of the CAIA tool can provide relevant outputs by supporting this case study



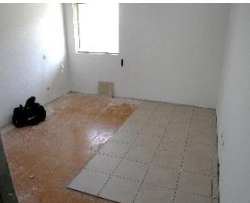
Case Studies in a Nutshell



#01 Data Templates evaluation



#03 Data Gaps and AM



#05 Waste Audits

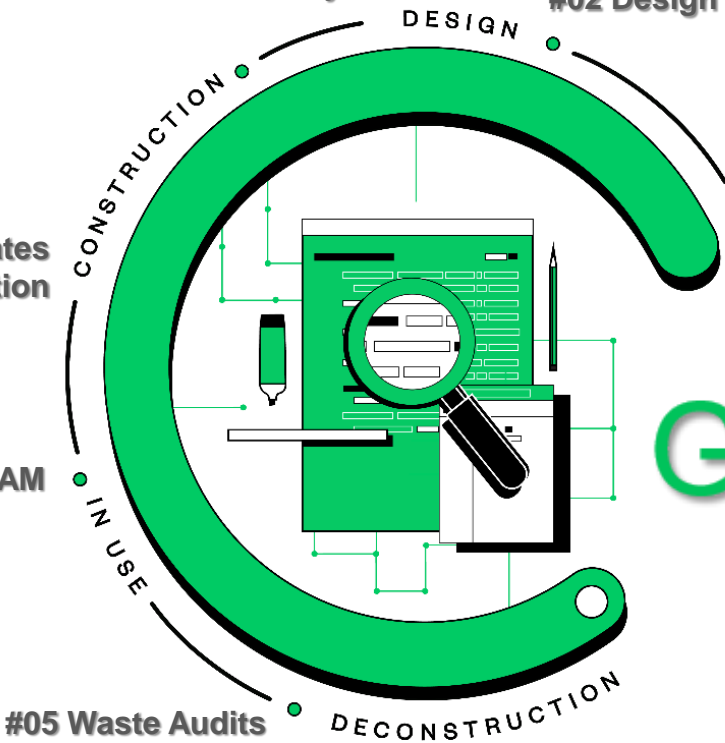


#04 Data for Sustainability



#02 Design for Disassembly

#00 Cost and Characterization



GrowingCircle