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# CELISE 2022 meeting

## WP2: Social business model tools

*INOCURE SRO - INOCURE*

7<sup>th</sup> December, 2022





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# Objectives

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- Transfer of knowledge about
  - (i) stakeholder needs and smart territories in rural and SMEs in relation to biomass processing
  - (ii) use of mathematical tools for modelling and simulating small biorefineries
  - (iii) design of intelligent communities and automisation of biomass processing in rural areas and SMEs
  - (iv) life cycle assessment tool for making decision about new business models in biorefinery.
- Create knowledge about
  - (i) new algorithms in smart communities for using biorefineries in rural areas
  - (ii) new business models of biorefineries and new portable pieces of equipment in rural areas
  - (iii) and new mathematical models by artificial neural network analysis in biorefinery.
- Skill development for choosing the best processing steps in biorefinery.



# Tasks and secondments done

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- **Task 2.1. Stakeholder needs, business model creation and automisation. (Leading by AUTH)**  
**M10-M23**

Juliana Benavides from UCC did a secondment at UC:

- **T2.1 Community characterisation towards empathy map (business models)**
  - To contribute in the development of best business models in the rural and vulnerable areas taking into account the results in rural and vulnerable communities worldview. Once business model has been selected, the main portable pieces of equipment for the pretreatment of biomass will be preliminary designed taking into account the material and the main physical and mechanical properties.
  - In this case, the contribution was by the study of the producers and business models in rural areas, considering coffee and cocoa products and residues.
  - Skills about the use of Multi-Criteria Analysis tools and the skills of a rural business micro-company (Besarte Fibre Natural) to produce artisan products from cellulose were learned. The Multi-Criteria Analysis tools can be applied to study the best business models taking into account not only the economy of the process but also the technical, environmental and social issues.
  - Cooperation in research networks and working relationships with the GER group
  - Meetings with UC Archives staff to discuss insights and ideas on the use of cellulose-based products from waste paper materials as a writing medium.

UNACH, UCC and UC:

- Working sessions to finalise details of the doctoral thesis tutoring of Carlos Burgos from UNACH and Juliana Benavides from UCC. Training on multi-criteria and optimization analysis.



# Tasks and secondments done

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- **Task 2.2. Simulation and optimisation of the processes (Leading by UC) M13-M35**

No tasks have been done

- **Task 2.3. Artificial neural network (Leading by UPM) M15-M37**

No tasks have been done

- **Task 2.4. Life Cycle Assessment (Leading by NIBIO) M21-M41**

**Oskars Bikovens from LS-IWC at UCC:** Discussion with Paola Acevedo and training about LCA (Aspen+) using in UCC.

- **Task 2.5. Smart territories information management (Leading by UCC) M22-M44**

No tasks have been done

- **Task 2.6. Design of portable pieces of equipment (Leading by TWI) M41-M46**

No tasks have been done



# Deliverables, Milestones and deadlines

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Number	Title	Beneficiary	Type	Dissemination level	Deadline
D2.1	Business models and needs for SMEs and rural areas in cellulose-based products	UC	Report	Public	M23
D2.2	Mathematical tools in small biorefineries: artificial neural network models, simulation and optimisation, and LCA	NIBIO	Report	Public	M41
D2.3	Smart systems in small biorefineries	UC	Report	Public	M44

Number	Title	Beneficiary	Deadline
MS2	Best business models in SMEs and rural areas	UC	M41
MS3	Preliminary design of portable pieces of equipment for biomass processing	TWI	M46



# Future work

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**Task 2.1. Stakeholder needs, business model creation and automation. (Leading by UCC) M10-M23**

**Task 2.2. Simulation and optimisation of the processes (Leading by UC) M13-M35**

**Task 2.3. Artificial neural network (Leading by UPM) M15-M37**

Number	Title	Beneficiary	Type	Dissemination level	Deadline
D2.1	Business models and needs for SMEs and rural areas in cellulose-based products	UC	Report	Public	M23