



**POWER4BIO**  
REGIONS FOR  
BIOECONOMY



**Junta de Andalucía**  
Consejería de Agricultura, Ganadería,  
Pesca y Desarrollo Sostenible



[Cross-visit Andalusia] | [Seville-online], [Day 1- 20<sup>th</sup> October 2020]

[Nati Pérez-Camacho, PhD] – [CAGPDS]

This project has received funding from the European  
Union's  
Horizon 2020 research and innovation programme  
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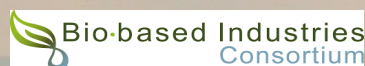




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# ICT-BIOCHAIN project: Biomass resource platform



**ICT - BI  CHAIN**



This project has received funding from the Bio Based Industries Joint Undertaking under the European Union's Horizon 2020 research and innovation programme under grant agreement No 792221



# ICT-BIOCHAIN project



- Coordinated by Andalusian Regional Ministry of Agriculture, Livestock, Fisheries and Sustainable Development
- Start date: 01/06/2018
- End date: 31/05/2020
- 8 partners from 5 countries



**ICT - BIOCHAIN**



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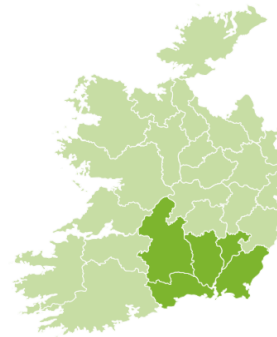
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# ICT-BIOCHAIN background



- S-E Ireland and Andalusia were selected as Model Demonstrator Region for Sustainable Chemical Production by the European Commission in 2016\*.

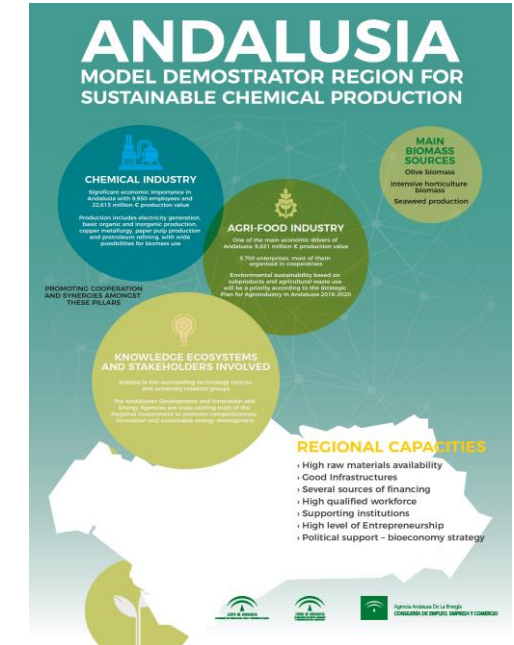
HIGH-POTENTIAL MODEL DEMONSTRATOR REGIONS:  
DIH TEST BED LOCATIONS FOR BIOMASS MOBILIZATION



South East IRELAND



Andalusia SPAIN



\*<https://www.juntadeandalucia.es/expo rt/drupaljda/IRA> Andalusia english.pdf



Bio-based Industries Consortium



ICT - BIOCHAIN

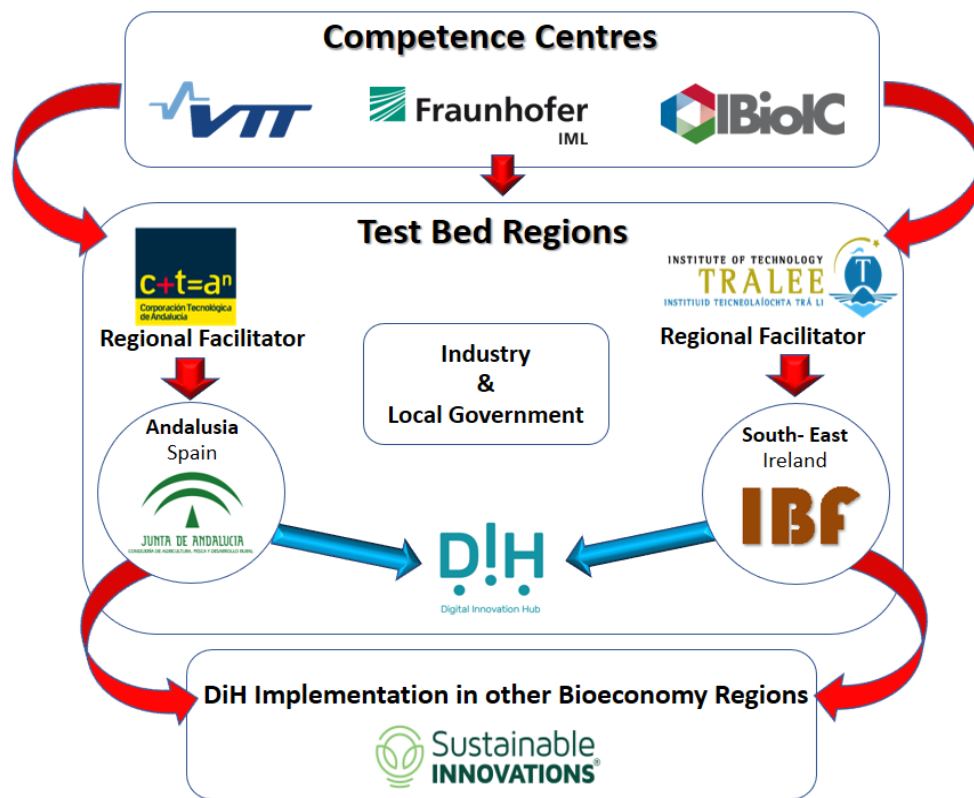


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# ICT-BIOCHAIN partners



**Competences Centres:**  
VTT, IML, IBioIC  
**Regional Facilitators:**  
CTA, ITT  
**Demonstrator Regions:**  
Andalusia and S-E Ireland



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# ICT-BIOCHAIN objectives



- **Identification of opportunities for ICT to increase the efficiency of biomass supply chains for the bio-based industry.**



Establish multi-actor **Digital Innovation Hubs** (DIHs) for biomass supply chains within the Model Demonstrator Regions for Sustainable Chemicals: S-E Ireland and Andalusia.



Develop **region-specific bio-resource data models** and provide access within hubs to best knowledge, information and technology to promote opportunities for state-of-the-art and new ICT, IoT and Industry 4.0 solutions to be integrated into biomass supply chains.



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# ICT-BIOCHAIN project results

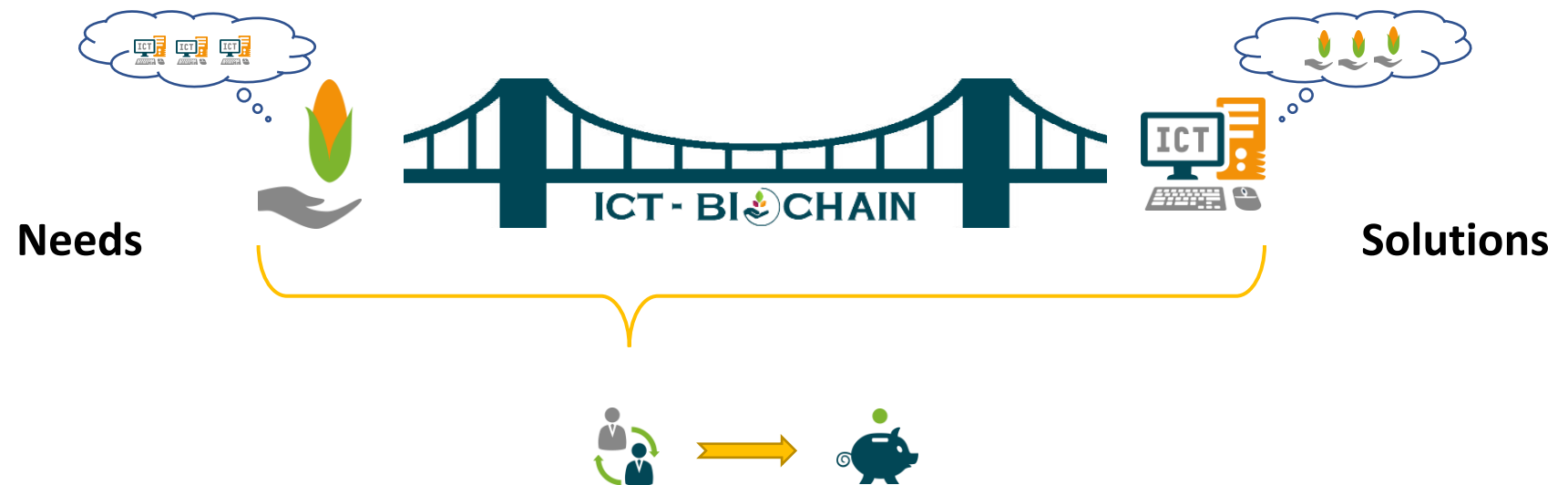


## Bioresource modelling importance:

Developing business cases for new biobased value chains:

- Feedstock amount
- Location
- Availability
- Cost

Bridging bioeconomy stakeholders and technology developers



Bio-based Industries  
Consortium



## ICT - BIOCHAIN



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# ICT-BIOCHAIN project results



## Bioresource modelling

- Each model for each region is focused in **3 value chains**. S-E Ireland: lignocellulosic, horticulture and manure; Andalusia: horticulture, olive, algae.
- Developed by **Ricardo Energy and Environment and IBioIC** (Industrial Biotechnology Innovation Centre in Scotland).
- Aim: analyse the potential of biomass for **biorefineries** installation.



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# ICT-BIOCHAIN platform



<https://ictbiochain.eu/platform/>



Bio-based Industries  
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ICT - BIOCHAIN

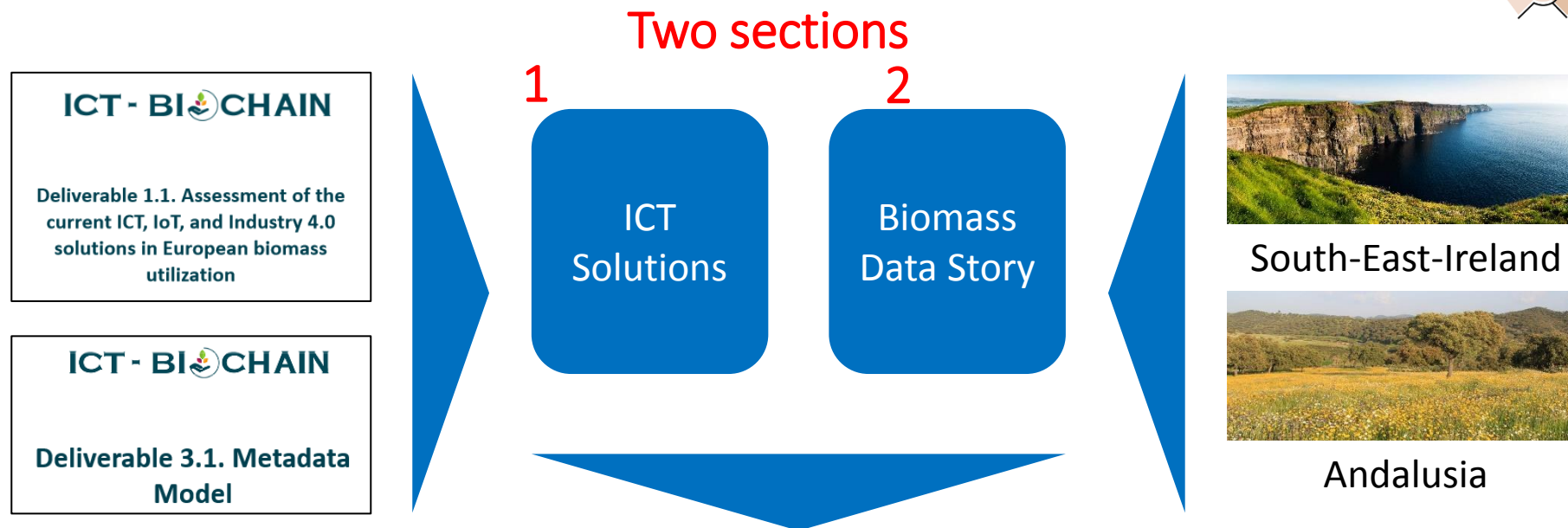


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# ICT-BIOCHAIN platform



# ICT-BIOCHAIN platform



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## ICT - BIOCHAIN

[ABOUT ICT BIOCHAIN](#) ▾   [DIGITAL INNOVATION HUBS \(DIHs\)](#) ▾   **[PLATFORM](#)** ▾   [PUBLICATIONS](#)   [LAST NEWS & EVENTS](#)   [CONTACT US](#)   [PRIVATE AREA](#)   [UK](#)

### ICT Solutions

Search

Filter:

TRL:  Country:  Subsector:

84 Results (3 milliseconds)

Greenhouse Technology (Heat Reuse, Vertical Farming)

RND: Novarbo Oy  
TRL: TRL 9  
Country: Finland  
Into Service: 1994.0  
Websites: <https://www.novarbo.fi/en/greenhouse-technology.html>  
Subsector: Industry 4.0  
Contact: <https://www.novarbo.fi/en/contacts.html>  
General Info:  
The Novarbo Greenhouse Technology system includes greenhouse cooling, climate control, moisture removal and heat reuse. As a new hardware application, a Vertical Farming solution that combines all areas of the system is offered.

Search

Filter

Results



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# ICT-BIOCHAIN platform

## ICT Solutions

Forest

Filter:

TRL:  Country:  Subsector:

58 Results (10 milliseconds)

**felixFORST (forest) >**

RND: Felix Tools Ges.m.b.H.  
TRL: TRL 9  
Country: Austria  
Websites: <https://www.felixsystems.at/felixtools/felix-forst/>  
Subsector: ICT  
Contact: [office@felixsystems.at](mailto:office@felixsystems.at)  
General Info:  
Wood trading software for supervision and evaluation of timber tradings. Based on the FHPDAI data exchange standard, it provides detailed information on dimension, number of pieces, assortment distribution, costs, revenues, inventories and much more. Digital imaging ensures more transparency, speeds up and facilitates process execution in real time. felixFORST is the optimal tool for all forest owners, forest managers, foresters, timber merchants.

**WinGIS**

RND: PROGIS Software GmbH  
TRL: TRL 7-9  
Country: Austria  
Websites: <http://www.progis.com/>  
Subsector: ICT  
Contact: [office@progis.com](mailto:office@progis.com)  
General Info:  
Spatial engine, very fast and powerful object-oriented GIS with its own development environment, developed with focus on agriculture, forestry, and environment and natural risk-management

Search and filter

More details





# ICT-BIOCHAIN platform



+34 955 03 25 15 [ict-biochain.capder@juntadeandalucia.es](mailto:ict-biochain.capder@juntadeandalucia.es) [YouTube](#) [Twitter](#) [LinkedIn](#)

## ICT - BIOCHAIN

ICT-BIOCHAIN DIGITAL INNOVATION HUBS **PLATFORM**  PUBLICATIONS E-LEARNING MATERIALS NEWS CONTACT

### PLATFORM

ICT Solutions

Biomass Data Story



#### ICT Solutions

The first part of the platform offers the results of Deliverable 1.1 "Assessment of the current ICT, IoT, and Industry 4.0 solutions in European biomass utilization" in a searchable and filterable web application. The searchable characteristics are based on Deliverable 3.1 "Metadata Model". The functionality of adding and editing ICT solutions is currently only granted to the consortium.

If you have any feedback, please contact us, either if you need further information or may you want to participate by showing a solution in the platform.

#### Biomass Data Story

The second part of the platform showcases some of the results from the generation of specific biomass data models for the two demonstrator regions, Andalusia and South-East Ireland, thus will provide examples of the output that can be extracted from the models from Deliverable 1.2 "Report on Region Specific Data Models". The data story shows a stacked bar chart for materials arising by region for one of the value chains.

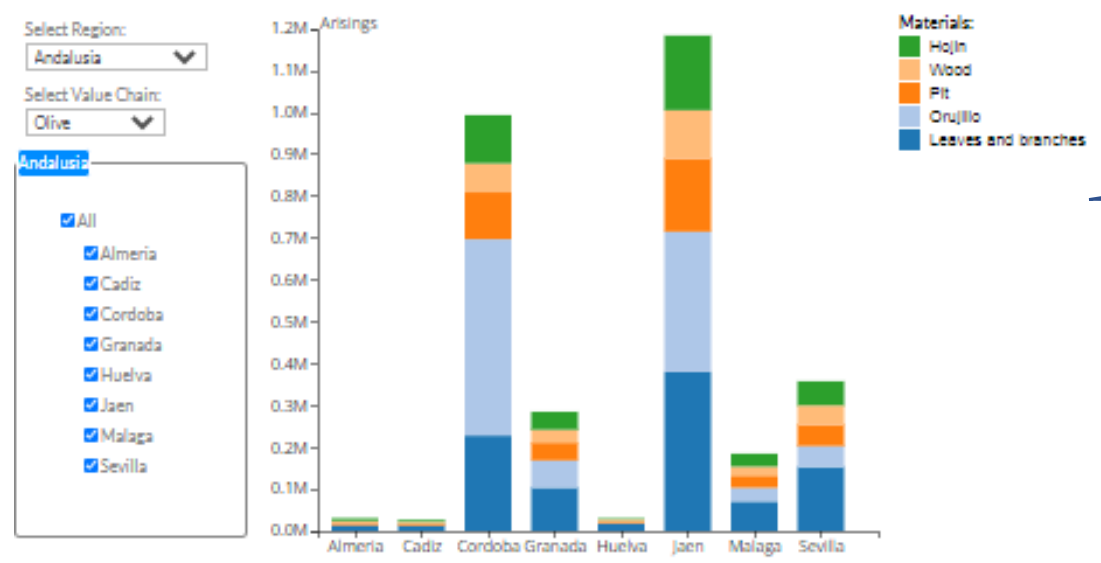
In case you require further information, please contact us or directly one of the Digital Innovation Hubs (DIHs) managers as they can provide a deeper understanding of the model results for both regions.

# ICT-BIOCHAIN platform

Select region  
and value chain

## Prototype explanation

The following biomass data story summarises the possibilities of the ICT-BIOCHAIN platform. It shows an indicative of the full functionalities of the models. The region of Andalusia data model looks at biomass from olive, horticulture and algae, while the model for South-East Ireland uses lignocellulose, horticulture and manures. [Read more...](#)



Results for  
selected region

It shows the heat  
map

**Options**

**Show protein heatmap**

**Protein Heatmap Explanation**

The heatmap illustrates the geographical bioresource density (tonnes of protein) across Andalusia (Spain) or Ireland. It depends on what region you selected.

**Get in contact**

**Digital Innovation Hub**

You will be directed to the Digital Innovation Hubs main page for more information. There you can get in contact with the experts.

**Get in touch regarding the ICT-BIOCHAIN Platform**

**ICT-BIOCHAIN Platform**

If you want to send us feedback, comments or questions related to the ICT-BIOCHAIN platform, please, send us an email

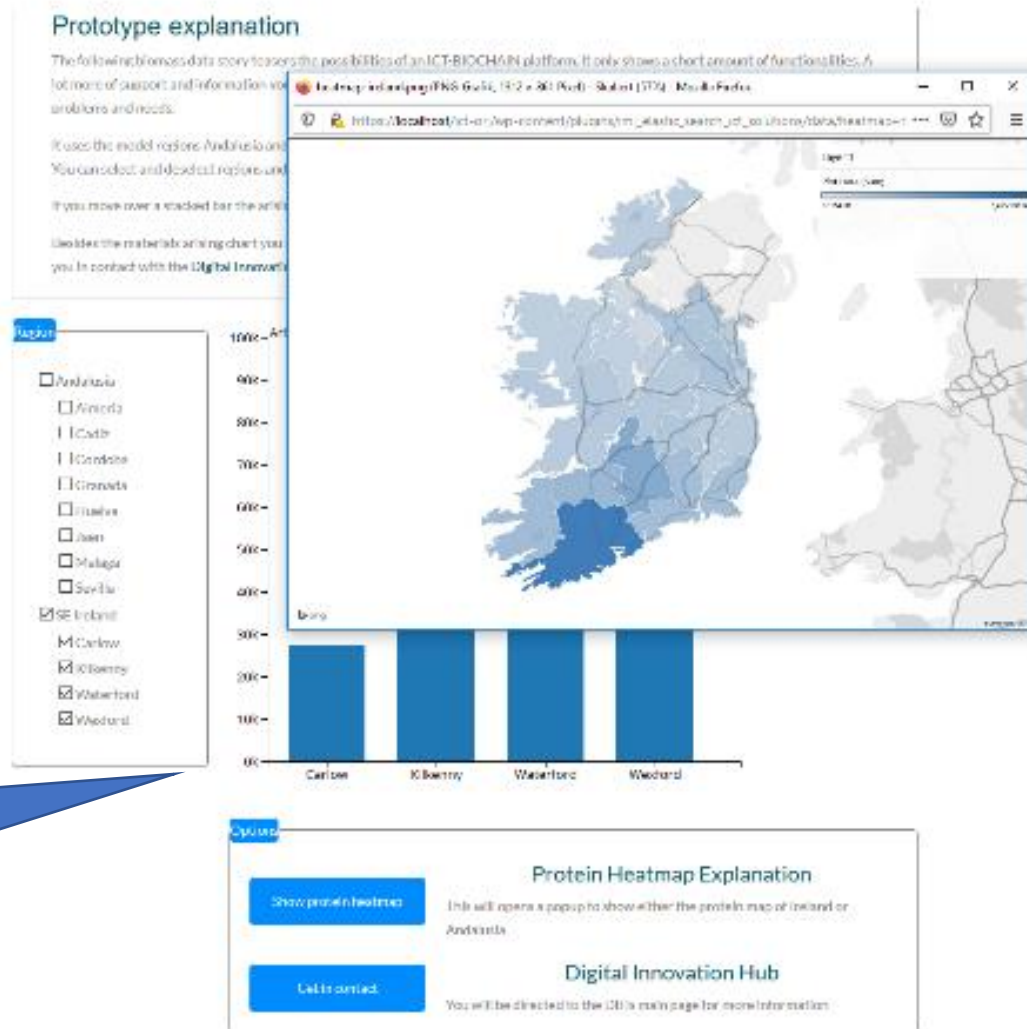
Get in touch



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# ICT-BIOCHAIN platform

## Biomass Data Story



It shows the heat map. E.g. proteins in Ireland for lignocellulose



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# Conclusions



- The use of **ICT** is needed to boost the biomass value chains in the bioeconomy sector for biomass supply chains mobilisation.
  - 2 **DIH** as regional structures for the development of the bioeconomy in a sustainable way by cooperation and mobilisation of the main actors at regional level, were formed, being able to be replicated in other bioeconomy regions.
- 

- A **prototype platform and biomass data model** were developed during the project timeline.
- **Website & platform** (+2 yrs; May 2022): ICT solutions, biomass data, contact and e-learning materials for extra information.



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# Website and social media

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**[www.ictbiochain.eu](http://www.ictbiochain.eu)**



**[ictbiochain.eu](http://ictbiochain.eu)**



**[@ictbiochain](https://twitter.com/ictbiochain)**



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# Thank you for your attention!

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