

BIOCHAIN

**Integrated, efficient and
competitive biomass management**



Financiado por
la Unión Europea
NextGenerationEU



Plan de Recuperación,
Transformación
y Resiliencia





BIOCHAIN

BIOCHAIN: Towards sustainability

What is BIOCHAIN?

What are the benefits of BIOCHAIN?

Why Altim®?



BIOCHAIN: Towards sustainability

The growing demand of a model of responsible production and consumption has led society to consider the **research of respectful alternatives with the environment and people.**

Thus, solutions with a positive impact on our planet are positioning themselves in the market and leading changes towards a green economy. In this sense, within the framework of the energy transition, **biomass plays a fundamental role** due to its intrinsic characteristics as a respectful with nature material.



BIOCHAIN: Towards sustainability

Biomass is one of the renewable energies with the greatest future and potential in Spain because we have great means to generate it, such as agricultural and forestry resources.

However, we are still far from the desirable levels and from exploiting it as it should be, as the global commitment to reduce climate change means that **legislation is constantly changing**. The biomass sector is following these changes and needs to find the right plans to meet the current and future needs of its supply chain.



What is BIOCHAIN?

In order to fit with the European RED II regulation that aims to reduce CO2 emissions from 27% to 30%, Altim has developed BIOCHAIN, a solution based on blockchain technology that uses Big Data and Artificial Intelligence to ensure the procedure, documentation and traceability of the different biomass collection and distribution processes.



BIOCHAIN is the development of a software system that **provides data** and accurate **traceability** of biomass throughout the entire supply chain.



It **verifies the status** of the product, from the very beginning, right through to the transport and manufacturing processes.



It is a disruptive solution for all actors operating within the biomass sector who need to demonstrate that **they meet the requirements of the new European Renewable Energy Directive (EU 2018/2001 RED II)**.



In this case, companies that have BIOCHAIN integrated into their processes will be able to verify the necessary points to certify the sustainability of the processes, as the **information** they access is **100% transparent and truthful**. This way, **BIOCHAIN** proposes a new model of sustainability and circular economy, **bringing digitalization closer to biomass management**.

Which benefits does BIOCHAIN have?



Firstly, it involves the **reduction or elimination of waste** that is often polluting, as well as **reducing the risk of fires caused** by the burning of stubble and agricultural pruning.



Secondly, it **reduces the costs associated with its management**, and even becomes a resource generating additional income for its producers.



Finally, biomass management **generates a large amount of jobs**, especially in rural areas.

Which needs give rise to BIOCHAIN?

Actor 1. Consumer industry.

The supply process currently suffers from some shortcomings::

- ❖ Confidence in the source of supply
- ❖ Cumbersome and deficient document management processes.
- ❖ Difficultness or impossibility to access valuable data on biomass (source materials, moisture, contaminants, etc.).

Actor 2. Processing industry.

Nowadays, not having complete information with traceability on biomasses causes:

- ❖ Inefficiency in the purchase and supply of biomasses.
- ❖ Inefficiency in the allocation of resources
- ❖ Lack of guarantees in handling and transformation.



Which needs give rise to BIOCHAIN?

Actor 3. Collection and transport logistics

Currently, not having complete and traceable information on biomasses causes:

- ❖ Inefficiency in the allocation of resources
- ❖ Loss of information in the improvement of processes
- ❖ Lack of guarantees in collection, handling and transport.

Actor 4 Producers

Currently, not having complete information with traceability on biomasses causes:

- ❖ Lack of control guarantees in terms of quantity and quality.
- ❖ Lack of collection guarantees
- ❖ Loss of opportunities to improve production processes.



Which needs give rise to BIOCHAIN?



Actor 5. Control authorities

Nowadays, the lack of complete traceability information on biomasses causes:

- ❖ Traceability control is very complex and inefficient.
- ❖ Numerous loopholes in the control chain leading to fraud
- ❖ High costs

BIOCHAIN



Which are BIOCHAIN's goals?



- ❖ Contribute to a more stable supply of biomaterials, as direct access to real-time data and information on the different sources of biomass generation is achieved.
- ❖ Promote the digitalization of the agroforestry world, helping to streamline and make the sector more visible by leading technologically towards more complete and mature tools.
- ❖ Enable control of the biomass production chain to be maintained.
- ❖ Providing a solution to the problem of data explosion to reduce the cost of the whole system and increase the performance of data query and management.
- ❖ Ability to verify immutability through data integrity.

Which technologys have **BIOCHAIN?**



Blockchain based on EPCIS.



Cloud infrastructure based on Context Broker for data reuse



BigData solutions processing massive amounts of data

BIOCHAIN... in progres



 General / Alastria Besu Regulars  

System

REG_accuro_B_2_8_00:9545 ▾

Q

Overview ▾

Time ▾	System ▾	Chain Height ▾	Target Chain Height ▾	Blocks Behind ▾	Total Difficulty ▾	Block Time (5m avg) ▾	Time Since Last Blo▾	Peer Count ▾	% Peer Limit Used ▾
2023-05-05 10:29:02	REG_accuro_B_2_8_0...	33.683.503	33.683.503	0	3.37e+7	3.10 s	19 seconds, 99 millis...	5	20.00%

```
2023-05-05 08:31:13.099+00:00 | EthScheduler-Workers-1 | INFO | PersistBlockTask | Imported #33,683,553 / 0 tx / 0 om / 0 (0.0%) gas / (0x29f739db209c5c94ba21827459ca139c41c6ec57df6251d5f5afcbbe3a4b9413) in 0.001s. Peers: 4
2023-05-05 08:31:16.059+00:00 | EthScheduler-Workers-2 | INFO | PersistBlockTask | Imported #33,683,554 / 0 tx / 0 om / 0 (0.0%) gas / (0x9ad9130f90e684fc01865db827725e638dbb7b3339444f01d4fb5b36bbcfc293) in 0.001s. Peers: 4
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ubuntu@instance-biochain:~$
```


BIOCHAIN... in progres



Finca de BloqueBiomasaUno

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1234567AB1234AAAVFT123V	Si	DelcaraciónDos.pdf	12°12'12"N11°11'11"E	Maderas Antonio	Eucalipto	2023-03-08	Modificar

• Nueva Finca

Identificador SAP	Finca	Empacadora	Cargadora	Transportista	Fabrica	
BloqueBiomasaUno	Finca	Empacadora	Cargadora	Transporte	Fabrica	Borrar
BloqueBiomasaDos	Finca	Empacadora	Cargadora	Transporte	Fabrica	Borrar

• Nueva Biomasa

Cerrar sesión

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Cerrar sesión

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Datos finca

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*Latitud 42.339664043952

*Longitud -6.793540597424

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Nº Pacas Estim. 0

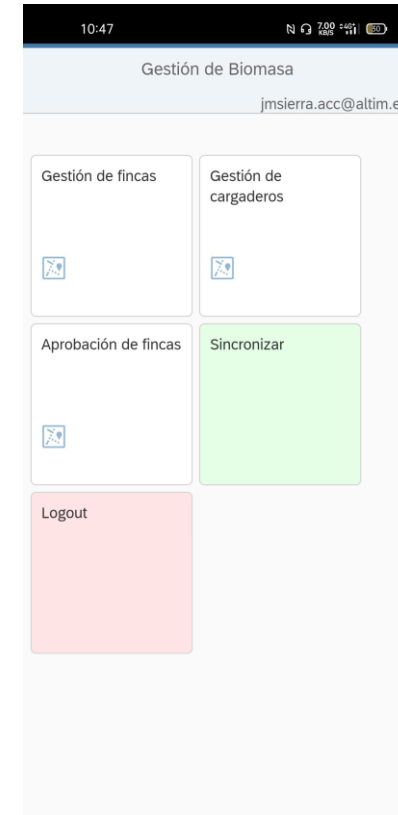
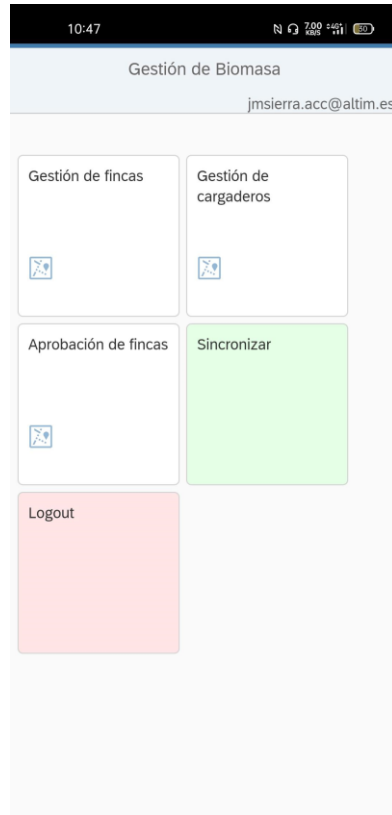
*Maderista 3 - MADERAS J.SEOAN...

Cuadrilla

Tel. Contacto 981673426



BIOCHAIN... in progres



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Why Altim?



OUR TEAM

The experience and knowledge
**of more than 180
professionals** add value to
each project and each client.



PIONEERS IN VERTICAL SOLUTIONS

More than **15 industry
solutions** based on best
business practices, reducing
implementation time and
costs.



CUSTOMISED SERVICE

Implementation methodology
developed by Altim and based
on **Design Thinking**
methodology.



PROCESS TRANSFORMATION

We facilitate the development
of large and medium-sized
companies, in multiple sectors
and with the most diverse
solutions and technologies.

About us

+20

YEARS OF EXPERIENCE

+200

PEOPLE

+400

CLIENTS. ONE OF THE LARGEST
INSTALLED BASES OF SAP AT
NATIONAL LEVEL.

TOP 10

SAP INTEGRATORS IN SPAIN
(s/PENTEÓ)



GOLD PARTNER
EDUCATION PARTNER
CERTIFIED PCOE (PARTNER CENTER OF
EXPERTISE)
QUALIFIED PARTNER SOLUTIONS
S/4 HANA SOLUTIONS OPERATIONS
HANA OPERATIONS



GOLD PARTNER

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