



# Blockchain technology to track and certify green electricity

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April 2025





# The Blockchain

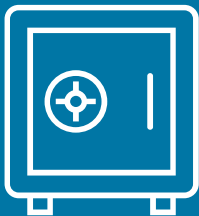


Blockchain, as an **advanced** technology, presents itself as a sophisticated means of creating a data register that stands out for its intrinsic security, immutability and total transparency

Blockchain plays a crucial role in ensuring **traceability** and **accountability** towards all stakeholders involved, thus consolidating trust and reliability within a context where accurate information management is essential

# The Blockchain strength and weaknesses

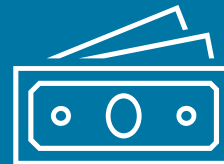
## Two complementary digital solutions



Blockchain is a secure and reliable container for data



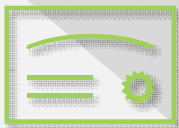
Blockchain does not concern itself with the veracity of the data it contains



Blockchain data verification services check that there is money in the safe, not peanuts

The blockchain limitation regarding the verification of the first piece of data is overcome through  
**RINA Blockchain data verification services**  
which assures its veracity allowing to fully exploit the technological potential of the blockchain

# The RINA Process steps



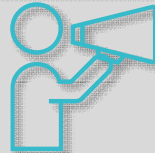
## Definition of claims to be verified

Together with the project and verification team



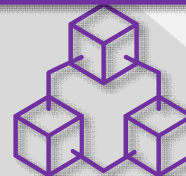
## Setting up the digital platform

And interconnection of information systems with RINA digital platform



## Service Go-Live and certificate issuing

Digital declarations of the outcome of the data verification for the reference claims and which can be written in Blockchain



## Blockchain Writing

From the customer's side, data verified by RINA

# The RINA Process advantages



## FOR THE ORGANIZATION

- **Credibility and transparency**  
Customers will be more likely to trust the organization than competitors who cannot provide the same level of assurance
- **Full traceability**
- **Competitive advantage**

## FOR END CUSTOMERS

- **Third-party guarantee** on the data entered in Blockchain related to the purchase made
- **Increased trust in the brand**

RINA Digital Platform represents a **point of reference** for data integration and security for organizations that intend to distinguish themselves through the traceability of their products and services

# A circular approach to boost sustainability



- Assessment of chain of custody of the product
- End-to-end traceability in the entire supply chain, including end of life, reuse and repair, promoting a **circular approach**.
- Selective disclosure of data in a secure and safe way

# Blockchain investment

## Cut cost drivers and quantifiable benefits



### Where Blockchain can cut costs

**Traceability & Certification:** green fuels (like biofuels, e-fuels, hydrogen) often **need to be verified for sustainability**. Blockchain can **lower auditing and certification costs** by providing an immutable and transparent data record (in terms of origin, production method, and emissions)

**Process Efficiency:** in multi-stakeholder chains (e.g., feedstock producer, processor, distributor), blockchain can **increase trust and reliability among stakeholders** and **reduce administrative friction, disputes, and time delays** (reduction of cost implications)

**Smart Contracts:** automating payments or logistics based on production milestones can save operational costs and improve cash flow predictability.

### Potential cost drivers

**Implementation cost:** the **upfront cost of integrating blockchain** (software, hardware, training) can be significant especially if the **supply chain is not already digital**

**Scalability & Energy use:** some blockchain models can be energy-intensive and less cost-effective while **greener and scalable alternatives are better suited and determine a higher impact in cost saving**

### Quantifiable benefits

**Audit and  
certification**

**Supply chain logistics**

**Compliance and  
reporting**

**Transaction costs**

**Investment payback**





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