usBIM.blockchain

User Manual

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1   usBIM.blockchain

usBIM.blockchain is a service, integrated into the usBIM ecosystem of ACCA software, which uses blockchain technology to guarantee security, traceability and legal validity to documents and information managed in BIM (Building Information Modeling) processes such as files, 2D models, 3D models, etc.

This technology creates a distributed and immutable digital register, where each transaction or information is recorded in a secure and unchangeable way and therefore ensures transparency and security to the parties involved (clients, designers, companies, etc.).

1.1   Registering a document

To start **usBIM.blockchain** and register a file uploaded to usBIM, click on the contextual menu of the document (arrow 1 Figure 1) and select the "Blockchain" item (arrow 2 Figure 1).
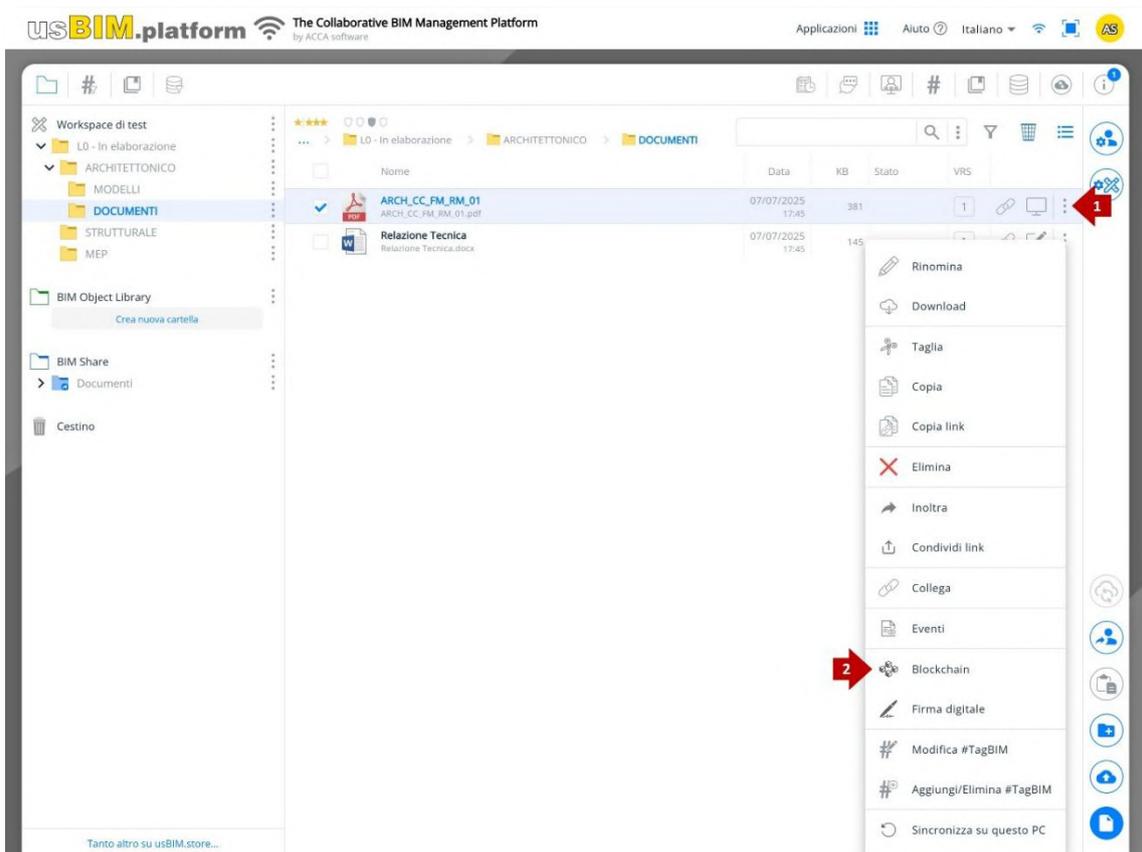

Figure 1. Start usBIM.blockchain

From the opened modal window, selecting the "Register File" button (arrow 1 Figure 2), the marking procedure starts.

Registration on the blockchain is not immediate, therefore the service issues a temporary certificate certifying that it has been sent.
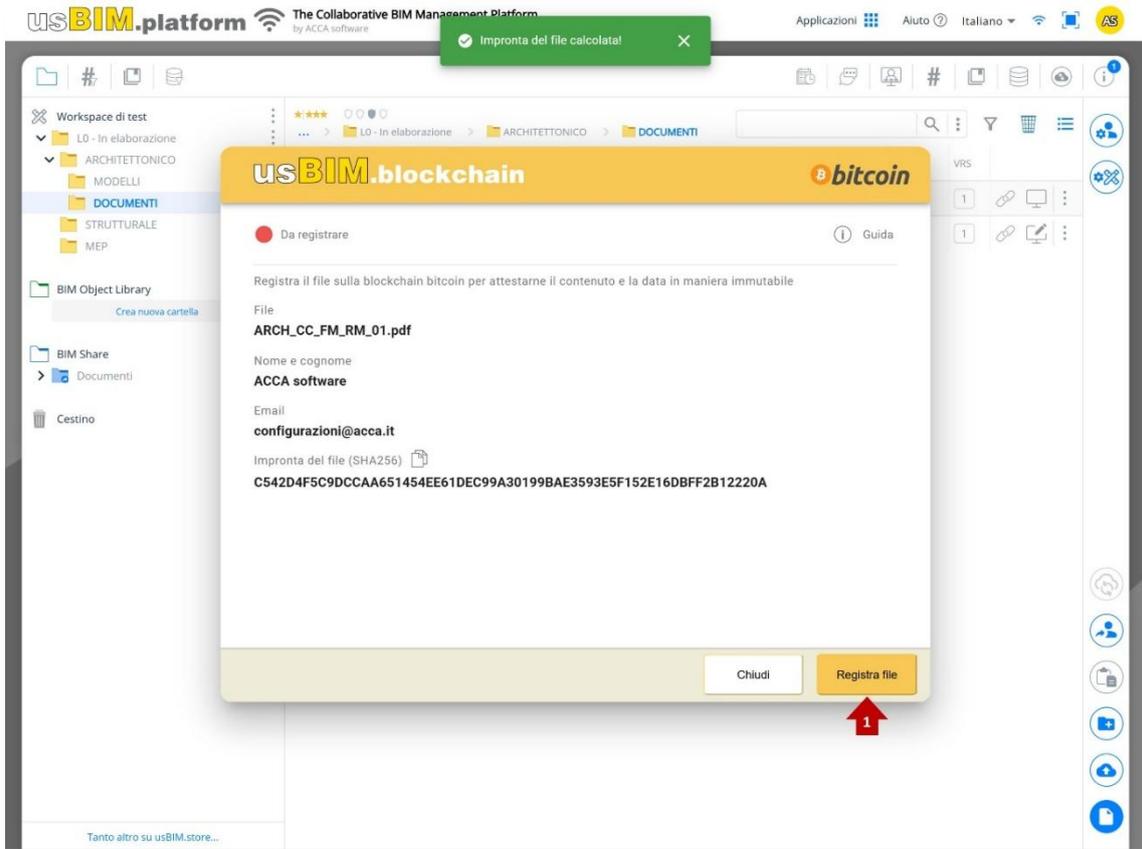
Figure 2. Registering a document

The temporary certificate can be downloaded by clicking on "Download Certificate" (arrow 1 Figure 3).

In addition, you can check the registered document (arrow 2 Figure 3) and download the final registration data at the end of the registration operations.
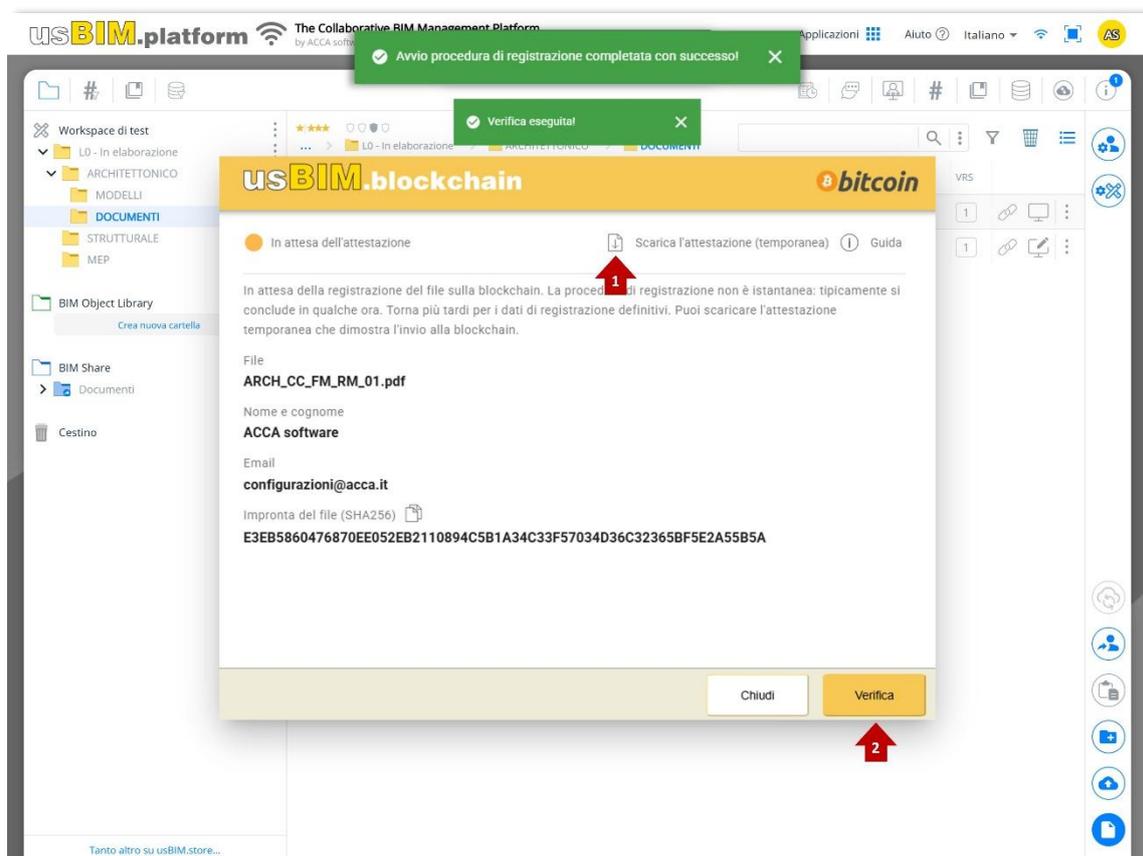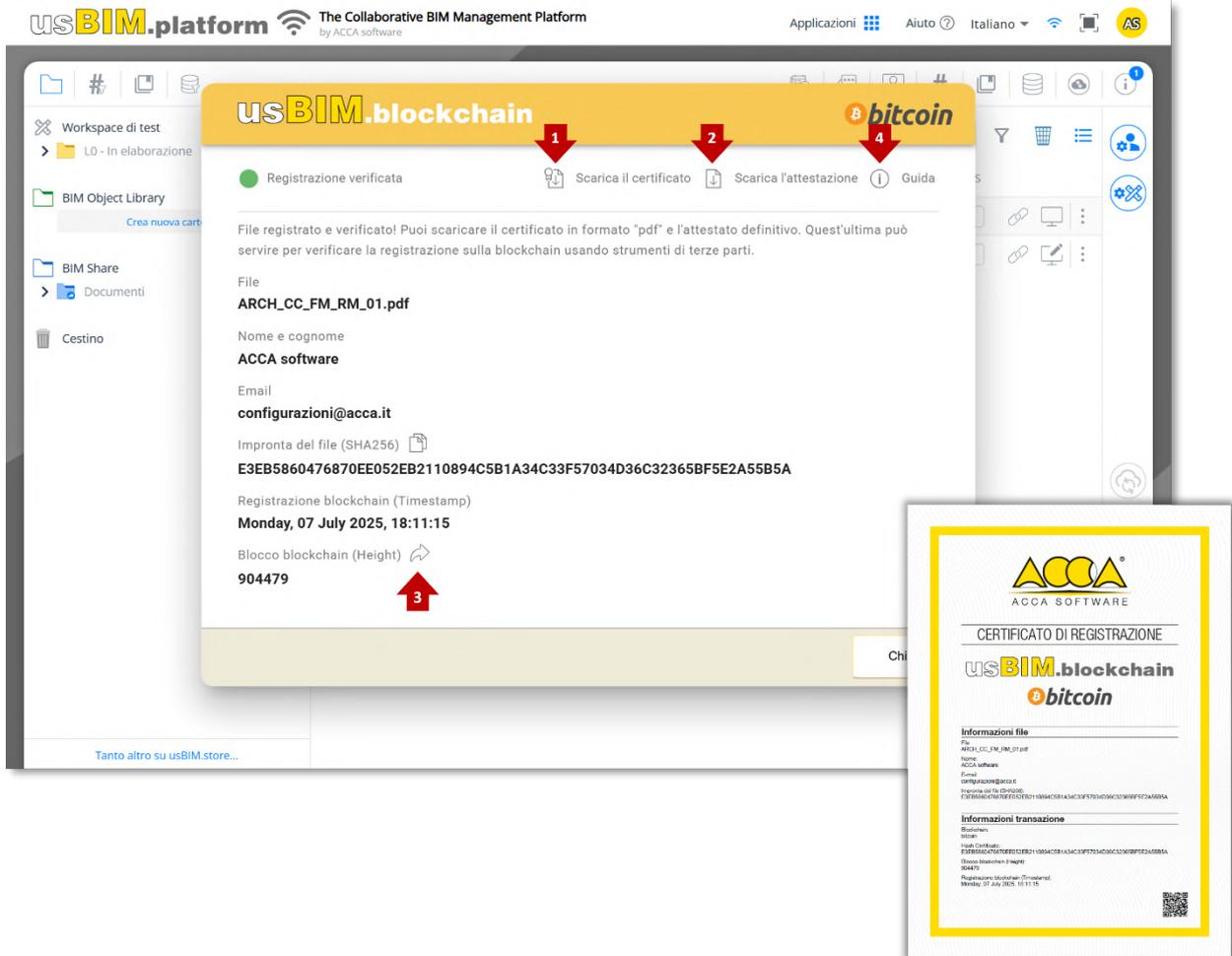
Figure 3. Download the (temporary) attestation

1.2 Report logging and consultation

At the end of the registration, the following data are visible in the modal window:

- Name of the registered file;

- Name, surname and email of the user who registered;

- Imprint of the registered file (SHA256);

- Registration timestamp on the blockchain;

- Reference block on the blockchain (height);

Once the registration has been completed, from this window you can download the certificate (arrow 1 Figure 4) and the final certificate (arrow 2 Figure 4) in PDF format. By clicking on the dedicated icon (arrow 3 Figure 4), the service automatically opens the link to the Bitcoin network explorer, where you can consult all the details of the registration.

Figure 4. Verified registration and consultation of the certificate

1.3 User Guide

1.3.1 Document registered

The **usBIM.blockchain** service provides instructions for timestamp verification through open source third-party tools, as well as for displaying the Bitcoin timestamp block. In the modal window displayed, select the **"i"** Help icon (arrow 4 Figure 4).

In the central box it is possible to verify the marking of the registered document using the STAMP & VERIFY services available at the following addresses

- https://opentimestamps.org
- https://dgi.io

To view the block of the Bitcoin blockchain that contains the hash associated with the time stamp, enter the value reported as "Blockchain Block" in the following blockchain explorers:
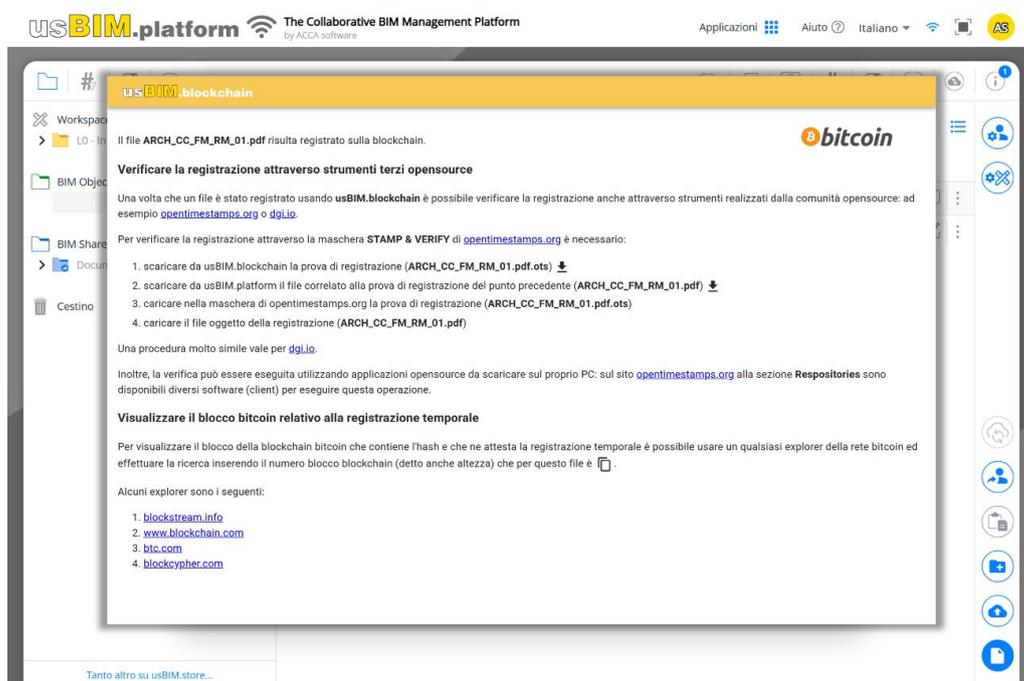
- https://blockstream.info

- https://www.blockchain.com

- https://btc.com

- https://www.blockcypher.com

Figure 5. Instructions for verifying registration with third-party tools opensource

1.3.2 Document not registered or awaiting certification

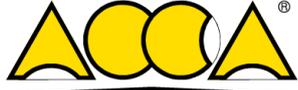In case of document not registered or waiting for attestation, the help provides some information on the operation of the blockchain.

The registration on the blockchain certifies the precise moment in which the file was "stored" without any subsequent modification.

The registration procedure is not instantaneous: it typically ends in a few hours. In this time interval, prior to the conclusion (waiting for the attestation), it is possible to download the temporary registration attestation: a file with the extension "ots" that certifies the beginning of the file registration procedure and the sending to the blockchain.

Returning to the form after a few hours, if the registration procedure is completed, you can download the certificate in "pdf" format and the final registration certificate (the updated "ots" file). Thelatter can be used to verify registration through third-party tools opensource.

Figure 6 Document not registered

Figure 7 Document awaiting certification