

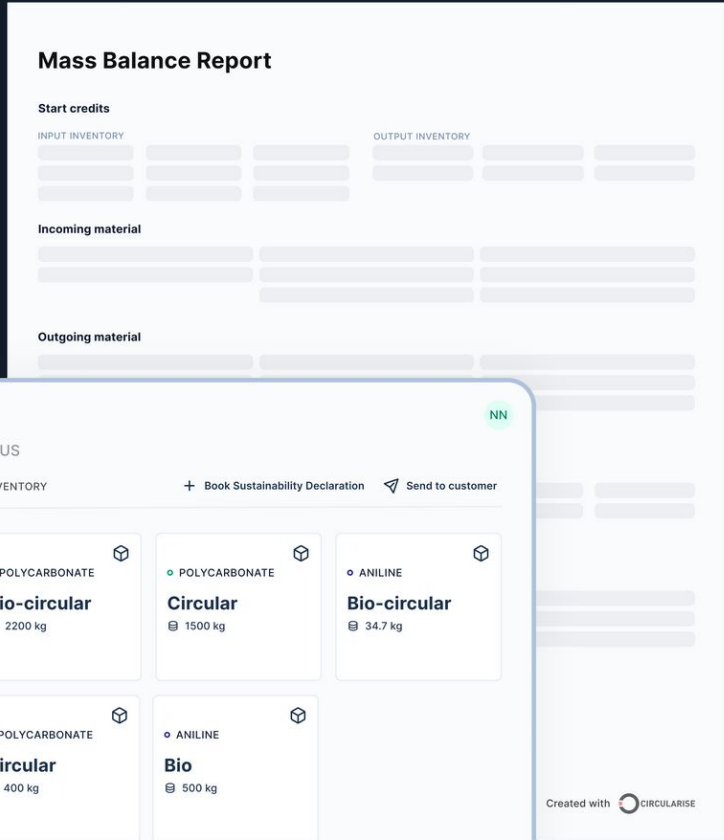


MassBalancer

Smart and secure bookkeeping software for ISCC Plus certification

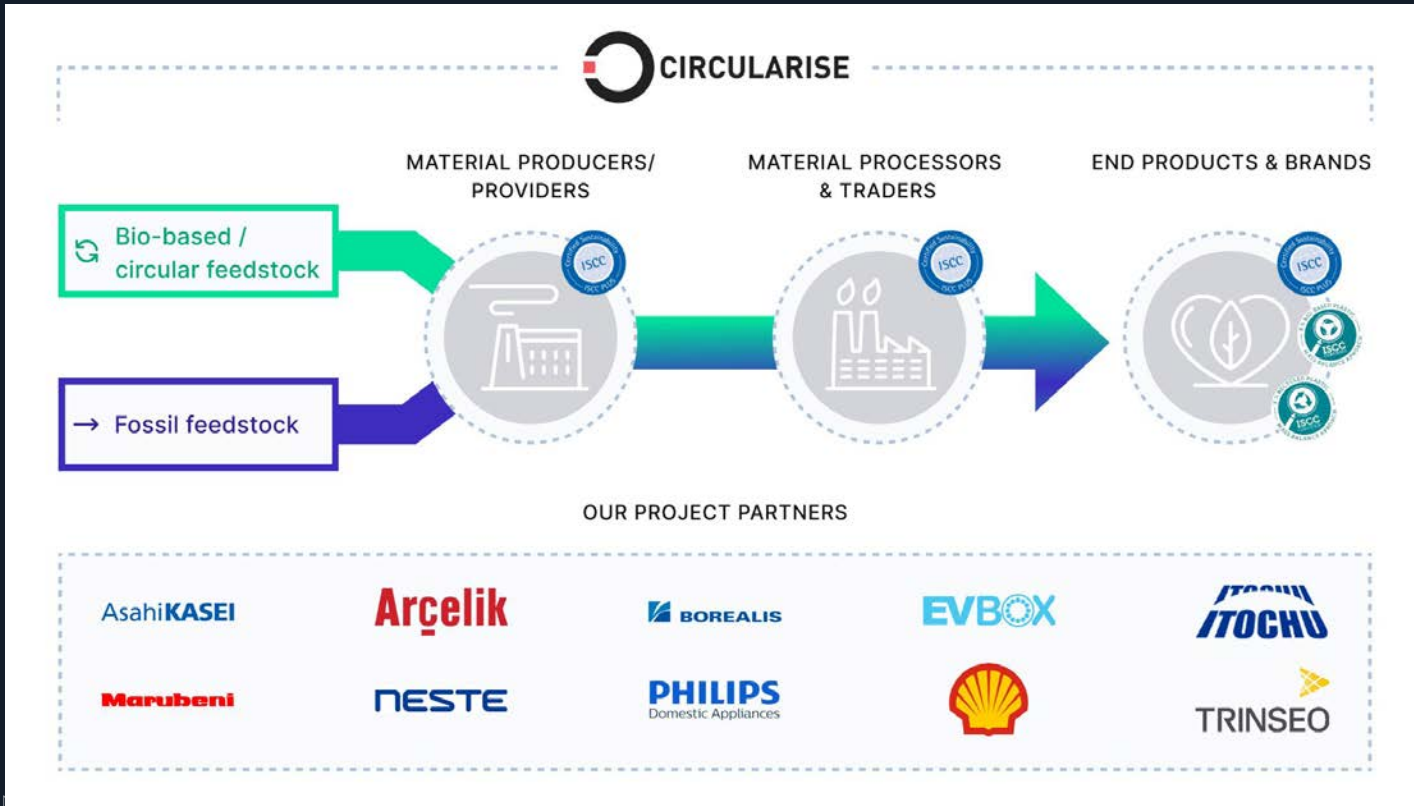
ISCC Event – Opportunities of sustainability certification in Japan

12 October 2022



PILOT PROJECT

Pilot: Sustainability Certification using Blockchain



Challenges & Opportunities



Error/fraud prone



Verify correctness of data using a public blockchain



Supply chain complexity



Open Infrastructure Approach



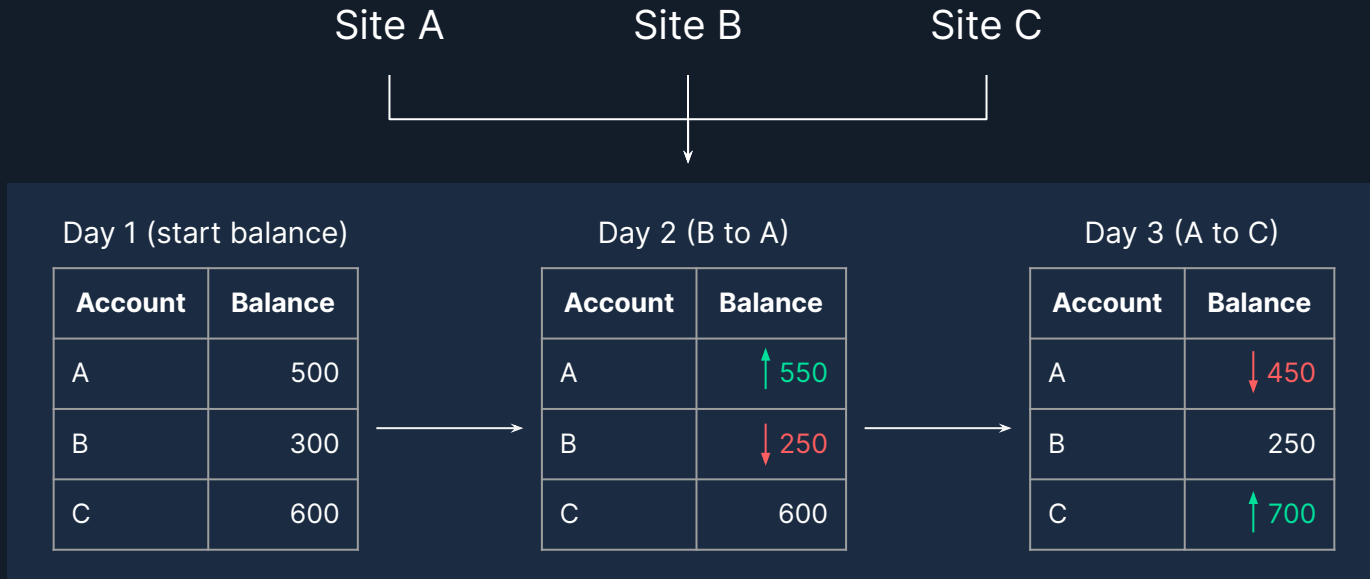
Time Consuming



Automate bookkeeping & reporting

BENEFITS OF BLOCKCHAIN BASED MASS BALANCING

Error/fraud > Verify correctness of data using a public blockchain



BENEFITS OF BLOCKCHAIN BASED MASS BALANCING

Error/fraud > Verify correctness of data using a public blockchain

Site A Site B Site C



BENEFITS OF BLOCKCHAIN BASED MASS BALANCING

Error/fraud > Verify correctness of data using a public blockchain

Site A Site B Site C



```
1 contract MetaCoin {
2   mapping (address => uint) balances;
3
4   function MetaCoin() {
5     balances[tx.origin] = 10000;
6   }
7
8   function sendCoin(address receiver, uint amount) returns(bool sufficient) {
9     if (balances[msg.sender] < amount) return false;
10    balances[msg.sender] -= amount;
11    balances[receiver] += amount;
12    return true;
13  }
14
15  function getBalance(address addr) returns(uint) {
16    return balances[addr];
17  }
18 }
19
```

BENEFITS OF BLOCKCHAIN BASED MASS BALANCING

Error/fraud > Verify correctness of data using a public blockchain

What Smart Contract can do:

- Double spend prevention
- Only handle input/output materials according to certification
- Use of correct conversion factors

Site A Site B Site C



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Challenges & Opportunities



Error/fraud prone



Verify correctness of data using a public blockchain



Supply chain complexity



Open Infrastructure Approach

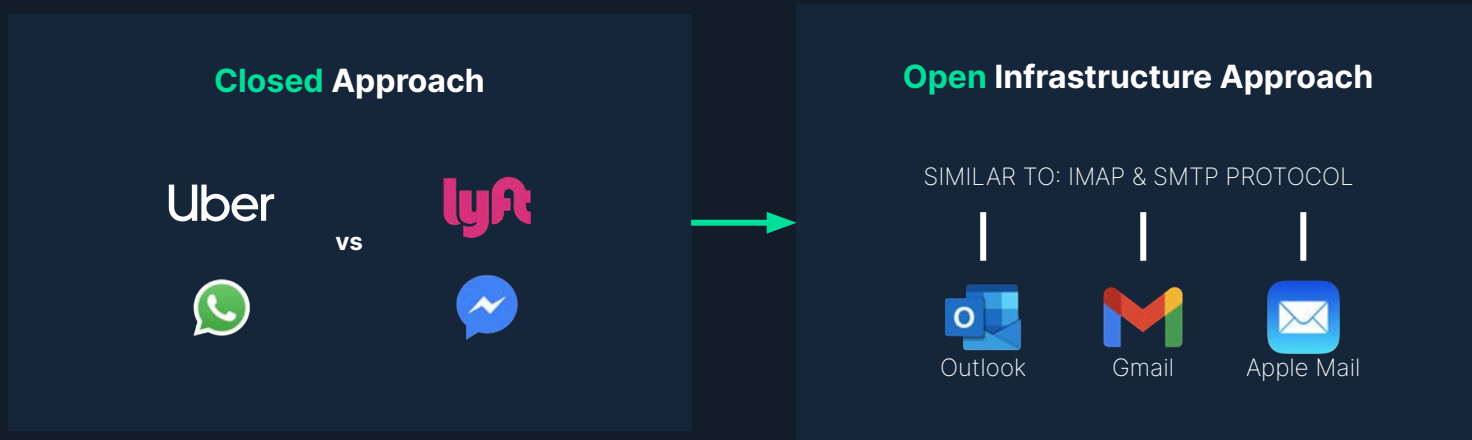


Time Consuming



Automate bookkeeping & reporting

Supply chain complexity > Open Infrastructure Approach



Enabled by a shared, public blockchain acting as the single source of truth

Challenges & Opportunities



Error/fraud prone



Verify correctness of data
using a public blockchain



Supply chain complexity



Open Infrastructure
Approach



Time Consuming



Automate bookkeeping
& reporting

MassBalancer is a
bookkeeping software for
mass balance certifications

(starting with ISCC Plus)

MASSBALANCER

Set up a scalable mass balance bookkeeping in four easy steps

- 1 Register your account and set up recipes
- 2 (Automatically) book incoming Sustainability Declarations
- 3 Allocate balances and generate outgoing Sustainability Declarations
- 4 Generate quarterly & annual reports with unit-level granularity

STEP 1

Register your account and set up recipes

Company Structure

- Demo Company
- Circularise The Hague

Profile

Bookkeeping

ISCC Plus

Site

ISCC Plus

Certificate Number

Valid From: dd/mm/yyyy

Valid To: dd/mm/yyyy

Chain of custody options

Mass Balance

Mass Balance

Period start: 01/10/2022

Period end: 31/12/2022

Recipes + Add recipe

%	INPUT	CF	OUTPUT
---	-------	----	--------

+ Add site

▼ Netherlands site

- ☰ Storage unit NL
- ☰ Processing unit NL - Den Bosch
- + Add unit

▼ Germany site

- ☰ Trader DE

Sites & Units

Recipes + Add recipe

%	INPUT	CF	OUTPUT
100	● BENZENE Bio	0.95	● POLYCARBONATE Bio
100	● ACRYLONITRILE Bio Circular	0.93	● BUTADIENE Bio Circular
100	● USED COOKING OIL (UCO) Bio	0.95	● HVO Bio
100	● PROPYLENE Bio	0.95	● POLYPROPYLENE Bio
100	● HVO Circular	0.95	● BISPHENOL A Circular
100	● POLYETHYLENE Bio	0.95	● POLYETHYLENE PIPE Bio
100	● BENZENE Circular	0.92	● POLYCARBONATE Circular

Recipes

STEP 2

Book incoming Sustainability Declarations (automatic from unit to unit or in case your supplier uses Circularise)

Sustainability Declaration according to ISCC PLUS V3.3

Unique number of Sustainability Declaration:

Date of issuance:

Supplier

Name:

Address:

Certificate number:

Address of dispatch/shipping point of the sustainable material:

Same as address of supplier

Address of receipt/receiving point of the sustainable material:

Same as address of recipient

Recipient

Name:

Address:

Contract number:

www.iscc-system.org

Incoming SD

The screenshot shows the 'Bookkeeping' interface for 'ISCC Plus'. It features two tabs: 'INPUT INVENTORY' and 'OUTPUT INVENTORY'. A button labeled '+ Book Sustainability Declaration' is highlighted with a green arrow pointing to the 'ACETONE' material card. The interface displays a list of materials with their respective sustainability declarations and weights.

Material	Declaration Type	Weight	Last Update
ACETONE	Bio	2,873 kg	1-10-2022
HVO	Circular	500 kg	27-9-2022
PROPYLENE	Bio	973.68 kg	23-9-2022
BENZENE	Bio	50 kg	23-9-2022
USED COOKING OIL (UCO)	Bio	100 kg	9-9-2022
POLYCARBONATE	Bio	500 kg	7-9-2022
PHENOL	Bio	5 kg	2-9-2022
PHENOL	Circular	5 kg	2-9-2022

STEP 3

Allocate balances and generate outgoing Sustainability Declarations

The screenshot shows the 'Bookkeeping' interface for 'ISCC Plus'. It features a sidebar with navigation options: 'Circularise The...', 'Batch Traceability', 'Bookkeeping', 'Relations', and 'Help Center'. The main content area is titled 'Bookkeeping ISCC Plus' and has tabs for 'INPUT INVENTORY' and 'OUTPUT INVENTORY'. Two buttons are visible: '+ Add Output Material' and 'Send to Customer'. Below these are two inventory cards: 'POLYETHYLENE PIPE' with a weight of 4,750 kg and 'POLYCARBONATE' with a weight of 10,660.9 kg. Both cards show a 'Bio' label and a 'Last Update' date of 27-9-2022.

The form is titled 'Sustainability Declaration according to ISCC PLUS'. It includes the following fields: 'Unique number of Sustainability Declaration:', 'Date of dispatch:', 'Place of dispatch:', 'Date of issuance:', 'Supplier Name', 'Supplier Address', 'Supplier Certificate number', 'Recipient Name', 'Recipient Address', and 'Recipient PO number'. There is a checkbox for 'Same as address of supplier' and the Circularise logo.

Outgoing SD

STEP 4

Generate quarterly & annual reports with unit-level granularity

MASSBALANCER

Reporting

Start Date: 30/09/2022 - End Date: 31/12/2022 [Update report](#)

Start Credits

Product Name	Raw Material Category	Balance
• BENZENE	Circular	500 kg
• PHENOL	Bio Circular	4000 kg

INPUT INVENTORY

Product Name	Raw Material Category	Balance
• PHENOL	Bio Circular	4000 kg
• BENZENE	Circular	500 kg

OUTPUT INVENTORY

No Output Inventory yet.

Incoming Material

Date	Declaration No	Supplier	Product Name	Raw Material Category	Amount
08/09/2022	27754	Circularise - Demo Circularise - LongShanHemif InTaleWorship	• BENZENE	Circular	+1000 kg

Outgoing Material

Date	Declaration No	Supplier	Product Name	Raw Material Category	Amount
08/09/2022	27754	Circularise - demtag	• BENZENE	Circular	-500 kg

End Credits

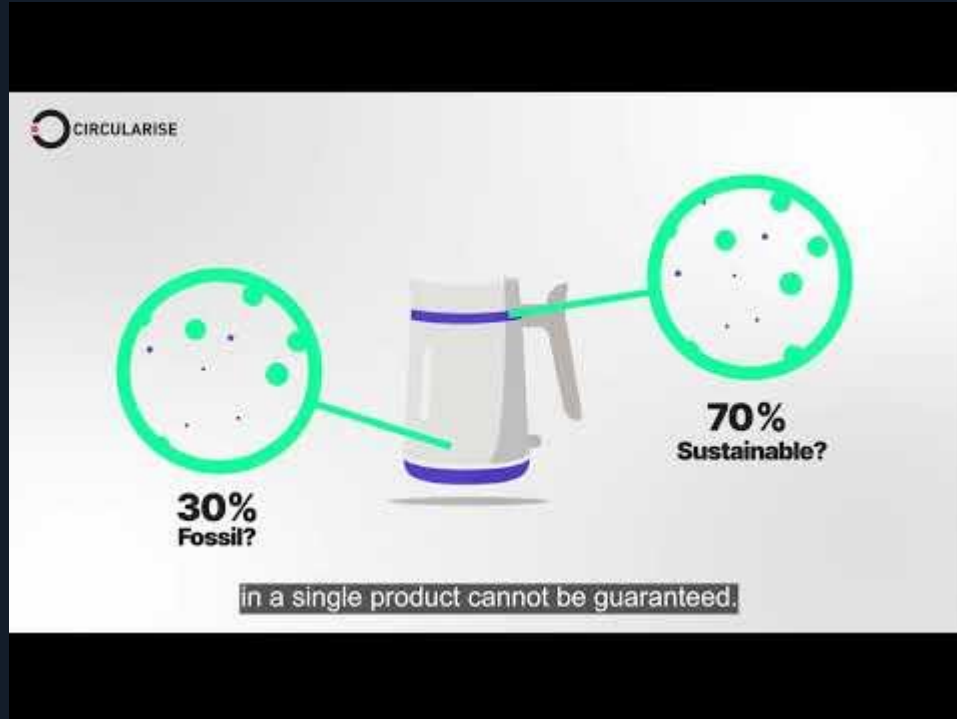
Product Name	Raw Material Category	Balance
• BENZENE	Circular	500 kg
• PHENOL	Bio Circular	4000 kg

Mass Balance Report Sabur Inc. - Site 3 Sun Oct 30 2022 - Mon Jan 31 2022

PDF Report

PILOT VIDEO

Pilot: Sustainability Certification using Blockchain





Contact us to start using
MassBalancer

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TWITTER

[@circularise](https://twitter.com/circularise)