



MassBalancer

Smart and secure bookkeeping software for ISCC Plus certification

ISCC Event – Opportunities of sustainability certification in Japan

12 October 2022

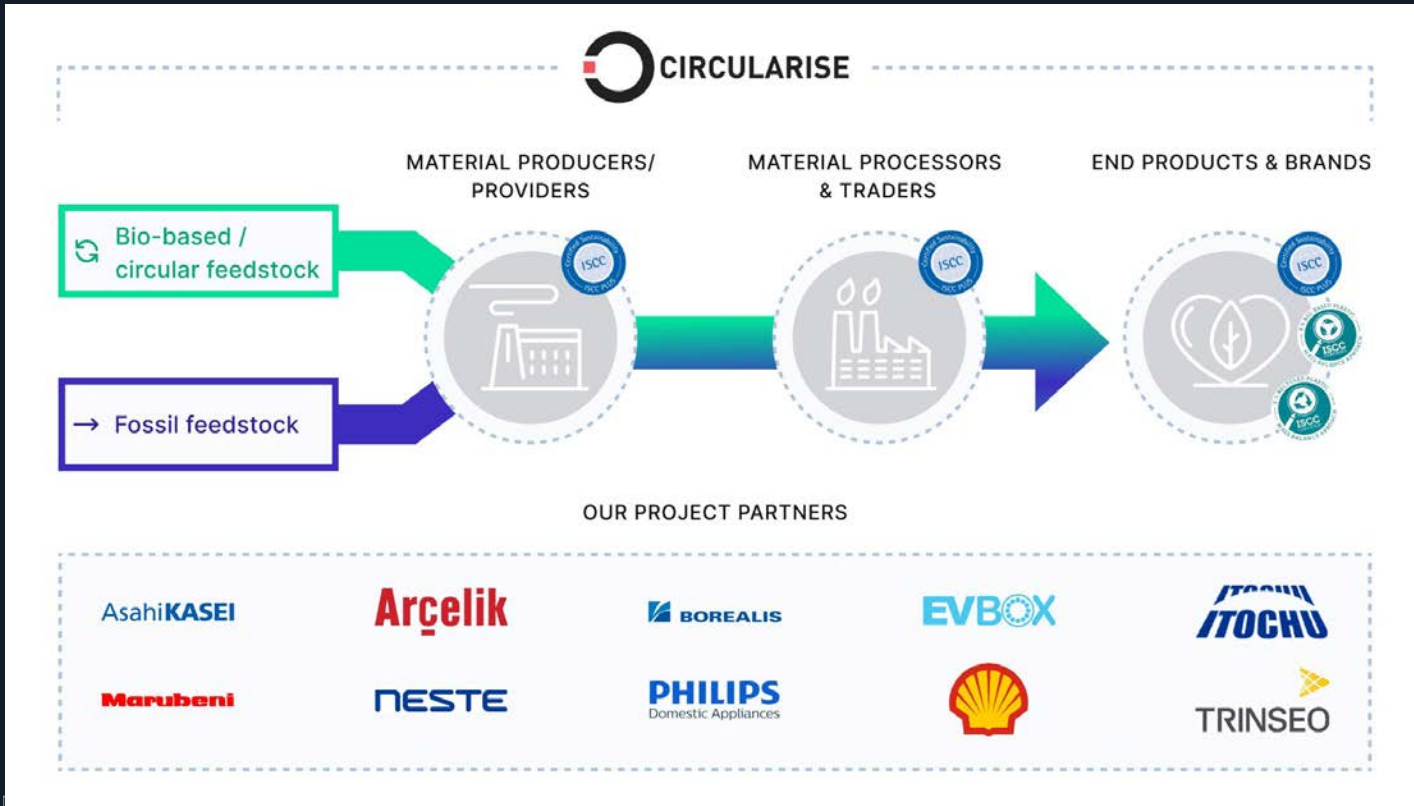
The image displays two overlapping screenshots of the MassBalancer software interface. The background screenshot is a 'Mass Balance Report' with sections for 'Start credits', 'Incoming material', and 'Outgoing material', each containing placeholder tables. The foreground screenshot is a detailed view of the 'Balance' page for 'ISCC PLUS'. It features a header with 'MASSBALANCER' and 'ISCC PLUS' (with a green 'NN' status indicator). Below the header are tabs for 'INPUT INVENTORY' and 'OUTPUT INVENTORY', along with buttons for '+ Book Sustainability Declaration' and 'Send to customer'. The main content area is a grid of material cards, each with a material name, a category (Bio or Circular), and a weight in kg. The cards are as follows:

Material	Category	Weight (kg)	Status
POLYCARBONATE	Bio	6500	Pending
POLYCARBONATE	Bio-circular	2200	Active
POLYCARBONATE	Circular	1500	Active
ANILINE	Bio-circular	34.7	Active
BENZINE	Bio	6500	Active
POLYCARBONATE	Circular	400	Active
ANILINE	Bio	500	Active

At the bottom right of the foreground screenshot, it says 'Created with CIRCULARISE'.

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



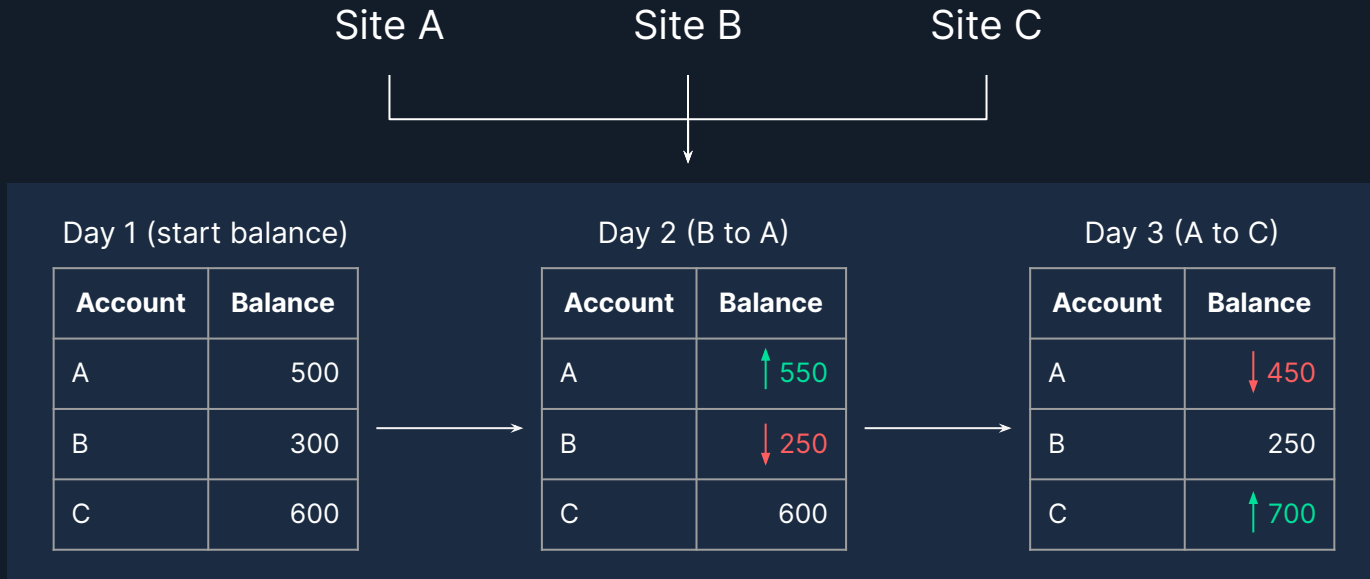
Time Consuming



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

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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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2   mapping (address => uint) balances;
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5     balances[tx.origin] = 10000;
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Challenges & Opportunities



Error/fraud prone



Verify correctness of data using a public blockchain



Supply chain complexity



Open Infrastructure Approach

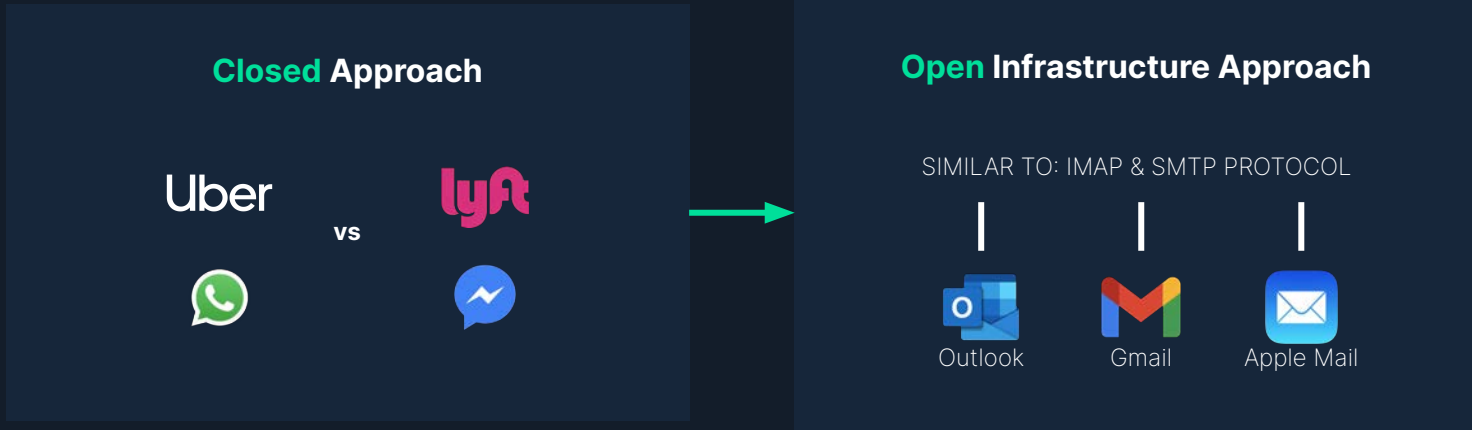


Time Consuming



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)

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

× Close

Company Structure

- Demo Company
- Circularise The Hague

Profile

Bookkeeping

ISCC Plus

Site

ISCC Plus

Certificate Number

Valid From

Valid To

Chain of custody options

Mass Balance

Mass Balance

Period start

Period end

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:

Address of receipt/receiving point of the sustainable material:

Same as address of supplier

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	Weight
ACETONE	Bio	2,873 kg
HVO	Circular	500 kg
PROPYLENE	Bio	973.68 kg
BENZENE	Bio	50 kg
USED COOKING OIL (UCO)	Bio	100 kg
POLYCARBONATE	Bio	500 kg
PHENOL	Bio	5 kg
PHENOL	Circular	5 kg

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 'Bio' label and a balance of 4,750 kg, and 'POLYCARBONATE' with a 'Bio' label and a balance of 10,660.9 kg. Both cards show a 'Last Update' of 27-9-2022 and 7-9-2022 respectively.

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:', and a checkbox for 'Same as address of supplier'. The form is divided into two columns: 'Supplier' and 'Recipient', each with fields for 'Name', 'Address', 'Certificate number', and 'PD number'. The 'Circularise' logo is in the top right corner. A green arrow points from the 'Send to Customer' button in the main interface to this form.

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
PHENOL	Bio Circular	4000 kg
BENZENE	Circular	500 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	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
PHENOL	Bio Circular	4000 kg
BENZENE	Circular	500 kg

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

Start Credits

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

OUTPUT INVENTORY

Product Name	Raw Material Category	Balance
No Output Inventory yet.		

Incoming Material

Date	Declaration No	Supplier	Product Name	Raw Material Category	Amount
08/09/2022	27754	Circularise - Demo	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

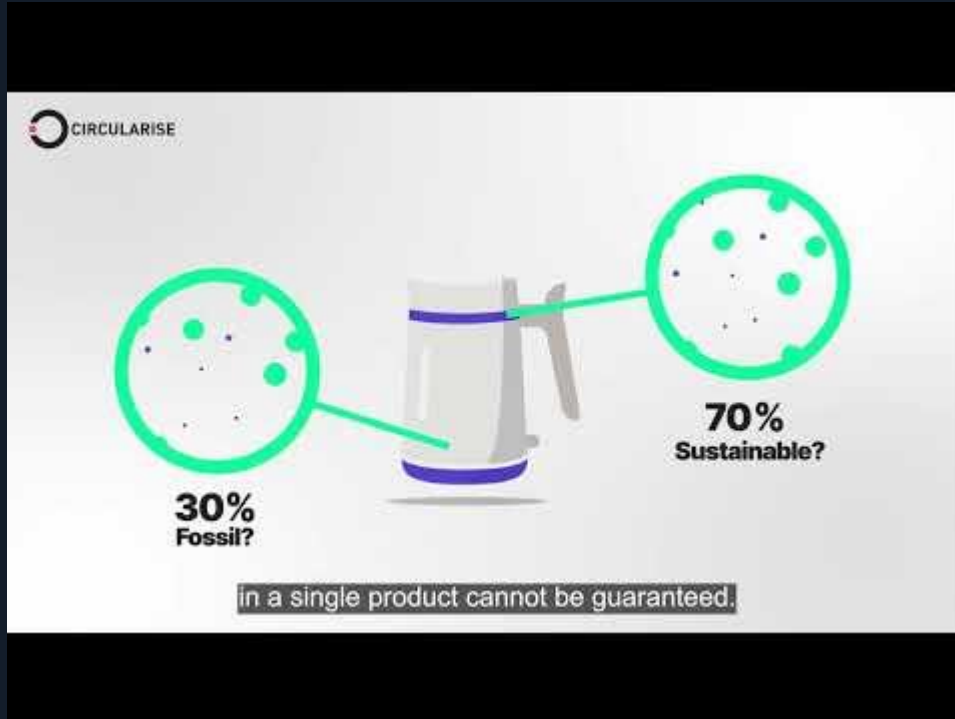
End Credits

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

PDF Report

PILOT VIDEO

Pilot: Sustainability Certification using Blockchain





Contact us to start using
MassBalancer

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