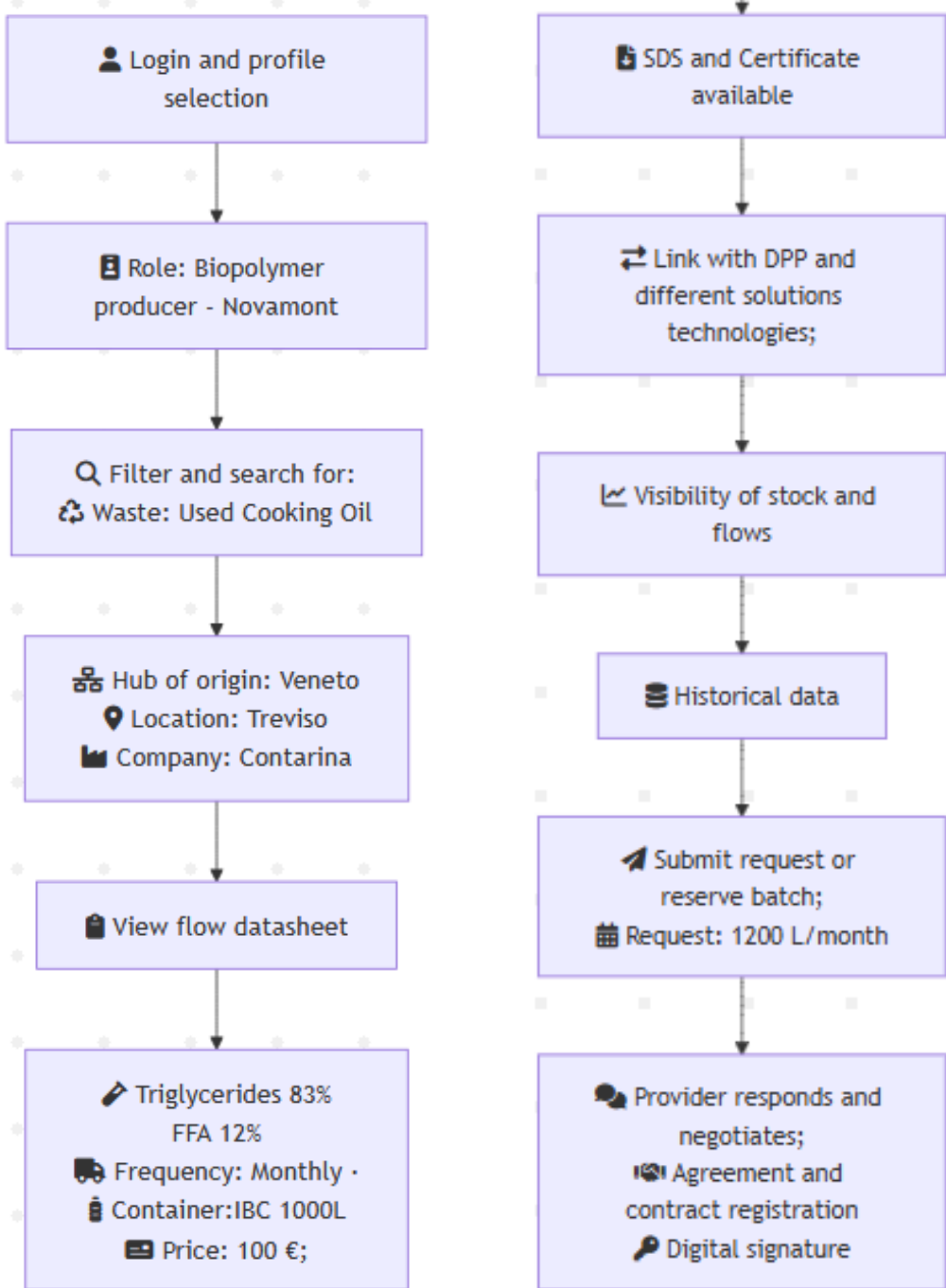


The catalogue is a centralized repository that will gather exchange flow critical documents and material-process specifications related to IUS flows within a Circularity Hub’s network

Software value propositions

User need	Software value proposition	Benefit
Need to exchange waste materials and sensitive documents related to IUS flows, avoiding ad-hoc sharing via email or non-compliant platforms and external website o database.	Develop a platform for B2B information exchanges that provides access to waste material availability in order to connect with different stakeholders ensuring full traceability.	Users can securely manage and share sensitive data with stakeholders
Connect material flow data with other systems such as digital product passports or material assessment tools.	Allows smooth integration with tools like TRACID and IUS Designer. Uses API-ready data formats (XML/JSON).	reducing of effort and enabling consistent data flows within the WP4 ecosystem.
Facilitate technical, economic, and environmental decisions by providing structured access to material and energy data, following standardized formats.	Provides access to relevant data on materials and energy, structured according to international standards like ISO/IEC 82474-1	Decision support through quality data access

User journey - How do you operate the software



IUS Flow Catalogue – Proposed JSON Schema (ISO/IEC 82474-1)



0. General Information About the Flow

- Flow ID – Unique identifier for each flow.
- Flow Name – Descriptive name of the flow.
- Flow Category – Type of flow: material, waste, water, or energy.
- Flow Mode – Format: batch, continuous stream, or packaged unit (SKU).
- Flow Status – Indicates if flow is active, planned, or archived.

1. Actors Involved

- Source Actor Name – Organisation initiating the flow.
- Source Direction – Direction tag showing output.
- Destination Actor Name – Organisation receiving the flow.
- Destination Direction – Direction tag showing input.

2. Information Specific to the Type of Flow

2.1 Materials or Waste

- Chemical Identifier – CAS number or "N/A".
- Hazard Codes – GHS classification codes.
- Regulatory References – REACH/ROHS entries.
- Composition List – Components, values, units, and methods.

2.2 Water

- Water Type – Raw, treated, potable, etc.
- Treatment Status – Indicates if water has been treated.
- Key Water Parameters – Environmental or safety indicators.

2.3 Energy

- Energy Type – Biogas, electricity, biomethane, etc.
- Heating Value (HHV) – High heating value.
- Heating Value (LHV) – Low heating value.
- Energy Composition – Gas or fuel component breakdown.

2.4 Product Units (SKU)

- Dimensions – Product dimensions in mm.
- Density – Material or unit density.
- Thermal Conductivity – Lambda value.
- Recycled Content – Percent recycled material.

3. Quality and Performance Indicators

- Parameter Name – Name of quality or performance variable.
- Measured Value – Actual measurement.
- Unit of Measure – Unit used.
- Measurement Method – How value was obtained (optional).

4. Transport and Logistics

- Average Quantity – Mean amount transferred.
- Quantity Unit – Unit of volume or mass.
- Container Type – Packaging used for flow.
- Collection Frequency – Frequency of flow handling.
- Incoterm – Shipping responsibility code.

5. Monitoring for Continuous Flows

- Sampling Type – Periodic or event-based.
- Measurement Interval – Time between samples.
- Trigger Type – Event that initiates measurement.
- Stream Parameters – List of monitored values.
- Data Location – Where time-series records are stored.

6. Supporting Documents

- Safety Sheet Link – SDS for hazardous materials.
- Certificates – List of linked reports or lab results.
- Contract Reference – Legal or ERP contract ID.

User Interface

