



## Circular and Dynamic Manufacturing Supply Chain Orchestration and Optimisation

D3.1 Supply Chain Orchestrator			
<b>Report Identifier:</b>	D3.1		
<b>Work-package:</b>	WP3	<b>Task:</b>	T3.1
<b>Responsible Partner:</b>	ED	<b>Version Number:</b>	1.0
<b>Due Date</b>	31/08/2024	<b>Document Date:</b>	25/09/2024
<b>Distribution Security:</b>	PUB	<b>Deliverable Type:</b>	DEM
<b>Keywords:</b>	Supply chain, synthesis, Business Process Modeling		
Project website: <a href="https://circuloos.eu/">https://circuloos.eu/</a>			

### Document History

Version	Content & Changes	Issue Date
0.1	Document created	01/07/24
0.2	Document sent for review	26/08/24
0.3	Reviews are combined	09/09/24
0.4	Sent for Quality Assurance	13/09/24
1.0	Quality Assurance and Submission	26/09/24

### Quality Control

	Organisation	Date
Editor	ED	01/07/24
Peer review 1	INCL	30/08/24
Peer review 2	CUT	04/09/24
Authorised by (Technical Coordinator)	ED	25/09/24
Authorised by (Quality Manager)	ED	25/09/24
Submitted by (Project Coordinator)	ED	26/09/24

### **Legal Disclaimer**

CIRCULOOS is an EU project funded by the Horizon Europe (HORIZON) research and innovation programme under grant agreement No. 101092295. The information and views set out in this deliverable are those of the author(s) and do not necessarily reflect the official opinion of the European Union. The information in this document is provided “as is”, and no guarantee or warranty is given that the information is fit for any specific purpose. Neither the European Union institutions and bodies nor any person acting on their behalf may be held responsible for the use which may be made of the information contained therein. The CIRCULOOS Consortium members shall have no liability for damages of any kind including without limitation direct, special, indirect, or consequential damages that may result from the use of these materials subject to any liability which is mandatory due to applicable law.

### **Copyright notice**

© Copyright by the CIRCULOOS Consortium

This document contains information that is protected by copyright. All Rights Reserved. No part of this work covered by copyright hereon may be reproduced or used in any form or by any means without the permission of the copyright holders.

## Table of Contents

1	Introduction.....	8
1.1	Project Introduction.....	8
1.2	Deliverable Purpose.....	9
2	Supply Chain Synthesis and relevance to CIRCULOOS.....	10
2.1	What do we mean by ‘supply chain synthesis’.....	10
2.1.1	Collection of data from manufacturers.....	13
3	Integration between RAMP-Camunda Engine.....	15
3.1	Vendor Onboarding Process.....	15
3.2	Deployment of the BPM processes from RAMP.....	17
4	Conclusion.....	18
	Appendix A.....	19

## List of Figures

Figure 1 Example descriptions of production processes used for synthesis.....	11
Figure 2 Service Blueprint indicating role of Orchestrator .....	13
Figure 3 Technical architecture of CIRCULOOS data platform .....	14
Figure 4 BPMN of supplier selection .....	15
Figure 5 BPMN for Vendor qualification requirements specification.....	16
Figure 6 BPMN for Vendor qualification after Risk Assessment.....	16
Figure 7 Detail of Decision Table used for Risk Assessment under VBO.....	17

## Abbreviations

BPM	Business Process Model
BPMN	Business Process Model Notation
CM	Circular Manufacturing
EXD	Experiment Demonstrator (from the Open Calls)
LCA	LifeCycle Assessment
NGSI	Next Generation Service Interfaces
RAMP	Robotics and Automation MarketPlace
REST	Representational State Transfer
VOP	Vendor Onboarding Process

## **Executive Summary**

This document accompanies the software developed for the instantiation of new Business Process Models (BPM) from the RAMP Marketplace, which is available in this github repo <https://github.com/european-dynamics-rnd/circuloos-orchestrator/tree/master>. The document builds on one example Use Case, that of onboarding new Vendors (suppliers) in the context of creating new, more sustainable supply chains. The placement of this Use Case in the overall idea of CIRCULOOS is presented as part of the respective Service Blueprint. The connectivity of the BPM to manufacturing end-users is made through RAMP and the respective digital platform is described as well. Links to the repositories hosting the corresponding software are given for all mentioned developments.

# 1 Introduction

This report summarizes the approach, and results (executable code, functionality) reached under T3.1 in the first year of the project (M12). The task develops the functionality for the integration of the RAMP Marketplace and the Camunda Engine. RAMP is the main interface to the user when it comes to the registration of companies, the finding of new partners and the establishment of new supply chains. The Camunda Engine is the mechanism that enables the deployment and execution of BPMs – and these models are used to describe either business processes or generic descriptions<sup>1</sup> of production processes.

This integration between RAMP and the Camunda Engine enables the development of new services for RAMP, the deployment of new instances of supply chain models and the interaction with the relevant CIRCULOOS tools, i.e. Supply Chain Optimization tool and LCA tool. For the purposes of this deliverable, the CIRCULOOS data platform is directly connected to (accessed by) RAMP and is assumed to be a part of the 'RAMP Platform'.

## 1.1 Project Introduction

The overall vision of CIRCULOOS is to deliver the tools to enable MSMEs to become full members of the Circular Manufacturing value chain. These tools orchestrate and continuously optimise the supply-chain end-to-end and integrate planning and execution monitoring to enable transparent and on-time communication. Combining these with direct calculation of the product sustainability and circularity profile, for both internal and external partners, this environment will enable them to configure and execute disruptive circular manufacturing processes for sustainable production that covers the entire life cycle of products; either by recovering the value of product that ended-up as waste or from recycled and remanufactured products.

To achieve this objective the project aims to deploy:

- Circular end-to-end supply chain orchestration for collaborative workflows which incorporates planning and execution metrics and integrates advanced and multimodal visualisation and analytics. The visualisation is delivered by comprehensive Digital Twins of the supply chains formulated, the factory processes and product design phases.
- Supply Chain Optimisation that monitors the global (across the supply chain) and local (within the factory) processes and execution, inputs and outputs and configuration parameters, to enable data-driven AI decision making, this way supporting continuous optimisation of targeted and measured performance and sustainability parameters.
- Dynamic Sustainability Assessment functionalities that investigate alternative supply-chain scenarios (varying in terms of materials used, processing technologies, suppliers involved and/or activated circular economy practices) in place of the existing schemes, quickly measuring their performance in terms of environmental sustainability and circular economy profile.
- Supply Chain Data Spaces for seamless, multi-level data flow across the supply chain partners, supporting the reuse of materials in novel products, the extension of the life-cycle of finished products (remanufacturing), and data-driven decisions for collaboration of parties offering matching services in the most dynamic and efficient way.
- Cybersecure and trustworthy data sharing across the supply chain by employing a distributed, trusted and efficient Identity and Access management system, that together with the associated

---

<sup>1</sup> 'generic' in the sense that they abstract the information needed for the establishment and monitoring of new supply chains

trust framework will coordinate the identities of all IoT objects and ensure trustworthy data sharing among its members, aligned with the trust framework that is being implemented in EBSI.

- CM specific tools for the automatic recognition of recyclable parts by modern Machine Vision tools and Advanced Robotics, to enable optimised flows in the selection process.
- Novel circular business processes will be demonstrated supporting reusing, reducing, and recycling material in production and consumption systems. The new collaborative production models will provide quantifiable results on the sustainability increase across the supply chain, in terms of efficient use of raw materials, of by-products, of waste and energy and of emissions reduction. CIRCULOOS leverages the above with the RAMP integrated innovation IOT platform and the European network around it to deliver a CM ecosystem and platform for Manufacturing SMEs.
- Skills upskilling and reskilling will be provided in RAMP and through online courses, webinars, and best practice guides and success stories based on the pilots and Experiments for Demonstration (EXDs).

## 1.2 Deliverable Purpose

The deliverable provides a description of the results and the links to the online repositories containing the source code.

The material presented here is about:

- The RAMP Marketplace accessible at: [www.ramp.eu](http://www.ramp.eu)
- The data platform developed for the collection of information of production by-products from the manufacturers, available at: <https://github.com/european-dynamics-rnd/circuloos-data-platform>
- The code implementing the Vendor Onboarding Process at: <https://github.com/european-dynamics-rnd/circuloos-orchestrator/tree/master> ; the Vendor Onboarding Process models the process of evaluating new (previously unknown) suppliers in the context of CIRCULOOS (Circular Economy) before 'onboarding them', that is starting a new collaborations. It is a new functionality of RAMP and a (example) Use Case linking RAMP to the Camunda Engine.

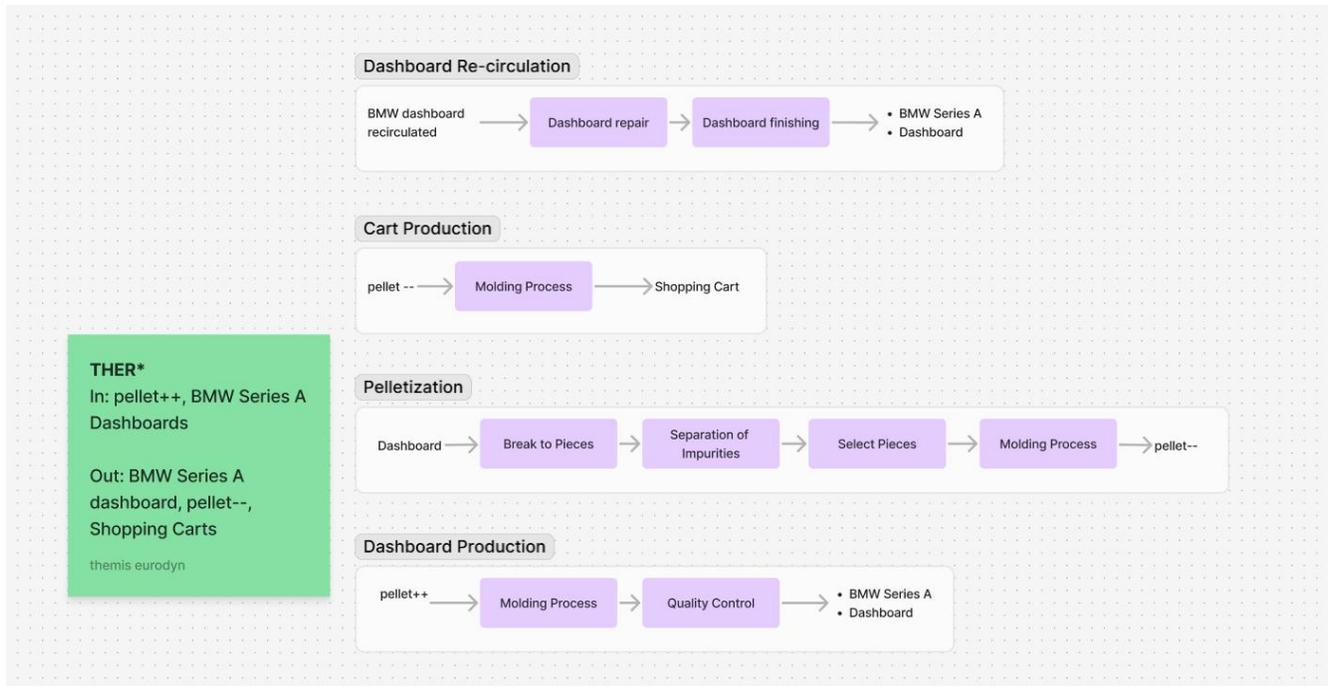
## 2 Supply Chain Synthesis and relevance to CIRCULOOS

### 2.1 What do we mean by ‘supply chain synthesis’

CIRCULOOS aims to support manufacturing companies lower their environmental footprint by helping them make the more ‘circular choices’, that is access-easier the production resources that come from recycled material or used components that can be repurposed/ repaired/ reengineered to satisfy some of the production needs.

The ‘supply chain synthesis’ is understood, in CIRCULOOS, as the process of compiling (building/synthesizing) new supply chains by connecting in a cascade fashion existing production process. To be able to do that, each manufacturing company describes the production processes they can realize during their registration in RAMP. RAMP then compiles a library of production processes describing at the appropriate level of abstraction their input, outputs and processing phases. The ability to use recycled material or repaired components is highlighted when describing the input of each manufacturing process. Figure 1 depicts three fictitious manufacturing companies, listing their production processes and their respective inputs and outputs. To have a standardized way of modeling these processes, CIRCULOOS chooses the BPMN standard.

The goal of the Supply Chain Optimizer (tool developed by partner CUT) is to explore the possible combinations that link the available inputs to the desired output (product), that is ‘synthesize new supply chains’ and to select the one that has the lowest cost (for the sustainability metric chosen, like CO2 footprint) or in a more general case the most preferred criteria set by the manufacturing companies.



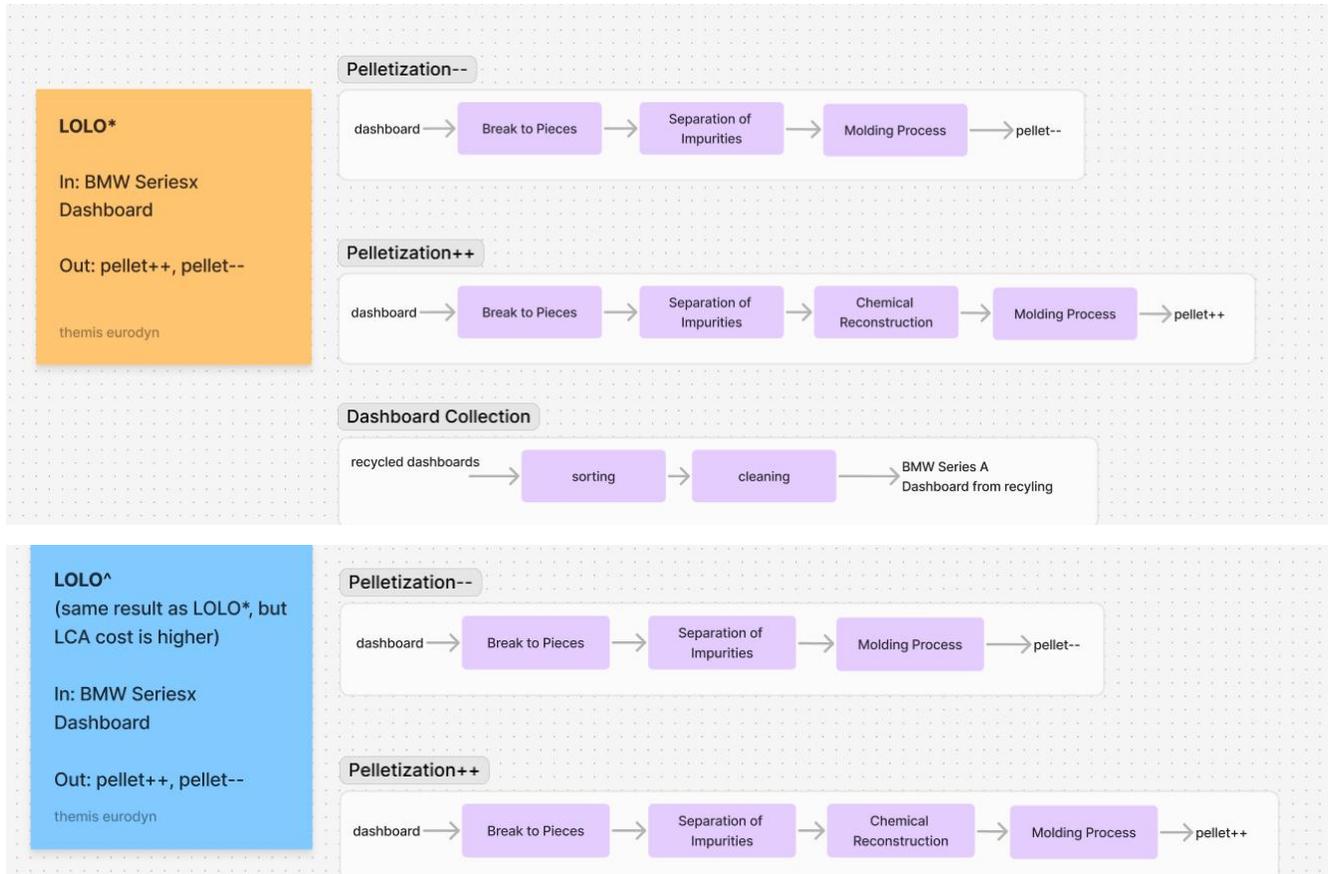


Figure 1 Example descriptions of production processes used for synthesis

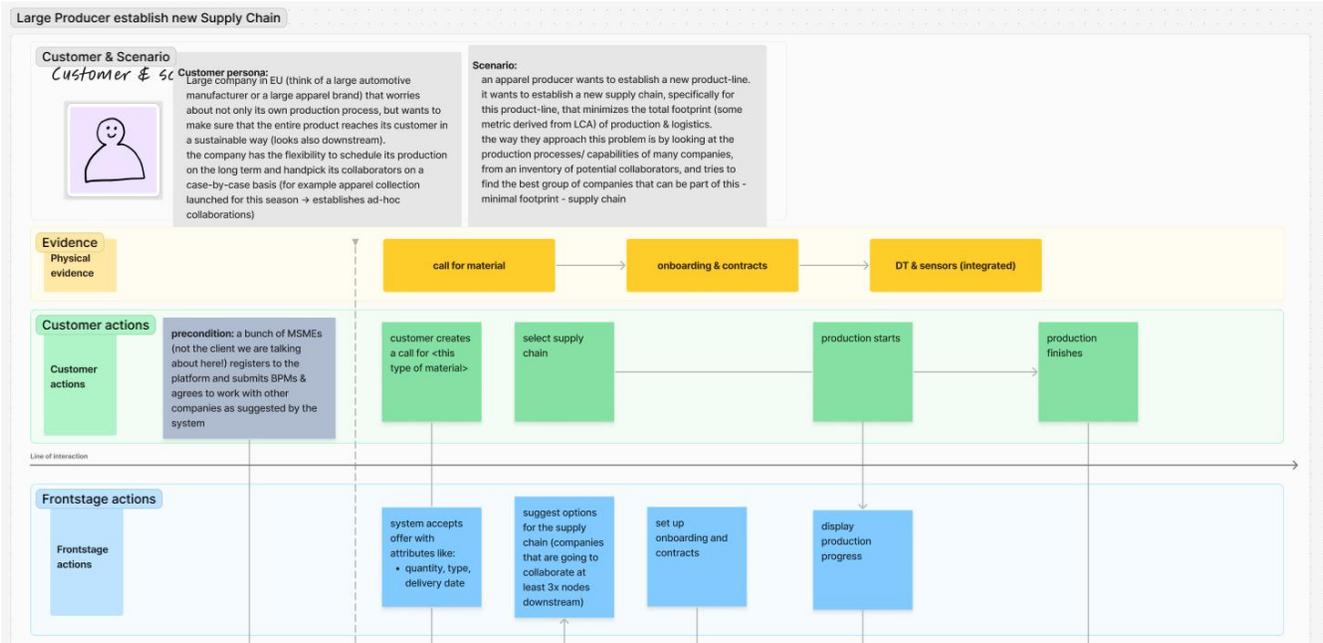
Figure 2 below describes the operation of the CIRCULOOS ecosystem of technical tools in the form of a Service Blueprint. The entire process uses a range of CIRCULOOS tools, which are described in more details in their respective deliverables:

- The RAMP Marketplace registers a number of manufacturers who provide along with their details, information about their production processes that allow the assessment of the environmental impact of their processes
- The Sustainability and LCA tool (D3.5) assess the environmental impact of the production processes assigning metrics that enable the comparison of production processes
- The RAMP Marketplace receives orders for the procurement of production resources and filters a list of potential candidates from the list of registered users
- The Supply Chain Optimization tool (D3.7) compares the available options, with respect to the sustainability metric and compiles the entire supply chain
- The Vendor Onboarding Process handles the ‘risk assessment’ process, conducted by individual manufacturers, for the onboarding of new suppliers
- The agreement for the new procurement is documented in a document that is traceable through blockchain (as a smart contract); this is a new addition to the project under T4.3.
- The production process is monitored, in terms of its progress, across the different production facilities (D3.3 & D3.1)
- In situations where the production process deviates significantly from the originally described, the LCA metric/ cost is updated by the Sustainability and LCA tool

The three red squares marked as (1-3) indicate the functionality of the RAMP platform with respect to the:

D3.1 Supply Chain Orchestrator

1. collection of manufacturing company profiles (during registration to RAMP) & feeding to the Supply Chain Optimizer tool (realized as an update of the user registration in RAMP, scheduled for M12-M23 of the project)
2. 'execution' of the Vendor Onboarding Process: after the appropriate mix of production processes has been identified by the Supply Chain Optimizer, the implicated companies need to commit to a commercial agreement. As a prerequisite to this agreement, the system allows them to execute a structured Risk Assessment before they commit to working with new (unknown to them) suppliers. This Vendor Onboarding Process is described in more detailed below (implemented during M1-M12 following the real-life Vendor Onboarding process implemented by the project's manufacturing end-users)
3. monitoring of the production process: after the agreements have been finalized the implementation/ realization of the production process can/ will be monitored via the deployment of the production process models (BPM) to the Camunda Engine and the connection to some critical systems of the manufacturers' shopfloors (technical implementation is covered by the implementation of the Vendor Onboarding Process - see step 2 above).



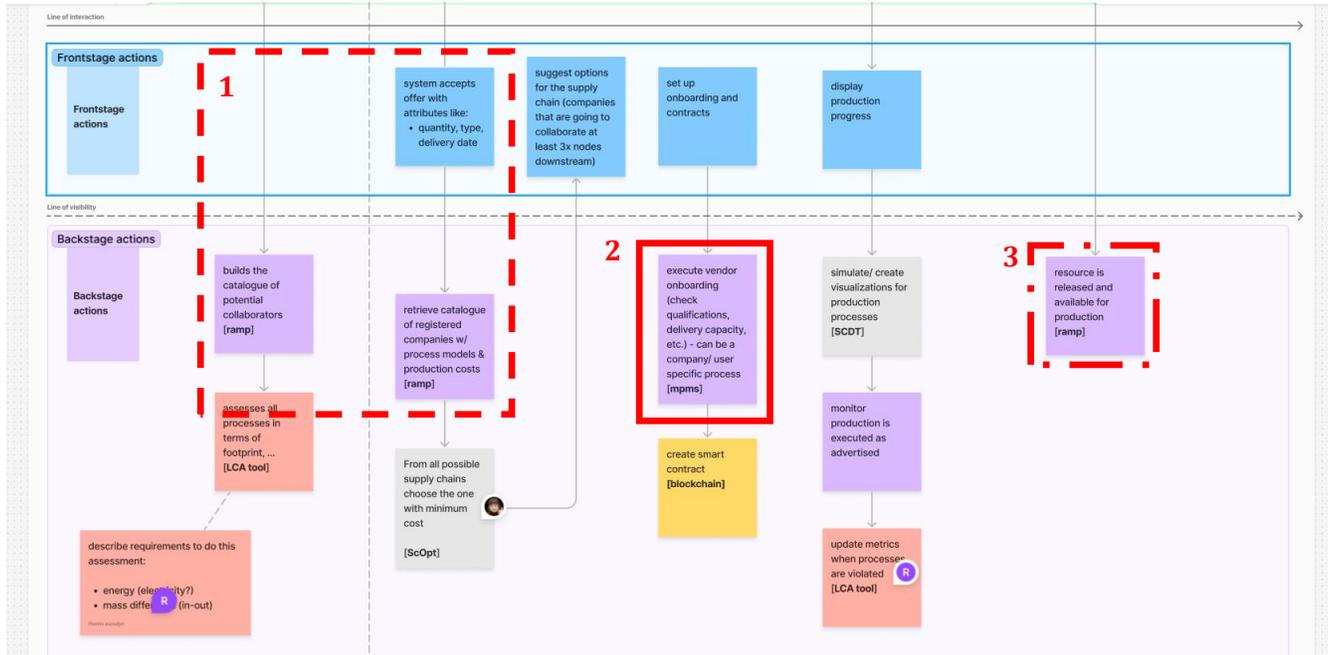


Figure 2 Service Blueprint indicating role of Orchestrator

The part pertaining to the synthesis of new supply chains is carried out by the Supply Chain Optimization tool (ScOpt), which is described under D3.7.

### 2.1.1 Collection of data from manufacturers

The CIRCULOOS data collection platform has been developed as part of T4.1 (and reported under D4.1) and is publicly available at: <https://github.com/european-dynamics-rnd/circuloos-data-platform>. Data is collected from the shopfloor and from the (connected) production planning systems of manufacturers (for example ERP) to serve the needs of the respective CIRCULOOS technical tools. Production planning data are used by the Supply Chain Optimizer (and the Vendor Onboarding Process described below) to find the best candidates for resource acquisition and some relevant production data is collected to visualize the progress of the production process. Criteria that measure the circularity and the sustainability are similarly derived from the shopfloor data. The platform is extending /repurposing and making available the FIWARE technology and its previous implementation of RAMP IIOT.

The data platform comprises of two main elements: (a) the ‘agent’ deployed at the data-collection points, i.e. the manufacturer’s premises/ shopfloor and (b) the server-side deployed at the premises of European Dynamics, which hosts the infrastructure for the persistent storage of this data and its connection to the RAMP Marketplace. The CIRCULOOS data platform, is based on the RAMP IIoT platform (<https://github.com/european-dynamics-rnd/RAMP-IIOT-LD>) extending it with the introduction of custom IoT agents and the use of the CIRCULOOS data model ([https://github.com/konstantinosGombakis/CIRCULOOS\\_Data\\_model](https://github.com/konstantinosGombakis/CIRCULOOS_Data_model)). The functionality of the data platform and the connection requirements are available at the online documentation and briefly described below:

To provide/send data to the CIRCULOOS data platform end-users have two options:

D3.1 Supply Chain Orchestrator

- by sending it as a valid NGSI-LD JSON to the Orion-LD. With this option platform users have to implement a mechanism to receive the Authentication token from the CIRCULOOS Keycloak and provide the token alongside the transferred data (in the form of an NGSI-LD JSON)
- by utilizing the NGSI-LD Federation scheme. Under this scheme the data sent by the end-user will be received by the local Orion-LD Context Broker and will be forwarded to the CIRCULOOS Orion-LD.

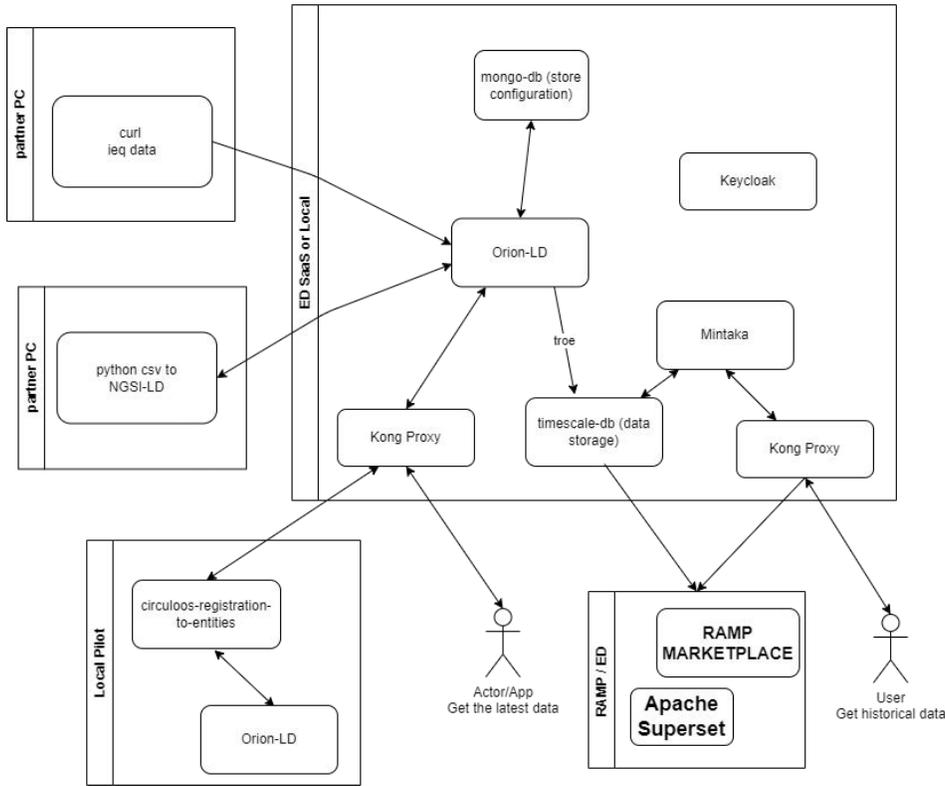


Figure 3 Technical architecture of CIRCULOOS data platform

Figure 3 in the above shows the functionality of the main architectural components of the CIRCULOOS Data platform and both of the two options described above: (a) sending data to the central Orion Context Broker directly or (b) sending data via the federated scheme of Context Brokers. The second option (federated scheme) has been developed to provide an extra layer of isolation on the data transmission pipeline for security and anonymity purposes. The first scheme (sending data directly to Orion Context Broker) is demonstrated by the two boxes on the top left-hand side of the figure (indicated as ‘partner PC’) and the second scheme (federated access) is depicted by the box at the lower left-hand side (marked as ‘Local Pilot’). RAMP resides at the European Dynamics infrastructure (marked as RAMP/ED) and can access the data either through a direct connection to the central data storage or via connection to the component Kong Proxy (from the Fiware ecosystem of solutions) - as an extra layer of isolation. The data can be visualized on the RAMP marketplace as offering or as timeseries on the Apache Superset depending on their attributes (leftover or sensor data).

This platform has been instantiated at the European Dynamics server and the end-users’ pilot locations and satisfies the connectivity requirements between the two.

### 3 Integration between RAMP-Camunda Engine

The integration between RAMP and the Camunda Engine allows (a) the synthesis of BPM diagrams from a collection of individual diagrams and (b) the automatic instantiation of such diagrams from the interface of RAMP (instantiation is towards the Camunda Engine).

This integration is demonstrated in a new (not originally foreseen) Use Case that describes the assessment of new potential suppliers (“vendors”) through a structured Risk Assessment process (see also Sec.2). Qualified candidates become ‘trusted partners’ and can accept and deliver new orders - made through RAMP.

#### 3.1 Vendor Onboarding Process

The orchestration of the interaction between a company looking for suppliers and the candidate suppliers is modeled in a series of BPM models, which follow the hierarchical structure of ‘global’ and ‘local’ models (i.e. the model is implemented using subroutines).

The Vendor Onboarding Process (VOP) distinguishes between ‘trusted’ and ‘unknown’ suppliers, that is suppliers with which the manufacturing company has worked with in the past or not. The VOP implements a Risk Assessment process, from the side of the manufacturing company, to assess potential candidates (members of RAMP) in terms of their ability to deliver and in terms of the (sustainability) practices followed during production. The process definition is based on the business practices of the plastic pilot (led by THER).

As described by the Service Blueprint (see Sec.2), the VOP is triggered as soon as the Supply Chain optimizer has developed a recommendation for the composition of the new supply chain & the manufacturing end-user has (provisionally) accepted it.

Figure 4 depicts the start of the VOP process with the manufacturing end-user choosing between ‘trusted partners’, that is partners that do not need to go through the Risk Assessment process and ‘untrusted partners’. The VOP continues for the second kind of partners, subjecting them to a structured Risk Assessment process before committing to a collaboration with them.

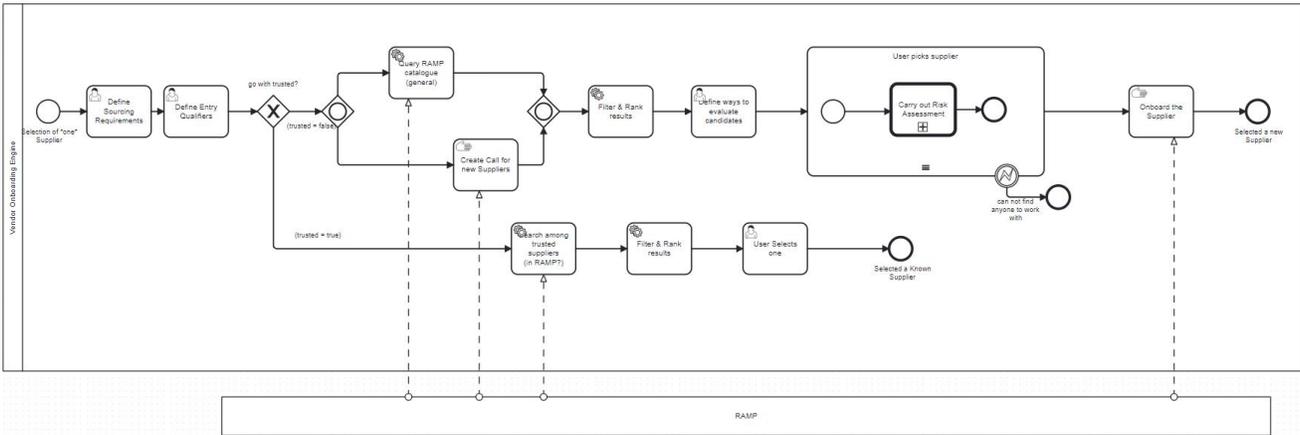


Figure 4 BPMN of supplier selection

The Risk Assessment may comprise of three steps: (a) visitation on premise, (b) use of a self-assessment form and (c) request of a proof of work. The candidate supplier receives a score from each of these steps which is evaluated at the next phase of the Risk Assessment process.

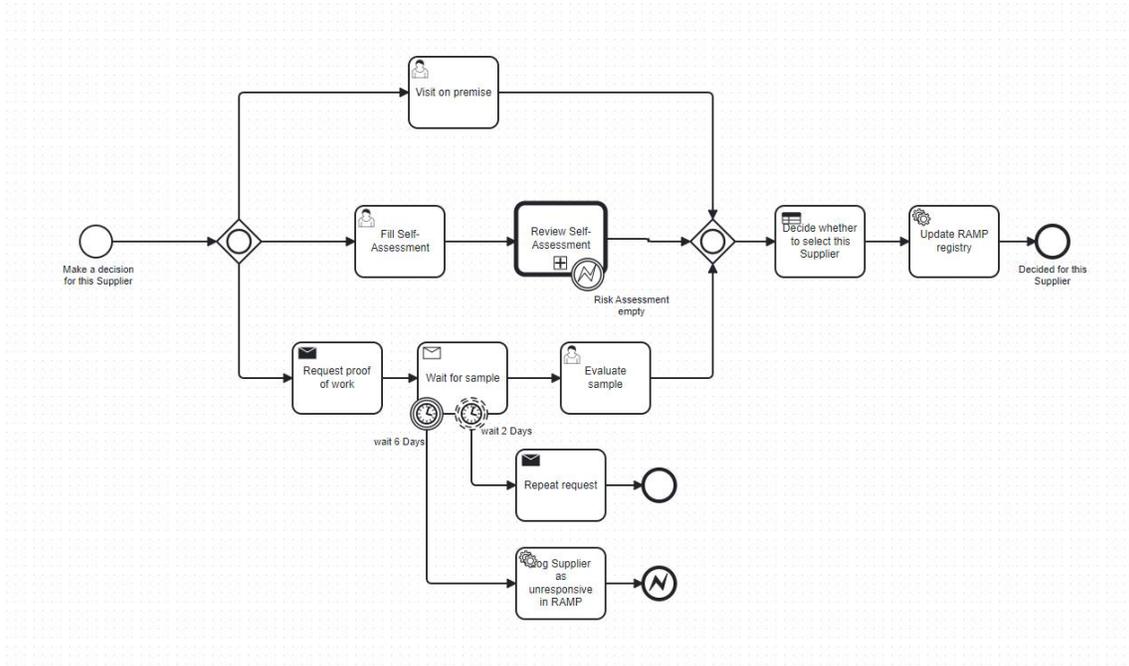


Figure 5 BPMN for Vendor qualification requirements specification

The total score of the candidates can be evaluated automatically, via a set of decision rules or in cases of inconclusive results - by engaging a human responsible. Figure 6 & Figure 7 show this process & decision tables.

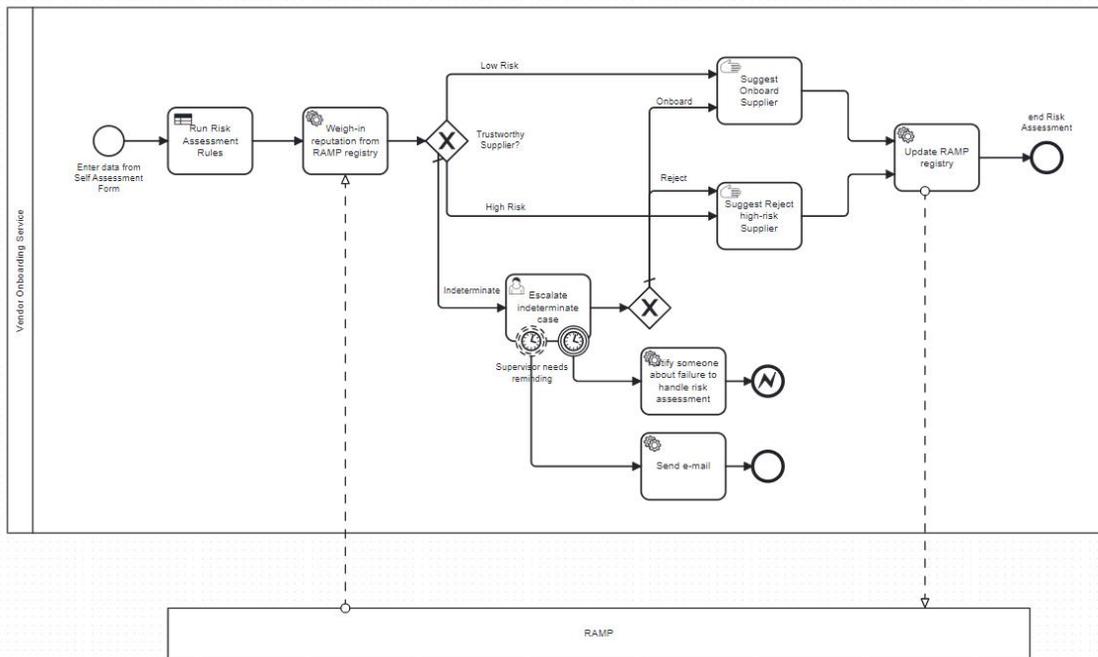


Figure 6 BPMN for Vendor qualification after Risk Assessment

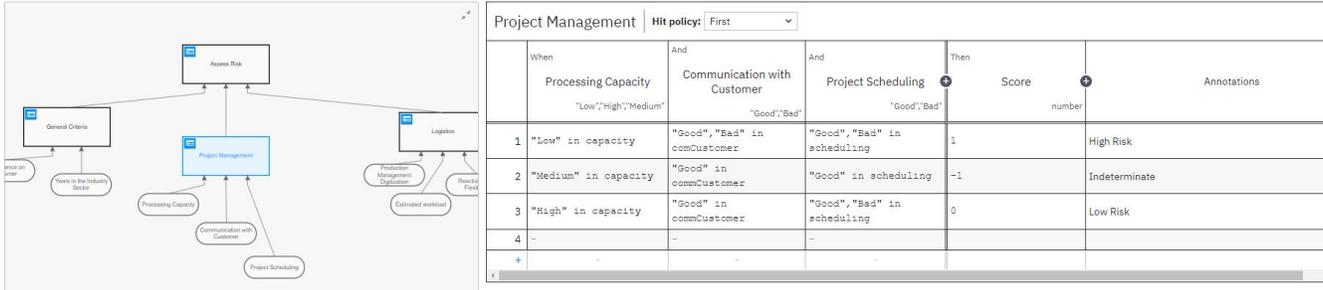


Figure 7 Detail of Decision Table used for Risk Assessment under VBO

### 3.2 Deployment of the BPM processes from RAMP

The Vendor Onboarding Process is one example of BPM processes that are deployable from RAMP under the scope of CIRCULOOS. Additional BPM models may describe manufacturing activities, which when connected to the CIRCULOOS Data Platform can show the evolution of the production process.

The code in Appendix A is a collection of the REST calls required to instantiate such models from RAMP and the way in which RAMP and the Camunda Engine (responsible for the execution of these BPM models) interact (exchange data). It is noted that this example has been used as a pilot for the development of this integration (RAMP-Camunda Engine) and will be used for the instantiation of the production models (BPM) of the manufacturing process that will join the CIRCULOOS community through the pilots and the EXDs (experiments from the Open Calls).

## 4 Conclusion

The document provides a high level view of the structure of the Supply Chain Orchestration mechanism, that is of the mechanism developed to enable the composition of new supply chains from existing BPMs. It also presents the individual components of the architecture, as well as one example of a BPM which will be used in the context of CIRCULOOS, that of a Vendor Onboarding Process. The links to the source code for this development have been given as well.

## Appendix A

```

{
  "info": {
    "_postman_id": "757b64f5-b133-4192-9724-9ca0113ef871",
    "name": "Camunda-RAMP-CIRCULOOS",
    "schema":
"https://schema.getpostman.com/json/collection/v2.1.0/collection.json",
    "_exporter_id": "20754895"
  },
  "item": [
    {
      "name": "start process",
      "request": {
        "method": "POST",
        "header": [],
        "body": {
          "mode": "raw",
          "raw": "{\r\n    \"definitionKey\":
\"VOE\", \r\n    \"businessKey\": \"username2\", \r\n    \"variables\": {\r\n}\r\n",
          "options": {
            "raw": {
              "language": "json"
            }
          }
        }
      },
      "url": {
        "raw":
"http://localhost:8081/ms/company/api/v1/camunda/start",
        "protocol": "http",
        "host": [
          "localhost"
        ],
        "port": "8081",
        "path": [
          "ms",
          "company",
          "api",
          "v1",
          "camunda",
          "start"
        ]
      }
    },
    {
      "name": "front-end-polling/get-form-completion-status by
email and status",
      "request": {
        "method": "GET",
        "header": [],
        "url": {
          "raw":
"<endpoint>/username1/fill_self_assessment/assignedTo/username2.com ",
          "protocol": "http",

```

```

        "host": [
            "localhost"
        ],
        "port": "8081",
        "path": [
            "ms",
            "company",
            "api",
            "v1",
            "camunda",
            "get-form-completion-status",
            "username2",
            "pending"
        ]
    },
    "response": []
},
{
    "name": "starting_requirements_form",
    "request": {
        "method": "POST",
        "header": [],
        "body": {
            "mode": "raw",
            "raw": "{\r\n  \"material\": \"gold\",\r\n  \"color\": \"red\",\r\n  \"normative\": \"test normative\",\r\n  \"trusted\": false,\r\n  \"fromRAMP\": true,\r\n  \"deliveryDate\": \"2024-08-14T00:00:00.000Z\",\r\n  \"rampGeneral\" : true,\r\n  \"openCall\" : false,\r\n  \"sourceMaterial\": \"the source material\"\r\n // check value types <---\r\n}",
            "options": {
                "raw": {
                    "language": "json"
                }
            }
        }
    },
    "url": {
        "raw":
"<endpoint>/username1/fill_self_assessment/assignedTo/username2.com ",
        "protocol": "http",
        "host": [
            "localhost"
        ],
        "port": "8081",
        "path": [
            "ms",
            "company",
            "api",
            "v1",
            "camunda",
            "user-response",
            "username1",
            "send_starting_requirements",
            "assignedTo",
            "username2"
        ]
    }
},

```

```

        "response": []
    },
    {
        "name": "risk_assessment_form",
        "request": {
            "method": "POST",
            "header": [],
            "body": {
                "mode": "raw",
                "raw": "{\r\n  \"visitNeeded\": true,\r\n
\"selfAssessmentNeeded\": true ,\r\n  \"evidenceNeeded\": true\r\n}",
                "options": {
                    "raw": {
                        "language": "json"
                    }
                }
            },
            "url": {
                "raw":
"<endpoint>/username1/fill_self_assessment/assignedTo/username2.com ",
                "protocol": "http",
                "host": [
                    "localhost"
                ],
                "port": "8081",
                "path": [
                    "ms",
                    "company",
                    "api",
                    "v1",
                    "camunda",
                    "user-response",
                    "username1",
                    "risk_assessment_requirements",
                    "assignedTo",
                    "username2"
                ]
            }
        },
        "response": []
    },
    {
        "name": "send_sample",
        "request": {
            "method": "POST",
            "header": [],
            "body": {
                "mode": "raw",
                "raw": "{\r\n  \"messageName\" :
\"waiting_for_sample\", \r\n  \"businessKey\" : \"username1\r\n}",
                "options": {
                    "raw": {
                        "language": "json"
                    }
                }
            },
            "url": {
                "raw": "<endpoint>/engine-rest/message",

```

```

        "protocol": "http",
        "host": [
            "localhost"
        ],
        "port": "8089",
        "path": [
            "engine-rest",
            "message"
        ]
    },
    "response": []
},
{
    "name": "visit_on_permise_form",
    "request": {
        "method": "POST",
        "header": [],
        "body": {
            "mode": "raw",
            "raw": "{\r\n  \"visitReason\": \"example
text, example text, example text, example text, \"\r\n}\",
            "options": {
                "raw": {
                    "language": "json"
                }
            }
        },
        "url": {
            "raw":
"<endpoint>/username1/fill_self_assessment/assignedTo/username2.com ",
            "protocol": "http",
            "host": [
                "localhost"
            ],
            "port": "8081",
            "path": [
                "ms",
                "company",
                "api",
                "v1",
                "camunda",
                "user-response",
                "username1",
                "visit_on_premise",
                "assignedTo",
                "username2"
            ]
        }
    },
    "response": []
},
{
    "name": "fill_assessment_form",
    "request": {
        "method": "POST",
        "header": [],
        "body": {

```

```

        "mode": "raw",
        "raw": "\r\n\r\n{\r\n    \"selfAssessment\" :
\"Self assessment entry data\"\r\n}",
        "options": {
            "raw": {
                "language": "json"
            }
        }
    },
    "url": {
        "raw":
"<endpoint>/username1/fill_self_assessment/assignedTo/username2.com",
        "protocol": "http",
        "host": [
            "localhost"
        ],
        "port": "8081",
        "path": [
            "ms",
            "company",
            "api",
            "v1",
            "camunda",
            "user-response",
            "username1",
            "fill_self_assessment",
            "assignedTo",
            "username2"
        ]
    }
},
"response": []
},
{
    "name": "run_risk_assessment_rules_form",
    "request": {
        "method": "POST",
        "header": [],
        "body": {
            "mode": "raw",
            "raw": "{\r\n    \"someRules\" :
\"rules\", \r\n    \"score\" : 85\r\n}",
            "options": {
                "raw": {
                    "language": "json"
                }
            }
        }
    },
    "url": {
        "raw":
"<endpoint>/username1/fill_self_assessment/assignedTo/username2.com",
        "protocol": "http",
        "host": [
            "localhost"
        ],
        "port": "8081",
        "path": [
            "ms",

```

```
    "company",
    "api",
    "v1",
    "camunda",
    "user-response",
    "username1",
    "run_risk_assessment_rules",
    "assignedTo",
    "username2"
  ]
},
"response": []
}
]
```

# CIRCULOods



This project has received funding from the European Union's Horizon Europe research and innovation programme under grant agreement No 101092295. The herewith information reflects only the author's view. The European Commission is not responsible for any use that may be made of the information herewith included.