



Value Chain Generator: Circular Procurement



Value Chain Generator® Smart data platform to maximize the value of waste, at scale!

Advanced data analytics and the proprietary BioLink® algorithm to optimize supply networks for profit and climate impact by turning underutilized residuals into profitable circular opportunities.



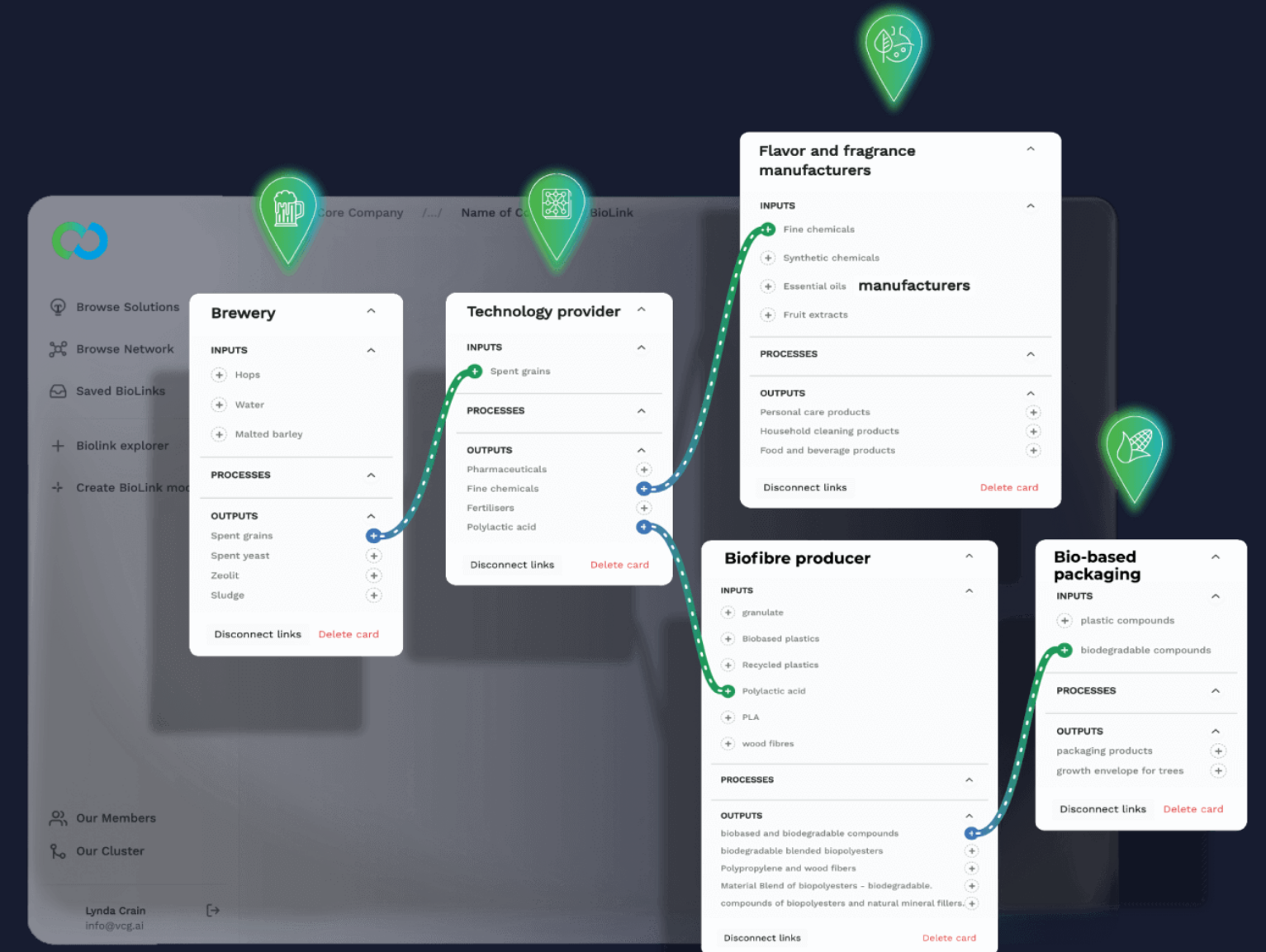
Reduce waste
& the related
costs



Take advantage
of new profit
opportunities



Decarbonise
supply chains &
products



The Value Chain Generator: Turning waste into useful resources



What is circular procurement?

I would like to procure 10,000 computers with parts coming from renewable processes.

I would like to procure 10,000 computers with local sourcing.

Which one is better?
How do we compare them?



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Need a common language /
means of comparison:
CE Taxonomy

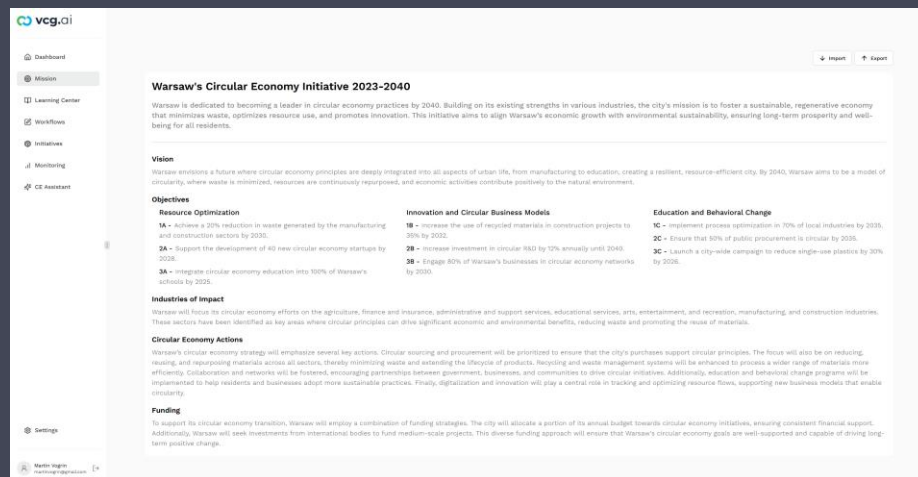
Building blocks (MECE)

Indicators	Economic activities	Actions (modules)
<p>OECD indicators (relevant for workflows)</p> <p>ISO59000 standard (very broad)</p>	<ul style="list-style-type: none"> • Electronics and ICT • Transportation • Plastics • Textiles • Construction and buildings • Food, water and nutrients 	<p>ISO 59000 standard</p> <p>+</p> <p>Supplementary actions (learning, preparing documentation, dissemination,...)</p>

Three use cases of AI in circular/sustainable procurement

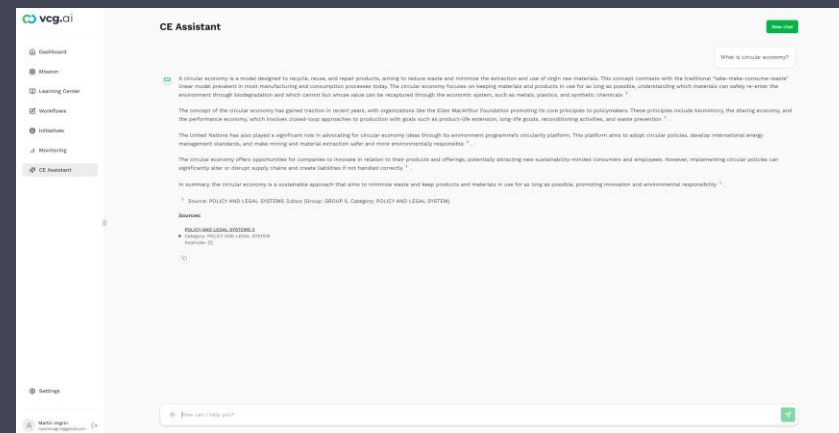
Mission/strategy generation

AI generator of circular procurement missions (mission text + objectives)



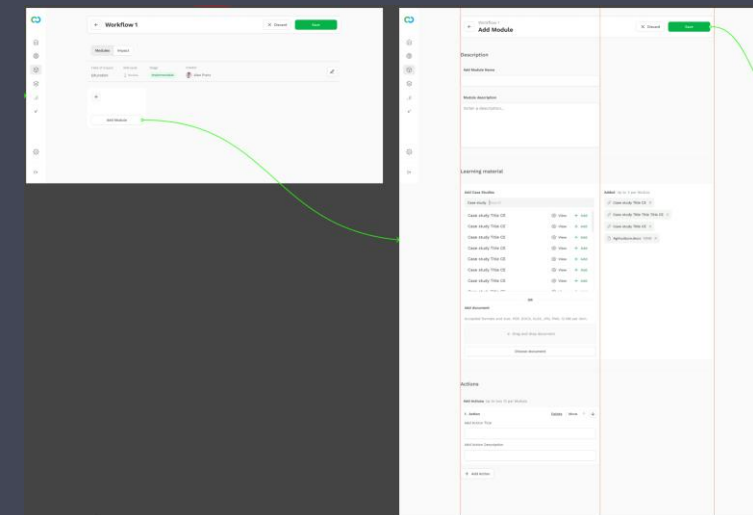
CE Assistant (procurement assistant)

Chatbot, pre-trained with taxonomy, case studies, best practices, etc. Includes data sources!

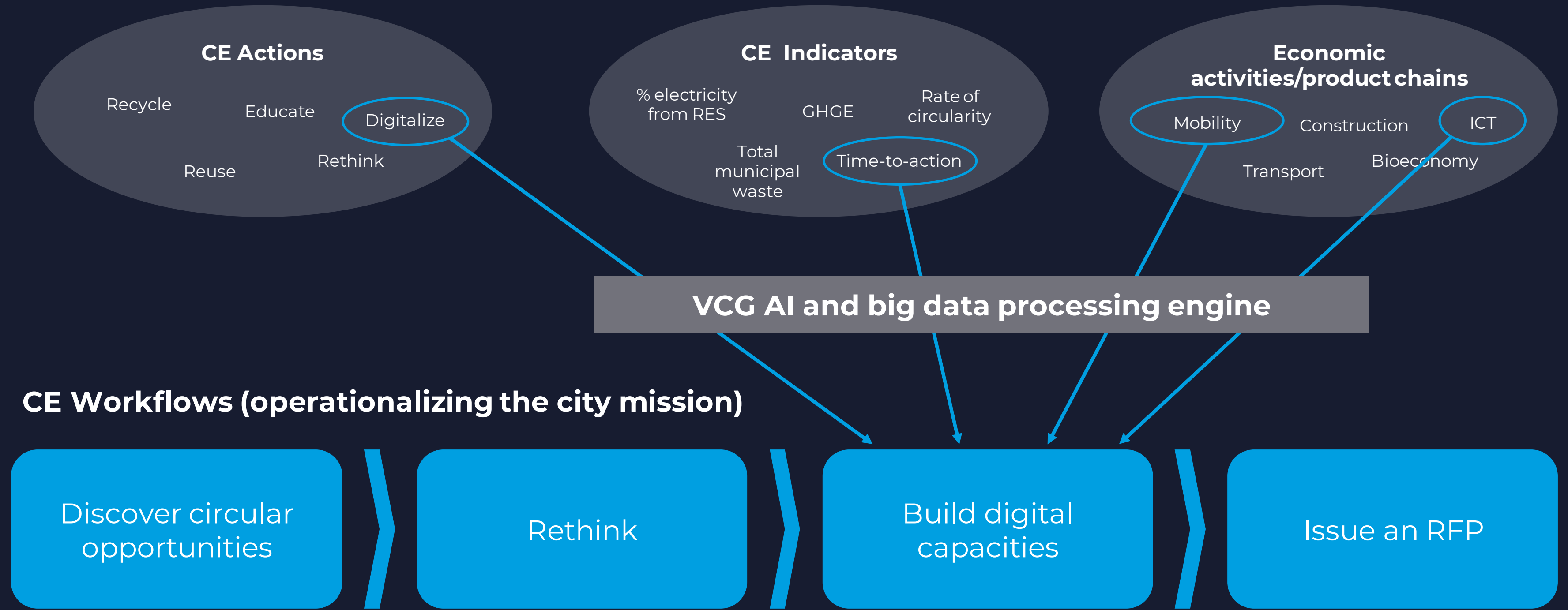


Workflow design

AI generation of entire (procurement) workflows



VCG.AI: Finding value chains through the CE Taxonomy space



The data driven approach

 Big data
input

 Circular value chain building

 Targeted
outcome

Large, clean and structured datasets on companies

Data on industrial activity, input / output products, processes, and side streams

BioLink models based on LLM³ document analysis (LCA, scientific papers, techno-economic analysis)

Discovery

Identify circularity potential

NLP²-based big data extraction

Automatic residuals inflow and outflow discovery

Matchmaking

Exploit the circular potential

Company matching with deep learning (AI)

Reliable cross-industry business connections

Validated upstream & downstream circular solutions and business models, with reliable and transparent business connections for companies and entire value chains in seconds!

Evaluation

Evaluate economic and climate impact

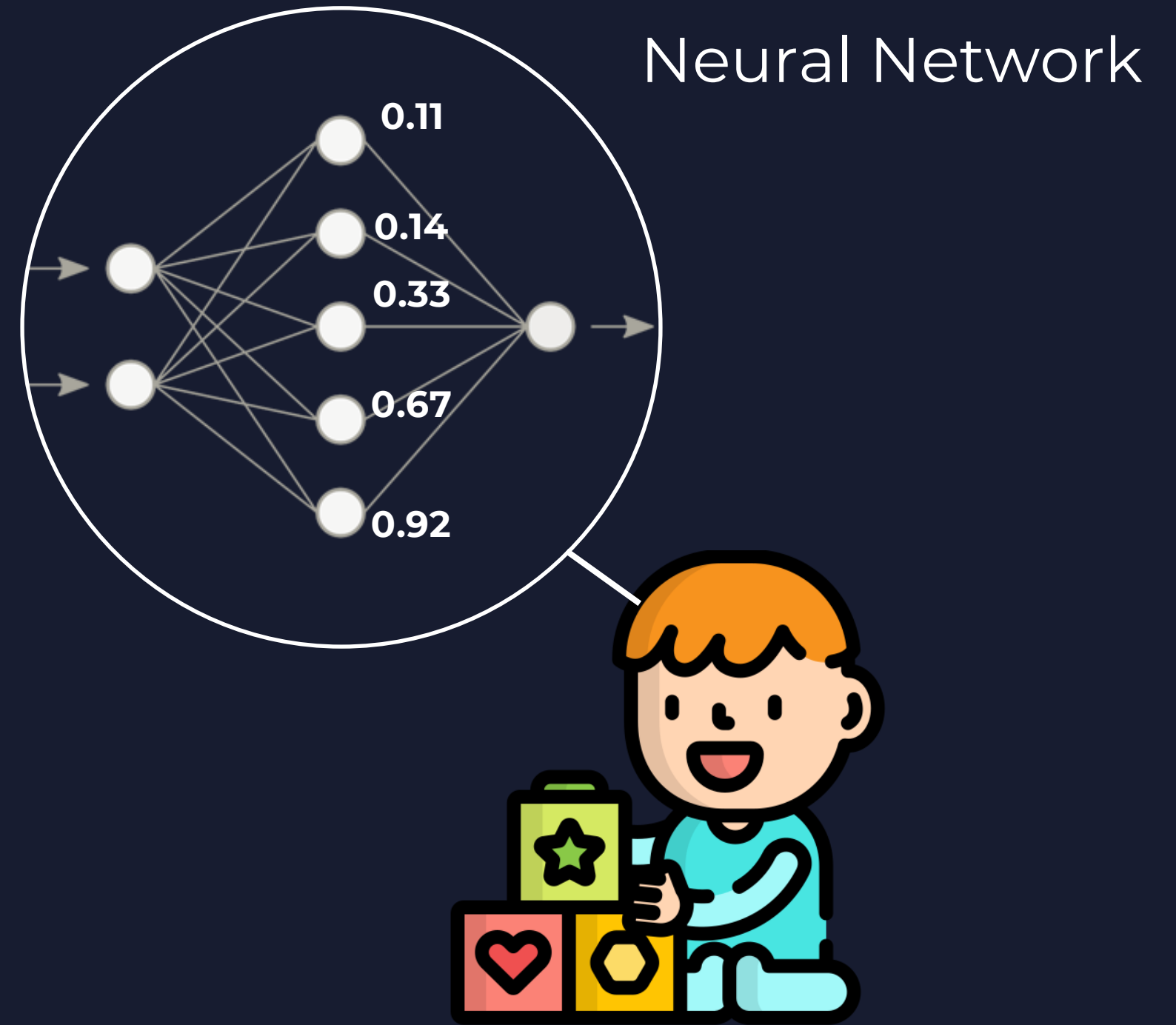
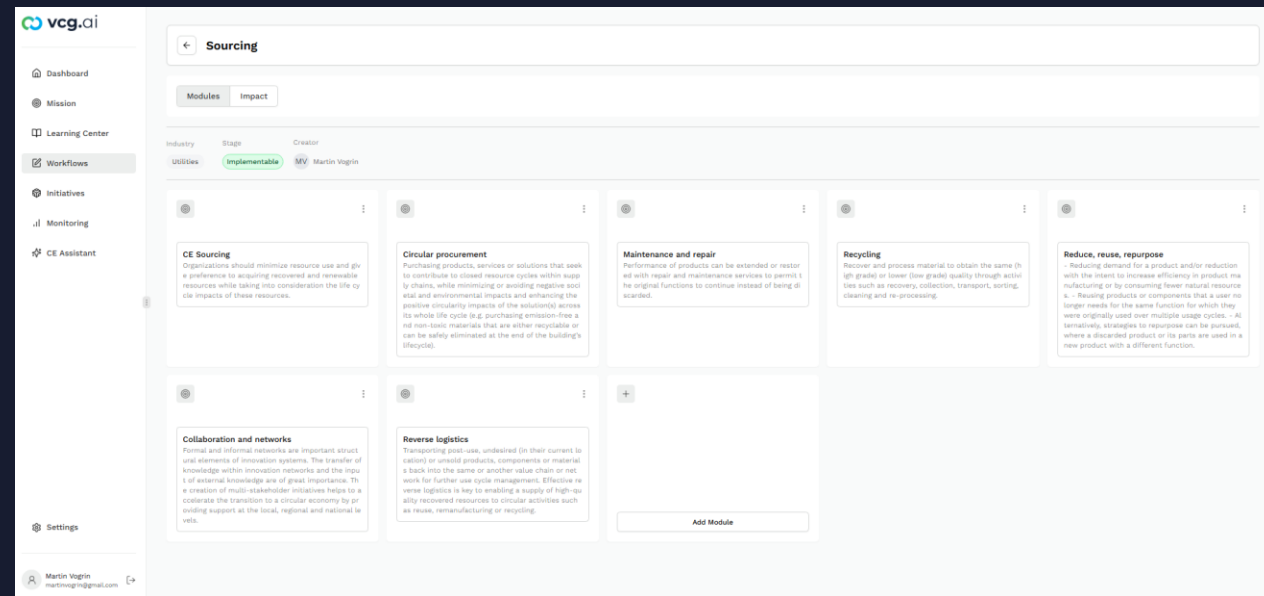
LLM-based BioLink model evaluation

Validated circular business model

1 - Circular and cross-sectoral business connection, **2** - Natural language processing, **3** - Large language model

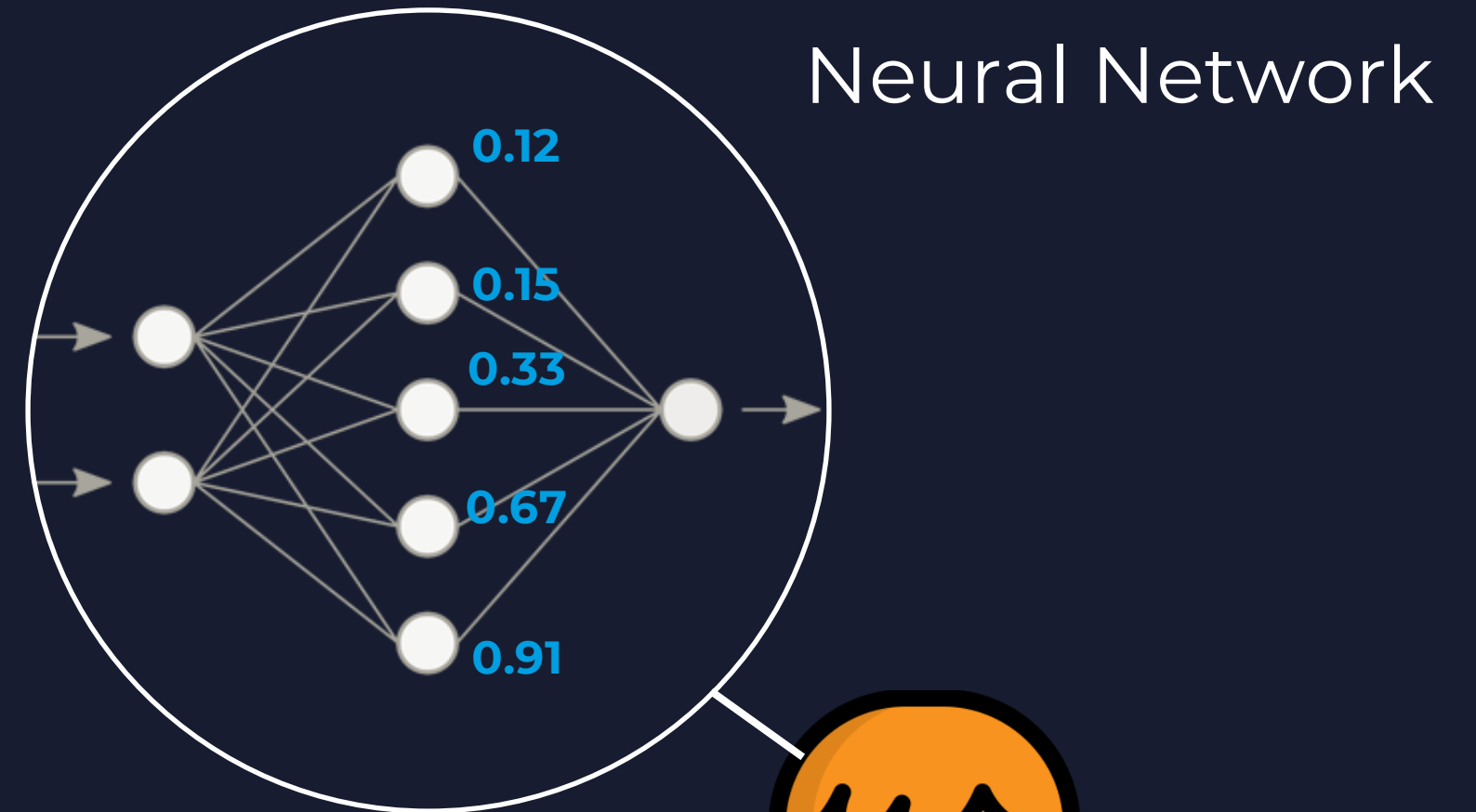
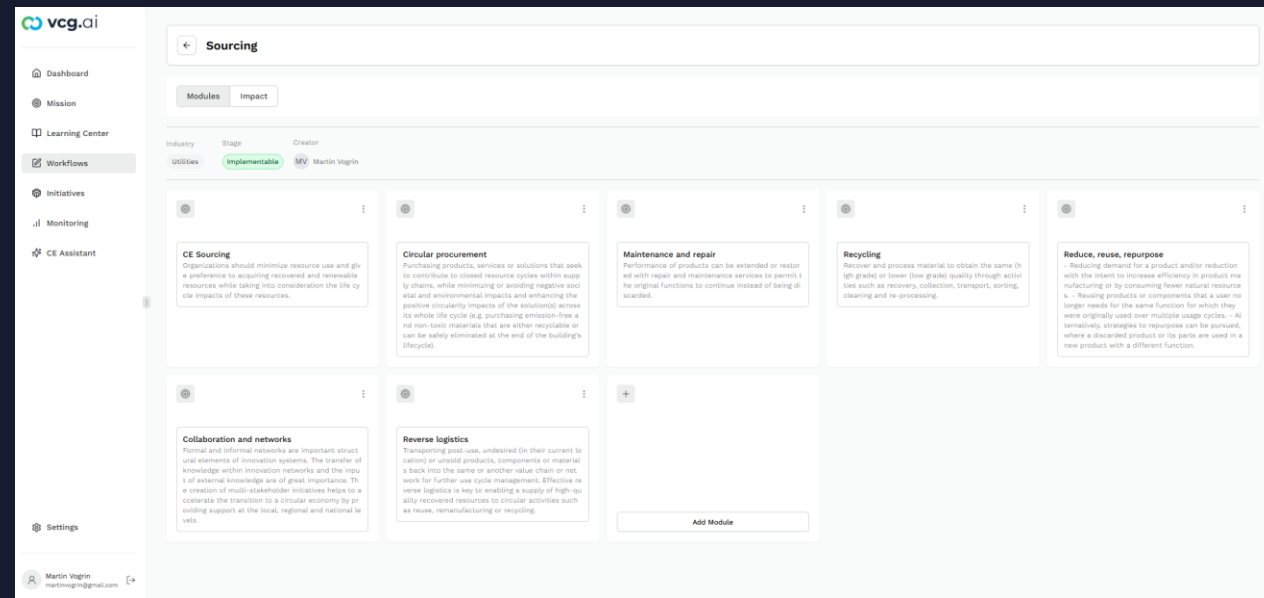
Two-tenant workflow architecture – in-context learning

AI generated workflow

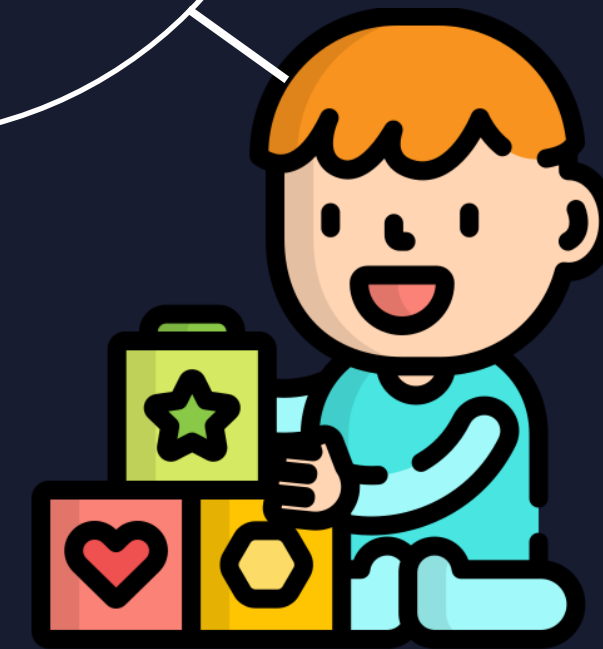
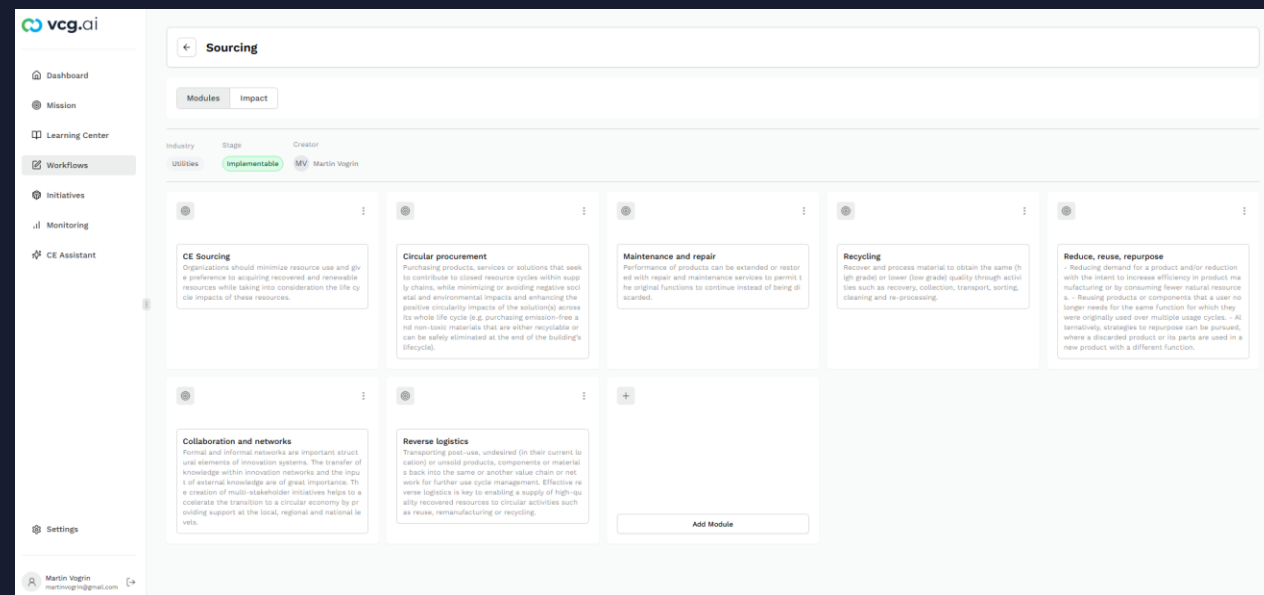


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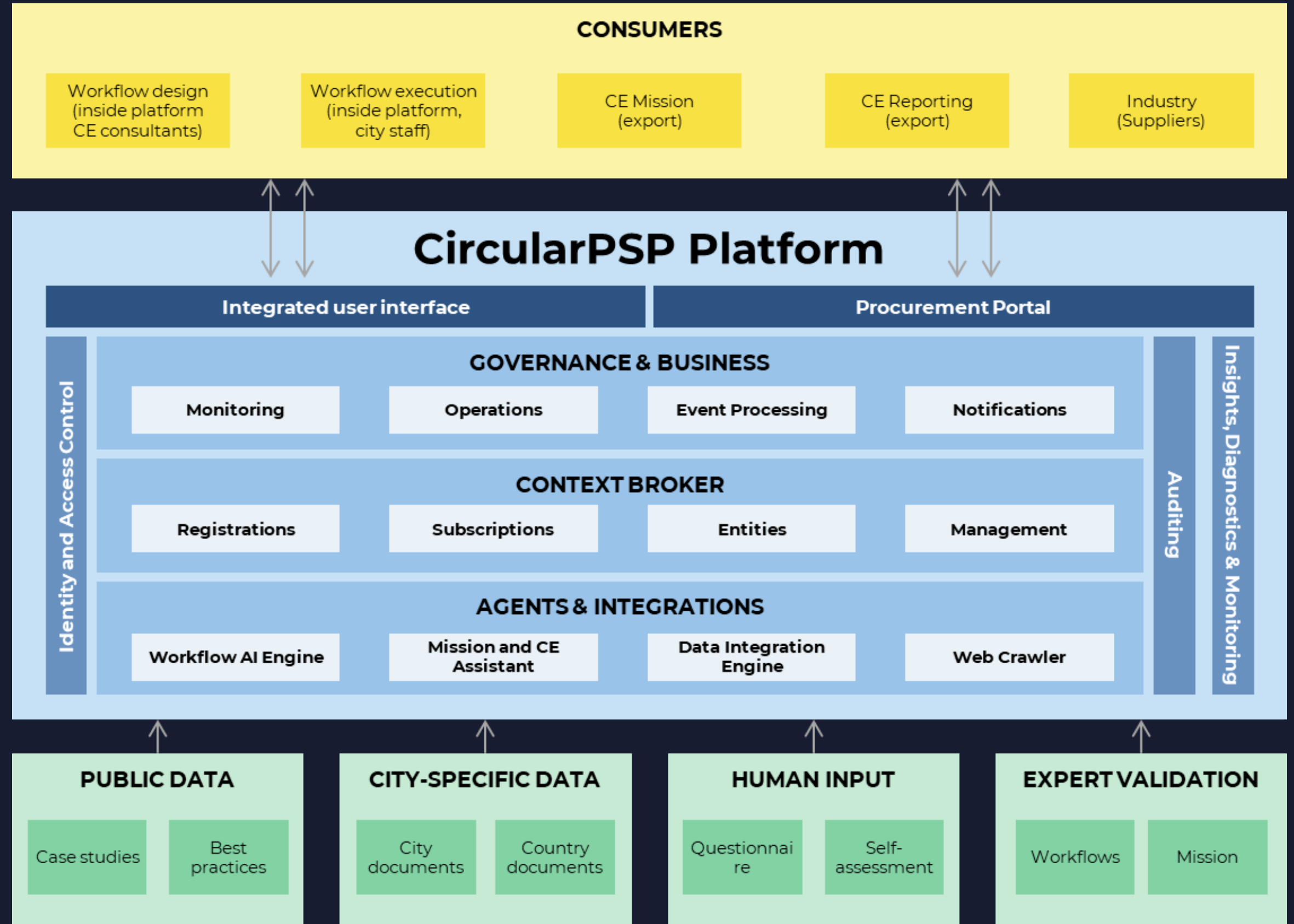


Human validated workflow

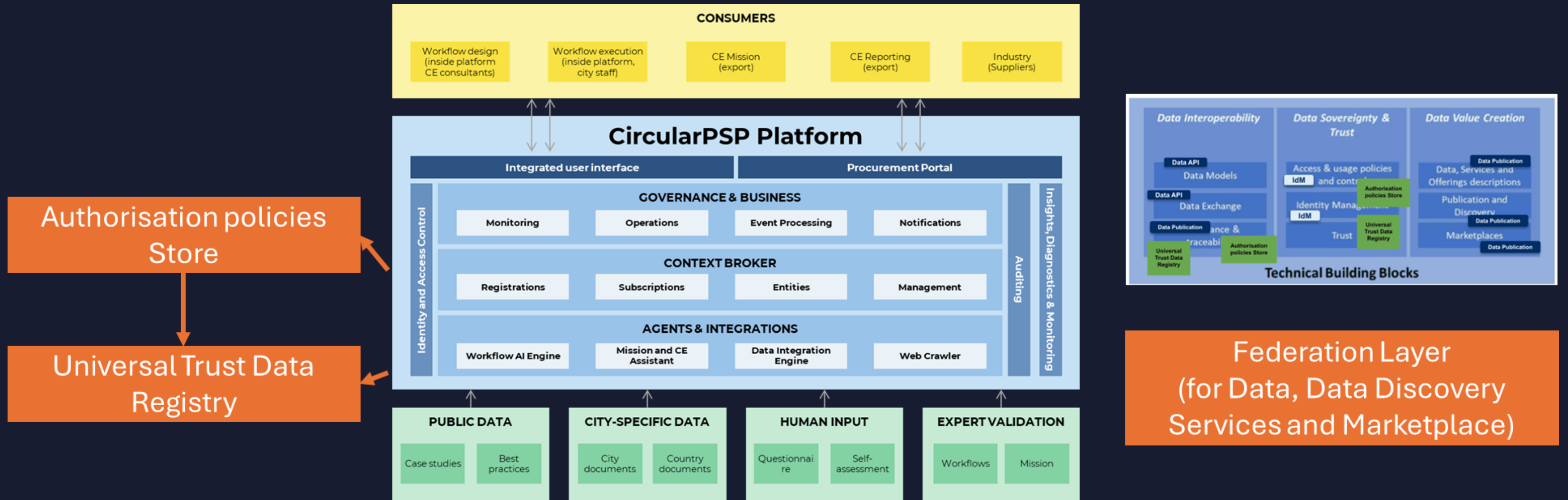


Organisation

Data space architecture



Evolved platform architecture (data space architecture)





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