Centurion Group Limited

Towards 2050: Achieving Metal Circularity Through University and Industry Collaboration

February 6, 2025

CENTURION

ABOUT CENTURION

Centurion is a global leader in the supply of rentals and services to a range of critical industries for complex, challenging and remote locations.

12
COUNTRIES

89
BASES

2400+
PEOPLE

RENTAL & SERVICES
FOR COMPLEX, CHALLENGING & REMOTE LOCATIONS


Oil & Gas

O&G Decarb

Renewables

Minerals

Infra. & Other

6 CORE BUSINESS LINES[1] SERVICING REMOTE LOCATIONS

Accommodation & Modular	Power & Equipment	Lifting & Cranes	Water & Wastewater	Pressure Control	Subsea Services






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OEUK Presentation on Circular Metals

Towards 2050: Achieving metal circularity through university and industry collaboration

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1. Metal Circularity Model

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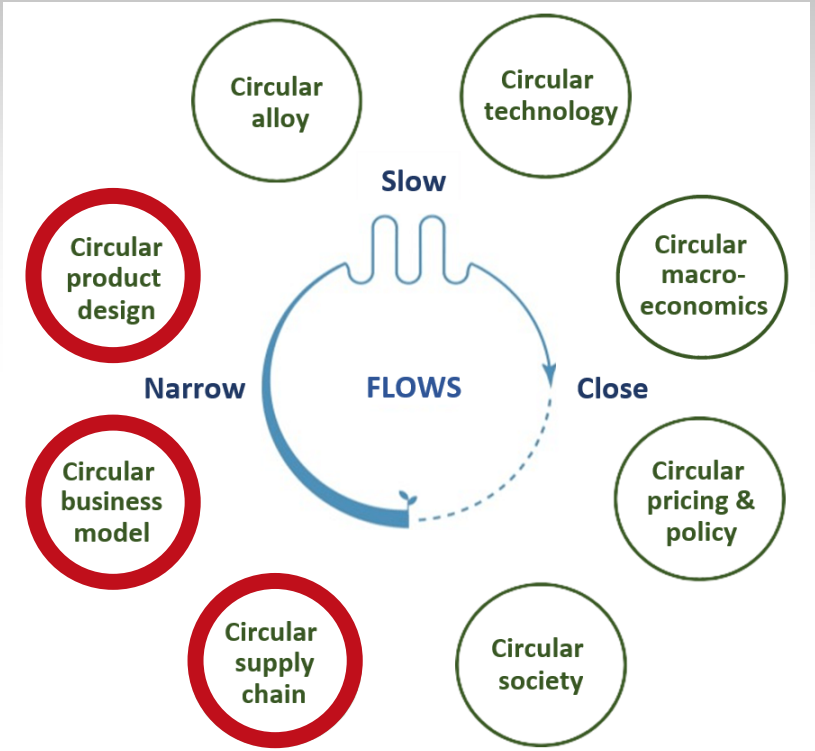
Achieving Full Metal Circulation in the UK



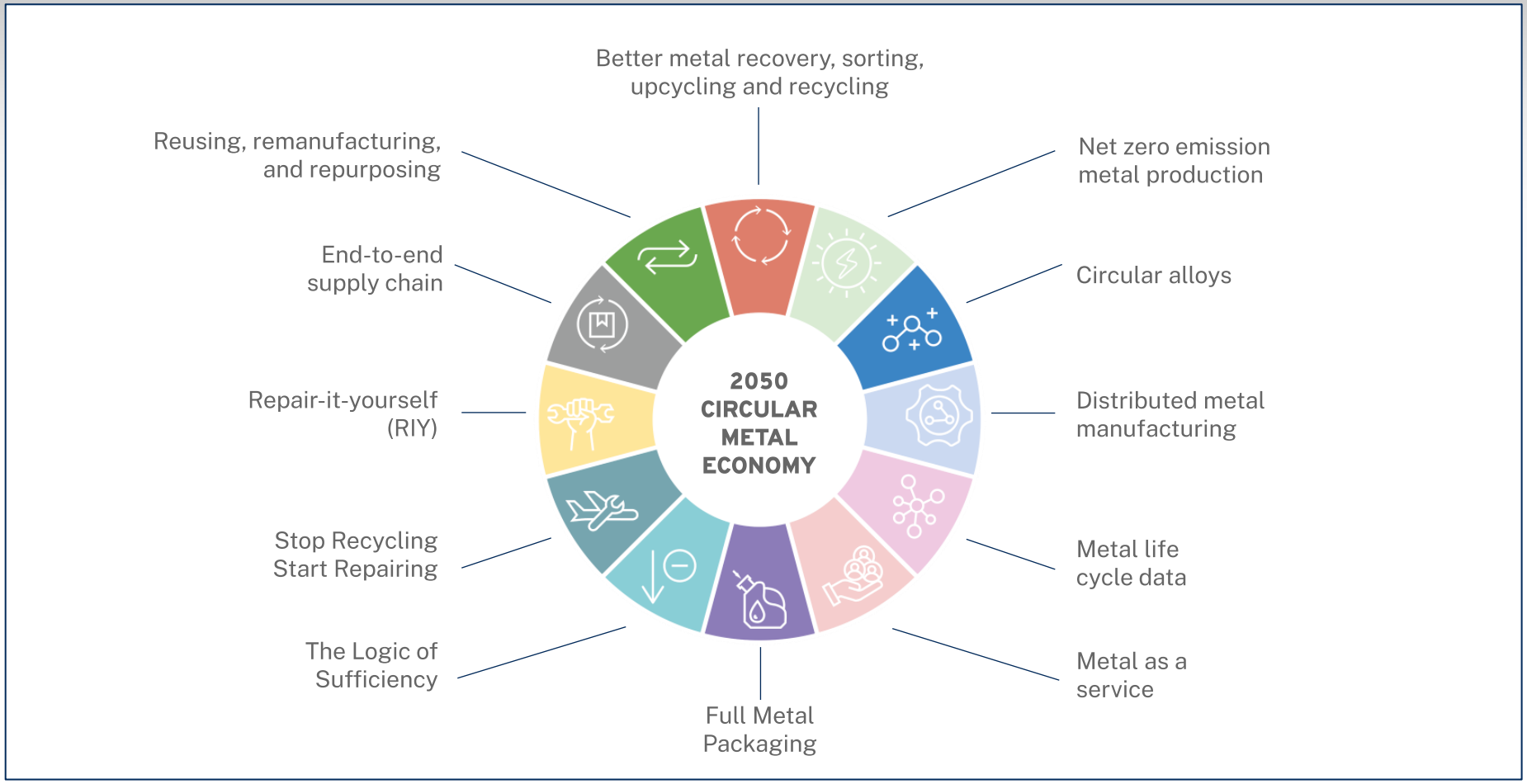
- We address 8 areas through circular design strategies to influence resource flows: **narrow** (using less) **slow** (using for longer) **close** (recover materials for reuse)

Our Approach with Centurion - Overview

Phase 1 Scoping Study	Phase 2 Long-Term Circular Business Model	Phase 3 Circular Product Design and Supply Chain Design	Phase 4 Review and Discuss Outcomes
Online interview	*In-person workshop*	*Online interview*	*Online workshop*
• Identify and map the current supply chain and business model • Analyse barriers to circularity	• Use a toolkit to explore circular business model opportunities • Define long-term circular business model	• Discuss the implications of the circular business model on the supply chain and products and propose design strategies.	• Validate findings • Risk identification • Action planning

Future visions: Introducing what circularity in the UK Metal sector looks like

Framework of 12 visions, representing the technologies, societal change, and business innovation required for full circularity



Our Approach with Centurion – Phase 1

Each vision contains multiple circular business model opportunities

Opportunities can be combined to create new business model opportunities

VISION 06

METAL LIFE CYCLE DATA

Data was essential for the development of the metal ecosystem in the UK. The UK has established platforms to facilitate data sharing and enhance collaboration among companies. This achievement was facilitated by various emerging technologies and AI.

VISION 06

6.1 ~ AUTONOMOUS SMART PRODUCTS IN A CONNECTED ECOSYSTEM

What if your product could connect to other products in real-time through an open system to foster sustainable habits?

BUSINESS MODEL ASPECTS

Value is delivered through the provision of interconnected products within a shared ecosystem that can adapt and cater to the unique needs and preferences of users, hence ensuring a seamless and effective operating process in real-time. Access to current operations data helps companies make informed decisions and provide additional services.

Value is captured through multiple channels, such as cost-saving operations, dynamic pricing for the use of products in the ecosystem, monetising data by sharing anonymised, selling and providing additional services, and product usage fees.

VISION 06

6.2 ~ DIGITAL MONITORING AND DIAGNOSIS SYSTEM

What if you could charge customers for your digital monitoring and diagnosis system based on outcomes or performance achieved?

BUSINESS MODEL ASPECTS

Value is delivered by implementing comprehensive lifecycle digital solutions that monitor, control, optimise, and enhance autonomous capabilities of products. The incorporation of digital technologies enables organisations to provide advanced services, such as remote diagnostics and preventive maintenance, thus potentially improving operational efficiency and reducing client inaction.

Value is captured through various pricing models, including performance-based pricing, where customers pay based on the outcomes or performance achieved. Companies also harness insights into customers and partner equipment to provide tailored solutions, enhancing value capture.

VISION 06

6.3 ~ CIRCULAR AUTONOMOUS MARKETPLACE

What if you facilitated direct machine-to-machine trading to enhance resource allocation of your unsold, surplus or unused resources?

BUSINESS MODEL ASPECTS

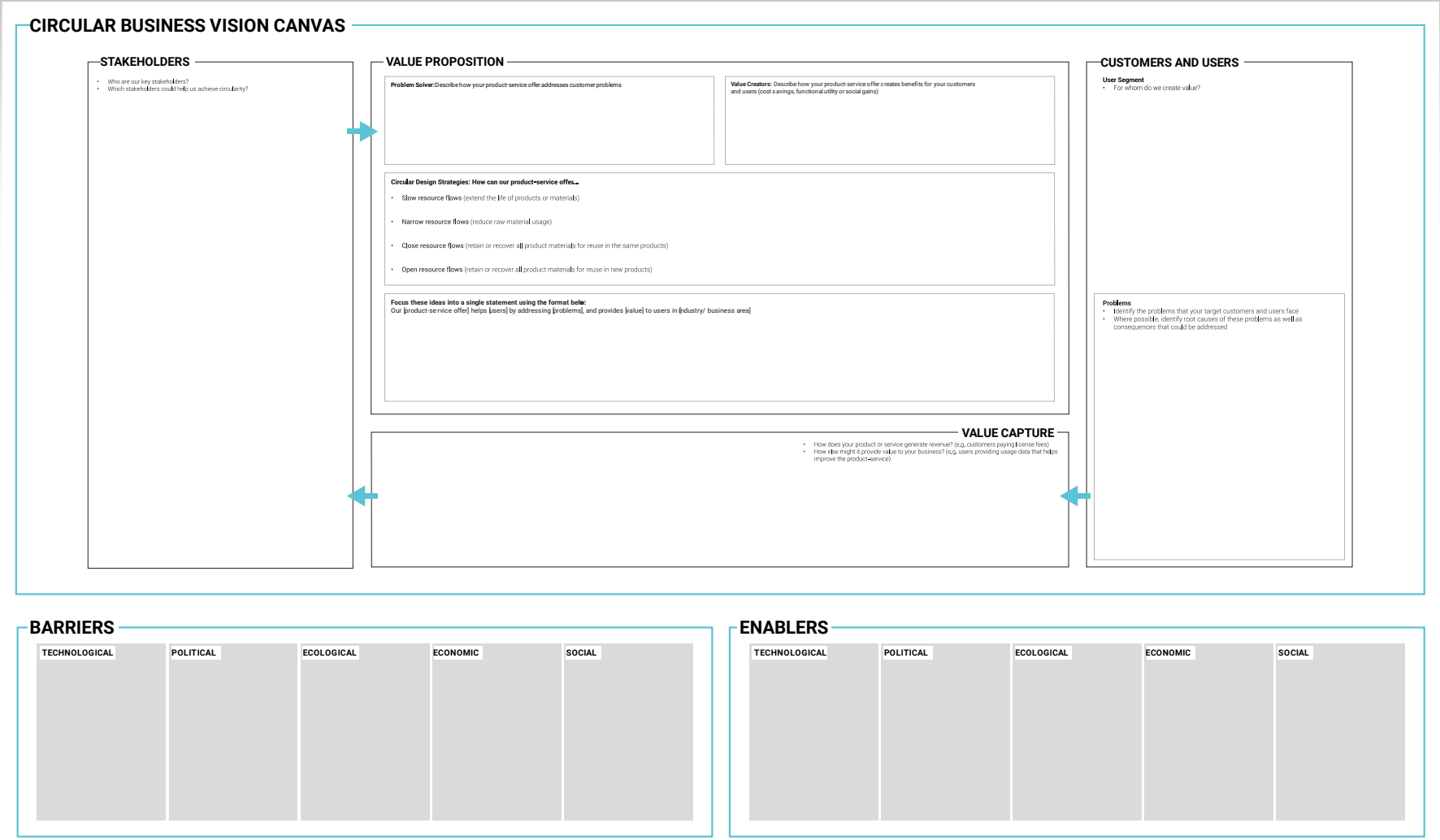
Value is delivered by increasing market efficiency of used, unsold, surplus or unused resources through machine-to-machine trading. Autonomous marketplaces enable direct connections between buyers and sellers, eliminating the need for human intermediaries and streamlining the selling process.

Value is captured by efficiently allocating resources and reducing transaction costs, improving inventory management, optimising the availability of unsold, surplus, or underused resources, and eliminating unsold inventory that could be valuable to others.

Our Approach with Centurion – Phase 1

Refine insights into a Circular Business Model

Sections including customers and users, value capture, stakeholders, value proposition, and barriers and enablers



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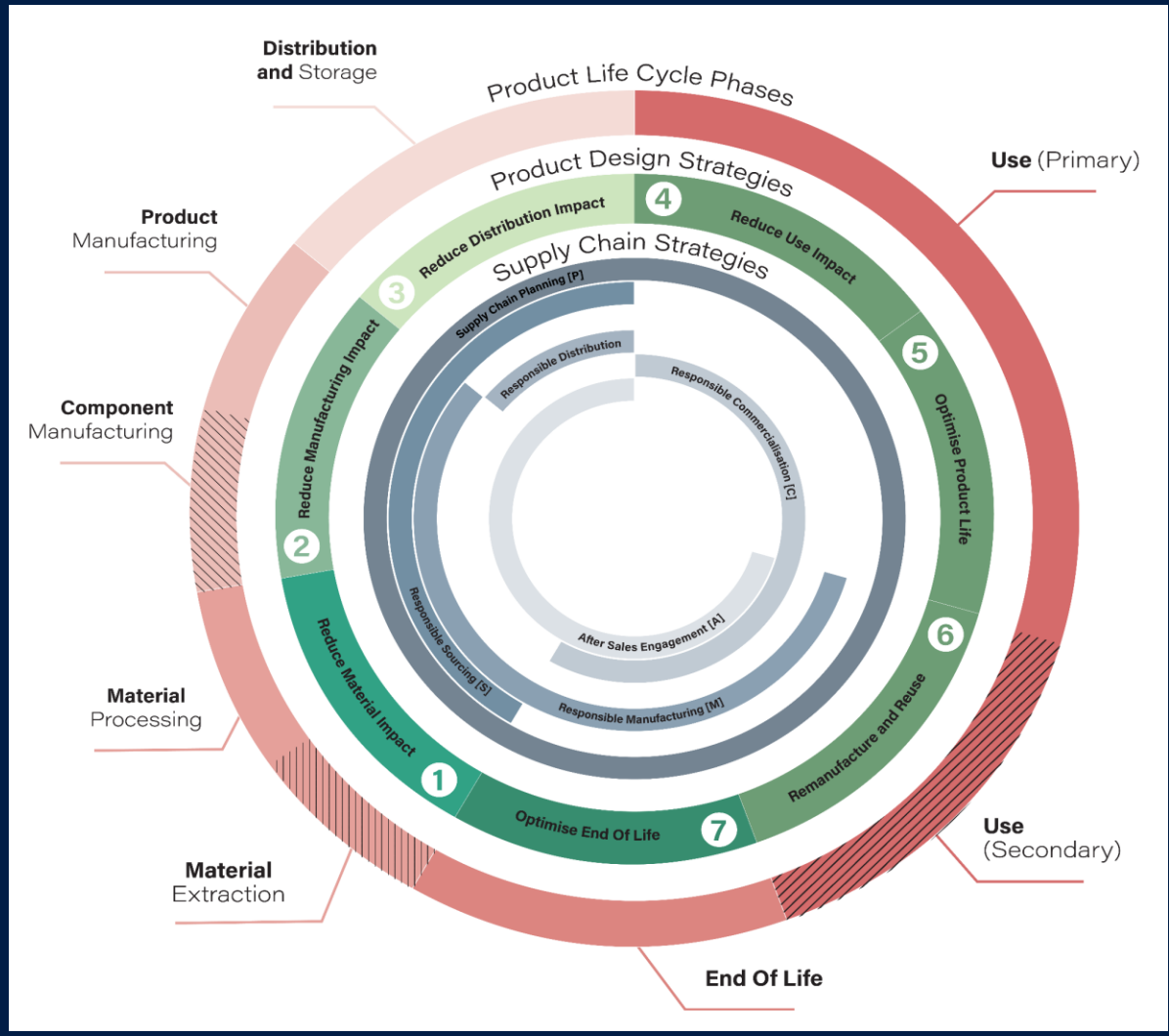
Integrated model of product design and supply chain strategies

500 Circular product design and supply chain strategies, principles and guidelines, structured around 7 overarching strategies



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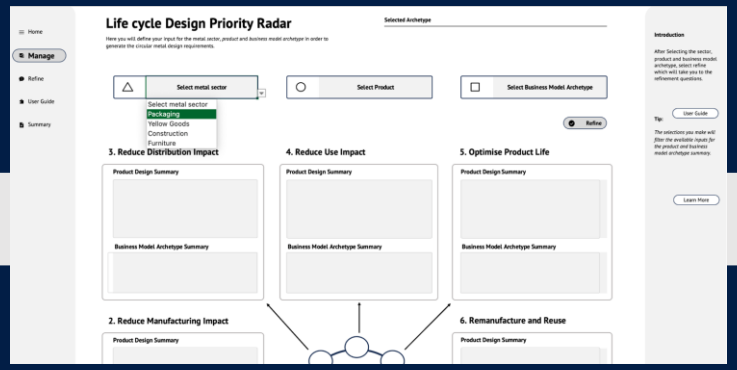
Product Design Process

1

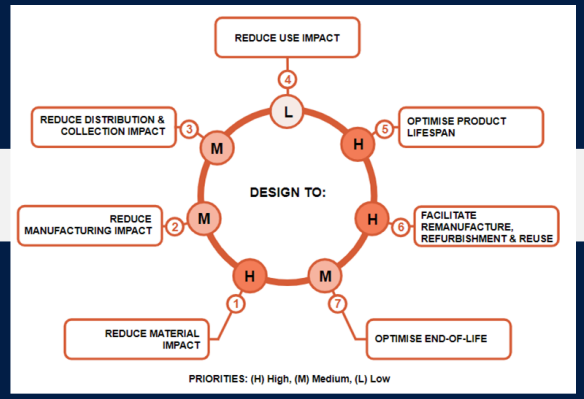
Collection and systematisation of product design elements, including 500 circular **product design guidelines** specific to the metal sector.

2



Interview with Centurion to select preferred product option and gather additional information about design & manufacturing requirement/constraints through a dedicated tool

3



Prioritisation of the 7 overarching strategies and identification of relevant design principles and guidelines

Development of initial **design recommendations**

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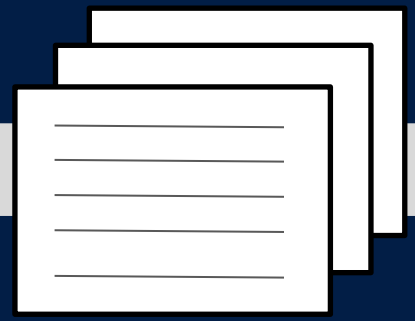
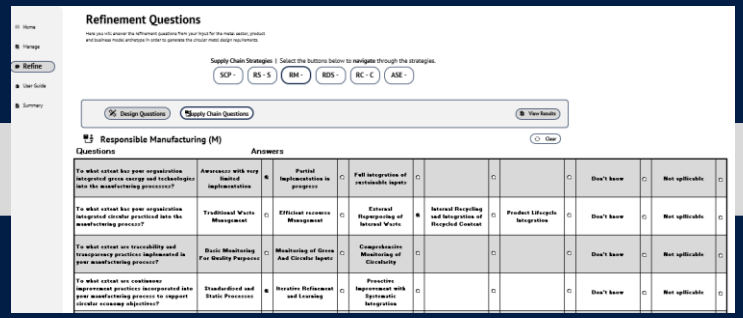
Supply Chain Design Process

1



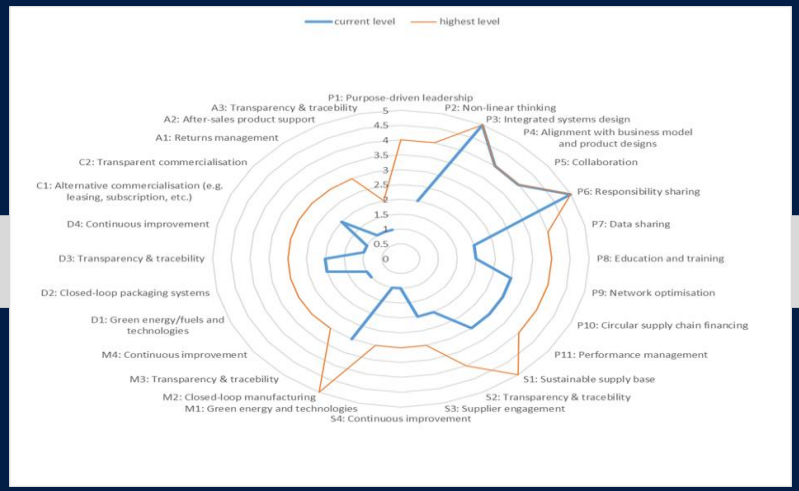
Identification and systematisation of 28 supply chain design principles and 309 guidelines.

2



Interview with Centurion representatives to identify the current levels of circular supply chain design maturity along its stages.

3



Development of the **circular supply chain design recommendations** for the future.

P1: Purpose-driven leadership
P2: Non-linear thinking
P3: Integrated systems design
P4: Alignment with business model and product designs
P5: Collaboration
P6: Responsibility sharing

P7: Data sharing
P8: Education and training
P9: Network optimisation
P10: Circular supply chain financing
P11: Performance management

Circular Supply Chain Planning (P)

Responsible sourcing (S) → Responsible manufacturing (M) → Responsible distribution and storage (D) → Responsible commercialisation (C) → After-sales engagement (A)

S1: Sustainable supply base
S2: Transparency & traceability
S3: Supplier engagement
S4: Continuous improvement

D1: Green energy/fuels & technologies
D2: Closed-loop packaging systems
D3: Transparency & traceability
D4: Continuous improvement

A1: Returns management
A2: After-sales product support
A3: Transparency & traceability

M1: Green energy and technologies
M2: Closed-loop manufacturing
M3: Transparency & traceability
M4: Continuous improvement

C1: Alternative commercialisation (e.g. leasing, subscription, etc.)
C2: Transparent commercialisation

Circular Study

Maintenance and refurbishment

Rental and Sales

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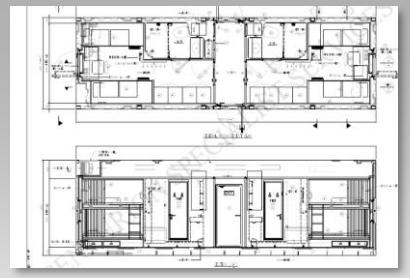
ACCOMMODATION & MODULAR

SPECIALIST SERVICES
A CENTURION COMPANY

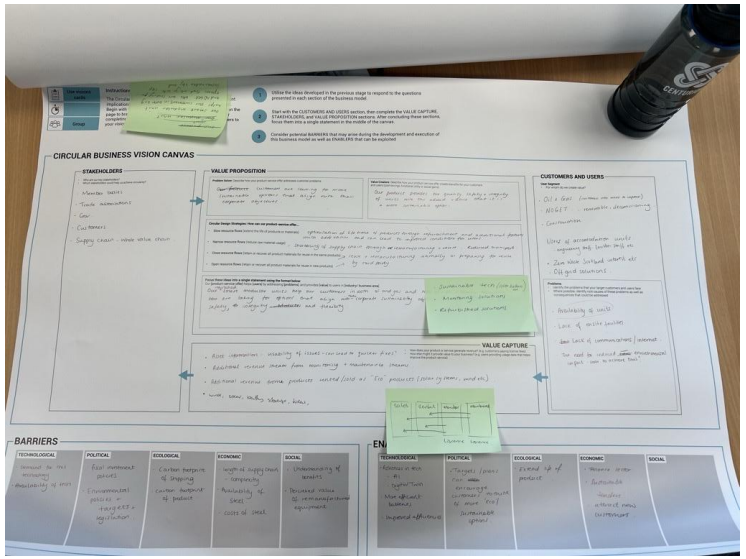
H2M OFFSHORE ACCOMMODATION
A CENTURION COMPANY

Design

Manufacture



Circular Metals Project – Our Experience and Learnings



Adopting a Circular Economy

Barriers

- Certification requirements due to the nature of the industries we operate in
- Lack of supportive policies and incentives
- Lack of demand for circular products
- Current linear economy is deeply ingrained and requires significant changes in business models

Overcoming Barriers

- Collaboration and Partnership – Work together to develop circular solutions
- Support Circular Economy Incentives
- Change in mindset – Change from only consumption and disposal
- Stakeholder Engagement – Engage in dialogue with policymakers, industry leaders and NGOs to identify challenges and find solutions

Thanks for your attention!

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