



# The Global Transition to the Circular Economy: Research Findings

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# Who We Are

- Leading provider of scientific, environmental, human health, global regulatory consulting, research and training services
- Exceptional technical and scientific expertise
- Sustainability is at the heart of what we do; our goal is to help clients to *do better* through science



**Dr. Alex Paul, VP Enterprise and Partnerships:** Alex leads Yordas' expansion in Asia and Latin America. He holds a doctorate in Environmental Science.



**Dr. Giselle Vincett, VP North America:** Giselle leads Yordas' operations in NAM. She has a doctorate in social research.

# Research Focus

*This research is sponsored by the Hitachi-AIST Circular Economy Cooperative Research Laboratory*

The Circular Economy will rely on both physical and cyber solutions. How can we connect the two to enable the transition?

## Scope:

1. Share latest updates regarding regulatory and standardisation activities contributing to the CE transition
2. Understand the value network of CE by industry and non-industry stakeholders in the EU, North America and developing countries—the key players at the macro, meso and micro levels
3. Share status, challenges and insight on various initiatives

# Research Overview



**Quantitative  
Survey:**

38 respondents



**Qualitative  
Interviews:**

40 + 8



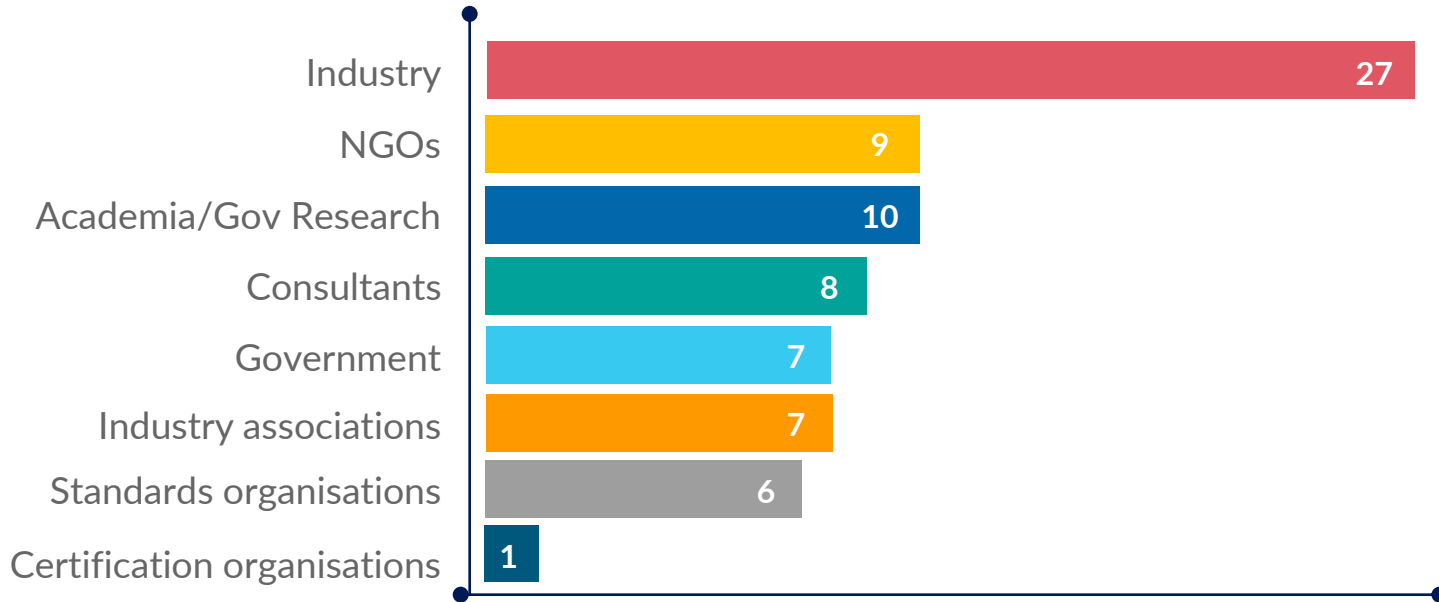
**Comprehensive  
Literature  
Review**

# Stakeholders

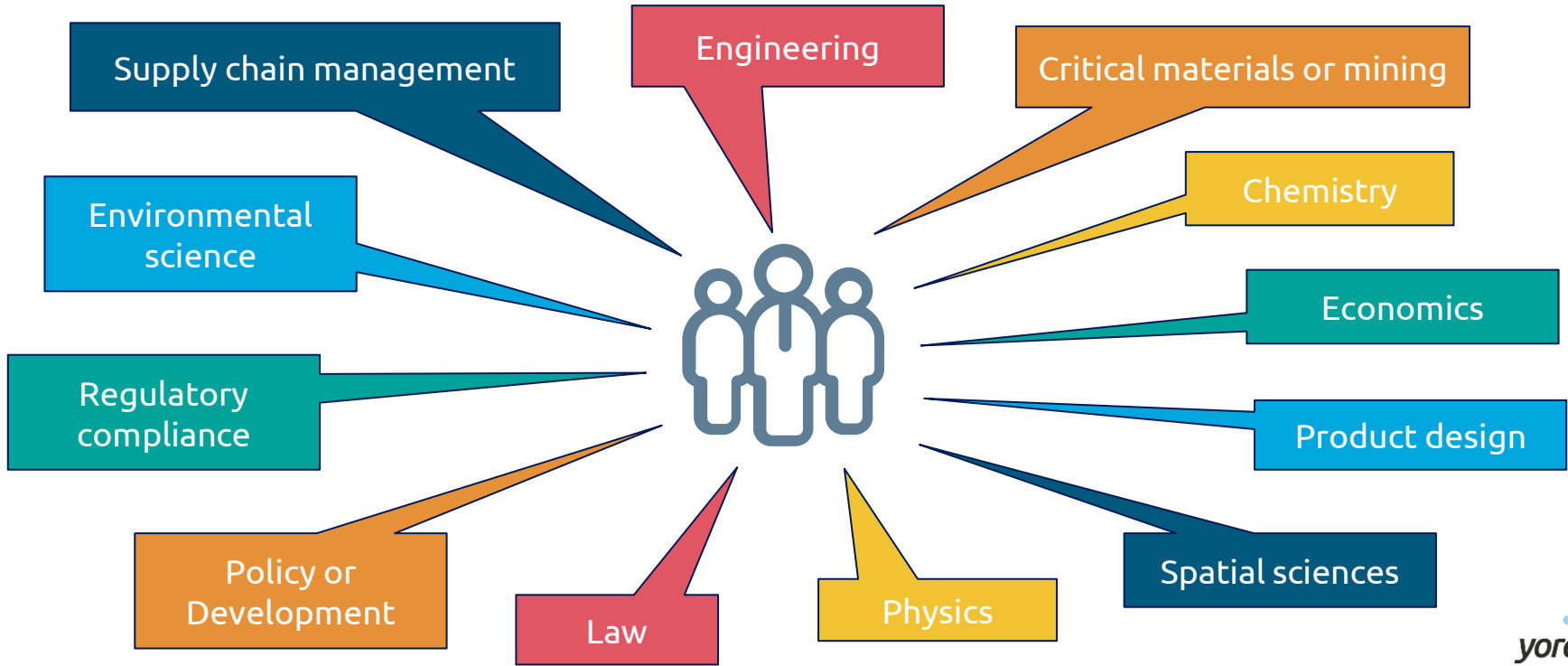
- Standards organisations, members and advisors
- Industry
- Industry associations
- Local government
- NGOs
- Academic or government research organisations
- Industry consultants



# Respondent Types



# Respondent Backgrounds



# Survey Respondents



## Countries

- EU Schengen (17)
- UK (8)
- USA (6)
- India/Pakistan (3)
- Brazil (2)
- Canada (1)
- Australia (1)



# Short Interview Participants



## Countries

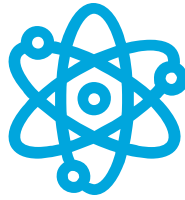
- USA (12)
- EU Schengen (13)
- UK (5)
- Canada (5)
- Brazil (4)
- India (1)
- Japan (1)
- Trinidad (1)

# Main Themes



## Circular Strategies

Business models  
Materials  
Product design  
Supply chain management  
Procurement  
Trade-offs



## Circularity Enablers

Regulations  
Standards  
Certifications  
Measurement  
Finance  
Digital



## Circular Needs & Agendas

Cultural/social norms  
Regional specifics  
Industry & non-industry

# Cited Circular Economy Business Models



# Key Challenges



One size does  
not fit all



Lack of/proliferation of  
standards & regulations



CE business model  
opportunities & challenges



Products & materials  
(link to other challenges)



Funding gaps &  
CE financing

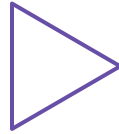


Infrastructure

# Key Challenges



Operational/  
Supply Chain



- Scale-up for secondary materials
- Traceability & transparency
- Onshoring/nearshoring/friendshoring
- Collaboration
- Reverse logistics
- Storage

# Standards: Critical CE Enablers

- **Agile standards** that are updated as industry transitions
- **Assess the quality** and value of materials, products, components, equipment as loops are closed
- Standards that **increase transparency and trust** of quality
- **Use of recycled/recovered materials or components** in industries with particular needs, such as strength or durability
- **Tools and methods for assessment of life extension** with data that proves 'demonstrable quality'
- **Digital** circular economy enablers to support circularity
- Standards must address **regional and sector differences** at different levels

# Conclusions

- The **digital circular economy** is a key CE enabler and driver of value
- Standards are a **'democratic' enabler** that can give structure and guidance to industry even in regions without (strong) regulatory frameworks
- **Life extension** approaches are key
- A **'scaled' approach** may be necessary
- It is critical that **multiple voices** (different viewpoints) are heard

# Thank you!

Any questions?

