



LITHUANIAN
INNOVATION
CENTRE

Integrating Circular Economy into Transnational Actions

Edgaras Leichteris

INNOVATION – CHANGING PARADIGMS

1920-1970

1970-1990

1990-TODAY

**INNOVATION
MODEL**

LINEAR

INTERACTIVE

HOLISTIC

COOPERATION

TECHNOLOGY PUSH

MARKET PULL

**SOCIAL
CHALLENGES**

FOCUS ON

TECHNOLOGY

MARKET NEEDS

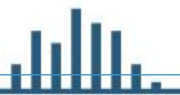
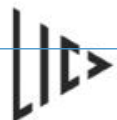
**TRUST AND
INTERPERSONAL
RELATIONSHIPS**

DOMINATES

STATE

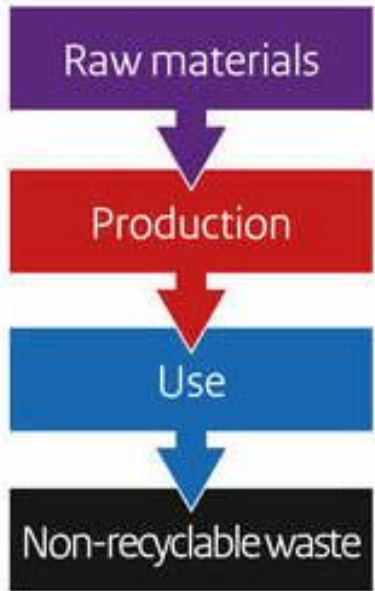
MARKET

NETWORKS

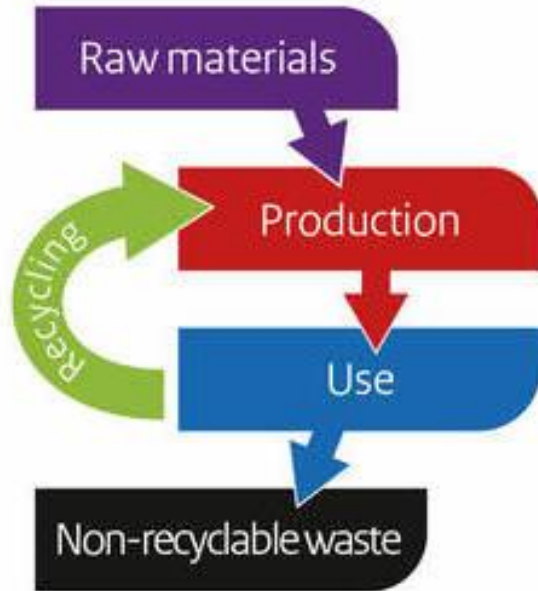


From a linear to a circular economy

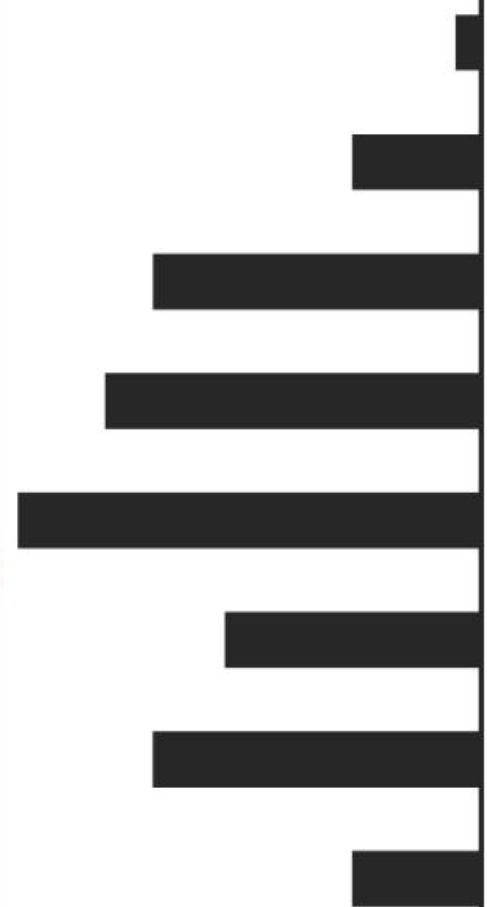
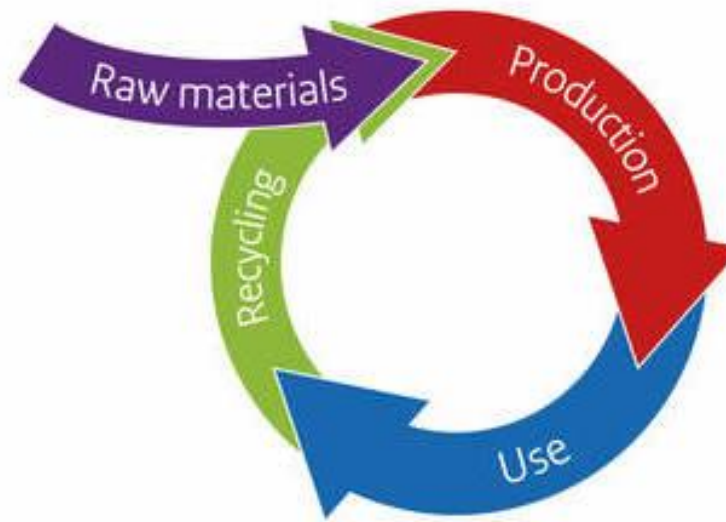
Linear economy



Reuse economy



Circular economy



(C) Government of the Netherlands



EU way of converting concepts into actions

└ METHOD



└ CONTENT

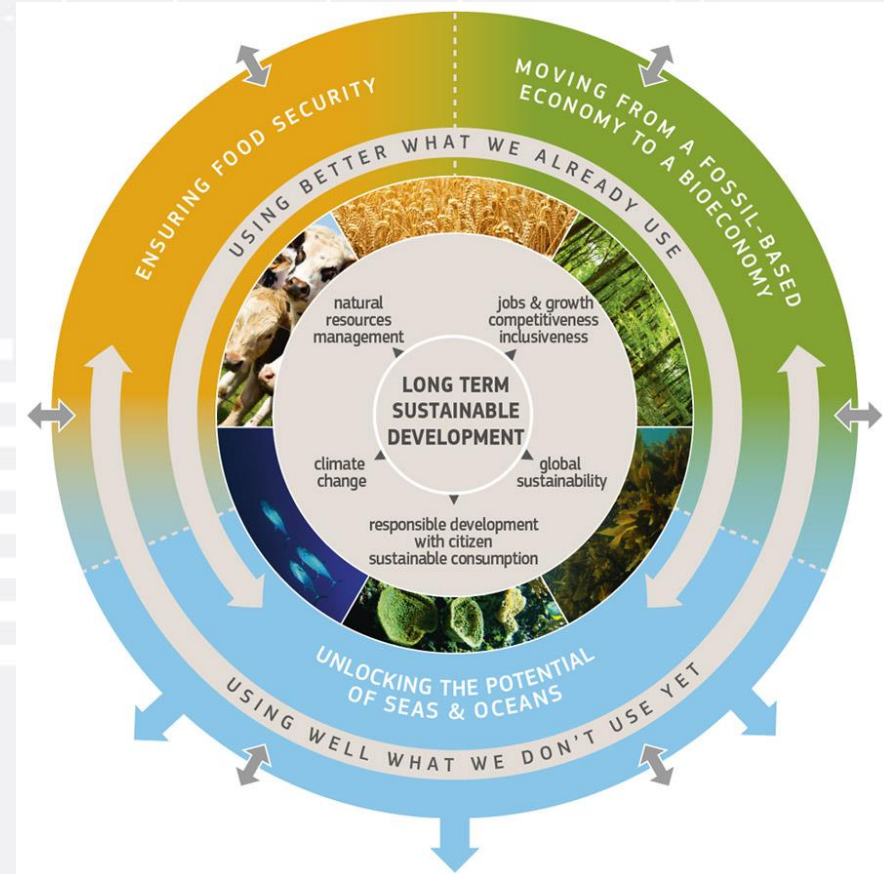
Internet of things	<i>Shared ownership</i>	Dematerialization
<i>Biomimicry</i>	Natural capital	Digital economy
Up-cycling	<i>Additive manufacturing</i>	Eco-design
Closed loop	3D printing	<i>Circular economy</i>
Design for disassembly		Collaborative consumption
Industrial ecology	Biorefining	<i>Blue Economy</i>
Product-service systems	<i>Mass customization</i>	BIG DATA
Peer to peer	Reuse	Zero waste
<i>Community shared agriculture</i>	Time banks	Prosumers
Maker Movement	Re-manufacturing	D4D
<i>Cooperatives</i>	Open sourcing	Repair cafés
Renewable energy	<i>Crowdfunding</i>	Permaculture
		Resource efficiency

SOURCE: © Catherine Weetman

How the business reacts ?



EU generates results



How the business reacts ?



Business language "COST" (Thermofisher Scientific, Lithuania)

Greener = Cheaper

Achievements,
2016-2017

	Before	After	Savings
Number of packages	64	32	-50%
The number of different designs	40	9	-77%
Average weight of package	134 g	45 g	-66%
Number of inserts	28	5	-82%

Greener



11.5 t paper saved

Cheaper



200,000 USD savings

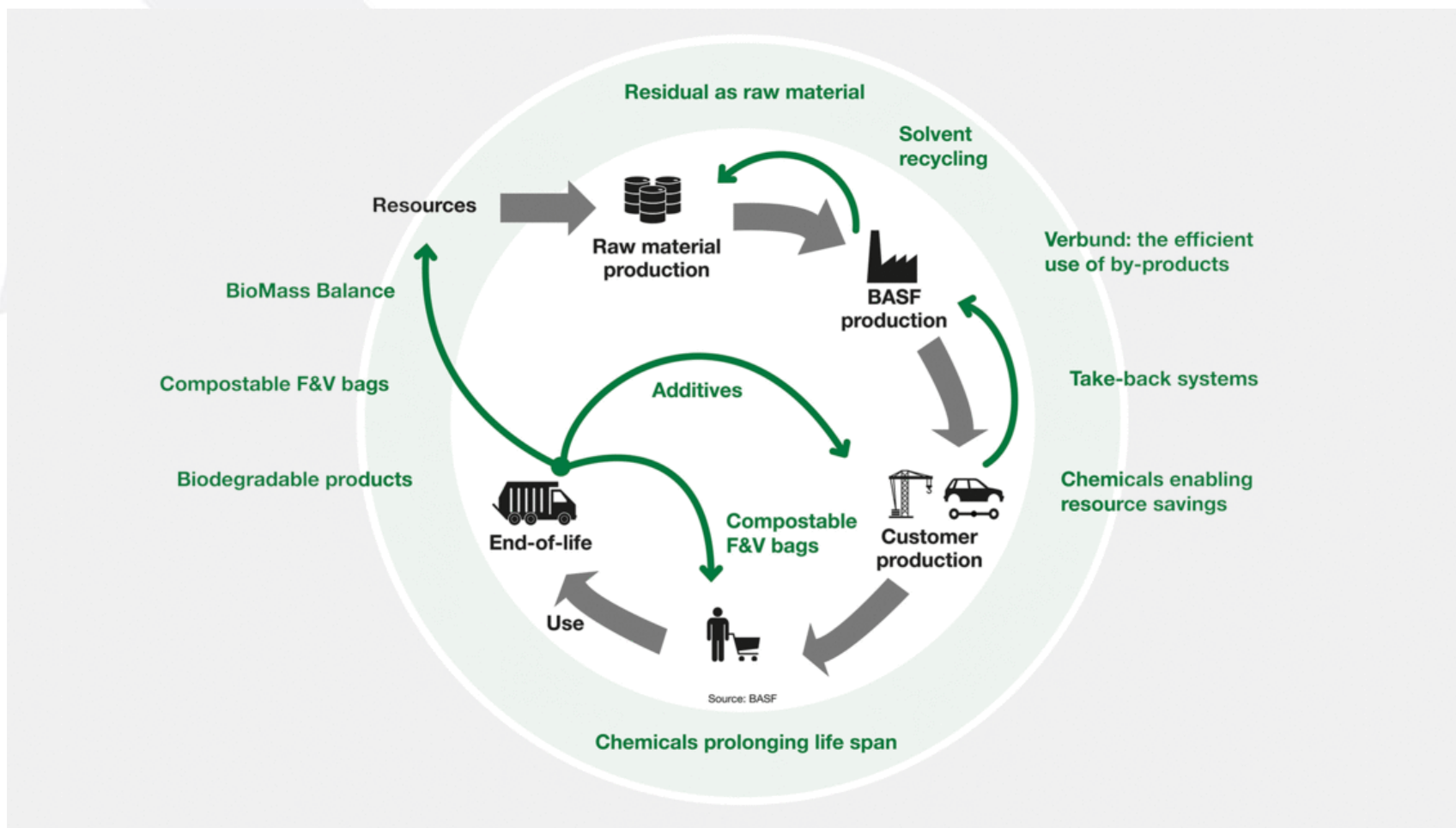
due to reduced price of the packages,
transportation, space in storage, saved time

12

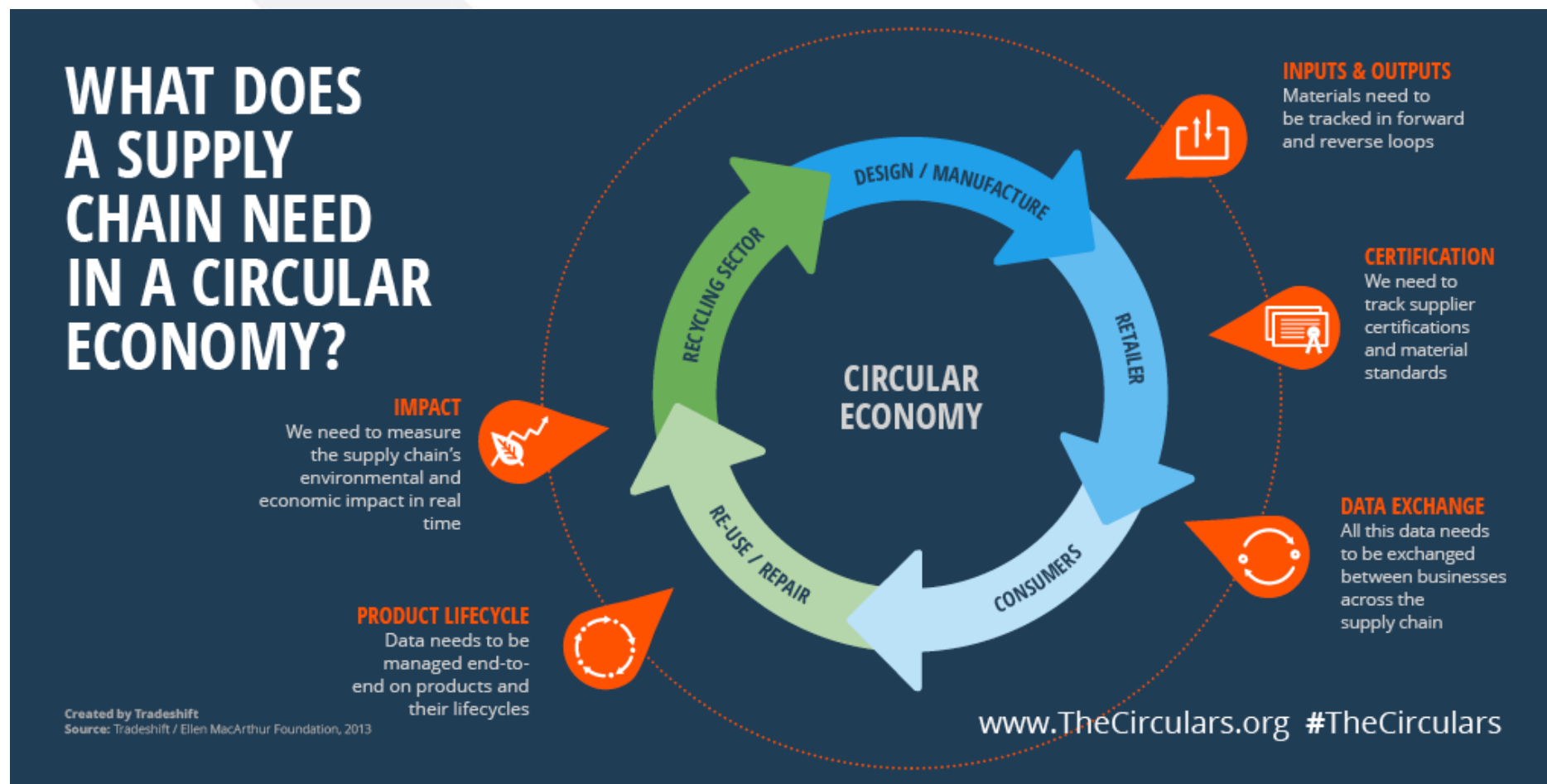
ThermoFisher
SCIENTIFIC



Business language "VALUE CHAIN" (BASF, Germany)



Business language “MEASUREMENTS” (Tradeshift)



Role of research

DIGITAL

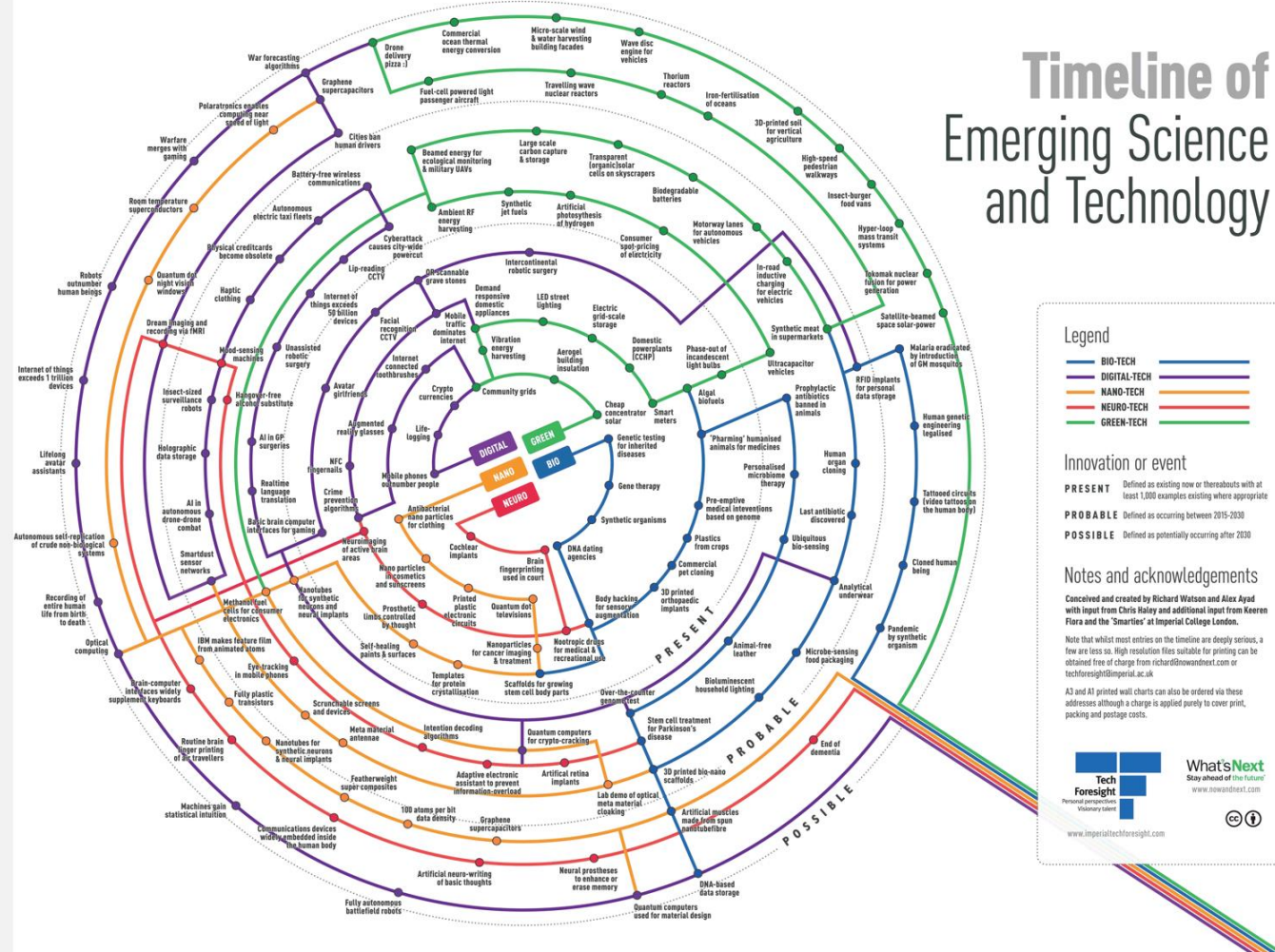
GREEN

BIO

NANO

NEURO

Timeline of Emerging Science and Technology



Legend

- BIO-TECH
- DIGITAL-TECH
- NANO-TECH
- NEURO-TECH
- GREEN-TECH

Innovation or event

PRESENT Defined as existing now or thereafter with at least 1,000 examples existing where appropriate

PROBABLE Defined as occurring between 2015-2030

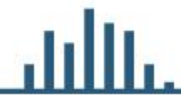
POSSIBLE Defined as potentially occurring after 2030

Notes and acknowledgements

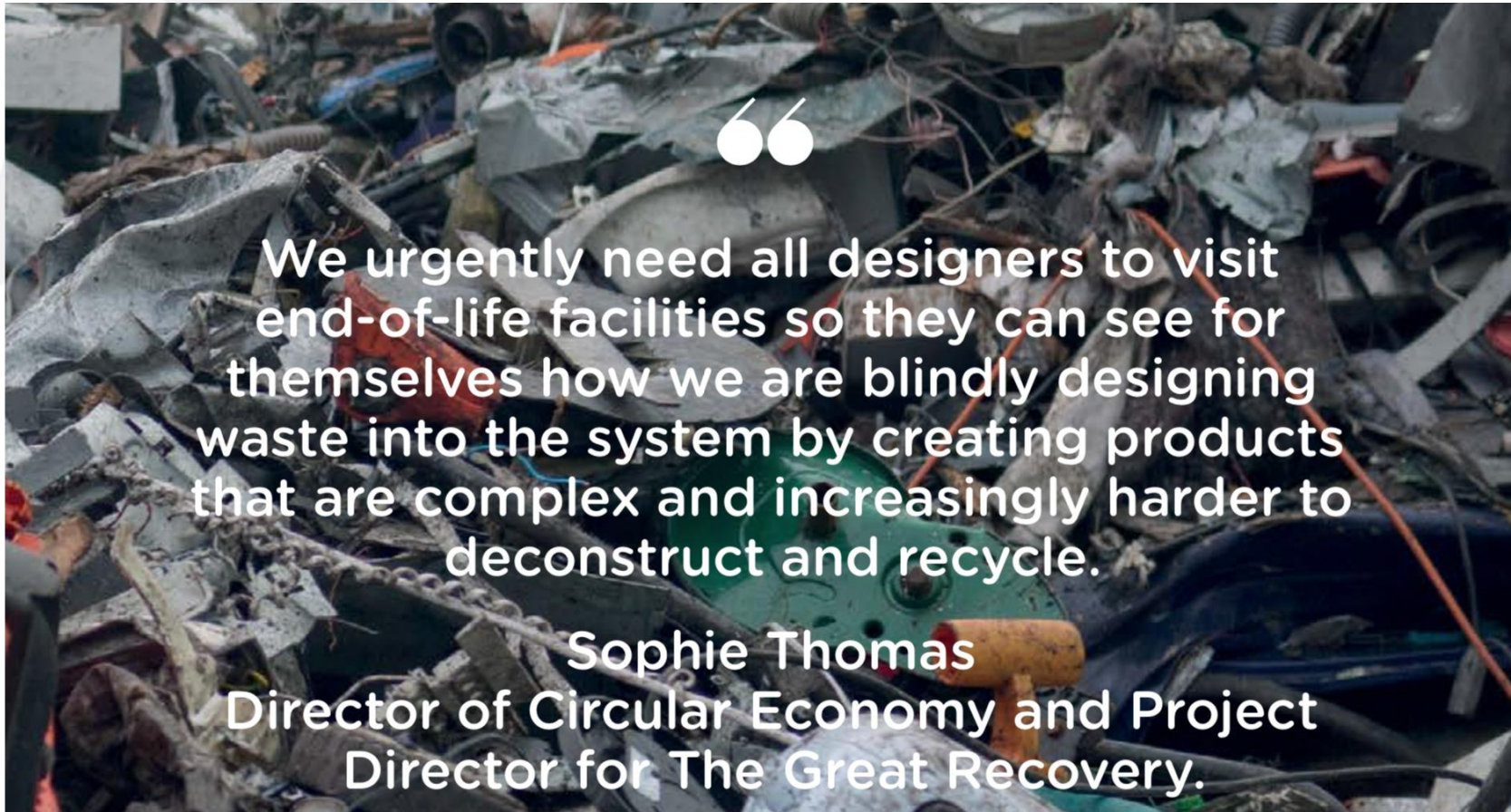
Conceived and created by Richard Watson and Alex Ayad with input from Chris Haley and additional input from Keeran Flora and the 'Smarties' at Imperial College London.

Note that whilst most entries on the timeline are deeply serious, a few are less so. High resolution files suitable for printing can be obtained free of charge from richard@whatnext.com or tech foresight@imperial.ac.uk

A3 and A1 printed wall charts can also be ordered via these addresses although a charge is applied purely to cover print, packing and postage costs.



Role of design



“
We urgently need all designers to visit end-of-life facilities so they can see for themselves how we are blindly designing waste into the system by creating products that are complex and increasingly harder to deconstruct and recycle.

Sophie Thomas
Director of Circular Economy and Project
Director for The Great Recovery.



“The purpose of the corporation must be redefined as creating shared value, not just profit per se. This will drive the next wave of innovation and productivity growth in the global economy.”

**MICHAEL PORTER,
RESEARCHER,
HARVARD
UNIVERSITY**



ACTION POINT No 1

- └ Map regional value chains
- └ Do we have critical mass of companies interested in circular economy ?
- └ Do we have at least ONE company which has genuine interest in it
- └ Use them as an ambassadors to create critical mass



ACTION POINT No 2

- └ Find shared problems / shared value gains (Win-Win)
- └ Companies usually cooperate because of two reasons:
common aims or common problems
- └ Our experience is that it is easier to engage companies into trying to solve common problems rather than “brainwashing” about impacts of circular economies

ACTION POINT No 3

- └ Build trust
- └ Cooperation is not between regions, not between strategies and smart specializations
- └ Cooperation is between people working in different institutions.
- └ Connect people, initiate small projects

Which bus will you join ?





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