

*THE ECONOMIC AND
ENVIRONMENTAL CONTRIBUTIONS
OF REMANUFACTURING & REUSE*

Circular Economy Transition Workshop

Copenhagen, Denmark

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ABOUT CRR

OAKDENE HOLLINS
RESEARCH & CONSULTING



- Remanufacturing & Reuse
- Until 2010, funded by UK government
- Advisory services:
 - Market research
 - Public procurement of remanufactured products
 - Support in certification of remanufacturing processes to BS8887-220
 - Environmental impact studies



SELECTED WORK



Circular Economy Evidence Building Programme, Remanufacturing Study
Zero Waste Scotland



Public procurement of remanufactured products
Councils in North East of England



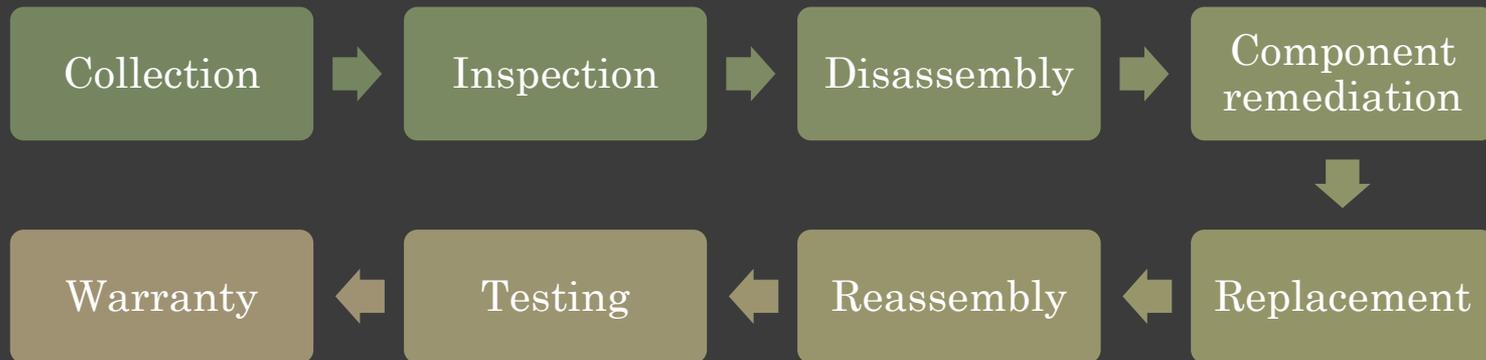
Remanufacturing in the UK: A snapshot of the UK remanufacturing industry



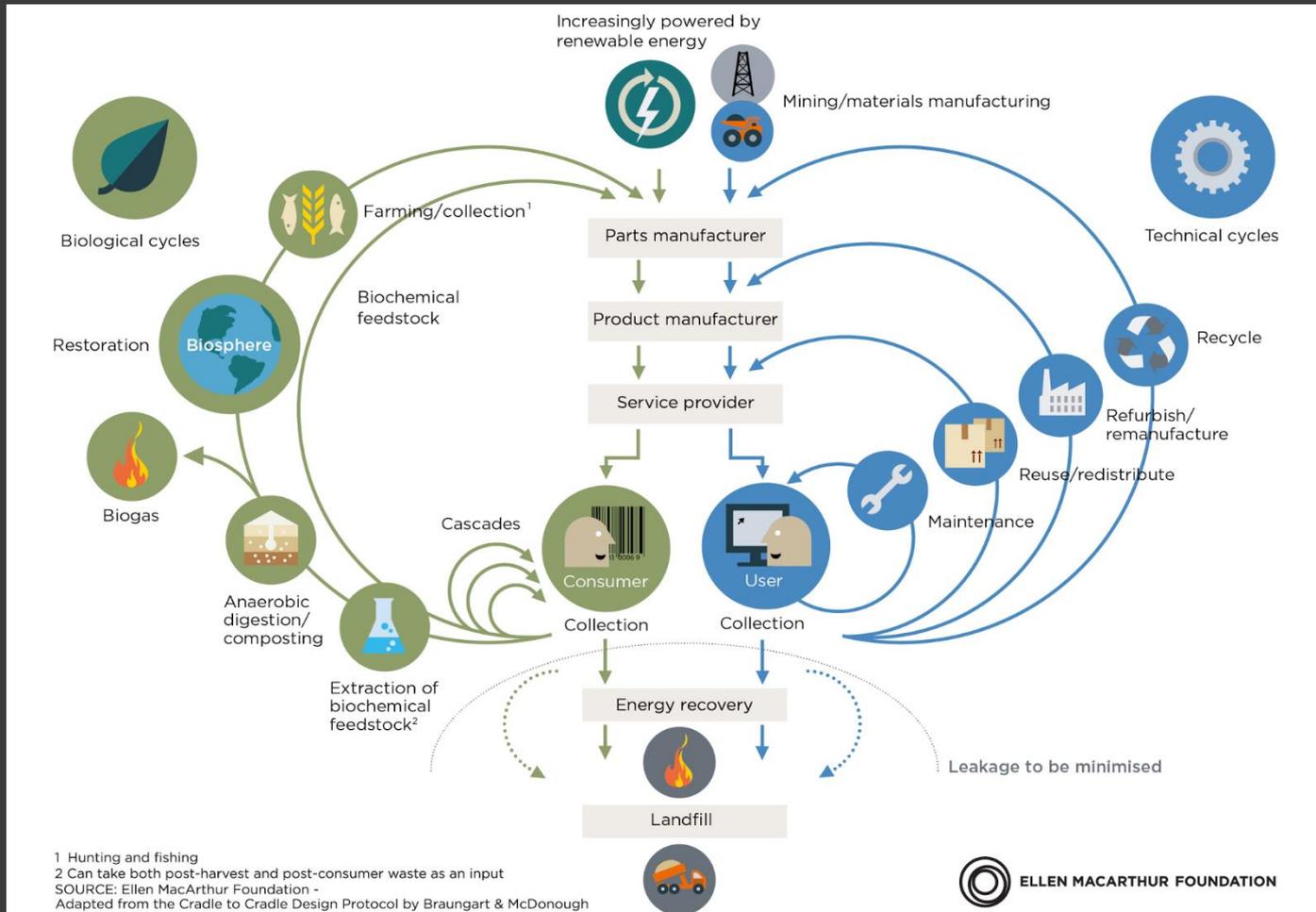
Product Group Reports:
Remanufacture of laptops, photocopiers, tyres, mattresses, medical devices, etc.

DEFINITIONS

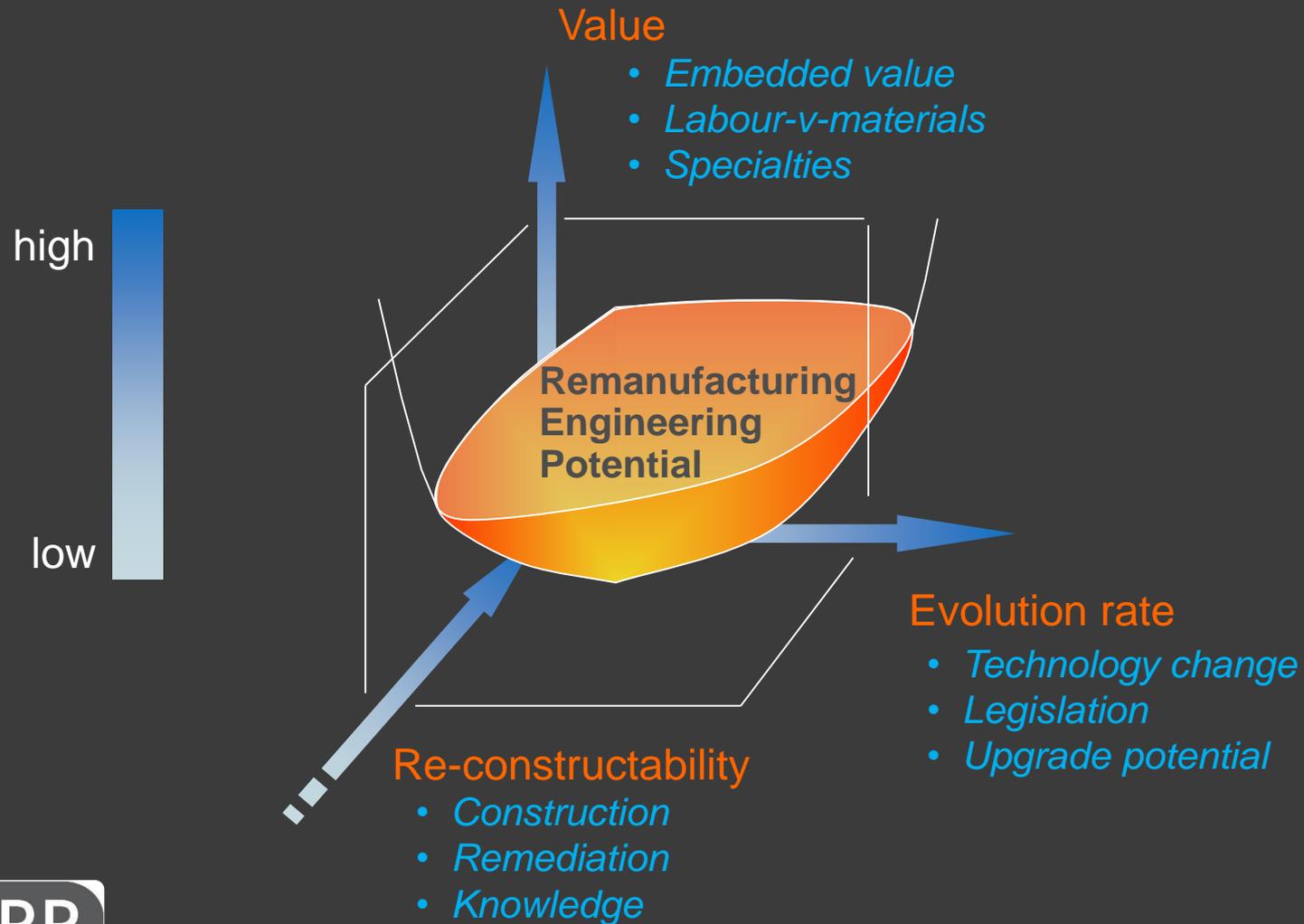
- **Reuse:** A product or its components are put back into use for the same purpose at the end of life
- **Remanufacturing:** Returning a product to its original performance (or better) with warranty to match



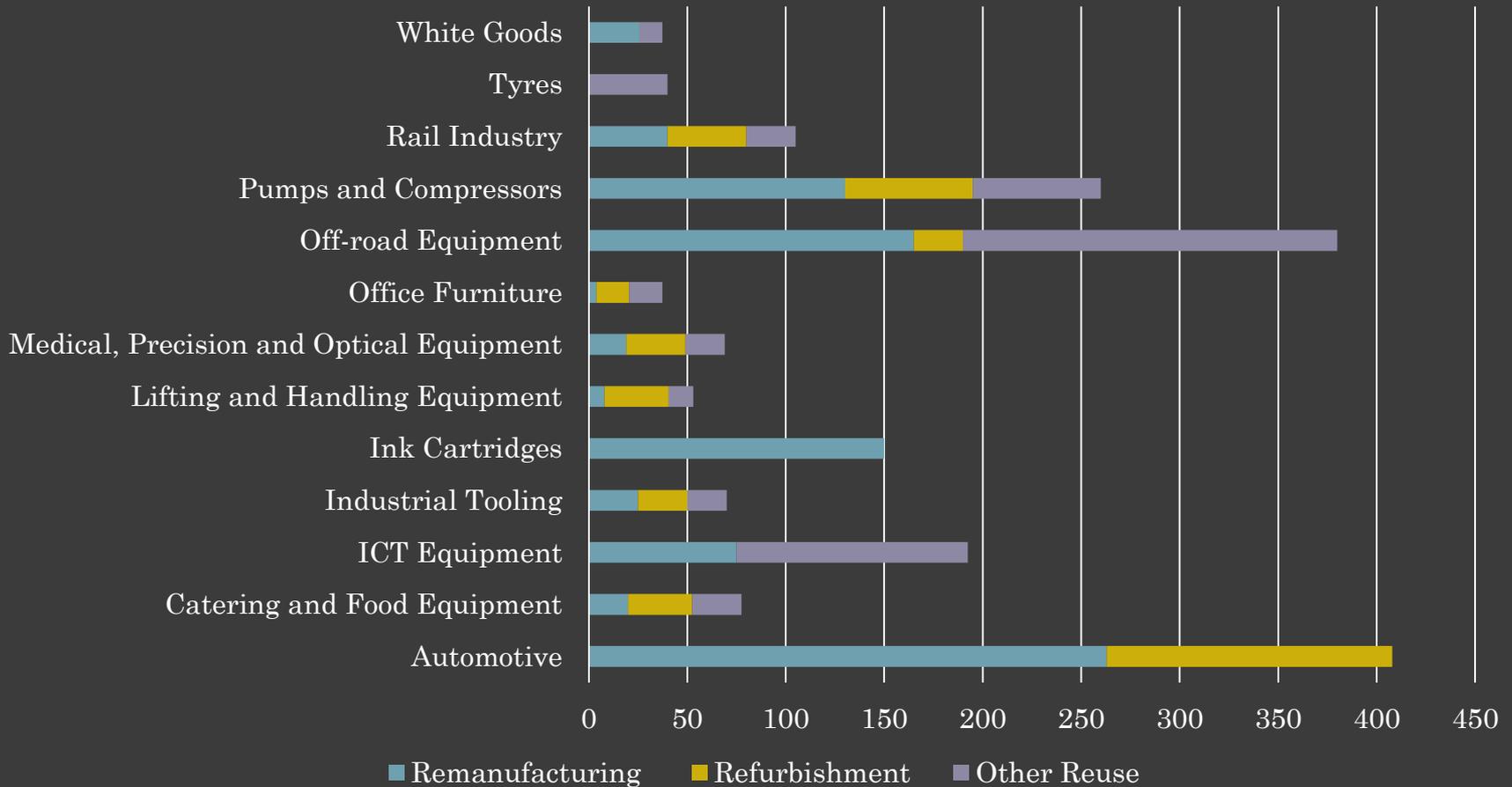
REMAN & REUSE IN CONTEXT WITH THE CIRCULAR ECONOMY



REMANUFACTURING SWEET SPOT

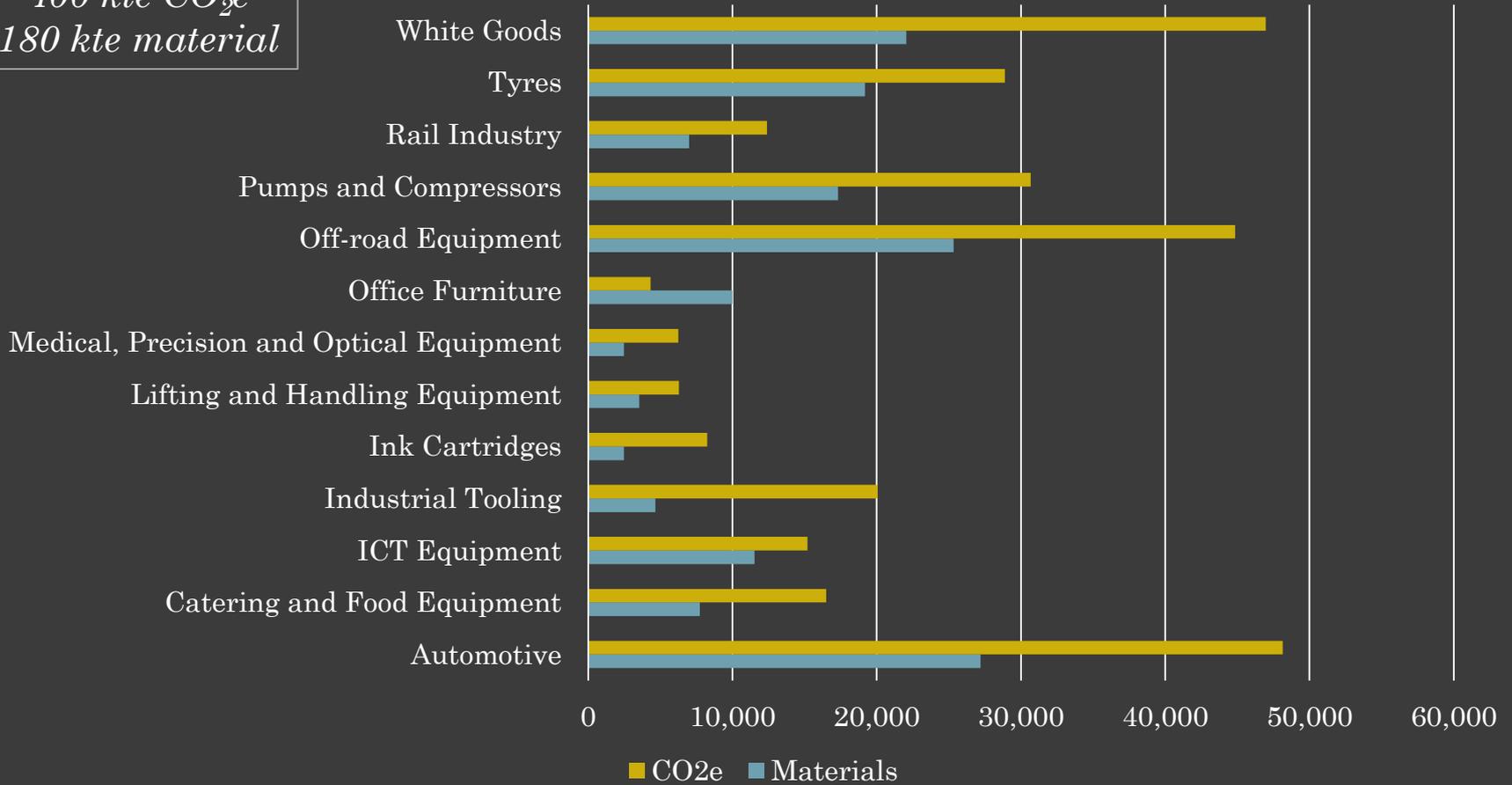


ECONOMIC CONTRIBUTION: ~£2BN



ENVIRONMENTAL CONTRIBUTION

*~400 kte CO₂e
~180 kte material*



EUROPEAN REMANUFACTURING NETWORK (ERN)

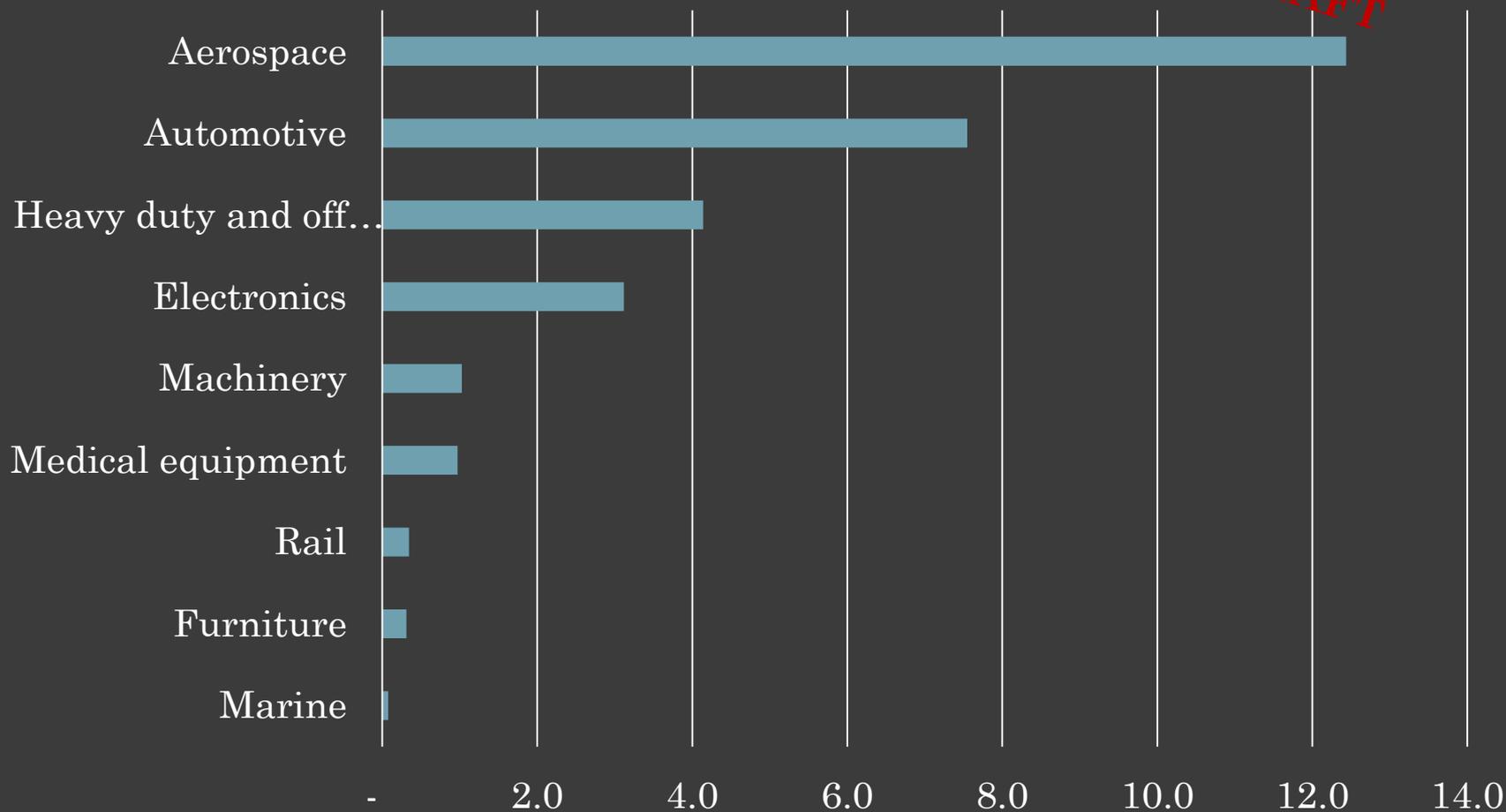


Funded by the Horizon 2020
Framework Programme of the
European Union

- Form, coordinate and support a ERN
- Objectives:
 - *Encourage new businesses to remanufacture*
 - *Help existing remanufacturers*
 - *Raise awareness of remanufacturing*
- Disseminate remanufacturing info and tools
- Develop the European Remanufacturing Council

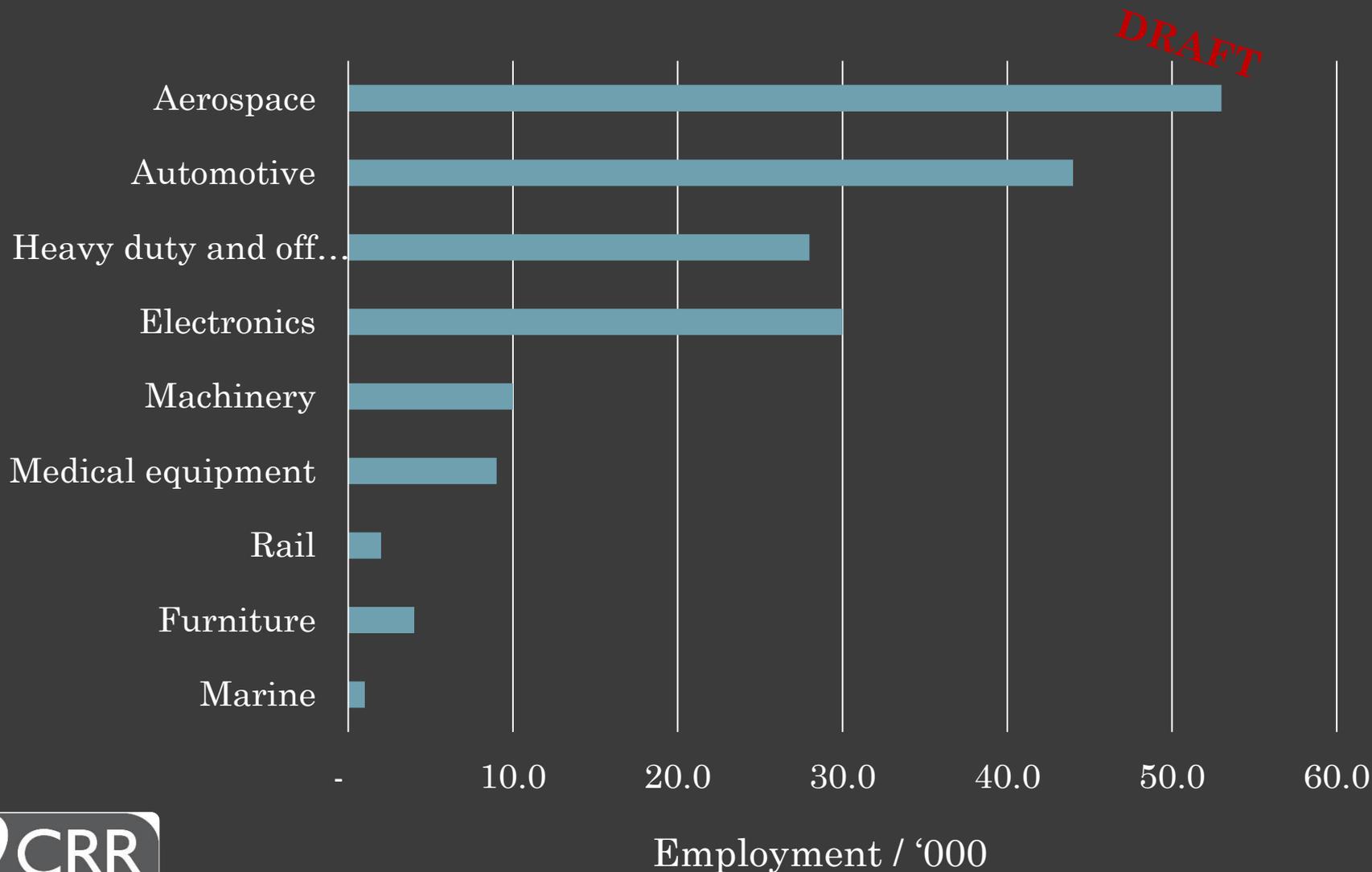
ECONOMIC CONTRIBUTION: €30BN

DRAFT



Turnover / €bn

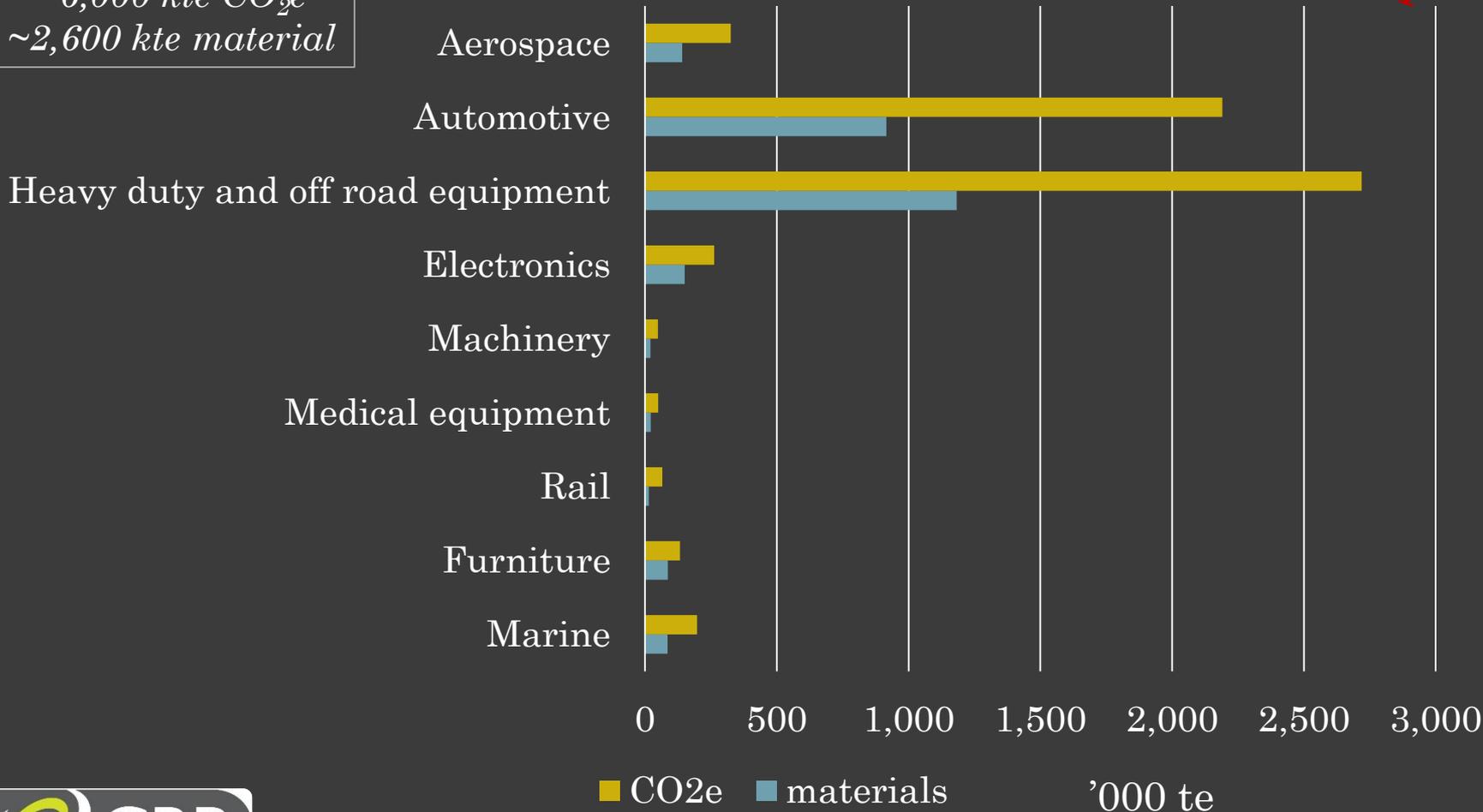
SOCIAL CONTRIBUTION: 180,000 JOBS



ENVIRONMENTAL CONTRIBUTION

~6,000 kte CO₂e
 ~2,600 kte material

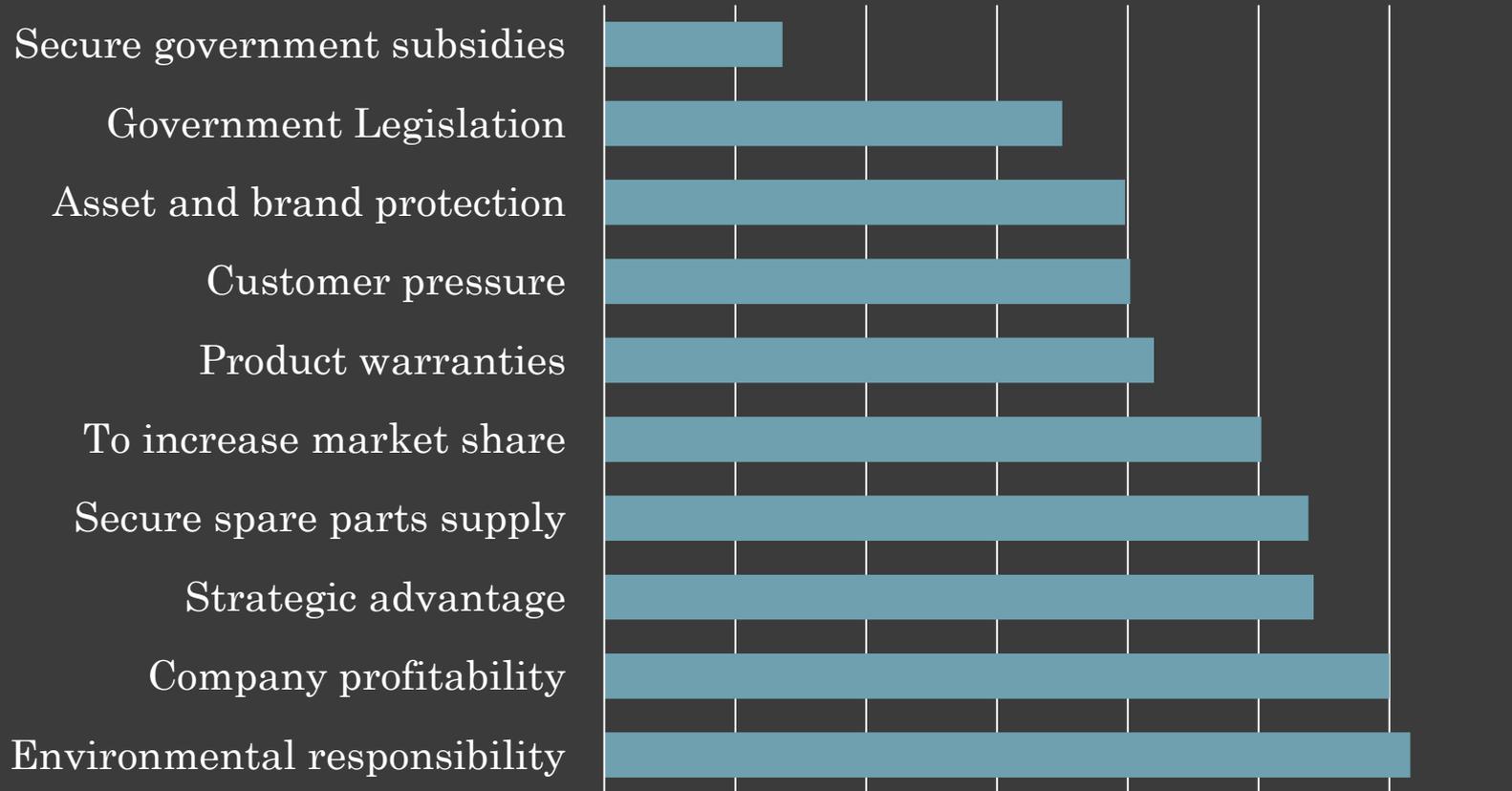
DRAFT



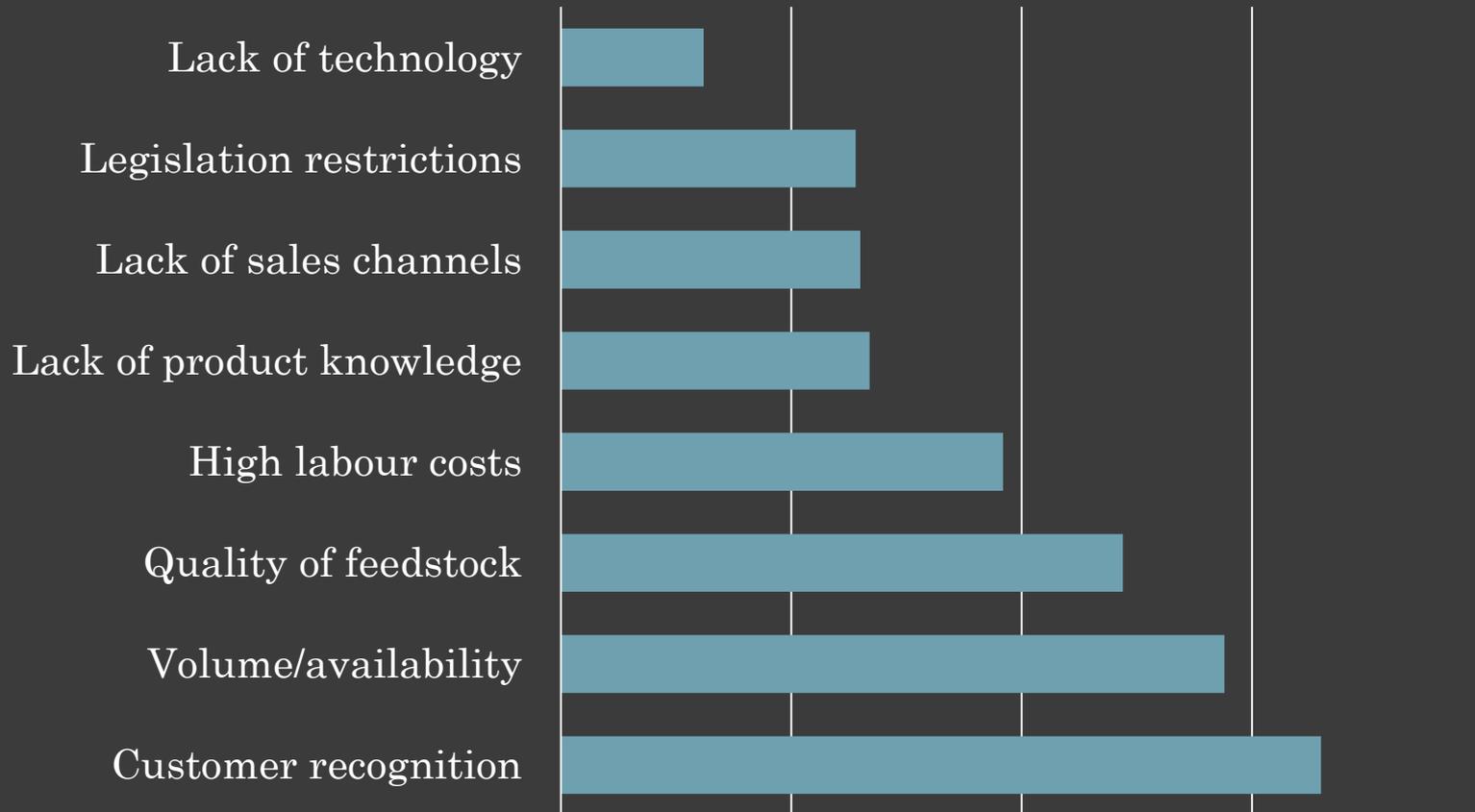
SUPPORTS CIRCULAR ECONOMY ACTION PLAN

- Directly contribute to EU's objectives to support:
 - Employment
 - Economic growth
 - Investment
 - Commitment towards sustainable development
 - Green growth
 - Resilient Energy Union

MOTIVATIONS: IMPORTANCE FOR REMANUFACTURING



BARRIERS: IMPORTANCE FOR REMANUFACTURING



QUESTIONS

- How big a role will **remanufacturing** and **reuse** take in the Circular Economy Action Plan?
- Where will remanufacturing support come from moving forward? DG GROW? DG ENV?
- Do we understand the value and potential of the European remanufacturing industry well enough?

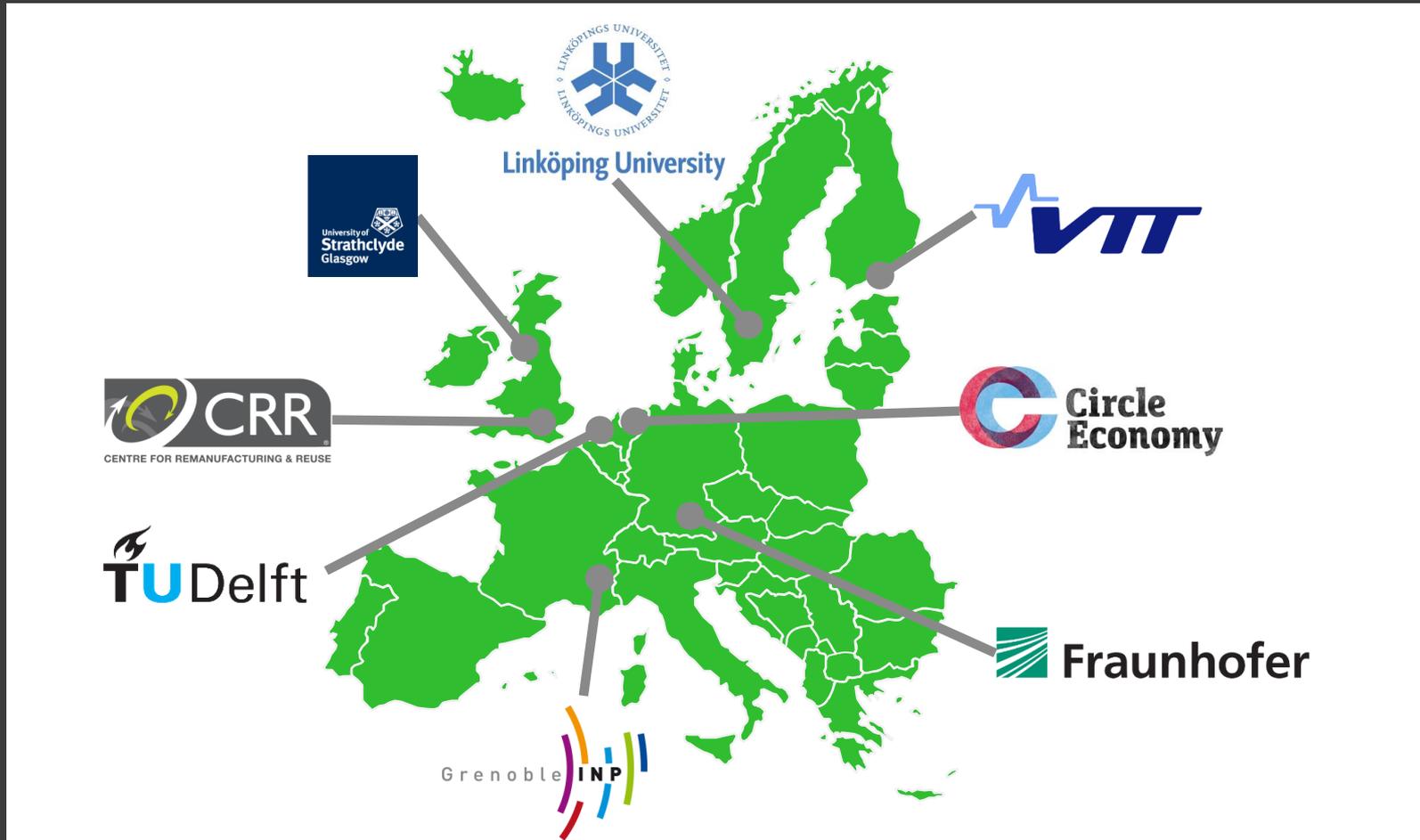
THANK YOU FOR LISTENING

BACKUP SLIDES

OPPORTUNITIES

Potential Growth	High	Medical, Precision and Optical Equipment Office Furniture		Off-Road Equipment
	Medium	Catering and Food Industry Industrial Tooling Tyre Retreading White Goods	Rail Industry ICT equipment	Aerospace Pumps and Compressors
	Low	Lifting and Handling Equipment	Construction	Automotive Ink and Toner Cartridges
		Low	Medium	High
		Current Remanufacturing Value		

ERN PARTNERS



STANDARDS DEVELOPMENT

- BS8887 series
 - 2: definition standard
 - 220: Remanufacturing (process) standard
 - 240: Refurbishment standard
 - 211: ICT remarketing standard
- PAS 141: electronics reuse

NEED FOR COORDINATED ACTION



- Remanufacturing becoming recognised as key segment of manufacturing sector but currently undervalued



- Promotion activity currently undertaken at sector level for some product sectors



- Lacking common vision: e.g. recycling industry's cross-sector activities to facilitate knowledge transfer and promote the industry

USA: REMANUFACTURING INDUSTRIES COUNCIL

- *“Working together to grow the entire remanufacturing industry”*
- Alliance of businesses and academic institutions that works across industry sectors to support the entire remanufacturing industry
- Combination of collaboration, education, advocacy and research
- Recently ANSI-accredited standards developer
 - Aiming to develop American National Standard for the process of remanufacturing

AUTOMOTIVE SECTOR – TRENDS

