

Digital Product Passport (DPP)

Ongoing research activities

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CHALLENGES



OUTLOOK



INFO FROM THE EC



RESEARCH PROJECTS

WHY?

INFO FROM EC

WHAT?

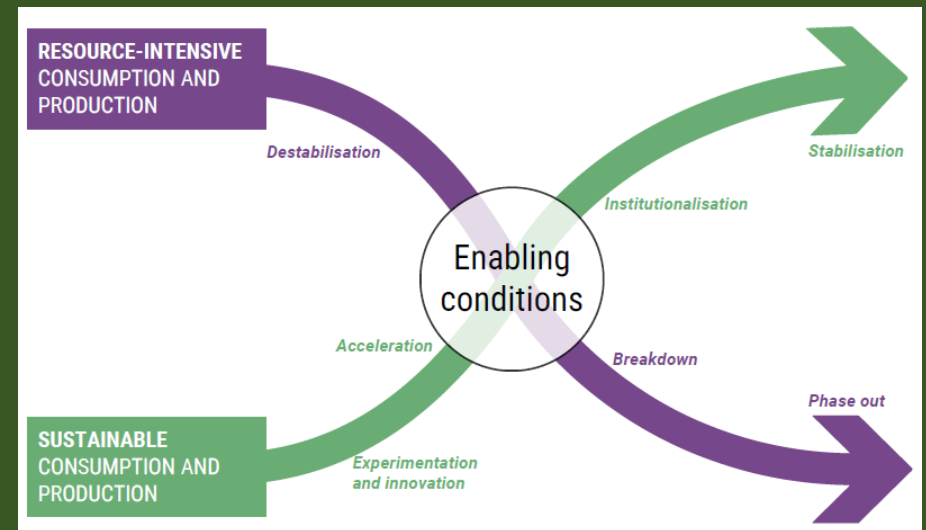
HOW?

WHEN?

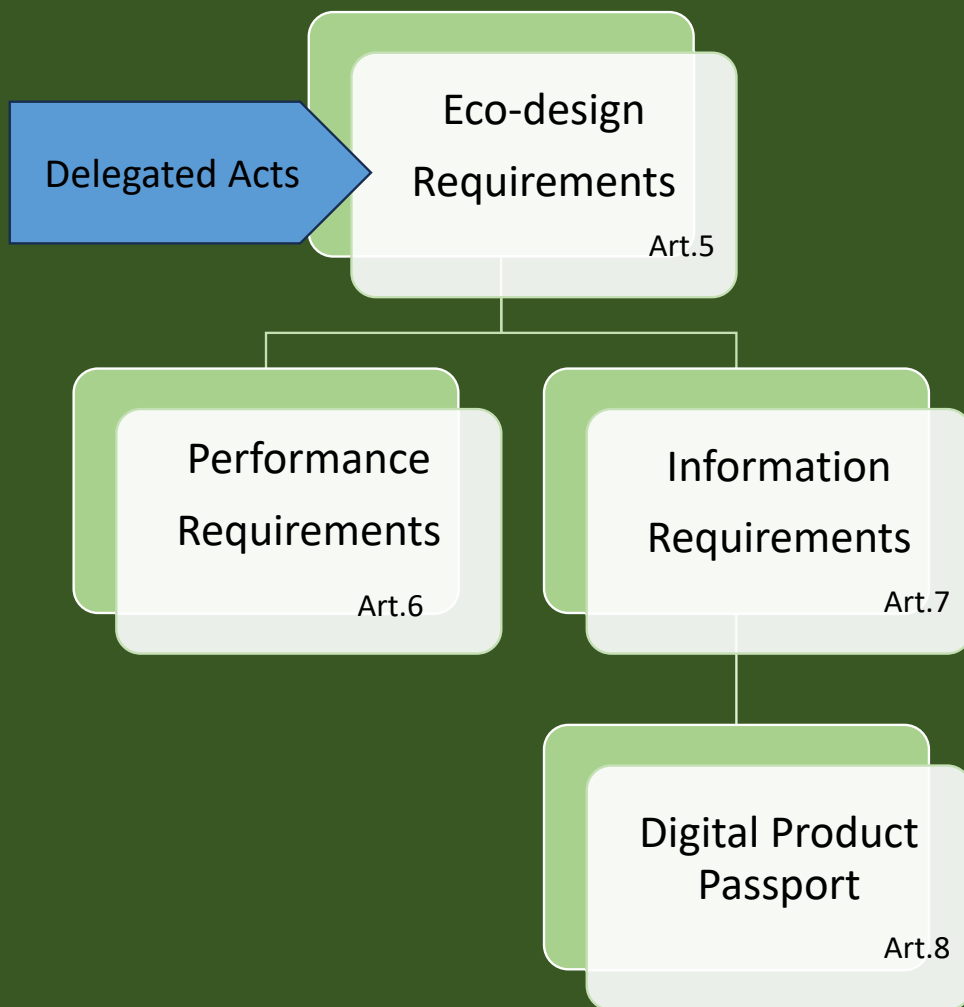


WHY?

- Twin Transition/Transformation
- Eco-design for Sustainable Products Regulations (ESPR) and other (growing) number of EU policies which will rely on DPP or element of it (battery, toys, detergents, CRM, etc.)
- Also as described in the Austrian circular economy strategy:
 - Reduction of resource consumption
 - Increasing the resource efficiency of the economy
 - Increase the utilisation rate of reusable materials
 - Reduce material consumption



WHAT?



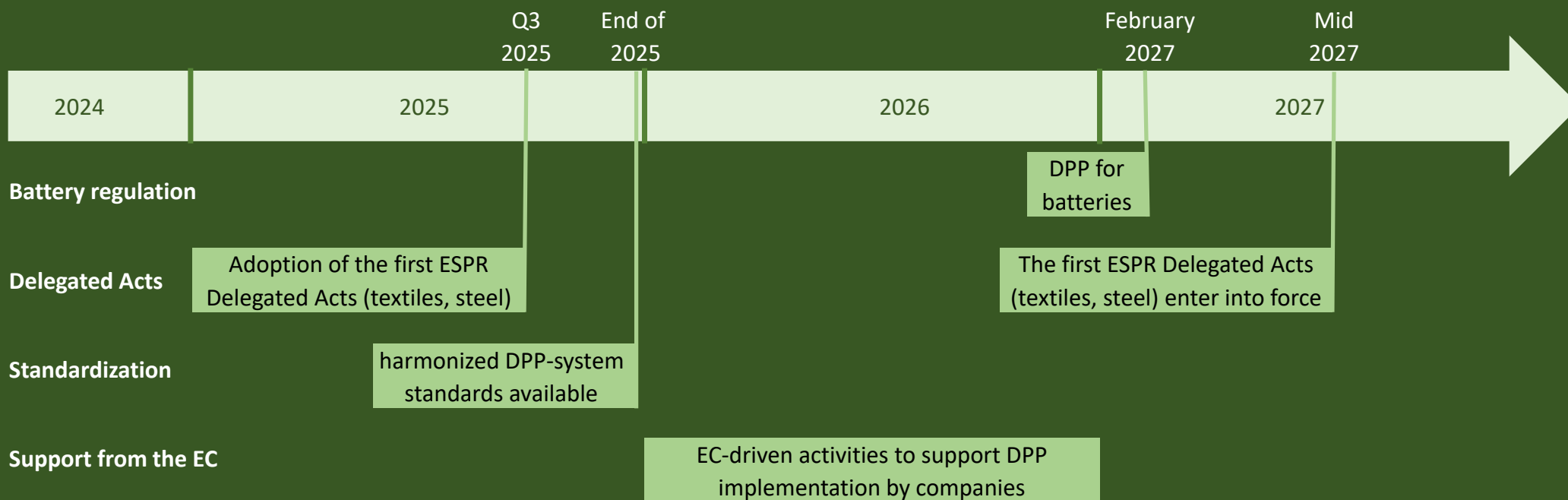
- Information to be included in the DPP will be product-group specific and it will be identified through dedicated legislation
- It may include information/data on one or more of the following areas:
 - Technical performance
 - Environmental sustainability performance
 - Circularity aspects (durability, reparability, etc.)
 - Legal compliance
 - Product-related information (e.g., manuals, other labels)

HOW?

- **Decentralised** approach for data storage
- Uniquely linked to a product
- 3 granularity levels:
 - model,
 - batch,
 - item
- Unique product identifier with look-up mechanism
- DPP release is the responsibility of the Economic Operator
- Requirements for companies: existence, complete, reliable, authentic, backup copy,...
- All standards and protocols related to the IT architecture (8 areas)
- EU DPP (central) registry and web portal



WHEN?





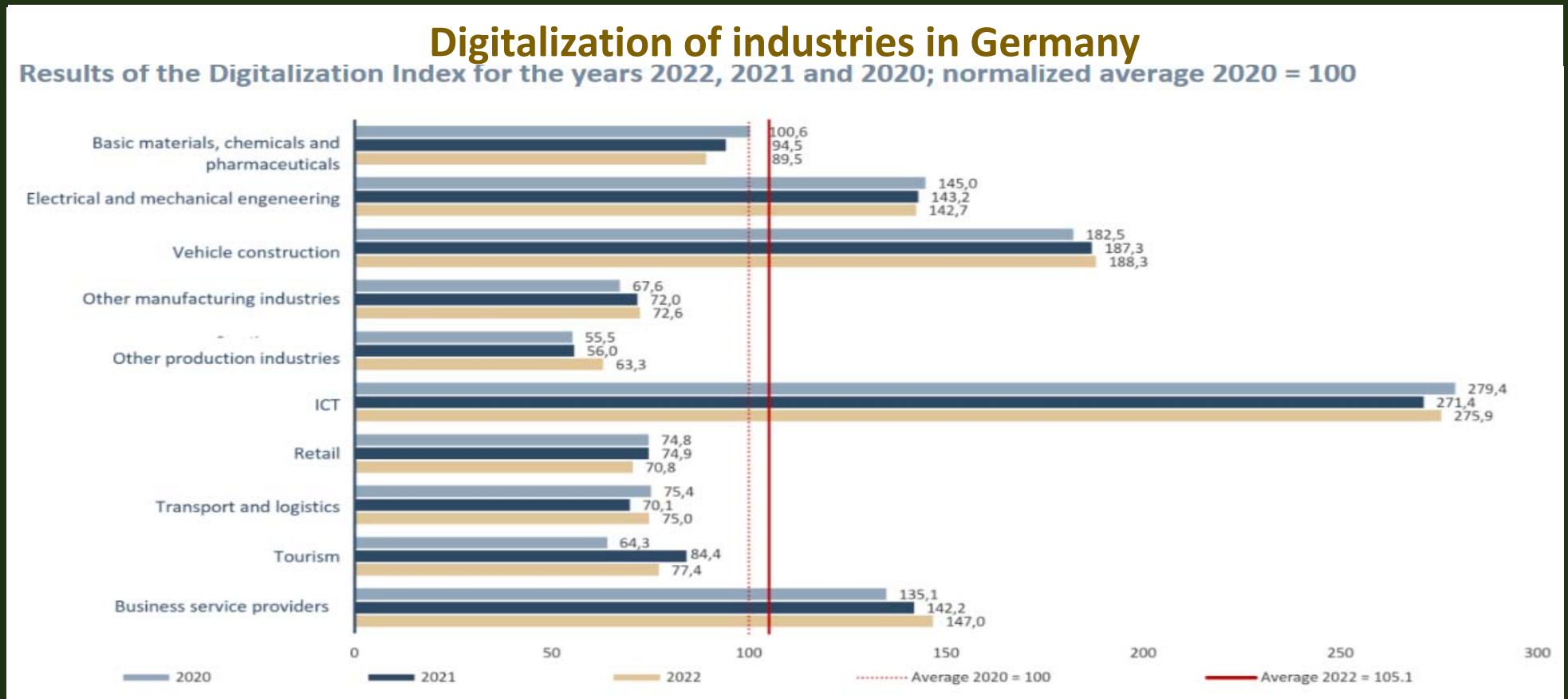
DATA

IT

SME

DATA

- Companies do not want to share data
- Degree of digitalization
- Data-handling and -sharing

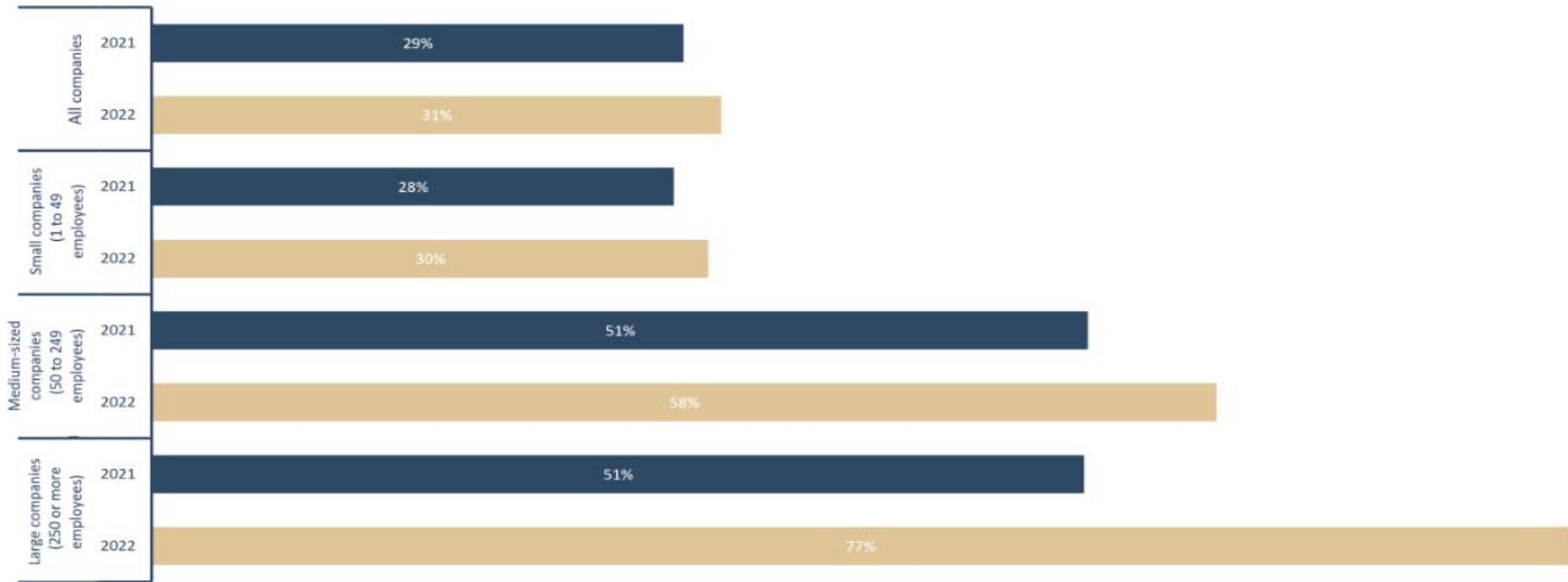


DATA

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Data Economy Readiness

Percentage of companies in Germany that meet the requirements to manage data efficiently

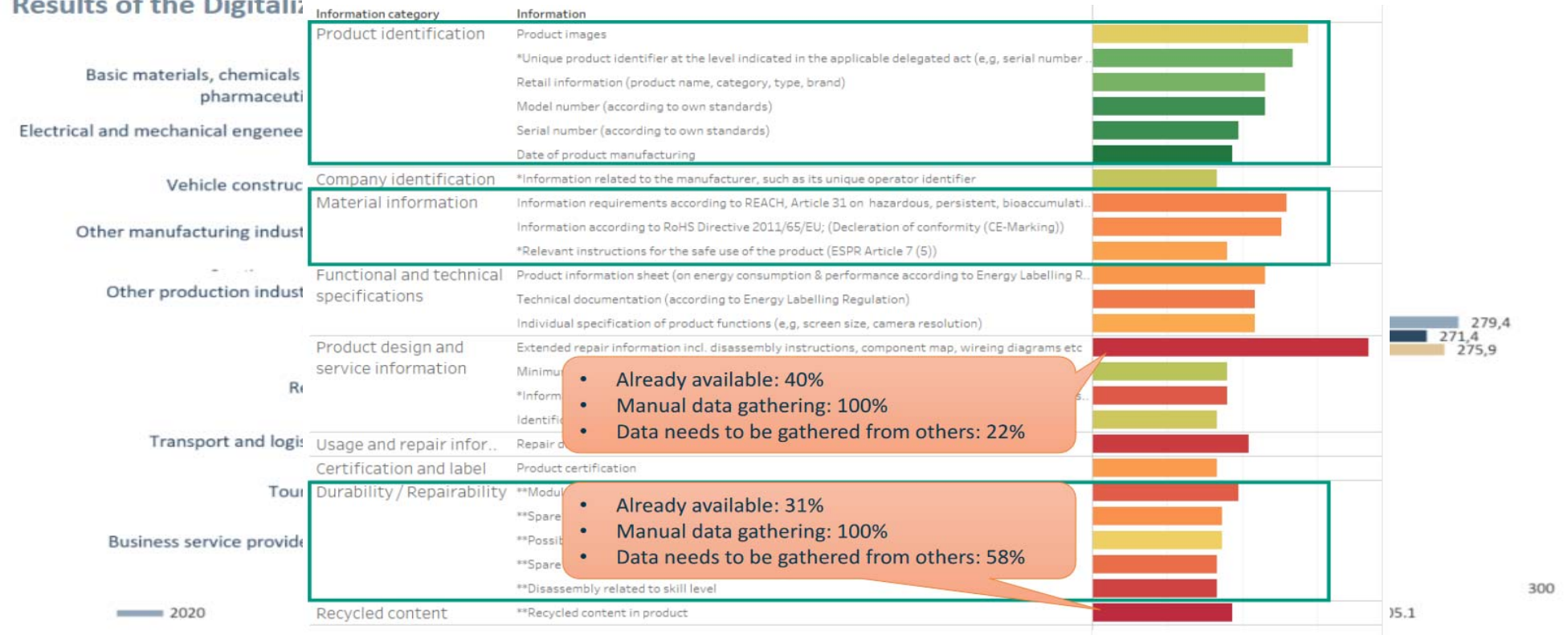


DATA

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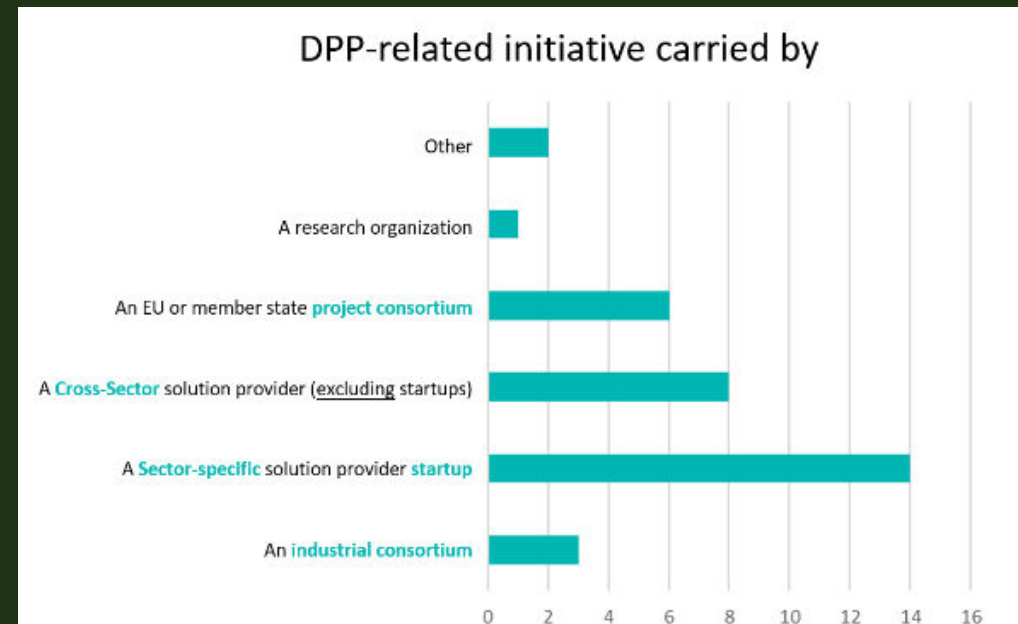
Top 25 relevant information with gathering effort

Results of the Digitali



Reference classification framework for mapping DPP-related initiatives							
Technical Design section							
Product ID	Type	Instance			Category		
	Granularity	Model	Batch	Prod. order	Single item		
Product data carrier	Type	RFID	QR Code	Digital watermark	Bluetooth label	Bar Code	Other
	Machine readable data carrier	Yes			No		
	Resolver	Yes			No		
Digital connector	ID minting	Centralized			Decentralized		
	Data storage location	Centralized			Decentralized		
IT architecture: Data transport	Openness level	Standardized	Proprietary	Data ports	Others		
	Data packaging	Data transfer			API		
IT architecture: Access control	Level	Simple			Advanced		
	If advanced	Attribute based			Role based		
IT architecture: Data use	Labelling	Enforcement			Others		
IT architecture: Data mgmt features	Evidence	Blockchain	Verifiable Credentials	Others			
	Convenience	Wallet	Data Ports	Others			
	Data protection	PETs	Anonymization	Others			
	Traceability	Tagging (QR, NFC, RFID)			Others		

- Benchmark
- No comparison or suggestion
- SMEs are missing



SME

- Constraints:
 - Regulation is still evolving
 - Financial possibilities
 - Organisational structure
 - Technical challenges
 - Standardisation
- Solutions:
 - Do it yourself
 - Delegation: direct/indirect

COST ELEMENTS	SME	SME	DPP Service Provider
	Do-it-yourself	Delegated solution	Delegated solution
Labeling			
	optional optional	optional optional	
DPP-a-a-Service			
		x	
Development			
	x		x
	optional		x
	x		x
	x		x
	optional	optional	
Operation			
	x		x
	x		x
	x		x
	x		x
		x	x
		x	x
Data Integration			
	x	x	
Certification			
	x	x	
			x
Project management			
	x	x	x
	x	x	
	x	x	

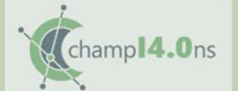
RESEARCH ACTIVITIES

BENEFITS

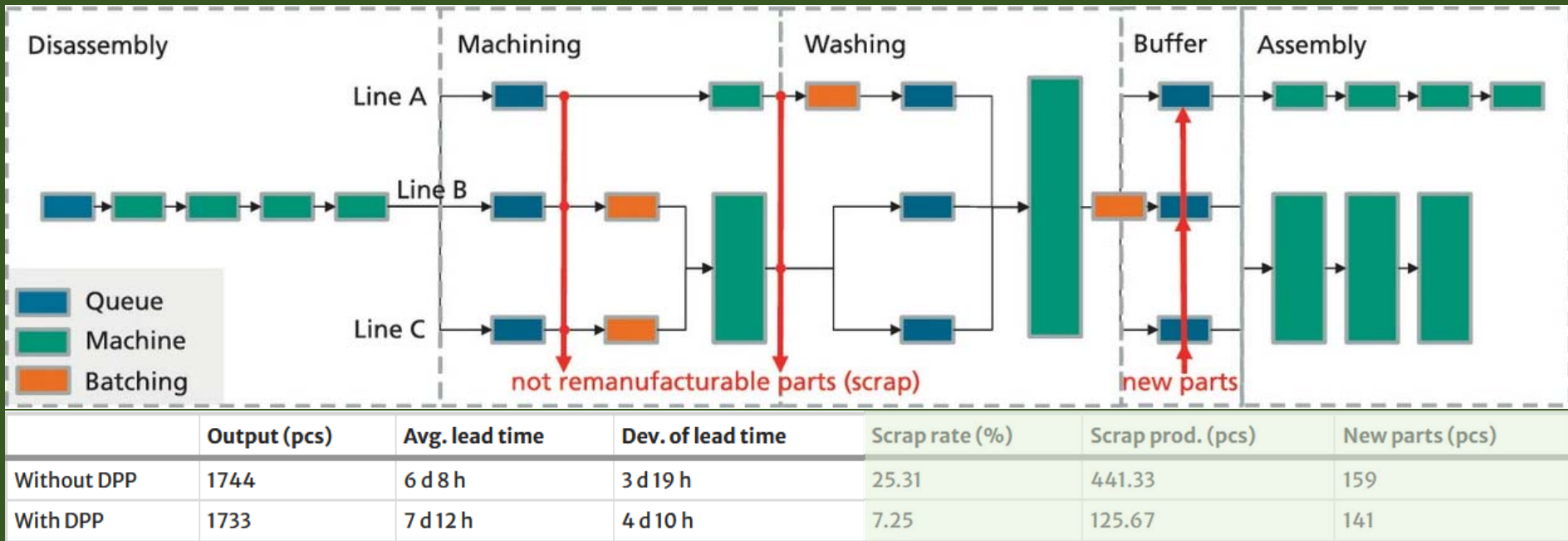


Fraunhofer
AUSTRIA

NEW3

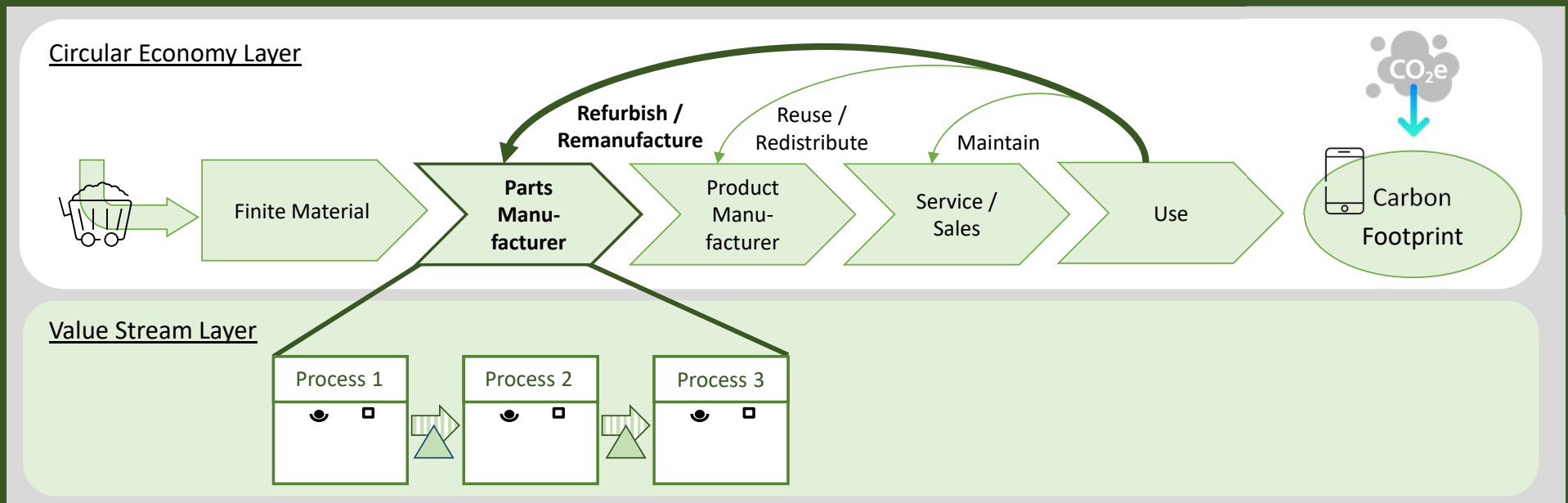


BENEFITS

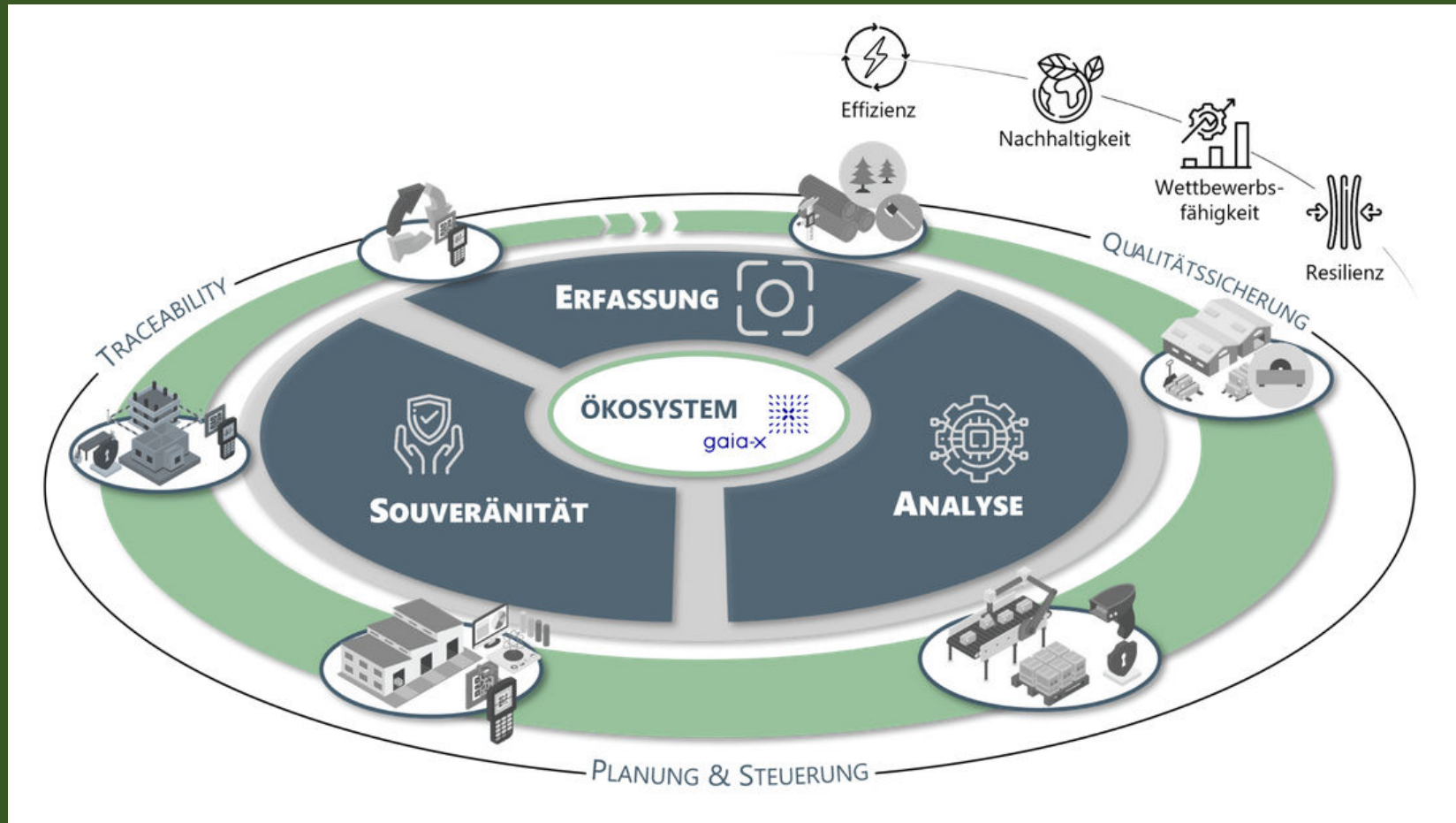


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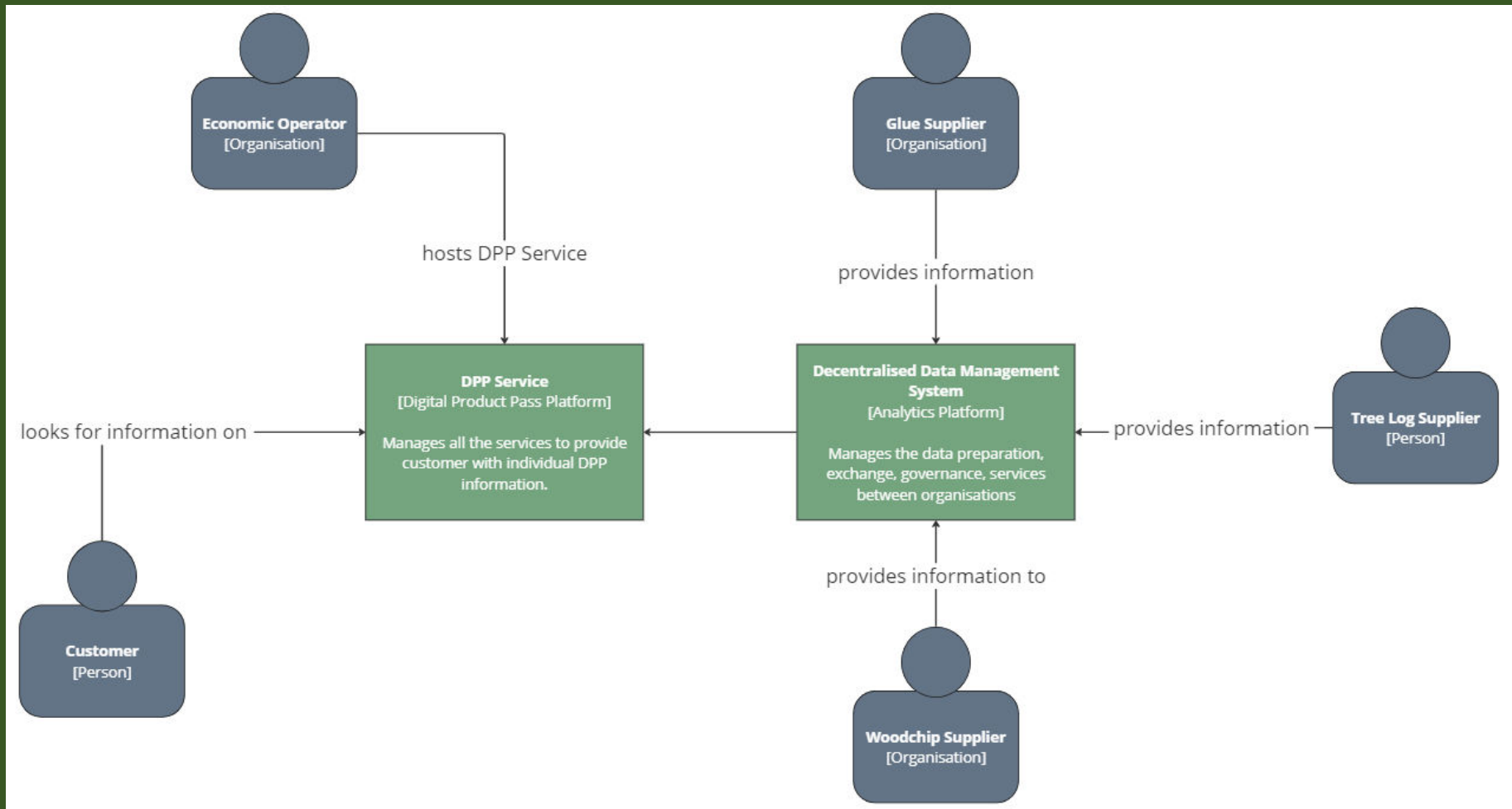
NEW3 | VALUE STREAM MAPPING



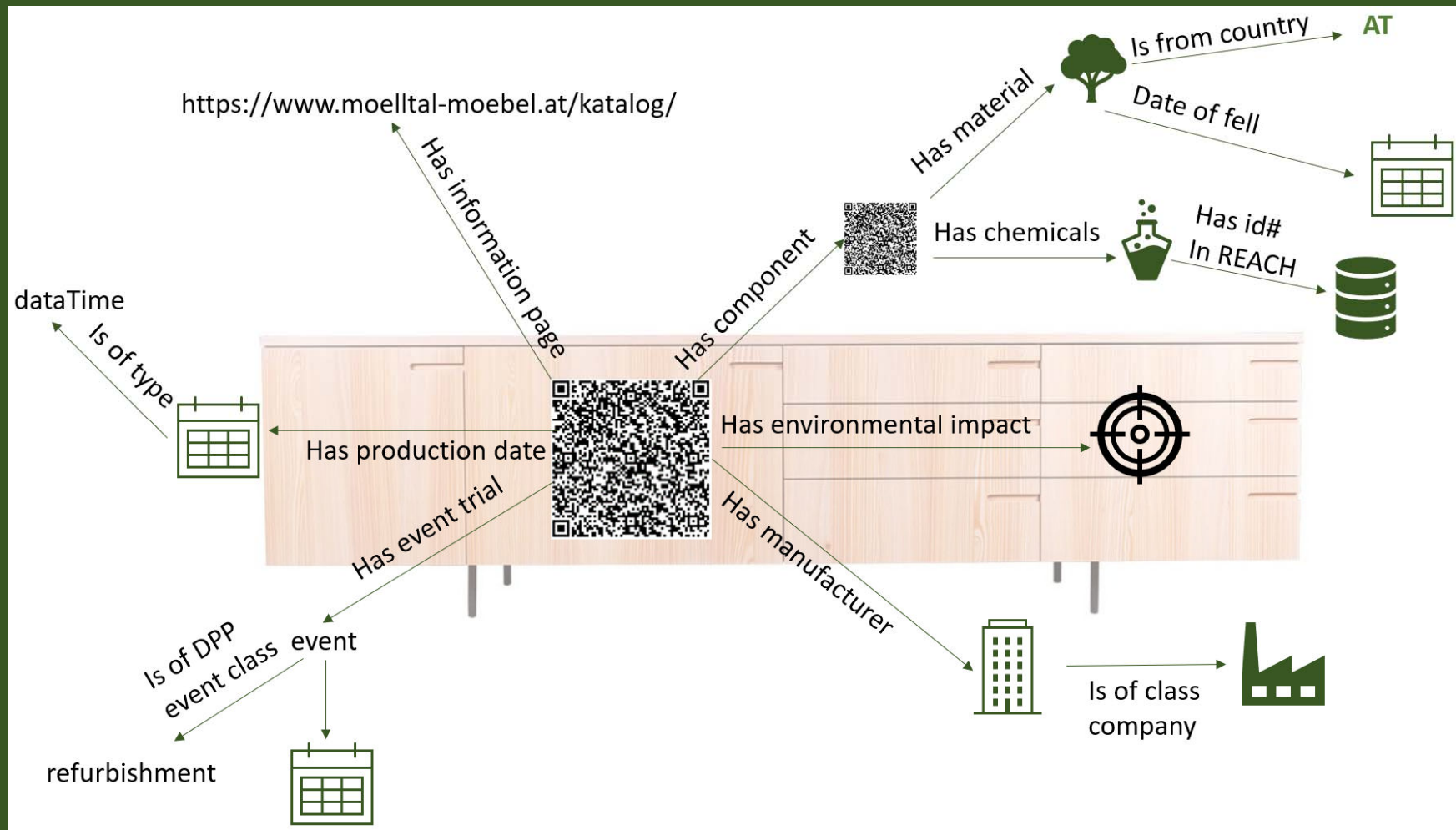
CHAMPI4.0NS



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BUSINESS
MODELS

...

TECHNOLOGY
COMPARISON

OPTIMIZATION

OUTLOOK



TEST

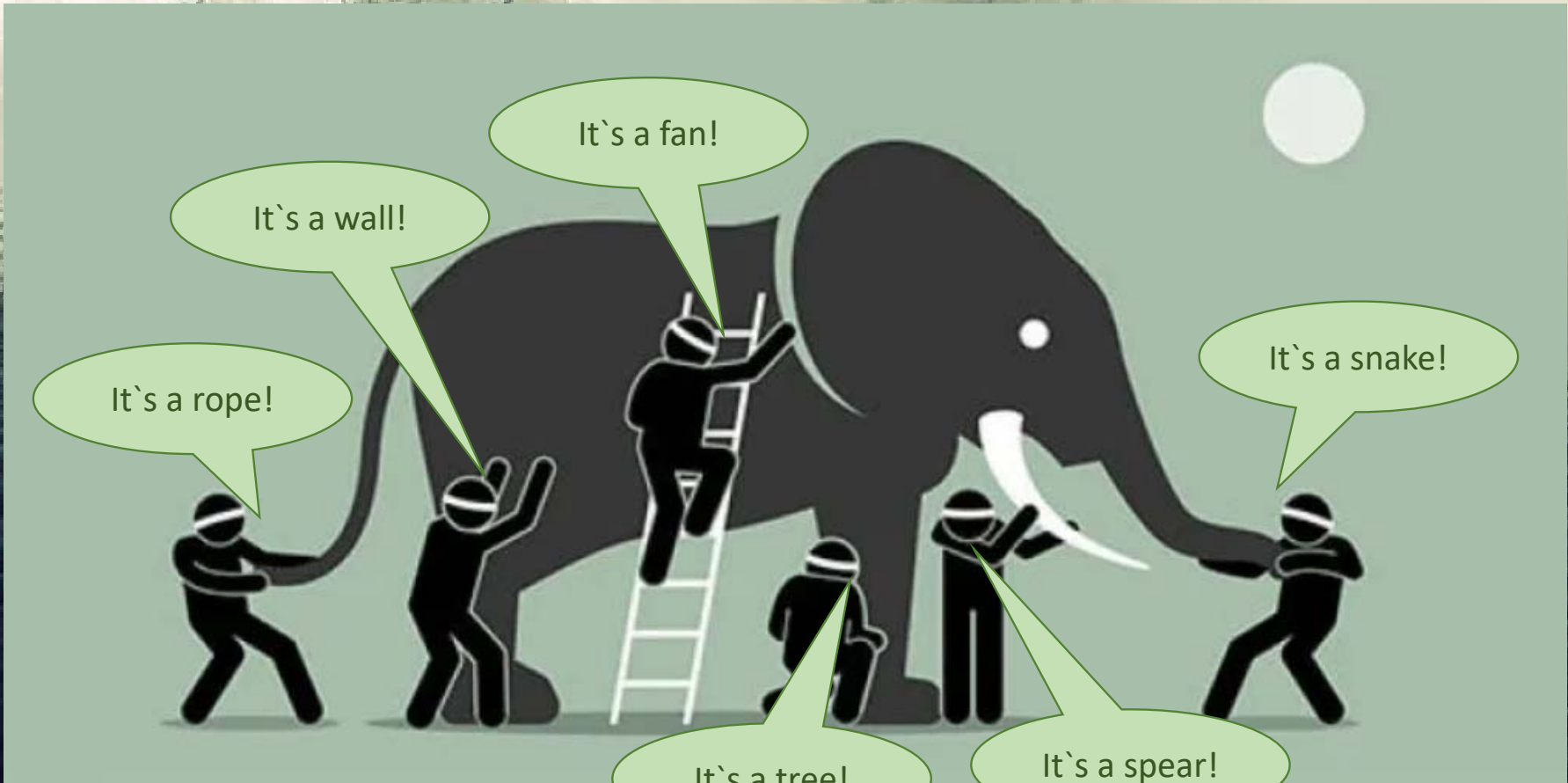
TEST

TEST

TEST

TEST

TEST



It's a rope!

It's a wall!

It's a fan!

It's a tree!

It's a spear!

It's a snake!



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