



Challenges & risks of digitalization in the energy sector

8th Workshop of Eastern Partnership Energy Regulatory Bodies Workshop

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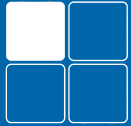


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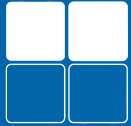
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What do we understand by „digitalisation“?

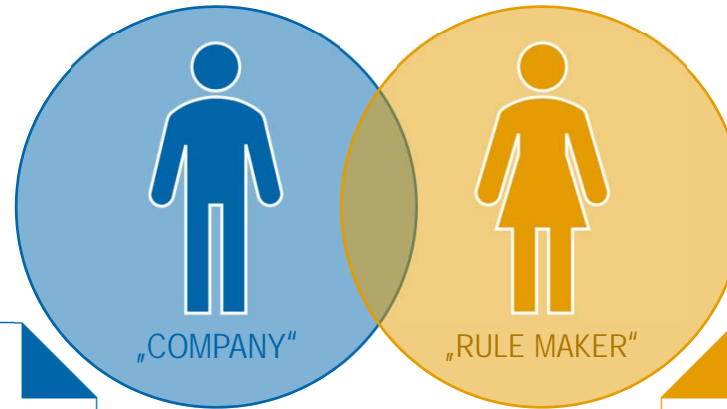
Before we start ...





How does digitalisation affect a regulator?

Digitalisation challenges regulatory authorities in all its roles



- Fulfil tasks and obligations as “company” (monitoring, report, etc. tasks);
- Efficiently reaching company goals requires more and more the use of new technologies (e.g. for data collection and processing);
- E-government, E-regulation, etc.

- Setup rules within legally defined boundaries (market and technical rules)
- Identify & understand innovative developments:
 - regulator must serve as informed sparring partner for the market;
 - regulator prepares future-oriented framework conditions.



Where do digitalisation & energy markets meet?

Evolution & innovation along the whole energy value chain – amended by a new “digital dimension”

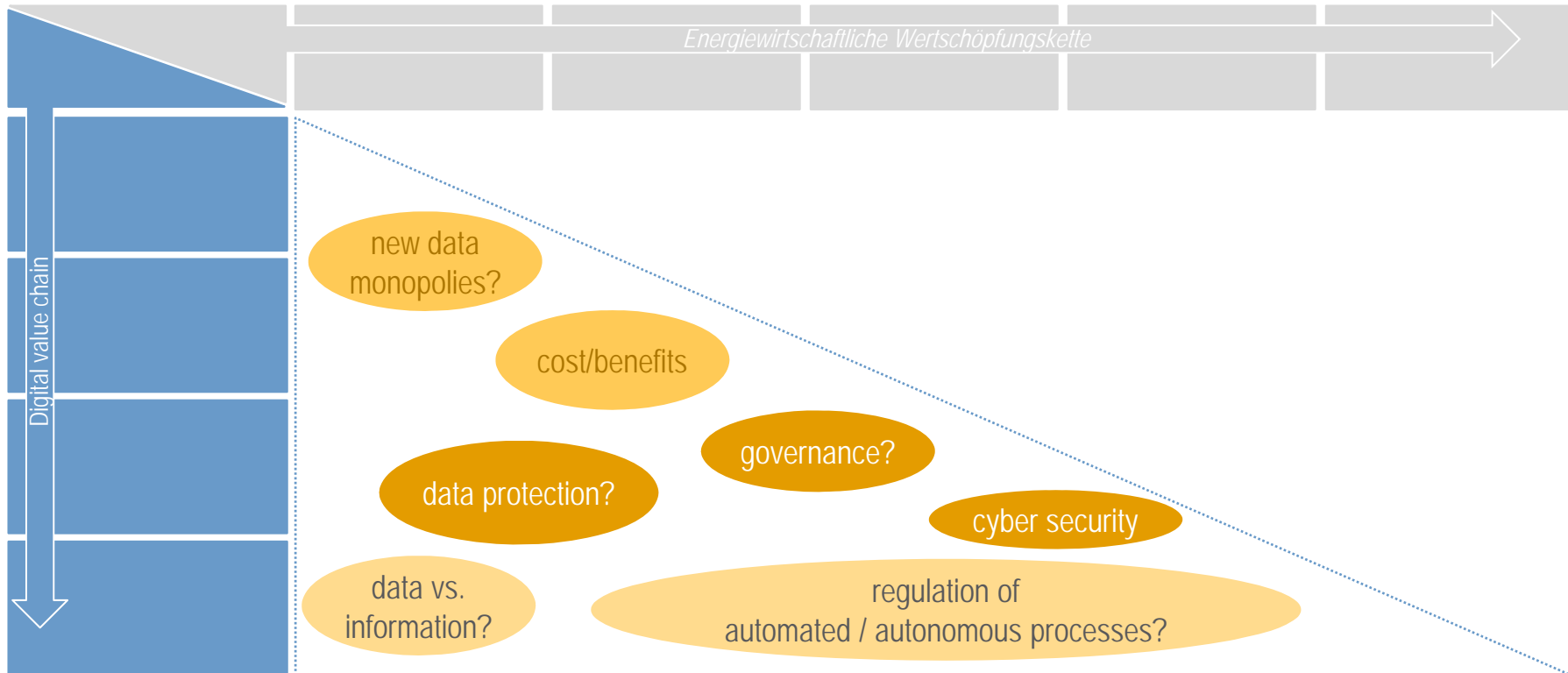


		Energy sector value chain				
		PRODUCTION	TRANSPORT	TRADING	SALES	CONSUMPTION
Digital value chain	INFRASTRUCTURE & SENSORS	<ul style="list-style-type: none"> > Financing of infrastructure (tokenization, sharing) > Asset-monitoring and -ownership (M&A, registration, data evaluation) > Optimisation of operations (predictive maintenance) 				<ul style="list-style-type: none"> > Smart meter(ing)
	PROCESSES & COMMUNICATION	<ul style="list-style-type: none"> > Transparency for market participants & regulators > Simplification of data exchange & matching between market roles (e.g. congestion management) > Processing of PPA 		<ul style="list-style-type: none"> > Automation/autonomisation > P2P trading > Backoffice (post trade) 	<ul style="list-style-type: none"> > Switching process 	<ul style="list-style-type: none"> > Metering and settlement of charges & levies > Technical realisation of “energy communities”
	DATA & ANALYTICS	<ul style="list-style-type: none"> > Wind park design > Improved gas/oil prod. (machine learning) > Digital Twins 	<ul style="list-style-type: none"> > Decentralized smart grids > Flex markets 	<ul style="list-style-type: none"> > Market surveillance / monitoring > Insider information > Price transparency 	<ul style="list-style-type: none"> > Temporary access to customer data 	<ul style="list-style-type: none"> > Energy management systems
	DIGITAL SERVICES & CUSTOMER VALUE	<ul style="list-style-type: none"> > Guarantees of origin > Regionality certifications 		<ul style="list-style-type: none"> > Implementation of local markets > autonomisation 	<ul style="list-style-type: none"> > Dynamic pricing (incl. DSR vouchers) > Flat rates > Pay-as-you-go models 	<ul style="list-style-type: none"> > Pay as you go > Sharing of resources > Individualization/optimization



Challenges for digitalisation in the energy sector

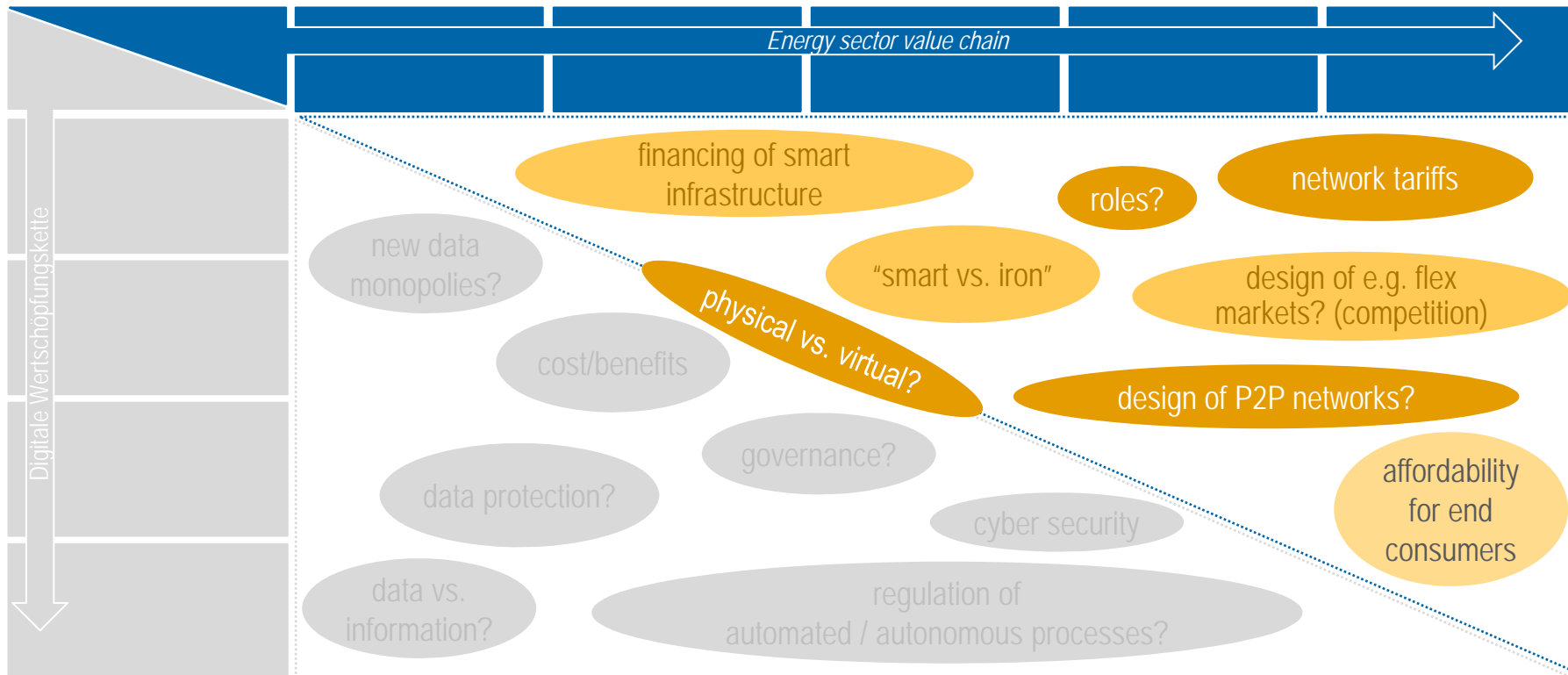
... arise from the primarily digital aspects thereof





Challenges for digitalisation in the energy sector

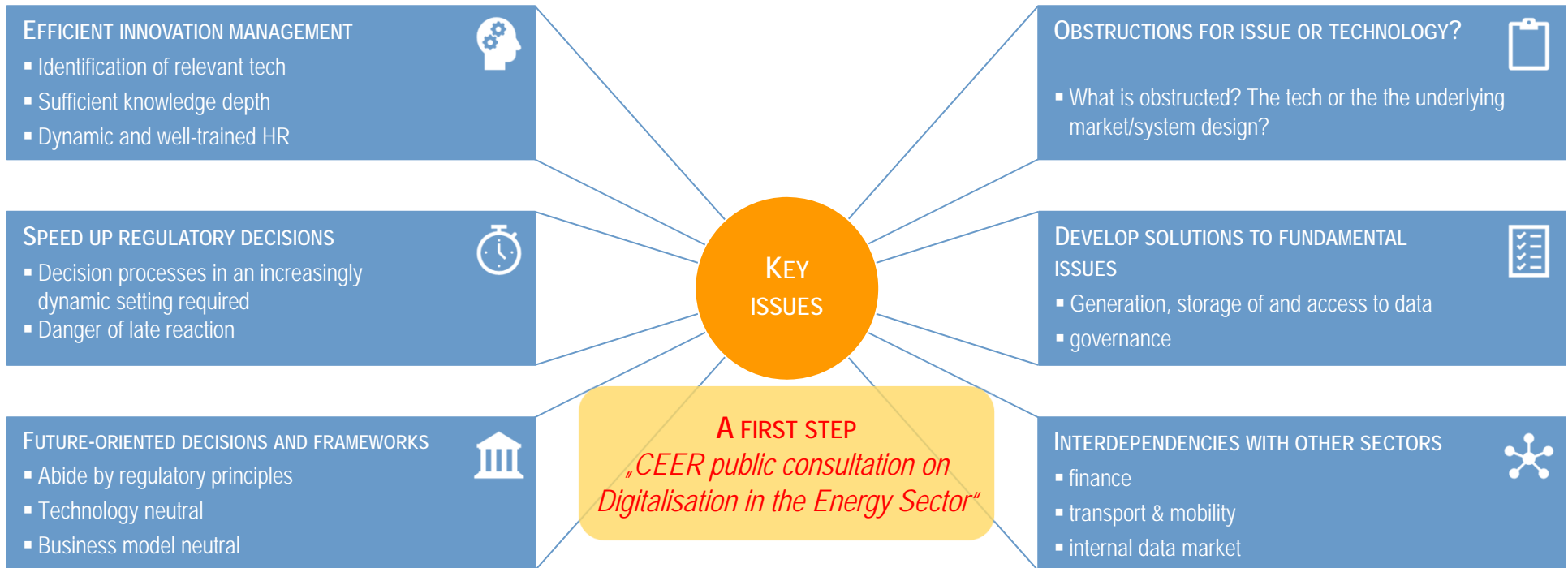
... arise from "traditional" and technology-agnostic issues!





Challenges for regulators and policy makers

... key issues to be addressed in the future!



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