

DigIPlat

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Improving Flexibility Procurement: Option for Product Standardisation

18th IAEE European Conference

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July, 2023

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 - Bid linking and forwarding vs. product harmonization
 - Standardization roadmap and timeline

Project Partners

DigIPlat



Projektlaufzeit 1. Mai 2022 - 30. April 2025

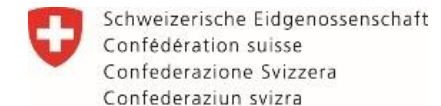
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Project Overview

The logo for DigIPlat, featuring the text "DigIPlat" in white on a blue background with a geometric, low-poly pattern. The letter "I" is red.

Main Goal:

Development of a standardized framework for interoperable flexibility platforms and standardized flexibility products

Challenge 1:

Coupling of different flexibility platforms/markets

Approach:

Definition and analyzation of three different UCs

Challenge 2:

Standardization/Harmonization of different flexibility products

Approach:

Based on a classification of flexibility attributes we analyze different standardization approaches

Project Output: Use Cases

UC 1: Use of Balancing Energy considering network restrictions

BE

Focus: preventing BE calls with critical effects on grid congestion

Implements an optimisation approach that takes into account available network capacities for the use of BE

Implementation for Demo

UC 2: Coordinated Capacity Procurement

BC

RD

Focus: procurement of BC together with additional information to be applicable for RD

Approach:

- BC bids with locational information

Agent-based model

- Identification of economic impact
- Investigation of strategies and incentives of market participants

UC 3: Balancing Energy and Intra-Day Market

BE

CID

Focus: integration of ID products into the BE market

Approach:

- Parallel ID and BE market, forwarding of ID bids to BE market at BE GCT, releasing of not awarded ID bids afterward
- market coupling via order books via integrating the BE market into the CID market as additional segment

Basis for economic evaluation (impact on prices, market liquidity)

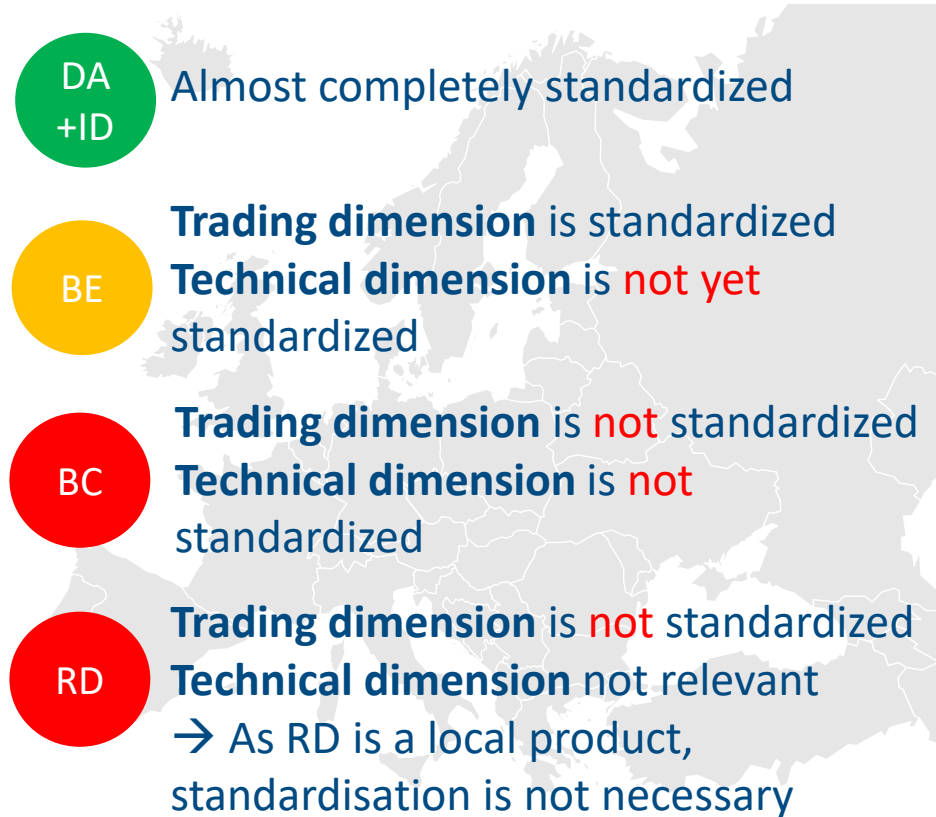
Classification of flexibility attributes

Technical dimension	Trading dimension		
Type of flexibility Mode of activation Portfolio/Unit-based prequalification Preparation period Ramping period Full activation time Deactivation period Location /Spatial specification Communication criteria	Timing	Product rules	Auction/procurement rules
	GOT GCT Activation time Product resolution	Min bid size Max bid size Bid information Bid symmetry Bid adjustment Bid increment	Pricing rule/ remuneration Winner determination Bid divisibility Price cap Unit-/portfolio-based bidding

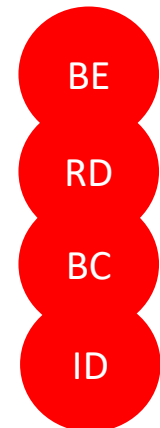
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Standardization – 2 possible approaches

CROSS-COUNTRY STANDARDISATION



CROSS-PRODUCT INTEGRATION

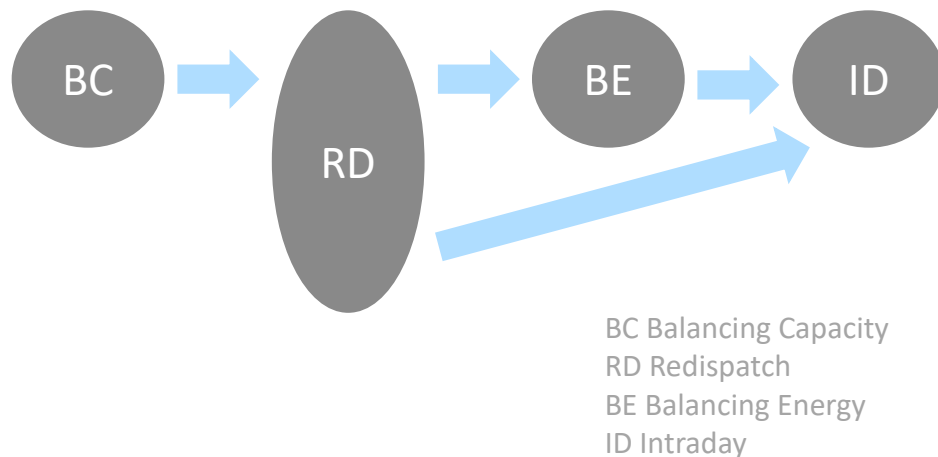
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- There are two ways of achieving product integration:
- **Linking and forwarding** of product-specific bids
 - **product harmonization**

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Bid forwarding and linking

Bid forwarding allows for forwarding of non-awarded bids to other markets with subsequent gate closure times*.

*necessary assumption: FSP is prequalified for each market the bid is forwarded to



Advantages

- FSPs can participate in more than one market with the **same flex**
- most of existing product characteristics can be preserved
- in case exclusive linking is used:
 - bids can be used in more than one market in the same timeframe

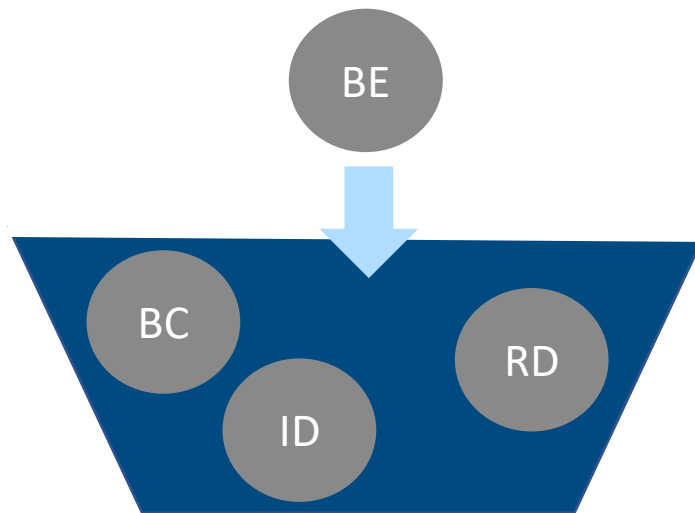
Disadvantages

- less transparency for FSP
- no co-optimization possible

Partial product harmonization

Products are standardized/harmonized to a large extent yet retain their individual qualities.

“Mixed bag of products”:



BC Balancing Capacity
RD Redispatch
BE Balancing Energy
ID Intraday

Advantages

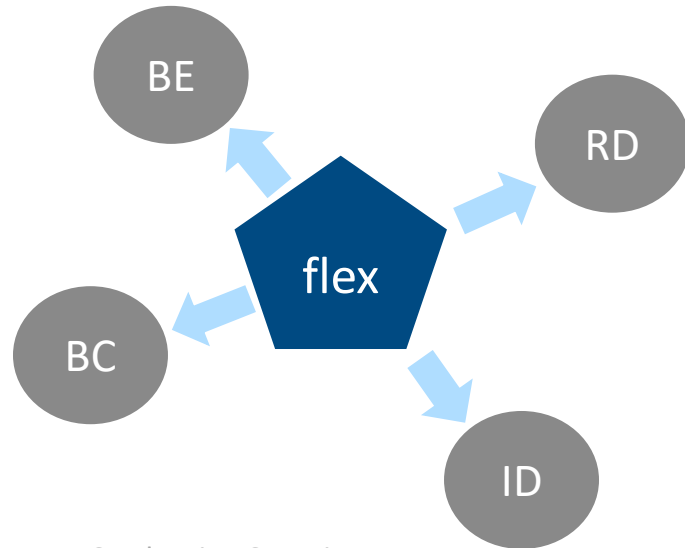
- some product characteristics can be preserved
- no excluded flex potential
- flex resources can be used for several applications if qualify (e.g., via exclusive linking)
- co-optimization possible

Disadvantages

- less transparency for FSP
- all flexibility products are submitted to the same platform with the **same GCT**

Full product harmonization

A product attribute is **harmonized** when no divergence is allowed between different purposes. Therefore, a 'common value' will be agreed upon for this attribute.



BC Balancing Capacity
RD Redispatch
BE Balancing Energy
ID Intraday

Universal flexibility product:

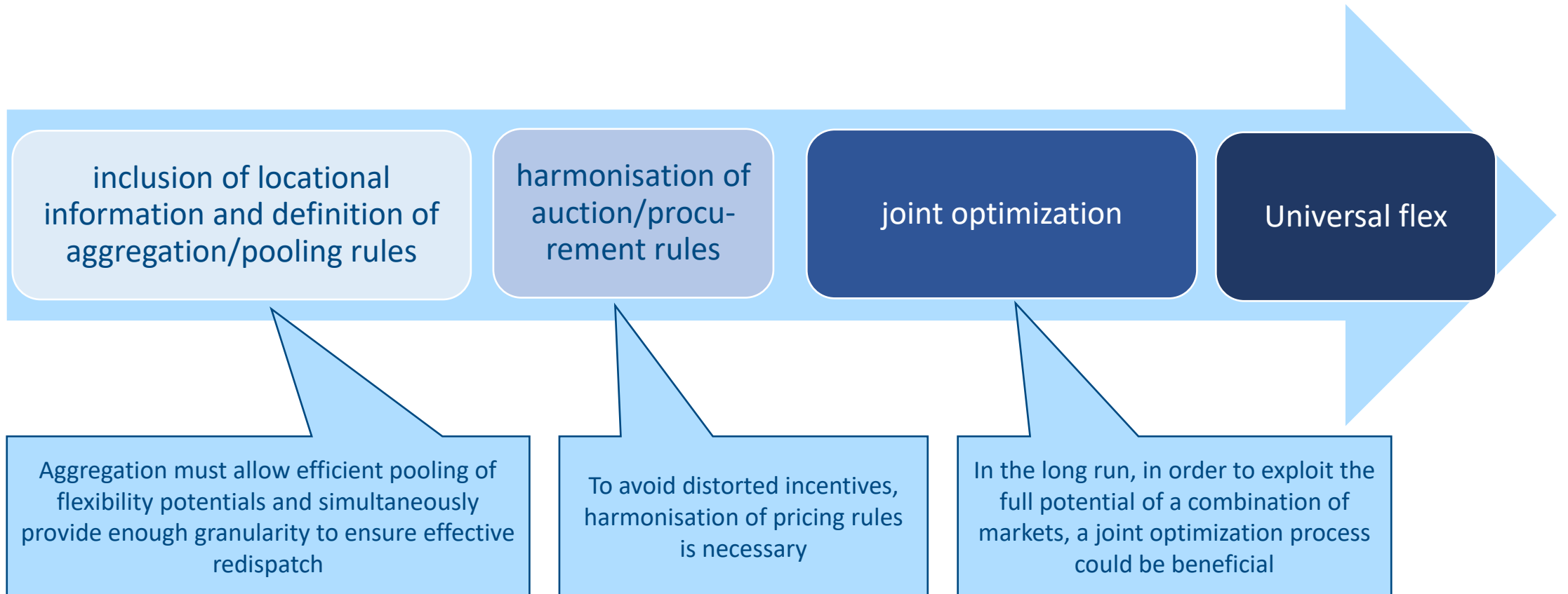
Advantages

- potential to exchange flexibility for different services
- Simplified decision-making for FSP
- product is more versatile for TSO
- Co-optimization by TSO

Disadvantages

- Potential of excluding FSPs due to high product requirements
- product is more restrictive for FSP

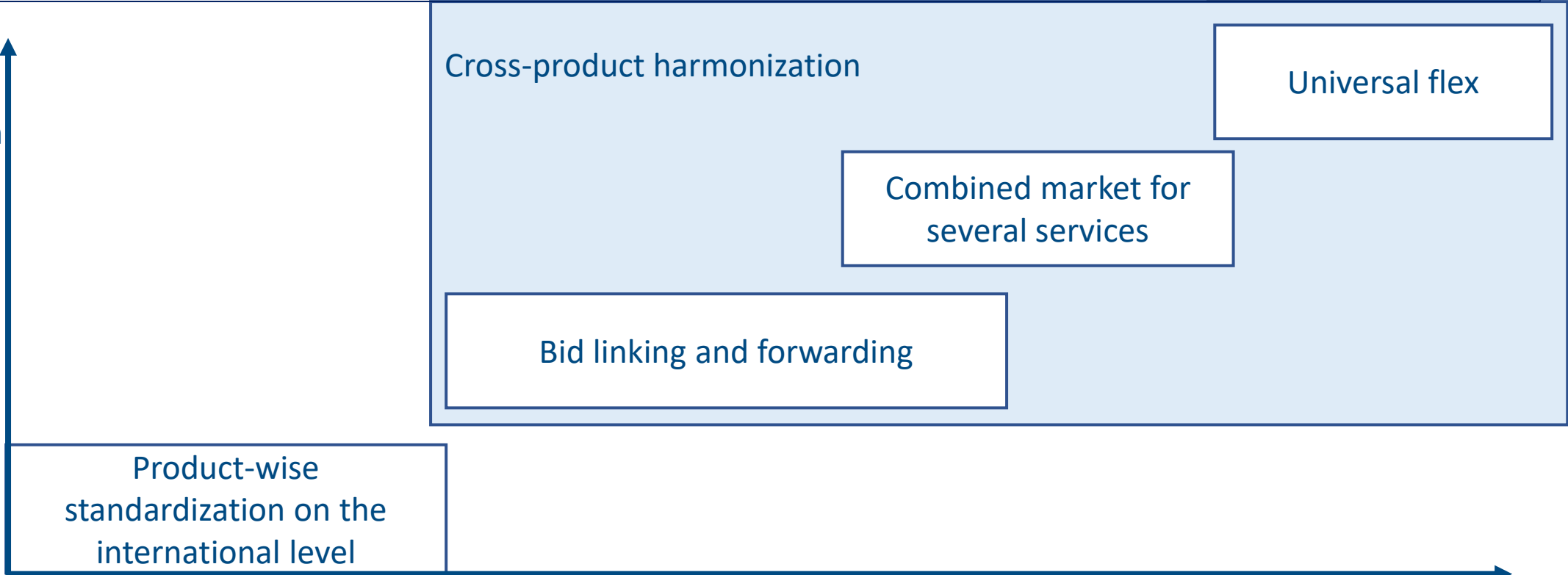
Standardisation roadmap



Standardization timeline



Extent of product harmonization



ID: trading dimension standardized

BAL: technical dimension standardized

inclusion of locational information

harmonization of remuneration

simplification of PQ process

joint optimization process

full harmonization of flex-products

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