Manage flexibility bids - Alternative 2

Based on IEC 62559-2 edition 1
Generated from UML Use Case Repository with Modsarus® (EDF R&D Tool)

1. Description of the use case

1. Name of use case

Use case identification		
ID	Area(s)/Domain(s)/Zone(s)	Name of use case
	Market for flexibilities	Manage flexibility bids - Alternative 2

2. Version management

Version management				
Version No.	Date	Name of author(s)	Changes	Approval status
1	2019-09-02	Wiebke Albers (innogy SE)	alternative SUC	
2	2020-06-16	Eric Suignard (EDF)	innogy's and Elering's review	

3. Scope and objectives of use case

Scope and objectives of use case	
Scope	Describing the pre-qualification and bidding processes on the flexibility services market and defining required data flow to support management of pre-qualification of Flexibility Service Providers and management of flexibility bids.
Objective(s)	Explanation regarding the exchange of information supporting the pre-qualification and bidding processes in the Flexibility Services Market.
Related business case(s)	

4. Narrative of Use Case

Narrative of use case
Short description
The use case describes the process of pre-qualification of the Flexibility Service Providers (aggregators and individual consumption, generation and storage units) and the bidding process ending with the selection of flexibility bids, leading to the initiation of activation in case of energy bids or the reservation of capacity in case of capacity bids. Implementation of these processes takes place on the Flexibility Platform (flexibility register), which gathers flexibility needs provided by System Operators as well as flexibility potentials, and registers flexibility bids provided by Flexibility Service Providers.   According to EU-SysFlex WP3 suggestion, the function of grid impact assessment and hosting of Grid Validation System could be taken over by Optimisation Operator role from the Primary and Secondary System Operator roles.
Complete description
Summary of use case • <u>Prequalification of the Flexibility Service Providers and their flexibilities</u> Description: Prequalification of both Flexibility Service Providers themselves and the technical feasibility of the flexibility ('product prequalification') as well as the assessment if the flexibilities can cause congestions in the grid ('grid prequalification').

- **Publish prequalification criteria**
  Description: Each System Operator defines services and publishes the definition of these services on the flexibility platform.

- **Publish flexibility potential**
  Description: Each Flexibility Service Provider registers its flexibility potential on the Flexibility Platform with respect to the need of a System Operator.

- **Forward prequalification criteria**
  Description:

- **Register prequalification criteria**
  Description:

- **Forward flexibility potential**
  Description:

- **Register flexibility potential**
  Description:

- **Initiate Prequalification of Flexibility Service Provider (product and provider prequalification)**
  Description: Based on the information submitted in Flexibility Service Providers' flexibility potential, Flexibility Platform prequalifies the ability of Flexibility Service Providers to deliver flexibility with respect to System Operators' needs.

- **Send necessary information for grid impact assessment**
  Description: Flexibility Platform sends required level of information necessary for grid impact assessment to the different System Operators concerned (both TSOs and DSOs).
  This activity leads to registering whether grid assessment is necessary during the bidding phase in case of balancing products.

- **Compare prequalification criteria and flexibility potential**
  Description:

- **Forward necessary information for grid impact assessment**
  Description:

- **Assess grid impact (grid prequalification)**
  Description: Secondary System Operators assess the impact of flexibility activations in their grid in order to avoid congestions due to these activations.
  Secondary System Operators provide the results of grid impact assessment to the Primary System Operator setting the need for asking the Secondary System Operator for grid impact assessment during the bidding/procurement phase.

- **Registers secondary grid assessment results (grid prequalification)**
  Description: The PSO registers whether the flexibility in the SSO grid can be procured and activated in a certain time frame or whether for every procurement/activation the grid impact assessment of SSO has to be taken into account.

- **Send the results of prequalification to FSP and PSO**
  Description:

- **Forward the results of product prequalification**
  Description:

- Receive results of product prequalification
  Description:

- Receive product and provider prequalification results
  Description:

- Bidding process
  Description: The Flexibility Platform should allow many parallel calls for tender in which *n* Flexibility Service Providers offer flexibilities for *m* flexibility products, previously defined with System Operators and possibly standardized, and, on the buyers' side, there are *x* System Operators looking for the cheapest products.
  This means that it may happen that more than one System Operator will be willing to buy same flexibility. It may also mean that it is not necessarily the cheapest flexibility which would bring highest socio-economic value.
  System Operators mutually coordinate the flexibility buying before the final selection of bids. This coordination is out of the scope of this use case.

  - Open the flexibility call for tenders
    Description: A call for tenders of flexibility services relies on specific products and covers specific periods (week ahead, day ahead, intraday, etc.).
    The call for tenders is opened by the Primary System Operator. The Primary System Operator is the operator who needs the flexibility service.

  - Register flexibility call for tenders opening
    Description: Secondary System Operators and FSPs should receive information about call for tenders opening from via Flexibility Platform (not directly from Primary System Operator).

  - Send flexibility bids
    Description:

  - Forward flexibility bids
    Description:

  - Register flexibility bids
    Description: In addition to flexibility bids received from Flexibility Service Providers, the Flexibility Platform also registers flexibility coming from European/regional/national platforms and systems like MARI, PICASSO or COBA (Common Baltic balancing Area). These platforms are used to collect the bids for some flexibility services (e.g. mFRR). The value of Flexibility Platform is to bring different information together and making it available to different flexibility buyers.
    Flexibility bids are ranked on merit order principle and location.

  - Rank bids based on merit order principle and location
    Description: Locational ranking principles to be agreed between Primary System Operator and Flexibility Platform.

  - Send flexibility bids from Flexibility Platform to Secondary system operator
    Description: Flexibility Platform sends flexibility bids from Flexibility Platform to Secondary system operator via DEP.

  - Assess secondary grid impact and cluster flexibility bids (according to PSO/SSO agreement)
    Description: Secondary System Operator performs grid impact assessment of bids to avoid congestions in its grid.
    If order book was opened for congestion management, Secondary System Operator informs Primary System Operator about the efficiency of the flexibilities to solve their congestions (sensitivities).
    Additionally, bids in the SSO grid are being clustered according to the criteria (e.g. cost

minimization for PSO based on close to real time grid situation) agreed by the PSO and SSO. SSO sends results to PSO.

- **Select flexibility bid or cluster and close the flexibility call for tenders**
  Description: PSO selects the bid or cluster that serves the need based on the merit order list provided by the FP. With the bid selection the call for tender is closed.

- **Decluster selected flexibility bid cluster and inform FP and PSO**
  Description: Secondary System Operator declusters flexibility bid cluster and selects best flexibilities. SSO informs FP and PSO

- **Register flexibility bid selection**
  Description:

- **Forward Flexibility bid selection to FP**
  Description:

- **Register flexibility bid selection and call for tenders closure**
  Description:

5. Key performance indicators (KPI)
6. Use case conditions

Use case conditions
Assumptions
1	Scenario 2 assumes a call for tenders-based process for matching flexibility bids to demands of flexibility: Alternative market processes, e.g. for real time bid/offer price matching are also possible. A mixed model (e.g. periodic calls for tenders to buy "baseload" flexibility plus a real time spot market) is also feasible.
2	PSO and SSO define the framework for clustering bids, such as based on which criteria (e.g. price and sensitivity) and within which range. : Clustering leads to more cost-efficient bid selection since there can be a time gap between the need of the PSO to know the flexibility potential in underlying grids and the final bid selection/bid activation. Due to this time gap, the underlying grid situation can change so that finally the SSO can decide on which bid to select in order to cope with the changed grid situation. The advantage is the reduction of bid limitations by the SSO.
3	Grid prequalification is carried out to check whether a flexibility can cause a new congestion in the grid. : If this is the case, the bidding/procurement process can be eased by avoiding this check in case of the use of the flexibility for balancing purposes.
4	Grid prequalification only makes sense if the SSO's grid assessment during the following bidding phase can be avoided. : For congestion management products, current sensitivities (mainly depending on switching procedures) are necessary so that the SSO grid assessment is always necessary.
5	Scenario 2 assumes that the flexibility platform runs an order book where system operators can select the appropriate bids to fulfil their needs depending on where the flexibility is connected to. : It might be possible that the flexibility platform ranks the bids based on price and location as stated by the PSO in the call for tender. However, it is up to the PSO to select the individual bids or cluster of bids based on its individual needs (e.g. best sensitivity of a bid towards a congestion) and the information received by the SSO (limitations, sensitivities).
6	The use case assumes a single market place operated by a Flexibility Platform: 'Single' stands for concept where different flexibility buyers and sellers can trade. However, flexibility platforms are part of the competitive domain, so that also many different flexibility platforms could exist next to each other, whereas competition leads to the most efficient solution. Especially, since the challenges of the future electricity system lie in local congestions, decentralised flexibility platforms could also be a solution.
7	Each System Operator has the same right to participate in the flexibility platform: The System Operator who initiates the call for tenders is a leading operator. There is no single lead operator. The flexibility platform should accept several parallel calls for tenders initiated by different System Operators. The scenarios do not depict how synergies across system operators are lifted.

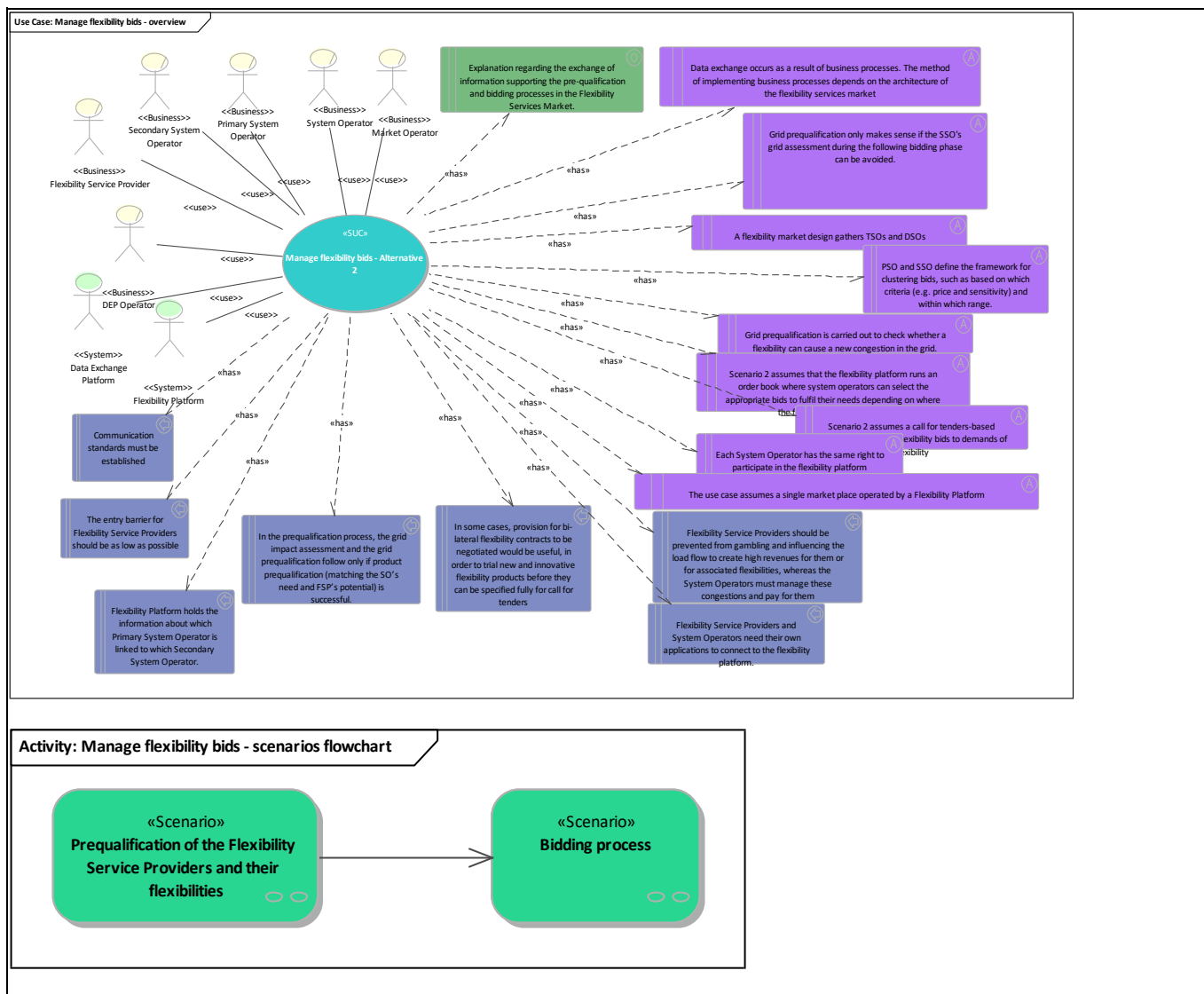|	
8	A flexibility market design gathers TSOs and DSOs
9	Data exchange occurs as a result of business processes. The method of implementing business processes depends on the architecture of the flexibility services market
	Prerequisites
1	Flexibility Service Providers should be prevented from gambling and influencing the load flow to create high revenues for them or for associated flexibilities, whereas the System Operators must manage these congestions and pay for them: To achieve this prerequisite, Flexibility Service Providers as a default do not see the reason for being selected. However, it can be possible to publish aggregated historical information to incentivize the offering of flexibility bids. Regulators might be able to review samples of bid selections to ensure the non-discriminatory selection by system operators.
2	Flexibility Service Providers and System Operators need their own applications to connect to the flexibility platform.
3	In some cases, provision for bi-lateral flexibility contracts to be negotiated would be useful, in order to trial new and innovative flexibility products before they can be specified fully for call for tenders
4	Before entering bidding process scenario, service providers should undergo a process of prequalification and their infrastructure including application should meet technical requirements, the fulfilment of which is a condition for positive certification
5	Flexibility Platform holds the information about which Primary System Operator is linked to which Secondary System Operator.: However, this information does not include the current switching state of individual grid assets.
6	The entry barrier for Flexibility Service Providers should be as low as possible
7	Communication standards must be established
8	In the prequalification process, the grid impact assessment and the grid prequalification follow only if product prequalification (matching the SO's need and FSP's potential) is successful.

7. Further information to the use case for classification/mapping

Classification information
Relation to other use cases
Level of depth
Prioritisation
Generic, regional or national relation
Nature of the use case
SUC
Further keywords for classification

8. General remarks

2. Diagrams of use case

Diagram(s) of use case

Use Case: Manage flexibility bids - overview

Activity: Manage flexibility bids - scenarios flowchart

3. Technical details

1. Actors

Actors			
Grouping (e.g. domains, zones)		**Group description**	
Actor name	**Actor type**	**Actor description**	**Further information specific to this use case**
Grid Validation System	System	System hosted by Optimisation Operators and used for the power grid congestion assessment, including grid validation if activation will cause congestion.	
Primary System Operator	Business	Initiates the call for tenders and initiates the activation of a flexibility. It also can operate the power grid on which a flexibility service unit is connected or this unit may otherwise impact its grid. In this case, it assesses the impact on its network of the flexibility to be procured	

		because the activation of such flexibility may potentially cause congestion in its grid.	
Market Operator	Business	A market operator is a party that provides a service whereby the offers to sell electricity are matched with bids to buy electricity (cf. ENTSOE-EFET-ebIX harmonized role model 2019). In EU-SysFlex project, a market operator not only trades electricity but also flexibility services. Organize auctions (continuous auctions, discrete auctions, calls for tender) between buyers and sellers of electricity-related products in the markets, and more generally publish the corresponding prices, for assets connected to power grid. Manage/operate the platform for trading (where bids and offers are collected). Clear the market and communicate results. (cf. definition in T3.3 deliverable)	
Secondary System Operator	Business	Operates the power grid on which a flexibility service unit is connected or this unit may otherwise impact its grid. Assesses the impact on its network of the flexibility to be procured because the activation of such flexibility may potentially cause congestion in its grid.	
Flexibility Platform	System	Flexibility Platform (FP) for System Operators and Flexibility Service Providers that enables the trading of different flexibility products and services. A FP is operated by a Market Operator. Available to System Operators and Flexibility Services Providers. It is used to support the prequalification, the bidding, the activation and the verification processes, ensuring coordination between activities undertaken by several operators using the same flexible resources. Several national and regional FPs may exist.	
Flexibility Service Provider	Business	Can be a Distribution Network Flexibility Provider or a Transmission Network Flexibility Provider (cf. definitions in T3.3 deliverable). Similar to Flexibility Aggregator. Can be both aggregator and individual consumer/generator. Type of Energy Service Provider.	
System Operator	Business	System Operator means a natural or legal person responsible for operating, ensuring the maintenance of and, if necessary, developing the system in a given area and, where applicable, its interconnections with other systems, and for ensuring the long-term ability of the system to meet reasonable demands for the distribution or transmission of electricity (cf. ENTSOE-EFET-ebIX harmonized role model 2019). Can be: • A Transmission System Operator (cf. definition in T3.3 deliverable), for frequency control, congestion management and voltage control on transmission network, • A Distribution System Operator (cf. definition in T3.3 deliverable), for congestion management and voltage control on distribution network. NB: In some countries (e.g. Germany and Poland), the high voltage network is part of the distribution grid and in other countries (e. g. France and Italy) the high voltage network is part of the transmission grid. A System Operator can be: • A Primary System Operator,	

		• A Secondary System Operator.
Data Exchange Platform	System	Data exchange platform (DEP) is a communication platform the basic functionality of which is to secure data transfer (routing) from data providers (e.g. data hubs, flexibility service providers, TSOs, DSOs) to the data users (e.g. TSOs, DSOs, consumers, suppliers, energy service providers). DEP stores data related to its services (e.g. cryptographic hash of the data requested). The DEP does not store core energy data (e.g. meter data, grid data, market data) while these data can be stored by data hubs. Several DEPs may exist in different countries and inside one country.
Optimisation Operator	Business	Optimise and select the bids, where relevant in combination with switching measures; clear the market for auctions or select individual bids in the order book organised by the MO taking into account the grid data (constraints and sensitivities/topology if needed) provided by DS_O and TS_O ; communicate results (rewarded offers and prices) to the MO. The OO role can be carried out by a system operator, market operator or a third party. (cf. definition in T3.2 deliverable)
DEP Operator	Business	Data exchange platform operator owns and operates a communication system which basic functionality is data transfer.

2. References

4. Step by step analysis of use case
1. Overview of scenarios

Scenario conditions						
No.	Scenario name	Scenario description	Primary actor	Triggering event	Pre-condition	Post-condition
1	Prequalification of the Flexibility Service Providers and their flexibilities	Prequalification of both Flexibility Service Providers themselves and the technical feasibility of the flexibility ('product prequalification') as well as the assessment if the flexibilities can cause congestions in the grid ('grid prequalification').			Before entering bidding process scenario, service providers should undergo a process of prequalification and their infrastructure including application should meet technical requirements, the fulfilment of which is a condition for positive certification In some cases, provision for bi-lateral flexibility contracts to be negotiated would be useful, in order to trial new and innovative flexibility products before they can be specified fully for call for tenders The entry barrier for Flexibility Service Providers should be as low as possible Communication standards must be established	
2	Bidding process	The Flexibility Platform should allow many parallel calls for				

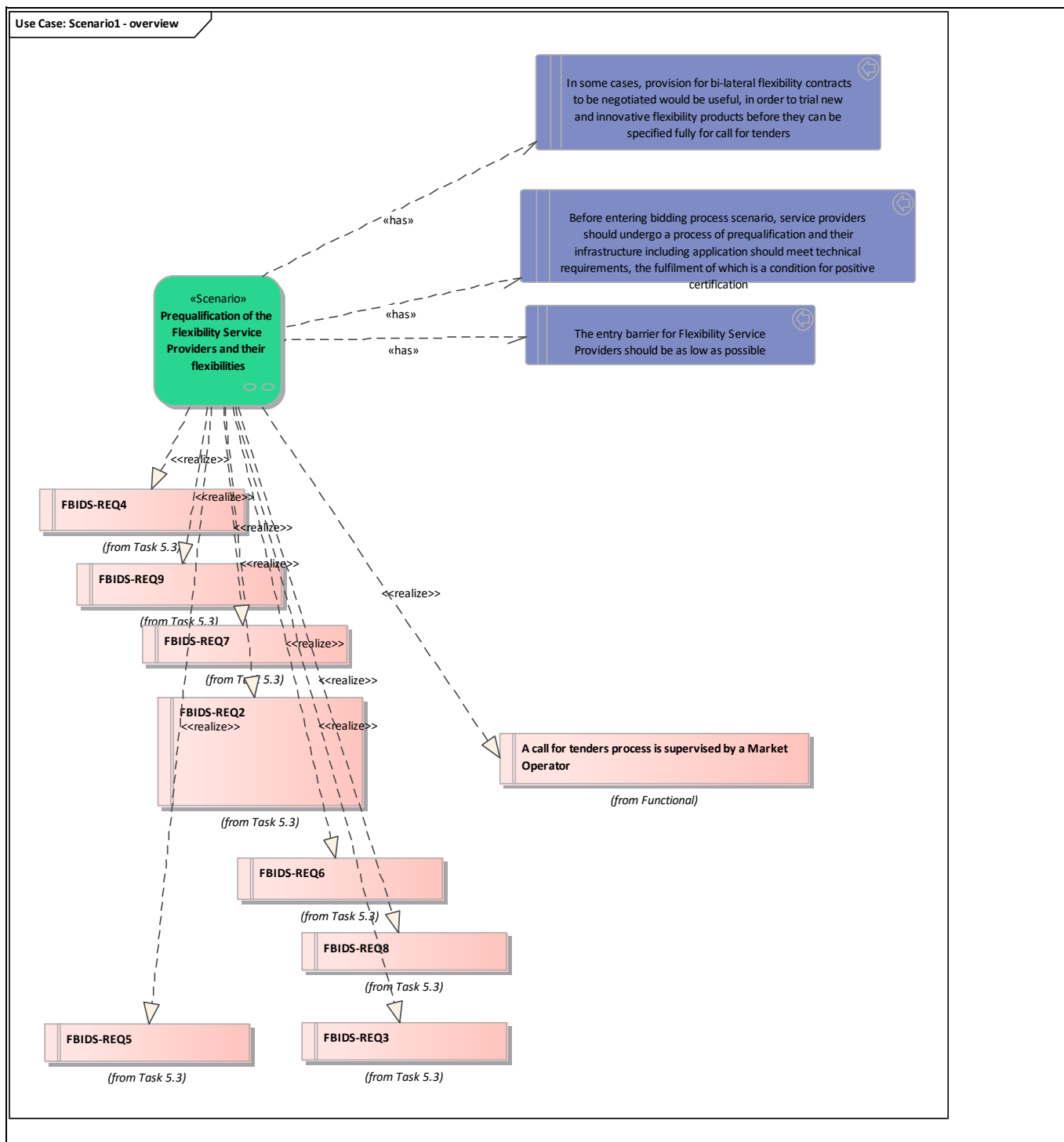|		tender in which *n* Flexibility Service Providers offer flexibilities for *m* flexibility products, previously defined with System Operators and possibly standardized, and, on the buyers' side, there are *x* System Operators looking for the cheapest products. This means that it may happen that more than one System Operator will be willing to buy same flexibility. It may also mean that it is not necessarily the cheapest flexibility which would bring highest socio-economic value. System Operators mutually coordinate the flexibility buying before the final selection of bids. This coordination is out of the scope of this use case.				

2. Steps - Scenarios
1. Prequalification of the Flexibility Service Providers and their flexibilities

Prequalification of both Flexibility Service Providers themselves and the technical feasibility of the flexibility ('product prequalification') as well as the assessment if the flexibilities can cause congestions in the grid ('grid prequalification').

Requirement list (refer to "Requirement" section for more information)	
Requirement R-ID	**Requirement name**
Cat1.Req1	A call for tenders process is supervised by a Market Operator
Cat2.Req2	FBIDS-REQ4
Cat2.Req3	FBIDS-REQ9
Cat2.Req4	FBIDS-REQ7
Cat2.Req5	FBIDS-REQ2
Cat2.Req6	FBIDS-REQ6
Cat2.Req7	FBIDS-REQ8
Cat2.Req8	FBIDS-REQ5
Cat2.Req9	FBIDS-REQ3

Activity: Prequalification process

Scenario step by step analysis

Scenario								
Scenario name	Prequalification of the Flexibility Service Providers and their flexibilities							
Step No	**Event**	**Name of process/activity**	**Description of process/activity**	**Service**	**Information producer (actor)**	**Information receiver (actor)**	**Information exchanged (IDs)**	**Requirement, R-IDs**

1.1		Publish prequalification criteria	Each System Operator defines services and publishes the definition of these services on the flexibility platform.		Primary System Operator, System Operator	Data Exchange Platform		
1.2		Publish flexibility potential	Each Flexibility Service Provider registers its flexibility potential on the Flexibility Platform with respect to the need of a System Operator.		Flexibility Service Provider	Data Exchange Platform	Info1-Flexibility Potential	
1.3		Forward prequalification criteria			Data Exchange Platform	Flexibility Platform		
1.4		Register prequalification criteria			Flexibility Platform	Flexibility Platform		
1.5		Forward flexibility potential			Data Exchange Platform	Flexibility Platform	Info1-Flexibility Potential	
1.6		Register flexibility potential			Flexibility Platform	Flexibility Platform	Info1-Flexibility Potential	
1.7		Initiate Prequalification of Flexibility Service Provider (product and provider prequalification)	Based on the information submitted in Flexibility Service Providers' flexibility potential, Flexibility Platform prequalifies the ability of Flexibility Service Providers to deliver flexibility with respect to System Operators' needs.		Flexibility Platform	Flexibility Platform		
1.8		Send necessary information for grid impact assessment	Flexibility Platform sends required level of information necessary for grid impact assessment to the different System Operators concerned (both TSOs and DSOs). This activity leads to registering whether grid assessment is necessary during the bidding phase in case of balancing products.		Flexibility Platform	Data Exchange Platform	Info1-Flexibility Potential	
1.9		Compare prequalification criteria and flexibilitry potential			Flexibility Platform	Flexibility Platform		

1.10		Forward necessary information for grid impact assessment			Data Exchange Platform	Secondary System Operator	Info1-Flexibility Potential	
1.11		Assess grid impact (grid prequalification)	Secondary System Operators assess the impact of flexibility activations in their grid in order to avoid congestions due to these activations. Secondary System Operators provide the results of grid impact assessment to the Primary System Operator setting the need for asking the Secondary System Operator for grid impact assessment during the bidding/procurement phase.		Secondary System Operator	Primary System Operator, System Operator	Info1-Flexibility Potential	
1.12		Registers secondary grid assessment results (grid prequalification)	The PSO registers whether the flexibility in the SSO grid can be procured and activated in a certain time frame or whether for every procurement/activation the grid impact assessment of SSO has to be taken into account.		Primary System Operator, System Operator		Info2-Any Data	
1.13		Send the results of prequalification to FSP and PSO			Flexibility Platform	Data Exchange Platform		
1.14		Forward the results of product prequalification			Data Exchange Platform	Primary System Operator, System Operator, Flexibility Service Provider		
1.15		Receive results of product prequalification			Primary System Operator, System Operator			
1.16		Receive product and provider prequalification results			Flexibility Service Provider			

- ## 1.2. Publish flexibility potential

Business section: Prequalification of the Flexibility Service Providers and their flexibilities/Publish flexibility potential
Each Flexibility Service Provider registers its flexibility potential on the Flexibility Platform with respect to the need of a System Operator.
Information sent:

Business object	*Instance name*	*Instance description*
Flexibility Potential	Flexibility Potential	

- ## 1.5. Forward flexibility potential

Business section: Prequalification of the Flexibility Service Providers and their flexibilities/Forward flexibility potential

Information sent:

Business object	*Instance name*	*Instance description*
Flexibility Potential	Flexibility Potential	

- ## 1.6. Register flexibility potential

Business section: Prequalification of the Flexibility Service Providers and their flexibilities/Register flexibility potential

Information sent:

Business object	*Instance name*	*Instance description*
Flexibility Potential	Flexibility Potential	

- ## 1.8. Send necessary information for grid impact assessment

Business section: Prequalification of the Flexibility Service Providers and their flexibilities/Send necessary information for grid impact assessment
Flexibility Platform sends required level of information necessary for grid impact assessment to the different System Operators concerned (both TSOs and DSOs).
This activity leads to registering whether grid assessment is necessary during the bidding phase in case of balancing products.
Information sent:

Business object	*Instance name*	*Instance description*
Flexibility Potential	Flexibility Potential	

- ## 1.9. Forward necessary information for grid impact assessment

Business section: Prequalification of the Flexibility Service Providers and their flexibilities/Forward necessary information for grid impact assessment

Information sent:

Business object	*Instance name*	*Instance description*
Flexibility Potential	Flexibility Potential	

- ## 1.10. Assess grid impact (grid prequalification)

  Business section: Prequalification of the Flexibility Service Providers and their flexibilities/Assess grid impact (grid prequalification)
  Secondary System Operators assess the impact of flexibility activations in their grid in order to avoid congestions due to these activations.
  Secondary System Operators provide the results of grid impact assessment to the Primary System Operator setting the need for asking the Secondary System Operator for grid impact assessment during the bidding/procurement phase.
  Information sent:

Business object	Instance name	Instance description
Flexibility Potential	Flexibility Potential	

- ## 1.11. Registers secondary grid assessment results (grid prequalification)

  Business section: Prequalification of the Flexibility Service Providers and their flexibilities/Registers secondary grid assessment results (grid prequalification)
  The PSO registers whether the flexibility in the SSO grid can be procured and activated in a certain time frame or wheter for every procurement/activation the grid impact assessment of SSO has to be taken into account.
  Information sent:

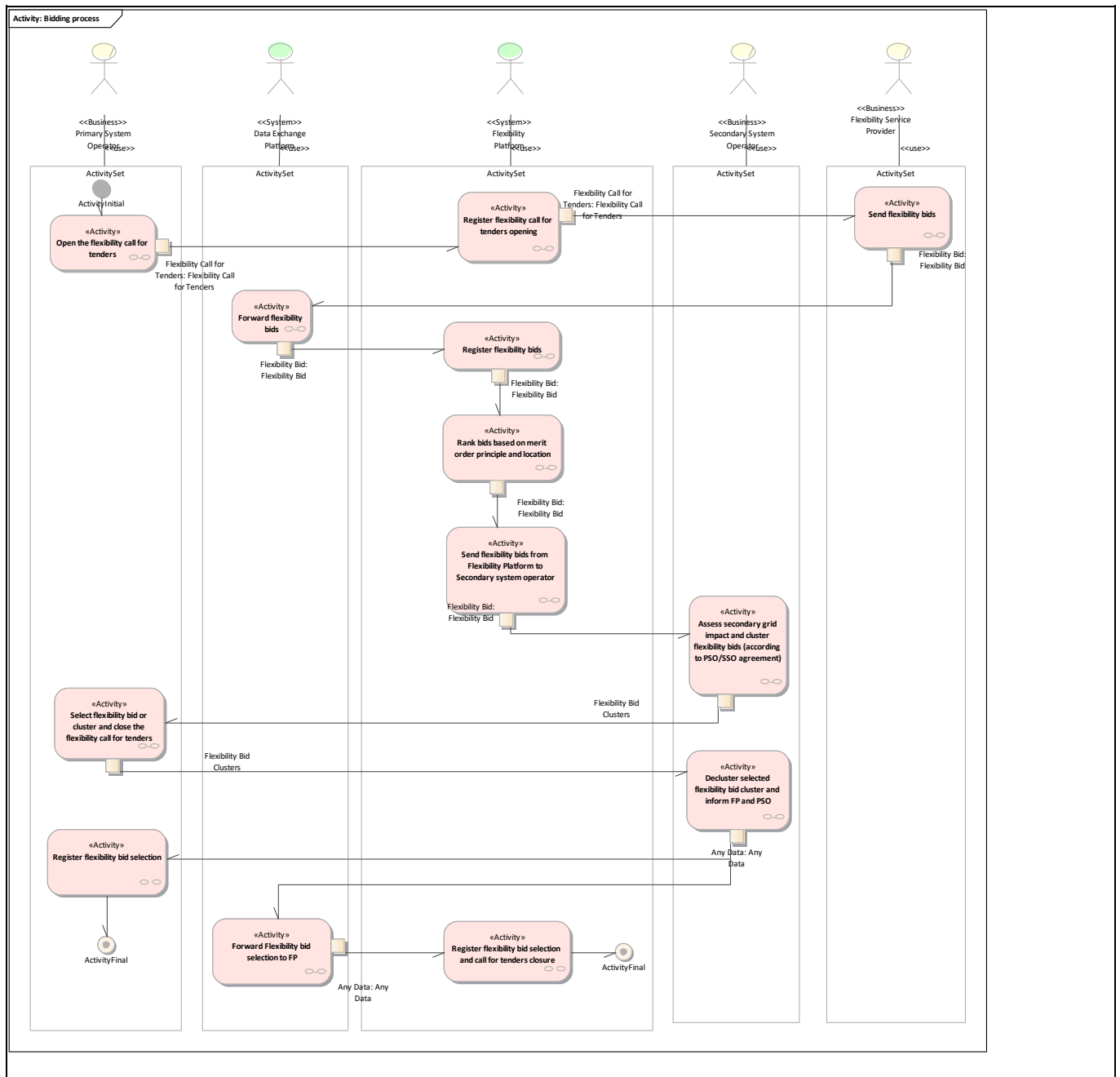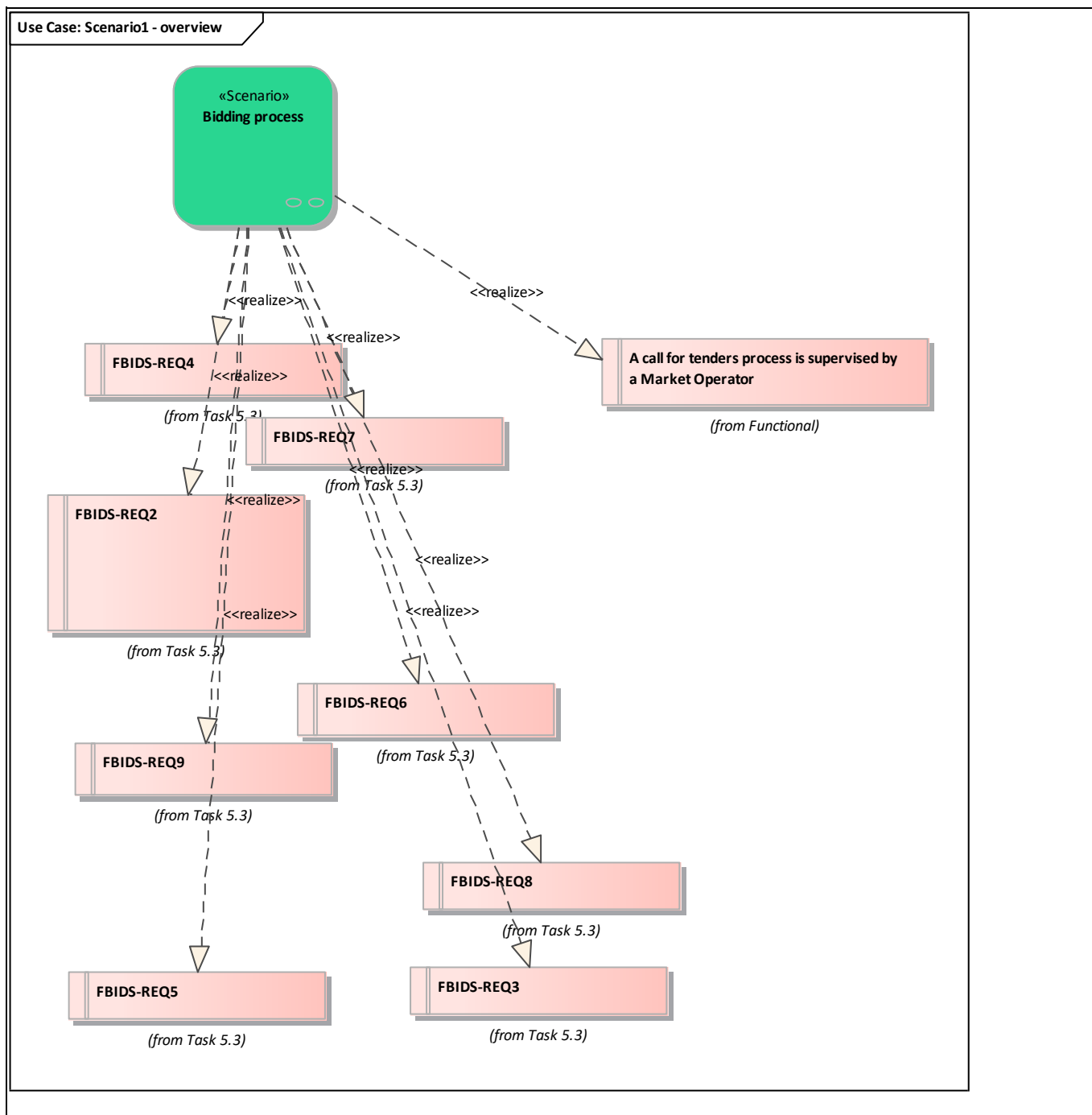| Business object	Instance name	Instance description
Any Data	Any Data	

2. **Bidding process**

The Flexibility Platform should allow many parallel calls for tender in which *n* Flexibility Service Providers offer flexibilities for *m* flexibility products, previously defined with System Operators and possibly standardized, and, on the buyers' side, there are *x* System Operators looking for the cheapest products. This means that it may happen that more than one System Operator will be willing to buy same flexibility. It may also mean that it is not necessarily the cheapest flexibility which would bring highest socio-economic value.
System Operators mutually coordinate the flexibility buying before the final selection of bids. This coordination is out of the scope of this use case.

Requirement list (refer to "Requirement" section for more information)	
Requirement R-ID	Requirement name
Cat1.Req1	A call for tenders process is supervised by a Market Operator
Cat2.Req2	FBIDS-REQ4
Cat2.Req4	FBIDS-REQ7
Cat2.Req5	FBIDS-REQ2
Cat2.Req6	FBIDS-REQ6
Cat2.Req3	FBIDS-REQ9
Cat2.Req7	FBIDS-REQ8
Cat2.Req8	FBIDS-REQ5
Cat2.Req9	FBIDS-REQ3

Use Case: Scenario1 - overview

«Scenario»
Bidding process

<<realize>>

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FBIDS-REQ4

<<realize>>

(from Task 5.3)

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FBIDS-REQ7

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(from Task 5.3)

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FBIDS-REQ2

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(from Task 5.3)

A call for tenders process is supervised by a Market Operator

(from Functional)

<<realize>>

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FBIDS-REQ6

FBIDS-REQ9

(from Task 5.3)

(from Task 5.3)

FBIDS-REQ8

(from Task 5.3)

FBIDS-REQ5

(from Task 5.3)

FBIDS-REQ3

(from Task 5.3)

Scenario step by step analysis

Scenario								
Scenario name	Bidding process							
Step No	**Event**	**Name of process/activity**	**Description of process/activity**	**Service**	**Information producer (actor)**	**Information receiver (actor)**	**Information exchanged (IDs)**	**Requirement, R-IDs**

2.1		Open the flexibility call for tenders	A call for tenders of flexibility services relies on specific products and covers specific periods (week ahead, day ahead, intraday, etc.). The call for tenders is opened by the Primary System Operator. The Primary System Operator is the operator who needs the flexibility service.		Primary System Operator	Flexibility Platform	Info3- Flexibility Call for Tenders
2.2		Register flexibility call for tenders opening	Secondary System Operators and FSPs should receive information about call for tenders opening from via Flexibility Platform (not directly from Primary System Operator).		Flexibility Platform	Flexibility Service Provider	Info3- Flexibility Call for Tenders
2.3		Send flexibility bids			Flexibility Service Provider	Data Exchange Platform	Info4- Flexibility Bid
2.4		Forward flexibility bids			Data Exchange Platform	Flexibility Platform	Info4- Flexibility Bid
2.5		Register flexibility bids	In addition to flexibility bids received from Flexibility Service Providers, the Flexibility Platform also registers flexibility coming from European/regional/national platforms and systems like MARI, PICASSO or COBA (Common Baltic balancing Area). These platforms are used to collect the bids for some flexibility services (e.g. mFRR). The value of Flexibility Platform is to bring different information together and making it available to different flexibility buyers. Flexibility bids are ranked on merit order principle and location.		Flexibility Platform	Flexibility Platform	Info4- Flexibility Bid
2.6		Rank bids based on merit order principle and location	Locational ranking principles to be agreed between Primary System Operator and Flexibility Platform.		Flexibility Platform	Flexibility Platform	Info4- Flexibility Bid
2.7		Send flexibility bids from Flexibility Platform to	Flexibility Platform sends flexibility bids from Flexibility Platform to		Flexibility Platform	Secondary System Operator	Info4- Flexibility Bid

		Secondary system operator	Secondary system operator via DEP.				
2.8		Assess secondary grid impact and cluster flexibility bids (according to PSO/SSO agreement)	Secondary System Operator performs grid impact assessment of bids to avoid congestions in its grid. If order book was opened for congestion management, Secondary System Operator informs Primary System Operator about the efficiency of the flexibilities to solve their congestions (sensitivities). Additionally, bids in the SSO grid are being clustered according to the criteria (e.g. cost minimization for PSO based on close to real time grid situation) agreed by the PSO and SSO. SSO sends results to PSO.		Secondary System Operator	Primary System Operator	
2.9		Select flexibility bid or cluster and close the flexibility call for tenders	PSO selects the bid or cluster that serves the need based on the merit order list provided by the FP. With the bid selection the call for tender is closed.		Primary System Operator	Secondary System Operator	
2.10		Decluster selected flexibility bid cluster and inform FP and PSO	Secondary System Operator declusters flexibility bid cluster and selects best flexibilities. SSO informs FP and PSO		Secondary System Operator	Primary System Operator, Data Exchange Platform	Info2-Any Data
2.11		Register flexibility bid selection			Primary System Operator		
2.12		Forward Flexibility bid selection to FP			Data Exchange Platform	Flexibility Platform	Info2-Any Data
2.13		Register flexibility bid selection and call for tenders closure			Flexibility Platform		

- 2.1. Open the flexibility call for tenders

Business section: Bidding process/Open the flexibility call for tenders
A call for tenders of flexibility services relies on specific products and covers specific periods (week ahead, day ahead, intraday, etc.).
The call for tenders is opened by the Primary System Operator. The Primary System Operator is the

operator who needs the flexibility service.
Information sent:

Business object	Instance name	Instance description
Flexibility Call for Tenders	Flexibility Call for Tenders	

- ## 2.2. Register flexibility call for tenders opening

  Business section: Bidding process/Register flexibility call for tenders opening
  Secondary System Operators and FSPs should receive information about call for tenders opening from via Flexibility Platform (not directly from Primary System Operator).
  Information sent:

Business object	Instance name	Instance description
Flexibility Call for Tenders	Flexibility Call for Tenders	

- ## 2.3. Send flexibility bids

  Business section: Bidding process/Send flexibility bids

  Information sent:

Business object	Instance name	Instance description
Flexibility Bid	Flexibility Bid	

- ## 2.4. Forward flexibility bids

  Business section: Bidding process/Forward flexibility bids

  Information sent:

Business object	Instance name	Instance description
Flexibility Bid	Flexibility Bid	

- ## 2.5. Register flexibility bids

  Business section: Bidding process/Register flexibility bids
  In addition to flexibility bids received from Flexibility Service Providers, the Flexibility Platform also registers flexibility coming from European/regional/national platforms and systems like MARI, PICASSO or COBA (Common Baltic balancing Area). These platforms are used to collect the bids for some flexibility services (e.g. mFRR). The value of Flexibility Platform is to bring different information together and making it available to different flexibility buyers.
  Flexibility bids are ranked on merit order principle and location.
  Information sent:

Business object	Instance name	Instance description
Flexibility Bid	Flexibility Bid	

- ## 2.6. Rank bids based on merit order principle and location

Business section: Bidding process/Rank bids based on merit order principle and location
Locational ranking principles to be agreed between Primary System Operator and Flexibility Platform.
Information sent:

Business object	Instance name	Instance description
Flexibility Bid	Flexibility Bid	

- ### 2.7. Send flexibility bids from Flexibility Platform to Secondary system operator

  Business section: Bidding process/Send flexibility bids from Flexibility Platform to Secondary system operator
  Flexibility Platform sends flexibility bids from Flexibility Platform to Secondary system operator via DEP.
  Information sent:

Business object	Instance name	Instance description
Flexibility Bid	Flexibility Bid	

- ### 2.10. Decluster selected flexibility bid cluster and inform FP and PSO

  Business section: Bidding process/Decluster selected flexibility bid cluster and inform FP and PSO
  Secondary System Operator declusters flexibility bid cluster and selects best flexibilities. SSO informs FP and PSO
  Information sent:

Business object	Instance name	Instance description
Any Data	Any Data	

- ### 2.12. Forward Flexibility bid selection to FP

  Business section: Bidding process/Forward Flexibility bid selection to FP

  Information sent:

Business object	Instance name	Instance description
Any Data	Any Data	

5. Information exchanged

Information exchanged			
Information exchanged, ID	Name of information	Description of information exchanged	Requirement, R-IDs
Info1	Flexibility Potential		
Info2	Any Data		
Info3	Flexibility Call for Tenders		
Info4	Flexibility Bid		

6. Requirements (optional)

Requirements (optional)		
Categories ID	Category name for requirements	Category description
Cat1	Functional	Functional requirements

Requirement R-ID	Requirement name		Requirement description
Req1	A call for tenders process is supervised by a Market Operator		
Requirements (optional)			
Categories ID	Category name for requirements	Category description	
Cat2	Task 5.3	Requirements integrated from Task 5.3.	
Requirement R-ID	Requirement name	Requirement description	
Req2	FBIDS-REQ4	Algorithm for prequalification of flexibility providers	
Req3	FBIDS-REQ9	Calculation of grid impacts (congestion, imbalance)	
Req4	FBIDS-REQ7	Selection of successful bids	
Req5	FBIDS-REQ2	Ability to exchange information on System Operators' flexibility need and FSPs' flexibility potential through flexibility platform (and DEP)	
Req6	FBIDS-REQ6	Flexibility platform's ability to collect bids from FSPs	
Req7	FBIDS-REQ8	Flexibility platform's ability to collect grid validation results from SOs	
Req8	FBIDS-REQ5	Automated exchange of bids is possible	
Req9	FBIDS-REQ3	Auction process supervised by Market Operator	

7. Common terms and definitions

8. Custom information (optional)