



# **Report on capacity booking platforms**

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## 1. Executive summary

With this report, ENTSOG fulfils the obligation posed on it by Article 27(3) of the Regulation (EU) n° 984/2013 establishing a Network Code on Capacity Allocation Mechanisms in the Gas Transmission System and supplementing Regulation (EC) n° 715/2009 of the European parliament and of the Council. This report does so by providing a strategic view on the current state of play regarding the development of joint capacity booking platforms in Europe.

It is a very positive development that one year before CAM NC enters into force a vast majority of EU TSOs is involved in early implementation practices. Ahead of the legal requirement, these TSOs already offer capacities on joint booking platforms. This shows that TSOs are preparing themselves seriously by identifying all requirements and challenges related to the CAM NC before it becomes mandatory.

ENTSOG welcomes the early implementation of the CAM network code via all existing booking platforms and supports the work done by the TSOs involved.

There are currently three capacity booking platforms: PRISMA European Capacity Platform (PRISMA), GSA Platform (GSA) and Regional Booking Platform (RBP). These platforms plan their development in order to fulfil requirements coming from CAM NC in terms of products and services offered. They differ from each other in currently offered products, range of additional services provided, number of TSOs and IPs involved, number of network users registered and number of auctions performed. GSA and RBP are operated by single TSOs (GAZ-SYSTEM and FGSZ respectively); PRISMA is a limited company with several TSOs as shareholders.

Applying theoretical economic arguments of two-sided markets to joint booking platform for gas transmission capacity delivers insights in what aspect of booking platform are important to both TSOs and network users. Some arguments would favour centralisation and a single platform; while other arguments would point in the opposite direction and in favour of more platforms.

ENTSOG's analysis shows advantages and disadvantages of operating one as well as more than one platform, respectively.

ENTSOG conducted a public consultation of network users on market needs regarding capacity booking platforms. A significant majority of respondents believes that the implementation of booking platforms that allow the booking of bundled capacities, as per the requirements of the CAM NC, enable faster and more convenient booking procedures for network users.

A large majority believes that the usage of booking platforms results in faster access to the relevant commodity markets. Aspects named as fundamental to booking platforms include: the reliability of the platform (from an IT point of view), transparency of the information provided including data on past and future auctions, results of auctions, deadlines and procedures/processes. Also user-friendliness and transparent general terms and conditions (GTs&Cs) are among the fundamental aspects. Broadly the same aspects were cited with regard to usability.

The report identifies options to implement the indicated market needs, having regard to costs and time, with a view to implement the most appropriate option. The summary of the platform developments and market needs above forms the basis for this. Platform operators should take into account the needs of network users in order make the booking procedure convenient and transparent for the network users.

In general, there are two possible ways how to implement requirements of CAM NC with regard to booking platforms, inter alia:

- with the cooperation of TSOs within a single EU booking platform;
- with the cooperation between more than one booking platform.

There may be factors - based on two-sided markets theory – which supports both options:

- Impact of factors in the context of a single EU booking platform
  - No multi-homing costs for TSOs and network users
  - Economies of scale – costs per TSOs and network user are diminishing when more join a platform
- Impact of factors in the context more than one platform
  - Focus on cost efficiency of the platform operators due to competition and different pricing models, as well as different services
  - Regional differences in network users requirements can be better addressed

Several views on cost effectiveness can be applied. From the European system point of view, a single EU booking platform would have the following advantages: no costs for parallel development, operation and maintenance of more than one platform for cross-border capacities, but different cost level of platform adoption by TSOs while a multi-platform system would allow a certain kind of competition between different platform models.

An individual TSO's view on cost effectiveness can also be used. There may be a focus on costs/pricing of booking platform to the relevant TSO. The TSOs may see their cost effectiveness enhanced by joining a platform which offers them synergies with other TSO tasks.

All three booking platforms apply a different pricing model. For some TSOs, the PRISMA model may be preferable; for other TSOs, the GSA or RPB pricing models may be better-suited. Therefore, it is not possible to present a clear statement that one pricing model is preferable and cost effective for all TSOs.

Given the novelty of the subject and the time restriction imposed on ENTSG by article 27 of CAM NC, this report cannot be expected to deliver a definitive answer to all questions. However, by providing a theoretical underpinning, describing the actual situation, conducting a public consultation and reporting the results, highlighting the main questions and answering a number of them, ENTSG progresses insights on a crucial element of the CAM NC.

Monitoring of CAM NC early implementation is done via the CAM Roadmap. TSOs and platform operators need to work together to find appropriate solutions at border IPs. Such solutions should recognise the needs of stakeholders and in particular shippers. Development of the platforms and their solutions at joint borders will be closely monitored via the CAM Roadmap. Since discussions on booking platforms are only at a start and will not end with this report, ENTSG looks forward to further progress joint booking platform discussion within the scope of the CAM Roadmap and will closely monitor the development of the platforms and their solutions at joint border. Joint booking platforms, after all facilitate cross border trade of gas and thereby contribute to the advancement of the European internal market for energy.

## 2. Introduction

### 2.1 Background

In 2013, the Member States of the European Union adopted regulation 984/2013 establishing a Network Code on Capacity Allocation Mechanisms in Gas Transmission Systems (CAM NC). The main objective of the CAM NC is to create a level playing field for access to cross border capacity by introducing auctions for bundled products. Bundled capacity means a standard firm capacity product which consists of corresponding entry and exit capacity at both sides of the interconnection point. To enable such a bundled offer of capacity products via auctions, the CAM NC requires transmission system operators (TSOs) to use joint web-based booking platforms.

The CAM NC explains in article 27 the goal and purpose of joint booking platforms: “The establishment of one or a limited number of joint booking platforms shall facilitate and simplify capacity booking at interconnection points across the Union for the benefit of network users”. To that end, it places several requirements on TSOs with regard to joint booking platform. TSOs can operate booking platforms themselves or via an agreed party that acts on behalf of them. The offer of interconnection capacity has to be done by means of one or a limited number of joint booking platforms that shall abide to the following rules:

- the rules and procedures for the offer and allocation of all capacity in accordance with Chapter III (auctions) of CAM NC shall apply;
- the establishment of a process to offer firm bundled capacity in accordance with Chapter IV (Bundling of cross border capacity) of CAM NC shall have priority;
- functionalities for network users to offer and obtain secondary capacity shall be provided;
- in order to use the services of the booking platforms network users shall accede to and be compliant with all applicable legal and contractual requirements that enable them to book and use capacity on the relevant transmission system operators' network under a transport contract;
- capacity at any single interconnection point or virtual interconnection point shall be offered at not more than one booking platform.

To facilitate the process of introducing joint booking platforms, article 27 assigns specific tasks to ENTSOG. Within six months after the entry into force of the CAM NC, ENTSOG shall carry out a public consultation to identify market needs with respect to booking platforms. The consultation process shall last no more than six months, including the publication by ENTSOG of a report with the results of the consultation. The report shall identify options to implement the indicated market needs, having regard to costs and time, with a view to implement the most appropriate option, by transmission system

operators or third parties on behalf of them. [For the full wording of article 27, see Annex 1 of this report.] This report is the result of ENTSOG's work required by article 27 CAM NC.

## **2.2 Structure**

This report provides a strategic view on the current state of play regarding the development of joint booking platforms in Europe. To that end, the report starts at a conceptual level by exploring general features, tasks and roles that platforms, not just for booking gas transmission capacity, fulfil. The concept of "two-sided markets" and its theoretical arguments are presented and applied to joint booking platform for cross border gas transmission capacity. The next chapter describes the status of the three initiatives that have emerged to develop joint booking platforms: PRISMA, RBP and GSA. Each initiative has contributed to this report and delivered its most up-to-date information. Throughout the entire process leading up to the publication of this report, the three platform operators have closely cooperated with ENTSOG, for which ENTSOG expresses its gratitude.

Chapter 5 reports on the results of the ENTSOG consultation of network users on market needs regarding capacity booking platforms. These findings feed into chapter 6 on options for implementation of the identified market needs. Also a number of issues for further study are listed here.

Given the novelty of the subject and the time restriction imposed on ENTSOG by article 27 of CAM NC, this report cannot be expected to deliver a definitive answer to all questions. However, by providing a theoretical underpinning, describing the actual situation, conducting a public consultation and reporting the results, highlighting the main questions and answering a number of them, ENTSOG progresses insights on a crucial element of the CAM NC. Joint booking platforms, after all, facilitate cross border trade of gas and thereby contribute to the advancement of the European internal market for energy.



### 3. Two-sided markets – theoretical background for capacity booking platforms<sup>1</sup>

#### 3.1 Introduction to two-sided markets

Information and networks are key elements of today's economic structure, bringing together supply and demand. Besides marketing gas transmission capacity, there are many industries operating platforms that link supply and demand. Examples of industries which operate "two-sided platforms" or "two-sided markets" are payment cards, shopping malls, advertising and various Internet-based industries (e.g., auction websites). These markets, or platforms, play a critical role in many economic activities, and they share common general features, tasks and roles that they fulfil. To identify these features, the concept of "two-sided markets" and its theoretical arguments are presented in this chapter.

Two-sided markets serve distinct groups of economic agents, buyers and sellers, who need each other. The core business of the two-sided platform is to provide a common meeting place, either real or virtual, and to facilitate interactions between these two groups. Two-sided markets create value by bringing supply and demand together and facilitating interactions that make both better off. They play an important role throughout the economy by minimising transactions costs.

Two-sided markets solve a transaction-cost problem that makes it difficult or impossible for buyers and sellers, economic agents to form a market. In most cases, greater involvement by economic agents of at least one type increases the value of the platform to economic agents of other types. Such indirect network effects function something like economies of scale on the demand side and increase the value economic agents can realise from the platform. In a two-sided market setting, the chance of finding a value-increasing interaction depends on how many economic agents of the first kind an economic agent of the second kind can reach and often *vice versa*.

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<sup>1</sup> For this chapter, several publications have served as a basis. Since this is not a scientific paper, this has been done freely and without following formal quotation rules. Among the theoretical publications were:

- Evans, David S. and Richard Schmalensee (2007), "The Industrial Organization of Markets with Two-Sided Platforms," *Competition Policy International*, 3:151-179.
- Evans, David S. and Richard Schmalensee (2008), "Markets with Two-Sided Platforms," in *Issues in Competition Law and Policy* 667.
- Evans, David S. and Richard Schmalensee (2012), "The Antitrust Analysis of Multi-Sided Platform Businesses," *Institute for Law and Economics Working Paper No. 623*.

The purpose of capacity booking platforms in the gas transmission business is to provide a common meeting place and to facilitate interactions between members of the two distinct customer groups: network users and TSOs. We note that both can be buyer and seller.

### 3.2 What is a two-sided market?

Economists Evans and Schmalensee formulated a definition that captures the key features of two-sided markets:

- a) “ two or more groups of customers;
- b) who need each other in some way;
- c) but who cannot capture the value from their mutual attraction on their own
- d) rely on the platform to facilitate value creating interactions between them.”

The focus of this definition is on the role of the platform in creating value which could not exist or would be much smaller in its absence. This value is created as a result of solving a coordination – and transaction cost – problem between the groups of customers. This definition is, in general, true to any platform that facilitates the interaction between the various groups of customers.

### 3.3 Fundamental factors determining the relative size of competing platforms

According to the economic literature, five fundamental factors determine the relative size and number of competing two-sided platforms.

- **Indirect network effects:** Users on one side of the market indirectly benefit from an increased number of users on their market side, as this increase potentially attracts more transaction partners on the other market side.
- **Economies of scale:** Economies of scale are the cost advantages that enterprises obtain due to size.
- **Capacity constraints/Congestion:** Capacity constraints can, for example, emerge as a result of negative externalities caused by additional users making the group more heterogeneous which leads to increased transaction costs of all users on that platform.
- **Degree of platform differentiation:** The higher the degree of heterogeneity among potential users and their needs and the easier it is for platforms to differentiate, the more diverse platforms will emerge and the lower will be the level of concentration.
- **Multi-homing opportunities:** Possibility for users to be active on parallel platforms. The greater the multi-homing costs are, the greater is the tendency toward market concentration.

The table below summarises the factors and their effect on market concentration (with a “+” indicating that there is a positive association between size/number and the factor).

Driving force	Effect on market Concentration
Strength of indirect network effects	+
Degree of economies of scale	+
Congestion and Search Optimisation	-
Degree of platform differentiation	-
Multi-homing opportunities	-

### 3.3.1. Indirect Network Effects

Indirect network effects between the two sides promote larger and fewer competing two-sided platforms. Platforms with more customers of each group are more valuable to the other group. For example, more users make software platforms more valuable to developers and more developers make software platforms more valuable to application end users, this behaviour is called as cross side effect. These in general, positive-feedback effects make platforms with more customers on both sides more valuable to both sets of customers. To take another example, a payment card system whose cards are taken at more merchants is more valuable to card users and vice versa.

Indirect network effects may decline with the size of the platform. For example, the probability of finding a match increases at a diminishing rate with the number of individuals on either side (buyers or sellers, developers and application end users, etc.). At some point positive externalities from more participants may turn into negative externalities in the form of congestion as discussed below.

### 3.3.2. Economies and Diseconomies of Scale

For many two-sided platforms, there would appear to be significant fixed costs of providing the platform. This should lead to scale economies over some range of output. For example, payment card systems have to maintain networks for authorising and settling transactions for cardholders and merchants (and for their proxies — issuers and acquirers — in the case of association-based payment systems such as credit cards companies). The costs of developing, establishing, and maintaining these networks are

somewhat independent of volume. To take another example, there is a fixed cost of developing a software platform but a low marginal cost of providing that platform to developers and application end users. In some cases, the scale economies may mainly operate on one side. For example, there are scale economies in providing newspapers to readers (there is a high fixed cost of creating the newspaper and a relatively low marginal cost of reproducing and distributing it) but not in providing space to advertisers. Lastly, some physical platforms such as trading floors have scale economies at least in the short run, up to their capacity levels. Diseconomies may set in at some point for various reasons on one or both sides. For example, to persuade existing users of software platforms to upgrade (i.e. replace) their existing software, platform vendors have to add features and functionality. Many of these improvements may be designed to encourage application developers to write new or improved applications for the platform that in turn benefit end users. However, as software platforms have gotten larger and more complex, it has become more expensive and time consuming to add features and functionality.

### 3.3.3. Congestion and Search Optimisation

Several design issues tend to limit the size of two-sided platforms. Physical platforms such as trading floors, auction houses and shopping malls help customers search for and consummate mutually advantageous exchanges. At a given size, expanding the number of customers on the platform can result in congestion that increases search and transaction costs. It may be possible to reduce congestion by increasing the size of the physical platform, but that in turn may increase search costs. Search costs comprise time, resources and money expended by a customer who is researching a product or service for purchase.

### 3.3.4. Platform Differentiation

Platforms can differentiate themselves from each other by choosing particular levels of quality with consumers choosing the higher or lower quality of platform depending on their requirements. There are, for example, upscale and downscale shopping malls.

Platforms can also differentiate themselves from each other by choosing particular features and prices that appeal to particular groups of customers.

Thus, the greater the need for differentiation, the greater number of platforms there will be. The higher the degree of heterogeneity among potential users and the easier it is for platforms to differentiate, the more diverse platforms will emerge and the lower will be the level of concentration.

### 3.3.5 Multi-homing

Differentiation can result in customers choosing to join and use several platforms, the so-called “multi-homing”. Customers find certain features of different competing platforms attractive and therefore rely on several. Payment cards are an example of multi-homing on both sides. Most merchants accept credit and debit cards from several systems, including ones that have relatively small shares of cardholders. Many cardholders carry multiple cards, although they may tend to use a favourite one most often. Advertisement-supported media also has multi-homing on both sides -- advertisers and viewers rely on many differentiated platforms. Other two-sided platforms have multi-homing only on one side. Most end-users rely on a single software platform for their personal computers, for instance, while many developers write for several platforms. However, where there are material costs to multi-homing (e.g., prohibitive annual fees for the use of payment cards), users will benefit from less platforms.

### 3.4 Application of the theoretical economic arguments to joint booking platforms

This chapter will apply the theoretical economic arguments to the specific case of joint booking platforms for gas transmission capacity. However, not all factors are equally applicable on capacity booking platforms. Joint capacity booking platforms provide a common meeting place and facilitate interactions between members of the two distinct customer groups: network users and TSOs.

In the section below, we describe the applicability of the above-identified factors on joint capacity booking platforms, making the following assumptions about market structure and market participants:

- TSOs, offering their capacity products at interconnection points (IPs), are one group of economic agents;
- Network users, seeking to book primary capacity at the IPs of TSOs, are the second group of economic agents ;
- Where secondary capacity is traded, network users are active on both sides as sellers and buyers;
- Where TSOs use the platform to perform buy-back action as part of their oversubscription scheme, they are active on both sides as sellers and buyers;
- One or more on-line platforms exist where supply of TSO capacities meets demand of network users;
- A given IP cannot be marketed on more than one platform, as laid down in CAM NC Article 27(2)e.

*Indirect Network Effects*

- *Cross-side network effects:*

A larger number of TSOs on one platform will make the platform more attractive to a larger number of network users. On the other hand, it does not automatically mean that network users will become actual customers of all TSOs.

In addition, a large number of network users making use of one platform may generally attract more TSOs to join such a platform because it enables a TSO to interact with a large share of the customer base.

- *Same-side network effects*

There can be same-side network effect on the side of TSOs. If there is significant number of TSOs marketing their capacities on platform “A” for a certain period of time, this may be interpreted as a confirmation of the well-functioning operation and reliability of platform “A” and it could attract these TSO to join the platform “A”. However, the introduction of an alternative to platform “A” could be perceived by TSOs as a sign that optimisation are possible which are not yet available on platform “A”.

If the neighbouring TSO has already decided for any platform, there may be a same side network effect with provision of information, experience and knowledge to neighbouring TSOs. The CAM NC enhances same-side network effects where it requires capacity to be offered in a bundled way on the same platform.

Same-side network effects on the network user side are created by the requirement to offer secondary market facilities (CAM NC art 27.2 (c)). The more registered users are active on a given platform, the higher the number potential buyers and sellers will be. Also here, it goes that the emergence of an alternative could be interpreted as a sign that secondary trade options are offered under more favourable conditions.

*Economies and Diseconomies of Scale*

For joint capacity booking platforms, there would appear significant fixed costs of providing the platform. Examples could be: development, operation, maintenance, licensing etc.. Fixed costs of the platforms are usually covered just by one side of the market: by the TSOs. Subject to efficient execution of the task, a TSO should be able to recover these costs via their regulated revenues/tariffs, according to the principle that costs incurred in implementing EU legislation must be recognised to ensure TSO compliance.<sup>2</sup> In theory of course also on the other side, the network user could cover the

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<sup>2</sup> As referred to in the Gas Directive among NRAs duties: Article 41(1)b “ensuring compliance of transmission and distribution system operators, and where relevant, system owners, as well as of any natural gas undertakings, with

costs via a standing or transaction-based fee. In addition, we note that combinations are possible whereby both groups cover a share of the total costs.

In general, the more TSOs and or network users participating in the financing of a platform, the lower the cost per TSO, network user and/or transaction would be. The reason for this is the near absence of marginal costs to the platform of an additional trade or network user and the relatively low cost for an additional TSO. This argument indicates that more than a few platforms may not be the most efficient situation and encourages platform operators to cooperate.

#### *Capacity constraints (congestion)*

The number of TSO is limited, and the capacity platforms shall be designed in a robust way so they can perform a large number of auctions in parallel and provide services to as many network users. As an example, there are 24 within-day auctions and one day-ahead auction taking place every day at app. 175 IPs<sup>3</sup> adding up to a possible 4000+ auctions per day and over 1,5 million per year generating several billion euro of revenues. Therefore, it is not probable that congestion issues due to high number of market participants either on network user or TSOs side will appear.

#### *Search Optimisation (Search costs)*

Search costs may occur on both sides of the market facilitated by a joint capacity booking platform:

- **TSOs' side:** A TSO's search costs are limited because TSOs do not need to spend significant resources to find matching partners on the opposite side of the market. The auction process as defined in the CAM NC guides the network users towards the TSO offer. In the run-up process towards the offer of bundled capacity, the platform might play a role in structuring or automating the bundling effort. This brings about a significant efficiency gain when considering the numbers of auctions.

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*their obligations under this Directive and other relevant Community legislation, including as regards cross-border issues" and article 41(3)d: the regulatory authority shall "ensure that network access tariffs collected by the independent system operator include remuneration for the network owner or network owners, which provides for adequate remuneration of the network assets and of any new investments made therein, provided they are economically and efficiently incurred"*

<sup>3</sup> CAM Roadmap can be found at the ENTSOG website:

<http://www.entsog.eu/public/uploads/files/publications/CAM%20Network%20Code/2013/CAP0395-13%20CAM%20Roadmap%20Update%20October%202013%20FINAL.pdf>

- **Network users' side:** A search cost is a transaction cost where network users need to find out where the capacity they wish to book is marketed. Network user search cost could be relevant, if the network users are active or potentially interested on multiple markets. For network users, there are two reasons for the existence of search costs.
  - At first, search costs are transactions costs related to the efforts to be taken in order to find out on which platform the required capacity is marketed, when, how and under which conditions. Search costs of this kind are of course dependent on the number of capacity platforms being set up but are most likely to be considered as limited due to their absolute size.
  - Secondly, search costs are transaction costs related to the continuous participation on booking platforms in order to actually acquire the required capacity in the auctions. Search costs of this kind are to be considered more relevant compared to search costs described above due to a European gas market becoming more integrated and more short-term based. Comparing, evaluating and analysing business opportunities in a market with sometimes multiple equivalent routes or interconnection points, different capacity products (in terms of duration, underlying general terms and conditions) etc. requires search costs to be spent. Search costs can be expected to be minimal in case all information is available at one central location. However, the argument can also be applied that competition might produce a more diverse set of search algorithms on different platforms. Since network users are relatively well-organised in associations it can be expected that they will push for standardised interfaces to import data directly from the platforms into their own systems leading to a reduction of search costs.

#### *Platform Differentiation*

Platforms can differentiate themselves from each other by providing advanced services (e.g. services beyond the mandatory ones deriving from the CAM NC). A track record of providing a high level of IT reliability, data security, adaptability, responsiveness to users, good governance structure, and offering innovative business/pricing models should be considered by TSOs and network users when determining which platform to use.

#### *Multi-homing costs:*

Costs to be paid for participation on more than one platform can be considered multi-homing costs. Besides taking part in the cost recovery of the platform itself, creating, maintaining and operating more than one interface with a platform is part of these costs.



Multi-homing costs for joint capacity booking platforms can apply on both sides of the two-markets:

TSOs' side:

According to the CAM NC, a TSO has to offer bundled capacities at IPs on booking platforms. There can be one or more such platforms. This makes it possible for a TSO to offer its capacity on more than one platform. However, adjacent TSOs have to agree on which joint platform their common IP will be marketed because each IP can only be marketed on one platform. Different IPs between the same adjacent TSOs can be marketed at different platforms.

Network users' side:

In case of single EU cross-border capacity booking platform where all network users have access to that platform, there would be no multi-homing costs. In case of more than one platform, the users who would like to book capacity on IPs which are not marketed on one platform will have to access more platforms and they will have to spend additional time and resources to ensure access to more than one platform

Multi-homing costs comprise all expenses network users incur in order to establish and maintain platform affiliation, which may vary between different network users. (e.g., customisation, operation and maintenance of network users IT systems to communicate with more than one platform). The common network operation tools for data exchange that are developed by ENTSOG would limit multi-homing costs but not eliminate them. Therefore IT protocols to communicate with the platform should be known and standardised for every network user.

Applying theoretical economic arguments of two-sided markets to joint booking platform for gas transmission capacity delivers insights in what aspect of booking platform are important to both TSOs and network users. Some arguments would favour centralisation and a single platform; other arguments point out advantages of having a few alternative capacity booking platforms.

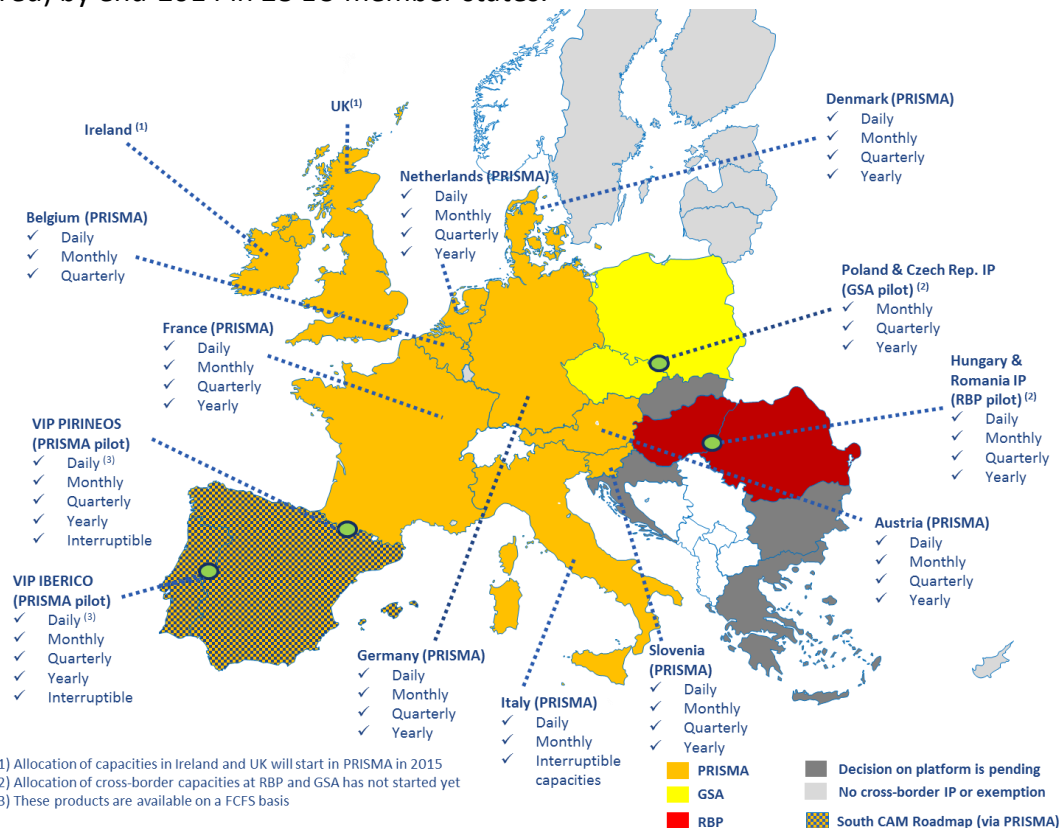
## 4. Overview of existing booking platforms

This chapter describes the status of the three initiatives that have emerged so far to develop joint booking platforms: PRISMA, RBP and GSA.

ENTSOG and the three platform operators have closely cooperated when producing this report. Each platform has contributed substantially, specifically to this chapter, by delivering its most up-to-date information and is therefore solely responsible for the content. Therefore, this chapter does not contain ENTSOG opinions and reflects only the views of the platform operators.

### 4.1 Geographical scope of joint booking platforms in EU member states in October 2014

The map below summarises booking platforms and products offered (or planned to be offered) by end-2014 in 28 EU member states.



Picture No.1 - Geographical scope of joint booking platforms in EU member states

TSOs in 10 EU countries (Austria, Belgium, Denmark, France, Germany, Ireland, Italy, the Netherlands, Slovenia and United Kingdom) have selected PRISMA platform for offering

of their capacities. In two other countries, Portugal and Spain, there is a pilot project based on PRISMA platform.

TSOs in Hungary and Romania have a pilot project on the RBP booking platform. TSOs in Poland and Czech Republic have a pilot project on the GSA booking platform.

As of October 2014, TSOs in four EU countries have not yet selected any platform for offering of their capacities: Bulgaria, Croatia, Greece and Slovakia. TSOs in these countries will before November 2015 either join a platform or establish a new one.

Eight remaining EU Member States (Cyprus, Estonia, Finland, Latvia, Lithuania, Luxemburg, Malta and Sweden) do not have a interconnection point with any other EU Member State or have exemptions from the Regulation; therefore, they do not need to offer their capacities on a joint capacity booking platform.

## 4.2 PRISMA

### 4.2.1 Current status of the project

PRISMA European Capacity Platform is the online platform of currently 31 TSOs from 12 countries (including those using PRISMA in form of a pilot project). When PRISMA was founded in January 2013, major European TSOs from Austria, Belgium, Denmark, Germany, France, Italy and the Netherlands bundled their collective experience in the field of capacity booking platforms to create a joint European capacity platform. They were later joined by Ireland and the United Kingdom. As of 17 November 2014 the Slovenian TSO "Plinovodi" will also auction capacity via PRISMA.

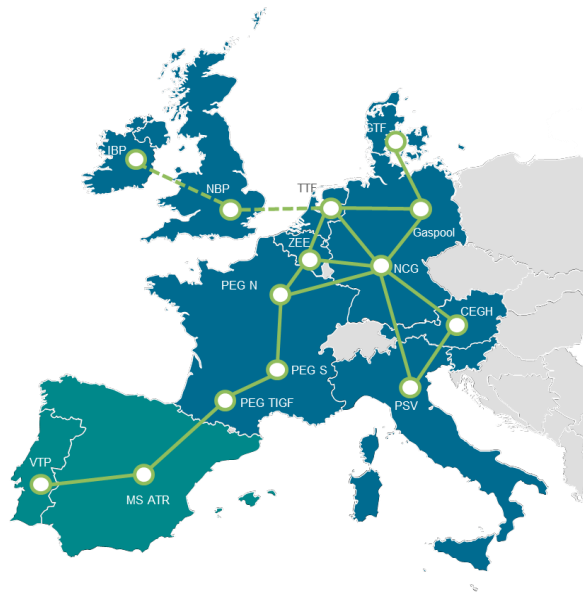
The goal of PRISMA is the early implementation of the Network Code on Capacity Allocation Mechanisms, the future European market rules for allocating transport capacity. The platform is able to handle harmonised capacity products, offer auction mechanisms and serve different TSO backend systems in accordance with the CAM Network Code as well as – when required by individual TSOs – in accordance with national regulation. Since 1 January 2014, European shippers can use the PRISMA platform for trading secondary capacity.

PRISMA currently has 22 shareholders from Austria, Belgium, Denmark, Germany, France, Italy, the Netherlands and the United Kingdom:

- Bayernets GmbH
- BBL Company V.O.F.



- Energinet.dk
- Fluxys Belgium NV/SA
- Fluxys TENP GmbH
- Gas Connect Austria GmbH
- GASCADE Gastransport GmbH
- Gastransport Nord GmbH
- Gasunie Transport Services B.V.
- Gasunie Deutschland Transport Services GmbH
- GRTgaz Deutschland GmbH
- GRTgaz S.A.
- National Grid plc.
- Nowega GmbH
- ONTRAS Gastransport GmbH
- Open Grid Europe GmbH
- Premier Transmission Ltd.
- Snam Rete Gas S.p.A
- terranets bw GmbH
- Thyssengas GmbH
- Trans Austria Gasleitung GmbH
- Transport Infrastructures Gaz France



Picture No.2 - PRISMA geographical coverage

PRISMA acts as a neutral moderator in the decisions-making processes of the involved TSOs. Due to high number of shareholders PRISMA has close connections to the market and very broad knowledge base. PRISMA working groups (e.g. platform developments, financial, regulatory, communication) with qualified TSO-representatives ensure

combined knowledge with regards to all aspects of the PRISMA company. The PRISMA team ensures the operation of the platform. Platform security and reliable IT is of utmost importance to comply with the future European requirements.

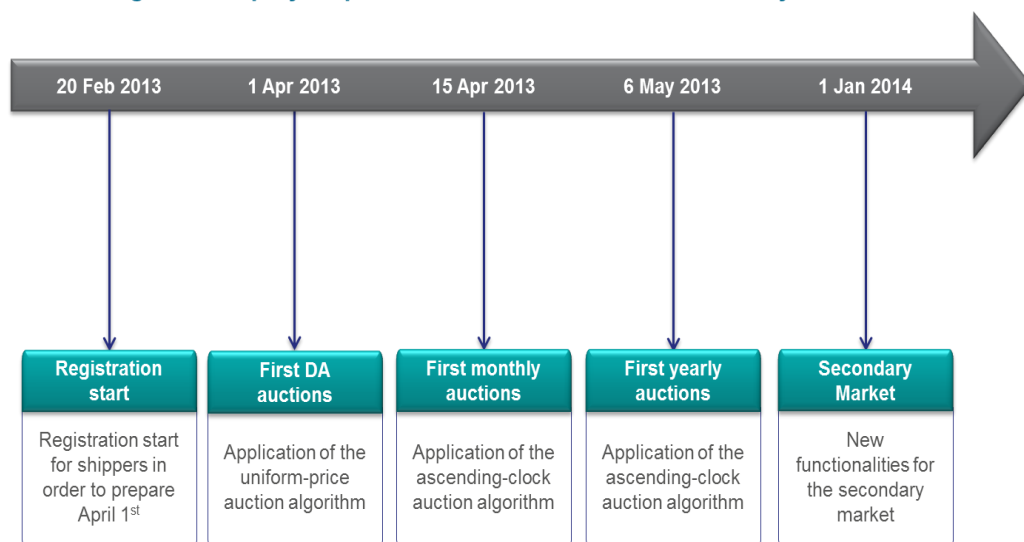
#### Milestones in the history of PRISMA

- March 2012: ENTSOG presents the future market rules (NC CAM) to ACER
- April 2012: Signing of a Memorandum of Understanding
  - to create a joint platform
  - which fulfils the future European requirements of the NC CAM already two years ahead of its time
- 1 January 2013: 19 TSOs from Austria, Belgium, Denmark, France, Germany, Italy and the Netherlands founded the PRISMA company
- 1 April 2013: Start of the first national & cross-border auctions on PRISMA
- 1 January 2014: Three further TSOs from the UK and France become Shareholders; Start of secondary capacity trading at PRISMA
- 1 July 2014: BBL becomes a Shareholder
- 17 November 2017: Plinovodi (Slovenia) starts auctioning via PRISMA as a customer.

#### Key facts:

In October 2014, there are 370+ registered shippers by PRISMA with 1,100+ users. Since beginning of the operation, PRISMA performed 68.000+ auctions on 1,499 Network Points.

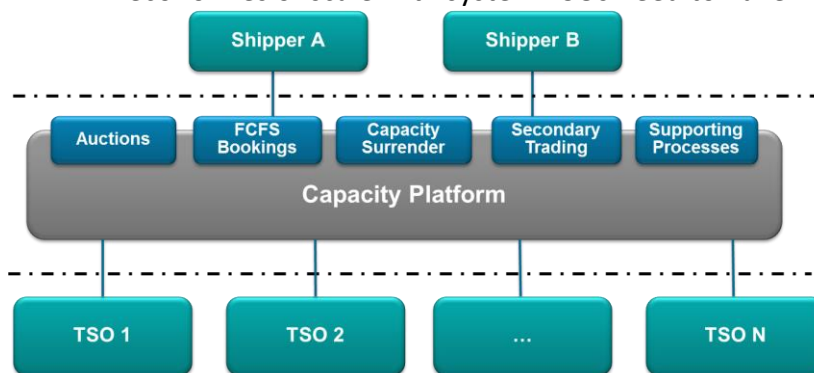
**Platform go-live step by step. From idea to launch in less than a year.**



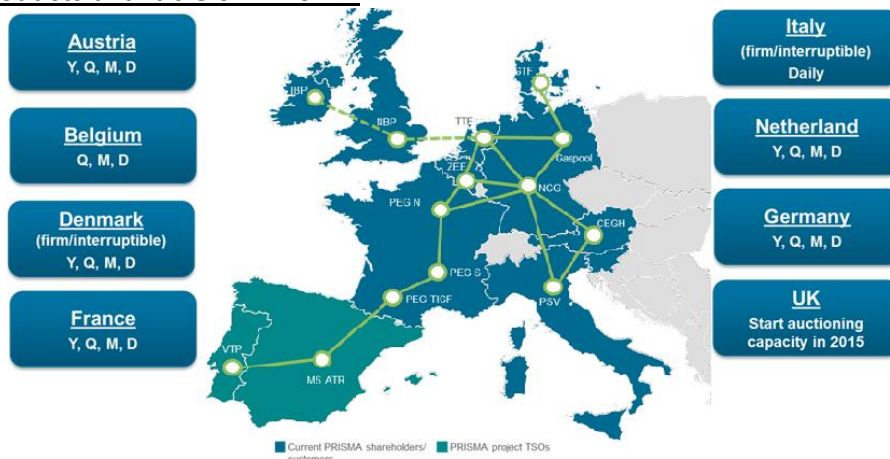
Picture No.3 - History in PRISMA

#### 4.2.1.1 Overview of functions, implemented product types and services Implemented requirements from NC CAM

- Capacity products
  - Bundled products between hubs
  - Unbundled products
  - Products as defined in the CAM Network code
  - Firm & Interruptible
- Allocation primary capacity – Auction mechanisms as acc. to NC
  - Uniform price auction: day-ahead products
  - Ascending clock algorithm: monthly, quarterly and yearly products
- Integrated secondary market functionality
  - Trading procedures: Over-the-counter, FCFS, Call-for-Orders
- The platform can also handle regional specificities, ensuring that
  - European TSOs comply with their national regulation
  - Synergy effects take effect to the maximum possible extent (e.g. economies of scale with system TSOs need to have in place anyway)



#### Products available on PRISMA



Picture No.4 – Products available in 2014 at country level. Primary market – current status

### Platform functionalities

PRISMA as the intermediary platform between TSOs and network users/shippers provides several functionalities directly linked to the allocation of capacity as well as those functions which are to be considered as supporting functionalities in order to book and sell primary and secondary capacity (refer to picture No.5) .

In detail, those functionalities result from both CAM NC and other EU requirements as well as from national requirements as described in the table.

Platform functionalities	
CAM , CMP & EU related Functionalities	Firm capacity product
	Interruptible capacity product
	Multiple categories of firm and interruptible capacity
	Bundling of capacity products
	Bundling of capacity in 1-n situations (competition and a-priori)
	Ascending clock auctions (yearly, quarterly, monthly)
	Uniform auctions (day-ahead)
	Uniform auctions (within-day)
	Comfort functions for automated bidding
	Multi-currency handling
	Secondary market
	Surrender of capacity
	Shipper and user registration on the platform
	Authorisation level management
	Network point display and administration
	TSO automated communication*
	Graphical user interface of the platform (display, usability)
	Reporting of platform transactions
	Offering competing capacity products

Platform functionalities*	
National Requirements	Bid limitation by percentage of capacity amount
	Reverse auctions to buy-back capacity
	Conversion of interruptible into firm capacity
	Booking assignment to balancing groups
	Booking assignment to portfolios
	First-come-first-served booking (FCFS)
	Asynchronous FCFS
	TSO acting as a shipper
	Credit limit check

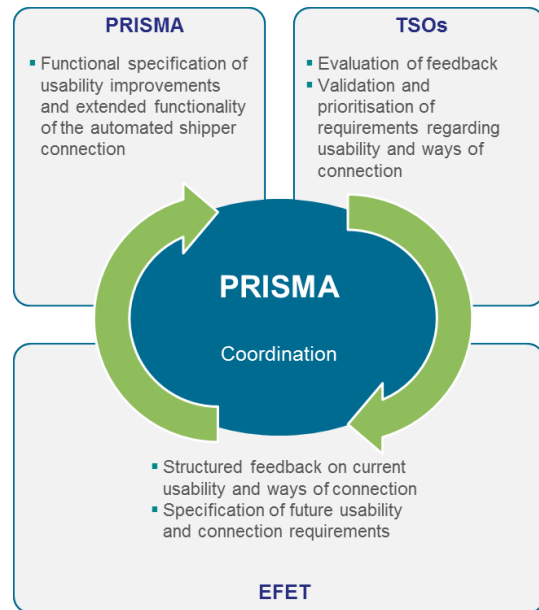
Picture No.5 – Platform functionalities of PRISMA



### Stakeholder involvement

During the platform consultation and shipper trainings, demand for usability improvements has been identified and a cooperation group between the TSOs and EFET members, coordinated by PRISMA, has been initiated.

- The working group was formed and started working beginning of June
- EFET members will prepare an initial set of requirements regarding usability and automated connection
- The requirements will be structured, validated and prioritized by PRISMA and the TSOs
- The outcome will be presented to involved parties and also NRAs



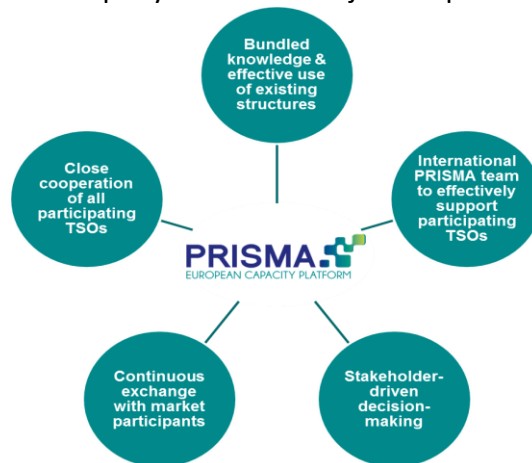
Picture No.6 – cooperation group between the TSOs and EFET members

In addition, PRISMA continuously consults on General Terms and Conditions and is in close contact via a dedicated working group to the national regulatory authorities of the involved countries.

#### 4.2.1.2 Business model (pricing, governance, shareholding)

##### Current shareholders and cost allocation scheme

PRISMA is a multi-TSO company based on the joint experience of all of its shareholders.

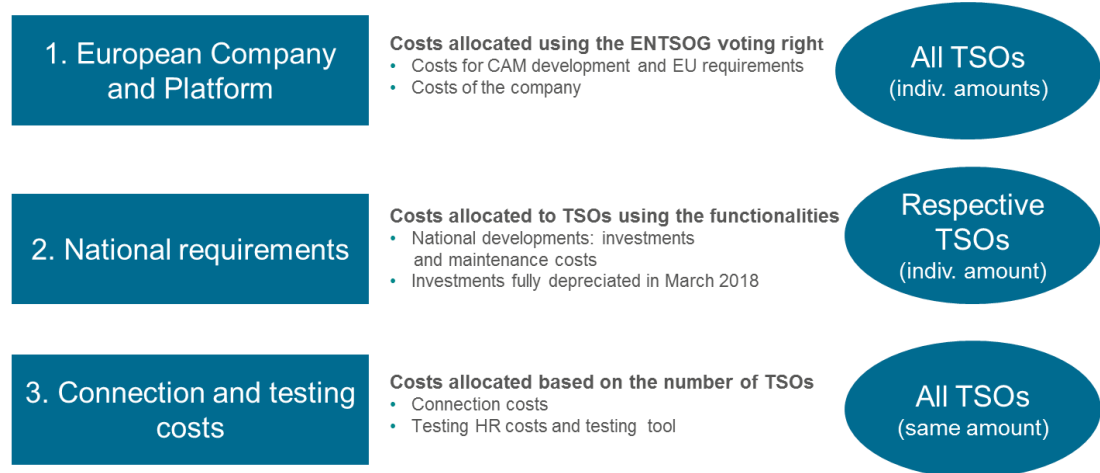


Picture No.7 – Fundamentals of PRISMA

PRISMA is an open cooperation which allows all European TSOs to participate. The shares and the voting rights of all shareholders are distributed in accordance with the ENTSOG voting rights. For the current (October 2014) shareholder structure this means:

▪ Austria	8.61%
▪ Belgium	9.73%
▪ Denmark	7.33%
▪ France	15.51%
▪ Germany	15.51%
▪ Italy	15.51%
▪ The Netherlands	12.30%
▪ United Kingdom	15.51%

With every new European TSO, the shares will be re-allocated in accordance with the ENTSOG voting rights. PRISMA will use direct allocation of costs to functionalities as of 1 January 2015. The allocation will be based on three drivers:



Picture No.8 – Cost allocation of PRISMA from 2015

As described above, a cost allocation model will be implemented from 1 January 2015.

- The first cost category covers all the EU and CAM related functionalities
- Costs of the second category (see below) refer to functionalities that are only needed by one or a limited number of TSOs. TSO(s) can decide to use functionalities developed by other TSO(s) at any moment, paying the remaining costs of the specific functionality(ies)

#### 4.2.1.3 Access to the platform for the network users and TSOs

##### Registration Process for network users

- A single user of a shipper can only acquire primary transport capacities or trade secondary capacity on the platform on behalf of their company once they have been activated by the respective TSO.
- Individual users of a shipper who would like to join the platform have to pass the registration process.
- If a shipper company is not yet registered, the registration of the shipper takes place with the registration of its first user. A separate registration of the shipper company is not necessary.
- If no longer needed, the shippers as well as their users can be deactivated.
- In order to register to the platform shippers need an EIC Code.

After a registration, the user receives a personal account and token.

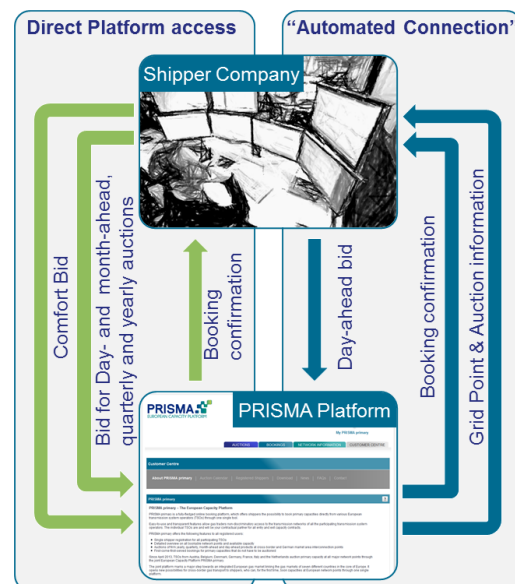
##### Automated connection for network users

The PRISMA platform completely fulfils the CAM requirements to offer a transparent, easy-to-use and non-discriminatory way to buy primary gas transport capacities:

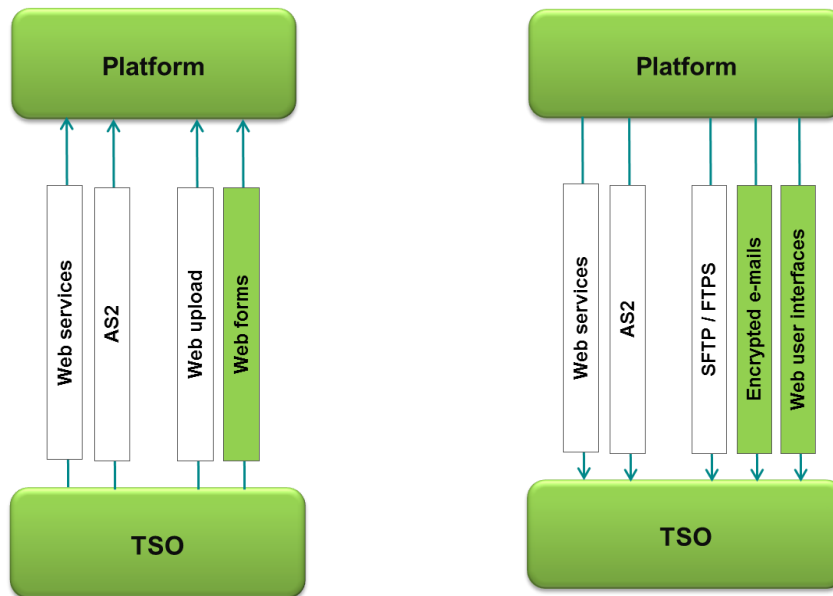
- Every trading company can easily register at the platform and take part in auctions or book capacity.
- Comfort bid functionality eases the bidding.

The “automated connection” provides the same functionality but in a fully automated way between the shipper’s system and the platform. For this extra IT service, PRISMA invoices the shippers.

- The same messages are received from the platform.
- Information regarding auctions and grid points does not differ from the information published on the platform.
- The same timing constraints apply.
- Limitations are the same as for the web interface (10 bids per auction).



Picture No.9 - automated connection



Picture No.10 – Interfaces between Prisma and TSO

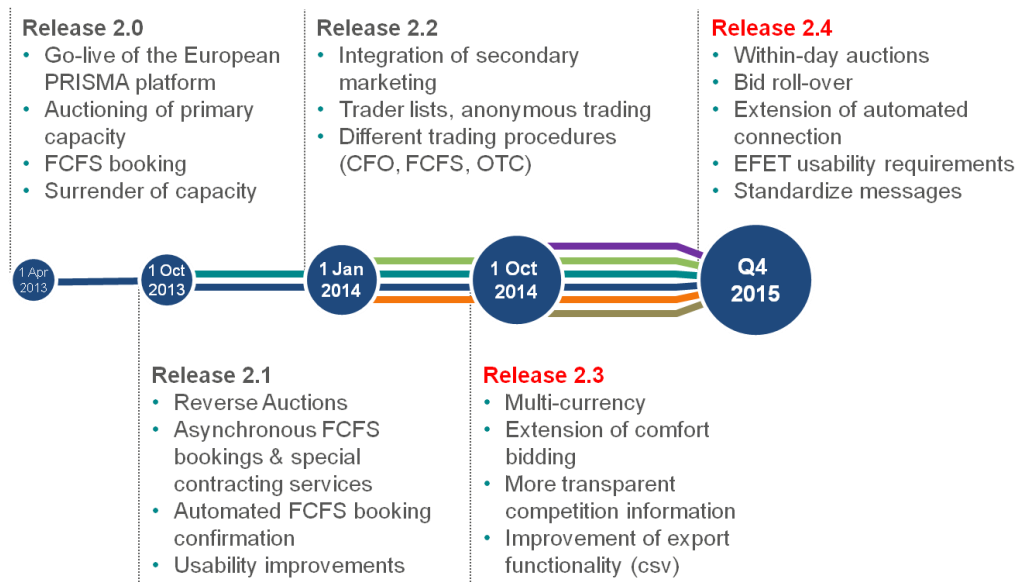
### Becoming a Shareholder as a TSO

Depending on the time at which a TSO wants to become a shareholder at PRISMA, two different processes can occur:

- Until November 2015, a new TSO can become a shareholder by:
  - buying shares based on the ENTSOG voting rights. The share price will be based on PRISMA's equity book value as of the date of the entry of the new shareholder;
  - legal costs (on an equal basis in case of more than one new shareholder);
- After November 2015, a new TSO can become a shareholder by:
  - buying shares based on the ENTSOG voting rights. The share price will be based on the fair value of the company;
  - legal costs (on an equal basis in case of more than one new shareholder);
- A new shareholder will have to pay:
  - one-off connection fee – if not already paid in previous phases;
  - part of the yearly costs of PRISMA.

#### 4.2.2 Future development

PRISMA plans to launch Release 2.3 in October 2014 and Release 2.4 in Q4 2015



Picture No.11 - Future development of PRISMA

#### New features of Release 2.3

- Multi-currency
- extension of comfort bidding
- More transparent competition information
- Improvement of export functionality (csv)

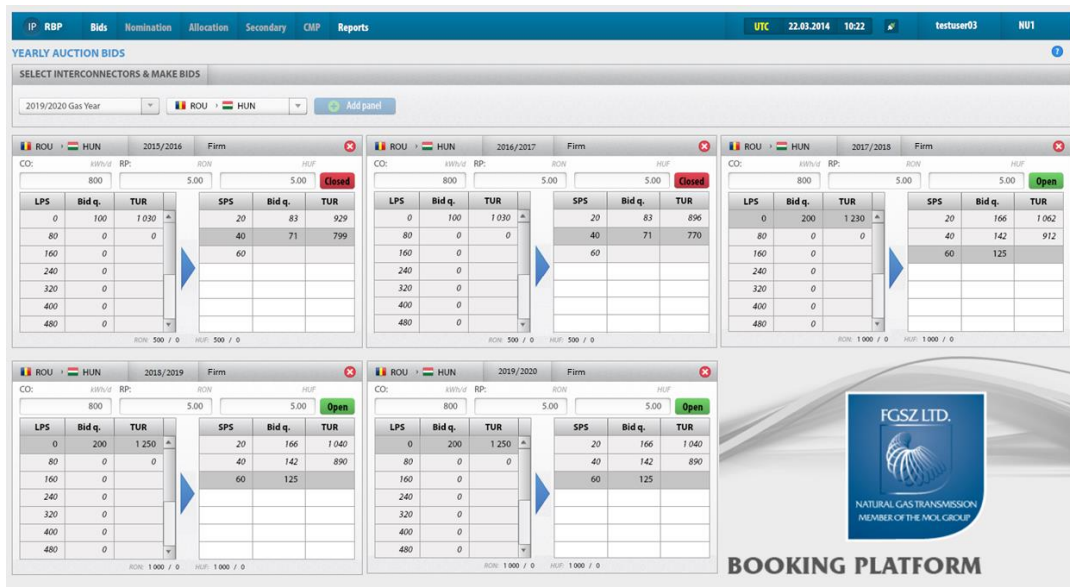
#### New features of Release 2.4

- Within-day auctions
- Bid roll-over
- Extension of automated connection
- EFET usability requirements
- Standardized messages

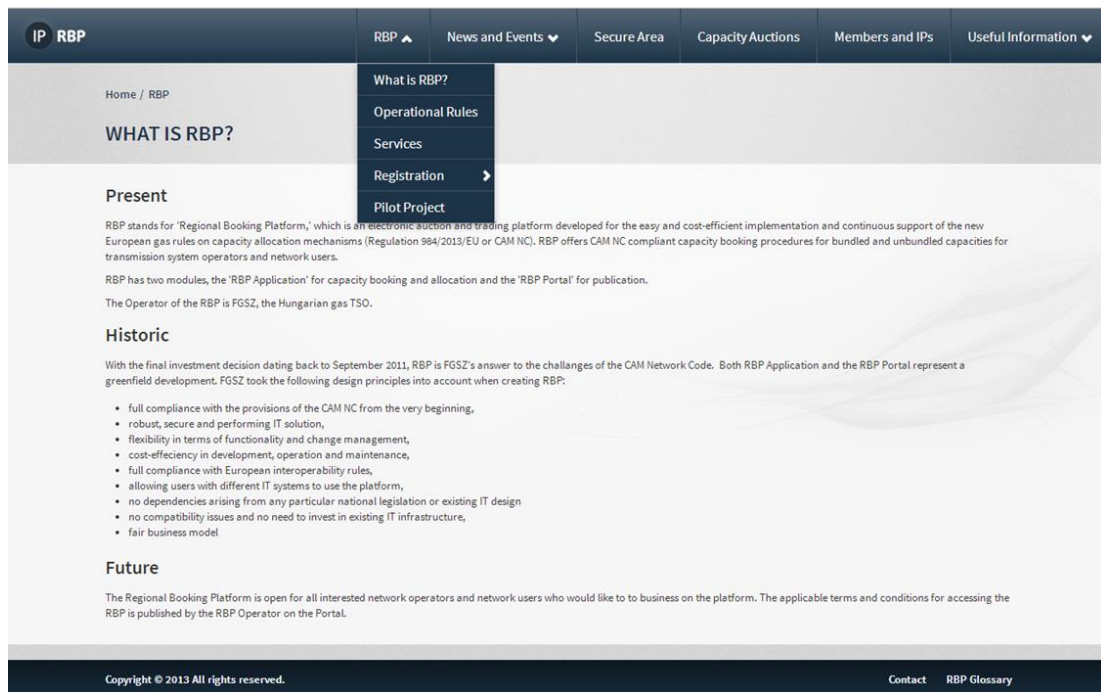
### 4.3 Regional Booking Platform (RBP)

The Regional Booking Platform (RBP) is an electronic auction and capacity trading platform developed for the easy and cost-efficient implementation and continuous support of the Commission Regulation (EU) No 984/2013 on establishing a Network Code on Capacity Allocation Mechanisms in Gas Transmission Systems and supplementing Regulation (EC) No 715/2009 of the European Parliament and of the Council (CAM NC). Regional Booking Platform consists of two major functional blocks: the RBP Application and the RBP Portal.

The scope of the project is not limited to the provision of a joint capacity booking platform (RBP), but also to harmonise 'Rules-for-Trade-like' issues in the underlying capacity contracts within the bundled capacity and the related network usage rules in Hungary and Romania to the maximum extent possible



Picture No. 12 - RBP Application (<https://rbp.fgsz.hu>), a NU's manual bidding window with 5 auctions



Picture No. 13 RBP Portal (<http://rbportal.fgsz.hu>)

#### 4.3.1 Current status of the project

The Regional Booking Platform has been developed since late 2011 by FGSZ, the Hungarian TSO. In 2012, Transgaz, the Romanian TSO, and FGSZ concluded a Memorandum of Understanding to offer bundled capacity products on the Hungarian-Romanian IP (Csanádpalota) via the RBP.

The introduction of the RBP faced two main challenges:

- the provision of a CAM NC compliant IT service,
- and the creation of a supportive legislative environment which would enable the functioning of the CAM NC, i.e. the legislative implementation thereof.

The greatest challenge has been the amendment process of the existing legislative framework due to the bundling concept, which significantly differed both in Hungary and Romania from the designated CAM NC conditions. This process aimed at allowing the use of the CAM NC-compliant capacity allocation method with all of its prerequisites, taking into account national specifications, primarily the difference in the national currencies and the prevailing licencing regime in both countries.

The RBP project is new both in terms of concept and IT implementation. At conceptual level it is based on the product bundling, which realises and ensures the link between the capacity products in the bundled capacity product not only during the allocation

process (the so-called process bundling) but also during the whole lifecycle thereof, including (single-sided) nominations, secondary market and CMP transactions. The product bundling realises the two-contract model as required by the CAM NC, where RBP is not a contractual party, i.e. the capacity contracts are concluded between transmission system operators and network users in case of primary capacity allocation.

The bundling concept and RBP's bundling and capacity allocation process ensure that capacity management remains fully under the control and in the responsibility of the TSOs. The bundling takes place online on the RBP as follows:

- A corresponding pair of TSOs upload to RBP the available (unbundled) capacity at the given IP manually or by server-server connection,
- RBP creates the bundled capacity product by applying the lesser rule,
- RBP adds bundled capacities that were freed up via (bundled) CMP, if the TSO signs up for RBP's bundled CMP services,
- The unmatchable capacity will be released to the TSO that has offered more than its counterparty. This TSO can then decide, whether to allocate this capacity as unbundled capacity via the RBP or via the TSO's own capacity allocation tool.

#### 4.3.1.1 Overview of functions, implemented product types and services

As the new capacity allocation mechanisms required a new logic and a very powerful performance in order to support capacity auctions and data exchange at a massive scale, Regional Booking Platform was decidedly a new IT system both in terms of hardware and software.

That is, RBP is a new and independent IT solution from other FGSZ IT systems, without any precedence in FGSZ's Information Platform or any other related IT systems, and it does not represent an upgrade / added function to older IT solutions. The clear distinction is on one hand serving the fulfilment of high-performance requirements (300 parallel running auctions, with a computing capacity of 100.000 transaction/second), functional independence from other IT solutions and the avoidance of any legacy costs not related to the compliance with CAM NC, on the other.

In order to minimise adaption costs and time, RBP was developed to be an Internet-based thin client solution for both network users and TSOs, which means that everyone may use their current back-end (mainly capacity and contract management and publication-related) systems without the need to modify or add additional modules to these. RBP can be accessed via any commonly used web browsers such as IE, Chrome or Firefox.

A description of the functions divided by their mandatory / optional status from the point of view of CAM NC can be found below.



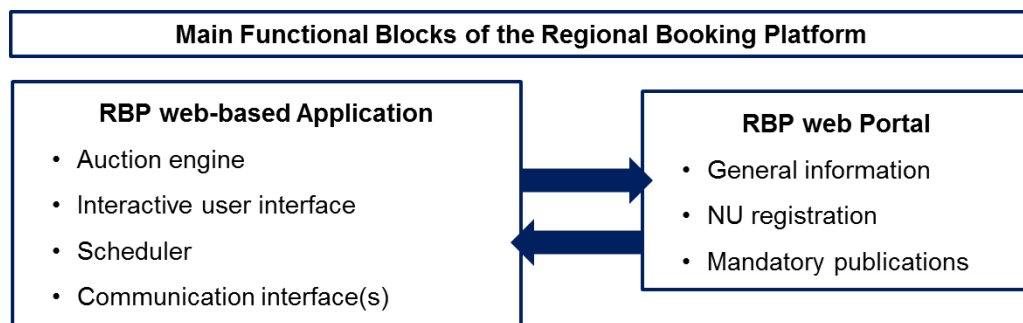
### **RBP's Basic Services fulfilling the minimum CAM NC requirements**

- Ascending clock and uniform price algorithms
- Bundled capacity allocation using the above algorithms
- Unbundled capacity allocation using the above algorithms
- Yearly, quarterly, monthly, daily and within-day auctions
- Electronic contracting
- OTC secondary market for bundled and unbundled capacities
- Multi-currency handling
- Credit limit and regulatory license management
- Permanently available test environment
- 24/7 technical helpdesk
- Hot backup servers and disaster-proof secondary server site

### **RBP's On-demand Services**

- SOAP interfaces
- Flexible auctions (non-standard capacity products, auction calendar and auction scheduling)
- Parallel-running incremental capacity auctions with different offer levels
- Single-sided nominations (a CAM NC requirement implemented on RBP instead of individual TSO level)
- Bundling of more than two capacity products (route bundling)
- CMP for bundled capacities
- Exchange-like (cleared, anonymous) secondary capacity market
- Multi-language web interfaces
- Non-mandatory publication services

The above functionality is realised in two main logical building blocks, the RBP Application and the RBP Portal.



Picture No. 14 – Main functional blocks of RBP

The two blocks are organised and operated in a layered architecture.

- Layer 1 (Proxy Layer) is responsible for directing users to the active set of servers, supporting the testing and replaying functions (used for maintenance).
- Layer 2 (Application Layer) is serving the active and passive environments of RBP, which means that no shutdown is required for any upgrade or maintenance of RBP.
- Layer 3 (Database Layer) using Oracle DB technology is the source of reports and data exchange.
- Synchronisation among Layers 1-3 is done real-time (including the real-time backup of the RBP transactions) using the Oracle Streams technology, which enables fast data exchange and the reproduction of the status of the system at any time and in any state.

#### 4.3.1.2 Business model (pricing, governance, shareholding)

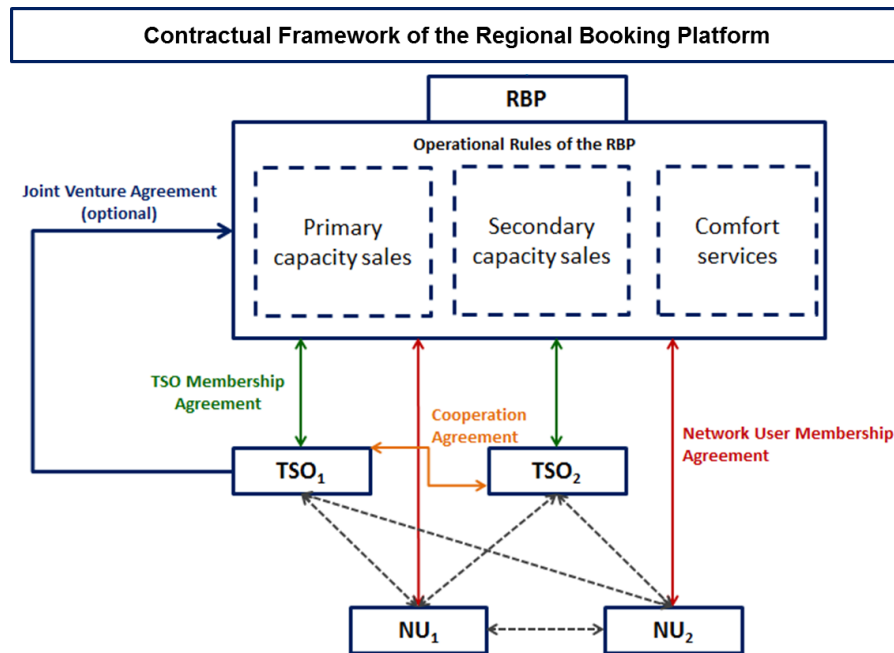
##### **‘Operatorship’**

The Regional Booking Platform was developed by FGSZ, which is currently the Platform Operator. FGSZ has indicated its readiness to discuss the possibility to create a joint venture to operate RBP, if TSOs joining the RBP would show interest in doing so.

##### **Access to RBP**

Regional Booking Platform has its own contractual framework which regulates the access to RBPs’ auction system and other services. The roles, responsibilities and the control mechanisms are described in these documents:

- Operational Rules of the Regional Booking Platform: general terms and conditions of RBP,
- TSO Membership Agreement: an agreement between the RBP Operator and a TSO regulating specific terms and conditions of the Regional Booking Platform,
- Cooperation Agreement: an agreement between the adjacent TSOs that offer bundled capacities at their joint IP via the RBP,
- Network User Membership Agreement: an agreement between the RBP Operator and a network user regulating specific terms and conditions of the Regional Booking Platform,



Picture No. 15 – Contractual framework of RBP

### Cost allocation and change request management

Costs can be allocated into distinctive groups: for services necessary to cover all required CAM NC functionalities while there are other functions that are required by national legislation or are demanded purely on market basis.

A) The annual TSO membership fee includes the following items of which costs are to be shared in an equal proportion by all TSO Members of RBP:

- Software and hardware development costs:
  - i. Historic development cost of software and hardware providing the current functionalities of RBP, necessary to provide full CAM NC compliance.
  - ii. Development costs of software and hardware arising from new / modified European regulations for continuous compliance (e.g. the Incremental Capacity chapter of the CAM NC).
  - iii. Universal IT development costs arising from updating and upgrading IT security, communication standards and other IT specifications.
  - iv. There is an annual development plan and a limited annual budget to cover the new development requirements related to ii) and iii), included in the annual TSO Membership fee. The annual development plan is defined jointly by the RBP Operator and the TSO Members.

- Operating costs:
    - i. Cost of IT maintenance and IT support,
    - ii. Cost of RBP staff, including also the 24/7 helpdesk service,
    - iii. Cost of utilities used for the purpose of RBP.
- B) Besides the annual TSO membership fee, TSOs and network users as well may request the development of additional functions from the RBP Operator, in which case the beneficiaries of the new development are to bear the additional costs.
- i. Functions that can be attributed to one or a limited number of individual beneficiaries and / or that are not prescribed by European regulations are financed by the originator(s) of the development request, so that cross-financing is avoided. Such special functions could be e.g. the availability of the platform in national language; specific NRA reports; non-standard interfaces; or any specific service related to a national gas market, etc.
  - ii. In each and every case, the RBP Operator will prepare a feasibility study including technical and financial details, how the individual development requests could be realised. This is then handed over to the originator(s) of the development request who can decide among themselves whether to pursue or abandon the development proposal.
  - iii. An individual development request may take place outside the scheduling of the annual development plan as well.

#### 4.3.1.3 Access to the platform for the network users and TSOs

The following excerpt from the Operational Rules of the Regional Booking Platform shows how access and capacity auctions are organised on RBP in case of standard CAM NC auction scheduling. Specific features of the usage of the Regional Booking Platform:

Step	What?	Who?	When?	How?
1/a	Becoming TSO Member of RBP	Applicant TSOs and RBP Operator	Anytime	Offline (paper-based contract)
1/b	Becoming Network User Member of RBP	Applicant Network Users and RBP Operator	Anytime	By online registration on RBP (data provision) and by signing the resulting paper-based contract,
2	Entity setup	RBP Operator	Upon the successful accession of TSO Applicants and Network User Applicants	Online on RBP
3	Setup of Auction Calendar	TSO Members	half a year prior to the start of the next gas year; for the interim period upon accession	Offline paper-based or electronic document
4	Auction scheduling	RBP Operator	Immediately after the provision of the Auction Calendar	Online on RBP
5/a	Auction setting (capacity product parameters)	TSO Members	In case of <b>yearly capacities</b> : 1 month before the auction starts In case of <b>quarterly capacities</b> : 2 weeks before the auction starts In case of <b>monthly capacities</b> : 1 week before the auction starts In case of <b>daily capacities</b> : 24 hours before the auction starts	Online on RBP
5/b	Capacity bundling	RBP Operator	Immediately upon the expiry of the above deadlines	Online on RBP
5/c	Auction setting (network user access and credit line)	TSO Members	Until 1 hour before the auction starts	Online on RBP
6/a	Auction execution	RBP Operator	Starting date: according to the auction calendar Internal timing: according to CAM NC timings	Online on RBP
6/b	Bidding	Network User Members	According to CAM NC timings	Online on RBP
7/a	Entering into contractual relationship	TSO Members and Network User Members	Upon the closure of the auction via Auction Confirmation	Online on RBP
7/b	Contract management	TSO Members and Network User Members	According to the internal rules of the TSO Members / Network User Members	

Picture No. 16 - Specific features of the usage of RBP

**Availability:** when designing the RBP, the Hungarian Energy Office required a 24/7 availability from the RBP and the current IT infrastructure is robust enough to meet this requirement. According to the legal framework of RBP, FGSZ as Platform Operator is legally responsible and accountable for the continuous availability of RBP, although there are BCP (Business Continuity Plan) and DRP (Disaster Recovery Plan) processes in place as well.

**Bidding options:** Network users can bid for an unlimited number of auctions simultaneously using the corresponding RBP interface or can send their bids via server-server connection. Once an auction started, upfront bidding is allowed for the large price steps in case of an ascending clock auction.

**Electronic contracting:** After the conclusion of the capacity auctions, customised auction result confirmations (in pdf format) are available to the network users and TSOs digitally signed (authenticated) by RBP. TSOs and network users may request their respective auction results via server-server connection for further data processing as well. As per CAM NC, the auction results (the digitally signed auction confirmations) effectuate the

capacity contract between the TSO and the network user. Paper-based contracts may be requested later by the network user for informational or archiving purposes from the TSO(s), but this should not have any effect on the usability of the capacity product and in case of any dispute, the digitally signed auction confirmation shall prevail.

**Flexible auctions:** RBP's auctions can be set up to run according to the CAM NC auction calendar or can be fully customised as required by the TSOs meaning both auction start time and internal auction intervals.

**IT and data security:** RBP is shielded by a number of proxies, firewalls and anti-virus solutions. FGSZ has a redundant server running on FGSZ's Siófok headquarters, while another redundant server is running at a disaster-proof location in Hungary, 50 km away from Siófok. RBP's IT architecture makes possible a switch-over between servers without data loss in 3-5 minutes (hot backup). With regard to IT security, FGSZ is certified with the ISO/IEC 27001:2005 standard.

**Price steps:** price steps are expressed as a percentage of the reserve price. Network users bid for the auction premium, i.e. a 0 price bid means that they are not willing to pay auction premium, 1% price bid means that they are willing to pay 1% auction premium on top of the reserve price etc. During the capacity auctions, network users obtain information about the nominal price levels as well.

**RBP secure access:** RBP Application is accessible by digital certificate issued by trusted provider.

**Regulatory licence and credit limit management:** RBP enables TSOs to filter unlicensed (where a natural gas trading or supply licence is required), non-creditworthy network users (where relevant) prior to capacity auctions. Although network users may successfully register with RBP, TSOs may request the fulfilment of further requirements for effective network usage based on the relevant national laws.

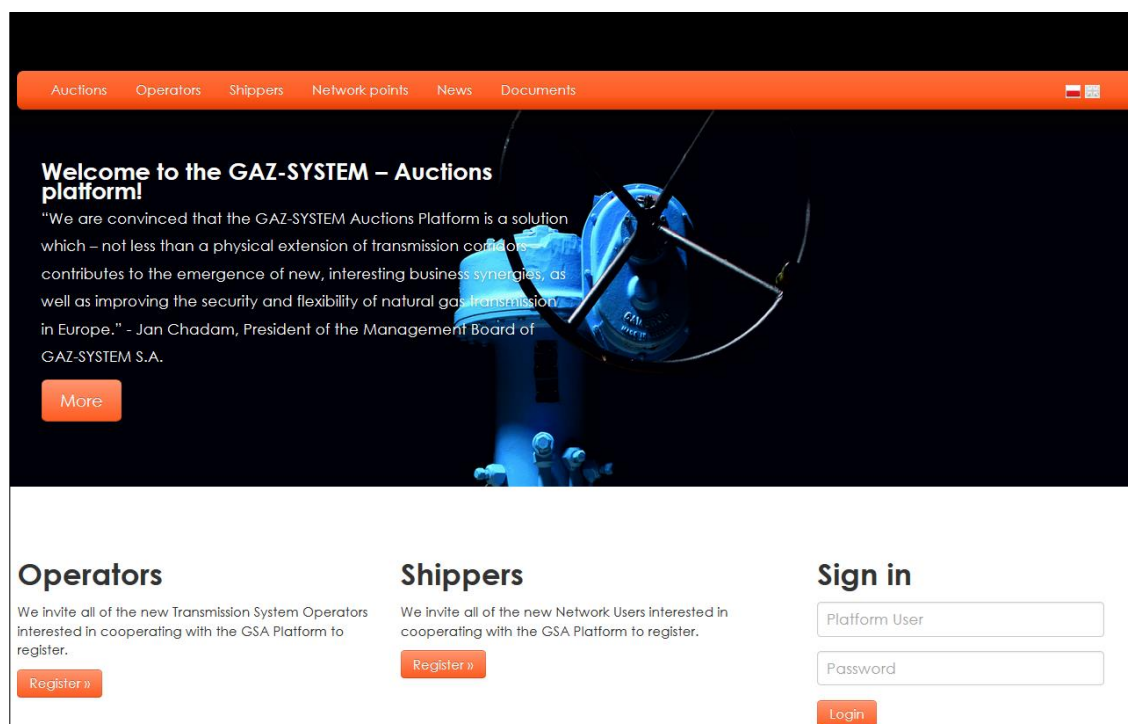
**Test environment:** TSOs as well as network users registered with RBP have access to RBP's test environment, where the newest developments are first tried. The test environment is the place of TSO and network user trainings as well.

**Within-day auctions:** With regard to within-day auctions, FGSZ notes that the capacity allocation procedure alone is not sufficient. The TSOs' own back-end systems and the prevailing balancing regime, including the platforms where balancing transactions are carried out should support within-day activities as well.

#### 4.3.2 Future development

The future development of the RBP depends equally on the upcoming European legislation and the market demand. The FGSZ-Transgaz pilot project is to start the capacity allocation in 2014, whereas RBP will serve as the capacity allocation vehicle of 400+ network points (cross-border and domestic) in Hungary from 2015.

## 4.4 GSA



Picture No. 17 - Welcome page of GSA Platform available at: <https://auctions.gaz-system.pl/>

With the aim to support the development of a single gas market in Europe, GAZ-SYSTEM is focused on harmonizing the rules and regulations in its network codes to enable the emergence of a liberal gas market in Poland with a diversified structure of suppliers. The company combines the operation of two natural gas transmission systems on a day-to-day basis, which is why it is a pioneer in the implementation of the solutions of the European network codes in Central and Eastern Europe and it has a good understanding of the need to support Shippers in building their portfolios of natural gas supplies.

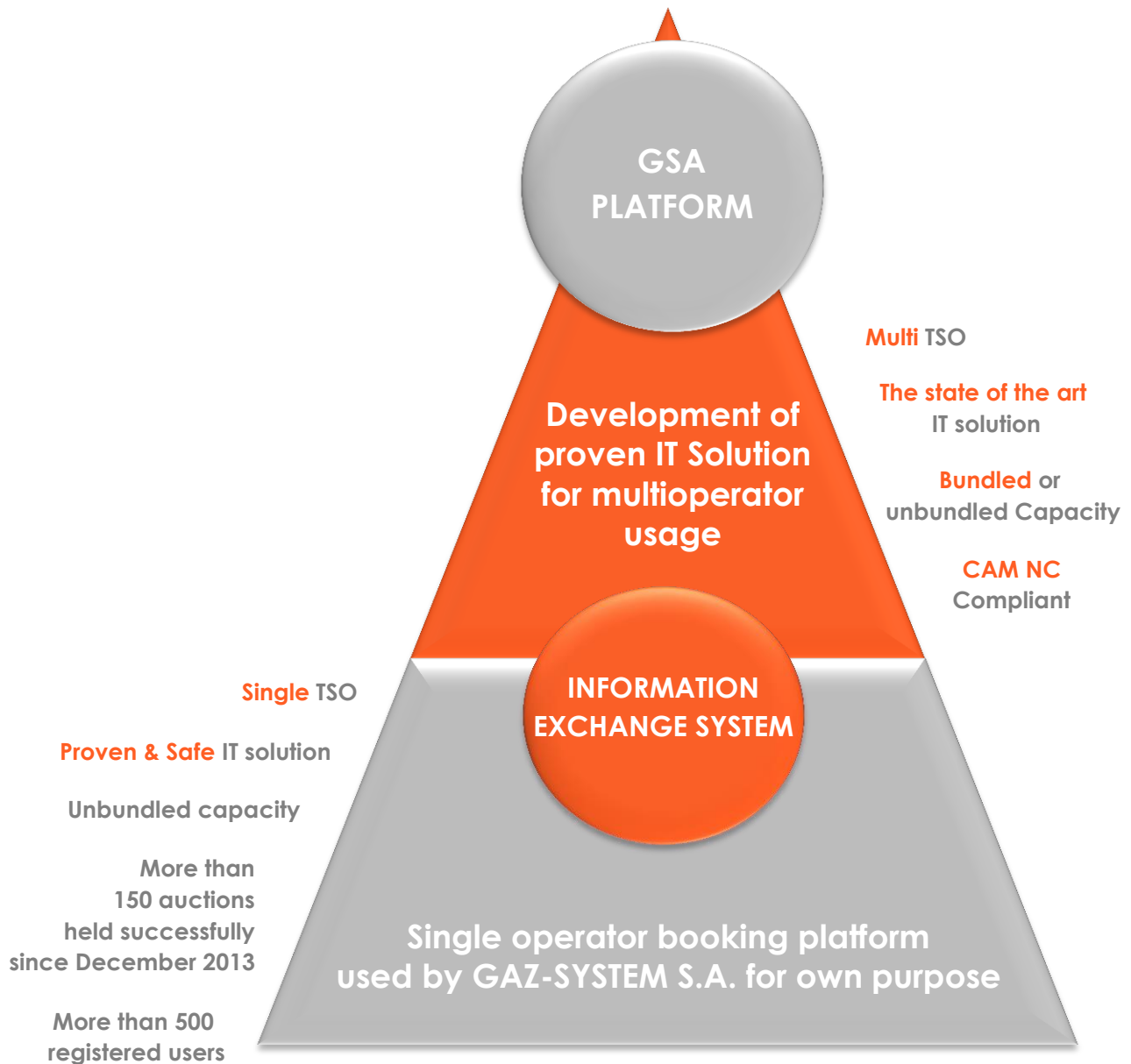
During recent years, GAZ-SYSTEM (just like the other TSOs) was seeking for a permanent solution available on the market in order to fulfil future requirements of CAM NC (Regulation 984/2013) under the assumption that costs of such service, which will be further recovered from the market users through the regulated tariff, should be at the minimum, reasonable level.

The company gained some experience with the implementation of CAM NC while operating pilot projects with the adjacent TSOs using other tools available on the market.

In preparing to implement the requirements of the CAM NC, GAZ-SYSTEM has accepted an auction mechanism in its Transmission Network Code as the main, transparent and objective method of allocating capacity at points of interconnection.



GAZ-SYSTEM has successfully conducted more than 150 auctions of yearly, quarterly and monthly products since November 2013. The auctions to date were conducted through the Information Exchange System (IES), which has more than 500 registered users.



Picture No. 18 - Comparison of IES and GSA Platform

As the final outcome of pilot projects and experience received so far, GAZ-SYSTEM decided to modify existing Information Exchange System (IES) which was responsible for

the domestic auctions in Poland, as the easiest to implement, cost effective, reliable solution – the GSA Platform. For this purpose, GAZ-SYSTEM chose IT Provider called WASKO (<http://www.wasko.pl/en/>). WASKO is responsible for implementation of Stage 1 and Stage 2 of the GSA development as well as the maintenance and development of the GSA Platform. Both companies GAZ-SYSTEM and WASKO have long experience in cooperation, because two other main IT systems in GAZ-SYSTEM were implemented and are supported by this IT provider.

From the beginning, GAZ-SYSTEM'S goal was to provide an auction services not only for its own purposes but also for other TSOs. The GSA platform is open for cooperation with all TSOs seeking for the IT solution compatible with NC CAM provisions.

The GSA Platform is now fully operational (Stage 1 is completed) and can be accessed at the following link: <https://auctions.gaz-system.pl/>.

Works regarding the Stage 2 are in progress.  
It is expected that Stage 2 shall be completed by the end of 2014.

#### 4.4.1. Current status of the project

For the very first time, GAZ-SYSTEM presented its capacity auction platform during the 16th meeting of the GAS REGIONAL INITIATIVE – SOUTH SOUTH-EAST, which was held in Warsaw on May 27th 2014. While preparing the implementation of the requirements of CAM NC, GAZ-SYSTEM accepted an auction mechanism in its Transmission Network Code as the main, transparent and objective method of allocating capacity at points of interconnection.

GAZ-SYSTEM has successfully conducted more than 150 auctions of yearly, quarterly and monthly products since November 2013. The auctions to date were conducted through the Information Exchange System (IES), which has more than 500 registered users. New IT solution was adapted at the beginning of July 2014 to be able to:

- offer bundled capacity auctions (in two neighbouring systems),
- offer capacity auctions to other European transmission system operators.

For the time being, the GSA offer auction service for:

- monthly products
- quarterly products
- annual products.

During the 12th GIE Annual Conference in Berlin on July 12th 2014 - GAZ-SYSTEM and NET4GAS agreed to launch a pilot project regarding the bundled capacity of IP Cieszyn on

the GSA Platform. The planned pilot project will concern capacity at the currently existing IP Cieszyn, connecting both transmission systems.

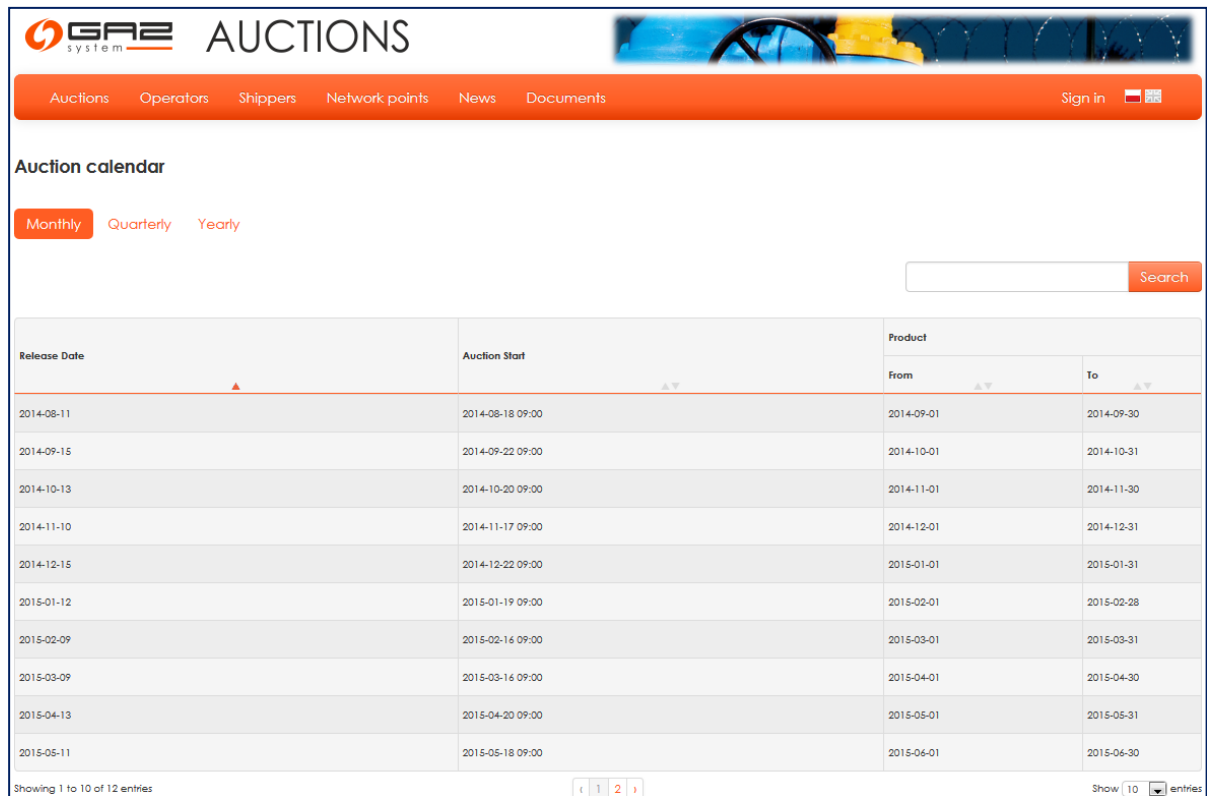
On 15 July 2014, the GSA Platform was presented to shippers at the GAZ-SYSTEM HQ in Warsaw. Shippers welcomed the GSA platform positively. During this meeting, GAZ-SYSTEM invited the shippers to test the GSA so that the shipper will become familiar with the new solution and its new functionalities before official switch from previous IT solution - IES to GSA Platform. The principles of offering capacity on interconnectors through auctions were discussed during the workshops, the functionality of the GSA auction platform was presented and test auctions were held with the use of the GSA platform.



Picture No. 19 - Workshop with Shippers held in Warsaw on 15 July 2014

On 21 July 2014, GAZ-SYSTEM successfully conducted first auctions of the monthly products on GSA. Capacity was allocated in the Point of the Interconnection between Transit Gas Pipeline System Yamal–Europe and Polish transmission system (as a bundled product), and also in IP Lasów on the Polish-German border (as an unbundled product).

Thereby, the GSA became the main capacity allocation tool used by GAZ SYSTEM also capable to conduct bundled product auctions with other TSOs.



Release Date	Auction Start	Product	
		From	To
2014-08-11	2014-08-18 09:00	2014-09-01	2014-09-30
2014-09-15	2014-09-22 09:00	2014-10-01	2014-10-31
2014-10-13	2014-10-20 09:00	2014-11-01	2014-11-30
2014-11-10	2014-11-17 09:00	2014-12-01	2014-12-31
2014-12-15	2014-12-22 09:00	2015-01-01	2015-01-31
2015-01-12	2015-01-19 09:00	2015-02-01	2015-02-28
2015-02-09	2015-02-16 09:00	2015-03-01	2015-03-31
2015-03-09	2015-03-16 09:00	2015-04-01	2015-04-30
2015-04-13	2015-04-20 09:00	2015-05-01	2015-05-31
2015-05-11	2015-05-18 09:00	2015-06-01	2015-06-30

Picture No. 20 - Auction calendar of GSA

Besides NET4GAS, discussion about pilot projects on GSA Platform with other TSOs is ongoing.

GAZ-SYSTEM invites every TSO that have not decided yet how to offer capacity in their systems after November 2015 to test the platform. The Platform is addressed to all TSOs that should decide about future solution that meets the requirements of CAM NC at reasonable cost. On demand, GAZ-SYSTEM is ready to organise tailor made tests of the GSA. Moreover, GAZ-SYSTEM enabled test accounts on the GSA Platform for the interested TSOs starting from mid-August 2014.

GAZ-SYSTEM is also open to adjust GSA to the specific needs of the TSOs. The following shall be discussed bilaterally by GAZ-SYSTEM and particular TSO.

#### 4.4.1.1. Overview of functions, implemented product types and services

##### Functions

Functionalities for non-logged-in users:

- Previewing of TSO's details

The User can preview information about TSOs registered in on the GSA. For each of them are shown:

- Name
- Contact details,
- EIC code,
- Logo
- Contact details of responsible person
- Information about number of active TSOs on the platform

- Previewing of shipper's details

The User can preview information about Shippers registered in on the GSA. For each of them are shown:

- Name,
- Contact details
- EIC code,
- ZUP code (if possible)

- Previewing the auction calendar

The User can preview the system-defined dates of publication of the auction and see products that may be offered in terms of the data. Term of publication depends on:

- Type of product (Yearly / Quarterly / Monthly),
- Publication date,
- Commencement date of the auction.

- Previewing the auctions list

The User can preview list of TSO's published auctions, divided into ongoing, past and future auctions. For a single auction, there are presented basic information: For a single auction, there are presented only basic information

Details of point/points:

- Name and identification number (ID) - in the case of bundled auctions IDs and names are displayed by catalogue of points of each participating TSO
- TSO - abbreviated name of the operator or operators in case of bundled auction
- Direction – in case of the bundled auctions, there will be presented all directions defined in point by TSOs participating in the auction.

Details of auction:

- ID,
- Publishing date,
- Date of beginning of the next round – only in case of ongoing and planned auctions
- Auction status (i. e. Published, In Round, Finished, Break)

Details of product:

- Type of product (Yearly / Quarterly / Monthly),
- Auctions of bundled products,
- The period for which the product is offered (i. e. .: 2014-10-01 – 2015-09-30, 2014-04-01 – 2014-06-30, 2014-03-01 – 2014-03-31),
- Offered capacity,
- Tariff – in case of the bundled auctions the sum of tariff for each TSOs participating in auction,
- Surcharge,
- Type of capacity - in the case of the bundled auctions there will be presented all types of capacity defined by TSOs participating in auction (firm, interruptible etc.)

In case of bundled auctions, on the auction list there are two lines corresponding TSOs which offered bundled capacity. Moreover, bundled auctions appear with the graphic sign.

- Previewing the news

This functionality allows User to preview a list of messages defined by the system administrator. Messages are displayed in the language selected by the user. If the message does not have a version for the selected language, it will be presented in a different language version (accepted by the user as default). A single message, beyond the content and the title, bears the date of its introduction into the system. Messages are presented on a list starting with the latest news.

- Downloading the documents

User can become familiar with the list of general documents. By default may refer to the documents in selected in the system language, but can also display a list of documents in another language. Individual documents are presented using the links for downloading the file.

- Previewing GSA Platform owner details

User can become familiar with the contact details of the System Owner such as:

- Address,
- Phone number,
- Fax,
- E-mail address.
- Personal contact details (Name, Phone number, e-mail)
- User can receive information about Maintenance and Information service in Polish and English language
- User can ask questions through contact form.

- Registration

Anonymous user fills in the registration form. The form contains basic information about the company (Operator / User System) and the person authorized to establish an organization on the Platform.

In case of registration an organization of Shipper, there is a need to select the System Operator (from the system), which will be responsible for managing all the users of the newly created Shipper.

Information given in the registration form is in further step verified by:

- System administrator – in case of registration of TSO,

- User selected in the registration form TSO – in case of registration of Shipper  
To begin the registration process there is required the EIC / Shipper code

- Previewing the ID points

The User can preview the information of system points. For each point are shown:

- ID,
- Name,
- Direction,
- Type of gas,
- Type of capacity,
- Information about bundled/unbundled status of the point
- TSO name
- Comments

#### **Functionalities for TSO (the above mentioned and further):**

- Previewing of own points:

TSO User can preview the information about points in the organization. For each point there are shown:

- ID,
- Name,
- Direction,
- Type of gas,
- Type of capacity,
- Information about bundled/unbundled status of the point

- Auction management:

- Amount of bundled capacity:
  - Based on declaration of available capacities by both TSOs
  - Lesser rule for bundled capacity
- Unbundled capacity
  - Differences between declared available capacities
  - Declared by single TSO
- Periods: Y, Q, M, (D, WD since January 2015)
- Tariffs
  - Base fee as sum of both TSO Tariff rates
  - Surcharge rates (large and small step)
- Auction Date



- Default NC CAM/ENTSOG calendar
  - Optionally on TSO demand
  - Auction cascades
    - Capacity not allocated during auction is set down automatically for shorter period auctions
    -
- Management of agreements with System Users

The operator has the ability to manage contracts between itself and the Shippers by introducing the time of their validity. Defining the agreement between the Shipper and TSO will be a necessary condition for participation of Shipper in auctions of the TSO. Management of own documents provided for System Users

The operator will be able to manage the files relating with the process of concluding the contract with the shipper.

**Functionalities for the Shipper (same as a non-logged-in user and further):**

- Request to conclude a transmission contract;

User acting on behalf of the shipper can request to conclude an agreement with the selected TSO. This information will be sent to the TSO, which, after verification, accepts its application. The user selects from a list of TSOs with which aims to conclude an agreement. On this basis, the User receives an e-mail with a set of links with the categories of documents necessary for registration of the TSO. The operator sees such User's request and is able to activate after receipt of the complete set of paper documents.

- Receives via e-mail
  - Links to set of documents required by relevant TSO's to conclude a contract;
- Receives e-mails or edig@s (since January 2015) messages about
  - Auction invitation,
  - Confirmation after each auction round,
  - Auction results
- Bidding

User acting on behalf of the shipper may participate in the auction under the conditions of the current agreement with all TSOs involved in the auction. Permission for bidding is granted in the context of TSO, which will help to determine which user has the right to

bid at the auctions of which TSO. If the auction is for the bundled product, the user must have permission to participate in auctions from all TSOs.

Possible way of bidding:

- Web portal
- edig@s messages (from January 2015)

Data exchange:

- Data exchange with TSOs and shippers
- Two channels of communication
  - Web portal
  - edig@s messages (from January 2015)
    - Set „Capacity trading Process” edig@s v5.1
    - BRS for CAM NC (VOR05/05.10.2012)

Products

GSA Platform enables offering a number of the CAM NC compliant products such as annual, quarterly and monthly bundled or unbundled products (Stage 1).

These products may be offered at different Interconnection Points by any interested TSO.

From January 2015 (Stage 2), the GSA Platform will offer also daily and within day products, as well as other functionalities described in 5.4.2.

Services

GSA Platform offer services which will enable to:

- create and manage profiles of shippers and accounts of their Platform Users;
- make available Capacity of Entry and Exit points by the TSO at the Auction;
- purchase Capacities of Entry and Exit points under the primary market which are made available by TSO.

The GSA Operator publishes (by themselves) on the GSA only the information obtained from the relevant TSO's.

Transmission agreements between TSO and the shipper resulting from the Auction shall be executed and performed outside GSA in accordance with the TNC of a given TSO or an equivalent document.

For the time being GSA operates in PL and EN languages. Depending on the market interest, other languages may be considered in future.

Auctions on GSA may be conducted in kWh/h and kWh/d (also m<sup>3</sup> are available) in the currency specified in the agreement with TSO.

#### 4.4.1.2 Business model (pricing, governance, shareholding)

##### Pricing and costs:

- Each TSOs joining the GSA Platform, will lower unit cost of its operation and implementation (per IP)
- Annual Fee estimated around 15 000 – 20 000 EUR per Contractual IP
- The fee for use of the platform will be independent from the number of auctions carried out by Operator at the Contractual IP
- Pilot projects free of charge.

##### Governance:

GAZ-SYSTEM assumes that Council of TSOs using the GSA Platform shall be the best solution. Such Council of TSOs shall be responsible for the approval of the most important issues such as: Strategy, Budget etc.

##### Shareholding:

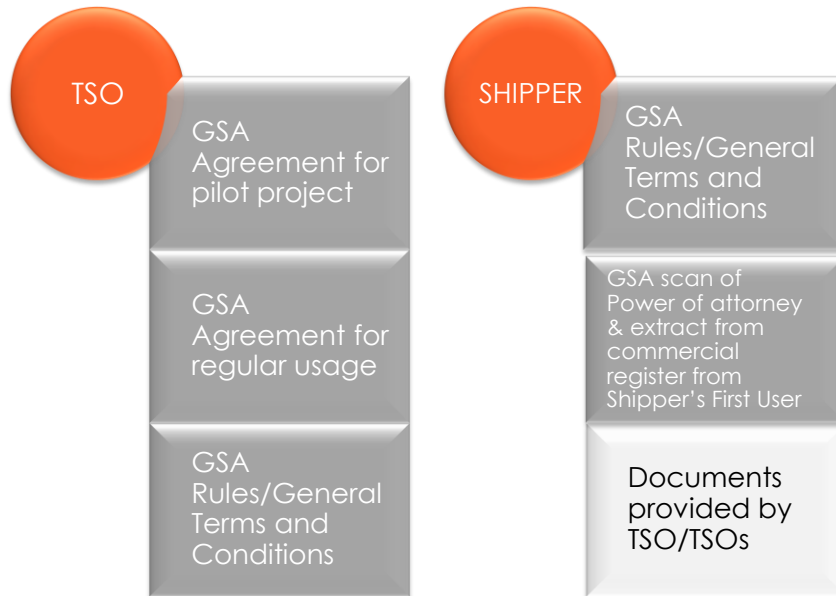
For the time being, GAZ-SYSTEM is a sole owner of the GSA Platform. Depending on the interest of other TSOs different business model may be introduced in future.

#### 4.4.1.3 Access to the platform for the network users and TSOs

Requirements of the GSA platform are available here:

<https://auctions.gaz-system.pl/files/downloads>

[GSA flyer is available here](#)



Picture No. 21 - Access to GSA – TSO and Shipper perspective

#### Registration of the Shipper:

To register the Shipper, the following information shall be submitted to the GSA Operator:

- the name and address of the Shipper (street, postal code, city, country),
- other Shipper's data: EIC code, website address, language, currency,
- an additional identification code, if required by a given TSO,
- a choice of a relevant TSO/TSO's whose Capacity the Shipper wants to purchase through the GSA.

To Activate the first Platform User, together with the data submitted according to the above requirements, the following information shall be provided:

- the Platform User's data:
  - login,
  - surname,
  - first name,
  - telephone,
  - email,
  - language,
  - time zone,
  - relevant Shipper's name and
  - identification code, password;
- Platform User's consent to process personal data.

In addition to the abovementioned data, to complete the Activation process of the first Platform User of a given Shipper, it is necessary to submit in an electronic form:

- a scan of a signed power of attorney for the first Platform User to conclude the Agreement for the use of the GSA Platform on behalf of the Shipper (the form of a power of attorney can be found in “Documents” bookmark at: <https://aukcje.gaz-system.pl/files/downloads>)
- current extract from the relevant commercial register of a Shipper, obtained in accordance with the principles specified in the regulations of the country where the Shipper has its registered office or other relevant document that will certify the validity of the power of attorney. The documents should be sent by the Platform User on the following email address: [aukcje@gaz-system.pl](mailto:aukcje@gaz-system.pl).

Each Shipper may have only one company profile.

Each Platform User may have only one account, to which one unique and identifiable e-mail address, created in the Shipper's domain shall be assigned.

After registration data are delivered via GSA Platform to a relevant TSO, the Shipper's approval by a relevant TSO shall commence. The approval shall be subject to the TNC or another equivalent document of a relevant TSO. The Shipper shall be notified of its approval by TSO. If required by the relevant TSO, the Shipper shall obtain electronically via the GSA documents and information required for approval by the relevant TSO. The GSA Operator shall not be responsible for the approval by the relevant Shipper.

#### Registration of the TSO:

Registration of the TSO shall be made by GSA Platform after signing the relevant contract (for pilot or for permanent usage).

#### 4.4.2 Future development

Future development expected until the end of 2014 (Stage 2), where the additional functionalities shall be available:

- Additional interface (edig@s v5.1 in accordance with BRS CAM ENTSG)
- Multicurrency
- Secondary Market
- Advanced security mechanisms
- Multilanguage
- Tariff calculator
- Financial security check

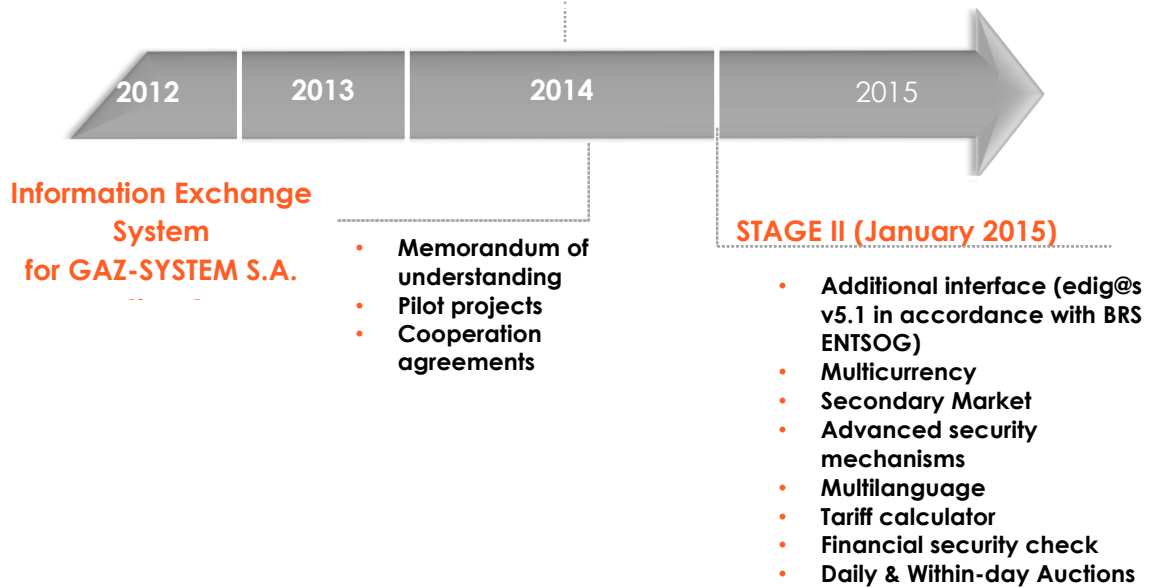
- Daily & Within-day Auctions

Plan of implementation is described below:

#### STAGE I (MAY/JUNE 2014)

- Implementation of GSA platform functionalities related to conducting bundling product auctions
- Ready for bundled projects
- Monthly, Quarterly, Annual products

#### GSA Platform



Picture No. 22 - Time schedule of GSA implementation

## 5. Results of the ENTSOG consultation of network users on market needs regarding capacity booking platforms

This chapter reports on the results of the ENTSOG consultation of network users on market needs regarding capacity booking platforms. The findings feed into the next chapters on options for implementation of the identified market needs. Also issues for further study deriving from the consultation are explored.

Under article 27 (3) of the CAM NC, ENTSOG has conducted a public consultation to identify the market needs with regards to capacity booking platforms.

*... “ENTSOG shall, within six months after the entry into force of this Regulation (CAM NC red.), carry out a public consultation to identify the market needs. The consultation process shall last no more than six months, including the publication by ENTSOG of a report with the results of the consultation.”*

The audience targeted at with this public consultation were network users who book capacity at interconnection points.

All 36 responses received, 34 by individual network users and two by associations (Eurogas and EFET), are published on the ENTSOG website<sup>4</sup>.

### 5.1 Summary of responses

Although the number of respondents to the consultation do not allow for in-depth statistical analyses, the results can be considered to give an indication of the market's preliminary view on booking platform. The geographical spread is wide with 30 EU-based responses and four non-EU based ones. Most of the respondents, 26, hail from countries participating in booking platform initiatives, eight from countries whose TSOs have not yet embarked upon this. Also the distribution between long- and short term capacity bookers was rather evenly, with 44% of the first category and 74% of the latter. Logically this means that 18% of respondents indicated to be booking both. Also the geographical scope of activities of responded is evenly distributed with the largest group being locally active in less than three countries, 47%. The second largest group, 35%, is active on a European level in nine or more countries. While respondent acting on regional level, in four to eight countries, make up the third group of 18%.

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<sup>4</sup> [http://www.entsog.eu/public/uploads/files/publications/Tariffs/2014/CAP00482\\_140630\\_Responses%20-%20consultation%20on%20capacity%20booking%20platforms\\_Rev0.xls](http://www.entsog.eu/public/uploads/files/publications/Tariffs/2014/CAP00482_140630_Responses%20-%20consultation%20on%20capacity%20booking%20platforms_Rev0.xls)

The responses to the consultation show large support for capacity booking platforms as a way to enable faster and more convenient booking procedure for network users. This aspect of the CAM NC, therefore, seems to be widely supported.

The majority of respondents are of the view that with the usage of booking platforms they have faster access to the relevant commodity markets. From their point of view, it simplifies the booking process.

Aspects named as fundamental to booking platforms include: the reliability of the platform (from the IT point of view), transparency of the information provided including data on past and future auctions, results of auctions, deadlines and procedures/processes. Also user-friendliness and transparent general terms and conditions (GTs&Cs) are among the fundamental aspects. Broadly the same aspects were cited with regard to usability.

A broad majority of respondents expressed interest in additional and/or optional services to be procuring from a joint booking platform. The suggestion here is that a platform users' group should be established and solicited about the need for and definition of additional and/or optional services.

Near unanimity among respondents is registered on the topic of secondary capacity markets. The advantages of having both primary and secondary capacity on the same platform are obvious, with the remark that a clear demarcation between the two trading sections is necessary.

About two-third of respondents offered various additional remarks. Mentioned are: The call for a single joint booking platform in the EU, need for harmonisation of the terms and conditions of capacity contracts, especially in the context of capacity bundling under the CAM NC and secondary markets, centralisation of registration and change of users by companies, an appeal for the use of standard (Edigas) messages in the data exchange between platforms and network users.



## 5.2 Overview of respondents - by region , by capacity booking duration, number of market areas traded

### Question 1: Contact details, including the country from which the respondent comes

ENTSOG received two responses from associations: the European Federation of Energy Traders (EFET) and Eurogas.

The 34 individual network users who responded are listed here by country:

○ Austria	1
○ Belgium	1
○ France	3
○ Germany	7
○ Ireland	1
○ Italy	5
○ Netherlands	2
○ Russia	1
○ Slovakia	1
○ Slovenia	1
○ Spain	1
○ Switzerland	3
○ UK	7

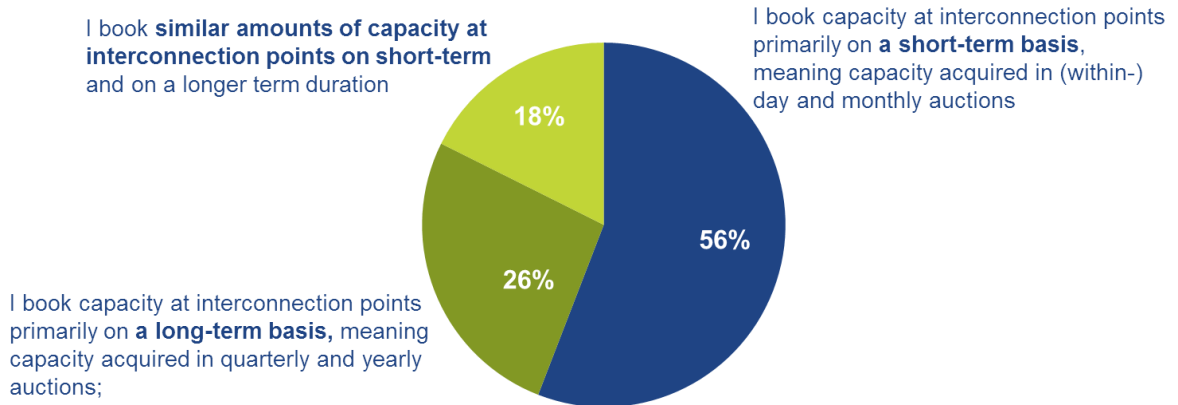
For methodological correctness, ENTSOG notes that the number of respondents to the consultation means that the results cannot be considered as definitive but gives an indication of the market's preliminary view.

### Question 2: Which of the following statements would best apply to you?

- I book capacity at interconnection points primarily on a short-term basis, meaning capacity acquired in (within-) day and monthly auctions;
- I book capacity at interconnection points primarily on a long-term basis, meaning capacity acquired in quarterly and yearly auctions;
- I book similar amounts of capacity at interconnection points on short-term and on a longer term duration (approximately no more than 60% of either).

The distribution of the 34 individual respondents was the following:

100% = 34 responses

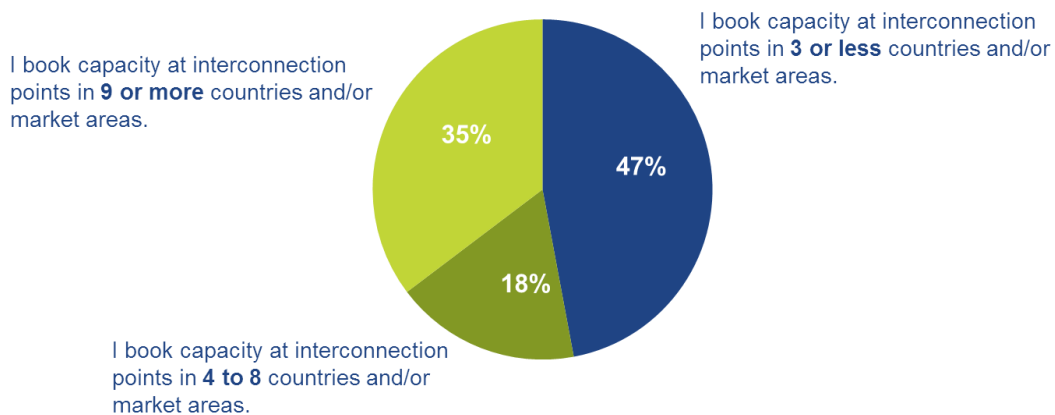


**Question 3: Which of the following statements would best apply to you?**

- I book capacity at interconnection points in **3 or less** countries and/or market areas.
- I book capacity at interconnection points in **4 to 8** countries and/or market areas.
- I book capacity at interconnection points in **9 or more** countries and/or market areas.

The distribution of the 34 individual respondents was the following:

100% = 34 responses



### 5.3 Detailed results of the public consultations open questions

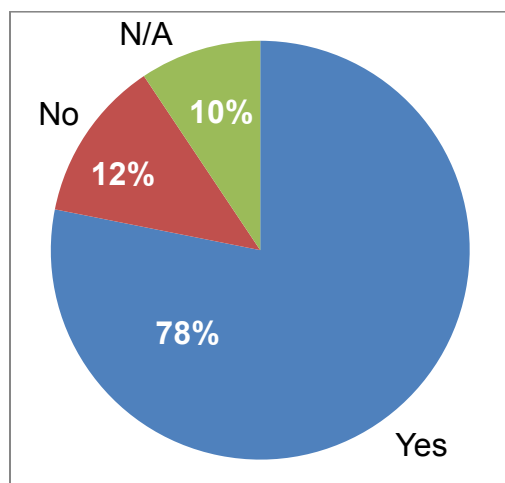
#### 5.3.1 Booking platforms as a fast and convenient procedure for network users and fast access to the relevant commodity markets

**Question 4: Do you think that the implementation of booking platforms that enable the booking of bundled capacities, as per the requirements of the CAM NC, enable faster and more convenient booking procedure for network users?**

As shown in the diagram below, 78% of respondents maintain that booking of bundled capacities on booking platforms, as per the requirements of the CAM NC, will enable faster and more convenient booking procedure for network users. Twelve percent of respondents did not think so; 10% did not answer the question.

Of those respondents who did not answer this question positively, the most cited reason was that booking bundled capacities may lead to extra costs (sunk cost) for network users who have previously booked unbundled capacities on one side of the border.

Several respondents called for the coordination between the TSOs to establish on each side of the border point the same technical capacity.



Extracts from the responses:

EFET: "Yes, the implementation of booking platforms that enable the booking capacity on both sides of an IP in line with the requirements of the CAM NC does facilitate capacity booking. The benefits have arisen from establishing a common process in which capacity contracts are sold at the same time in the same way at many IPs."

Centrica: In practice, yes, we believe that this should be the case.

EDF Group: "Yes, the implementation of booking platforms was a good step to enable faster and more convenient procedures. ..."

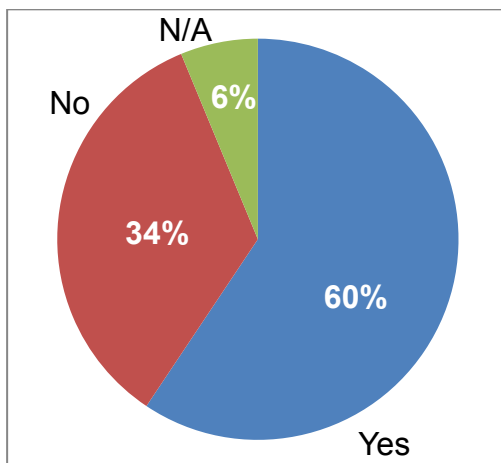
**Question 5: Do you think that with the usage of booking platforms you have faster access to the relevant commodity markets (gas/hubs)?**

As per the diagram below, 60% of respondents are of the view that with the usage of booking platforms they have faster access to the relevant commodity markets. From their point of view, it simplifies the booking process. Thirty-four percent of respondents did not think so; 6% did not answer the question.

Around 30% of respondents, expressed that timing of day-ahead auction is not in line with commodity markets. EFET and others called for day-ahead auctions to start earlier in the gas day.

Several respondents mentioned that they no longer have the possibility of booking capacity whenever they want and with implementation of auctions instead of FCFS procedure they see less flexibility in their capacity booking procedure.

Several respondents see the advantage of a booking platform to be an easier access to all registered TSOs (on the platform) with a standardised process of booking. They appreciate having only one account with access tools by a joint booking platform instead of several different systems with different user interfaces and access systems on TSOs webpages.



Extract from responses:

EconGas: "A common booking platform like PRISMA is definitely useful and appreciated by us as a shipper. It simplifies the booking process as well as the access into the market areas."

GasTerra: "Booking platforms can in principal facilitate faster access to the relevant commodity markets if they, provide easily accessible and comprehensive information about the transport costs and the available capacity in one overview."

Eni: "Booking platforms allow the simultaneous booking of capacity on different grids/countries, which favors the integration among the hubs. ..."

### 5.3.2 Fundamental aspects of booking platforms

**Question 6: Which aspects of booking platforms do you consider as fundamental (e.g. general terms & conditions, transparency, balance between level of detail and extent, etc.)?**

For one quarter of respondents, the key aspect of booking platform is the reliability of the platform (from the IT point of view). The platform should be available non-stop, be technically robust with a sufficient back-up solution, and have sufficient technical support (including a hotline).

Also transparency of the information provided on the platform was also in focus of almost one-third of respondents. They call for transparency on all data referring to past and future auctions, results of auctions, deadlines and procedures/processes.

One quarter of respondents called for user-friendly platforms, with an intuitive way of capacity booking process and with customer interfaces not being too complicated.

Again a quarter of respondents expressed that transparent general terms and conditions (GTs&Cs) are fundamental.

Extracts from responses:

EDF Group: *"Reliability in terms of information provided. ..."*

VNG-Verbundnetz Gas Aktiengesellschaft: *"General Terms & Conditions as well as transparency are essential fundamentals. ..."*

EFET: *"Reliability in terms of information provided and in terms of IT security, with a back-up solution in case of IT failure or other technical problem. ..."*

EconGas: *"GTC, technical stability & availability, fast support and problem solving abilities in case of urgent requests"*

### 5.3.3 The most important elements regarding usability

**Question 7: What elements regarding usability are most important to you?**

One-third of respondents called for user friendly platforms with an intuitive way of capacity booking process, with interfaces to customer being not too complicated.

Fifteen percent of respondents see the booking platform reliability (from the IT point of view) as an important element regarding usability.

Fifteen percent of respondents expressed interest in enhanced search tools. Such tools would offer the possibility of saving searches and downloading them in common formats for analysis and of having results returned even in the case of misspelling.

Several respondents called for the improved responsiveness speed of the booking platform (e.g. with reference to PRISMA): page loading, uploading, and downloading of files.

A few respondents were interested in customised booking templates and standardised input template for all bookings (e.g., auction/ FCFS/Secondary capacity).

Some network users would like to have a section with overviews at the platforms, for example, allowing visibility of all future auction sessions or an overview of own capacity portfolio (in the past and in future).

A few respondents called for on-line technical support (hotline) in case they need to solve some problems.

Extracts from the responses:

Vattenfall: *"A simple and clear user interface is important. Also a clear visibility of what is offered product-wise should be provided. Additionally, the platform should give the user a chance to see how much capacity is still unused or how much capacity can still be acquired. ..."*

EconGas: *"Intuitive handling during the whole booking and auctioning processes ..."*

Statoil: *"Visibility on past bookings and on bookings closed during ongoing auctions , visibility of all future auction sessions, even when available capacity level are not yet set. ..."*

ExxonMobil: *"The platform should be easy to access with short response times. ..."*

#### 5.3.4 Additional optional services requested

**Question 8: Which additional and/or optional services are you interested in procuring from a joint booking platform?**

Some 70% of respondents took the opportunity to identify additional and/or optional services are you interested in procuring from a joint booking platform. It was suggested that a platform users' group should be established and solicited about the need for and definition of additional and/or optional services.

As for the optional services of interest, one quarter of respondents expressed interest in additional tools for data extraction, with basic charts and analysis and daily reports of capacity held, that can be sorted by dimensions, such as point, TSO and product duration.

Several respondents expressed interest in automated interfaces for the capacity products.

Several respondents indicated interest in a tariff calculator and for the availability of price information, such as hub prices and spreads.

Several respondents called for the standardisation of booking confirmation, with all relevant data available in an XML format.

Finally, respondents said that they would place value in the integration of the booking capacity platform with the TSO systems, resulting in an automatic send of auction results and the automatic creation of the contract.

Extracts from responses :

EconGas: *"We think that an extended possibility for reports is very useful as well as a tariff calculator. ..."*

Eni: *It would be useful to integrate the booking platform with additional information, such as the current situation of the booked/available capacity on each IP. ..."*

EDF Group, EFET, GDF Suez: *"automated interfaces ..."*

### 5.3.5. Primary and the secondary capacity on the same booking platform

**Question 9: Do you think that both primary and the secondary capacity markets should be on the same booking platform?**

There was almost unanimous (94%) support for the inclusion of both primary and the secondary capacity markets transactions on a common booking platform.

The advantages cited for having a common booking platform for primary and secondary markets included efficiency (e.g., relative to registration processes) and effectiveness (e.g., in terms of publicising the trading on the secondary market).

While supporting a common platform, several respondents outlined the need for clear demarcation between the two trading sections. They cited the need to avoid the risk of mistaken bookings.

While supporting a common booking platform for primary and secondary markets, several respondents advocated that secondary trading should remain possible both via bilateral trades and via over-the-counter (OTC) channel.

Those respondents against a common booking platform for primary and secondary markets expressed the need for platforms to master the provision of services for primary markets before being 'distracted' by the demands of the secondary markets.

Extracts from responses :

GDF Suez: *"Yes, this is better to have these two markets together. It makes easier the work of network users and makes the capacity market more transparent."*

VNG-Verbundnetz Gas Aktiengesellschaft: *"One booking platform for primary and secondary capacity markets would be helpful for a better transparency, usage of the platform, standardized formats, processes and registration."*

GasTerra: *"Yes, as long as this does not limit the flexibility of market participants to trade secondary capacity outside the platform."*

### 5.3.6. Others

**Question 10: Are there other remarks you would like to note with respect to joint booking platforms?**

Two-thirds of the respondents took the opportunity to offer additional remarks with regards to joint booking platforms.



Several respondents – including both associations -- used this question as an opportunity to call for a single joint booking platform in the EU

Several respondents made remarks about the need for harmonisation of the terms and conditions of capacity contracts, especially in the context of capacity bundling under the CAM NC. Calls were also made for the harmonisation of terms and conditions regarding secondary markets. ENTSG has already contacted respondents expressing this concern.

A few respondents called for the centralisation of registration at the corporate level, allowing for a fast and un-bureaucratic appointment and change of users.

Finally, a few respondents made an appeal for the use of standard (Edigas) messages in the booking process to prevent network users from having to develop an interface for each booking platform. Standardisation in data exchange formats will indeed prevent such multi-homing costs from arising. The common network operating tool for the network codes (CAM NC, CMP Guidelines, NC BAL) under development by ENTSG and EASEE-gas address this concern.

## **6. Preliminary findings, implementation options and conclusions**

This chapter, the concluding chapter of this report, offers the preliminary findings on market needs with regard to gas transmission capacity booking platforms and options for implementation of the CAM NC in accordance with the identified market needs. Given the novelty of the subject and the clear time restriction imposed on ENTSG by article 27, this report cannot be expected to deliver a definitive answer to all questions. However, by providing a theoretical underpinning, describing the actual situation, conducting a public consultation and reporting the results, highlighting the main questions and answering a number of them, ENTSG progresses insights on a crucial element of implementation of the CAM NC.

### **6.1 Preliminary findings**

#### **6.1.1 Findings from current statuses of existing platforms**

There are currently three capacity booking platforms – PRISMA, GSA and RBP. All three platforms plan their development in order to fulfil requirements coming from CAM NC in terms of products and services offered. They differ from each other in currently offered products, range of additional services provided, number of TSOs and IPs involved, number of network users registered and number of auctions performed. GSA and RBP are operated by TSOs (GAZ-SYSTEM and FGSZ respectively); while PRISMA is a limited company with TSOs as shareholders.

As of October 2014, 31 European TSOs from 11 countries have decided to use PRISMA for offering their capacities. PRISMA had at the same time 370+ registered shippers with 1,100+ users. Since beginning of the operation on 1 April 2013, PRISMA performed 68,000+ auctions on 1,499 network points (domestic and cross-border).

As of October 2014, PRISMA used cost allocation/pricing based on ENTSG voting rights (individual amounts per country, TSOs in one country share the amounts/costs per country), from January 2015 PRISMA will introduce new cost allocation model.

GSA platform was introduced to public in May 2014. As of October 2014, GAZ-SYSTEM and NET4GAS decided to use this platform for a pilot project at the cross-border IP Cieszyn in the first half of 2015. Beside this cross border cooperation, GAZ-SYSTEM and GAZ-SYSTEM ISO use the GSA platform for offering its own domestic unbundled and bundled capacities and since beginning of operation has performed 150+ auctions.

Pricing of GSA towards TSOs is based on annual fees per IP. Annual fee is estimated around 15 000 – 20 000 EUR per contractual IP. The fee for use of the platform will be independent from the number of auctions.

In 2012, Transgaz and FGSZ concluded a memorandum of understanding to offer bundled capacity products on the Hungarian-Romanian IP via the RBP platform. The pilot project has been aiming at the extensive change of the national regulatory environment so as to enable the implementation of CAM NC and the first RBP auction will be organised in December 2014. At this stage, RBP will also serve as the capacity allocation tool applying CAM NC type auctions for ca. 400 network points (cross-border as well as domestic) in Hungary from 2015.

The annual TSO membership fee is to be shared in an equal proportion by all TSO members of RBP; additional cost for customisation may apply to those who requested customisation services/development.

*“Overview”*

	<b>PRISMA</b>	<b>GSA</b>	<b>RBP</b>
<b>Owner/operator</b>	TSOs are shareholders	GAZ- SYSTEM	FGSZ
<b>Starting date</b>	1 April 2013	June 2014	December 2014
<b>Number of TSO's</b>	31 (including pilot projects, 22 shareholders)	3	2
<b>Number of shippers</b>	370+	22	
<b>Number of auctions performed</b>	68 000+	150+	-

### 6.1.2 Findings from public consultation of network users

A significant majority believes that the implementation of booking platforms that allow the booking of bundled capacities, as per the requirements of the CAM NC, enable faster and more convenient booking procedure for network users.

A large majority believes that the usage of booking platforms results in faster access to the relevant commodity markets; however, there is considerable concern about the timing within the day of day-ahead auctions.

The aspects of booking platforms that respondents consider as fundamental included, among others:

- reliability of IT and information provided;
- transparency of results;
- transparent GTs&Cs

- 'user friendliness';
- technical support.

The elements regarding usability that respondents found most important included:

- search tools;
- customised booking template;
- standardised input template for all bookings;
- responsiveness speed of the platform;
- visibility of all future auction sessions;
- overview of own capacity portfolio (in the past and in future);
- 'user friendliness';
- technical support.

The additional and/or optional services that respondents are interested in procuring from a joint booking platform included:

- tools for data extraction, with basic charts and analysis and daily reports of capacity held, that can be sorted by point, TSO, duration, etc.
- automated interfaces for all capacity products
- tariff calculator
- Standardised booking confirmation, with all relevant data, e.g., with an xml-file attachment.
- integration of the booking capacity platform with the TSO systems resulting in an automatic send of auction results and the automatic creation of the contract.

Respondents were almost unanimous in calling for both primary and the secondary capacity markets to be available on the same joint booking platform.

Additional remarks:

- facilitation of secondary capacity trading e.g. offers placed on the platform should be better advertised;
- registration at the corporate level with fast and un-bureaucratic appointment and change of individual users;
- use of standard messages (e.g., Edigas) in the booking process to prevent network users from having to develop an interface for each auction websites.
- around 15% of the respondents used the Questionnaire as an opportunity to call for a single joint booking platform in the EU.
- harmonisation of the terms and conditions of capacity contracts, especially in the context of capacity bundling under the CAM NC;
- harmonisation of terms and conditions regarding secondary markets.

## 6.2 Options for implementation

This report identifies options to implement the indicated market needs, having regard to costs and time, with a view to implement the most appropriate option. The summary of the platform developments and market needs above forms the basis for this. Platform operators should take into account the needs of network users in order make the booking procedure convenient and transparent for the network users.

In general, there are two models how to implement requirements of CAM NC with regard to booking platforms:

- a single EU booking platform;
- more than one booking platform.

There may be factors - based on two-sided markets theory – which supports both options:

- Impact of factors in the context of a single EU booking platform
  - No multi-homing costs for TSOs and network users
  - Economies of scale – costs per TSOs and network user are diminishing when more join a platform
- Impact of factors in the context more than one platform
  - Focus on cost efficiency of the platform operators due competition and different pricing models
  - Regional differences in network users requirements can be better addressed

### 6.2.1 Cost effectiveness - points of view

Several different views on cost effectiveness can be applied.

From the European system point of view, a single EU booking platform would have the following advantages:

- No costs for parallel development, operation and maintenance of more than one platform,
- different cost level of platform adoption by TSOs,
- if all TSOs would participate on financing of the platform, cost per TSOs can be reduced in case of increased participation.

From the European system point of view, more than one EU booking platform would have the following advantages:

- A certain level of competition may increase the focus on cost efficiency of the platform operators
- Regional differences in requirements resulting from various stages of market development can be addressed
- Different pricing models and services can be market-tested in parallel.

Individual TSO view on cost effectiveness can also be used. There may be a focus on costs/pricing of candidate booking platform to the relevant TSO. The TSOs may see their cost effectiveness enhanced by joining a platform which offers them synergies with other TSO tasks. For network users, multiple platforms will not be completely different from the current situation where unbundled capacity has to be acquired via the individual TSO websites, at least in the form of transactional efforts (different access conditions, learning practices, connections of back-up systems etc.).

All three booking platforms apply a different pricing model. For some TSOs, the PRISMA model may be preferable; for other TSOs, the GSA or RPB pricing models may be better-suited. Therefore, it is not possible to present a clear statement that one pricing model is preferable and cost effective for all TSOs.

As of October 2014, TSOs in four EU countries have not selected any platform for offering of their capacities yet – Greece, Bulgaria, Croatia and Slovakia . TSOs in these countries will before November 2015 either join a platform or establish a new one.

Eight remaining EU member states, Cyprus, Estonia, Finland, Latvia, Lithuania, Luxemburg Malta and Sweden do not have any interconnection point with any other EU member state or have exemptions from the Regulation; therefore, they do not need to offer their capacities on joint capacity booking platform.

### **6.3 Cooperation is key in decisions regarding joint platform at IPs**

Article 27(2)e of the CAM NC imposes the restriction that “capacity at any single interconnection point or virtual interconnection point shall be offered at not more than one booking platform.” This means that in the case where an IP connects two entry-exit systems which are served by different booking platform, the questions needs to be answered on which platform the bundled capacity will be offered.

The restriction imposed by article 27(2)e of the CAM NC would not pose a problem in a situation where there is only a single joint booking platform across the EU. However,

where multiple joint booking platforms exist -- as is likely to be the situation in November 2015, and where there is not agreement among the two (or more) adjacent TSOs on which joint booking platform to offer the capacity of their shared IPs, a solution needs to be found amongst the TSOs.

Cooperation will be key in any possible solution. Obviously, a single platform requires a high level of cooperation but so does a multi joint booking platform situation. In order to offer bundled capacity via the single allocation mechanism laid down in the CAM NC, a high level of data exchange is a prerequisite. Therefore, TSOs and platform operators need to work together to find appropriate solutions at border IPs. Such solutions should recognise the needs of stakeholders and in particular shippers. Development of the platforms and their solutions at joint borders will be closely monitored via the CAM Roadmap.

## 7. Concluding remarks

It is a very positive development that one year before CAM NC enters into force a significant number of EU TSOs are offering their capacity on joint booking platforms. These TSOs are preparing themselves seriously for the mandatory implementation of CAM NC in order to identify all requirements and challenges related to CAM NC in advance.

Applying theoretical economic arguments of two-sided markets to joint booking platform for gas transmission capacity delivers insights into what aspects of booking platform are important to both TSOs and network users. Some arguments would favour centralisation and a single platform, other arguments support the co-existence and competition of various booking platforms. In all cases, extensive cooperation between TSOs and platform operators is a key requirement.

When it comes to booking platforms, TSOs, platform operators and network users from many different backgrounds and countries must work together in order to explore mutually acceptable solutions, bringing benefit to the whole European gas market. Cooperation within such a diverse group, where interests have to be aligned to a certain extent and information should be shared, should produce appropriate solutions.

Given the novelty of the subject and the time restriction imposed on ENTSG by article 27, this report cannot be expected to deliver a definitive answer to all questions. However, by providing a theoretical underpinning, describing the actual situation, conducting a public consultation and reporting the results, ENTSG highlights the main questions and answers a number of them.

This report progresses insights on a crucial element of implementing the CAM NC. CAM NC early implementation monitoring is done via the CAM Roadmap. Since discussions on booking platforms are only starting with this report, not ending, ENTSG looks forward to facilitate further booking platform discussions within the scope of the CAM Roadmap and will closely monitor the development of the platforms and their solutions at joint border. Joint booking platforms, after all, facilitate cross border trade of gas and thereby contribute to the advancement of the European internal market for energy.



## **Annex 1: Article 27 CAM NC**

### **Article 27: Capacity booking platforms**

1. Transmission system operators shall apply this Regulation by offering capacity by means of one or a limited number of joint web-based booking platforms. Transmission system operators can operate such platforms themselves or via an agreed party that, where necessary, acts on behalf of them towards the network users.

2. Joint booking platforms shall apply the following rules:

(a) the rules and procedures for the offer and allocation of all capacity in accordance with Chapter III shall apply;

(b) the establishment of a process to offer firm bundled capacity in accordance with Chapter IV shall have priority;

(c) functionalities for network users to offer and obtain secondary capacity shall be provided;

(d) in order to use the services of the booking platforms network users shall accede to and be compliant with all applicable legal and contractual requirements that enable them to book and use capacity on the relevant transmission system operators' network under a transport contract;

(e) capacity at any single interconnection point or virtual interconnection point shall be offered at not more than one booking platform.

3. The establishment of one or a limited number of joint booking platforms shall facilitate and simplify capacity booking at interconnection points across the Union for the benefit of network users. To that end, ENTSOG shall, within six months after the entry into force of this Regulation, carry out a public consultation to identify the market needs. The consultation process shall last no more than six months, including the publication by ENTSOG of a report with the results of the consultation. The report shall identify options to implement the indicated market needs, having regard to costs and time, with a view to implement the most appropriate option, by transmission system operators or third parties on behalf of them. Where appropriate, ENTSOG and the Agency shall facilitate this process.

Full text of Regulation 984/2013 establishing a Network Code on Capacity Allocation Mechanisms in Gas Transmission Systems (CAM NC) can be found at the [ENTSOG website](#).