



Roadmap for the early implementation of the Capacity Allocation Mechanisms Network Code

Final version

1 March 2013

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1. Executive Summary

The XXI Madrid Forum of 22-23 March 2012 called upon *“TSOs, with the full involvement of relevant NRAs and Member States, to work towards setting up a number of regional pilot projects and regional pilot platforms”* for the early implementation of the Network Code on Capacity Allocation Mechanisms (hereafter CAM NC).

A draft Roadmap was presented at the XXII Madrid Forum of 2–3 October 2012. Participants invited ACER and ENTSOG *“to promote the convergence of the ongoing projects to avoid duplication of costs, as well as to report on progress of implementation at its next sessions”*.

The aim of this document is to set out the so-called ‘Roadmap’ for early implementation of the CAM NC via pilot projects, paving the way toward the achievement of the internal energy market in 2014 and allowing for the early implementation of the provisions of the CAM NC before it enters into force. All parties involved - ACER, ENTSOG, European Commission, TSOs and NRAs – have cooperated closely in the elaboration of this Roadmap, starting from the experience gained through the existing CAM pilot projects.

Early implementation of CAM NC provisions can potentially promote, on the one hand, significant progress towards the internal market by 2014 and, on the other hand, opportunities to share knowledge about the experience gained during pilot projects and full implementation projects.

The Roadmap aims to support this knowledge sharing by:

- Providing background information about the Roadmap elaboration process, by describing when and how it was decided to carry out such Roadmap and the main steps of the process leading to its development;
- Outlining the governance structures during its implementation stage, i.e. the organizational arrangements that can help to oversee and facilitate the implementation process;
- Describing roles and responsibilities for all parties involved in developing and facilitating pilot projects;
- Providing an overview of this implementation process:
 - reporting on how current projects are implementing key provisions of the CAM NC;
 - presenting an implementation timeline;
- Mapping the geographical scope of the projects;
- Reporting the implementation challenges and issues identified by project participants;

- Listing key factors that have been identified as contributing to the success of early implementation efforts;
- Eventually enabling the convergence of current (or yet to be started) pilot projects towards integrated solutions.

The Roadmap will first focus on the governance of the pilot projects i.e. how all parties involved will relate and communicate in order to monitor and facilitate these projects. Subsequently details on the implementation of the pilot projects will be described.

This first complete version of the Roadmap has been finalised during January 2013. It will subsequently be updated as necessary, and at least once at the end of 2013, to reflect progress in the early implementation of the CAM NC.

The diagram below is intended to give an overview of the main steps and targets to be reached during 2013, as part of the early implementation of the CAM NC within the EU. These include:

- Key milestones in the pilot projects forming the building blocks for this Roadmap (more details in section 2); and
- Steps envisaged as part of the governance process, to support the projects in attaining their goals (more details in section 1).

The table in the next page shows targets only for 2013. This table, together with the remainder of the Roadmap, will be revised by the end of that year in order to respond better to the different needs arising from subsequent phases of the projects' implementation.

KEY ACHIEVEMENTS BY END 2012

- Joint European platform PRISMA announced – 19 TSOs and 7 countries now involved in intensive development work
- Completion of the Hungarian-Romanian platform for capacity allocation;
- Firm and interruptible yearly and monthly bundled capacity products auctioned at the newly created VIP between Spain and Portugal;
- Bundled products offered at four interconnection points in NW Europe and at Austria-Italy IP

2013

Jan – Feb – March

April – May - Jun

July – Aug - Sept

Oct - Nov - Dec

PROJECT MILESTONES

- New company launched to manage PRISMA platform
- Harmonised VTP access starts as part of HU-RO project

CAM ROADMAP

Full version of the Roadmap agreed between ACER and ENTSOG
Integration of available information on all EU IPs which are implementing CAM NC

CAM Coordination group MEETING

NRAs, TSOs, ACER, ENTSOG, EC: to share information on projects' implementation, exchange views both on regulatory and technical aspects, identify problems and discuss possible solutions

Stakeholders group MEETING

To promote transparency, involve and engage EU stakeholders

Preparation for Madrid Forum

PROJECT MILESTONES

- First daily, monthly, quarterly and annual capacity auctioned via PRISMA platform
- First annual quarterly bundled capacity auction at Lasow IP
- First monthly bundled capacity on HU-RO interconnector

APRIL- XXIII MADRID FORUM

Presentation of the progress made by the CAM Roadmap with a particular focus on the goals already achieved in this respect by April 2013

CAM ROADMAP

ACER/ENTSOG review of Roadmap taking account of developments during H1 2013

PROJECT MILESTONES

- Further standard capacity products introduced on HU-RO interconnector

CAM Coordination group MEETING

Review progress and identify targets of the CAM Roadmap for 2014

Stakeholders group MEETING

Preparation for Madrid Forum

OCTOBER - XXIV MADRID FORUM

Presentation of the progress made by the CAM Roadmap with a particular focus on the goals already achieved in this respect by October 2013

CAM ROADMAP

Review of Roadmap to reflect developments during 2013

PROJECT MILESTONES

- To be confirmed

*...To be continued
in 2014...*

2. Background

In 2012 the Gas Regional Initiative experienced a step-change in pace with the launch of the Implementation Roadmap of capacity allocation mechanisms (CAM Roadmap). The Roadmap has the goal of fostering the early implementation of the provisions from the Network Code on capacity allocation mechanisms (CAM NC), before it becomes legally binding with its adoption through the so-called *Comitology* process in 2013. For that purpose, the Roadmap will identify and monitor sequential steps of implementation through pilot projects at cross-border interconnection points in EU Member States, which will test the NC provisions, hence paving the way towards the timely implementation of the CAM NC across Europe. The early implementation is a voluntary process and will rely on the commitment of TSOs and NRAs involved in the above pilot projects, as well as on the support of ACER, ENTSOG, the European Commission and stakeholders.

Early implementation of CAM NC will offer the opportunity to draw lessons from the experience gained during pilot projects' implementation in order to support and encourage further work and therefore promote significant progress towards the creation of the gas internal market by 2014. To achieve this goal the Roadmap intends to: (i) provide an overview of projects currently under development, (ii) share information, in particular on best practices, and identify issues and propose common solutions where possible, (iii) set targets for future work within the scope of the Roadmap, (iv) describe roles and responsibilities for all the parties involved in the development of the pilot projects and (v) promote, to the extent possible, convergence of the pilot projects towards a coherent implementation of the CAM NC provisions with the same understanding across the different projects throughout Europe.

The XXII Madrid Forum endorsed this initiative and invited the actors involved (namely, ACER, ENTSOG, NRAs and TSOs) to proceed with the implementation of the CAM NC and the development of the Roadmap, while making sure that convergence among the on-going projects is promoted so as to avoid delays and duplication of efforts and costs. In order to achieve this goal it is essential that the Roadmap is articulated in such a way as to favour a coherent execution across Europe of the voluntary CAM pilot projects launched by TSOs.

The Roadmap which will be described herein after is articulated in two parts. The first one will describe the organizational and governing framework, namely how all parties involved in the Roadmap will relate and communicate with each other in order to facilitate a smooth implementation of CAM pilot projects. The second part will first illustrate the timeline for implementation of each pilot project, together with a description of the network code provisions which will be contextually implemented by those projects, and secondly will present the main steps and milestones of the Roadmap to be undertaken until 2014.

3. Governing Arrangements

3.1. Need to update the current governing structure

The CAM Roadmap represents a novelty in the context of the Gas Regional initiative since it focuses on a cross-regional dimension, which is essential to increase consistency between and across the work of the regions and thus efficiently pave the way to the completion of the internal market by 2014.

The introduction of this cross-regional approach will be favoured if the parties involved in the projects' implementation build upon the work already done and share the results obtained across the three regions in order to identify best practices and efficient market-tested solutions.

The CAM Roadmap does not intend to add unnecessary bureaucracy; indeed it aims to build as much as possible upon existing structures and it takes into account the experience gained at regional level through structures such as the Regional Coordination Group (RCC), the Stakeholders Group (SG), the Implementation Group (IG) and others. However, it is time to add an additional EU-wide dimension, able to promote cross-regional coordination among projects, collaboration between ACER and ENTSOG and a framework for information and consultation to relevant stakeholders of the European gas sector.

Indeed, the Roadmap is a tool to facilitate the early implementation of CAM NC by:

- Promoting experience sharing and exchange of lessons learned between existing and future pilot projects voluntarily launched by TSOs and NRAs;
- Ensuring that lessons drawn from the implementation of pilot projects are carefully considered when the identification of solutions to problems related to the implementation of another project is required;
- Informing adequately all interested stakeholders about the ongoing process;
- Enabling ACER and ENTSOG to monitor the whole process, as requested by the Madrid Forum, ensuring the coherence of solutions adopted by the different projects, avoiding the duplication of costs and aiming to facilitate and enable the early implementation of the CAM NC.

3.2. Roles and responsibilities within the new framework

The main pillars of the CAM Roadmap are represented by pilot projects. Parties involved in each pilot project are the best placed to decide on the organizational structure that suits them best (i.e. using the current regional groups – RCC, SG, IG – if they wish, or setting up ad-hoc groups). For the sake of simplicity, the groups managing each pilot project will be identified in this CAM Roadmap document as “Core Groups”.

Each **Core Group** is made up of TSOs implementing a pilot project and responsible NRAs. They may also collaborate with relevant stakeholders to exchange views on the project features. The Core Group oversees pilot project implementation and it mainly deals with the identification of national requirements and the resolution of technical and legal questions related to the project.

In order to favor coordination at cross-regional level, each Core Group will be invited to appoint two (or more) representatives (at least one from the NRAs and one from the TSOs) which will have the task to report on progress made, obstacles faced, solutions adopted and identified issues of general interest. The latter encompasses issues that need to be discussed at EU level because they may affect other projects.

The cross-regional coordination is ensured by two new groups, namely: an **EU Stakeholders Group** and a **CAM Coordination Group**. These groups will work in close cooperation with ACER and ENTSOG which have the important role of promoting and facilitating a consistent implementation of the CAM projects across Europe concomitantly to the market developments of each gas region.

The **EU Stakeholders group** comprises representatives of the European Commission, ACER, ENTSOG, Member States, NRAs and TSOs representing the pilot projects (as well as other NRAs and TSOs interested), the Lead Regulators of the three gas regions and stakeholder associations, and has the aim to:

- Involve and engage EU stakeholders;
- Promote a high level of transparency in each step of the implementation process.

The **CAM Coordination group** encompasses EC, ACER, ENTSOG and NRAs and TSOs representing the pilot projects. Member States have also the possibility to participate; other interested NRAs and TSOs may be invited as well. Its main aim is to facilitate the implementation process by:

- Building a common understanding on how to apply NC provisions;
- Identify and exchange best practices among participants and anticipate any issue or complexity arising from the implementation process, so as to promote the adoption of the most effective solution or solutions building upon the work already done;

- Monitor the developments of the projects' implementation according to the objectives and timeline set in the Roadmap;
- Discuss the evolution of national regulations aimed at ensuring consistency between the pilot projects;
- Support projects facing problems and/or delays which might arise in the course of the projects' implementation, by helping to identify and promote solutions. The aim will be to resolve problems swiftly and with a consensual approach.

This new framework and the interaction between the different groups can be represented as shown in the following figure:

Core Group Project 1



Core Group Project 2



Core Group Project 3



Reasoned information

CAM COORDINATION GROUP EC/ACER/ENTSOG/NRAs/TSOs

ACER
Agency for the Cooperation
of Energy Regulators



entsog
european network
of transmission system operators
for gas

EU Stakeholders Group

4. Implementation

4.1. Scope of projects related to CAM NC provisions

The following table summarizes the pilot projects currently taking place in Europe. A fuller description of each project can be found in the Annexes.

	PROJECT NAME	Project description	Countries involved	TSOs involved
1*	PRISMA	Common platform for the allocation of capacity according to CAM NC rules. Implementation will be progressive starting in April 2013.	Austria, Belgium, Denmark, France, Germany, Italy, Netherlands (at present)	Bayernets, BOG, Energinet DK, Fluxys Belgium, FluxysTenp, Gascade, Gas Connect Austria, GRTgaz, GRTgaz Deutschland, GTS, GTG Nord, GUD, Nowega, Ontras, Open Grid Europe, Snam Rete Gas, TAG, Terranetsbw, Thyssengas (open to other TSOs)
1a**	Bundled product at Oude Statenzijl	Cross border auctioning and bundling of day ahead capacity	Germany, Netherlands	GUD, GTS
1b	Bundled product at Eynatten	Firm bundled day-ahead capacity allocated as requested in both directions	Belgium, Germany	Fluxys Belgium, Open Grid Europe
1c	Bundled product at Taisnières H	Bundled day-ahead capacity allocated as requested in both flow directions (firm and interruptible from Belgium to France and backhaul from France to Belgium); bundled month-ahead capacity allocated as requested from Belgium to France	Belgium, France	FluxysBelgium, GRTgaz
1d	Bundled product at Obergailbach	Firm bundled day-ahead and month-ahead capacity allocated as requested in both flow directions	France, Germany	GRTgaz, GRTgaz Deutschland
1e	Bundled capacity allocation at Tarvisio-Arnoldstein	Firm and interruptible bundled day-ahead capacity allocated in both flow directions	Austria, Italy	TAG, Snam Rete Gas

2	Bundled Product at Lasów	Allocation of bundled quarterly product according to CAM NC rules	Germany, Poland	Ontras, Gaz-System
3	Bundled Product and Capacity Platform - Hungary/Romania	Allocation of firm rolling monthly bundled capacity on the HU-RO interconnector via the Booking Platform according to the CAM NC	Hungary, Romania	FGSZ, Transgaz (open to other TSOs)
4	Annual Transmission Capacity Auction at the VIP between Portugal and Spain – 2012-2013	Allocation of firm and interruptible yearly and monthly capacity as a bundled product via auctions at a newly created virtual interconnection point	Portugal, Spain	REN, Enagas

* Some functionalities provided by the platform may not be adopted by all connected TSOs during the voluntary phase of CAM implementation. The information below shows which of these elements are being implemented at which IPs.

** The projects listed under the PRISMA Project (1a – 1e) are projects that already existed in December 2012.

The following table reports on:

- Provisions already in place by the end of 2012 (marked with one ✓)
- Key provisions of the CAM NC that current projects are already planning to implement by the end of 2013 (marked with two ✓✓)
- Key provisions of the CAM NC that current projects are already planning to implement by the end of 2014 (marked with three ✓✓✓).

As early implementation of the CAM NC is voluntary, it should be noted that the table does not represent an assessment of implementation compliance by ACER or ENTSOG but instead is intended to give an overview of the scope of projects in progress and the approaches taken.

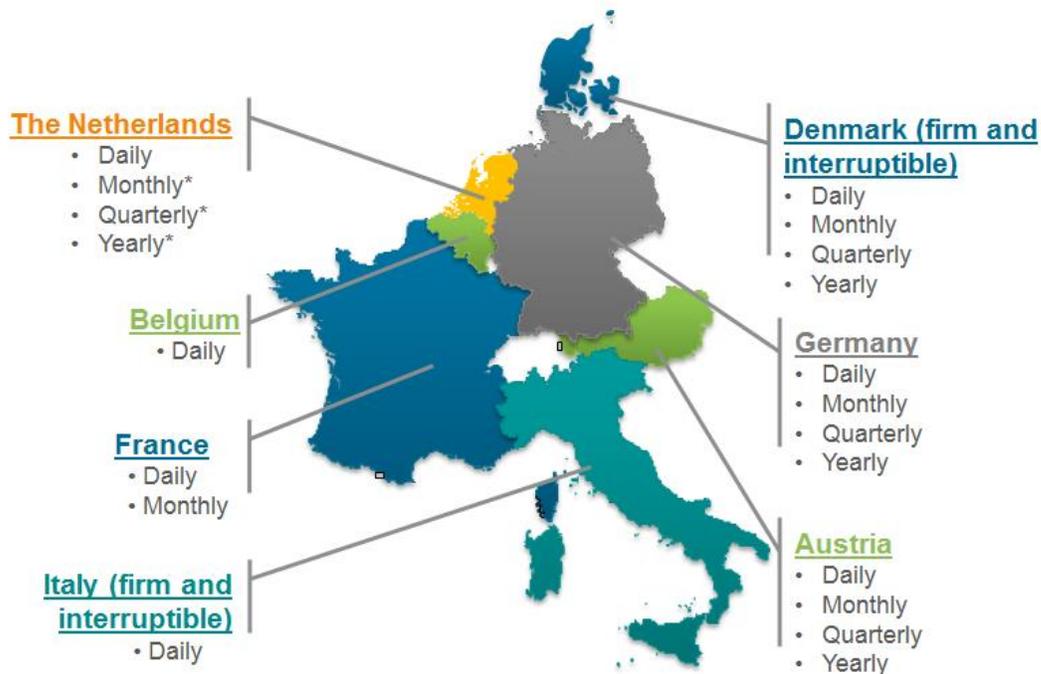
CAM NC Provisions		Projects	PRISMA ¹	Bundled Product at Lasów	Bundled Product and Capacity Platform - Hungary/Romania	Spain/Portugal annual capacity auction
Platform	Joint, anonymous, web-based platform established		✓ ✓	✓ ✓	✓	
	Using already existing platforms		✓	✓ ✓		
	Web-based platform not yet used					✓
	Platform offers secondary capacity		✓ ✓		✓ ✓	
Standardised Bundled Capacity Products (Firm Products)	Yearly		✓ ✓	✓ ✓ ✓	✓ ✓	✓
	Quarterly		✓ ✓	✓ ✓	✓ ✓	
	Monthly		✓ ✓	✓ ✓ ✓	✓ ✓	✓
	Day Ahead		✓ ✓	✓ ✓ ✓	✓ ✓	
	Within-day		✓ ✓	✓ ✓ ✓	✓ ✓	
Auction timings	Auctions used		✓ ✓	✓ ✓	✓ ✓	✓
	Other allocation method currently used					
Auction timings	CAM timings		✓ ✓	✓ ✓	✓ ✓	
	Other auction timings					✓

1 Some functionalities provided by the platform may not be adopted by all connected TSOs during the voluntary phase of CAM implementation. The information below shows which of these elements are being implemented at which IPs.

CAM NC Provisions		Projects	PRISMA ¹	Bundled Product at Lasów	Bundled Product and Capacity Platform - Hungary/Romania	Spain/Portugal annual capacity auction
Auction algorithm	Ascending clock algorithm for yearly, monthly, quarterly products		✓ ✓	✓ ✓	✓ ✓	
	Uniform price algorithm for day-ahead, within-day products		✓ ✓	✓ ✓ ✓	✓ ✓	
Bundling	Bundled product offered		✓ ✓	✓ ✓	✓ ✓	✓
	All capacity offered as bundled to the extent it can be matched		✓ ✓	✓ ✓	✓ ✓	✓
	Follows CAM NC rules on offer of unbundled capacity		✓ ✓		✓ ✓	
	Virtual Interconnection Point established		Not applicable	Not applicable	Not applicable	✓
Nomination	CAM Centralised Approach (i.e. Single Nomination)				✓ ✓	
	Decentralised Approach (i.e. double nomination)					✓
Interruptible	Day-ahead product offered		✓ ✓		✓ ✓	
	Other interruptible products offered		✓ ✓			✓
	Default interruption lead time used		✓ ✓ (At discretion of TSOs)			
	Other interruption lead time used		✓ ✓ (At discretion of TSOs)			✓

CAM NC Provisions		Projects	PRISMA ¹	Bundled Product at Lasów	Bundled Product and Capacity Platform - Hungary/Romania	Spain/Portugal annual capacity auction
	Timestamp + pro rata approach to interruption sequence	✓ ✓ (At discretion of TSOs)			At discretion of TSOs and NRAs involved	
	Other approach to interruption sequence	✓ ✓ (At discretion of TSOs)			At discretion of TSOs and NRAs involved	
Contract model	One contract with each TSO	✓ ✓	✓ ✓	✓ ✓	✓ ✓	✓
	Single contract					
Principles of co-operation	Co-operation practices in line with CAM NC		✓ ✓	✓ ✓		
	Other co-operation practices currently used					✓
Tariffs	Reserve price = regulated tariff	National discretion of TSOs and NRAs involved	✓ ✓	✓ ✓	✓ ✓	✓
	50:50 default rule applied for split of auction premium	National discretion of TSOs and NRAs involved	✓ ✓	✓ ✓	✓ ✓	✓
	Other rule applied for split of auction premium	National discretion of TSOs and NRAs involved				
	Over and under recovery mechanisms approved by NRA	National discretion of TSOs and NRAs involved			National discretion of TSOs and NRAs involved	

The following map summarizes the products that will be offered initially on the PRISMA Capacity Platform Project in each of the countries involved. This products list is the current status and it can be modified due to future TSO's internal evaluations and discussions with relevant NRA where necessary.



* Netherlands: auctions of monthly, quarterly and yearly products as of the end of 2013 (according to CAM calendar).

4.2. Implementation timelines at project level

General

Main Milestones	2011		2012				2013			
	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
CAM NC becomes legally binding									✱ (expected)	

CAM NC foreseen implementation period [subject to comitology]

Review of existing platforms and action plan for further convergence: to be published 24 months after its entry into force

PRISMA and current participants bundling initiatives

Main Milestones	2011		2012				2013			
	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
PRISMA				① ② ③ ④	③ ④ ⑥	③ ④ ⑤ ⑥ ⑦ ⑨	③ ⑦ ⑧ ⑨	⑧ ⑨	⑨ ⑩	⑨ ⑩
1a. Germany/Netherlands bundling project				✱						
1b. Germany/Belgium bundled product at Eynatten	✱									
1c. France/Belgium bundled product at Taisnières H		✱								
1d. France/Germany bundled prod. at Obergailbach			✱							
1e. Bundled capacity allocation at Tarvisio-Arnoldstein				◆				✱		

Joint platform

1. Announcement of initiative
2. Analysis of CAM NC requirements
3. Discussions with NRAs to ensure national regulatory context allows early implementation of CAM
4. Development of process and functional specifications
5. Development of ICT specifications
6. Foundation of new company
7. Implementation and testing
8. Prepare and implement go-live
9. Integration of new TSOs
10. Progressive implementation of new features (continues throughout 2014)

NW Europe bundling initiatives

- ⊛. Start of capacity offer

Bundled capacity allocation at Tarvisio-Arnoldstein

- ◆. Coordinated interruptible capacity allocation at both side of the IP allocated via auction on TAG system and with a corresponding nomination on SRG system
- ⊛. Start of Allocation of daily bundled capacity products (firm and interruptible) via joint platform

Bundled Product at Lasów

Main Milestones	2011		2012				2013			
	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Bundled Product at Lasów	1	1	2	2	3	4	4	7		
						5	5	8		
						6	7	9		

1. Discussions between NRAs and TSOs on nature and arrangement of the project
2. Concept paper developed and agreed
3. Reservation of capacities in the ONTRAS network
4. Development of Cooperation Agreement and Terms and Conditions for both networks
5. Agreement on IT solutions to implement the bundled product
6. Market consultation and Shipper Workshop
7. Implementation of IT infrastructure with respective platform and TSO interfaces complete
8. Testing and fine-tuning of the systems
9. Go live and first auctions (June 2013 auction for first three quarters of 2014)

Bundling product and capacity platform – Hungary / Romania

Main Milestones	2012				2013			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
HU-RO bundling and allocation			1 2	3	4	5	6 7	

1. Transgaz and FGSZ signed MoU in order to co-operate on 3rd energy package
2. Joint working groups established.
3. Platform for CAM-NC compliant offer of capacity completed and ready for use
4. Start of harmonising access rules involving both TSOs and NRAs
5. First capacity offer (monthly bundled capacity; 3rd Monday of June 2013)
6. Progressive introduction of further standard capacity products
7. Target for availability of further platform functions: handling of daily nominations and renominations; secondary capacity trading.

Annual Transmission Capacity Auction at the VIP between Portugal and Spain – 2012-2013

Main Milestones	2012			
	Q1	Q2	Q3	Q4
Spain-Portugal VIP	1	1 2	3 4 5 6	

1. Discussions with NRAs and agreement to develop a bundled capacity auction process
2. Finalisation and publication of associated documentation and corresponding approval by NRA's
3. Open Information Sessions for Shippers (Madrid and Lisbon)
4. Firm yearly product auctions: pre-qualification and qualification phases for shippers; capacity bidding window (24th-25th July)
5. Firm monthly product auctions: pre-qualification and qualification phases for shippers; capacity bidding window (10th-11th September)
6. Interruptible firm and monthly products auctions: qualification phases for shippers; capacity bidding window (17th-18th September)

This project will be extended during 2013 but the milestones are not defined yet.

4.3. Geographical scope of the projects

The following European map shows the IPs where currently there are pilot projects taking place:

PILOT PROJECTS	
	Bundling product at Lasow
	PRISMA & current participants bundling initiatives
	Hungary - Romania capacity bundling project
	Annual Transmission Capacity Auction at the VIP between Portugal and Spain



4.4. Review of issues related to CAM Implementation challenges

This section aims to analyse the issues with implementation that have been encountered in each of the projects in place or already planned and the barriers that may be faced by TSOs:

- **General issues (including those areas where pilot projects are not currently in progress)**

General issues and challenges

Stability of CAM NC	The likelihood that CAM NC will change somewhat during comitology leads to concerns that early implementation may result in wasteful expenditure, and hence a cautious approach by NRAs and TSOs in a number of countries.
Workload/ prioritisation	A large number of European and national initiatives are currently being developed and implemented. This means that some countries (e.g. some smaller countries and those with less experience of implementing European energy legislation) are fully occupied with cannot devote resources towards voluntary projects
Network user support necessary	Any change imposes costs on network users (e.g. costs of modifying their IT systems). Particularly in areas of zero or very rare contractual congestion, network users have sometimes been resistant to moves towards early implementation, as the current system in place may be easier and less costly for them.
Integration of back end systems	TSOs rely on a large number of complex, interconnected IT systems, the nature and structure of which differ considerably between countries. Integrating these systems with new front-end systems for the implementation of CAM is a costly and time consuming process and in some cases may be impossible to complete before the mandatory deadline for implementation of CAM.
Legality of CAM NC provisions	Early implementation requires that governments prioritise work on reviewing and granting requests for derogations or on amending legislation if needed.
Co-ordination with regulatory regime	There may be a reluctance in some cases to re-open regulatory settlements to allow early implementation of CAM
Co-ordination between neighbouring regimes	Due to the interconnected nature of their systems, TSOs generally have substantial experience in co-ordination with neighbouring companies. The development of similar co-operation between neighbouring NRAs is also essential for implementation; this is still under development in some cases.

- In those areas where pilot projects are already taking place:

Project	TSOs and NRAs involved	Review of issues
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PRISMA	<p>19 TSOs involved</p> <p>Other TSOs interested are welcome to join the project, as presented during a workshop on 4/5 Oct 2012</p>	<p>The early implementation of the CAM NC to such an extent in Europe requires a pragmatic and coordinated approach between the different NRAs and TSOs involved. Such a coordination is essential on e.g. the following points (not exhaustive list):</p> <ul style="list-style-type: none"> • Combined offer of bundled products at an IP • Definition of the big and small price steps at both sides of a border • Agreements on auction premium split <p>Also, experience has shown that the European NRAs' wish to converge towards a limited amount of platforms. This requires a governance process that needs to be agreed upon between the involved TSOs. Finally, IT developments, both for the implementation of the auction algorithms and for the connection of the IT tools with the respective back-ends of the parties active on the platform represent a huge amount of time, effort and money.</p>
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Bundled Product at Lasów	<p>Ontras and Gaz-System (TSOs)</p> <p>BNetzAand ERO (NRAs)</p>	<ul style="list-style-type: none"> • Agreement on concept and products to be offered during pilot (agreement on quarters) • Definition of specific supplementary access conditions • Agreement on platform approach (now PRISMA) • Technical/practical connection to platform and backend definition • Agreement what future capacity should be offered as bundled (not offered as unbundled in 2012)
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**Hungary -
Romania**

FGSZ and Transgaz
(TSOs)

In the CEE region, the general environment for the early implementation of the CAM NC, especially the introduction of bundled capacity allocation necessitate close cooperation between all TSOs and NRAs involved in the alignment of the below criteria:

- Network usage dimensions,
- Licensing for genuine capacity bundling (i.e. any Network User should have sufficient access to both transmission systems concerned),
- The issue of multi-currency environment should be addressed
- access rules for bundled capacity products,
- at least VTP should be accessible for Bundled Capacity owners.

HEO and ANRE (NRAs)

The Regional Booking Platform concept and IT solution – due to special regional regulatory, but also practical and financial reasons – was created focusing on the following principles reflecting the expectations of a large number of various stakeholders:

TSOs that operate an IP may accede to the Regional Booking Platform (RBP) both on user-only or on equal shareholding basis, immediately or at any later time. TSOs that join before 2014 are given the opportunity to take part in shaping the terms of the Joint Venture.

- High reliability (in order to accommodate Member State, NRA and customers' S.o.S. concerns),
- Scalability both in operations and offered services (on TSO request),
- Easy usage (on TSO and Network Users' request),
- Technical requirements for least cost/effort introduction, and short implementation time (on TSO and Network Users' request),
- Fair business model based on real cost drivers (TSO and NRA concern).

The Booking Platform particularly aims at offering services beyond primary capacity sales:

- Secondary Capacity Market services
 - Title Tracking
 - Anonymous Market Place
- Single nomination and allocation,
- Client Risk Management
- Comfort services.

Spain - Portugal

Enagas and REN
(TSOs)

CNE and ERSE (NRAs)

- Auctions are less flexible for shippers in Spain, where until now under FCFS they could subscribe capacity for any period, from one day to several years, freely choosing the starting and finishing date. The transition from a continuous FCFS system to an auction system is accepted but not warmly welcomed by shippers.
- It implies higher costs for shippers: at least the provision of financial guarantees to participate in the auction and the risk of a premium charge.
- Shippers also miss the possibility of securing “flat” capacity for a given period (different than one year).
- On the Portuguese side, this is the first time that capacity is offered on a firm yearly and monthly basis, while until now capacity could be freely booked up to day-ahead as an unbundled product.

- Also in Portugal, all booked capacity was charged as per use, while the new capacity sold through auction is due to be paid in advance through a contract arrangement.
- When the project was launched the main physical point was congested. Due to market and/or regulatory changes, at the time of applying the process there was no congestion, so a significant level of demand was not expected (why booking through this procedure and not before, or after?).

Despite these difficulties, the pilot has been very useful to identify which regulations had to be adapted, which documentation and processes had to be developed, and to raise awareness among shippers of the implications of the NC (“bundled capacity”, standard capacity products,...).

4.5. Key factors for success in early implementation of CAM

The following table lists identified key factors for success (KFSs) in early implementation of CAM NC based on observation of projects and interviewing project participants. The key factors have been identified in two separate groups: project specific factors and problematic issues of general interest. With regards to the first group, TSOs and NRAs have the role to identify and report on the steps needed in order to successfully implement the pilot project. For wider factors with European scope, these should be addressed within the structures described in the 'Governance' section.

Project specific factors	
Legal and regulatory environment	National regulatory rules shall allow for the early implementation of CAM (*)
Degree of coverage of CAM NC	Coverage of CAM NC requirements shall be as wide as possible Currently key aspects such as the offer of bundled capacity and the implementation of Coordinated auctions is developed in several pilot projects
Strong support from all parties	Strong commitment and support from all parties involved is needed (TSOs, NRAs, GRIs, ENTSOG, ACER, the EC, Member States and Network Users)
Coverage of costs	NRAs shall guarantee that the costs efficiently incurred by TSOs are covered e.g. by tariffs

* With regards to regulatory requirements: other pieces of legislation at national level that have an impact on CAM implementation shall be identified by TSOs and NRAs. TSOs and NRAs will monitor draft legislation in development and will highlight the pieces that need to be changed to allow CAM Implementation.

European factors (wider scope)

Share experiences	<p>The share of experiences allows opportunities for other TSOs to learn from experience gained in pilots</p> <p>It minimises the duplication of efforts and the existence of inefficient costs</p>
Stability of provisions in CAM NC	<p>Stability is especially important with regards to auction algorithms, due to its impact on the design of IT projects</p>
Geographical diversity	<p>Geographical diversity of pilot projects allows wide implementation of CAM NC in Europe</p>
Resources	<p>Ability of TSOs to devote resources to develop new solutions is also a required condition</p>
Convergence	<p>Progressive convergence of projects is strongly recommended</p>

ANNEX 1: PILOT PROJECTS MAIN FEATURES

A. PRISMA and current participating bundling initiatives

TSOs involved	Countries involved	Project description
19 TSOs involved: Bayernets, BOG, Energinet DK, Fluxys Belgium, FluxysTenp, Gascade, Gas Connect Austria, GRTgaz, GRTgaz Deutschland, GTS, GTG Nord, GUD, Nowega, Ontras, Open Grid Europe, Snam Rete Gas, TAG, Terranetsbw, Thyssengas	Austria, Belgium, Denmark, France, Germany, Italy, Netherlands (at present)	<ul style="list-style-type: none"> - Common platform for the allocation of capacity according to CAM NC rules. - Implementation will be progressive starting in April 2013, the main primary products will be offered since then. - The platform is open to all TSOs interested in the project.

Project Features

- The service company will operate the platform, carry out auctions and distribute the products on behalf of the TSOs.
- The shares & costs of the new company are distributed over the participating countries based on the ENTSOG voting rules.
- The platform will connect the different backend systems of the various TSOs using standard IT-communication interfaces.
- Requirements have been developed by TSOs and platform operators; the requirements have been evaluated by and discussed with IT specialists. **Implementation is on track.**
- Existing infrastructures will be effectively used to ensure cost efficiency.
- The currently existing platforms (TRAC-X, Capsquare& Link4Hubs) will be replaced by the new joint platform which will use all the benefits and collective experience of the current platforms.
- With the joint platform shippers will be able to book capacities at European network points through one single tool.
- In addition the platform will be able to handle regional regulatory specifics of different countries
- Secondary market features are also part of the project

Bundled product at Oude Statenzijl

TSOs involved	Countries involved	Project description
GUD, GTS	Germany, Netherlands	<p>Cross border auctioning and bundling of day ahead capacity.</p> <ul style="list-style-type: none"> - Products: Firm day-ahead bundled capacity Exit (GTS)-Entry (GUD) and vv. The interconnections points involved are: <ul style="list-style-type: none"> • GTS: Oude Statenzijl GUD H-gas and • GUD: Oude Statenzijl H - Platform: TRAC-X Primary - Start date: 22nd of May 2012

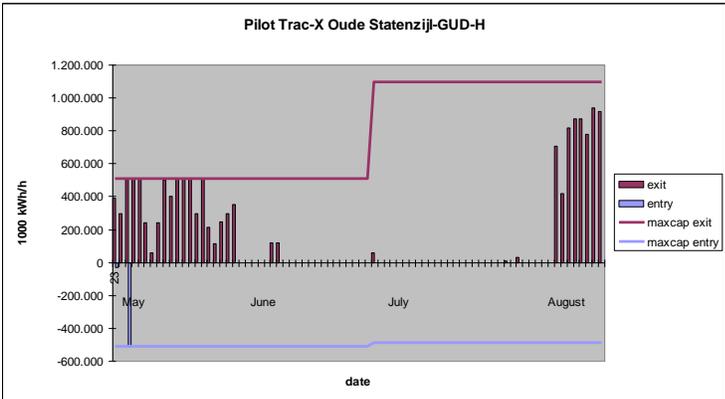
Background

- First cross border auctioning and bundling of day ahead capacity
- Relevant interconnection point for coupling TTF and GasPool. Possibly to extended to other points
- Gain experience with auctioning and bundling
- Get acquainted with all relevant (IT) processes
- First step towards full implementation of CAM

Project Features

- Capacity: Estimated day ahead, based on mutually agreed availability
- Auction window: Bid(s) to be offered between 3.30 until 4.30 p.m. (LET)
- Auction frequency: Each working day for the following day
- Capacity allocation: Uniform price algorithm (KARLA)
- Market clearing price: Sum of reserve price and clearing bid price

First results



Bundled product at Eynatten

TSOs involved	Countries involved	Project description
Fluxys Belgium, Open Grid Europe	Belgium, Germany	<ul style="list-style-type: none">- Firm bundled day-ahead capacity allocated as requested in both directions.- Product available since 15 Sep 2011- Interconnection Points involved: Eynatten 2

Project Features

- Firm bundled day-ahead capacity at Eynatten 2 in both flow directions
- Capacity allocated as requested (12:00-16:00 CET)
- Capacity amount varies daily, depending on physical situation in systems
- Marketing via capsquare, Fluxys-GRTgaz platform

Progress and lessons learned

- First H2H day-ahead product in Europe with high acceptance by traders due to:
 - Connection of liquid markets (Eynatten connects UK via Zeebrugge with NCG market area)
 - Price spread between Zeebrugge Hub and NCG VTP: some correspondence between price spread and day-ahead product bookings can be observed
 - Long-term capacity nearly fully booked
- 1 Apr 2012: OGE increases amount of bundled day-ahead capacity by additional offer of unsold long-term capacity
- Since 1 October 2012, ZTP instead of Zeebrugge Hub
- Currently 13 shippers registered

Bundled product at Taisnières H

TSOs involved	Countries involved	Project description
Fluxys Belgium, GRTgaz	Belgium, France	<ul style="list-style-type: none">- Bundled day-ahead capacity allocated as requested in both flow directions (firm and interruptible from Belgium to France and backhaul from France to Belgium)- Bundled month-ahead capacity allocated as requested from Belgium to France.- Allocated as requested (12:00-16:00 CET)- Interconnection Points involved: Blaregnies/Taisnières H

Project Features

- Marketing via capsquare, Fluxys - GRTgaz platform
- Product available since Nov 2010 (month-ahead) & Dec 2011 (day-ahead)
- First H2H month-ahead product in Europe that enables:
 - Connection of liquid markets (Taisnières H connects Zeebrugge Hub with PEG Nord)
 - Price spread between Zeebrugge Hub and PEG Nord
- Since 1 October 2012, ZTP instead of Zeebrugge Hub
- Currently around 20 shippers registered

Bundled product at Obergailbach

TSOs involved	Countries involved	Project description
GRTgaz, GRTgaz Deutschland	France, Germany	<ul style="list-style-type: none">- Firm bundled day-ahead capacity at Obergailbach in both flow directions- Firm bundled month-ahead capacity at Obergailbach from France to Germany- First committed, first served principle (12:00-16:00 CET)

Project Features

- Marketing via capsquare, Belgian-French platform
- Product available since Jan 2012 (month-ahead & day-ahead)
- Benefits of the product
 - Connection of liquid markets (Obergailbach connects PEG Nord with ZEEB)
 - Price spread between PEG Nord and ZEEB
- Currently around 20 shippers registered

Bundled capacity allocation at Tarvisio-Arnoldstein

TSOs involved	Countries involved	Project description
TAG, Snam Rete Gas	Austria, Italy	Anticipated implementation of CAM Network Code via a proposal for day-ahead capacity allocation at Austria-Italy IP in order to better connect Baumgarten and PSV hubs. - Firm and interruptible bundled day-ahead capacity allocated in both flow directions. - IP involved: Arnoldstein/Tarvisio

Background

In July 2011 TAG and SRG have developed a joint procedure for the coordinated interruptible capacity allocation at both sides of the IP being assigned via auction on TAG system and with a corresponding nomination on SRG system. At the beginning of 2012 the concerned NRAs and TSOs have started to work on the early implementation of CAM NC for the allocation of day-ahead capacity.

Project Features

A joint task force has been established amongst NRAs and TSOs. Joint guidelines related to the adoption of the CAM NC provisions have been developed by the NRAs and shared for comments with the involved TSOs, which have been subsequently formally consulted in autumn 2012. The Joint guidelines are intended to provide the required regulatory background to TAG and SRG for the early implementation of the CAM NC provisions concerning day-ahead capacity.

The project has been presented in the SSE GRI and warmly welcomed by stakeholders.

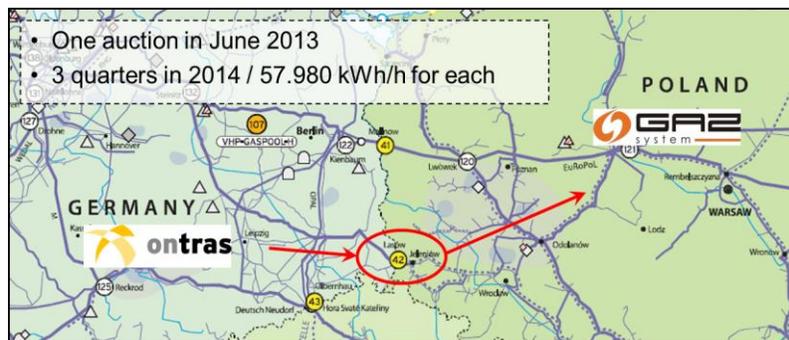
SRG and TAG have taken part to the establishment of the Joint capacity platform through which they will offer bundled day-ahead capacity product at Arnoldstein/Tarvisio.

Next steps

- Joint Guidelines (consulted with stakeholder during October 2012) will be published in early 2013. Network Code and Terms & Conditions will be consequently updated in order to implement the new provisions.
- Start the allocation of daily bundled capacity products (firm and interruptible) according to the CAM NC provisions by April 2013.
- Extension to other IPs of the Italian system and to other products will be evaluated by AEEG and SRG after the launch of the day ahead bundled product at Arnoldstein/Tarvisio IP.

B. Bundled Product at Lasów

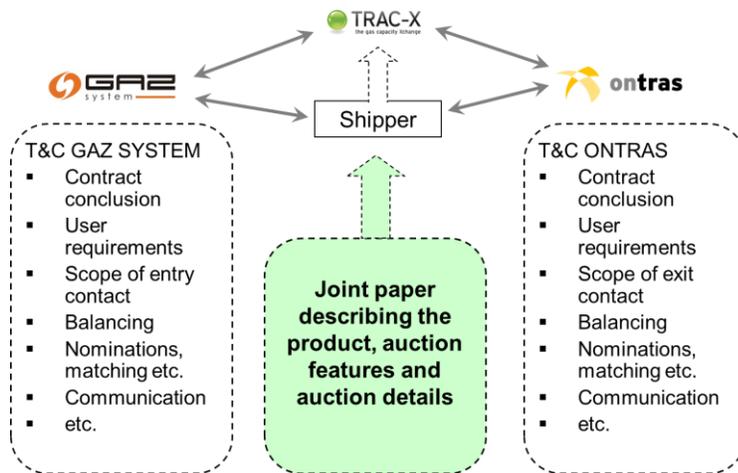
TSOs involved	Countries involved	Project description
Ontras,	Germany,	Allocation of bundled quarterly product according to CAM NC rules. The aims of the project are: <ul style="list-style-type: none"> - Define how a bundled capacity product can be implemented between Germany and Poland. - Early implementation of CAM NC rules (for selected products during pilot phase). - Via a pilot phase, test if and how further bundled products can be offered. - Learn from experiences for future cooperation/development stages. - Work towards the integration of the European gas market.
Gaz-System	Poland	



Project Features

- During the pilot phase, the TSOs will offer quarterly capacity products for the first three quarters of 2014.
- The auction will be carried out on the basis of the CAM NC
- The implementation of additional CAM NC products is already discussed

Contract set up



Achievements

- Concept paper agreed with national regulators in summer 2012
- Capacity to be bundled in the future agreed
- Cooperation Agreement finalized
- Specific Terms & Conditions developed
- Joint Product Description Paper published
- Service Agreement with TRAC-X nearly finalized
- Market consultation held from 5th until 23rd of November 2012 including a Shipper Workshop on 15th November

Next steps

- Finalize and publish the Terms & Conditions of both TSOs (after consultation)
- Develop a Shipper Manual how to register with the TSOs/platform and how to auction the capacity
- Additional shipper meetings planned for early 2013
- Realize the technical connection to the platform
- Shipper registration planned during April and May 2013
- Auction of the capacities in June 2013

C. Hungary-Romania capacity bundling and allocation project

TSOs involved	Countries involved	Project description
FGSZ,	Hungary,	Allocation of bundled capacity on the HU-RO interconnector via Booking Platform according to the CAM NC.
Transgaz	Romania	The HU/RO interconnector went operational in fall 2010. The project was eligible for EEPR funding. It serves the purposes of both security of supply and market facilitation.

Background

- Transgaz and FGSZ signed a MoU in July 2012 in order to cooperate on 3rd Energy Package issues as well, establishing five joint working groups for:
 - Capacity bundling (pilot project)
 - Alignment of network usage dimensions
 - Alignment of operational balancing
 - Alignment of commercial balancing
 - Enabling bidirectional gas flow

Project Features

Phase I – lifting barriers and introducing short term bundled products that are allocated via Booking Platform

- Development of the Romanian VTP under discussion
- Harmonized VTP-VTP access rules involving NRAs (HEO and ANRE) in order to enable genuine capacity bundling,
- Simplified licensing process
- Harmonization of gas day (according to CAM NC)
- Bundling of the following products according to CAM NC auction calendar
 - Monthly capacity and Day-ahead capacity
 - Allocation of bundled capacities via Booking Platform
 - Synchronised and simplified nomination rules

Phase II – introducing all standardised products

- Bundling of Within-Day capacity, Quarterly capacity and Yearly capacity
- Introducing additional services e.g. secondary capacity transactions, all nominations via the Booking Platform

„RBP” Regional Booking Platform

- The Regional Booking Platform (RBP) was especially developed in order to comply with the CAM NC requirements. The RBP is a stand-alone software, a ready-to-implement, fully CAM NC compliant solution.
- The RBP has a web-based functioning as a thin client, i.e. TSOs and Network Users can continue using their existing back-end systems, there is no or almost no back-end development requirement due to the RBP software design. This solution ensures the most overall costs efficiency considering the vast variety of existing TSO and Network User back-end systems.
- High-performance scalable design that can accommodate in theory all simultaneously running auctions of all the European IPs at the same time.
- High reliability criteria are defined
 - permanently available test environment for new releases,
 - at least 99.95% availability,
 - continuously running backup service at a different physical site,
 - security is ensured through https connection and user authentication issued by trusted provider,
- Open-end development, i.e. new European or national regulatory requirements or TSO business ideas can be added in a flexible way.
- From a technical point of view, it is ready to be used, however the actual start of the platform depends on when harmonized national rules enable its usage (see the Main Milestones section).
- Available functions as of 5th January 2013:
 - All Phase I & II capacity products are available for booking,
 - CAM NC auction algorithms (uniform price and ascending clock),
 - Auction calendar (automatic and manual),
 - System and business entity setup
 - TSO setup,
 - Capacity available for bundling,
 - Network User credit limit.
 - IP setup,
 - Network User setup,
 - Indication of active IPs,
 - Licensed shippers checked by TSOs,
 - Network User representative authentication.
 - Capacity bundling and capacity roll-over,
 - Credit risk management.

- Planned functions to become available in H2 2013, with the start of gas flows
 - Handling of daily nominations and renominations
 - Allocation
 - Secondary capacity trade
 - OTC
 - Anonymous, exchange-like capacity trading
- Other functions under development:
 - Customizable interfaces for different TSO IP and network user front-end solutions, if required

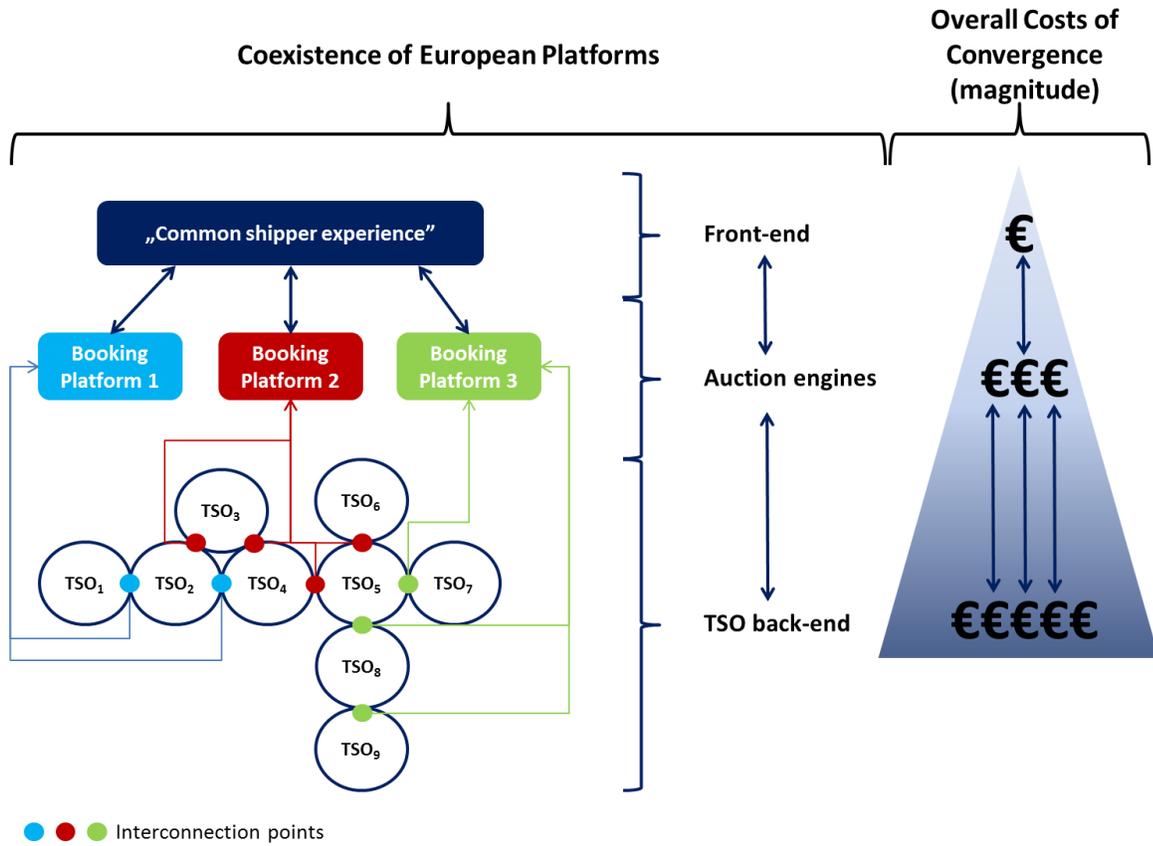
Concept of Platform Convergence

TSO back-end IT solutions widely vary in depth and complexity in the CEE region. An approach that envisages the full uniformisation (i.e. a unified solution for front-end, auction engine and back-end) would require much longer implementation time and considerably more resources where differences are large among individual TSOs. We find it crucial to develop answers tailored to the specific needs of market participants, including network users and TSOs. Such typical issues include licensing in the region, multi-currency and multi-regulatory environment or the handling of credit risk.

In other commodity markets, it is a common practice to use one or more front-end systems that are compatible with a number of back-end systems. The reason for such network architecture is not only to save IT development and IT operation costs but also to serve as a risk minimisation strategy in case of unforeseen events that prevent the usage of one or more solution. In addition, the usages of some specific TSO back-end systems are critical from security of supply point of view, therefore any modification of such systems should be handled with utmost care.

We understand that it is important to offer a “common shipper experience.” In our view, this can be sufficiently and most cost-efficiently achieved by opting for the convergence of the capacity booking front-end solutions only, i.e. a common website or mask that offers as many bookable IPs as possible but enables different platforms to run the respective auction behind it. From a Network User point of view, there is no difference between the reduction of the number of the booking platforms (meaning BP solutions from front-end to back-end) or the usage of a common front-end (mask).

Based on the above mentioned, please see the following illustration of how booking platforms can co-exist in Europe and where convergence could take place in the most cost-efficient way.



D. Annual Transmission Capacity Auction at the VIP between Portugal and Spain – 2012-2013

TSOs involved	Countries involved	Project description
REN,	Portugal,	Allocation of firm and interruptible yearly and monthly capacity as a bundled product via auctions at a newly created virtual interconnection point.
Enagas	Spain	<p>The following interconnection points are integrated into one VIP.</p> <ul style="list-style-type: none"> • Valença do Minho (PT) / Tuy (ES) • Badajoz (ES) / Campo Maior (PT)

Project Features

- Products offered:
 - Capacity offered for the gas year 1st Oct. 2012 to 30th Sep. 2013
 - Existing entry and exit capacity between Spain and Portugal as a bundled product, in both flow directions;
 - Yearly and monthly firm products offered
 - Yearly and monthly interruptible products offered if more than 95% of firm capacity for the firm product(s) for that period and flow direction has been allocated at the previous Firm Products Auctions.

Evaluation of the process (I)

- In the first round of auctions in autumn 2012, no capacity was allocated.
- The transition from a continuous FCFS system to an auction system is accepted but not warmly welcomed by shippers, at least in environments where congestion and lack of competition are not the primary concerns.
- It implies higher costs for shippers: at least the provision of financial guarantees to participate in the auction and the risk of a premium charge.
- Auctions are less flexible for shippers in Spain, where until now under FCFS they could subscribe capacity for any period, from one day to several years, freely choosing the starting and finishing date.
- Shippers also miss the possibility of securing “flat” capacity for a given period (different than one year).

- On the Portuguese side, this is the first time that capacity is offered on a firm yearly and monthly basis, while until now capacity could be freely booked up to day-ahead as an unbundled product, and no congestion was present.
- Also in Portugal, all booked capacity was charged as per use, while the new capacity sold through auction is due to be paid in advance through a contract arrangement.
- When the project was launched the main physical point was congested. Due to market and/or regulatory changes, at the time of applying the process there was no congestion, so a significant level of demand was not expected (why booking through this procedure and not before, or after?).
- Despite these difficulties, the pilot has been very useful to identify which regulations had to be adapted, which documentation and processes had to be developed, and to raise awareness among shippers of the implications of the NC (“bundled capacity”, standard capacity products...).