



ROADMAP FOR MARKET DEVELOPMENT

Abstract

*This document is the Roadmap for Market Development for the
period 2019-2024*

Date – December 17th 2019

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Executive Summary

The *Roadmap* is the second illustrated overview of the market development path for the wholesale market for electricity. A link to the first Roadmap can be found [here](#).

It is organised into four main sections: Ex-Ante, Capacity, Balancing and Settlement. The forwards markets are outside the scope of the Roadmap. The main objectives are to show Market Participants the priorities with regard to the markets, to present a clear picture of the features being added and to show what the implications are over time of changes to the priorities. The Roadmap is published every six months and Market Participants have the opportunity to feed into the priorities. It is not licence mandated, and the work included is still the subject of various price control submission processes which have not been concluded. However it represents the best information at this time. Many of the projects are in the long term and as with all Roadmaps are subject to change. Market Participants are invited to give feedback which will be considered for subsequent Roadmaps.

The Market Operator development strategy continues to be to primarily improve the stability of the overall service offering and to add to the services where this can be achieved without impacting on stability. Further stability is being achieved in three ways. Firstly by addressing outstanding defects, secondly by improving the robustness of certain systems and thirdly by improving the performance of the systems.

As promised in the first version of the Roadmap there are a number of projects which have commenced to add to the service offering. There have been a number of developments in the Ex-Ante Markets. Work on Intraday GB Multi-Nemo arrangements have been completed and delivered as outlined in the earlier Roadmap.. Work has also commenced on Registration and Transfer Improvements, Additional Products and Website Improvements. Two later projects will address EU Coupled Intraday offerings. Data from the Ex-Ante and Balancing Market will be analysed during 2020 in an evidence based review to determine if additional improvements are needed. The timing of the work has changed from the first version of the Roadmap.

The Capacity Market will include work on State Aid Decisions, Secondary Trading and improvements to the Market Participants experience on the auction platform. Work may also be done on the Optimization of auction results due to amendments to the auction algorithm following regulatory decisions. The latter project has been brought forward in this version.

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Repricing and Resettlement functionality is currently being developed and tested with repricing due to start in Q1 2020. Note that projects that may directly result from Brexit have not been included in the Roadmap but may be added in later versions when they have been more clearly identified and scoped.

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Introduction

This document outlines the November 2019 Roadmap for Market Development (“the Roadmap”) for the period 2019-2024 across all I-SEM markets to include Ex-Ante, Capacity, Balancing and Settlement. Given the importance of the Settlement function and in the interest of transparency it is split out as a separate category or product line.

One of the objectives of the Roadmap is to give Market Participants a high level overview of the main features and functional changes that are being planned for each market during the period 2019-2024. While all reasonable effort is made to communicate the latest information to Market Participants it has to be acknowledged that the plans are not fixed. It is still the intention of EirGrid and SONI, known here as the TSOs (in their various roles as System Operators, Market Operators etc.) to publish an updated Roadmap every six months to allow for changes and re-prioritization.

The Roadmap is not mandated by TSO licences nor is it a market code obligation, however, it has been decided by the TSOs to publish it in order to be as transparent and open as possible. Feedback from Market Participants on this document is most welcome and should be sent via email to info@sem-o.com using the subject “Market Development Roadmap” before **24th of January 2020** for consideration in advance of the next Roadmap which will be published at the end of May 2020

1. Background

This is the second version of the Roadmap and should be considered as a continuation of the first Roadmap which was published in June 2019. The Roadmap helps to plan and to articulate strategic thinking which is behind the decision to remove or add key features to a market or central system. It is high level and captures the key priorities in a particular timeframe.

All markets are covered by the Roadmap which helps both the Market Participant and TSOs to develop credible and realistic expectations over time. Many of the projects (in particular those which are scheduled for later years) may not have received full approval at this point and the fact that the projects are listed does not indicate that they have been through all internal controls. Steps such as full capital approval will only happen closer to the commencement of project delivery.

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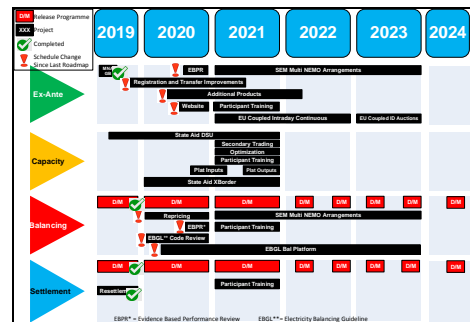
The Roadmap should be considered in conjunction with a number of other documents including the Market Systems Development Plan, however there are a number of differences which are outlined in Figure 1 below. At the time of writing The *Market System Development Plan* is currently the subject of discussion between the Regulatory Authorities and EirGrid and SONI.

Market System Development Plan



- SEMO Based only
- 3 Years
- Includes infrastructure
- Licence Obligation
- Updated annually¹

Roadmap for Market Development



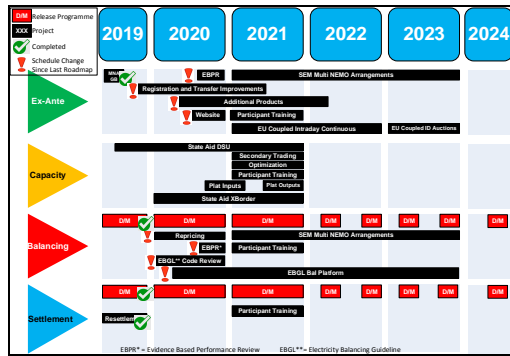
- All Markets
- 5 Years
- High Level Participant Facing
- EirGrid/SONI Initiative
- Updated every 6 months

Figure 1: Comparison of Roadmap and Market System Development plan

¹ A decision regarding when the latest MSDP will be published is currently the subject of discussions between EirGrid/SONI and the Regulatory Authorities

2. Objectives and Scope of the Roadmap

The Roadmap continues to have the same three main objectives which are outlined in Figure 2.



- To communicate the strategic priorities with regard to all markets
- To present a clear picture of the features being added to the main markets over the next 5 years
- To show the impact of any changes to the strategic priorities on other priorities

Figure 2: Overall Objectives of the Roadmap

Given that many of the projects may not be delivered for some time it is not the intention to provide in-depth detail. The Roadmap only includes projects which are Market Participant facing. The Roadmap does not show other projects which may be delivered in the same timeline which may deliver market operation performance improvements e.g. infrastructure improvements.

Changes to the document since the last Roadmap

It is not possible to include every change suggested by Market Participants during the consultation period however, a number of changes to the document have been made which are included in the table below.

You Said	We Acted
Give the latest status outlining where the project is regard procurement etc.	A latest status has been added to each project.
Include some high level assumptions, risks etc.	Assumptions and Risks have been added to each project.
Give a clearer statement regarding Brexit	A separate section on Brexit has been added.
Show when there are changes to the schedule for projects	Any changes to the Roadmap have been marked with supporting text

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Mention where de-scoped items from ISEM are included.	Any work being added to the Roadmap which was de-scoped from ISEM is noted as such e.g. Secondary Trading.
Give an indication of the scale of each project.	Section 6 has been added to address the scale of each project.
Clarify what communications channels will be used to provide an opportunity for Market Participants to discuss the Roadmap	The Strategy section confirms that the Market Operator User Group (MOUG) will be the primary communication channel for the Roadmap in addition to the consultation period.
Consider more options for new market products	Section 5 A 4) includes additional products considerations based on feedback.

Table 1: Changes suggested by Market Participants

3. Market Operations Strategy

The overall Strategy continues to be to stabilize the market systems and to improve the service offering through a small number of discrete projects. Based on Market Participant feedback it is not intended to close out every defect before adding functionality. Since the last Roadmap there have been two major releases into the market systems which delivered significant functionality including for Resettlement.

A small number of projects also delivered improvements in services foremost amongst which was the completion on time of the Intraday GB Multi NEMO Arrangements.

In addition to stabilizing the systems and improving functionality, work is underway to improve the performance of the systems in order to improve the timing of outputs such as reports and reduce the instances of dropped prices. At present, the release programme is made up of defect fixes, a small number of modifications and change requests to add functionality. Over the next year, it is expected that there will be a move towards a twice yearly release programme as has happened in the past.

The Known Issues Report² will continue to be published for Market Participants and will outline the key issues that are being addressed. All work requires a commitment of resources and so the blend of projects outlined has to make assumptions around the availability of key internal resources for the work.

While defects are present in a number of areas the main focus is currently on the following:

- Settlement (including reports)
- Pricing in Balancing Market
- Reports in Balancing Market
- Scheduling and Dispatch

During the I-SEM Project some functionality was removed from scope with the intention of delivering it at a later stage (Day 2). Secondary Trading (See Capacity Roadmap) is a case in point and commences development in 2021.

² [The Known Issues Report is published weekly.](#)

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The Market Operator User Group will be the primary communication channel for discussing the Roadmap in addition to the consultation phase. Market Participants are invited to respond to the publication of the document on an ongoing basis.

Brexit Status

Given the current uncertainty around Brexit, projects that may directly result from the UK leaving the EU have not been included in the Roadmap but may be added in the May 2020 version, by which time they have been more clearly identified and scoped.

4. Roadmap Overview

The Roadmap covers all markets in order to illustrate where product investments are being prioritised. EirGrid and SONI are planning to deliver a number of projects e.g. rollout of new servers and software updates which will be delivered at the infrastructure level. These are not included in the Roadmap as they do not deliver new features to the market. However, they may improve the performance of the market.

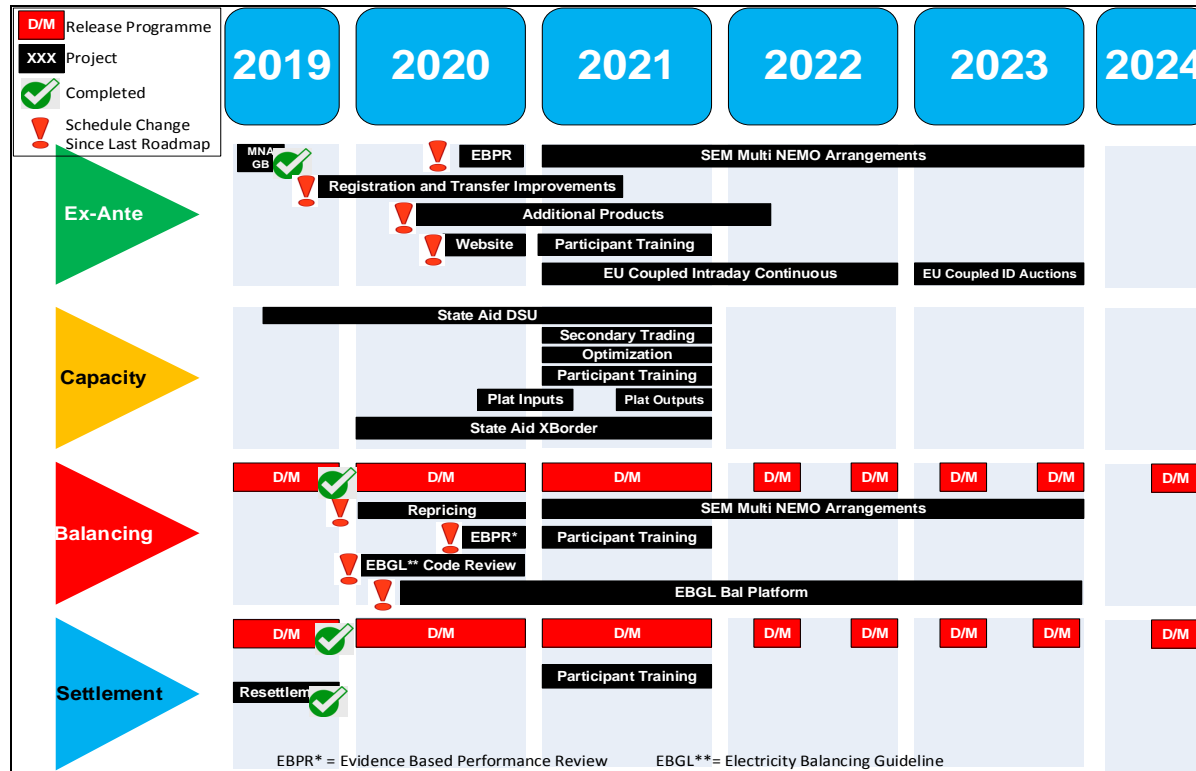


Figure 3: Overall Roadmap

A. Ex-ante Markets

The Ex-Ante markets have been relatively stable over the last six months which enabled EirGrid and SONI to complete the Intraday GB MNA project on time and to commence a number of projects ahead of schedule. Work on the Intraday GB MNA was finished on time in Q3 earlier this year. A decision was taken to start work on the *Registration and Transfer Improvements* at the start of Q4 2019. In addition, implementation of an additional product (IDA 30 minutes Complex Orders) is being targeted for Q2 2020.

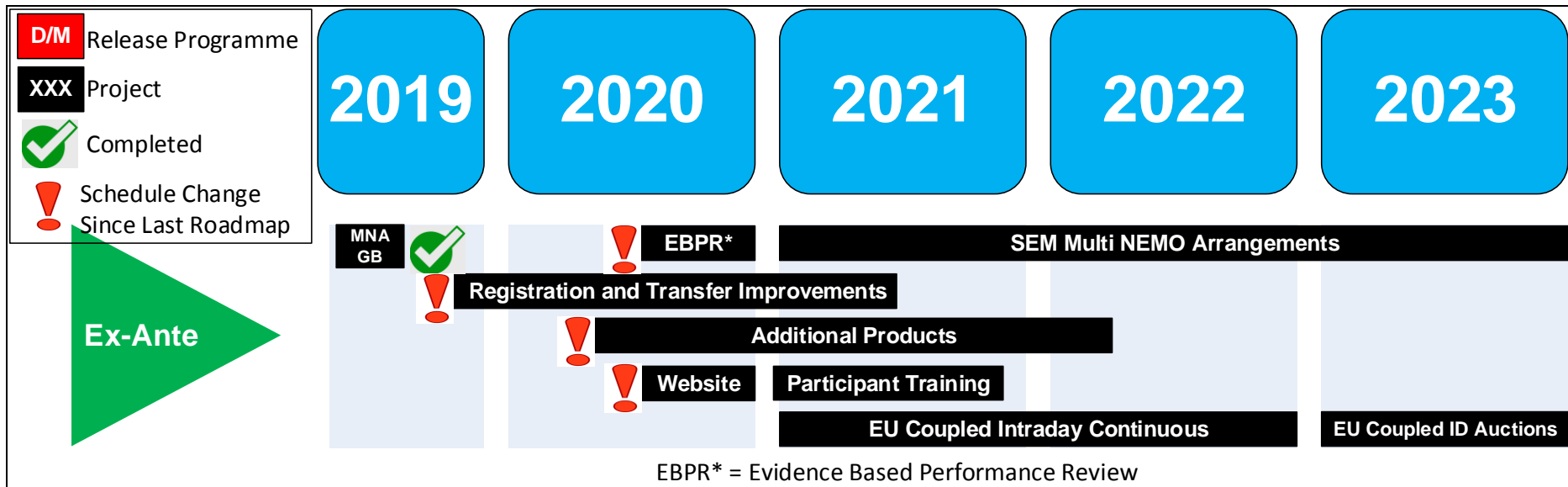


Figure 4: Ex-ante Roadmap

1) The first significant enhancement to be added will be the commencement of **Intraday Multi-NEMO arrangements in Great Britain.**

Description:	Business Case:	Risks, Assumptions and Delivery Impact:
The addition of Intraday Multi-NEMO arrangements in Great Britain. The project includes contractual and procedural amendments for Intraday 1 and 2 auctions, as well as regression testing of SEM systems to ensure no detrimental effects as a result of the changes made in the GB ex-ante order books and settlement.	The implementation was originally part of the I-SEM implementation but was postponed until after the go-live. Both UK and SEM Regulatory Authorities have requested this project to be completed. It potentially leads to improved liquidity in the intraday markets as well as allowing further competition in the GB markets.	An Impact Assessment confirmed that the scale and nature of the project allowed for implementation during Q3 2019.

STATUS UPDATE: This project was delivered on schedule.

There are potentially a number of additional features which could amount to separate projects in time, to be added to the ex-ante markets during 2020 which are outlined below.

2) All markets will undergo an **Evidence Based Performance Review** during 2020 to determine if there are any significant changes that should be investigated based on the performance of the markets so far.

STATUS UPDATE: This work has been aligned with the balancing market EBPR planned for the second half of 2020. Inputs will be gathered from user groups' feedback, surveys, review of issues etc. to provide a summary of performance of the markets and proposals for where the focus should be in the short to medium term.

3) An **Ex-Ante Website Enhancements** project is proposed for 2020.

Description:	Business Case:	Risks, Assumptions and Delivery Impact:
A number of improvements need to be made to the SEMOpx website e.g. allowing dynamic reporting.	Market Participants have been vocal about the need to improve the website service offering to be at least comparable to other exchanges. It was part of the original scope for I-SEM but was de-scoped.	The work is complementary to other projects at the time. Assumptions include regulatory capital approval. Risks include a current shortage of technical staff which has impacted the start date.

STATUS UPDATE: This project has been rescheduled to the second half of 2020 due to resource constraints but is still feasible. It is at the planning stage, has been included in a regulatory submission and is due to commence business requirements in Q3 2020. Vendor impact assessment has not commenced.

4) A number of **Additional Product Improvements** that may need to be developed for the ex-ante markets.

Description:	Business Case:	Risk, Assumptions and Delivery Impact
There are a number of additional improvements being considered, for example: <ul style="list-style-type: none"> • IDA: Complex Orders • DAM/IDA: blocks or linked blocks • Continuous market: user defined blocks, all or nothing blocks 	Market Participants have requested a number changes to products in the form of additional features or improvements.	This work will span one or more years and involve procurement, solution redesign, build, test and deployment. It assumes close alignment with our service provider EPEX and regulatory capital approval.

STATUS UPDATE: The first new product IDA 30 minutes Complex Orders is planned for implementation in Q2 2020. This possible as the implementation and test of the product for inclusion in IDA is of limited effort and was already proposed for I-SEM Go-live but deferred. Vendor impact assessment has commenced. Other additional products will be considered as part of the ex-ante markets EBPR activity.

5) A number of **Registration and Transfer Improvements** to be made to the ex-ante markets.

Description:	Business Case:	Risks, Assumptions and Delivery
<p>Unit Registration changes being sought include:</p> <ul style="list-style-type: none"> • Effective dating of members and units access to auctions and continuous trading. • Allowing units to be transferred from one member to another in the continuous trading system 	<p>Market Participants have requested that these changes be made to allow more flexibility in the transfer of units between members adding competition. In addition effective dating of access to auctions and continuous trading markets will mitigate risks and financial consequences of trading when not eligible to do so.</p>	<p>Impact:</p> <p>This work spans one or more years and may involve procurement, solution redesign, build, test and deployment. It assumes close alignment with our service providers and regulatory capital approval</p>

STATUS UPDATE: This project has been brought forward as one component of this, implementation of effective dates for units and members in ETS, is now possible by the end of November 2019. This will further minimise risks around the registration setup and deregistration of units and allow earlier access for members to new units to ensure they are ready for trading.

6) The **SEM Multi NEMO** arrangements.

Description:	Business Case:	Risks, Assumption and Delivery Impact:
The redevelopment of the new SEM solution architecture to support multiple NEMOs operating in either Ireland or Northern Ireland.	CACM requires competition in the provision of multiple NEMO arrangements. It could potentially lead to improved liquidity in the markets however, in a small market could lead to reduction in the viability of service offerings in the long term. It is a very large scale project.	As this is a very large project it requires significant procurement work. The scale of the project presents risks around staffing, schedules and assumes that high levels of regulatory support. The impact of Brexit is not clear.

STATUS UPDATE: No change to Schedule.

7) The **EU Coupled Intraday Continuous** is an initiative of TSOs and power exchanges from across Europe to create a joint integrated intraday cross-border continuous market.

Description:	Business Case:	Risks, Assumptions and Delivery Impact:
Previously known as XBID (Cross Border Intraday) but now known as Single Intraday Coupling (SIDC), the project would involve the SEM coupling with the EU Intraday continuous market which is currently only a local SEM market.	This is mandated by the EU and is needed to be compliant with CACM (Capacity Allocation and Congestion Management). It enables continuous cross-border trading across Europe.	This work would spans one or more years. This presents risks around staffing, and assumes significant levels of regulatory support and support from existing service providers. The impact of Brexit is not clear.

STATUS UPDATE: Work is due to start in 2021. No vendor impact assessment has commenced.

8) A Learning Management System was used very effectively during the I-SEM project to deliver scaled training to Market Participants. A similar **Participant Training** initiative will help to support learning across the industry.

Description:	Business Case:	Risks, Assumptions and Delivery Impact:
The development of a Learning Management System to support the administration and delivery of training to Market Participants.	The markets are constantly having to adopt to regulatory and technological changes. In order to support this, a Learning Management System will be developed to help Market Participants adapt to change.	The work would take approximately one year and would involve business analysis, procurements and in-house materials development. The provision of quality materials requires a high level of Subject Matter Expert input which impacts on other work.

STATUS UPDATE: No change has been made to the schedule for this project. Procurement has not commenced.

9) At present the DAM is the only coupled auction at EU level in the SEM markets. The **EU Coupled Intraday Auction** functions at an EU rather than local level.

Description:	Business Case:	Risks, Assumptions and Delivery Impact:
Based on recent developments in Europe the EU Coupled Intraday Auctions aims to couple intraday at a European level. The concept of coupled auctions at a European level is new and is only just beginning to be considered in Europe.	This may be mandated by the EU and may be needed to be compliant with CACM. This would integrate the regional and local intraday auctions of the SEM with the wider EU, leading to greater liquidity.	This work spans one or more years and may involve procurement, solution redesign, build, test and deployment, contractual and procedural changes. The impact of Brexit is not clear.

STATUS UPDATE: No change has been made to the schedule for this project. No vendor impact assessment has commenced.

B. Capacity Market

During the ISEM project there were a number of items of functionality de-scoped with the intention of adding them at a later stage. A case in point is Secondary Trading. This is included on the roadmap along with three other specific items around State Aid and improvements to the auction platform. In line with the overall strategy (See 4 Market Operations Strategy), the focus is on fixing defects before adding additional functionality. Please note that the specific projects below can be progressed independently of one and other. No individual project therefore requires completion of another project in order to take effect.

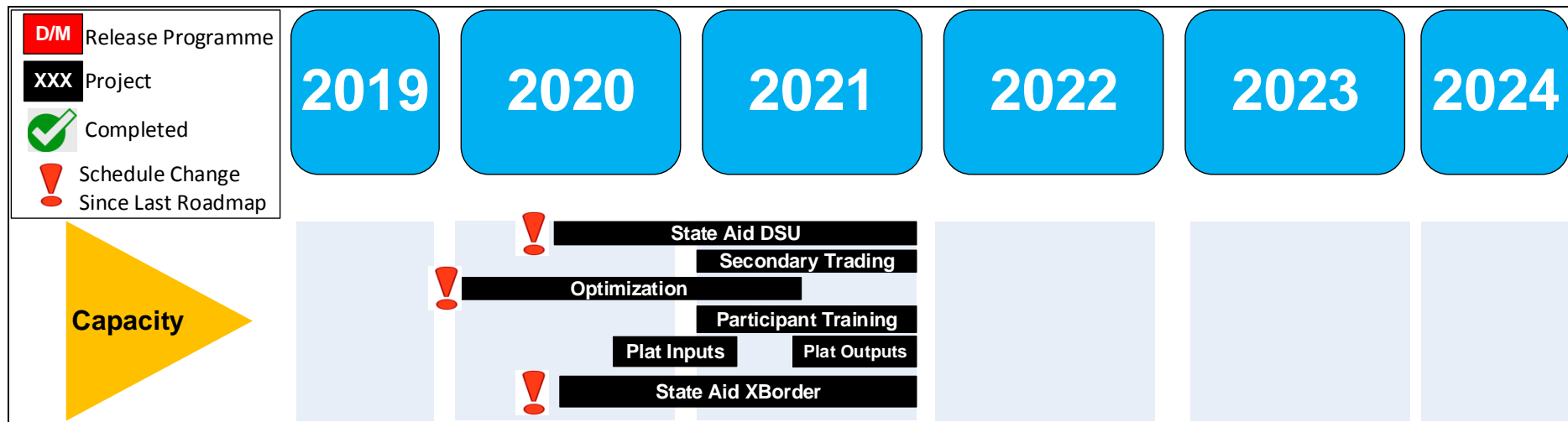


Figure 5: Capacity Roadmap

The development of the Capacity Market continues during the next few years thanks to several regulatory mandated decisions as well as improvements to the overall service. Projects which are noteworthy include:

- 1) & 2) Two projects cover work to implement an EC Commission decision which impact **DSUs** and **Cross Border** Capacity Market participants (those from outside of Ireland and Northern Ireland).

Description:	Business Case:	Risks, Assumptions and Delivery Impact:
EC Commission decision C(2017)7789 regarding State Aid SA44464 (2017/N) covers two areas which are were not included in the original I-SEM Capacity Market systems: DSUs and Cross border participants.	The decision by the EC Commission highlights the difference in treatment for Reliability Options between DSUs and generators which could lead to DSUs being disadvantaged. It also highlights the need to accommodate cross border Capacity Market participants.	These are sizeable projects which will require work in the area of business requirements, design, development and test. The long term nature of the work carries risks.

STATUS UPDATE: Work has commenced on the planning and earlier stage business requirements. Overall there is no change to the schedule for this project.

- 3) A Learning Management System was used very effectively during the I-SEM project to deliver scaled training to Market Participants. A similar **Participant Training** initiative would help to support learning across the industry. See Page 17.

STATUS UPDATE: No change to the schedule for this project. . Procurement has not commenced.

4) **Secondary Trading** of Reliability Options has been requested by Market Participants

Description:	Business Case:	Risks, Assumptions and Delivery Impact:
Secondary Trading allows Market Participants to trade their Reliability Options after initial purchase.	Secondary trading of options is widely available on other markets. It has been requested by Market Participants. It was part of the original I-SEM scope.	The scope of the work involves potential changes to business requirements, market rules and central systems. Central systems work would involve design, deployment and test. The project assumes no major changes to regulations.

STATUS UPDATE: No change to the schedule for this project. Procurement has not commenced.

5) There are two projects that will improve the experience of the auction participants. The first project covers **Platform Inputs**.

Description:	Business Case:	Risks, Assumptions and Delivery Impact:
The areas relates to Auction inputs including: <ul style="list-style-type: none"> • Improvements in usability and design of interfaces Develop online qualification and registration layer	The benefits will be seen mainly by Market Participants in terms of superior user experience, reduced input errors and improved audit/security	The scope of the work mainly involves business analysis, design, deployment, test and vendor management. The project assumes stability with regard to design but carries some technical risk.

STATUS UPDATE: No change to the schedule for this project

6) The second area of interest relates to number of **Outputs** from the Capacity Auction Platform.

Description:	Business Case:	Risks, Assumptions and Delivery Impact:
<p>There are a number of updates to more adequately reflect the Capacity Market Code including:</p> <ul style="list-style-type: none"> • Improve CMP Reports • Enable copy and paste functionality to be available to Market Participants • Resolve issues with viewing results 	<p>Many of these relate to issues with the original design and defects. The benefits will be seen mainly by Market Participants and streamline processes and procedures internally.</p>	<p>The scope of the work mainly involves business analysis, design, deployment, test and vendor management. The project assumes stability with regard to design but carries some technical risk.</p>

STATUS UPDATE: No change to the schedule for this project

7) A project to improve the **Optimization** of the capacity algorithm.

Description:	Business Case:	Risks, Assumptions and Delivery Impact:
<p>Currently, the Capacity Market Auction uses Auction Format C. This solves the auction using an optimisation process to evaluate a limited number of Participant offers above and below the Auction Clearing Price (ACP) to select the optimum set of offers which minimises overall capacity procurement cost whilst providing sufficient Capacity in each geographical area. Each additional</p>	<p>As the Capacity Auction is allocating hundreds of millions euro/pounds, even small improvements in optimality could, in theory, improve welfare by millions. Nevertheless, the implementation would be complex and not without risk. There is also significant uncertainty as to the degree of</p>	<p>Delivery will require resources for design, build, test, and certification. Specialist expertise will be required. There is a risk that any additional benefit accrued</p>

offer considered dramatically increases the number of combinations to be calculated. It is therefore necessary to limit the algorithm to consider only a subset of likely solutions. This can result in sub-optimum outcomes, albeit our analysis to date has found the degree of optimality achievable in auctions to date to be of the order of 1%. Using a Mixed Integer Programming solver, Auction Format D should result in a more optimal outcome.

improvement likely to be achieved, as this is highly dependent on offer details specific to each auction. The RAs are minded to adopt Auction Format D so we may have to implement to comply with policy decisions.

through the use of Auction Format D may be outweighed by the associated implementation and ongoing operational costs. There would most likely be knock on impacts on other Capacity projects which would have to be rescheduled.

STATUS UPDATE: There is no change to the schedule for this project.

C Balancing Market

The main Market Operations strategy is to prioritize the resolution of outstanding defects and to ensure that critical functionality is available including repricing. At a later stage, additional functionality to support multi nemo arrangements will be added.

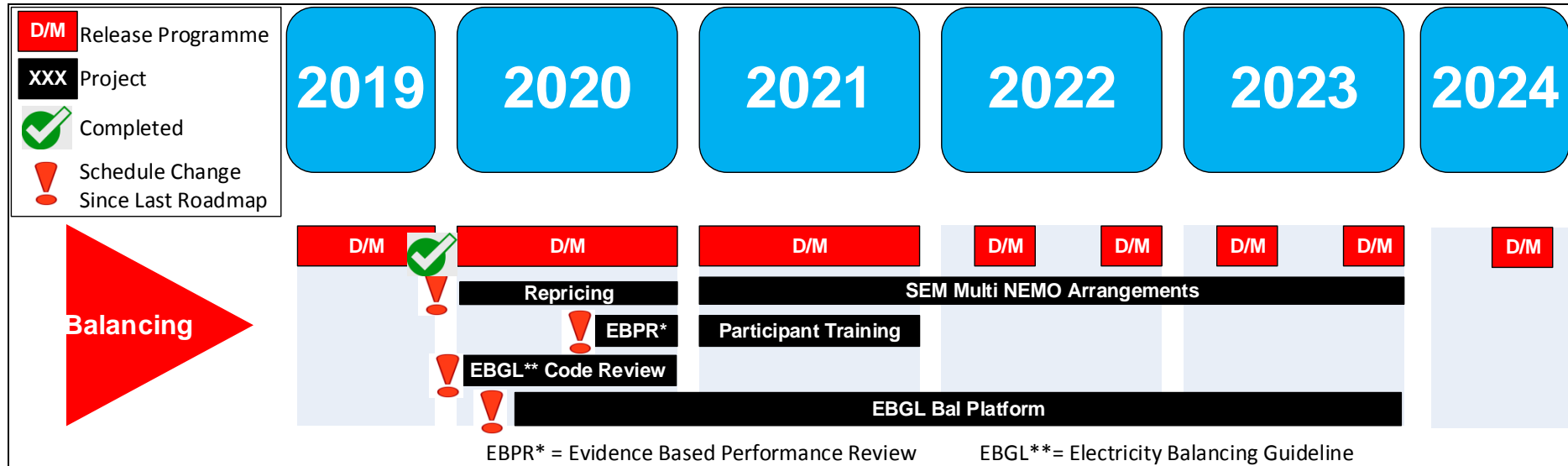


Figure 6: Balancing Market Roadmap

1) The principle objective in the short term is to **stabilize central systems** even further and improve the experience of Market Participants.

Description	Business Case:	Risks, Assumptions and Delivery Impact:
<p>The Balancing Market has defects in a number of areas which are reported via the <i>Known Issues Report</i> including:</p> <ul style="list-style-type: none"> • Imbalance Settlement (See settlement) • QBOA (Quantity Bid Offer Acceptance) • Report Changes and • Scheduling and Dispatch 	<p>Market Participants and other key stakeholders have asked for all significant defects to be closed out before adding additional functionality to the Balancing Market.</p>	<p>The scope of the work involves deployment, testing, release management and vendor management. Support resources will have to be procured in order to deliver this work.</p>

STATUS UPDATE: No change to the schedule for this project

1) The **Multi NEMO Arrangements** project will impact on the Balancing Market. See Section A.

STATUS UPDATE: No change to the schedule for this project

2) All markets will undergo an **Evidence-Based Performance Review** during 2020 to determine if there are any significant changes that should be investigated based on the performance of the markets so far.

STATUS UPDATE: This work has been moved back to Q4 2020 given pressure on resources for other work. Inputs will be gathered from user groups' feedback, surveys, review of issues etc. to provide a summary of performance of the markets and proposals for where the focus should be in the short to medium term.

3) **Repricing** is a key function which is due to commence in early 2020.

Description:	Business Case:	Risks, Assumptions and Delivery Impact:
This project includes the deployment of functionality to deliver repricing when updated data is submitted into the system.	There is a need to reprice the majority of days since Go-Live as a result of disputes and known issues etc. Repricing is a mandatory function in the Trading and Settlement code.	The scope of the work involves deployment, testing, release management and vendor management.

STATUS UPDATE: The key functionality is still under development and testing. The target is for repricing to start in production in early Q1 2020.

4) A Learning Management System was used very effectively during the I-SEM project to deliver scaled training to Market Participants. A similar **Participant Training** initiative would help to support learning across the industry.

STATUS UPDATE: No change to the schedule for this project

5) The **EBGL Balancing Energy Platforms** are initiatives of TSOs from across Europe to create a joint integrated balancing cross-border continuous and auction-based market for different timeframes close to real-time after the intraday market has closed.

Description:	Business Case:	Risks, Assumptions and Delivery Impact:
<p>The project would involve the SEM coupling with the EU balancing market which is currently only a local SEM market, through locally converting balancing bids, offers, and balancing needs, to the formats required for submitting to the platforms being developed under Project TERRE for Replacement Reserves, Project MARI for Manual Frequency Restoration Reserves, and processing the cleared results of those platforms in scheduling, pricing, and settlement.</p>	<p>If the relevant aspects of the EBGL (Electricity Balancing Guideline) apply to the SEM, then this is mandated by the EU and is needed to be compliant. It enables continuous and auction-based cross-border trading across Europe in the balancing timeframe, giving Market Participants in the SEM access to a wider market and potential additional tools for the TSOs to aid in balancing, including the management of interconnector flows.</p>	<p>This is a very large project, work would span a number of years and involve rules modifications, solution design, build, test and deployment, contractual and procedural changes. This presents risks around staffing (and therefore other work), schedules, and assumes significant levels of regulatory support and support from existing service providers. It is assumed that the relevant aspects of the EU EBGL continue to apply to the SEM. Assumptions include regulatory capital approval.</p>

STATUS UPDATE: Analysis on defining potentially compliant conceptual approaches has been carried out. No decision about initiating a formal project or implementation of solutions has been made.

6) The **EBGL Local Code Review** is work which was not included in the original ISEM project but is required to ensure the local balancing market arrangements are compliant with the Electricity Balancing Guideline, either through evidence gathering or identifying changes needed to rules and systems.

Description:	Business Case:	Risks, Assumptions and Delivery Impact:
<p>This project is intended to highlight areas where local arrangements are compliant with the guideline, providing evidence for compliance tracking, and to highlight areas where the local arrangements are not compliant with the guideline. Areas of non-compliance feed into discussions on how to become compliant, such as modifications to the local codes, which would happen under this project, and if required change requests or other changes to systems and processes, which would constitute other projects.</p>	<p>This is mandated by the EU and is needed to be compliant with EBGL (Electricity Balancing Guideline). It creates transparency and an equal playing field, ensuring and explaining how the same arrangements are present in the SEM as in other European markets, or highlighting changes needed to ensure this will be the case.</p>	<p>The work would take less than one year and involve analysis, legal review and rules modifications. This requires a moderate level of Subject Matter Expert input. There is a risk that some aspects of the local arrangements may be found to not yet be compliant, which would require new projects to be added requiring solution design, build, test and deployment.</p>

STATUS UPDATE: Planning and preparatory work is underway.

D. Settlement

The strategy for Settlement is to fix outstanding defects and to ensure that critical functionality is available. The [Known Issues Report](#) now includes a section which describes the areas being addressed with release details. The next release (Release E) in 2020 is targeted to have at least 16 settlement fixes.

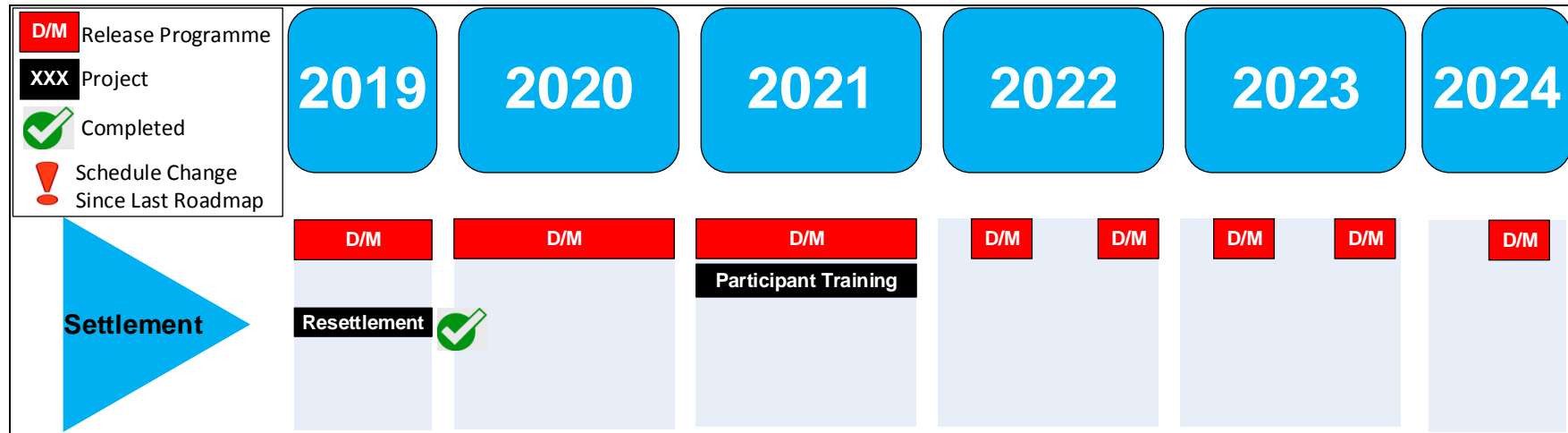


Figure 7: Settlement Roadmap

- 1) The key functionality which has been delivered in 2019 is **Resettlement**.

Description:	Business Case:	Risks, Assumptions and Delivery Impact:
Resettlement (M+4, M+13 ad-hoc) is a key function but it was known that the overall solution went live with a number of defects. Work needs to be done to address the issues related to performance, specific errors,	This is a major concern for Market Participants who have raised significant numbers of settlement queries. It is a code requirement and there is no alternative to	Resettlement functionality requires vendor management, development,

manual workarounds and data flow that impact on resettlement.

Resettlement. There are also a number of system changes to facilitate removal of settlement operational bottlenecks.

deployment and test.

Operational risks relate to parallel running of multiple settlements.

STATUS UPDATE: M+4 and M+13 are both operational and hence the project to deliver the functionality and set up the necessary processes has been completed. Resettlement will run as planned into 2020 and beyond.

In addition to the Resettlement work being done there are a number of known modifications and improvements to settlement reports that will be delivered during 2020. Details of the detailed settlement changes in Release E which is due to go into production in 2020 can be found in the Known Issues Report.

- 2) A Learning Management System was used very effectively during the I-SEM project to deliver scaled training to Market Participants. A similar **Participant Training** initiative would help to support learning across the industry. See Page 17 for details.

STATUS UPDATE: No change to the schedule for this project. Procurement has not commenced.

5. Project Scale

The Roadmap includes a series of projects and initiatives of different sizes. The table below divides the projects into small, medium and large in order to show an estimate of the potential impact on Market Participants anticipated at this stage.

<i>Potential Impact on Market Participant Systems</i>	<i>Explanation</i>
Small	Minimal-little development on the Participant side
Medium	Some involvement (minor development testing etc.)
Large	Large scale development required

Table 2: Project Scales

Market	Project	Scale
Ex-Ante	Multi NEMO GB	Small
Ex-Ante	EBPR ³	Small
Ex-Ante	Participant Training	Small
Ex-Ante	Registration and Transfer	Small
Ex-Ante	Additional Products	Medium
Ex-Ante	Website	Medium
Ex-Ante	SEM Multi-NEMO Arrangements	Large
Ex-Ante	EU Coupled Intraday Continuous	Medium
Ex-Ante	EU Coupled ID Auctions	Medium

Table 3: Ex-Ante Project Scale

Market	Project	Scale
Capacity	State Aid DSU	⁴ Large
Capacity	State Aid X Border	⁵ Large
Capacity	Secondary Trading	Medium
Capacity	Optimization	Small
Capacity	Platform Inputs	Medium
Capacity	Platform Outputs	Medium
Capacity	Participant Training	Small

Table 4: Capacity Project Scale

³ The Evidence Based Performance Review may drive other larger projects

^{4 5}In this case the changes specifically impact certain participant in a significant way

Market	Project	Scale
Balancing	Repricing	Medium
Balancing	SEM MNA	Large
Balancing	Participant Training	Small
Balancing	EBPR	Small
Balancing	Release Defects/Mods	Medium
Balancing	Local Code Review	Small
Balancing	Balancing Platform	Large

Table 5: Balancing Project Scale

Market	Project	Scale
Settlements	Resettlements	Small
Balancing	Participant Training	Small
Balancing	Release Defects/Mods	Medium

Table 6: Settlement Project Scale