



## Delivering a modern Balancing Mechanism Reporting Service - Industry Consultation

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<b>Issue Date</b>	23 December 2013
<b>Purpose of paper</b>	For Consultation
<b>Summary</b>	This consultation follows on from a recent BMRS survey and outlines the issues our end users are facing and the benefits that we believe would accrue from introducing a new Low Grade web platform. We are seeking your views on these matters and we will use the information you provide to shape a new BMRS platform and the approach to its delivery. The deadline for responses is 5pm on Wednesday 15 January 2014.

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### 1. The BMRS consultation

The Balancing Mechanism Reporting Service (BMRS) is the primary channel for providing operational data relating to the GB Electricity Balancing and Settlement Arrangements. It is currently delivered through architecture and systems that were put in place for the start of the market in 2001. Whilst these have served the market well, they are increasingly struggling to support the burgeoning data requirements of the industry particularly for interactive users of the Low Grade service.

The costs and timescales of introducing any change on the existing platform are significantly greater than those associated with a more modern arrangement - for example the cost of change:

- Recent changes between 2009 and 2012 - £811k
- Pending changes for 2014 - £875k (see Appendix 1 for more details)

The existing platform also carries an appreciable maintenance burden and supports limited interfaces. Near real time reporting currently requires the use of a dedicated communication channel. Alternatively some users access data from the BMRS with frequent data scraping of our website/scripting<sup>1</sup> every minute. The former results in appreciable costs; resorting to the latter approach increasingly impacts overall performance where the website struggles to handle upwards of 20 million incremental website hits per month (Figure 1, Appendix 1). Faced with these issues, ELEXON believes that the existing BMRS Low Grade platform needs to be replaced in the short to medium term.

There are a series of pending and approved changes that are targeted for 2014 seek to consolidate the role of BMRS as a central industry data platform. Whilst these can be delivered on the existing platform, doing so will increase the burden and further stress the platform. These changes could therefore be viewed as a threat to the existing platform; alternatively they can be seen as an opportunity to start the transition to a new platform.

Working with our BSC Agent Service Providers we are investigating how, alongside delivering the required changes, we can lay the foundations for a new BMRS. Together we see the required changes as an ideal catalyst for changing BMRS. Our recent customer survey of BMRS users has confirmed changing user needs and also further supports the case for evolving BMRS.

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<sup>1</sup> Programmatic access to resources within the website against the interactive website, essentially simulating interactive use multiple times



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This consultation outlines the issues our end users are facing and the benefits that we believe would accrue from introducing a new Low Grade website platform. We now wish to formally seek your opinions on these matters. This information will be used to decide the shape of the new BMRS platform and whether we should start work on this now. Parties should rest assured that we will only progress a new platform at this time if we believe it represents value for money for the industry and offers a continuous reliable and robust service for customers.

We would like to share the consultation responses with BSC Parties but understand that some respondents may wish for their information to be treated as confidential. If this is the case, please clearly mark your response (or any elements of it that are confidential). As with any centralised development, the benefits primarily accrue to the users as do any issues arising from the proposed solution and implementation approach.

Whilst we have sought to keep the consultation short and focused, the more detailed the information you can provide in your response, the more helpful the responses will be. The deadline for responses is 5pm on Wednesday 15 January 2014.

## 2. The BMRS User survey

Over the years, we have analysed various data sources, such as service desk calls and server statistics, to gain an understanding of the issues affecting BMRS. However, in order to gain a more detailed insight into the user experience, we ran a survey with a view to understanding how customers use BMRS, identifying their main issues and areas which are most in need of improvement.

Our response from 46 users, representing a wide range of BSC Parties and including 18 responses from the six vertically integrated energy companies, confirms our view that users have ever increasing and changing data access requirements. The survey indicated support across industry for improving BMRS and provided a lot of information that form the key requirements for our proposed solution design and approach. Key areas that were highlighted included the need to improve:

- Reliability, recoverability and performance;
- Better Integration with processes;
- Data being available in appropriate format or combination; and
- Delivery of data by automated feeds and removing reliance on TIBCO.

The summary of the survey results is detailed in **Appendix 2**.

### Question 1 – BMRS Survey

**Referring to the results of the survey in Appendix 2, does your company's experience tally with these results and are there any additional areas or priorities you believe we should consider?**

## 3. ELEXON's Proposal

We propose to ultimately replace the Low Grade BMRS website with a platform which would achieve the following:



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- Improve the speed of access to BMRS data to all interactive participants by providing free alternative mechanisms such as web services/Application Programming Interface (API) to retrieve near real time data; eventually removing the time gap between High Grade and Low Grade users to ensure all participants receive data at the same time. ***In some cases data is delivered to Low Grade service users 15 minutes later than their High Grade-enabled competitors. Given the time-sensitive nature of new data items we believe this is unacceptable to Industry beyond 2015.***
- Improve the user experience of the BMRS as a whole. This can be achieved by reducing the delay our users experience in retrieving pages, improving customer navigation of the website and allowing customers to integrate data using modern tools and techniques so they can manipulate the data alongside internal data and other electricity reference data. ***Our customer survey responses from Low Grade users of the service was that the website is very slow, difficult and cumbersome to navigate across and adhoc queries were difficult or impossible to undertake, particularly where there was a requirement for downloading historical data sets.***
- Lower cost of change and maintenance of supporting the website for industry participants, by adopting modern solution with a scalable and extensible architecture that will also reduce the cost of future changes:
  - Reduced lead time for changes and testing thus enabling quicker benefits realisation for all Balancing Parties; and
  - Allow changes to BMRS website content without any software changes.

## Question 2 – BMRS User Benefits and Costs

- a) Do you have any views on the highlighted benefits and their benefit to your company and the industry as a whole?
- b) Do you consider reducing the cost of changes to BMRS should be a priority for ELEXON?
- c) Do you have a view on what steps we should take to minimise the costs to BSC Parties who currently script but wish to move to directly calling data from our API?

## 4. Implementation Approach

We have been investigating the most effective and efficient way to deliver the benefits to BSC parties as quickly as possible while taking into consideration the associated risks in changing the underlying architecture of BMRS. Our commitment is to delivering on current reporting obligations and ensuring that the series of approved and pending changes are delivered to the timescales already published. Therefore, we are recommending a phased approach to implementing the above improvements where incremental user benefits are measured via the website. We would seek to deploy the new platform to support the pending BSC Modifications (P291 & P295<sup>2</sup>). With implementation of

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<sup>2</sup> Subject to approval



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Phase one, the transition architecture will contain a single seamless site with pages sourced from the existing and new BMRS platform and this will ensure no disruption to BMRS users.

We will work closely with participants to ensure they fully realise the benefits from the new functionalities and ensure any additional functionalities that are deemed essential to users will be built into the design of subsequent phases.

Where we introduce more reliable methods of integrating BMRS data into BSC Parties' data warehouses, spreadsheets or trading systems, we will seek to measure the reduction in screen scraping and proactively encourage low cost automation and integration.

**Note:** The BSC obligations for BMRS are set out in Sections Q and V of the BSC. We will continue to deliver these obligations in full whilst providing more effective and flexible ways of delivering the obligations and meeting changing customer requirements (feedback from 46 parties). The solution will provide users with cheaper and better alternatives to the current High Grade service and TIBCO, so we would seek to phase out the current High Grade service over time; we anticipate however that it will be maintained for at least three years following implementation of Phase one.

In summary:

- Phase one will deploy pending modifications on the new platform – P291 and P295 by December 2014<sup>3</sup>. Current BMRS data and future data will also be exposed via an API interface enabling all users to access near real time data;
- Subsequent phases will include migration of existing BMRS data to the new platform and is planned for 2015 and this will be managed with participants to ensure a smooth transition; and
- Any future changes to BMRS will be implemented on the new platform.

## Question 3 – Implementation Approach

- In order to minimise risk, we propose a phased approach to the deployment of the new Low Grade Platform; do you have any views on this approach?**
- We propose the first phase of the programme be limited to introducing the pending regulatory changes mandated by modifications P291 and P295; do you have any views on this?**
- We propose that the TIBCO interface through the High Grade Service should remain to provide uninterrupted service to support current TIBCO users. Do you have any views on this approach?**
- We are proposing a more technically and economically advantageous solution to data integration, which would offer an alternative to screen scraping. If your organisation currently uses screen scraping would you consider using this alternative approach?**

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<sup>3</sup> Proposed solution for P297 has an implementation date of November 2015



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## 5. Next Steps Timescales

In order to ensure we meet the Industry regulatory changes prior to the deadline of December 2014, we propose to follow the schedule below as next steps subject to responses from this consultation:

- Update the Panel with our approach and findings to date – 9 January 2014;
- Industry deadline to respond to consultation – 15 January 2014;
- Seek approval for BMRS change, subject to the results of Consultation and evaluation of solution, to ELEXON Board;
- Update BSC Panel on Board decision -13 February 2014;
- Start implementation of Phase 1 shortly after P295 decision by Authority – February 2014;
- Phase one implementation – December 2014; and
- Implementation for Phase two in 2015.

### Question 4 – Timescales

**Do you have any views on the above steps and timescales?**

### Attachments

Attachment A - BMRS Consultation Response form

### Appendices

Appendix 1 - Cost and Timescales of Changes

Appendix 2 - Summary of BMRS Survey

### For more information, please contact:

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## Appendix 1

### 1.1 The Cost and Timescales for Change

ELEXON or BSC parties can request changes to the BMRS using the existing change mechanisms, ie via Change Proposals (CPs) or Modifications (Mods).

#### Recent Changes

Recent changes that have taken place vary from minor changes such as altering some help text through to accommodating complex data flow changes. BMRS is one of the most frequently changed applications. Due to ageing technology and complex architecture, industry incurs high costs when implementing changes on the BMRS. The cost for changes implemented in the last 4 years are summarised in the table below.

Release description	Description	Release number	Costs <sup>4</sup> (£/k)
Industry release	P217 - Revised Tagging Process and Calculation of Cash Out Prices <sup>5</sup>	Nov-09	196
Industry release	P243/244 - Publication of Output Usable Data and BritNed Interconnector data on BMRS	Nov-10	132
Industry release	CP1333- Publication of SO-SO Trades in BMRS	Nov-10	61
Industry release	Misleading Triads data on BMRS	Nov-11	2.8
Industry release	Etso Vista Email Issue	Nov-11	1.8
Industry release	BMRS Static Text Change	Nov-11	3.3
Industry release	Alignment of BMRS and SYS Zones	Jun-12	58
Industry release	East West Interconnector Data on BMRS	Jun-12	55
Industry release	CR264 - Privacy Policy Changes on BMRS	Jun-12	0.2
Industry release	P278-Treatment of Transmission Losses for Interconnector Users	Nov-12	57
Tech upgrade	Re-work to deliver the November 2011 Release on Unix 11i v2 and Oracle 10gR2	2011	244

<sup>4</sup> Excludes ELEXON's costs

<sup>5</sup> Also includes CP1286 - BSCP18 Operational Review: Additional flag in Transmission Company's BOAL file to indicate an amended Bid-Offer Acceptance



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Release description	Description	Release number	Costs <sup>4</sup> (£/k)
		<b>Total</b>	811.1k

*Table 1: Summary of changes since November 2009*

## Pending Changes

There are also a number of changes pending for BMRS, some of which already have implementation timescales approved by relevant bodies:

- P291 and CP1397 are already approved;
- P295 has been recommended for approval and is now with the Authority for decision; and
- P297 is currently undergoing the assessment phase consultation.

Change and Description	Status	Release	Impact on data volumetric	Cost <sup>6</sup> (£/k)	Lead time (Weeks)
<b>P291</b> REMIT Inside Information Reporting Platform for GB Electricity	Approved by Authority	December 14 Release	Medium (Flows from NG and ELEXON Portal)	125	36
<b>P295</b> Submission and publication of Transparency regulation data via the BMRS	Awaiting approval by the Authority	December 14 Release	High (at least 32 new flows from NG)	545	44
<b>P297</b> Receipt and Publication of New and Revised Dynamic Data Items	Assessment Consultation Phase	November 15 Release	Low (One additional flow and revision to 2 others from NG)	145	32
<b>CP1397</b> Improvements to the BMRS Electricity Summary Page – Indicative Triad Demand Information tables	Approved by ISG	June 14 Release	Low (New flow created from SAA-IO14)	60	12
<b>Total</b>				875	

<sup>6</sup> Includes ELEXON's costs

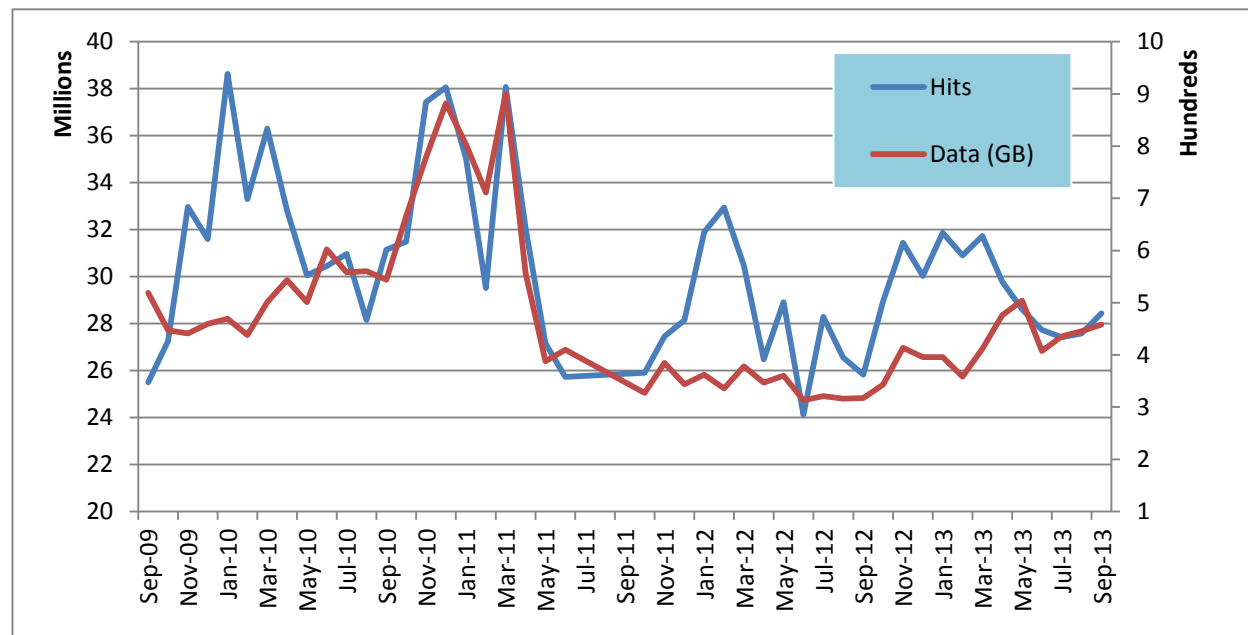


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**Table 2: Future changes for BMRS (includes ELEXON's costs)**

The high cost of pending change to the current system is one of the key drivers for establishing the business case for developing a new architecture platform.

## 1.2 BMRS Website Hits



**Figure 1: Data downloaded and hits on BMRS since September 2009**





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## Appendix 2

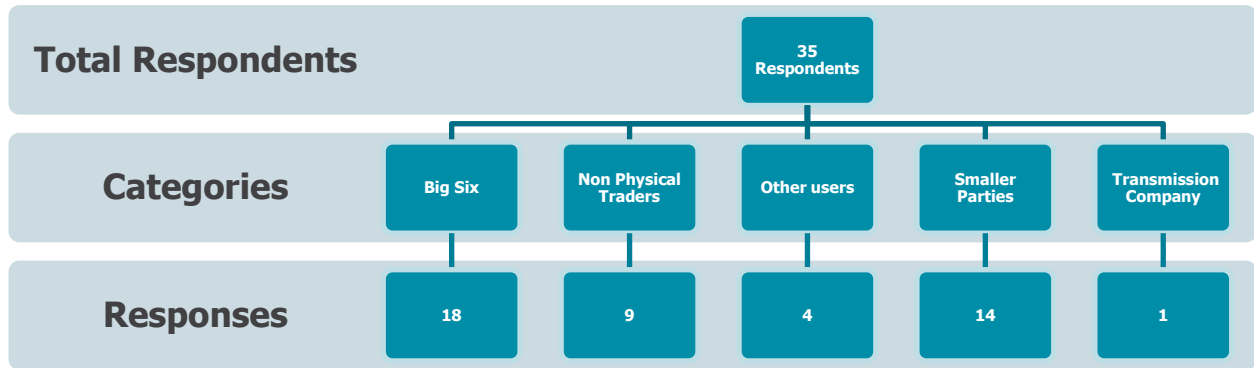
### 2.1 Summary of BMRS Survey

Over the years, we have analysed various data sources, such as service desk calls and server statistics, to gain an understanding of the issues affecting BMRS. However, in order to gain a more detailed insight into the user experience, we ran a survey with a view to:

- understanding how customers use BMRS and access resources from it;
- identifying the issues with the BMRA site;
- evaluating some of our suggested improvements; and
- gathering user suggestions for improvements.

### 2.2 Total Responses

We received 46 responses, which covered the majority of BSC Parties, and included responses from Generators, Suppliers, Traders and other parties.

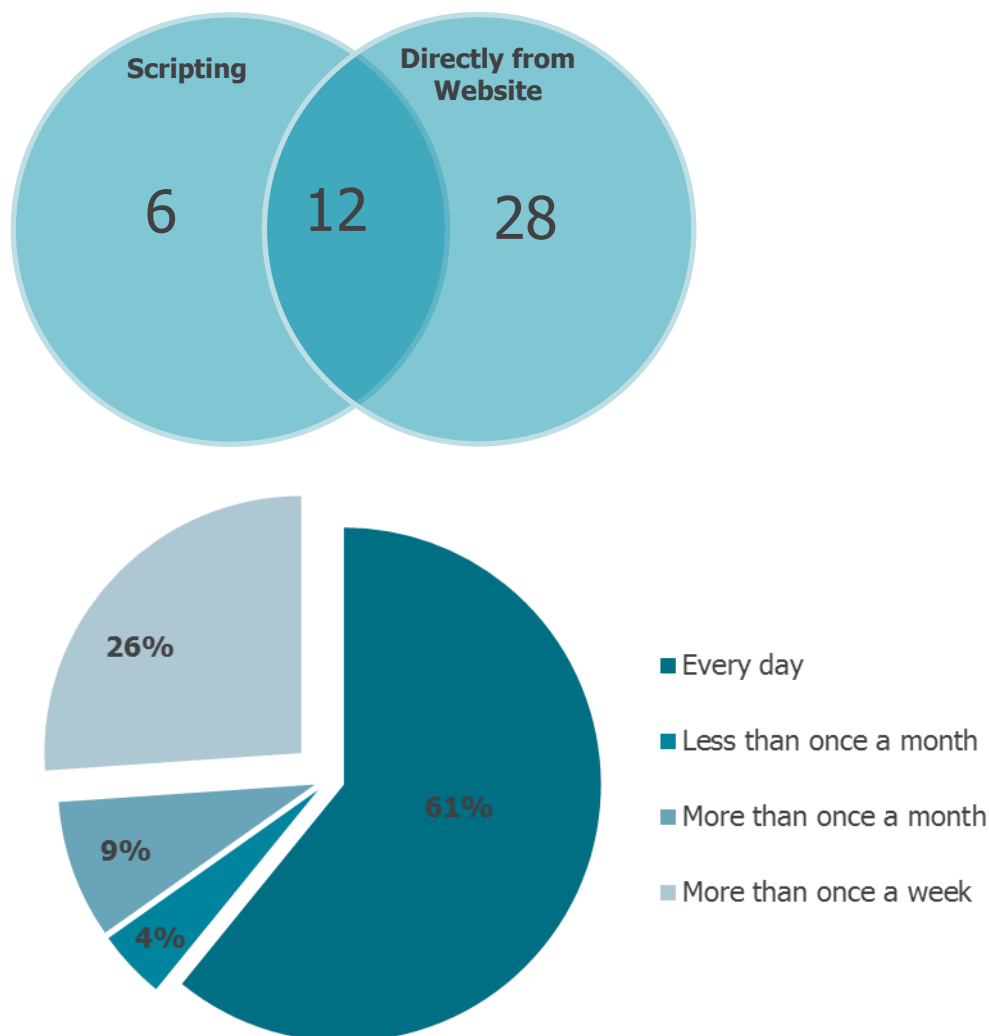


### 2.3 How do Users Access BMRS

The survey confirmed our service desk observations that users access BMRS data via both scripting and interactive use of the website. 39% of users confirmed they retrieve the data by scripting against the website. Our information indicates this number could be higher. The survey results indicate that although system prices and generation data are the most popular data items requested, users generally access a wide range of data on a fairly regular basis.



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*Figure 2: BMRS user access via scripting, directly from website or both*

Scripting has a drastic impact on the performance of the website, often causing interactive users to experience timeout issues. A quick workaround would be to impose restrictions on users for excessive scripting; however we do not believe users should be denied access to their data regardless of the mechanism they choose. We understand that users script for the following reasons:

- They only require access to partial data from BMRS;
- Cost of a High Grade line and TIBCO license can be a barrier; and
- There are no publicised API or cost effective alternatives currently available.



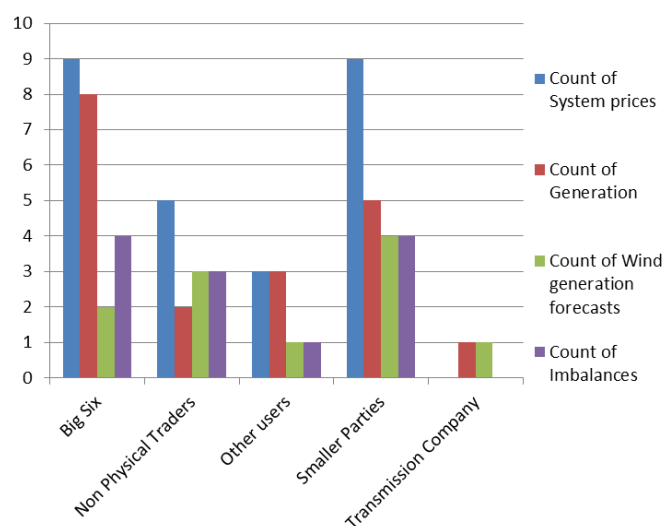
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ELEXON believes that the High Grade Service and existing TIBCO feed should remain in place as several users rely on the data provided through this channel. We highlighted the few improvements below (see Section 2.5) and asked respondents to rate them.

## 2.4 What is the Data used for?

In the main, BMRS is used to primarily support front office functions such as trading, forecasting, online market analysis and commercial decision making. This shows that the data is near mission critical for all users.

### » Data Accessed



### » Data Used for

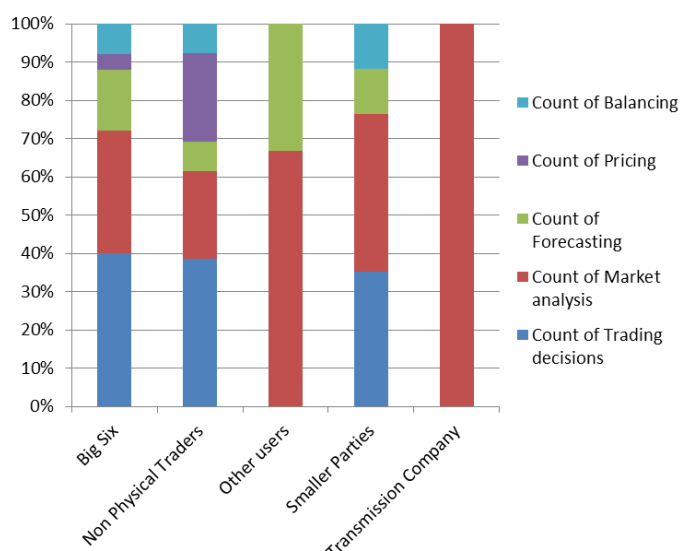


Figure 3: Data Accessed

## 2.5 Potential improvement

In order to address issues with data access, we suggested some improvements to gauge how helpful they may be to users. The improvements were based around three areas:

### Delivery of Data

- Faster delivery of data: Providing raw data to key users via an API or web service as an alternative to the TIBCO service or scripting – **62% found this very helpful/helpful.**
- Streaming all data requirements through one dashboard/web service: This is similar to above and includes possible provision of an aggregation service - **64% found this very helpful/helpful.**

### Integration with customer systems

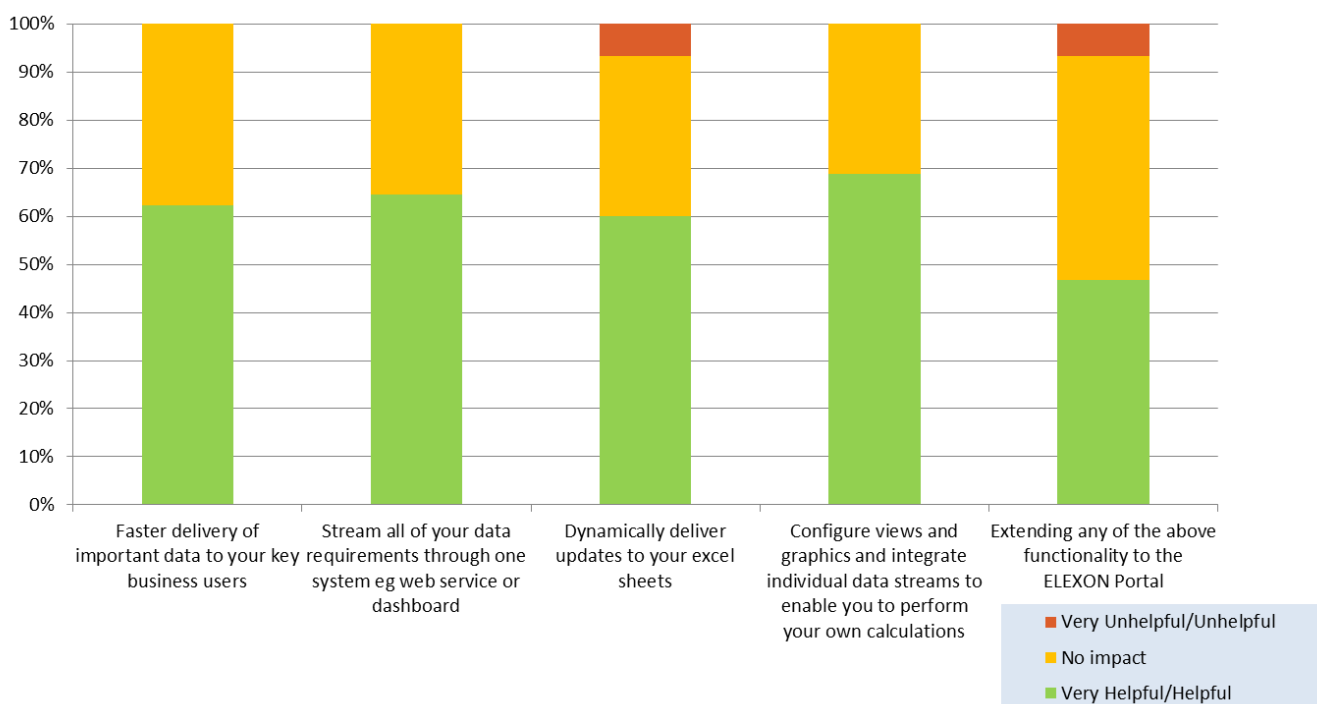


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- Recognising industry uses Excel, this suggestion was to provide a mechanism for Excel auto updating - **60% found this very helpful/helpful.**

## Greater Flexibility

- Ability for interactive users to configure views and graphics and allowing users to perform their own calculations: **69% found this very helpful/helpful**
- Extending functionality to the portal: **47% found this very helpful/helpful**



*Figure 4: Our suggested improvements*

## 2.6 Voice of the customer

From the results of the survey we have reviewed all comments provided by the participants and grouped them into themes as either issues or suggestions for improvements.

### Main issues

#### Reliability/recoverability/performance

17% highlighted that their primary concerns is on performance, particularly around availability and recoverability after an outage:

"There have been occasions where it will not work for 10mins or so"

"It's not uncommon for the website to freeze or crash"



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"Perfect the way it is although does sometimes run slowly during peak usage in the mornings"

As mentioned, the performance is largely affected by the amount of scripting on the website, hence our suggestion to provide a new mechanism to deliver near real time data to customers.

## **Integration with spreadsheets/other processes**

17% of respondents articulated the lack of integration of BMRS data with their processes as their main issue and they believed that addressing this will benefit their business:

"Quicker, less highlighting of data on website and copying to spreadsheets; better execution of trading decisions"

"Make it easier to read it via a spreadsheet etc. or by pulling it to a database"

"Deliver data to a spreadsheets, deliver all FPN and MEL data about all power stations to spreadsheets, wind data to spreadsheets, deliver MELNGC, IMBALNGC data to spreadsheets"

"Easier integration into spreadsheets"

We suggest such improvements in section 2.5 above and have introduced this into our requirements.

## **Data often not available in appropriate format or combination**

13% of users highlighted this as an issue. This impacts the interactive website and a solution for automated data delivery needs to ensure data in the right format is delivered:

"Current website is cumbersome to use. Can't group queries on BMUs on a per BSC party basis for example"

"In general it is a very good website, but you need to work on providing the data to data professionals in a more consistent format across all of your data sources"

We agree that the website lacks consistency of data formats across different resources. This is a key requirement to ensure users can consistently download/access data in the right format.

## **Navigation is difficult and data lacks proper explanation**

General comments around BMRS navigation were made by 11% of the users:

"Better definitions of all data items"

"Data needs to be better organised, ability to look back at earlier published time data"

"It is difficult to navigate - need things like BMU ids on the same site not on another one"



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ELEXON is investigating cost effective ways of making improvements to the BMRS front end that will ensure it is more intuitive to use.

## Other Suggestions

Respondents' comments highlighted other areas of improvement and are included below.

### **Delivery of data by web services/automated feeds**

13% felt the most important improvement to them is automated data delivery:

"Expose the data on a web service/use of API's"

"Allow an API to bmreports.com without a max number of downloads"

"XML file delivery via a web service"

Some of these respondents also commented about the costs of the High Grade service:

"Smaller operators are definitely put off by TIBCO licensing"

"Web services would be a good start. Remove the reliance on TIBCO for real time data would be great"

"We are aware of the High Grade but the cost makes it difficult to justify."

### **More historical data**

ELEXON is aware that users require better access to historical data and this has been highlighted in the survey. This will be part of the requirements for the new BMRS platform.

### **Compatibility with other browsers/OS**

There were comments about BMRS being incompatible with some browsers and operating systems

- "Does not work on a mac (snow leopard)"

ELEXON proposes that on a new BMRS frontend, the dependency on technologies such as Flash and Java should be removed to ensure compatibility with a wide range browsers, operating systems and devices, including mobile devices.



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## 2.7 Overall satisfaction

The survey indicates that the majority of users see the BMRS as a valuable resource and a good service overall, with an average approval rating of 6.6 out of 10. Whilst this seems a reasonable score, we feel users are increasingly more demanding with websites in general and we would want a higher rating for such a key information channel.

## 2.8 Conclusion from the survey

The survey confirmed our views regarding how users' requirements are evolving and the results were captured into the requirements for the solution design. We also asked participants if they would volunteer in a trial of any potential alternative service and provide feedback on speed, usability and the ease of integration for their current systems; 44% confirmed they would which is good support across industry for testing new functionality. By addressing the issues highlighted by users in the survey we believe we can improve the overall experience for all users by:

- Providing free alternative to TIBCO for near real time data via web services and APIs
- Better integration with customers' processes through exposing APIs
- Increase reliability and performance of the website
- Provide better organisation of frontend website
- Allow changes to BMRS website content without any software change

Changing the underlying architecture of the BMRS to a modern design that is scalable and extensible will also reduce the cost of future changes.