IT PROGRAMME STRATEGY REVIEW TASK FORCE

Phase 1 Report
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SECTION 1 EXECUTIVE SUMMARY

We summarise below the work carried out by the Task Force and the basis for our outcomes, risk assessments, and recommendations. All of the supporting details are set out in the following Sections of this Report.

1.1 Background

On July 28, 2020 British Eventing published the IT Transformation Project ("ITTP") Review. This summarised the key issues with the IT project that BE started in 2014 and described the current "hybrid" structure for managing entries and scoring through two systems: BE's entry management and scoring system (EARS) and Eventingscores. The context of the decision by the BE Board to launch the ITTP was a determination that the sport needed to develop an end-to-end IT system with a centralised structure encompassing EARS as a replacement for third-party entries and scoring systems (particularly BDWP, given its unavailability from 2020), a new database holding all the data about events, members, horses and results, a Safety App, a customer relationship platform and a rebuild of the BE website. It was understood that establishing the new infrastructure would be a costly and time-consuming process, but that ultimately it would drive additional revenues from sponsorship and advertising.

Recognising that a number of issues have been and continue to be identified with the operation of EARS, and that the continuing challenges with the change management aspects of developing and introducing the new system to the diverse BE user community has damaged the relationship between BE and its stakeholders, BE established the IT Programme Strategy Review Task Force to analyse the current IT situation, fully assess the associated capabilities and risks of the IT programme, and provide recommendations to the BE Board for next steps including a short-, medium- and long-term strategy for the direction and level of future investment.

1.2 Composition and Ways of Working

The Task Force is composed of stakeholder representatives and the members of BE's former IT steering committee and is chaired by Di Brunsden. As set out in the Task Force Terms of Reference (included in the Appendix), the Task Force work is divided into two Phases: Phase 1 focuses on assessing the current situation, with recommendations derived from its conclusions to form the basis for definition of solutions in Phase 2 of its work.

The Task Force began Phase 1 of its work with its first meeting of members on August 27 and has met 6 times in total. From the beginning, the Task Force emphasised the importance of an open, transparent and inclusive way of working, seeking to ensure that end-user views were sought and listened to and that all BE members were kept informed of

the Task Force work through regular updates published on the BE website. All of the published updates are set out in the Appendix.

The Task Force established a number of workstreams composed of end-users and BE's IT and executive personnel (as listed in the Appendix) to carry out the work of canvassing end-users to identify and characterise all outstanding issues according to Critical, High, Medium and Low priority.

The workstreams dealing with end-user issues relating to Entries and Event Management were:

Entries, Substitutions and Withdrawals
Timetabling, Balloting and Waitlist Management
Stabling
Scoring and Results
Sectioning and Times

Three other workstreams focused on the processes operated by BE's Head Office:

Membership and Registration
Financial Reconciliation
Reporting and General Administration

The final three workstreams focused on the costs, architecture and governance processes of the IT system:

IT Running Costs Analysis
Tactical Architecture Review
IT Change Control Process

1.3 Process for Agreeing Decisions, Outcomes and Recommendations

Each of the Entries and Event Management workstreams, and those dealing with the Head Office processes, began work with a preliminary list of issues culled from information previously provided by stakeholders. This list was scrutinised by all workstream members and progress was reviewed at each Task Force meeting. Once finalised by the workstream, the log of issues and issue prioritisation was reviewed and agreed with BE, and a summary in standard format highlighting the key findings and critical issues was prepared and also agreed with BE. The summaries were approved by all the Task Force members as the basis for, and for inclusion in, this Report, and are set out in Section 2.

The IT Running Costs Analysis, the IT Change Control Process, and the Tactical Architecture Review workstreams were carried out in a similar way, based on discussions between the Task Force leaders and BE Task Force members resulting in agreed documentation in detailed and summary form.

The final issue logs produced by workstreams are included in the Appendix. The agreed detailed and summary documentation from Running Costs Analysis, Change Control Process and Tactical Architecture Review are set out in Sections 4, 5 and 6 respectively.

In the course of its work, the Task Force approved two overarching decisions identified by all Task Force members as essential to achieving its purpose:

- a moratorium on any further development of the EARS scoring app or sectioning and times functionalities; and
- the involvement of end-users at the earliest possible stage and throughout the process up to and including final testing and roll-out of any new functionality or new applications developed by BE

The full texts of these decisions and the others taken by the Task Force are set out in Section 3.

1.4 Business Process Questions

The Task Force has identified certain matters which fall outside its remit but present important questions for consideration by BE in formulating and implementing its approach to IT. For example, should the payment for entries be handled centrally by BE, or on a distributed basis by each event organiser, as is the case with British Dressage and British Showjumping? These business process questions are set out in the Appendix.

1.5 Specific Outcomes

Section 2 presents a summary scorecard of all agreed issues identified during Phase 1, highlighting those that are critical. We summarise these outcomes below.

1.5.1 Entries and Event Management: We established that there are 36 Critical issues arising with respect to Entries, Substitutions and Withdrawals; Timetabling, Balloting and Waitlist Management; Stabling; Sectioning and Times; and Scoring and Results. In particular:

- The **Entries** process works without major issues for grassroots riders entering one horse at a time, but it has some substantial issues for Entries Secretaries and Entries Agents. In particular the financial control around withdrawals and other changes to entries is a critical issue as is the validation of entries, with a number of examples of horse/rider combinations being accepted for classes for which they were not qualified. Of all the workstreams, Entries, Substitutions and Withdrawals identified the largest number of issues including 10 Critical ones

- The **Stabling** and hook-up functionality is not fit for purpose and as a result, a number of events have chosen to manage the booking of stables outside the system.

- Whilst **Balloting and Waitlist Management** can be completed within the system it is unnecessarily time-consuming and error prone. Timetabling is now primarily completed using Eventingscores and manual spreadsheets.

- The **Scoring and Results** functionality developed in EARS is not fit for purpose and is not in use, instead Eventingscores provides all scoring functionality and passes the results to EARS.

- The **Sectioning and Times** functionality within EARS is not fit for purpose, and all users now use Eventingscores to create sections and allocate times.

1.5.2 Head Office Processes: We established that there are 6 Critical issues arising with respect to the processes managed by Head Office relating to Membership and Registration; Financial Reconciliation; and Reporting and General Administration

- The **Membership and Registration** functionality works for initial horse and member registration but lacks functionality for joint ownership, lifetime members, multiple horse registrations and syndicates. The partial sale of jointly-owned horses is also not handled well.

- The **Financial Reconciliation** functionality, which records and reconciles amounts received by BE from entries, and amounts paid out by BE to event organisers, including dealing with refunds, presents some issues. However, these are mainly due to the manual nature of the process at the moment, and the numbers are immaterial. A new financial report has been developed by BE which addresses some of the issues.

- The processes relating to **Reporting and General Administration** are quite well supported by the new IT infrastructure. Most of the identified issues relate to functions that are still manual which could be automated, some reports still being run from the old BE legacy database and some time-consuming frustrations with the creation of event schedules.

1.5.3 Running Costs: Our assessment includes an estimate of the running cost of the end-to-end IT system. We conclude that assuming there is no change to the current IT operating model that additional resources would be needed to mitigate the risks and provide adequate support in maintenance and ongoing development.

  - The current proposed IT budget for 2021 of £383,000 does not fully cover the costs of a sustainable IT team sufficient to remove single person dependencies and pay for the ongoing use of Eventingscores.

- Adding the identified resources would lead to a budget of approximately £600k in 2021; however it is unlikely that this will be necessary given the opportunities to make adjustments to the IT operating model such as the immediate enhancement of Eventingscores to cover additional event management functions, as set forth below in our recommendations, and to adopt additional risk mitigation strategies.
- A rough calculation of cost per starter (a common metric used for pricing third-party event management systems) indicates that based on the current proposed budget for entire IT spend in 2021 the cost per starter approximates £6 and would rise to approximately £9.4 per starter if the IT budget were to be increased to the ideal sustainable level of approximately £600,000 to support the current end-to-end system.
- BE has never intended to cover the costs of the entire IT system through charges to event organisers, and the agreed model for charging event organisers for the use of EARS, which is estimated at £25,000 for 2021, recoups only £0.41 of this cost.

The current costs do not take into account the additional time from entries secretaries and scorers to operate EARS, none of which has been charged to BE during 2020 but represents an unsustainable model that would require additional support going forward. There are as yet no identified revenues or any significant cost savings from the IT system.

1.5.4 Tactical Architecture: The current architecture is complex and the new environment is not fully implemented. The website in particular is poorly designed and constructed, and this element is not well understood by the current IT team. The BE Head Office continues to rely upon the old BE legacy database to complete validations of entries as the current validation service points to the results and rules held in that database. In addition, a copy of the new database is used for access to membership data. In order to periodically keep the old and new databases in sync, it has been necessary to put in place additional processes. The infrastructure is now at risk to at least two separate key person dependencies which is the specific risk the new system aimed to remove.

We established the key principle that BE should be working towards a distributed network of applications that support specific business functions. We also established that when considering future projects/development and subject to the usual commercial considerations BE should buy or take advantage of existing systems from third parties. This would simply expand the current concept of using Eventingscores in lieu of using EARS to deliver key aspects of event management functionality.

1.5.5 Change Control: We established that fundamental changes need to be made, as the current process does not provide a basis for identifying priorities and timeframes for deliverables or for measuring progress in achieving them. Furthermore, the discipline for agreeing end-user requirements for changes and end-user testing has not consistently been adhered to, which has resulted in changes being developed and rolled out which do not meet end-user needs.

1.6 Risk Assessment

Based on the Task Force work we have identified key risks arising from maintenance of the current structure, including related steps for immediate risk mitigation where already identified during the course of Phase 1. We set our risk assessment in the form of a simple risk register in Section 7, and summarise this below.

- A primarily bespoke IT infrastructure runs the risk that all future costs have to be borne by BE alone; opportunities to benefit from innovation and economies of scale could be missed
- The lack of appropriate change control procedures runs the risk that future IT spend does not deliver the best value for money and that the requirements of end users are not properly understood or prioritised
- The current infrastructure has two critical key IT person dependencies and to mitigate these would require BE to recruit additional technical specialists, with limited ability to attract and retain the best candidates.
- Operating without a well thought-out, agreed and regularly revisited IT strategy runs the risk that the future needs of stakeholders will not be met
- An IT infrastructure that does not meet all the user requirements risks BE's ability to retain event operations staff, exposes competitors to safety issues and destroys confidence in the integrity of financial and operational information
- Lack of regular, detailed communication about IT plans to all members and stakeholders risks losing confidence in BE and damaging these key relationships
- Taking on the role of payment agent has introduced the additional risks and costs associated with moving approximately £7m annually between entrants and organisers.
- The continued use of Eventingscores as a third-party system that implements a number of BE rules and regulations runs the risk that those rules are not implemented correctly as changes to the system are not controlled directly by the BE team.

1.7 Recommendations

Based on the outcomes of our Phase 1 work, and to begin to address the risks we have identified, the Task Force recommends implementation of a number of actions. These are summarised below and are set forth in more detail in Section 8.

Our recommendations are:

- Establishment of a properly formed IT Steering Committee reporting to the Board with:

- membership to include independent persons with key competencies and full representation of all end users
- published terms of reference providing for the creation and maintenance of a detailed set of milestones and cost/benefit reporting
- responsibility for the continued development, management and implementation of the IT roadmap defined by the Task Force
- regular reporting to the Board and to BE membership and stakeholders

- Pending review by BE management over the next 8 days of the commercial implications, the enhancement of Eventingscores to provide the Event Management function of balloting and waitlist management, with no further development of the EARS functionalities for scoring and results, timetabling, balloting, waitlist management, sectioning and times other than to provide the necessary interfaces for Eventingscores to carry out these functions in time for the start of the 2021 season. Two specific risks will need to be mitigated: the key person dependency on Miranda Collett and the risk that BE rules are not properly implemented in Eventingscores
- Continuing work on the entries function in EARS to address as many as possible of the critical issues before the start of the 2021 season
- The development, as far as is possible, of a mitigation strategy addressing all of the risks currently presented
- The development of an outline roadmap for BE's IT infrastructure, including short-, medium- and long-term actions.
- A review of third-party applications and suppliers that perform some or all of the activities currently undertaken by BE for the purpose of informing the future roadmap.

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SECTION 2 WORKSTREAM RESULTS

The Task Force established a number of workstreams composed of end-users and BE's IT and executive personnel (as listed in the Appendix) to carry out the work of canvassing end-users to identify and characterise all outstanding issues according to Critical, High, Medium and Low priority.

Each of the workstreams addressing Entries and Event management and Head Office functions began work with a preliminary list of issues culled from information previously provided by stakeholders. This list was scrutinised by all workstream members and progress was reviewed at each Task Force meeting. Once finalised by the workstream, the log of issues and issue prioritisation was reviewed and agreed with BE, and a summary in standard format highlighting the key findings and critical issues was prepared and also agreed with BE.

The process was conducted in a similar way for the workstreams addressing Running Costs Analysis, Change Control Process, and Tactical Architecture Review, starting with one or more fact-gathering discussions with the BE workstream members, and proceeding through review and agreement of detailed findings and summaries.

All summaries were approved by Task Force members as the basis for, and for inclusion in, this Report, and are set out below in this Section or in Sections 4, 5 and 6.

To reiterate, all issues raised in each of the workstream have been agreed with the BE IT team. Each issue was classified as either Critical, High, Medium or Low priority, with one additional category of Nice to Have. Critical issues are defined as those which:

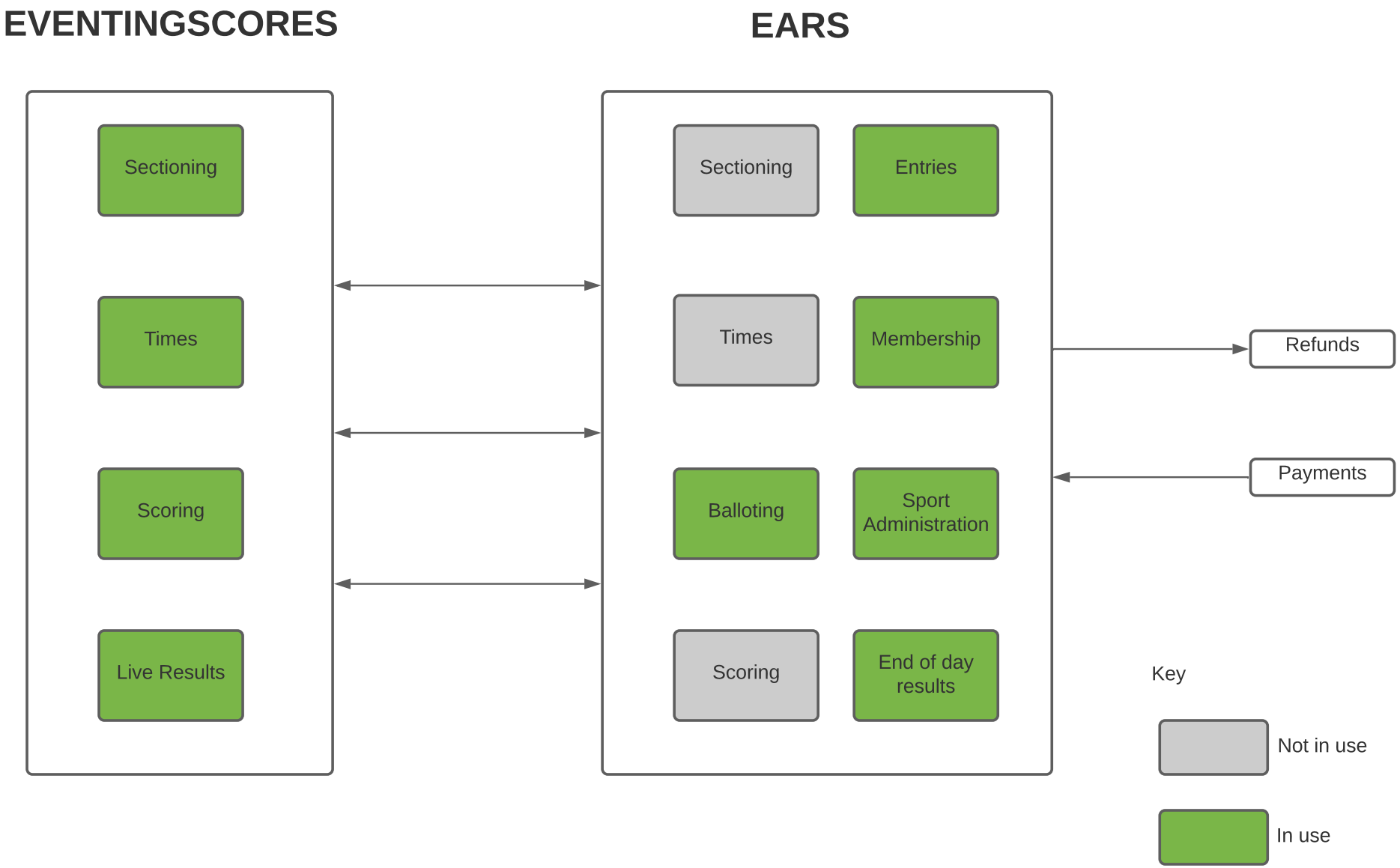
> "Cause substantial additional work or identify inconsistent or missing critical data"

The following IT diagram illustrates how the functions covered by the workstreams are supported by EARS and Eventingscores.

Also included is a scorecard that summarises the results of the Entries and Event Management workstreams and the overall impact on the main user groups:

- Entries Secretaries and Scorers
- Professional riders and their agents
- Grassroots riders
- The sport administration team
- The Youth Programme team

British Eventing IT



2.1 IT Task Force – Worksteam Findings Summary

	Entries Secretaries & Scorers	Professional Riders and Agents	Grassroots Riders	Sport Administration	Youth Programme	Primarily Delivered by	Number of Critical Issues
Entries, Substitutions and Withdrawals				N/A		EARS	10
Financial Reconciliation		N/A	N/A	N/A	N/A	EARS	3
Balloting, Timetabling and Waitlist Management				N/A		EARS	8
Stabling			N/A	N/A	N/A	EARS	8
Membership and Registration	N/A					EARS	2
Reporting and General Admin	N/A	N/A	N/A			EARS	1
Scoring and Results				N/A		Eventingscores	2
Sectioning and Times		N/A	N/A	N/A	N/A	EARS	5

RED Critical issues significantly affect efficiency and data integrity

AMBER – Issues exist but are manageable

GREEN – No significant issues

2.3.1 Entries, Withdrawals and Substitutions

In total 65 issues were raised by the Entries, Withdrawals and Substitutions workstream:

10 Critical
23 High
22 Medium
10 Low

The key finding is that whilst the entries process works without major issues for grassroots riders entering one horse at a time it has some substantial issues for Entries Secretaries and Entries Agents. In particular the financial control around withdrawals and other changes to entries is a critical issue as is the validation of entries with a number of examples of horse/rider combinations being accepted for classes for which they were not qualified. Of all the workstream the entries process has the largest number of issues identified.

In summary the 10 Critical issues are:

- The process for withdrawals is very longwinded and error prone. Processing one withdrawal less an administration fee is 16 clicks
- The refund process should be much more automated and requires a much more robust audit trail
- Entry validation does not always work on amendments and substitutions
- Entry validation does not always work on initial entry – whilst they work in the vast majority of cases the MER, HC and age checks do not always work.
- Throughout the entry process the individual amounts and totals do not always add up
- Entries secretaries are unable to determine an accurate list of who has paid what with manual processes required to determine outstanding payments
- Entry confirmations are sometimes sent to past owners of horses
- Accurate entry lists with totals per day are not available. This makes decision-making by organisers and riders very difficult. Deciding whether or not to ballot or which class or day to choose when making an entry requires clear information
- Exemptions given to youth members are not properly implemented leading to safety concerns
- Riders can enter classes above their level by ticking the HC box

2.3.2 Timetabling, Balloting and Waitlist Management

In total 23 issues were raised by the Timetabling, Balloting and Waitlist Management workstream:

8 Critical
9 High
6 Medium
0 Low

They key finding is that whilst balloting and waitlist management can be completed within the system it is unnecessarily time consuming and error prone. Timetabling is error prone and complicated and so is now primarily completed using Eventingscores and manual spreadsheets.

In summary the 8 Critical issues are:

- There is no ballot summary screen showing entries in ballot order
- Balloting happens 'live' meaning it is visible to all during the construction of the list
- Refunds as a result of the ballot are handled entirely manually although automation is in final testing
- The ballot report contains inaccurate data (members listed as day ticket holders when they are full members)
- General errors in the Timetabling software make timetabling difficult and untrustworthy. Timetabling is now primarily handled in Eventingscores
- The list of waitlisted entries is not in waitlist order and must be individually placed in the correct order by a time-consuming process of dragging and dropping each entry
- Random unselected entries can appear in the waitlist during its construction.
- Rider nationality is not correctly reflected in a download used to support balloting

2.3.3 Stabling

In total 20 issues were raised by the Stabling workstream:

8 Critical
2 High
8 Medium
1 Low
1 Nice to Have

The key finding is that the stabling and hook-up functionality within the system is not currently fit for purpose and a number of events have chosen to manage the booking of stables outside of the system.

In summary the 8 Critical issues are:

- The count of number of stables booked is inaccurate and unreliable
- No report is available for entries secretaries to run that shows the list of stables booked and paid for that can be relied upon
- No report is available for entries secretaries to run that shows hook-ups booked and paid for that can be relied upon
- Draft entries are included on the stabling list
- Overall, the totality of issues means some events are using other external systems to manage stabling
- Stabling list includes horses that have had their stabling fees fully refunded
- There is no mechanism to cancel a stable booking and stables are not released when a horse is withdrawn
- No report is available to support the allocation of horses to stables

Two of these Critical issues are fundamental data integrity issue; five are essentially data presentation issues that may be resolved by improved reporting.

2.3.4 Scoring and Results

In total 11 issues were raised by the Scoring and Results workstream:

1 Critical
3 High
4 Medium
3 Low

They key finding is that the scoring functionality developed in EARS was not fit for purpose and is not in use. Eventingscores is providing all scoring functionality and passes the results to EARS.

In summary the 1 Critical issue arising from the current hybrid EARS/EventingScores system is:

- FEI results are missing or incomplete for Non-GBR horses and historic results over three years old. This affects league calculations and MER tests.

2.3.5 Sectioning and Times

In total 9 issues were raised by the Sectioning and Times workstream:

5 Critical
2 High
2 Medium
0 Low

The key finding is that the totality of the issues with the sectioning and times functionality within EARS make it not fit for purpose. All users now use Eventingscores to create sections and allocate times.

In summary the 5 Critical issues are:

- Reports and screens are set up in a way that does not match with the way in which the business process is executed.
- There is not a single simple report that supports the sectioning process.
- If an entry is amended it becomes 'not accepted' and can easily be missed from the sectioning process.
- The whole process for allocating times takes far too long.
- Overall the combination of issues makes the sectioning and times functionality unusable with all Entries secretaries on the Task Force preferring the functionality in Eventingscores.

2.3.6 Membership and Registrations

In total 13 issues were raised by the Membership and Registrations workstream:

2 Critical
3 High
4 Medium
4 Low

They key finding is that the membership and registration functionality works for initial horse and member registration but lacks functionality for joint ownership, lifetime members, multiple horse registrations and syndicates. The partial sale of jointly-owned horses is also not handled well.

In summary the 2 Critical issues are:

- Horses cannot be registered with multiple owners without help from the BE office.
- Syndicate horses cannot be registered by one of the syndicate's entries agent.

2.3.7 Financial Reconciliation

In total 9 issues were raised by the Financial Reconciliation workstream:

3 Critical
3 High
3 Medium
0 Low

They key finding is that whist the approximately £7m that flows into and out of BE's account each season is controlled and eventually reconciled the process has a number of manual steps, is time consuming and prone to errors. The errors are however immaterial, and the recent implementation of new reports have improved the situation.

In summary the 3 Critical issues are:

- The remittance report to support the reconciliation now exists but is not easy to use and is spreadsheet-based
- The final payment to organisers is being delayed due to the manual nature of the work
- VAT can be missing from a tiny percentage of entries taken

2.3.8 Reporting and General Administration

In total 15 issues were raised by the Reporting and General Administration workstream:

1 Critical
2 High
5 Medium
7 Low

The key finding is that the BE Head Office administration and reporting processes are quite well supported by the new IT infrastructure. Most of the issues relate to functions that are still manual that could be automated. There are some reports that still run from the old BE database and there are some time-consuming frustrations with the creation of event schedules. The Critical issue concerns Equiratings ERQI ratings which could be reported in a more timely and effective manner.

In summary the Critical issue is:

- Riders should be warned at entry time that they are subject to a reverse qualification and Event Officials should receive an ERQI list ahead of every event.

SECTION 3 DECISIONS MADE

During the course of its work, the Task Force formally approved the following decisions:

3.1 Moratorium on EARS Scoring, Sectioning and Times Development

On August 27, the Task Force approved the following:

"A moratorium on any further development of the scoring app or sectioning and times functions within EARS until Task Force work is completed, subject to ensuring that support is provided for the Winter Series."

3.2 Voting

On September 8, the Task Force approved the following:

"The Task Force approved the criteria for taking decisions (for example, on the recommendations to be made), being a majority vote of Task Force members, where at least 5 members are present including:

- Either Di Brunsden or Terry Miller
- Either Jude Matthews or Wendy McGowan
- Either Elaine Tragett or Rebecca Markillie
- Either Simon Bates or Martyn Johnson"

Note that as agreed at the meeting on November 3, and as stated in the Action Points for that meeting:

"All of the Task Force members will participate in reviewing and signing off the final summaries as the basis for the Phase 1 report. However, because the full Report will include recommendations for Phase 2 work which necessarily will involve looking at potential alternatives to the current IT system, those Task Force members with direct conflicts of interest, being the BE IT team and Miranda, will be recused from reviewing and signing off the full Phase 1 report."

3.3 End-User Engagement

On September 29, the Task Force approved the following:

"To underline the importance of the core principle of end-user involvement in achieving end-user acceptance of new functionality and new applications of BE data, the Task Force

has agreed that the following key elements should be implemented in developing and rolling out new functionality or new applications:

- end-users must be involved at the earliest possible stage and throughout the process up to and including final testing and roll-out
- a full business design of any new functionality must be presented to and signed off by end-users before development
- before any new functionality is released to the live environment formal sign off of acceptance testing should be obtained from the end users
- the list of end-users for each new functionality or new application identified for implementation during the existence of the Task Force should be approved by the Task Force"

3.4 Approval of Final Summaries of Work Stream Issues

On November 3, the Task Force approved the following:

"That the final summaries of agreed issues as presented to the meeting are approved for the purpose of using them as the basis for, and including them within, the Phase 1 Report."

SECTION 4 IT RUNNING COSTS ANALYSIS

4.1 Summary

The current running costs should be considered within the context of the rationale upon which the BE Board approved the ITTP: a conscious determination to build an end-to-end bespoke IT system that would enable the sport to be managed and run without the use of BWDP (which employed old technology, could not be upgraded for use with the new IT system, and ceased to be available in 2020) or other third-party systems in use at that time. Other than EARS, many aspects of the IT system have performed well and although significant revenues had not yet been delivered BE management continues to believe that these will materialise as digital assets are exploited more fully.

The current proposed IT budget for 2021 of £383,000 does not fully cover the costs of a sustainable IT team sufficient to remove single person dependency and pay for the ongoing use of Eventingscores. In order to mitigate the risks arising from maintaining the current EARS/Eventingscores hybrid model, the budget would need to be increased by approximately £180,000, sufficient to cover some combination of the staffing costs of a sustainable in-house IT team using EARS functionality and/or an increase in the costs of Eventingscores to accommodate the level of event management functionality carried out by Eventingscores. This would result in a baseline running cost of £562,987. However, it is unlikely that this will be necessary given the opportunities to make adjustments to the IT operating model such as the immediate enhancement of Eventingscores to cover additional event management functions, as set forth in our recommendations, and to adopt additional risk mitigation strategies.

A rough calculation of cost per starter (a common metric used for pricing third-party event management systems) indicates that based on the current proposed budget for the entire IT spend in 2021, the cost per starter approximates £6 and rises to approximately £9.4 per starter if the IT budget is increased to the ideal sustainable level. BE has never intended to cover the costs of the entire IT system through charges to event organisers, and the agreed model for charging event organisers for the use of EARS, which is estimated at £25,000 for 2021, recoups only £0.41 of this cost.

The IT running costs can be summarised as:

	Cost	Cost per starter*
2021 Budgeted (current risks unmitigated)	£382,987	£6
2021 Sustainable team (estimated with risks mitigated)	£562,987	£9.4

**Assuming a constant 60,000 starters annually*

These costs do not include the additional costs of BE Head Office non-IT staff spent either supporting the IT process or covering the additional tasks of processing payments in and out of BE. Nor do they include the cost of increased time being spent by entries secretaries and scorers due to the limitations of the new environment. This increase is estimated at between 20% and 100% more time being spent. None of this additional time has been charged to BE in 2020 but this is clearly not a sustainable situation, and it should be noted that beyond the increased time involved, the additional stress from struggling with the current system means the sport is at risk of losing a number of experienced event management personnel.

No additional revenues or cost savings have been yet been attributed to the new IT environment and the costs budgeted to recover from the organisers (£25,000) are significantly less than BE's cost for providing the IT and payment processing service.

4.2 Detailed Findings

This workstream is directed at achieving one of the core objectives of the Strategy Review, as set out in the Terms of Reference: to ensure that BE's IT programme delivers best possible functionality for all BE stakeholders "within an accountable and sustainable IT budget". In particular, as set out in more detail in the Terms of Reference, the workstream is responsible for the following:

- a high-level cost analysis of the current set of systems
- establishing the baseline running costs of the current system, distinguishing between running costs and on-going development costs; and
- fully examining the estimated £500k spend for 2020

The starting points for this work were the budget figures provided by BE in August and October, including the budget for 2021, the latest forecast for 2020 as of October 1 and the breakdown of the Salesforce license costs for 2021 (these figures are included in the Appendix), as well as the information included in the IT Transformation Project Review published on the BE website in July and the BE Annual Report and Financial Statements for 2019.

The following points have been agreed:

4.2.1 Staff Costs

The 2021 proposed budgeted cost of £208,287 covers only the three direct IT staff and the new Drupal Developer currently being recruited.

There is no allocation of time from the COO or the CEO to IT.

If additional revenues are achieved over those in the budget, an additional Salesforce Developer (£50k) and Salesforce admin support person (£35k) have been identified by management as being required to ensure a sustainable team and reduce the risks associated with the current key person dependency. At an ideal team size of 6, it would be

important to also have a team manager (£80k), someone with both IT and leadership skills; this person could fulfil the "project manager" aspects of organising and driving end-user involvement, etc. The likely all-in costs for these three additional roles taking into account NI, benefits, etc. would approximate £180k per annum.

The IT team reports to the CEO with the COO supporting them.

However, two additional staff members report to the COO and as their responsibilities include liaising with entries secretaries, the COO is also involved in those aspects, and for example she handled the recent EARS release of class totals and waitlist improvements to the entries secretaries. The two additional staff members were both recruited to support the entries secretaries. Currently, the processing of refunds is adding to their workload and as a consequence one of these and a Finance staff member are assisting in other areas. Currently all three of these are working overtime, but this is expected to reduce once refunds are capable of being actioned by the entries secretaries.

The additional effort required from entries secretaries and scorers is estimated at 20% to 100% more than that previously required under the pre-ITTP environment. In 2020 most if not all of this additional time has not been charged to organisers, but this situation is not sustainable long term.

The additional time required to process refunds at Head Office, and the manual process for reconciling payments received from entries vs payments due to event organisers has not yet been estimated.

4.2.2 Contractor Costs

Contractors are individuals BE contracts with directly. During 2020 there was a conscious decision to incur contractor costs in excess of budget (£110,810 vs. £63,700) to assist with development as recruitment of the Drupal Developer was delayed from that included in the staff costs budget and, for example while the current developer was on holiday. BE doesn't intend and cannot afford to use contractors in 2021 and hence no contractor costs have been budgeted for 2021.

4.2.3 External Consultancy

These are third party suppliers with whom BE has contracts to provide various services. For 2020 and 2021, the budgeted costs are based on the support agreement with Accordis, who provide support services for the offsite web servers, backups and network support. The costs are budgeted to increase slightly from £14,300 in 2020 to ££16,000.

4.2.4 Eventingscores

The Eventingscores costs are charged to Sport, not IT, as was the other third-party systems, so don't appear in the IT budget. Miranda Collett is separately paid as a scorer. The cost of using Eventingscores until May 2021 is £3200. From May 2021, a new arrangement would have to be negotiated.

4.2.5 BHS Network Support

The BE equipment currently is housed in the BHS server room at Stoneleigh, for which BHS charges – the current 2020 forecast for this cost is £28,000, above the budgeted cost of £18,300. BE is exploring alternative office accommodation for 2021, and hence no charge for this is budgeted for 2021.

4.2.6 Web Servers Hosting Fees

These are based on the current contractual arrangements, which are forecasted to incur an increase in 2021 (£43,000 vs 2020 costs of £35,836).

4.2.7 Telephone and Travel

No costs are budgeted for this in 2021 as there is no IT manager with a BE mobile, and meetings are expected to take place by Teams rather than in person.

4.2.8 Software Licences

£95,000 is budgeted for 2021. Of this, the Salesforce licences amount to £52,680 according to the breakdown provided by BE. Removing it from entries secretaries' or scorers' desks would not realise much in terms of cost savings.

4.2.9 Hardware Maintenance and Consumables

The cost has gone from £1,245 in 2019 to £20,700 in 2021 because all staff have been moved from desktops to laptops. Equipment is leased rather than outright purchase. This was planned but has been very timely to facilitate home working during the COVID lockdown.

4.2.10 End User Training and Testing

No money has been budgeted for this in 2020/2021 because it would all be done by Teams/Zoom. The approach to training and testing initially was based on appointing a subject matter expert, to serve as the linchpin between the BE IT team and end users, and she carried out user training and testing along with one of the two staff members responsible for liaising with entries secretaries (both of them being entries secretaries and scorers themselves), with support from two of the IT staff. There were weekly Zoom sessions at the beginning of the year for the roll-out of EARS. During the COVID lockdown, these were suspended, but sessions are now organised from time to time. A group of users were identified two years ago to assist in testing EARS. As sport has resumed, user training and testing has been picked up by one of the staff members responsible for entries secretary liaison. The COO supports this where needed, for example, she handled the recent EARS release covering class totals and waitlist management.

4.2.11 Allocation of Staff Time

Recognising that the IT team support a variety of IT functions, in rough terms the split between the support of EARS and the support of other functionality supporting the sport, (safety, championships, discipline etc) members and business functions is as follows:

The IT team is split between supporting BAU and delivering on bug fixes and enhancements. EARS has not been operational for long enough to baseline between the two and it would be different for the current developer and the new Drupal developer than for the other two IT staff members

A very rough allocation amongst the three would be:

1) 60% Salesforce system admin and testing across all Salesforce functions
   40% EARS testing

2) 50/50 Salesforce system admin, business analyst assisting the business users with requirements assisting the CEO with managing the JIRA processes, to set up sprints, etc.

3) 25% BAU supporting members and business functions
   75% development divided between Salesforce, Validations, and FEI link

The continuing development work (such as the Refund Functionality and validation), are delivered within the current staffing costs; no external support is budgeted, and no cost is anticipated for enhanced Salesforce or Drupal licenses.

It is difficult to estimate how the ongoing IT costs would change if EARS was retired without further work being done, since any entry/results system will require some level of support from the BE team for integration and data validation, as was the case when other systems were operational (e.g., BDWP). However, if EARS was retired, and assuming that no out-of-hours support was required, it would not be necessary to recruit the additional Salesforce admin support person. The additional web developer would still be required to supplement the existing 3-person team, meaning the total ongoing IT costs would remain at the budgeted amount of £382,987.

4.2.12 Capital Costs

The 2019 accounts show a capitalised figure of £1,480,722 and provide an explanation of the treatment as follows:

> "The costs of the ITTP have been split between the capital costs and amounts expensed to the profit and loss in relation to management of the ITTP. In review of the ITTP it has been assessed that phase 2 (the EARS system) and phase 4 (the website) of this project should be treated as capital costs in that they are seen to be income generating assets and hence ongoing assets of the business."

Beginning in 2019, the website costs are subject to amortisation because the website was put into operation in 2019. Beginning in 2020, the EARS costs will be subject to amortisation, as having been put into operation in 2020. As stated above, the justification for capitalisation is in accordance with accounting principles based on the website and EARS being income generating (for the website, from membership fees and horse registrations, etc. and for EARS, from what BE charges event organisers). Cost savings were not part of the justification. As stated in the 2019 Annual Report and Financial Statements:

> "Due to the bespoke nature of the project, it is not possible to obtain reliable valuations for the cost of similar projects at this time, as the asset has not yet been brought into use. However, it is the judgement of the directors that the cost paid for the project is a reliable representation of the replacement cost of the ITTP"

4.2.13 Cost Recovery

Income from event organisers for using the EARS system is budgeted at £25k for 2021. This is based on an estimate of 158 events running during 2021, as compared to 170 events in 2019, and 89 events in 2020 (with those in 2020 including all those where entries opened, even if cancelled/abandoned thereafter).

Events are charged for using EARS on the following basis:

For National events:

- £15 per section
- capped at £100 for an event with one day of cross country
- capped at £200 for an event with two days of cross country
- capped at £250 for an event with three days of cross country
- capped at £300 for an event with four days of cross country

For International/Championship events - £250 per event

These charges arise from a commitment not to charge more than was charged to event organisers by BDWP, based on a pricing model agreed by the Board using costs incurred by Aston Le Walls.

To get a sense of what would be required in order for BE to recover costs associated with the its entire IT spend across the business, a rough calculation can be based on cost per starters, which is a common feature of pricing by third-party entries and event management systems. Using 60,000 as an estimate of starters for 2021 (the 2019 number was 64,706), the proposed 2021 IT budget (£382,987 plus some additional cost for the use of Eventingscores beyond May 2021, less the BE charges to organisers of £25,000), the cost per starter would be approximately £6. Should budget allow increasing the IT resource to the ideal team size in 2021, the IT cost figure (including an increased staffing cost of £180,000), would take the cost per starter to approximately £9.

Another aspect of the current system is the additional time and effort required by entries secretaries and scorers. Canvassing of current event secretaries and scorers indicates that the time required to fulfil their duties has increased between 20% and 100%. This would indicate that the sport needs to support at least one additional event management person for every 5 events, i.e., another 35 people based on the 170 events that ran in 2019. Providing this support would increase the total of charges per entry required in order to recoup the costs of the IT system.

4.2.14 Revenue

As stated in the 2019 accounts, "while the [BE] directors believe that future economic benefits will flow from the project from better engagement with the membership body and improved compatibility with current technology, it is not possible to directly identify additional revenue streams associated with the project."

Advertising income for 2016, 2017, 2018 and 2019 was:

2016 £29,982

2017 £53,196

2018 £72,607

2019 £65,508

The advertising income is the total of that received from BE's magazine partner who as well as selling printed advertising for the magazine was also contracted for sales of other assets including on the website. They often sold bundled packages across all BE assets (i.e., magazine, website, rulebook etc.) and as such it is difficult to attribute revenue specifically to the sales relating to the website. However, the improvements that were introduced with the new website such as the ability to provide industry standard "Middle Page Units" and videos contributed to the returns that were achieved. Additionally, as a consequence of moving to Salesforce, BE was able to move its communications with members to Marketing Cloud, which allows tailored communications more relevant for the recipient and to introduce and track user journeys on various campaigns. BE is in the process of issuing a contract for a new content partner with greater emphasis on digital as it does not believe that its digital assets are currently being exploited fully.

Note that recovery from Make Positive and Brightsites has already been completely settled, in both cases, and the recovery was a net against amounts otherwise payable.)

SECTION 5 IT CHANGE CONTROL PROCESS

5.1 Summary

The purpose of this workstream is to understand BE's current process for change management. This includes:

- Assessing the process in place that controls the development and publication of a list of agreed, prioritized and costed changes
- Obtaining an understanding of how the implementation of these changes is managed by BE's IT team within the current IT running cost budget.

The summary findings of this workstream are:

- Change management and overall IT governance processes are underdeveloped.
- There is no current functioning IT Steering Committee that includes end-user representation.
- User requirements and final testing are not routinely signed off in a consistent and fully documented manner by the appropriate user community, resulting in new functionality not necessarily being fit for purpose.
- There are no cost or time estimates in place that identify the cost of fixing the critical and high priority issues.

5.2 Detailed Findings

The following describes the Task Force's understanding of the facts within the scope of this workstream.

5.2.1 Existence and Operation of a Steering Committee

The standard approach to ensuring that changes are properly identified, prioritised and implemented on time and on budget, is by means of an effective and representative steering committee to oversee establishment and maintenance of milestones.

So far as we can determine, there is currently no functioning steering committee for the BE IT work. The team currently controlling the IT activity does so in an informal way primarily focused on immediate business priorities and does not always have representation of users from outside of the BE Head Office team and stakeholder representatives. Priorities are set without full end user engagement. No minutes of the meetings that are held are produced.

5.2.2 Business Process Design

New business process designs are not routinely signed off by end users prior to the development of new software solutions. This leads to a disconnect between the

expectations of users and the actual delivery of software. There is a historic set of business process models but due to time limitations these are not complete.

5.2.3 Reporting

Currently, there is no regular reporting of the critical issues outstanding and the progress of improvements back to all of those using the systems. The EARS working group is not supported by a regular report that tracks the progress on the resolution of issues that have been raised.

The monthly report to the BE Board lacks detail. It has no ongoing risk assessment and reports 257 high priority issues identified in both the August and September Board reports. Little or no details are provided about the key issues within that number that need to be resolved.

Identified issues are logged in the JIRA system (see below) but there is little or no ongoing communication about these issues and their progress back to those affected where they are outside of the BE Head Office.

Although a summary of the milestones showing upcoming IT deliverables and timeframes has now been produced for the Task Force, there is no standard milestone reporting for IT changes and upgrades outside of the 2-week Jira “sprint” module, or any regularly updated report showing progress against milestones that is visible outside of the BE IT team.

5.2.4 Cost Analysis

In order to properly prioritise implementation of requested changes, the associated cost should be estimated at the outset and scrutinised periodically thereafter to confirm that the estimated costs remain accurate. These costs are not currently estimated because they are fixed in the sense that they are those of the current IT team, with no external costs associated with the tasks. However, assessing the costs arising from allocation of time by various staff members to particular tasks would permit more specific cost-benefit analysis and prioritisation than is currently the case.

5.2.5 Time Estimates

In order to determine when end users might expect new functionality, the time required to implement changes should be estimated; however, time estimates for changes are difficult due to the pressures of day to day support of the system, and the fact that the underlying code was written by third parties and is not well documented. It is difficult to define the date when a change is to be delivered with any real accuracy. Very few delivery date estimates are apparent, other than the use of the “Sprint” function to place certain deliverables within a two-week period.

5.2.6 Change Requests

Change requests made by the users of the system are recorded in a system called JIRA. This is used by the IT team to log all work outstanding. Work that has been prioritised for immediate work is placed in a "Sprint" list. Work in the Sprint list normally has a time horizon of two weeks, but in many cases must be rolled into a new Sprint list if the pressures of other work does not allow completion within the initial two-week period or the work to be done will take longer than the two week period covered by a Sprint.

As at the last report there were 257 high priority issues recorded in the JIRA system. As already noted, the JIRA system is not routinely used to report back to the end users on the progress and priority of changes.

5.2.7 Testing

Interim and final testing with end-users is critical to achieving end-user acceptance of any changes. The testing processes have not always successfully addressed the challenges presented by the differing working practices and skills of its key end-users, and BE is working to improve this going forward.

During 2019, end-user testing was conducted with a group including representative end-users and an in-house BE resource acting as an end-user representative, and stakeholders were invited to complete website and user training at BE Head Office. However, standardised end-user testing (where the users sign off that the software works as expected) does not appear to have been consistently completed or documented In particular, this does not appear to have happened in March when the EARS system went live and does not appear to be part of a standard protocol for releasing software into the production environment. System testing by the IT team relies upon the test scenarios written by the IT team with assistance in some cases by Miranda Collett or in-house BE expertise. Once the IT team has completed its testing, the relevant business area within BE also tests before deployment. The number of issues in the production environment suggests that these test cases do not cover all aspects of user requirements and underlines the importance of involving key end-users at the earliest possible stage, including interim and final testing before roll-out.

5.2.8 Release Documentation

Changes to the system are not always accompanied by written announcements to all users describing the change. This leads to users not being made aware of new or upgraded features and workarounds that may no longer be necessary. In some cases, users are invited to attend video calls that describe a new release, but the complicated schedules of scorers and entries secretaries make attending video calls less than optimal. This has been improved with recent releases and regular updates of the manual in which updates are highlighted

SECTION 6 TACTICAL ARCHITECTURE REVIEW

6.1 Agreed Overview

The following is an agreed overview of the BE technical environment.

6.1.1 Team

The permanent IT team consists of a Senior Developer, a Salesforce Administrator and a Salesforce Technical Analyst/Administrator. The team has also been able to use the services of a part-time web developer currently working two days a week as a contractor but that person does not want to move to a permanent contract. Given the complexity of requirements from the distributive and diverse character of users (which is the key metric, not the size of the organisation), the team's size currently is insufficient to address demand, with additional developer resource being the priority (see "Resourcing" below).

6.1.2 Workload

The workload of the team is high. The last two IT status reports to the BE board have identified 257 high priority issues that need attention. The team is interrupted by day-to-day necessary work which limits the ability to give good estimates as to delivery dates on development work.

6.1.3 Existing Architecture

The existing architecture is complex and is a mixture of new and old systems and databases (see Appendix F).

There are essentially four databases that are kept in sync - the main salesforce database, a proprietary copy of the Salesforce database used primarily for reporting ("Copystorm"), the legacy BE Office database and the Eventingscores database.

The Salesforce and Copystorm databases are kept in sync not in real time but in batch cycles - with the more popular data being done more often (every 5 minutes) and less used data less frequently.

The BE Office database holds members, horses and results and is used primarily for MER, leagues, championship management, suspensions and disciplines as well as validation of entries. This data is updated as it happens but it can take up to 30mins for data to get from the Salesforce database into the BE database and back again. This may go some way to explaining the timing issues seen by some users when adding data etc.

All historic results are in the Salesforce database as well as in the BE-Office database. Salesforce is the master.

Validations, as well as medical, disciplinary and event incident administration and reporting are still done in BE office as are championships and leagues and qualifications and notifications. These will eventually be migrated to run on the CopyStorm database. The migration is not a priority since the current structure is functional, although clunky.

6.1.4 Existing Technology

The main technology employed within the BE owned systems is varied:

Salesforce – application and database designed for the CRM market
Drupal – Main Website content management system
Microsoft Azure – Ancillary Websites and resource monitoring
PostgreSQL – Database, SQL compliant based on Ingres.
Heroku (owned by Salesforce) – Toolkit to support the running of cloud apps.
Python – Interpreted programming language
ASP.Net/C#/MVC website, hosted in Azure for the FEI website
SQL Server – used in the office (BE-Office and CopyStorm databases) and also used in Azure

There are no particular concerns about any one of these technologies however Salesforce is a technology that whilst it may have been an appropriate solution 5 years ago, is now less popular for smaller organisations.

Salesforce was chosen as the platform in 2014, based on advice from a consultant. It was selected because it was a well-established Customer Relationship Management platform. The integration between Salesforce and the entries/event management functionalities has been more difficult than anyone could have envisaged. The other system considered in 2014 was Dynamix, and probably Dynamix would have been just as complicated.

As far as we can ascertain Salesforce is not used by any other commercial sports membership/entries system nor sport governing body. BE was assured in 2014 that it could certainly handle these requirements. The original concept of Make Positive was to offer BE a reduced development price in exchange for being able to market the system to other sports bodies as a generic structure. This strategy failed to materialise.

The FEI entries website was set up to work with Salesforce through an automatic interface. It is not working well, primarily due to lack of detailed information from the FEI including changing their requirements without any notification. Data clean-up is a complete manual process. When data was imported from BDWP, information on riders was not always captured, which has also caused problems.

6.1.5 Data Model

Apart from the concept of 'households' the data model does not appear to have any major weaknesses. The data model is a great improvement on the old BE data model, particularly for the BE Head Office functions.

The structure of multiple owners (outside of syndicates) has not been fully modelled. It is possible to have multiple owners associated with one horse, but further data fields have not been included (ownership %, communication preferences etc).

Deleting cancelled events from the list of fixtures on the BE website cannot be done where the event has more than one edition (e.g., Aston 1 and Aston 2) because the entire group would be deleted, including the ability to retain historic results.

The data model doesn't currently support the concept of multiple suppliers being involved in the supply of items on an order.

6.1.6 Data Integrity

There have been problems with the integrity of data between the databases, i.e., data records being in one database but not making it correctly to the other, but these are all now believed to be fixed. Copystorm has provided a reliable interface but it does mean that there are several steps involved in syncing, leading to delays.

Some of the problems visible to end users are due to the time delay in syncing the databases. It can take up to 30 minutes for some data to move from one database to another. The users experience this most often when they buy season tickets or day passes for horses and then try to enter that horse – it is not always recognised as having a valid ticket until the databases have synced.

6.1.7 Resourcing

Ideally the team needs a full-time permanent website developer. From time to time additional contract website developers may be needed. The need for additional Salesforce developers is harder to estimate. It's possible that two are needed - perhaps one should be permanent and the other contract but all of this depends on the overall development demand.

A sustainable team size would be a minimum of 6 people plus a team leader. This would help remove key person dependencies, cover holidays, illness and the need for unsocial hours support.

Recruitment of staff is difficult due to high demand for the required skills and the budgetary constraints faced by BE.

6.1.8 Reporting

End user ad hoc reporting is not well supported by Salesforce. It is not particularly flexible. There are difficulties when the database records have one too many relationships – the reports can't drill down into the multiple records.

Reports are mostly requested by users and then developed by the dev team - this can take as little as 1 day but can be longer depending upon the reporting requirements.

The General Entries report was set up to be used as the basis of an Excel download of information for events. If further information is helpful this could be added to. Access is restricted for community users (organisers, entries secretaries, scorers and TA's for data protection). This approach relies on good Excel skills amongst the user community and Excel training has taken place for those with less experience with the product.

Excel downloads are somewhat inflexible and complex to manage and often need expert intervention although many end users have now had further Excel training it appears that end users still have issues. Among other things, any unusual characters in a horse's name means that it cannot pass through.

There may be an add-on reporting model for Salesforce but so far this has not been explored.

6.1.9 Website

The website appears to be more complex than it needs to be. The code is quite complicated to maintain. The old website was easier to maintain from a developer point of view, because the old coding was simpler than the current website coding. A return to the old website is not an option.

The website code was inherited from the third-party developers and is not well understood or documented.

Whist an external review by a suitably skilled developer might not be the right answer, an initial review by someone taking on the development role would be a valuable piece of work to undertake.

6.1.10 Validation

The validation rules enforced by BE on entry are complex and require reasonable amounts of real-time data about riders, horses, results, points and competition rules.

The current validation code uses data from the legacy BE database. Lags in the timing of updates to this database can be the reason why end users see inaccurate validation fails – particularly on the membership validity of horse and rider.

Currently validation rules are not always correctly applied on amendments (substitutions, class changes etc). Whilst the validation code itself has been thoroughly tested it's very possible that it is not being properly invoked in all the relevant contexts. Validation for "regional finals" and other idiosyncratic requirements does not work correctly.

The validation code used by the website for entries is due to be replaced so that it references the new database and handles all business events however this is a lower priority than other work and is likely to be completed out of season. It is a significant piece of work.

The migration of the validation code to the new database does not require any further data conversion from the old BE database.

The validation software is written in SQL and could be made available to third party applications through a clear API that contains horse, rider, event and class ids. Adding further ids (such as an FEI id) to the interface would be relatively straightforward.

6.1.11 New Class Categories, rule changes etc

The original intention was that end users should have been able to add new class definitions etc but the logic was too complicated and the implementation was poor, so this is now done by directly changing code and so needs developer support.

It's possible that this could be re-addressed in the work on the validation rules.

6.1.12 Interface to Eventing Scores

This interface essentially works. It's an on-demand interface that transfers data between the two systems at the request of the end user.

There are 6 separate APIs to Eventingscores. The latest one includes a status change of an entry to 'withdrawn'. There are no issues with adding further entry status changes to this interface.

The APIs are not separately documented due to time constraints but have been built to be self-documenting as far as possible particularly with regard to which APIs handle retrieving data and those which update data (get and post).

6.1.13 Controls

There may be control reports for business exceptions such as listing people accepted from low in the waitlist but this needs to be confirmed.

There are tools that monitor and control such things as database syncing but not many are automated – they tend to get run when an issue is raised, or issues are in logs that need to be looked at. In due course more can be automated which would require development time.

6.1.14 Requirements

These come from the business.

All development work is managed using tickets in Jira. New work can be added there directly, or as the result of a case raised in Salesforce. The documentation for each task/change/bug depends very much on the scale of the task.

One of the IT staff members is responsible for gathering the business requirements for each new piece of functionality.

Sign off is not consistently obtained from an appropriately representative set of end users. Recent changes (the refund functionality, the class totals and waitlist changes) were completed and implemented without formal sign-off from the end-users.

Updates are issued on proposed changes and anticipated releases, which does generate user comments, but it has been difficult to obtain feedback from end-users.

Business process documentation exists but it is not complete or up to date. It appears that business process flows were not completed for all functions before development started.

6.1.15 FEI Interface

The code to 'speak' to the FEI website from within Salesforce needs updating as the FEI have made some changes.

A separate website https://feientries.britisheventing.com/ hosted in Azure has been built outside of EARS which manages:

- Entries for British riders being passed to the FEI
- Visibility of entries for foreign riders to UK Events, made by their NF with the FEI
- Export of UK International Event results to the FEI
- Import of overseas results for Riders who are members – both British & Foreign. This, when working, is automatic.

This site is mostly working but some functions are not, and it needs some attention. There is evidence of some missing FEI results from the BE database.

There is work in progress to address the missing FEI historic data and reconcile the BE and FEI results databases. This year's results will soon be available in Salesforce.

6.1.16 Evidence of Issues

End users do not always provide good evidence of issues - particularly those that are infrequent and only happen under certain circumstances.

6.1.17 Performance

A number of users report performance issues with Salesforce and the website. The website caches data in a way that is not fully understood by the IT team. A full-time Drupal developer is needed to provide this understanding. Occasionally data is carried across pages incorrectly and has to be refreshed by hand meaning end users experience peculiar and somewhat unpredictable results. The website is slow to load but there may be opportunities to improve performance – Google Lighthouse rates it less than optimal and predicts a possible 50% improvement

Part of the role of the new website developer will be to look at this whole area.

We are reaching some of the data query limits of Salesforce. Whilst we have some workarounds and the separate reporting database helps with this issue its unclear how this issue will be dealt with long term.

Salesforce is a shared platform and so can be slow dependent upon the number and behaviour of other users. The way in which some business processes have been implemented (such as Refunds and Withdrawals) requiring numerous clicks and movement across a number of pages makes the system appear to be slow and cumbersome.

6.1.18 Payments Technology

WorldPay is used for payments on the website and in Salesforce. In Salesforce, there is an app that wraps around the WorldPay payments, but this is about to change as Payonomy is end-of-life and is being replaced with a company called Cloud Payments. Payonomy – and soon to be Cloud Payments – also create the Direct Debit AUDDIS and Payment files, which are sent to Clear Direct Debit for collection.

As noted above under 'data model' the system assumes all payments are made to BE's WorldPay account and currently does not support the possibility of paying more than one supplier of goods or services.

Payments for entries are held in a separate BE account. The account is owned by the BE legal entity and has no special legal status as a client account.

6.1.19 Security

There is an assumption that Salesforce is a secure environment, and Drupal upgrades are implemented on schedule. Some scans have been run on the web servers in the live system but they should probably be scanned more often. There is probably a need for a more comprehensive security review and penetration test, and this should probably be one of the first areas of focus for the new website developer**. In** the meantime, external vendors have offered penetration testing, and this is something that should be explored.

6.1.20 Hardware

BE has 4 virtual servers, hosted on two physical servers, 2 virtual machines (VM's) on each, with a hot standby on the other in case one of the physical boxes fail.

There is also a physical PBX, but this may be moved to a hosted PBX with Spitfire, to improve management of phones calls with people working from home.
BHS currently provide network security (firewalls) but we have our own which need to be deployed.

The VMs are:

- DATASVR2 – SQL Server
- BE-DC01 – AD Domain Controller and network services – DHCP, DNS etc

- BE-FS01 – File server and also misc services – Sage data services and VPN endpoint
- BE-EXCH01 – Exchange mail server. Once migration to Office 365 is complete, this machine is scheduled for retirement

The only reason for owning physical hardware is that it is legacy. It's unlikely that all physical hardware could be retired. A move away from the BHS building would necessitate changes in this hardware and network set up.

6.1.21 Environments

There are three main Salesforce environments, Production, a production mirror and a UAT environment.

One Drupal environment is for Production. The other three are for development/testing/UAT.
Each has its own PostgreSQL Drupal database and there are 3 Heroku Connect PostgreSQL databases with SF data – one for Production and the other two from the 2 sandboxes.

6.1.22 Testing

Testing is carried out in Salesforce sandbox databases which are a mirror of the production environment. Testing is automated based on test classes written in APEX code. When executing a test all test cases must pass and the test must execute at least 75% of the code. Testing could be improved if more test cases were in place.

Website testing is interactive and manual. Test cases are written to test functionality. Regression testing is somewhat lightweight and could be improved.

The testing of the interface between Eventingscores and Salesforce uses production data and works pretty well. A full-size copy of Eventingscores exists to support testing, however there is no automated testing in Eventingscores.

6.1.23 Third-Party System Interfaces

The following systems have some kind of interface to the BE systems:

Eventingscores - API
Equiratings - API
FEI – feientries website
TicketMaster – API to get member details for entry to Events
Old live scoring API, used by a few events to get Event & Entry details.

6.1.24 Safety App

This is a portal within the Salesforce infrastructure – it's a few pages that TAs use, much in the same way that EARS works. It is essentially a front end to the main Salesforce database. Fence records are added to the database manually by the scorers. The XCountry App is not used for safety data.

6.1.25 Transactional Integrity

This is done through various logs the apps that sync the data produces. This has not been developed much, as most of these sync functions, with the exception of the CopyStorm database, are temporary – although they have lasted longer than expected.
Time spent doing anything to these apps beyond fixing immediate issues is time not spent replacing them

6.2 Architecture Principles

The following overarching architecture principles have been agreed by all the IT members of the Task Force.

6.2.1 When considering future projects/developments and where-ever possible and subject to the usual commercial considerations BE should buy or take advantage of existing systems from third parties. It should not develop bespoke solutions if outside solutions are available, affordable and suitable. Examples already in place are Eventingscores, Equiratings, and XCountry App.

6.2.2 Any software built by BE should be built with deconstruction in mind – so functional components should have restricted responsibilities and should not need to know much about the responsibilities of other components.

6.2.3 Future architecture should be developed around clear business function areas to facilitate principles 1 and 2.

6.2.4 All APIs should be clear and well documented and should assume multiple systems as possible clients.

6.2.5 The architecture should be designed to reduce risk and complexity given managing IT is not part of BE's core business.

6.2.6 All applications should be hosted by third parties where possible. BE should not be in the hosting business.

6.2.7 Clear interfaces should be drawn between the user interface (website) and the business transaction processing software. All business rules should be separated from the website infrastructure wherever possible.

6.2.8 Persistent data should reside with the functional business process responsible for its management. A single large persistent database servicing all business functions is to be avoided. However, this does not preclude a central database continuing to be the primary data repository. Each new major piece of functionality should consider all options for data storage, with a decentralised approach favoured when all other considerations are equal.

6.2.9 All user interfaces should be desktop, laptop and tablet and smartphone friendly.

6.2.10 Focus should be on identifying high-volume or risky transactions with clear business case analysis supporting any new automation decisions.

SECTION 7 RISK ASSESSMENT

In this section, we set out a simple framework highlighting the key risks, and some potential mitigants featuring in our recommendations. The intention is to use this as a basis for creation and maintenance of a more detailed risk register, regularly updated and presented to the Board at each of its meetings. The newly-formed IT Steering Committee should undertake responsibility for overseeing this process as a key element of ongoing rigourous risk assessment of the IT programme.

AREA	RISK	SUGGESTED MITIGATION APPROACH
BESPOKE IT INFRASTRUCTURE	The implementation of a primarily bespoke IT infrastructure runs the risk that : • All future costs to develop the infrastructure must be paid for by BE alone. BE may not benefit from the economies of scale available when using third-party products. • BE stakeholders will not easily benefit from innovation and market developments by third-parties. • The full replacement costs of these systems once they become obsolete will fall to BE	
CHANGE CONTROL	Failure to agree and document sign-off on business process design through end-user involvement means: • requirements of end-users are not properly understood or prioritised • new or improved functionality does not deliver on user requirements,	The following key elements should be implemented in developing new functionality or new applications: • end-users must be involved at the earliest possible stage and throughout the process up to and including final testing and roll-out • a full business design of any new functionality must be presented to

		and signed off by end-users before development
	Failure to test with end-users against agreed business process design means that new or improved functionality is not accepted by end-users and does not perform as expected	Before any new functionality is released to the live environment formal sign off of acceptance testing should be obtained from the end users with the list of end-users for testing each new functionality or new application be approved by an IT Steering Committee
	Failure to develop and maintain transparent, consistent and accountable change management process means that changes are not properly prioritised or implemented on a timely basis	Create, approve and publish an enhanced change management process with defined priorities, costings, and milestones Establish an IT steering committee as a committee of the Board, composed of executive and independent members with relevant competencies, to meet at least monthly to review a detailed report of progress against milestones and review of a detailed risk register, publishing its minutes and the updated reports and providing updates at each Board meeting
IT PERSONNEL	Continuing use of the current hybrid model with existing personnel exposes BE to two key person dependencies in Miranda Collet and Adam Cadman. Inadequate staffing and staff management, including lack of project management skills, clearly defined reporting lines, and effective definition of span of control and delegation of duties: • jeopardises the ability to identify and manage priorities in order to fix issues and develop and roll out new	Increase the current IT budget either by establishing a sustainable IT team of 6 people and a team leader with project and people management skills to cover use of all EARS functionality inhouse, or to accommodate increased functionality provided by Eventingscores Ensure that Eventingscores shares system information

	functionality on a timely basis • Damages the team's morale and effectiveness • Diminishes the likelihood of recruiting the best candidates in a highly competitive market, due to limited time and ability to manage recruit processes so as to identify attract and assess the skills of potential new staff	allowing BE staff to support Miranda Ensure that there is clear identification and distinction between the duties and responsibilities of the members of the IT team and those of other members of BE staff, with the definition of end-user requirements undertaken by the most appropriate person
IT STRATEGY	The continued use of Eventingscores as a third-party system that implements a number of BE rules and regulations runs the risk that those rules are not implemented correctly as changes to the system are not controlled directly by the BE team. Failure to develop and implement a short,- medium- and long- term IT strategy, means: • IT spend is not directed in the most effective manner • Overall running costs are not managed so as to reduce future spend, leaving BE with an expensive infrastructure long term	Commission phase 2 of the IT task Force to develop an IT roadmap, including measures for appropriate access to monitor changes made by Eventingscores as well as being involved in the testing and the capture of requirements
OPERATION OF EVENTS	Failure to provide an effective, reliable and easy to use system for event management that provides accurate validation information, scoring, safety reporting and results: • Means that events cannot be run properly and in accordance with applicable rules and requirements, leading to the risk that events cannot be run at all • Exposes competitors to receiving inaccurate and unreliable information about the eligibility and status of entries, stabling and hookups, timings and results • damages morale and effectiveness of entries	

	secretaries and scorers and leads to their departure from the sport • permits unqualified riders to compete with risk of injury or mortality • permits overly qualified riders to compete without being identified as HC, leading to inaccurate results • Exposes event organisers and/or BE to the risk of maintaining inaccurate or incomplete financial records	
RELATIONSHIP WITH MEMBERS AND STAKEHOLDERS	Failure to identify, disclose and satisfactorily address ongoing issues with the IT system means inability to fulfil BE's key role as a membership organisation	Ensure that there is timely, transparent and respectful communication to all members of the status of IT system work in progress Frequent engagement with end-users, prompt and respectful responses to end-user issues and maintenance of effective working groups with representative members, publishing agendas and minutes on a timely basis
PAYMENT PROCESSING	Acting as a collection agent for all event organisers means that BE must record and reconcile revenues vs costs for operating events, exposing BE to the following risks: • Inability to reconcile all incoming and outgoing payments on a timely and accurate basis exposes BE to potential liability for misstated accounts and VAT • Inability to process refunds on a timely, accurate and readily identifiable basis damages relationships with members • Holding large amounts of cash at any given time exposes BE to risk of bank	Explore possibility of having all entries and refunds managed directly by event organisers, as is the case with BS and BD

	failure where deposits may exceed the government guarantee scheme	

SECTION 8 RECOMMENDATIONS

Our recommendations, including rationales for each, are set forth below in order of priority.

8.1 Establishment of an IT Steering Committee

In order to ensure that all further work to develop and maintain the current IT system, and consideration of any short-, medium- and long-term strategy, is carried out in an efficient and cost-effective manner, the current governance should be significantly enhanced. A newly constituted IT Steering Committee should be established, having the following elements:

- Membership should include independent persons with key competencies and full representation of all key end users
- The Committee should function on the basis of openness and transparency, with regular reporting to the BE Board, BE membership, and stakeholders
- The terms of reference should be published on the BE website, should provide for the creation and ongoing maintenance and updating of a detailed set of milestones and cost/benefit reporting, and should highlight the objectives of ensuring that the IT system
    - Delivers best possible functionality for all BE stakeholders
    - Delivers this within an accountable and sustainable IT budget
    - Takes into account the long-term goal of having a sustainable IT environment by mitigating the immediate risks associated with running a bespoke set of IT systems
- Responsibility for the continued development, management and implementation of the IT roadmap defined by the Task Force

8.2 Pending review by BE management over the net 8 days of the commercial implications the enhancement of Eventingscores to provide the Event Management function of balloting and waitlist management, with no further development of the EARS functionalities for scoring and results, timetabling, balloting, waitlist management, sectioning and times other than to provide the necessary interfaces for Eventingscores to carry out these functions in time for the start of the 2021 season. Two specific risks will need to be mitigated, the key person dependency on Miranda Collett and the risk that BE rules are not properly implemented in Eventingscores.

Based on the outcomes of Phase 1, the strongly-expressed views of entries secretaries and scorers, and further discussions with Miranda Collett and BE management, the Task Force believes that because Eventingscores already operates the functions of scoring and results, and sectioning and times, in a satisfactory manner and they have not been used in EARS since resumption of the sport in July, it would be a poor use of resources over the winter to attempt to improve and reinstate these currently unused functions in EARS. Furthermore, the advantages associated with having Eventingscores, rather than EARS, manage balloting and waitlist management include the following:

- In a world of limited resources it makes sense for the BE IT team to concentrate on the issues associated with the Entries process, including capturing and paying for entries, ensuring that the validation of entries is properly implemented and includes all of the 2021 season rule changes, and that refunds are managed in a timely and efficient way.
- Balloting and waitlist management is primarily a task carried out by entries secretaries and scorers. Adding this functionality to Eventingscores will concentrate their tasks primarily in one application, simplifying their environment and improving the efficiency of gathering and managing the various requirements.
- This solution is consistent with the architecture principles agreed by the Task Force. Having the functions of event management delivered by an existing third-party system that is properly accredited and capable of publishing key data back to the BE database is aligned with the overall direction of the IT infrastructure.

The objective of this work should be to return the amount of time taken by entries secretaries and scorers to manage events back to the amount of time taken prior to the introduction of the ITTP system. The development and implementation of this work should be controlled and monitored through the newly formed IT Steering Committee.

This recommendation reflects the views of the work stream on Balloting, Timetabling and Waitlist Management. It is agreed by BE that it merits pursuing, subject to consideration of the various risks identified in the separate paper on Eventingscores included in the Appendix.

8.2 Continuing work on the entries, stabling and financial reconciliation functions in EARS to address critical issues before the start of the 2021 season

Amongst all the workstreams, Entries, Substitutions and Withdrawals identified the largest number of issues, including 8 Critical ones. A particularly disturbing issue arises with respect to validation of entries, with a number of examples of horse/rider combinations being accepted for classes for which they were not qualified. This poses a significant safety issue which must be rectified before the 2021 season. There are also issues with the financial control around withdrawals and other changes to entries. We recommend prioritising efforts to ensure that the necessary fixes are made and thoroughly tested before the start of the next season. Again, the development and implementation of this work should be controlled and monitored through the newly formed IT Steering committee.

8.3 The development, as far as is possible, of a mitigation strategy addressing all of the risks currently presented

The Task Force has identified a number of risks faced by the current IT environment. Some of these would be immediately mitigated by the recommendations of this Report. Others remain open. Our recommendation is that Phase 2 of the Task Force develops, as far as is possible, additional mitigating actions that address all the risks currently presented. The work must recognise that some strategies may be constrained by budget considerations and others may not be feasible for other reasons in the short term

8.4 A review of third-party applications and/or suppliers that perform some or all of the activities currently undertaken by BE for the purpose of informing the roadmap

The implementation and management of a primarily bespoke IT environment runs the risk that all future costs to develop the infrastructure must be paid for by BE alone. BE stakeholders will not easily benefit from market developments by third parties and the full replacement costs of these systems once they become obsolete will fall to BE.

A preliminary review of the marketplace has identified a number of potential candidate third-party systems, particularly for the entries process, that present potential cost-effective solutions. Whilst any migration strategy may be complicated and not necessarily a current priority it's important that the market is understood and that the possibilities are fully explored, and potential timescales are examined.

In addition, it's possible that some of the management and support of the BE bespoke systems could be carried out by third parties. Conversations should be had with a number of suppliers to establish what is possible and practical and at what cost.

We recommend that further work be done during Phase 2 to analyse the available alternatives with the aim of presenting a further report to the Board during Q1 2021, containing our assessment of each of these. We would propose to carry out this work with a smaller Task Force comprised primarily of end-user experts including end-users at BE Head Office.

8.6 The development of an outline roadmap for BE's IT infrastructure. This will include short-, medium- and long-term actions.

Whilst any road map is subject to continuous review as circumstances change, it is a tool that is essential in order to ensure that current decisions are made with a clear understanding of the implications for future needs and within the context of sustainable and accountable budgeting. Without a clear roadmap, decisions do not have context and there is a clear risk that spend on the IT programme will not deliver value for money. The development of the roadmap also ensures that there is a proper and ongoing discussion about the priorities faced by the business. The results of this work should be presented as part of the Phase 2 report to the Board.

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