



Final report

Digital Biosecurity Management Plans and Links to Livestock Production Assurance

Project code:P.PSH.1465

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Date published: 26 Jun 2023

PUBLISHED BY
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PO Box 1961
NORTH SYDNEY NSW 2059

This is an MLA Donor Company funded project.

Meat & Livestock Australia acknowledges the matching funds provided by the Australian Government to support the research and development detailed in this publication.

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Abstract

Most farm Biosecurity Management Plans (BMPs) are prepared on paper and irregularly updated, significantly limiting their value as a rich source of insight into on-farm biosecurity activities and adherence to best practices. The paper format also limits the ability for BMP information to be analysed or shared by farmers to demonstrate and benchmark their activities.

Enabling BMPs to be developed and maintained in an easy-to-use digital format will increase their value for use by farmers to record on-farm practices. These digital records will generate new opportunities for information to be analysed, shared and pre-populated to inform other processes or programs, such as Livestock Production Assurance (LPA) program compliance.

The project will undertake key stakeholder consultation, user experience design, concept design and stakeholder validation activities to generate a detailed specification and 'mock-up' design to build a dynamic, digital BMP platform catering to the needs of Australian red meat producers.

This project will also explore potential linkages between ExoFlare's new digital BMP platform and Integrity System Company's (ISC) LPA Program, including possible data sharing, pre-population, and data validation opportunities.

Executive summary

Background

Most Farm Biosecurity Management Plans (BMPs) are prepared on paper and irregularly updated, significantly limiting their value as a rich source of insight into on-farm biosecurity activities and adherence to best practices. The paper format also limits the ability for BMP information to be analysed or shared by farmers to demonstrate and benchmark their activities.

Objectives

This project, *Digital Biosecurity Management Plans and Links to Livestock Production Assurance*, generated detailed design concepts and validation with key stakeholders to inform the development of a commercial-scale digital BMP platform catering to the specific needs of the red meat industry.

The project also considered and recommended potential linkage opportunities between the BMP platform and the LPA Program, including pre-populating data between platforms and permissioned data sharing of information captured on the BMP platform.

Methodology

1. Generate detailed design concepts and validate with key stakeholders.
2. Outline data linkage opportunities between the BMP platform and the LPA Program.
3. Develop detailed design 'mock-ups' demonstrating the concept, visual appearance, and functionality.
4. Provide a work plan and timeline required to progress the platform to a full-scale, commercial build (in subsequent work phases).

Benefits to industry

Transforming the completion and maintenance of a BMP into a digital resource for ongoing reference, and use by farmers to record and manage on-farm biosecurity has many industry benefits. There is potential to increase the number of farmers completing BMPs, and provide a new platform for accessing and sharing data relevant to other stakeholders/programs and for accreditation processes.

Future research and recommendations

ExoFlare believes there is a strong desire from red meat producers at different production scales for a digital biosecurity management plan that is tailored, actionable, and shareable that can help red meat producers make biosecurity an integral part of their daily practices.

ExoFlare is looking to build a product with a robust set of minimum valuable features to help all red meat producers meet their LPA's BMP requirements.

ExoFlare will launch the BMP app, once officially released, to both the Android and iOS app stores after the development period, ready for industry-wide uptake.

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1. Methodology

1.1 User experience/product research

ExoFlare utilises a user-centred, iterative research design process that features strong user-experience research and design at the early product design stage.

From developing various modules of the ExoFlare biosecurity platform (People, Transport, and Biosecurity Management Plans) with the pork, chicken meat and red meat sectors, we have identified that users and stakeholders are more engaged and respond more effectively with feedback when the concept designs are customised to their relevant commodities.

Therefore, ExoFlare focuses on translating requirements to each sector to enable a good user experience and collection of detailed user feedback. As an example of this iterative process, design concepts were updated between user testing sessions based on user feedback to validate the product direction.

1.2. Activities undertaken

- **Stakeholder consultation:** a series of ten 45-minute interviews via phone or video calls to gain an understanding of current experience, motivations and pain points for creating and maintaining a BMP and explore opportunities for a digital BMP
- **Review BMP requirements:** review Farm Biosecurity's BMP template, LPA program's BMP template and state government information on developing a BMP
- **Data integration mapping:** map correlated BMP requirements with possible external sources of data for system integration
- **Synthesis of insights:** synthesise research insights and distil them into product requirements
- **Prototype:** mock up screens for key user flow and scenarios to test digital BMP product hypotheses to user stakeholders
- **User testing:** a series of one-hour user testing sessions with seven participants across a range of user roles
- **Final report and recommendations:** summarise research findings and insights from user testing, along with recommendations for next steps

2. Results

2.1 Current user experience of existing BMP processes

Current BMP pain points

- Perceived as a compliance checkbox (set once and forget).
- Existing templates lack guidance and feedback for users.
- Plans are one size fits all, regardless of the property profile.

2.2 Core user requirements for a digital BMP

Our research, including interview discussions and background research, identified several core user preferences and requirements for consideration in developing the BMP platform. **Error! Reference**

source not found. Error! Reference source not found. outlines different roles and interactions with the BMP.

Core preferences and requirements identified were:

- **Streamlined:** Users see value in a BMP platform being able to simplify the process of completing the BMP by integrating existing data from LPA, ISC and other software.
- **Relevant:** Users see value in biosecurity plans tailored to their individual property risk profile, with specific weightings on different aspects based on their circumstances.
- **Informative:** Users see value in BMPs helping to better inform them on emerging risks and how to manage them.
- **Dynamic:** Users want to receive relevant notifications prompting them on emerging biosecurity risks or requirements based on their property profile.
- **Actionable:** Users see value in following up and assigning tasks and reminders to improve biosecurity practices and help them manage risks.
- **Shareable:** Users see value in the ability to securely share their BMPs with multiple stakeholders, including vets, farm managers, and staff.
- **Interoperable:** Any successful BMP platform must be accessible across different technology formats (i.e., accessible via desktop, web, and smartphone).
- **Simplicity:** Any BMP platform must be as easy (or easier) to complete as current processes, including paper and online template formats.

2.3 Data sharing opportunities

Several high potential opportunities were identified for data sharing or integration to simplify, enhance, or streamline the process of a user preparing and maintaining a BMP – either in the ExoFlare platform or via the LPA Program.

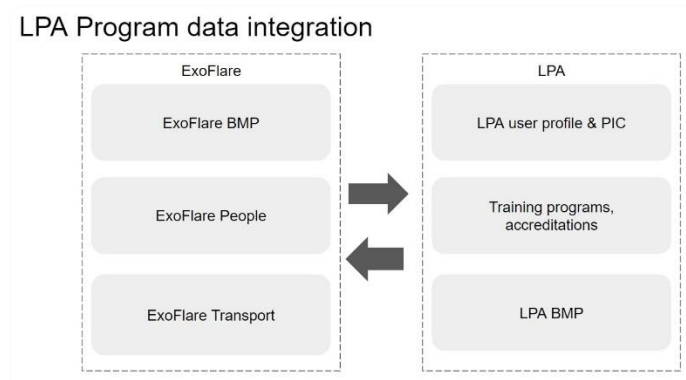


Figure 1 - Potential synergies between the ExoFlare platform and ISC LPA information

Key data integration opportunities were identified in the following six primary sources of data that can help simplify and streamline the process of users preparing and maintaining a BMP:

1. LPA online portal
2. National PIC register (as part of NLIS database)
3. eNVD / NLIS database (movement, transfer and kill data)
4. ExoFlare biosecurity platform (People, Transport, and future modules)

5. Public data sources (e.g., Google Maps, FeralScans, etc.)
6. Farm management software (e.g., AgriWebb, AgriMap, etc.)

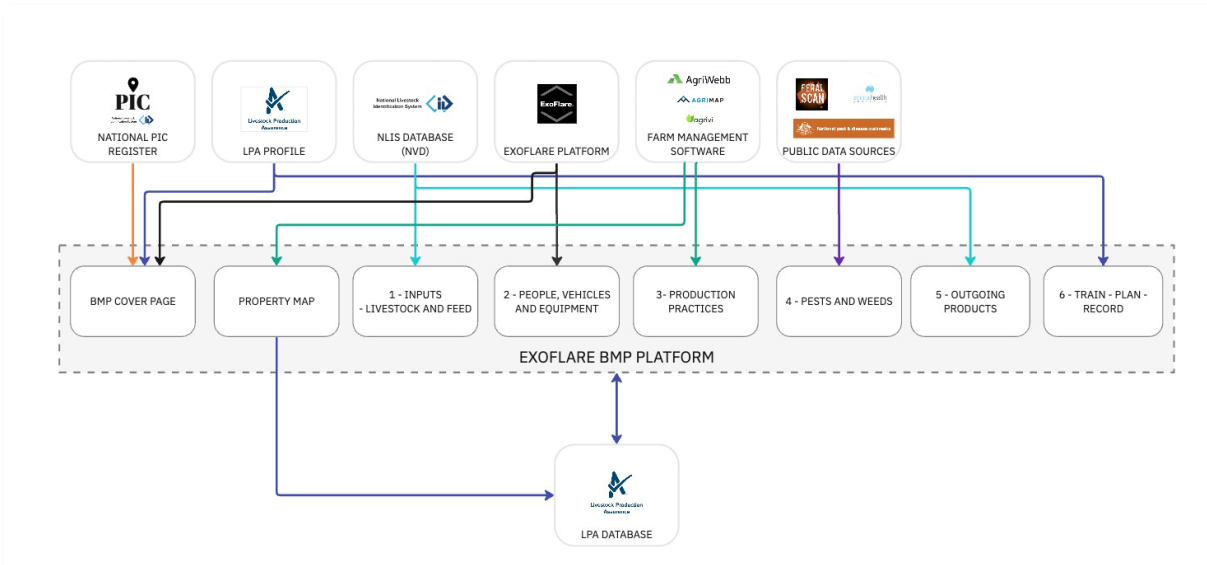


Figure 2 - Data integration mapping - overview (Source: ExoFlare analysis)

2.4 Core user functionality required for a digital BMP

Through ExoFlare’s user research, the following functionality was identified as valuable for users:

1. **Customised questionnaires**
Customise questions based on property characteristics (e.g., purchasing vs closed herd) and public data sources (e.g., feral animal locations).
2. **Biosecurity feedback**
Provide tailored feedback to users about how they’re doing.
3. **Links to tools, resources, references**
Help producers understand the ‘why’ and the ‘how’ of managing biosecurity risks.
4. **Attach photos or documents**
To easily provide evidence of compliance.

RISKS CAN BE DIFFERENT ON DIFFERENT PROPERTIES. IF YOU HAVE MULTIPLE SPECIES OR MULTIPLE SITES, GOOD TO STREAMLINE BEING ABLE TO COMPLETE AS ONE BMP, OR JUST POINT OUR DIFFERENCES BETWEEN PROPERTIES WITHIN A SINGLE BMP PROCESS.

Small cattle producer

"IT WOULD BE GREAT TO PROVIDE MORE POSITIVE FEEDBACK TO FARMERS ON THEIR GOOD BIOSECURITY ACTIONS THEY'RE DOING, NOT JUST THE GAPS "

Mid-scale cattle producer

5. **Notifications**

Send real-time notifications as new risks and opportunities emerge that are relevant to the property profile (location and species)

"[IT WOULD BE] GREAT IF THE PLATFORM COULD KNOW YOUR LOCATION AND SEND YOU LOCATION SPECIFIC UPDATES, WARNINGS OR PROMPTS."

Mid-scale cattle producer

6. **Task management**

Support users to follow up on actions to help them better mitigate risks.

LOVE TO BE ABLE TO ASSIGN TASKS TO TEAM OR VET AND SEE THEIR ACTIONS /COMPLETION.

Mid-scale cattle producer

7. **Sharing functionality**

Enable sharing of a BMP with different ecosystem stakeholders.

GOOD TO BE ABLE TO SHARE THE DIGITAL BMP WITH OTHERS, OR HAVE PROMPTS SEND OUT FOR OTHERS TO PROVIDE INFORMATION OR PERIODIC UPDATES TO THE INFORMATION IN THERE.

Mid-scale cattle producer

FARMERS SEE BMP AS A COMPLIANCE THING. IT'S CRITICAL THAT IT IS TRANSFORMED INTO MORE OF AN UPSKILL PROCESS - HELP FARMERS UNDERSTAND THE REASONS WE NEED TO DO IT, AND THE COSTS OF NOT DOING IT.

Vet

3. Conclusion

In the first phase of the project, ExoFlare's user research interviews revealed pain points with the current biosecurity management plan templates and workflows, as well as challenges producers faced in improving biosecurity.

ExoFlare identified strong opportunities for a digital biosecurity management plan that is tailored, actionable, and shareable.

After a series of in-depth market validation sessions, ExoFlare believes there is a strong desire from red meat producers at different production scales for a digital biosecurity management plan that is tailored, actionable, and shareable that can help red meat producers make biosecurity an integral part of their daily practices.

Producers participating in the user testing validation expressed their belief that the high importance and value of such a practical, easy-to-use BMP tool/platform to be made available for the whole red meat sector would be best funded by industry levies and the government. This broad support would help uplift the industry's biosecurity posture and make the sector more resilient to biosecurity risks and in the unfortunate event of disease incursion.

ExoFlare believes this project warrants progressing forward to the development and implementation phase. There should be strong consideration from industry to prioritise and invest in the development of an industry Biosecurity Management Plan user tool for the red meat sector.

ExoFlare will launch the BMP app to both the Android and iOS app stores after the development period, ready for industry-wide uptake.