final report

Project code: P.PSH.0748

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Date published: 20 April 2016

PUBLISHED BY
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eNVD software development (Aglive stage 2) and Variation Agreement

Executive Summary

This project was undertaken to determine the feasibility of implementing the eNVD system within the red meat industry. Lessons learned and gaps identified during this period would be analysed to further improve the eNVD system, and would assist MLA in determining a recommended way forward for system roll-out.

This was achieved by developing Aglive software with eNVD capabilities. Trials were conducted with users that had agreed to participate in the trial with Aglive. The selection of user 'types' was based on the agreed field trial scope.

The trials successfully demonstrated the NLIS platform technology, as well as commercial implementation of eNVD capabilities. Some key issues were identified during the trial that may impact eNVD uptake and timely submission of eNVDs. These issues are explained in the 'Discussion' section.

Wider benefits to industry will be realised once the eNVD system is adopted and used nationally, and once other related industry integrity data (e.g. NFAS, MSA) are included as part of the system.

Table of Contents

1 Project Objectives

- Develop eNVD capabilities across Aglive's software suite, as per defined scope.
- Conduct live trials within supply chains, as per defined scope.
- Based on results from the trial, identify potential refinements to the eNVD system.
- Review and assess factors that may impact the roll-out and uptake of the eNVD system in the marketplace.

2 Methodology

2.1 Software development

A mobility platform was developed. Using this platform across multiple operating systems, the eNVD mobile application was developed for IOS, Android and Windows. The eNVD mobile application provided users with the ability to operate some eNVD capabilities offline. Users were required to get back online to submit and retrieve eNVDs via NLIS platform.

eNVD components were also built into the new Aglive farm management system, enabling users to submit and retrieve eNVDs via the farm management system.

2.2 Field trials

Trials began in December 2015, and were conducted at the 22 properties that chose to participate in the trial (as of 3 April 2016):

Property #	State	User type	Species type trialled
1	VIC	Saleyard	Cattle, Sheep
2	SA	Feedlot	Cattle
3	VIC	Processor	Cattle
4	VIC	Producer	Cattle, Sheep
5	VIC	Producer	Sheep
6	VIC	Producer	Cattle
7	VIC	Producer	Cattle, Sheep
8	VIC	Producer	Cattle
9	VIC	Producer	Cattle

10	VIC	Processor	Sheep
11	SA	Producer	Cattle, Sheep
12	VIC	Producer	Cattle
13	VIC	Feedlot	Cattle
14	VIC	Producer	Cattle
15	VIC	Processor	Sheep
16	NSW	Producer	Goat
17	NSW	Producer	Goat
18	VIC	Processor	Goat
19	VIC	Producer	Cattle
20	VIC	Producer	Cattle
21	SA	Feedlot / Live-exporter	Cattle
22	SA	Producer	Cattle

3 Results

3.1 eNVD records

A total of 228 eNVD records have been submitted to-date (as of 3 April 2016):

Property #	User type	Number of eNVDs submitted
2	Feedlot	193
4	Producer	8
5	Producer	1
6	Producer	2
7	Producer	10
8	Producer	3

9	Producer	2
12	Producer	4
13	Feedlot	2
17	Producer	2
19	Producer	1
TOTAL		**228**

Movement types trialled were:

Movement type	Number of eNVDs submitted
Producer to Producer	9
Producer to Feedlot	2
Producer to Saleyard	8
Producer to Abattoir	93
Producer to Live Export Depot	1
Feedlot to Abattoir	115
TOTAL	**228**

Since the start of trials, only two eNVDs have been cancelled. No eNVDs have been updated (e.g. number of head, description, RFID).

The eNVDs successfully submitted the following key information to the NLIS database:

- The NVD serial numbers and offline reference numbers (once deployed).
- The PIC numbers of the consignor and consignee properties.
- The LPA accreditation status of the consignor property (once fixed during the trial).
- The NVD declaration date (as per Part A on the paper NVD), movement date (as per Part B on the paper NVD), and date that the eNVD was submitted to NLIS.
- The total number of head of livestock consigned.

Some sample screens of Aglive's farm management software and mobile application are located in Appendix A.

3.2   User feedback

A user survey was conducted with Aglive trial users. Of the 18 users that were contacted, 10 responded. A 92% satisfaction rate was given by these users when queried about the software used. Producers highlighted the 'paperless' system as a key benefit, along with the capability of Aglive's software to operate across all devices and operating systems. All users who responded to the survey indicated that Aglive's software meet their expectations and needs, and that they will continue using the software after the trial.

Positive feedback was also received from producers around an 'add on' feature of the Aglive software that allowed them to manage and move mobs around their farm via a map 'drag and drop' feature. The ability to print the eNVD from any device was also a benefit as many will continue with paper filing systems for some time.

An additional telephone survey was conducted with four key processors across the three species receiving 'direct purchases' via producer eNVDs during the trial period. A 100% satisfaction rate was provided in response to their experience with Aglive software. All processors indicated their intention to adopt eNVD software and integrate eNVD into their systems once production roll-out in underway.

User feedback around improvements to the eNVD system have been included into the discussion section of this paper.

4   Discussion

4.1   Late eNVD submissions to NLIS

During the trial, a large number of eNVDs were submitted to the NLIS database a few days after the animals were transported. This was mostly attributed to the current workflow requiring the completion of the transporter information (Part B on the paper NVD) prior to submission to NLIS, and a lack of awareness on the consignors' part to ensure timely submission of eNVDs so that consignees would receive the eNVD on their end.

In response, it was re-emphasised to consignors in the trial that eNVDs were to be submitted as soon as possible to ensure consignees would receive the eNVD by the time the livestock arrived at its destination. As a result of this communication, there has been a notable drop in the number of eNVDs with this issue.

The eNVD workflow should be further reviewed to improve the efficiency of the eNVD submission process and to encourage earlier submission of eNVDs by consignors. This may include enabling consignors to submit eNVDs (Part A on the paper NVD) to NLIS up to three days before the day of consignment. Then on the day of consignment, stock numbers, descriptions and the destination (e.g. due to a feedlot pen being full) can be confirmed and the transporter information can be filled out and submitted.

4.2   Printed versions of eNVDs being sent to non-registered consignees

During the trial, at least a dozen eNVDs were printed (PDF and/or hard-copy) and sent to non-registered consignees (i.e. no access to NVDs electronically via licensed eNVD software). This is considered a loophole in the eNVD system, as well as a significant risk to

the broad uptake of eNVD software in the industry because of the way this eDEC-style addressing approach dilutes the value and intended benefits of the eNVD system (e.g. end-to-end electronic traceability, access to all eNVD records electronically by authorised parties, early detection of livestock issues, early stock information to assist with management at the destination, data integration with other electronic systems).

Additionally this approach impacts Business Rule #2 whereby all users, including consignees, must be authenticated to access eNVDs. It must be noted however that this directly contradicts Business Rule #11 where it is stated that a user can print the eNVD for a recipient that does not have eNVD software.

As a potential solution, a user registration process was implemented for the trial, with registered users being able to only send to other registered users. However this has proven to be a complex and impractical solution to date, with an identified high risk that consignors may not adopt eNVD software because they can only submit eNVDs to a limited handful of registered consignees (i.e. those with licensed software). Moreover, having yet another industry registration system may result in unnecessary cost to industry and inconvenience to users.

This addressing approach should be reviewed further to ensure this gap is resolved, and that maximum eNVD software uptake by users is considered for the full production solution. The business rules should also be reviewed and updated to ensure they are fully aligned with the path forward.

4.3   Inability to pre-fill answers to livestock integrity questions

In the user survey, producers commented that the inability to pre-fill the answers to the livestock integrity questions was a disadvantage and impacted their experience of the software. It was explained to these producers that this is currently a SAFEMEAT policy (although this is not specifically stated in the Business Rules).

It would be worthwhile to review and clarify this policy with SAFEMEAT, as there may be other more flexible ways to ensure consignors review their answers prior to submission (e.g. final review or warning screen upon 'Submit' to allow the user to consider their answers and the option to go back and update/check their answers).

4.4   Cases where the consignees PICs were unknown to the consignor

In cases where animals were bought direct from farmer by supermarket, the consignor did not know which consignee PIC to input. In the paper system, the consignor was only required to enter the property name and address of the processor that the supermarket was using. In the trial, the producer had to find out the PIC from the buyer or transporter driver.

The upcoming changes to the account-based addressing will resolve these scenarios.

4.5   Low trial uptake at saleyards

As discussed at a recent industry workshop with MLA and LSAV, existing saleyard software providers have been slow to develop eNVD capabilities within their software to benefit their saleyard customers. If saleyards do not have software to receive eNVDs, this may initially limit eNVD take-up by producers.

It is anticipated that the adoption of eNVDs will heighten market interest within the saleyard sector and among saleyard software providers. However further consideration should be made to ensure this existing market gap does not impact the initial rollout to other market sectors (i.e. producers, feedlots, and processors).

4.6   Low trial uptake by transporters

Whilst the transporters participating in the trials were positive about the eNVD software, other transporters remain sceptical about the value for their businesses. Aglive have an end-to-end platform which can offer logistics tracking and job despatch. This can be further developed to provide significant value to transporters through digitising existing paper based OH&S and QA systems such as TruckCare, allowing the transport industry to benefit through efficiencies and better cope with increased regulation around lone worker safety and animal welfare. Engagement with the transport industry should be further considered to discuss eNVD waybill and transporter requirements, and potential uptake of eNVDs by transporters.

4.7   Producers with no NLIS accounts

Some producers (e.g. mostly hobby farmers and smaller businesses/properties) did not have NLIS accounts or used their accounts infrequently and did not remember their passwords. This slowed down the trial registration process for these users. The registration process should be reviewed to ensure these users are able to easily obtain their NLIS accounts and passwords and use this information to access eNVD capabilities through eNVD-enabled software.

5   Conclusions/Recommendations

The project successfully demonstrated the robustness of NLIS platform technology, working as intended in the trials. It has also demonstrated that commercial implementation of eNVD capabilities is achievable, providing the market with value-added, innovative offerings.

Through the trials, the project has also provided valuable insight into the practical issues facing the eNVD system, as well as potential enhancements for further consideration. Gaps that impact the full-scale adoption of the eNVD system should be addressed at the highest priority.

Aglive will continue to work with MLA to prepare for full production use in line with SAFEMEAT policy and license requirements.

6   Key Messages

This development is significant for industry as the eNVD system is anticipated to bring the following benefits:

- Reduce the cost of having to re-process inaccurate or incomplete NVDs received directly from consignors/sellers or indirectly from saleyards and feedlots.
- Reduce the cost of having to re-enter NVD information into receiving computer systems and databases.
- Reduce the cost to store and retrieve historical NVDs for auditing, reporting and administrative purposes.

- Provide the buyer with greater visibility of the incoming livestock's declaration details before the stock arrives, enabling more efficient management of incoming animals.
- Ensure the latest versions of vendor declarations are being used by consignors/sellers (using licensed eNVD software), thereby always meeting market requirements.
- Potential to leverage the NLIS platform to further extend improvements to industry integrity and traceability of vendor declarations and animal movements (e.g. MSA, NFAS, PCAS, commodity declarations, health statements, RFID traceability). This will have the potential to further reduce costs, as well as supporting and lifting the brand equity of Australian red meat locally and abroad.

As best practice, the eNVD system should encourage consignors to complete and submit their eNVDs at the earliest possible opportunity.

7 Appendix

Appendix A: Sample screens

Creating an eNVD on the web browser via Aglive's farm management software:

Access to eNVDs via Aglive's   mobile application:

Dashboard
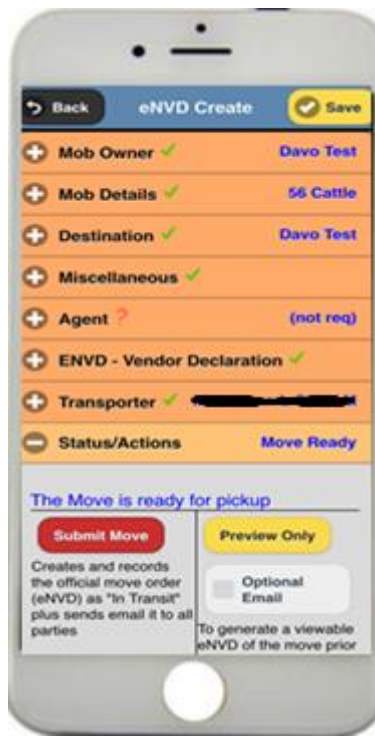
eNVD Menu
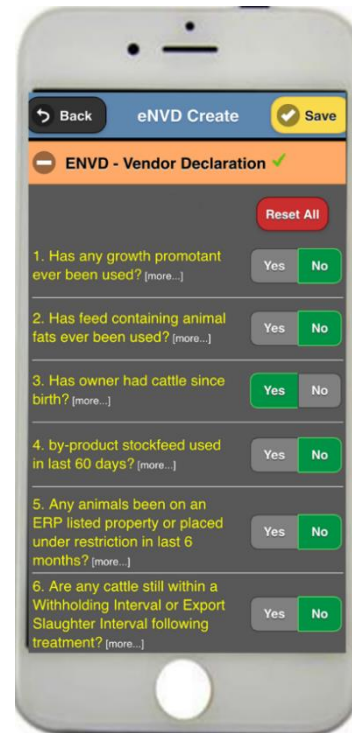
eNVD Questions

eNVD Questions & signing
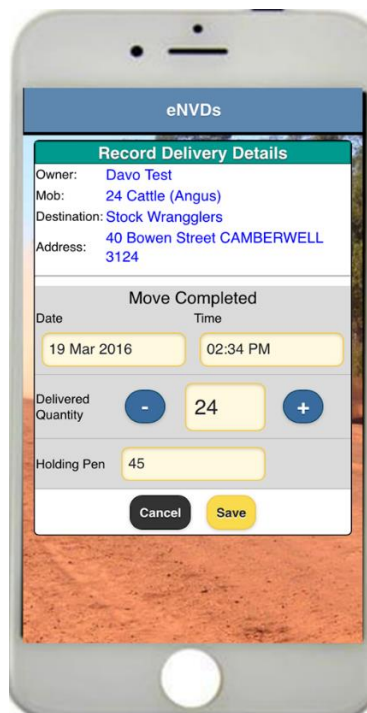

Delivering the eNVD consignment

Handy tools for farmers to track and move mobs

Sample PDF generated by Aglive's software:

Sample exit scans on eNVD creation at farm, allowing validation of LPA and individual animal status prior to entering food chain:

Attachment to the National Vendor Declaration and Waybill

Serial number of National Vendor Declaration and Waybill
The serial number is in the top left corner

Property Identification Code (PIC) of the property/place where the journey commenced
This must be the same as appears on National Vendor Declaration and Waybill

Description of stock

Number of stock	Description (breed, sex, eg. Hereford cross steers, cross bred)	PIC on Transaction Tag (cattle), Ear tag/PIC (sheep) if different from that shown above	Brands, Earmarks	LT	EU	ERP Status
1	982 091016167674, Mixed, , Beef Breeds			No	No	
2	982 091016167923, Mixed, , Beef Breeds			No	No	
3	982 091016163298, Mixed, , Beef Breeds			No	No	
4	982 091016167517, Mixed, , Beef Breeds			No	No	
5	982 091016163090, Mixed, , Beef Breeds			No	No	
6	982 091016161183, Mixed, , Beef Breeds			No	No	
7	982 091016169068, Mixed, , Beef Breeds			No	No	
8	982 091016169358, Mixed, , Beef Breeds			No	No	
9	982 091016179638, Mixed, , Beef Breeds			No	No	
10	982 091016160551, Mixed, , Beef Breeds					

Appendix B: User survey results

Responses to Post Trial User Feedback Questionaire - March 2016 (Rating scale: 1 = unsatisfactory up to 5 = very satisfactory)

PIC Number	Sector	Species	Existing Book or eDEC	Devices Used	Ease of learning	Ease of Use	Speed	Connectivity	Responsiveness	Needs Met	Training ok	Continue use	Recommend	Liked Feature	Disliked Feature	Requested Features	Comments	Agiive Response
	Producer	Cattle	Book and eDec	iPhone, iPad, Windows PC	3	3	4	5	4	5	*	Yes	Yes	Will work on all devices	None	No	* Would like to see more Video based training	Will create training videos when full license approved by safemeat
	Producer	Cattle	Book	Mac Book and Nexus Android Tablet	4	4	4	5	5	5	Yes	No	Yes	Paperless and you can print the eNVD	The inability to change the mob quantity once the eNVD has been created and pending	Would like to be able to edit number of stock in mob and has brought Agriweb	This feature has since been developed and is now available. Customer will now use Agiive eNVD
	Producer	Cattle	Book	PC	4	5	5	5	5	5	Yes	Yes	Yes	AOK	n/a	na	Just started using it and all look good	
	Producer	Cattle	Book	mobile	4	4	5	5	5	5	Yes	Yes	Yes	all	na	None	new user	
	Producer	Cattle	eDEC	PC	5	5	3	4	5	5	Yes	Yes	Yes	na	No Autofilled Questions	NA	Bad wireless connection slowed things a little rather than the app itself being the issue.	Safemeat business rules do not allow prefilled answers to the eNVD questions
	Producer	Cattle/Sheep	Book	PC and App	5	5	4	5	5	5	Yes	Yes	Yes	All	na	Job List		
	Producer	Sheep	NVD Book	Desktop	3	4	4	4	5	3	Yes	Yes	Yes	All, especially speed to complete once familiar with software	No pre-populated questions by default		From admin officer view training was good. Further training & time will be required to get all staff up to speed with eNVD completion.	Safemeat business rules do not allow prefilled answers to the eNVD questions
	Producer	Cattle/Sheep	Book	iPad	5	4	5	4	5	5	Yes	Yes	Yes	Ability to have all the info for mla and LPA etc in one place.	No	No	Yes and has already continued to use beyond initial trial period	
	Feedlot	Cattle	Book	Mobile	4	4	5	4	5	5	Yes	Yes	Yes					
	Producer	Cattle/Sheep	Book	Phone and App	5	5	5	4	5	5	Yes	Yes	Yes	na	na	Jobs List		
	Scale Average = 4.6 or 92% very satisfactory				4.2	4.3	4.5	4.4	4.9	4.6	4.5	92%						