Stream 4.2 and 4.3: Education and extension platforms

1. Abstract:

The objectives of these two streams were to effectively connect Australian grape and wine producers with valuable information (created through Stream 4.1 and elsewhere) of benefit to their business. The aim was to develop, enhance and maintain a range of communication and extension platforms to facilitate the transfer of research outputs, knowledge and information to the Australian grape and wine sector. This was achieved through the conduct of roadshow workshops and seminars around Australia; staging the Advanced Wine Assessment Courses and workshops at the Australian Wine Industry Technical Conferences; enhancing and maintaining the AWRI website; producing electronic publications such as *eBulletins* and *eNews*, and print publications such as *Technical Review* and the AWRI's *Annual Report*; editing AWRI papers to maximise readability and submitting quality papers for publication in industry journals; preparing media releases and managing media enquiries; communicating through social media; staging webinars; and maintaining library services.

The outcomes of this activity enabled producers to be more effectively equipped with information to support decision making in wineries and vineyards. The Australian wine industry's innovative culture is nurtured through these activities and continuous learning is encouraged. Industry personnel are able to expand their own knowledgebase through attending the roadshow programs and AWACs; participating in webinars; accessing the latest publications on winemaking and viticulture through the website, library and *Technical Review*; and obtaining production and other assistance through information and tools via the website. Technologies which were unavailable at the beginning of the investment agreement have now become mainstream communication platforms. The changing nature of how industry accesses information was also addressed with the development of: a social media presence predominantly through Twitter; a 'mobile' version of the AWRI website (accessible via smart phones/tablets); and 'apps' providing rapid access to up-to-date and relevant information regardless of location and time.

2. Executive summary:

The Australian Wine Research Institute has been generating new knowledge and gathering information about wine production for more than 57 years. Over that time, it has tackled the enormous task of extending knowledge and information to grape and wine producers' right across Australia, at the same time feeding back information requirements from producers to researchers. This symbiotic process has proven to be valuable in informing the research program directions at the AWRI and supporting producers, no matter their location, with relevant information to help their business grow.

The very nature of the agricultural industry and the diversity of where producers are located present challenges to the AWRI in reaching its touch points. Learning styles will invariably differ among individuals; the success of the AWRI dissemination platforms is the ability to offer learning approaches that are based on passive, active, resource based and e-learning. Based on its long years of experience, the AWRI identified several objectives to ensure maximum penetration of knowledge and information could be achieved to enhance the technical knowledge base and skills of Australian grape and wine producers. These included the:

- establishment of a dedicated team with the skills and experience to package information and deliver wine industry knowledge transfer events;
- development of mechanisms by which grape and wine producers can access the store of knowledge and information held at the AWRI;
- facilitation of the communication and transfer of new and existing R&D outputs in order to support and facilitate their rapid adoption and application;

- assisting of producers to meet national and international legislative requirements with provision of relevant and current legislation;
- review of the most effective methods for delivery of information ensuring the adoption of new communication technology; and
- improvement of the creation and management of knowledge, within teams, across teams and between collaborating organisations.

Within this stream, the AWRI developed and evolved a range of knowledge and information extension platforms. These platforms involved the packaging and delivery of information – making it easy for producers to access, understand and use – which was achieved through a combination of skill-sets available at the AWRI. Staff members who have expertise in knowledge and information management, communication, event management and IT worked closely with experienced oenologists and viticulturists and practicing grape and wine producers to bundle the information (generated under Stream 4.1 and elsewhere) into easy to use, accessible information packages.

Ensuring the information is available at the convenience of the stakeholder was achieved through a combination of passive and pro-active approaches. Both of these approaches are effective as they align with the availability and interest of the stakeholder to receive the information. Throughout the period of the seven year investment agreement, the pro-active approach included the staging of 72 roadshow seminars, 70 roadshow workshops and 24 webinars; where AWRI staff members actively engaged with stakeholders at a specified time at a specified place – usually within the stakeholder's local region or, in the case of webinars, in the stakeholder's own office. Since 2006, across Australia, 9,000 personnel have participated at an AWRI organised event. Additionally, 109 workshops were staged at the 13th and 14th Australian Wine Industry Technical Conferences (AWITC) and 44 workshops are in the planning phase for the 15th AWITC (to be held in July 2013). The staging of roadshow workshops and seminars and AWITC workshops involves the close consultation with regional associations and other educational and research organisations.

The so-called passive approach, included the availability of the library database (72,500 records), website (over 2 million pageviews),*Technical Review*, *Annual Report* and other AWRI publications and papers in industry journals; packages of information provided in convenient formats ready for when the stakeholders have the time and mindset to seek and receive the information.

The AWRI sources feedback from participants who attend roadshow and/or conference workshop events and has survey data from events delivered since 2006. Overall participation rate in the surveys was 72.5%. The data for 1,728 respondents indicates that, on average, there was an 86% overall approval rating with an 85% approval rating in response to 'if the event met its objectives'. Based on feedback received, there is a very high probability that these events promote uptake of new technology and delivers benefits.

The Australian Bureau of Statistics (1301.0 - Year Book Australia, 2012**)** reported that in 2009–2010, the proportion of businesses using IT varied considerably across industries and that 83% of businesses in Agriculture, forestry and fishing had internet access. The rapid adoption of technology has led to predictions by market researchers that more than 20 million smart phones will be used by consumers by 2016 and that by 2014 more Australians will access digital services via a smartphone than a computer. The AWRI monitors the traffic to its website and has already responded to the growing trend of increased smartphone/tablet use by optimising its website for mobile devices. The development of an 'app' has allowed grape producers to more effectively search for agrochemical information using their smartphones/tablets. The AWRI continues to monitor how stakeholders access information and maintains a close watch on disruptive innovation to establish how to best harness it for the benefit of Australian grape and wine producers.

3. Background:

Through its 57 year history, the AWRI has responded to and anticipated the information needs of Australian grape and wine producers and as such has developed many mechanisms for the delivery of information and knowledge (generated through Stream 4.1 and elsewhere). These mechanisms include:

- Roadshow workshops and seminars staged Australia-wide.
- Extensive workshop programs staged as part of the AWITC.
- Advanced Wine Assessment Courses (AWACs).
- Delivery of email alerts (*eBulletins*).
- Production and distribution of AWRI's *Technical Review.*
- Production, distribution and presentation of the AWRI's *Annual Report*.
- Updated and expanded website.
- An editorial service, assisting AWRI staff in delivery of plain English, industry-focused publications.
- Customised products and services offered through the specialist collection of The John Fornachon Memorial Library.
- Knowledge capture and management.
- Management of media enquiries and creation of media releases.

Responsibilities encompass the organisational and logistical functions related to staging events, and the management and continuous improvement of extension platforms which act as the conduit for grape and wine industry personnel to access the huge store of information and knowledge that exists within the AWRI.

The building of the delivery mechanisms and know-how to stage and successfully promote external events in an efficient and cost effective manner has been as important as the delivery of knowledge. The importance of a dedicated team to perform this support function has resulted in a higher number of quality events, and also relieves research staff, both at the AWRI and elsewhere, of the need to be involved in planning events, allowing them to concentrate on the development of content to be presented.

Equally important, is the creation and development of the AWRI's internal delivery mechanisms, through which grape and wine industry personnel access the unique store of information and knowledge held at the AWRI. Such infrastructure acts as a multiplier on the return on investment in research, by facilitating the rapid adoption and application by industry of the information and knowledge generated by that research. As the flow of available information continues to increase and the AWRI's stakeholders become more complex in nature, the imperative to sift and package information in a manner that is customised for various target audiences in industry, also increases. These streams, therefore, also encompass activities through which the AWRI constantly enhances its knowledge and information delivery mechanisms, and utilises the evolving technologies by which information delivery can become more valuable.

Additional deliverables, not contemplated in the original application include:

- Customised workshops requested by wineries and regions.
- Introduction of a regular bi-monthly electronic newsletter (*eNews).*
- Social media presence on Twitter, Facebook and LinkedIn.
- Webinars.
- Mobile apps.
- Library digitisation project which scanned more than 50,000 articles, and vastly improved the turn-around time in delivering journal articles.
- Online image collection (with more than 50 years of grape and wine research images donated by Dr Bryce Rankine, Dr Bryan Coombe and Dr Peter May).

4. Stream objectives:

The stream level objectives include:

- Continue to develop the mechanisms by which grape and wine industry personnel access the store of knowledge and information held at the AWRI.
- Facilitate the communication and transfer to Australian grape and wine producers, of new and existing R&D outputs in order to support and facilitate their rapid adoption and application.
- Enhance the technical knowledge base and skills of Australian grape and wine industry personnel by increasing their access to information and knowledge.
- Act as a multiplier on the returns on investment in grape and wine research, by more widely and actively disseminating outcomes from that research in a manner that favours its adoption.
- Support the Australian wine industry to maintain its international market competitiveness by enabling it to be well informed on technical developments that can be implemented and are of value to its business.
- Review and lift the effectiveness of information and service delivery.

These objectives were achieved through completion of the following:

- Maximising accessibility to technical information of relevance to the Australian wine industry through maintaining and improving the following:
  - The John Fornachon Memorial Library and the AWRI information services.
  - The AWRI website.
  - Smart phone applications.
  - Hosting industry and other important visitors.

- Ensuring effective platforms for delivery of technical information and topical issues of value to the Australian wine industry through providing and enhancing the following capabilities:
  - Roadshow seminars and workshops.
  - AWITC workshop program.
  - Webinars.
  - The Advanced Wine Assessment Course.
  - AWRI publications such as *Technical Review* and the *Annual Report.*
  - *eBulletins* and *eNews.*
  - Social media.
  - Media releases.

5. Methodology:

Every individual has different information needs and learning styles and preferences and therefore information delivery must be varied and appropriately tailored. Strategically, the AWRI has sought to develop a diverse portfolio of education and extension platforms, to ensure knowledge and information is easily available and accessible across a number of formats. These platforms can be classified into two categories as follows:

- Capabilities for passive provision of information to be used by industry for reference material including:
  - The John Fornachon Memorial Library and AWRI information services.
  - The website.
  - Smart phone applications.
  - Hosting industry and other important visitors.

- Platforms for the proactive provision of material to raise awareness of new technical outcomes and topical matters of importance including;
  - Roadshow seminars and workshops.
  - AWITC workshop program.
  - Webinars.
  - The Advanced Wine Assessment Course.
  - AWRI publications such as *Technical Review* and *Annual Report.*
  - *eBulletins* and *eNews.*
  - Social media.
  - Media.

The philosophy underpinning the AWRI's approach, based on stakeholder feedback and guidance from the AWRI board, is as follows:

- Technical content must have been sourced from a credible research capability.
- All content provided must have clear summaries of findings with recommendations for actions.
- Content delivery is preferred from the expert in the field and be accompanied by associated industry context necessary for application and adoption.

6.   Results and discussion:

Capabilities for passive provision of reference information

Library and information services

Since 1969, the John Fornachon Memorial Library (JFML) has provided a range of library and information services to researchers, industry, students and other stakeholders. It holds the largest knowledgebase of technical wine and grape resources in the Southern Hemisphere. The library continued to support the Australian grape and wine sector through strategic sourcing, management, and dissemination of relevant and useful electronic and print resources covering 'vines to wines'.

The collection comprises over 72,500 books, journal articles, conference proceedings, standards, etc. The journal articles collection is digitised with over 50,900 articles available in PDF format. The web-based library catalogue is continually and conveniently available via the AWRI website. The JFML also maintains databases of environment, wine and health and smoke literature which are also accessible via the AWRI website.

The ability to access the latest published research and technical information is central to raising awareness, understanding research innovations and learning how new technologies and processes can be implemented to build capacity and capabilities in wineries and vineyards.

Over 2,300 images donated by Dr Bryce Rankine, Dr Peter May and Dr Bryan Coombe were catalogued into a web-accessible database and the collection represents more than 50 years of grape and wine science. The Online Image Collection is managed by the JFML and is accessible via the AWRI website.

This service is one of the key mechanisms by which researchers and industry access technical information; stream team members responded to over 23,100 requests for information from 2006-2012, which included articles and books requested, copyright advice, literature searches and other requests for information.

Website

The AWRI website is proving to be a convenient, valuable and effective source of knowledge and is one of the key platforms for disseminating information and support tools to the industry.

New enhancements and large-scale content review and updates occurred in 2007 and in 2009. In 2012, the website was re-developed using a web content management system. New features were added during the re-development including an online article ordering system for *Technical Review* and an online database of winemaking products and suppliers.

On average, the AWRI website received over 99,300 visits per year over the last seven years and over 2.21 million pageviews in total. There are over 2,500 registered user accounts.

In the last two years, there has been an increased demand for AWRI publications and this is reflected in the AWRI publications website hits. In 2011, the staff publications database received 8,924 hits and increased to 12,559 hits in 2012.

Support tools remain the most frequently used sections of the AWRI website (e.g. calculators, agrochemical online search etc.). Industry values the ability to self-help from the website and uses it as a complementary tool to the AWRI's Technical Problem Solving Help Desk Service. The 'Industry Support and Education' section of the AWRI website received over 329,000 hits since July 2006. The winemaking calculator's tool was the most frequently used online tool with over 61,000 hits. Support for the 'Publications' section was also high with over 56,500 pageviews.

The AWRI website is continually being enhanced and updated to ensure stakeholders maintain quick access to up-to-date and relevant content.

Mobile-based tools

Technologies are constantly evolving and changing the way grape and wine producers seek information, communicate, learn and to apply that knowledge in the workplace. 'Connected devices' and smartphones are central to the foreseeable digital future. The AWRI has continued to seek innovative ways to deliver technical and scientific content and facilitate the usage of that information and knowledge through the use digital platforms.

In late November 2012, the AWRI launched the Agrochemical Search mobile app. The app facilitates easy access and use of the Agrochemical database (used to produce the 'Dog book') and the online search from the convenience of a smart phone/tablet. In June 2013, the winemaking calculator app was released. The winemaking calculator app was developed in response to the popularity of the web version and feedback from winemakers expressing preference for a portable version.

The inclusion of mobile tools in the AWRI's extension platform is a cost-effective approach to enhancing technical capabilities of the industry and has the potential to empower more small producers to adopt and use research, development and extension outputs. Mobile tools are usually practical and user-friendly leading to low learning and implementation costs which could overcome some of the barriers to adoption.

Both apps are available in iOS and Android versions and, at the time of writing this report and in the short period they have been available, there are over 580 users and over 2,700 usage sessions recorded.

AWRI visitors

The AWRI maintained a program of hosting important domestic and international visitors throughout the period of the investment agreement. For many industry stakeholders, the AWRI is the gateway to

the Australian wine industry. As such, the AWRI is often the first 'port of call' when people visit Australia on wine industry business. Such hosted visitors included government officials, researchers, producers, suppliers, association members, journalists and Institute of Masters of Wine students. This hosting program is an opportunity for the AWRI to provide targeted information on the capabilities of the Australian wine industry and to provide a point of differentiation and potential competitive advantage for the industry.

Capabilities for proactive information dissemination

Roadshow seminars and workshops

Each year, the AWRI organised and staged roadshow seminars and workshop programs. This platform provides an interactive face to face presentation of technical content (generated through Stream 4.1 and elsewhere) to facilitate understanding and uptake.

Roadshows were staged in collaboration with regional associations. Workshops were developed based on technical demand, and tailored to translate research outcomes into practical winemaking advice. Workshops were practically oriented and included tastings, simple and practical diagnostic tests and exercises. Seminars were usually one-day events consisting of up to 12 presentations with the regions each nominating the topics to be covered.

During 2006 to 2013, 142 roadshow seminars and workshops were delivered in 33 locations across Australia and 3,141 attendees participated in these events.

Feedback on the roadshow seminars and workshops was obtained by the AWRI and via an independent report commissioned by the AWRI in May 2013 for the period 2012/2013. The feedback demonstrated the universal appeal of this platform and it was considered highly relevant and a very credible mechanism for the dissemination of information. The interactive nature of the roadshow format and the opportunity to ask questions were highly valued by survey respondents and promoted adoption. The current timing cycle of visiting every major wine region or centre on a minimum two year cycle was based on overwhelming feedback which ensured industry personnel had access to the latest research outcomes. 72% of participants do not need to travel more than 50 kms to attend a roadshow event despite the diversity and the geographic location of Australia's wine regions.

The following is a summary of key outcomes:
- In the 2013 independent survey, two thirds of survey respondents indicated adopting practices presented at AWRI roadshows.
- The usability of information presented was rated as "above average or excellent" by more than 93% of the respondents.
- The relevance of information was rated as equally high, as either "above average or excellent" by more than 96% of respondents.
- 47.5% of respondents attended both seminar and workshop events.
- Roadshow format had strong appeal across a broad range of participants irrespective of the level of industry experience with 38% having 1-10 yrs experience, 40% 11-20 yrs experience and 22% having more than 21 yrs experience.
- More than 52% of respondents had participated in two to four roadshow events. A further 27% had attended more than five roadshow events.
  - The roadshow format has universal appeal across industry with 49% of respondents in winemaking roles and 44% of respondents in grapegrowing/viticultural roles.
  - 70% of the respondents had a diploma/degree in winemaking, science discipline.

AWITC workshop program

With its long-term experience in running successful workshops for the Australian wine industry, the AWRI has responsibility for the conduct of the AWITC Workshop program. The AWITC workshop

programs delivered during the term of the investment agreement, in 2007 and 2010, were designed to provide intensive but practical learning experiences to participants. The workshop program is developed through calls for expression of interest from industry stakeholders (such as research organisations, departments of agriculture, industry suppliers etc. from Australia and internationally). The proposed content of the workshops are assessed to ensure elimination of 'advertorials' and for quality and relevance. The AWRI team work closely with each workshop convener and take responsibility for logistics and promotion to ensure the program's success. The AWRI was also involved in delivering the 8th International Cool Climate Symposium workshop program, held in Hobart, Tasmania in 2012. The number of workshops and participant numbers are detailed in Table 1.

Table 1. Details of workshop programs managed by the AWRI

Year	Number of workshops	Total number of participants
13th AWITC – 2007	57	2,071
14th AWITC – 2010	52	1,427
8th ICC – 2012	8	289
15th AWITC – 2013	43	n/a[1]

Webinars

The AWRI continued to investigate ways to connect and engage with industry and, in 2011, the AWRI webinar series was launched. Webinars are an effective method for disseminating information and knowledge with the advantage that participants are able to attend a live seminar from their desk with a computer connected to the Internet. It provides greater convenience and thus more opportunities for industry to gain access to latest research findings, obtain updates on industry related activities, speak with researchers and share knowledge with other webinar participants.

The 2011 webinar program delivered nine sessions with each session comprised of a 20-minute presentation followed by questions and answers. In 2012, the webinar series expanded to 15 sessions and included three industry speakers. A total of 360 participants attended the webinars. Results from evaluation questionnaires indicated a positive adoption of webinars as one of the AWRI's education platforms. All survey participants indicated they would attend future webinars. Over 95% of survey respondents indicated the webinars were well organised and over 85% indicated the software was easy to use. All respondents attended the webinars to build on their existing knowledge base and to find out the latest research on the topic and over 85% of respondents indicated they attended the webinars to look for ways to improve winery or vineyard operations.

The Advanced Wine Assessment Course

The Advanced Wine Assessment Course (AWAC) is designed to develop the sensory analysis capabilities and the vocabulary of Australian wine industry personnel at an elite level and to prepare potential new wine show judges. Dux of each course was offered a position as an Associate Judge at the Royal Adelaide Wine Show.

The current program is a four day format with more than 40 contact hours. Participants evaluate a diverse range of more than 300 wines under simulated wine show conditions. The AWRI staff present lectures and engage leading wine show judges, journalists and winemakers to participate and contribute throughout the course.

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[1] Whilst the 15th AWITC will be held in July 2013, the majority of the organisation for this workshop program occurred during the current investment plan.

A total of 12 courses were conducted with 360 participants completing the course from 2006 to 2013. A number of additional wine assessment courses were scheduled in important retail markets for Australian wine at the request of Wine Australia. The AWRI was engaged to support and underpin the marketing initiatives of Wine Australia and to acknowledge the importance of research and how this drives innovation within the Australian wine sector. Presentations for these events were based on content adapted from the AWAC, and presented either as a one day abridged version of the course or as a 'wine flavours and faults' tasting. In total, eight events were held in London, Dublin, Hong Kong and Shanghai, attracting 224 attendees. Participation was by 'invitation only' and included some of the world's most respected journalists, wine buyers and educators. The response was extraordinary with considerable media generated in printed and online publications. Jancis Robinson MW wrote a number of articles relating to this event which appeared on her website and syndicated to wine magazines worldwide.

"but no participant in that AWAC exercise left with anything other than an enhanced respect for Australian wine and wine science…………………..……" www.jancisrobinson.com, 12 Oct 2009

A number of additional event formats were developed in response to industry feedback and requests including:

- a wine flavours, taints and faults and threshold intermediate tasting (two hours)
- themed tasting events (one day), including:
  - o 'Wines of France'; and
  - o 'Sparkling wines of the world'.

These themed tastings were targeted towards winemakers who desired more exposure to the styles and wines in other competing wine producing countries, and to enable them to stay abreast of new developments in world wine styles.

The Grapes to Glass program was discontinued in 2007 due to courses being offered by The South Australian Wine Industry Association.

Technical Review

Technical Review is another communication platform used to keep grape and wine producers up to date on current technical literature. Published bi-monthly in print and electronic formats, it contains a summary of current articles and papers published on grape and wine production and wine/health topics and technical notes on AWRI's work. The 200th edition (October 2012) was published during the investment agreement period. 42 issues were produced and distributed to over 3,000 levy payers and other stakeholders of the Australian grape and wine sector throughout the period.

Online search and article ordering system of *Technical Review* was launched in August 2012.

eBulletins and eNews

The AWRI *eBulletins* and *eNews* are emailed direct to the AWRI's email distribution list (~2,500 addresses). This has facilitated rapid communication about wine sector issues direct to industry members at the time when the knowledge is required. The AWRI *eNews* was sent bi-monthly (in alternate months to the distribution of *Technical Review)* to inform grape and wine producers of the latest research findings and news from the AWRI. *eBulletins* were issued on single topics, designed to be an effective and fast way to disseminate information on important issues. A total number of 116 *eBulletins* were issued during the investment period and 22 *eNews* distributed.

Staff from the AWRI contribute targeted articles to be included in each issue of *eNews* and each article is edited in the production process. The initiation of *eNews* effectively doubled the amount of formal communication being issued from the AWRI to stakeholders with either *Technical Review* or *eNews* being issued on a regular monthly basis.

Email address lists were maintained for the distribution including approximately 2,500 email addresses. A facility was included on the AWRI website to enable interested stakeholders to automatically add or update their details.

Email distribution software was adopted for mailing list management and distribution of *eBulletins* and *eNews* in 2010 when *eNews* was introduced.

Social media

The Australian grape and wine sector has embraced social media as a key communication tool. The AWRI opened Twitter and Facebook accounts in September 2010 and created a presence in LinkedIn. Initial posts to Twitter were aimed at generating interest and discussion about the AWAC. The increasing support by industry for the AWRI's social media activities encouraged the expansion of the use of social media as an avenue to communicate a broader range of the AWRI activities. Twitter continues to be the AWRI's key social media platform and the account attracted over 330 followers in the first four months. The follower base has now reached 1,730.

Media

The key objective of managing and responding to media enquiries is to help protect Brand Australia and ensure accurate information is published. The distribution of media releases aimed to stimulate the publication of outcomes from the AWRI's research in general and/or trade media and provided a further avenue for disseminating information to the AWRI's stakeholders. During the investment period, 47 media releases were prepared and distributed and 264 enquiries from journalists were managed.

The AWRI Annual Report

The AWRI's Annual Report provided stakeholders with a concise summary of the AWRI's beneficial research outputs for each year of the investment agreement. The annual reporting of the AWRI's work to stakeholders was undertaken using a variety of mechanisms to ensure broad and effective communication. First, a printed *Annual Report* to stakeholders detailed the outputs of the AWRI's work for the year. A highlight summary was published at the beginning of the report to assist the busy reader. The report was compiled, edited and produced, and then distributed on an annual basis following the AWRI's Annual General Meeting. Each levy payer received a printed copy of the report and an electronic version uploaded to the AWRI website. Second, a four page summary of the report was produced each year and published in the November issue of the *Australian and New Zealand Grapegrower and Winemaker*. Third, a list of highlights of outputs was published in the AWRI's *Technical Review* and also uploaded to the AWRI website. Fourth, the Managing Director (or his nominee) verbally presented the annual report to the main state-based and national industry bodies each year.

7. Outcome and Conclusion:

The AWRI has a long history of servicing the information needs of the Australian wine industry. The AWRI's stakeholders are not only diverse in their requirements and capacity to understand and adopt innovations or preventative/remedial practices but also in their geography. Necessarily, a multi-faceted extension platform has been developed and implemented.

Communication is only successful if the information is relevant and the sender delivers it in a manner which is easy to understand and conveniently packaged, from the recipient's point of view. The recipient must also be ready and have the mindset to receive the communication.

The packaging and delivery of the information – making it easy to understand and use – has been achieved through a combination of skill-sets available at the AWRI. Staff members who have expertise in knowledge and information management, communication, event management and IT worked closely with experienced oenologists and viticulturists and practicing grape and wine producers to bundle the information into easy to use, accessible information packages. For example, the recognition of the changing methods of how stakeholders access the information resulted in a smart phone/tablet 'mobile' version of the AWRI website being produced, and also the creation of an app for the Agrochemicals database. Further, feedback received from stakeholders, as to the suitability and value of the AWAC-style education, resulted in the staging of well-received abridged versions of the AWAC, selecting specific aspects of the course to deliver in short duration formats.

Ensuring the information is available when the stakeholder is ready to receive it was achieved through a combination of passive and pro-active approaches. Both of these approaches are effective as they align with the availability and interest of the stakeholder to receive the information. The pro-active approach including the AWRI's roadshow seminars and workshops and webinars; where AWRI staff members actively engaged with stakeholders at a specified time at a specified place (see attendee rates listed above). The so-called passive approach included the library database, website, AWRI publications and papers in industry journals (see specific details above), which packages information in convenient formats ready for when the stakeholders have the time and mindset to receive the information.

The AWRI's 7 Year RD&E Plan outlined a number of key objectives and outcomes designed to enhance and extend knowledge to the Australian grape and wine sector. These objectives were met through a multi-platform approach and capability in the dissemination of information and knowledge (see details above). The Australian grape and wine sector's need to access information 'on the move' was addressed through adoption of new technology and communication platforms. The AWRI has seized these new opportunities (not contemplated in the 7 year RD&E Plan) and implemented new platforms to improve reach and connection with levy payers. These included:

- Customised workshops requested by wineries and regions.
- Introduction of *eNews*.
- Social media.
- Webinars.
- Mobile-based tools.

The demand for the AWRI's education and extension platforms are reflected in the event attendance rates; usage statistics from the website and mobile app; and information requests received by the library (see details above).

8. Recommendations:

The suite of communication and extension platforms funded through these two streams has a long history of effectiveness. The multi-faceted strategy utilising a number of learning approaches which includes face-to-face interactions and print and electronic media address industry's information sourcing requirements. The roadshow concept of seminars and workshops delivered in regions boosts two-way communication and extension of information; each party gaining greater insight through the ability of personal interaction affording deeper discussion of topics of interest. The current offering of print and electronic resources continues to provide valuable information to industry members at the convenience of stakeholders. It is recommended future communication and extension efforts build upon and continually evolve these successful platforms, (to be addressed in Project portfolio 4.1 in the AWRI's R,D&E plan 2013-2018).

Vast amounts of information, either historical or generated in real time, is captured within these platforms, and further opportunities exist to monitor industry wide trends and emergencies, generate information which can be used proactively to support industry processes, be also applied to the prioritisation of research activities and to the development of targeted dissemination themes, (to be addressed in Projects 4.1.2 and 5.1.1 in the AWRI's R,D&E plan 2013-2018).

It is anticipated that future learning platforms will be underpinned by advances in new technologies and with faster bandwidth speed available in the future. Mobile apps will be become more prevalent as decision support systems to support grapegrowing and winery operations. Cloud based web applications will be more user friendly, enabling greater sharing of data and reducing analysis charges. eLearning tools with enhanced 3D visualisation will allow better interactivity and engagement. Social media and webinars will facilitate and expand opportunities for sharing of information and collaborative learning in real time, (to be addressed in Project 4.1.5 in the AWRI's R,D&E plan 2013-2018).

For example, an eLearning strategy could be developed and adopted which incorporates a mix of face-to-face and web-based education to enrich learning (e.g. the AWRI could conduct a tailored face-to-face workshop with participants committed to also attend a follow-up webinar, held a short time later to reinforce the learning and provide a chance for participants to get together to ask questions and to discuss their experiences).

As new personnel enter the grape and wine industry on a continuous basis, the phenomenon of 'unlearning' takes place. This is particularly evident where human resources are low and as such the role of 'mentor' is absent. The AWRI needs to remain vigilant and continue to raise awareness of the various education and extension platforms available to assist new industry members in the wineries and vineyards, (to be addressed in Project 4.4.1 in the AWRI's R,D&E plan 2013-2018).

Focus needs to continue on accessing the expansive source of information from other research providers and other industry personnel (both locally and internationally) to contribute content to the AWRI's extension and communication platforms, thus enriching the value received by stakeholders, (to be addressed in project 4.1.2 of the AWRI's R,D&E plan 2013-2018).

With the rapid emergence of innovative communication technologies, it is impossible to predict with any certainty the trends in relative effectiveness of the various AWRI platforms. It is important that research into the effectiveness of extension platforms is supported and used to identify opportunities that will increase adoption, (to be addressed in project portfolio 4.1 in the AWRI's R,D&E plan).

9. Budget reconciliation:

Financial Year	Receipts / Income ❶	Outgoings / Expenditure ❷
Year 1: 2006/2007	$967,040	$967,040
Year 2: 2007/2008	$1,012,063	$1,012,063
Year 3: 2008/2009	$1,019,674	$1,019,674
Year 4: 2009/2010	$1,069,442	$1,069,442
Year 5: 2010/2011	$1,024,827	$1,024,827
Year 6: 2011/2012	$804,748	$804,748
Year 7: 2012/2013	$871,326	$871,326
TOTAL	$6,769,120	$6,769,120

❶ Note that the GWRDC – AWRI Investment Agreement budget was established and approved at an aggregate level, with variances to budget (i.e. annual overspends and underspends) reported and considered at that same aggregate (i.e. whole of agreement) level. The receipts / income relating to a Stream for any year therefore equate to the outgoings / expenditure within that Stream for that year, as any variances between total Investment Agreement funding received and total funds expended were considered at the whole of Agreement rather than individual Stream level.

❷ Includes a pro-rated share of Theme 5 *Executive management and administration*.

I hereby certify that this statement is true and accurate.

Signature of duly authorised representative...

Chris Day   Group Manager – Corporate Services   29/11/2013.........................

Name: *Title:*   *Date:*

10. References:

The AWRI's R,D&E plan 2013-2018; http://www.awri.com.au/about_the_awri/rde-plan/