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*AEShareNet*: Reflections on an innovative venture to move copyright licensing into the digital age

Jack Gilding and Carol Fripp

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### **Abstract**

***AEShareNet* is a collaborative system to streamline the licensing of intellectual property so that Australian training materials are developed, shared and adapted efficiently. *AEShareNet* went live in February 2002: its history is reviewed here to illustrate the many strands in the provision of an online system in the context of the national vocational education and training system and to move practitioners from traditional paper-based systems to the new world of online resource discovery and licensing. This account focuses particularly on information management and technical issues and addresses the need for consultation, user education and innovative organisational structures. The positioning of *AEShareNet* in relation to global developments in intellectual property management and the future challenges facing it are briefly reviewed.**

### **Context and early history**

Nowadays, just about everyone involved in the management of education and training is talking about learning objects, resource discovery and digital rights management. But when Philip Crisp and Joan Armitage first met around 1995 and set in train a process which ultimately led to the development of *AEShareNet*, the issue on the agenda was copyright and how to get the maximum benefit from Commonwealth expenditure on training materials.

The early 1990s were a time of great change in the management and delivery of vocational education and training (VET). Australia was moving from the traditional state-based system of TAFE colleges delivering regional curricula to a national training system based on industry-defined competencies. The traditional public-good basis of education and training was being supplemented by the notion of a training market and the registration of for-profit private training providers in competition with state-owned TAFE institutions. In 1992 the Australian National Training Authority (ANTA) was established to drive the development of a national training system.

Joan Armitage worked in the VET Division of the (then) Commonwealth Department of Employment, Education, Training and Youth Affairs (DEETYA). She estimates that by 1995 around \$40m of Commonwealth funding had gone into the development of training materials under the umbrella of the Australian Vocational Training System (AVTS) program (Armitage

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2002). But there were very limited mechanisms in place to ensure that materials developed would be able to be tracked and made available for re-use and adaptation in compliance with copyright laws, even for existing print materials, let alone for the new world of online learning and digital objects. On the contrary, in many cases organisations were 'tying up' materials by making relatively minor enhancements and using copyright to charge unrealistic prices to access materials originally developed with public funding.

Joan was responsible for developing a copyright policy for Commonwealth-funded training materials. She approached DEETYA's legal department for advice on the issues related to copyright and they recommended commissioning work from the office of the Australian Government Solicitor (AGS) which had acknowledged expertise in this area. Philip Crisp in the AGS had been involved in dealing with individual matters in relation to copyright in competency-based training materials since 1993. Philip also sees the AVTS program as bringing to a head the need for a new approach to copyright management:

The whole problem became very complex when (around 1995) we had to consider copyright arrangements for the AVTS - NTP [National Transition Plan]. The number of interested parties became very much larger. There was a need to control not just the top licensing layer, but also sub-licensing activity. It became clear that if we were to continue with the conventional approach we would need to put in place such a labyrinth of overlapping bilateral arrangements that the task of rationalising copyright ownership and license rights would never be completed. (Crisp 2003)

Joan and Philip met as a result of this common involvement in copyright matters, and early in 1996 they had many intense 'thinking meetings' discussing the issue of copyright management and the barriers to re-use of training materials. From Joan's innovative approach and understanding of the VET sector, and Philip's understanding of copyright law and the potential of online systems, emerged the notion of a 'copyright club' in which materials could be shared through a flexible legal structure. Philip's efforts and expertise were recognised by the Australian Government Solicitor when he received an Australia Day Award for his achievements in developing the fundamental concept on which *AEShareNet* is based.

The initial model was for a paper-based system of agreements with a possible second stage of moving the process online. However as the emerging value of the Internet became clearer, a decision was made that the maximum potential and efficiencies of the concept could only be achieved by going straight to an online model of transacting licences (although most of the material licensed would initially be traditional paper-based learning resources).

### **What is *AEShareNet* now?**

Seven years later that vision has become a reality, and as a result the Australian vocational training sector has in place a national mechanism that allows all types of training materials to be found and licences granted for re-use of the material in a way which meets the needs of users and protects the interests of copyright owners.

That reality is called *AEShareNet* and consists of three parts:

- A legal framework that this is the embodiment and formalisation of several years of collaborative agreement building (sometimes called 'the *AEShareNet* model').
- A website which allows anyone with Internet access to search in a single location for training materials. For organisations who have joined *AEShareNet* it provides much more - members can take out a licence to use and adapt other members' training materials, often in a single online transaction.

- A company called *AEShareNet* Limited, which is owned by the Ministers of Education and Training which manages the whole process.

It is only possible here to provide the briefest introduction to the model. The reader is referred to the website for more detail (*AEShareNet* 2002a).

Traditional licensing of training materials involves individual agreements between an owner (licensor) and a user (licensee) by way of a written agreement typically covering use of a single item of intellectual property. These are referred to as bilateral arrangements. *AEShareNet* is a multilateral approach. It consists of Materials (or actually descriptions of materials), Members, and Licence Protocols (sets of standard terms and conditions). The members agree to transact licences with each other under the legal framework (consisting in particular of the Constitution and Charter). *AEShareNet* currently has four Licence Protocols signified by the letters U, S, P and C. The first three are standard licences - the terms of every *AEShareNet*-S licence are the same and there is no charge between members for granting of a licence; and the same goes for all U licences and P licences. The *AEShareNet*-C licence, on the other hand, allows for both customisation of the conditions of a licence and also for charging other members for the licence in various ways.

In the early days *AEShareNet* was sometime described as ‘the copyright licensing club’ and the club notion of sharing resources for the common good still underpins much of the philosophy. However the existence of different classes of members and the ability of members to specify (for *AEShareNet*-C materials) who can take out a licence and at what cost, allows members to control use of their resources in a fully commercial environment.

### **The development of *AEShareNet***

It is both a complex information system and an attempt to change the culture and practice of intellectual property management in the VET sector. In managing the development of both these aspects several stages can be identified with different challenges at each stage:

- developing the legal and organisational model
- formal endorsement and funding
- gaining agreement on data structures
- developing software systems
- training a core group of users
- getting a critical mass of materials
- broadening understanding of the service *AEShareNet* provides
- getting licensing happening
- expanding the user base.

#### *Developing the legal and organisational model*

The basic concept of the multilateral licensing structure was developed by Philip Crisp at the Australian Government Solicitor in 1996. However extensive consultation with State and Territory training authorities then took place to develop this into a structure acceptable to all key stakeholders. A policy report by Kaye Schofield and Robyn Dryen (1998) for DEETYA canvassed a number of possible legal structures and arrangements and recommended a company limited by guarantee owned by the State, Territory and Commonwealth ministers of training. A corporate structure was seen as the only viable option which protected the interests of the Crown Copyright owners who were the founding members yet provided the flexibility to easily expand the membership and adapt the operation and decision making structure as the concept developed.

### *Formal endorsement and funding*

From 1995 to 1998 *AEShareNet* was managed as a project within the VET Division of DEETYA, albeit with extensive consultation with States and Territories. Some ANTA national project funding supplemented DEETYA internal funds as the project developed. By the end of 1998 the concept had been sufficiently developed to be proposed for Ministerial approval. On 13 November 1998, the ANTA Ministerial Council (ANTA MINCO) comprising the Commonwealth, State and Territory ministers responsible for vocational education and training approved up to \$3.03m for the establishment of *AEShareNet* from ANTA National Funds. An ‘*AEShareNet* Establishment Advisory Group’ with representatives of all States and Territories, ANTA, DEETYA, AGS and EdNA met for the first time in December 1998 to guide implementation (*AEShareNet* 2002b).

### *Agreement on data structures*

The Establishment Group realised that a key requirement was to understand both the number and location of existing VET materials which might be offered for licensing through *AEShareNet*, and the technical issues surrounding how information about these materials was stored, and how it might be consolidated into *AEShareNet*.

Consultants were commissioned to undertake the ‘*AEShareNet* Materials Database Project’. The final report (Simsion Bowles and Associates 1999) identified 17 major databases of training materials owned by State, Territory and Commonwealth training authorities. These had almost no consistency of format or structure. Some were in well set-up databases, others were simply lists of titles in a Word document or a spreadsheet. In total these databases had 42,180 records, but many organisations included in their database materials owned by other organisations and there was likely to be much duplication - especially of nationally-developed materials. The report attempted to identify the number of possible materials for inclusion in *AEShareNet* by asking organisations to identify the number of records describing materials they owned and which they might offer through *AEShareNet* - this totalled between 13-15,000 records.

The Simsion Bowles report also reviewed the data structures of existing databases and made recommendations regarding minimum, recommended and possible attributes (fields) which should be used to describe materials in the *AEShareNet* database. A key recommendation which affected future technical development was to ‘create a central *AEShareNet* Materials database supported by a series of local databases and/or enhanced local members systems’. Following the recommendations on desirable fields, detailed documentation of the proposed field structure for the Local System and guidelines on data entry were developed. This (Gilding and Silberg 2000) was released to users at the same time as the first version of the Local System. In addition to supporting consistent data entry into the Local System this provided information for States and Territories who wanted to bring their own database structures more into line with that of *AEShareNet*.

### *Development of software systems*

The central *AEShareNet* website with the full capability to consolidate information from all members and manage online licensing was clearly going to take some time to specify and develop. So it was decided to write a data entry system so that members could start cataloguing their training material while this happened. A stand-alone Windows program called the *AEShareNet* Local System was developed. Although intended mainly for data entry, this has sophisticated import and export facilities and a user interface for searching for the various codes and keywords that are part of the data structure. The Local System has optional field-level locking for imported data. This allows data to be imported from another database and information entered in additional fields in the Local System. Updated data from the source

database can be loaded into the Local System at a later time and will automatically be merged, preserving the original data from both sources.

The Local System software was commissioned in January 2000 and after testing, was made available to stakeholders in September of that year. The contract for the development of the Central System was let in March 2001. User testing of the completed system took place late in 2001. Dytech Solutions were the successful tenderer in both cases. The central website went live for legally binding licensing between members on 27 February 2002 and went public at the URL <http://www.aesharenet.com.au/> on 18 March.

#### *Training a core group of users*

The extensive consultation processes in the development of *AEShareNet* ensured that there was a core group covering every State and Territory who had some understanding of the licensing system. An email announcement and discussion list was established using the facilities of EdNA Online to provide ongoing contact, especially with those involved in the practical task of entering material descriptions into the Local System and making decisions on the conditions under which these materials would be offered for licensing. Between the completion of the Central System and the launch of the live service a three-day hands-on training session was held in Sydney, immediately followed by a one-day session for VET managers who needed to understand *AEShareNet* at a policy level.

#### *Getting a critical mass of materials*

Ensuring that *AEShareNet* made a significant number of high quality materials available for licensing at launch was identified very early on as a critical success factor. In addition to the \$3.03m for development, \$500,000 was made available to States and Territories for a process known as 'copyright clarification'. This was based on the recognition that much of the material available in the national pool of VET materials had a complex history of development and that ownership of the copyright in this material was often convoluted, layered, and poorly documented. The legal framework and software systems provide several mechanisms for clarifying this ownership. These include a moratorium for clarifying the licensing where one member owned a material and another had made enhancements to it; and an online system for members to upload information on material in which several organisations might have an interest and for clearances then to be given online by the parties allowing a single member to offer the material for licensing.

The copyright clarification money was allocated to States and Territories with an undertaking that they would each identify and describe at least 100 high quality materials for which copyright ownership had been clarified which they would offer for license at the commencement of *AEShareNet* operation. This notional pool of 800 items was well exceeded with 3,026 items available for licensing at launch.

#### *Broadening understanding of the service offered*

Following the launch of the service, Stage 1 of a marketing campaign commenced, consisting of conference sponsorships, online and hard-copy brochures, posters and the compilation of an extensive marketing database. Librarians, in particular, were seen as key communicators and quickly embraced the potential of this initiative. While the marketing campaign was commencing, a conscious decision was made to work with the original Charter members to build a large critical mass of materials, and to ensure the necessary business processes and system integrations were achieved within their organisational structures.

One of the biggest hurdles faced by all countries world-wide is the fundamental lack of knowledge about copyright which inevitably results in infringement. In today's litigious society,

the intellectual property officers of many organizations are ensuring that their colleagues do not break the law and are working in a collaborative environment to encourage good copyright practice. The United States of America in particular, has taken a strong lead through the establishment of an organisation to help educate the community and society about copyright practice. It was discovered that there was a 'woeful, even wilful ignorance' about basic copyright issues (NINCH 2002) which gave rise to the NINCH 'Town Meetings'. These quickly became avenues for debate on copyright issues in the digital age, and the organisation has grown from a small awareness-raising concept to a major lobby group and adviser to government over the past few years.

The challenges faced by *AEShareNet* mirror the American experience. During the Business Planning phase, a critical success factor was determined to be the need for awareness-raising about copyright management. Before take-up of licensing could be achieved, the educational community needed to understand the initiative.

#### *Getting licensing happening*

Stage 2 of the marketing plan was to move into the wider marketplace and engage interest from the private sector and other interested parties. A Business Development Manager was employed in September 2002 with the prime objective to get take-up of licensing and expansion of membership. Papers are being written and will be delivered at several key conferences in early 2003; national newspaper articles have been developed and case studies for trade publications; and a large number of workshops are being run nation-wide to encourage take-up of online licensing.

#### *Expanding the user base*

The initial members were the State, Territory and Commonwealth training organisations which are the owners of most of the training materials developed in Australia. A particular focus was to facilitate the re-use of material between these foundation members. However it has emerged that the largest area of immediate demand from entities which want to take out licences (as opposed to offering their materials for licensing by others) is in small private training organisations. These have indicated that the obligations of full membership of *AEShareNet* are too daunting for a small body which just wants to take out a license to adapt one or two training materials. As a result the Board has approved a new status of Associate which allows organisations to register and pay a transaction fee to licence small numbers of training materials. Software systems to implement this status and allow online payment have been implemented and are currently being tested prior to roll-out early in 2003. The Associate concept also offers a gateway for offshore bodies to license Australian products and a small demand is already emerging.

#### *Global context*

The *AEShareNet* Board commissioned the General Manager to undertake an overseas Benchmarking Study in late 2002: it concluded that *AEShareNet* may be the only system in the world which provides an integrated catalogue of training materials from multiple sources and which allows the online transaction of licences to use and enhance these materials. Many organisations are talking about these issues and tackling various aspects of the problem, but despite extensive research and discussion with people all round the world, we have not identified any other organisation that has brought all the components together in a working system. Having this single point of reference for training material is important for users in Australia but is even more important for projecting the resources and capabilities of the Australian vocational education sector to an international marketplace.

Copyright management has emerged as one of the top three issues in the international e-learning arena and the *AEShareNet* model is being viewed with considerable interest. The other issues

being debated are re-use or re-purposing of content; and how content is now managed in a digital environment. There is much discussion around the need for system integration and interoperability as educators struggle to bring their learning management platforms into line with the financial, administrative and customer relationship systems.

### **Success factors**

The key success factors in the development of *AEShareNet* to date include innovative approaches, consultation, high quality technical solutions and responsive support arrangements held together by good management expertise and processes.

### *Innovative approaches*

The history of *AEShareNet* has been characterised by a preparedness to think innovatively and support approaches beyond the conventional. Examples include:

- the collaborative approach between DEETYA and AGS to address issues of copyright management;
- the support within DEETYA at both Division and Secretary level for a significant allocation of time and resources to what was an unconventional and untried concept, and later at Ministerial level in supporting a substantial allocation of national funds;
- the development of a multi-lateral licensing system for which there was no established precedent;
- the choice of a corporate structure to provide maximum flexibility for future developments;
- careful drafting of the legal documents to ensure that *AEShareNet* could, if desired, be easily expanded outside the VET sector and even overseas, even though a decision was made to restrict initial membership and operation to the formal vocational education and training sector in Australia;
- the decision to embrace a fully online model of operation at a stage where the Internet was not yet a mainstream technology in education and training;
- keeping the organisation small and using 'virtual organisation' approaches to maintain communication between staff, contractors, consultants, and Board members who are spread all around Australia.

### *Consultation*

Consultation and consensus building was the only way *AEShareNet* could get established and the only way it can survive. Consultation was required to get national agreement on the legal framework which underpins *AEShareNet*, and agreement on the cataloguing system for the *AEShareNet* database. Originally *AEShareNet* operated as a DEETYA project with a national Establishment Advisory Group. Although the legal structure is now an independent company, consultation remains a key part of the operation.

### *High quality technical solutions*

The implementation of *AEShareNet* required many organisations to make changes to the way they stored information about their training resources, and the way they managed licensing. It was essential that the software systems developed by *AEShareNet* were of the highest quality to make these transitions as easy as possible.

Key features of the full software system include:

- *Search:* Discovery and selection of training materials is the first step in the licensing process. The *AEShareNet* site provides search facilities which are available to anyone with Internet access, although only members can transact licences. The single text-box search available from the homepage provides searching of all the main fields in the database but an advanced search facility with very comprehensive field-level searching is available for more sophisticated users.
- *Licensing:* Once a user representing a member has logged in to the members-only part of the website they are able to request a licence for a material. Useful prompts are provided at each stage explaining the steps and these vary greatly depending on many business rules and conditions (whether the owner of the material has required negotiation, what privileges the user's Member Administrator has granted them, which licence protocol the material has been offered under). Depending on these conditions, a user may be able to complete the licensing process in a single transaction, or a negotiation process may be initiated and the owner of the material informed by email.
- *Reporting:* *AEShareNet* provides members with facilities to track and report on both the training materials they have listed and the licences to which they are a party. A member can be both a licensor of its own materials and a user of material owned by other members. The reporting features built into the website allow members to create their own reports and download the data for local analysis and reporting.
- *Flexibility:* Some organisations are using the *AEShareNet* Local System as their only database of training materials and to cater to this need, *AEShareNet* has added the ability for members to define their own fields in an individual copy of the Local System.

### *Support services*

Online management of copyright transactions is a big step for an organisation and *AEShareNet* has to be very responsive in the sorts of support it offers members. This extends well beyond the usual phone and email support on technical matters. The company has implemented a total copy of the software just for training purposes and provides local training sessions by negotiation with members. The company also responds actively to the technical requirements of individual members. For example TAFE NSW wanted to register several thousand items from their mainframe database, but did not want to lose some of the coding data that was not compatible with the existing *AEShareNet* data structure. As the coding data is part of a new standard issued by the Australian Bureau of Statistics (the Australian Standard Classification of Education - ASCED), the company took the initiative to consult with members on implementing this new coding. In the meantime a service pack was developed to upgrade the Local System to support this new system for use by TAFE NSW.

### **Management processes**

There were two stages in the management of *AEShareNet*; first as a DEETYA (later DETYA and then DEST) project and then as an independent company. In the first stage the project was managed by Joan Armitage and later Murray Judd, supported throughout by Vivienne Teoh. This included the development of the concept through to the incorporation of the company and the establishment of the Board. The second stage started with the first Board meeting on 31 August 2000 which appointed Richard Davey as the Establishment Manager for four months pending the selection of a General Manager.

Given the scope of its activities, one might imagine that *AEShareNet* is quite a large body, but in fact it operates very much as a virtual organisation. The first General Manager Ian Tabrett, and

Office Manager Sylvia Smale established an office in Lindfield, Sydney. The office has now moved to a single room in a corner of the Open Training and Education Network in Sydney. Amber Walker and Meredith Graham manage the website and handle the front line technical support, as well as corporate governance while Dennis Macnamara has taken on the role of Business Development Manager and is working actively with *AEShareNet* contacts across Australia.

General Manager Carol Fripp is constantly on the move between her home and an office in Brisbane, the Sydney office and visiting members around Australia. Most of the technical development is overseen by Richard Davey, who is now Project Manager of Technology, in Brisbane and Jack Gilding, who is based a hundred kilometres outside Melbourne. Dytech Solutions, who have a continuing role in the maintenance and enhancement of the technical systems are in Hobart. The Board of Directors is as dispersed as the staff; the chair of the Board is in Canberra, and other Board members are in Sydney, Canberra, Melbourne and Perth. The quality and range of expertise of the Board is another factor driving the success of *AEShareNet*. Chaired by Roger Clarke, an internationally renowned expert in electronic commerce, privacy and information infrastructure issues, Board members have extensive expertise in the management of education and training and in intellectual property law.

While everyone in the organisation has particular areas of responsibility, this geographical spread does mean that, despite having only four full-time staff, *AEShareNet* has an 'on the ground' presence in almost every state and territory.

### **Challenges for the future**

While much has been achieved to date, with the rapid changes taking place in the national training system, and in users' expectation of online systems, *AEShareNet* will need to continue developing and adapting to meet customer expectations. Immediate challenges include: integrating business processes; educating users to the new way of doing business in the digital environment; and dealing with the new world of online delivery and learning objects. *AEShareNet* quickly identified that copyright licensing is only one component of the product development cycle and has been working with ANTA to move the sector into a new seamless arrangement where many of the current processes can be brought together under a new umbrella to offer efficiencies.

#### *Integrating business processes*

We have two integration challenges: firstly, to ensure the licensing functionality is as seamless as possible; and secondly to integrate licensing into the total product development cycle. The core services provided - searching for training resources, and taking out a licence to adapt them - are only one part of a complex chain of activities involved in the development, adaptation and use of training materials. We have greatly simplified some parts of this chain, but the ultimate objective must be that both owners and users of material have a seamless process for finding, licensing and obtaining training materials, irrespective of who owns the material and whereabouts on the Internet the user starts their search. In order to achieve this, the facilities of *AEShareNet* must be built into the business processes of owners, developers and users of training materials.

The recently completed integration of the TAFE frontiers catalogue with *AEShareNet* is an example of progress in this direction (*AEShareNet* 2002c). TAFE frontiers are responsible for the management of much of the crown copyright training materials in Victoria. They have recently converted their whole product catalogue over to the *AEShareNet* Local System. From this single point of data entry they now upload some materials to the website, and a different but overlapping set of data to their own online website and catalogue. Automated hyperlinks

between the two websites make it easy for the user to choose purchase, licensing or both for each of over 1300 individual training materials. Another level of integration will allow all the training materials listed on *AEShareNet* to also be visible through EdNA Online. A Memorandum of Understanding has been signed for this and the software is currently being implemented. This will make materials owned by members visible to school and higher education users as well as overseas users of EdNA Online who may not be aware of *AEShareNet*.

The complex chain of activities described above is only one part of the total product development cycle and the Board and management have been working with ANTA to develop a rationalisation strategy relating to production and dissemination of materials, and to provide alternative approaches to process and institutional rationalisation in order to improve services and achieve efficiencies in a digital environment. Customers want to work through a process where they can discover, preview, license, purchase and pay for training resources through one avenue. The ANTA Rationalisation Strategy is now critical given the Board has undertaken a long-term revenue model which accepts that self-sustaining operation on a commercial 'free market' basis cannot be achieved by the end of 2003 due to barriers which are largely systemic and cultural, operating across the whole of the VET sector and external to *AEShareNet*. Initiatives of this significance require a longer establishment period than conventional services, particularly given that it is an unfamiliar concept which is not widely understood or appreciated and implementation of which requires an extensive change management process.

#### *Educating users*

Sophisticated as the technical systems behind *AEShareNet* are, they will only work if teachers and training organisations both understand the requirements of intellectual property management in the digital age, and overcome the factors that currently lead to duplication of resource development in multiple locations. *AEShareNet* provides facilities for finding training materials and negotiating the legal right to adapt these materials for local use but as an essential corollary will require teachers and training organisations to overcome the 'not developed here' syndrome and embrace this new approach of mixing and sharing content.

#### *Repositories, learning objects and meta-tagging*

The debate around content development and digitisation invariably moves on to debate about standards, repositories, learning objects and meta-tagging. Canada is particularly active in this area where several national initiatives are well underway, consideration of which may help to inform the Australian debate. The Portal for Online Objects in Learning (POOL) is a consortium of organisations developing an infrastructure for learning object repositories (Splash 2002) and the project has confirmed that there is emerging resistance to standards such as Dublin Core. Other initiatives include CAREO and BELLE (CAREO 2002) where the primary goal is to create a searchable web-based collection of teaching materials for educators. *AEShareNet* is about to co-sponsor a series of Great Debates with Macquarie University; the first topic being launched being 'To Meta-tag or Not to Meta-tag?' in March 2003.

#### **Conclusion**

While there is considerable interest in copyright issues, there is an emerging view that more attention needs to be paid to developing new business models (Clarke & Dempsey 1999). The International Chamber of Commerce has recognised that the economic importance of intellectual property in the digital world is a growing issue in trade relations (ICC 2000), and that copyright issues are driving the development of e-commerce models. Ultimately, without access to creative endeavour, society is much the poorer and innovation is stifled. As the American

NINCH Town Meetings have illustrated, it is clearly in society's interests to find a balance in an increasingly e-commerce world.

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**Jack Gilding** <[jack@backroad.com.au](mailto:jack@backroad.com.au)> was Executive Officer of the EdNA VET Advisory Group (EVAG - now known as Flexible Learning Advisory Group - FLAG) from 1996 to 1999 and now runs his own consulting business Backroad Connections Pty Ltd. He has been actively involved in *AEShareNet* in both these capacities since 1997.

**Carol Fripp** <[Carol.Fripp@aesharenet.com.au](mailto:Carol.Fripp@aesharenet.com.au)> was a member of the initial Reference Group for *AEShareNet* in 1998 and has actively participated in its evolution. She was an inaugural Board member from August 1999 representing the VET Sector; and was subsequently appointed as General Manager in January 2002.