

“Quicklook” Assessment of Greater Adelaide’s Assets and Challenges for Accelerated Technology-Based Growth: Part A

By: David V. Gibson and Graham Gurr

Date: November 2001

Abstract:

Study of assets and challenges for accelerated technology-based growth in Adelaide, South Australia.

Keywords: economic development; Adelaide, South Australia; Australia



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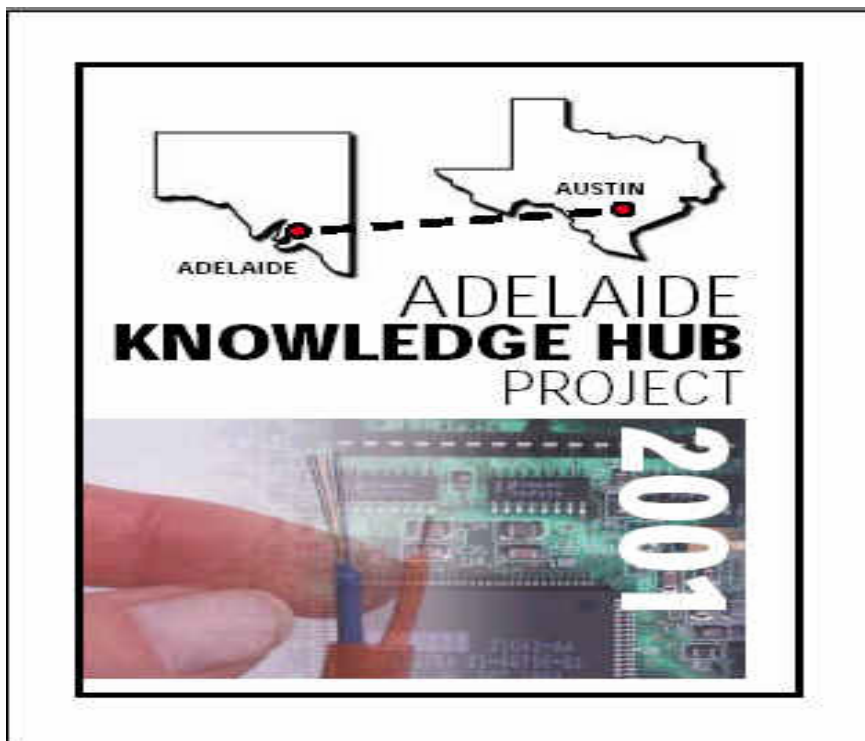
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“Quicklook” Assessment of Greater Adelaide’s Assets & Challenges for Accelerated Technology-Based Growth

Adelaide Knowledge Hub Project
November 2001

Final Report: Part A

Primary Investigators:
David Gibson & Graham Gurr



Editors' Note

We report herein on the process and findings of an experimental research project conducted in Adelaide, South Australia during the week of July 9, 2001.

The study reports the work of many people. We are grateful for their various contributions. While individual acknowledgements are impractical, we are especially grateful to Dr Barbara Fossum and Ms Adrienne Hughto from the visiting team for their assistance with report writing, and Mr Peter Turner who led the Adelaide coordination efforts.

Dr David Gibson
Research Director
IC² Institute
The University of Texas at Austin

Dr Graham Gurr, Director
Science & Technology
Commercialisation Programs
Adelaide University

Prelude

Address to the Governor of South Australia

The following is a letter of acknowledgement from Texas Governor Rick Perry to the Governor of South Australia Sir Eric Neal acknowledging the importance of International relations and collaboration. The sentiments expressed are those of the visiting group as a whole.

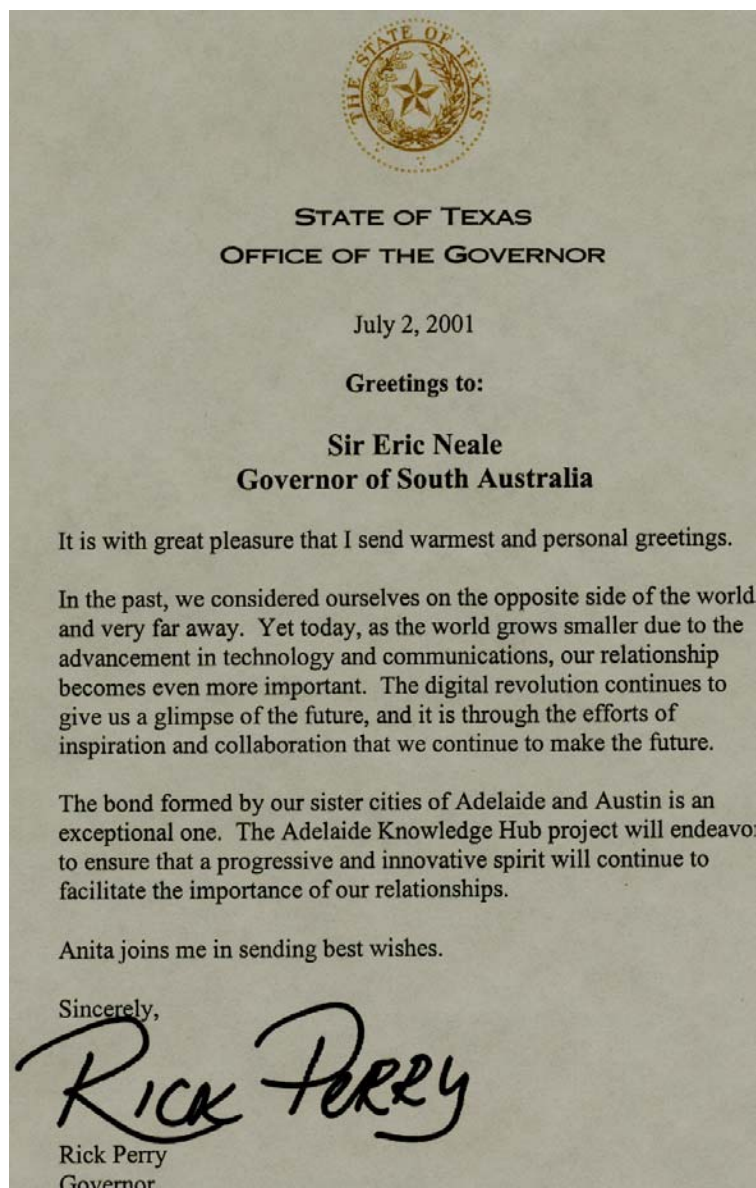


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Executive Summary

During the week of July 9, 2001 Adelaide University hosted 22 visitors from Austin, Texas. Those business and public sector professionals were staff, members and graduates of IC² Institute's Masters Program in Science and Technology Commercialization (MS STC) at The University of Texas at Austin. IC² developed their MS STC degree in 1995. That program has the objective of training people to **create regional wealth through technology-based business development**. In 1999 Adelaide University linked with IC2 to deliver essentially the same program (MSTC) and to provide participants from both universities the experience of working together in global project teams.

Adelaide and Austin are cities of similar size (about 1 million people) that are linked as "Sister Cities".

For one week the visitors from Austin met in teams with over 200 community leaders in Greater Adelaide in 26 sessions covering public and private sectors. The intent was to quickly canvass a broad range of opinions and to form vivid impressions of Adelaide's assets, liabilities, challenges and opportunities for accelerated technology-based growth.

The SA Government, Adelaide City Council, and Land Management Corporation sponsored the project by contributing \$50,000 towards the project cost. SA BusinessVision2010 provided valuable in-kind support to manage the local logistics of meetings, transport, etc.

This Executive Summary highlights key findings and recommendations. The body of this report contains details of the project and its general findings.

Five individual reports previously filed with the sponsors to highlight specific recommendations are shown again in Appendix D.

This report is centered on a "quick-look" assessment of Greater Adelaide's assets and challenges for accelerated technology-based growth (see Appendix A). This assessment was conducted during July 9-13, 2001 by graduates, current students, and faculty of the Masters in Science and Technology Commercialization (MSSTC) Program at the IC2 Institute, The University of Texas at Austin in cooperation with fellow students from the twinned MSTC Program at Adelaide University and participants from Adelaide's business, government, and academic sectors.

Key objectives of this effort were to provide data, analyses and strategies to help crystallize a REGIONAL VISION. Specific action initiatives will be targeted to more effectively leverage regional public and private assets and to market and brand the region as an emerging center for technology-based growth. Information and analyses will inform regional business, academic and government sectors on near- and longer-term initiatives to accelerate economic development leading to wealth and job creation and an accessible and sustainable quality of life.

Adelaide is poised for "Take-Off." While no region in the world can match the variety and accessibility of Adelaide's quality of life assets – these assets are NOT being well leveraged or branded to the benefit of the community and to foster "take-off."

In this summary we suggest **5 initiatives** that we believe form an interrelated set of strategies for action that will accelerate Greater Adelaide's Technology-Based Growth. These are not instant remedies; we do not believe that is realistic. Our recommendations are for **ongoing support of programs** that will summon continuing effort of people with enthusiasm and commitment. One clear advantage of the proposed strategy is that only **modest capital spending** is required.

The Top 5 initiatives are:

1. **Academic/Business/Government Collaboration in Specific Industry Clusters**
2. **Enhanced Regional-Based Entrepreneurship**
3. **SMEs Collaborating for Global Growth**
4. **Partnerships & Alliances: Regional, National, Global**
5. **Branding/Marketing Greater Adelaide for Success**

1. Academic/Business/Government Collaboration in Specific Industry Clusters

The Natural Development/Evolution of Industry Clusters. The strategy we advocate is to focus on processes and value-added supporting activities rather than physical and structural assets. Enhanced leveraging of **existing** regional assets and talent can accelerate the creation of wealth and high value jobs and expanded career options.

Objective. To become globally competitive in niche markets of established and emerging (new to the world) industries where SA has a distinct competitive advantage.

A key question to ask is, "What unique assets exist within the Greater Adelaide region and how can Adelaide build on and leverage these assets for enhanced global competitiveness? Industry cluster development needs to be grounded on the region's assets with shorter and longer-term strategies for action and metrics for success.

One key focus is to target "underutilized assets and resources" that can make a significant value-added difference.

Another focus is to build on the technology/knowledge that Australia has developed to solve "its own problems/challenges" and to locate customers worldwide "who have the same sort of challenges/markets" whether it be mining, biotech, water conservation, tourism, etc.

Possible Clusters

- ❑ Wine Industry (the enhanced global competitiveness of the Australian wine industry is an excellent example of a winning strategy for SA where world-class value-added processes come together with state-of-the-art technology and Australia's regional competitive advantages.
- ❑ Defence Industry (another good example of where Australia's own unique challenges leads to successful entrepreneurial and technology-based initiatives).
- ❑ ICT
- ❑ Biotech

- ❑ Nanotechnology

Reality Check: *There will be a global shakeout in ICT, BioTech, nanotechnology, etc. - there are many global players – there will be few global winners – to “win” in this game Adelaide needs to be focused on a global market niche that builds on existing and growing regional strengths.*

- ❑ Entertainment and the Creative Arts (music, film, theater)
- ❑ Culinary Arts (Adelaide again demonstrates a natural evolution of cluster development with the recruitment of the local chef schools and the training of talent and the commercial applications in the region's diverse and excellent restaurants.)
- ❑ Mining
- ❑ Metals
- ❑ Agriculture
- ❑ Aquaculture
- ❑ Food
- ❑ Environmental (e.g., the Water Alliance and the Layering of Spatial Information (e.g., Torrens titling system) and global applications in Eastern Europe)
- ❑ Desert Knowledge (a proposed project in Alice Springs, NT). SA's strategic region for economic development might be extended to include the Northern Territory in support of this project that seeks to build a global knowledge network dedicated to fostering the integration of technological and cultural strategies for indigenous people and for sustainable communities in arid lands. Technology/knowledge venturing applications will be diffused and commercialized worldwide with the global center of excellence being located in Alice Springs and its surrounding region (including perhaps Adelaide.)

Build and leverage from World Class Cycles of Excellence between Business and Academia - with government acting as a catalyst.¹ Focus R&D, education, and training and re-training on critical technologies, processes, and skills needed for cluster development.

Leverage R&D and education/training for established and new-to-the-region industries: the creation of new, cutting-edge knowledge is a desirable objective, but it needs to be balanced with the use of existing knowledge and the leveraging of existing assets (e.g., mining, aquaculture, defence) – indeed existing assets/knowledge are likely to be closer to the market place and provide crucial income to support the more basic, leading edge research.

Community support and involvement also includes service providers – fostering “cycles of excellence” benefit the larger community in terms of national and global perceptions, increased tax income for the region, enhanced sales of consumer goods, real estate development, residential and commercial construction, automobile sales, etc.

Strategy for Action: Work to form clusters of SMEs around target technology needs and niche markets and focus on linking these “Cluster Associations” with the most appropriate university R&D and education resources. Once technology company winners emerge foster the culture of “Financial Endowments” where these “winners” give back to their partner universities and local business leader mentors contribute to the “Cycle of Excellence.”

¹ This “Cycle of Excellence” has been proven as a viable strategy for Stanford University and Palo Alto, CA; MIT and Boston, MA; and UT and Austin, TX. It does not attempt to involve all possible players but focuses on motivated champions – win-win strategies and results are the models for others to follow on a self-selected basis.

We strongly endorse the work being done through SA Business Vision 2010 to identify potential clusters and to enhance cluster networks. This important contribution should receive ongoing support.

2. Enhanced Regional-Based Entrepreneurship

Entrepreneurship is key to industry development as well as to fostering creative and innovative academic and government sectors.

Objective: To have Adelaide become nationally and globally recognized as a world recognized center of creativity and innovation in academic, business, and government sectors. For Adelaide to be a world leader in how to best grow, recruit, and retain talent – as a “cool place for hot jobs.”

Reality Check: *Currently the Greater Adelaide Region is losing its educated talent to Melbourne and Sydney and abroad. Adelaide is challenged to recruit nationally and globally and to retain highly qualified talent.*

Strategies for Action:

1. Support the collaborative initiative proposed by the 3 universities to create a **SA Institute for Innovation & Commercialisation** (see recommendations to SA Govt. and Adelaide City Council in Appendix D). This would be a centre (mostly virtual) to network all SA participants in the technology-based wealth generation chain. The hub could be hosted in CIBM, or perhaps SABV2010. The SA Institute should link to the newly created Australian Institute for Commercialisation (AIC) in Brisbane. The SA Institute should develop initiatives for the specific benefit of the SA economy while participating in and contributing to the national agenda. Leverage SA-based funding to attract Commonwealth funds.
2. Celebrate the “Tall Poppies” of entrepreneurial success, foster a tolerance for entrepreneurial failures, and encourage entrepreneurial risk taking. SA should actively participate in the national “Tall Poppy Association”
3. Advertise favourable news (TV, Radio, Press) stories and profiles.
4. Establish Global Networked Entrepreneurship links with partner regions worldwide – foster business/academic/government/cultural exchange with a focus on entrepreneurship – further develop the Austin-Adelaide Partnership as a model
5. Award scholarships and provide additional funding for exchange visits for academic faculty and staff from 2-weeks to one-year
6. Provide funding for fostering links between The Austin Technology Incubator and Austin’s Angel Capital Network (TCN) and counterparts in the Greater Adelaide region
7. Construct and advertise a clear and accessible **Roadmap of Entrepreneurial Services** – with clear links to the region’s Smart Infrastructure – coupled with access to regional mentors (e.g., experienced entrepreneurs at home and abroad, seasoned and retired executives) for:

Talent: Discuss lessons learned from regional entrepreneurial successes and failures

Technology: Spectacular success is not always built on leading science - DELL computers was built on a novel business idea

Capital: Angel and VC and alternative forms (alliances with established firms)

Business Know-How: Establish pro-bono and favorable links with local business professionals including retired professionals and academics

3. SMEs Collaborating for Global Growth

Adelaide academic/business/government support needs to move beyond early-stage, lifestyle businesses and increase the number of later-stage globally competitive, growth oriented firms.²

Objective: To have Adelaide be recognized as a World-Class Knowledge Hub for value-added knowledge and networks for SMEs to go global.

This strategy is taking Australia's challenge (developing a viable global business strategy for SMEs) and turning it into a competitive advantage. Such expertise is not a global competitive advantage of SMEs in Silicon Valley, Boston, or Austin as their focus is on the large domestic market.

The Vision is to develop Adelaide and South Australia as a dynamic environment where ideas and research and technologies and business practices are developed in Adelaide and as they go through their product/process cycles some are retained and expanded and some are spun off to global locations for additional competitive advantage – only high value-added products and services would be retained for domestic manufacturing and production.

Strategies for Action: Develop the smart infrastructure, knowledge networks, roadmaps and mentors for SMEs to go global, shorten learning curves and speed the process – for example, SA's Exporters Club currently provides value-added knowledge for SMEs going global.

4. Partnerships & Alliances: Regional, National, Global

Foster enhanced links/partnerships with strategic regions worldwide – begin by building on **The Adelaide-Austin Connection.**

Academic: Build on the Adelaide University-IC2 Institute at UT-Austin partnership with the Masters Program in Science and Technology Commercialization – scholarships for students

Fund student, faculty, and administrative staff exchanges from several weeks to a year or more – as Visiting Scholars or Practitioners

Entrepreneurial: Strengthen links between the Austin Technology Incubator and technology incubators in Greater Adelaide

Finance: Strengthen links between Austin's Angel Capital Network (TCN) and emerging Angel Networks in Greater Adelaide

Business: Strengthen links between Austin and Adelaide business professionals.

Strengthen links between large firms in Texas and South Australia: e.g., Motorola, EDS

² Entrepreneurs in the U.S. benefit from a large and comparatively wealthy large domestic market of 250 Million (and over 30 million Canadians) –relatively large firms can be built on technology and management processes targeted for this large domestic market. Australian entrepreneurs that seek to move beyond lifestyle businesses must go global. Many Australian SMEs are successfully competing in the global market but more needs to be done in this regard.

Government: More in-depth comparisons and learning between city governments on such issues as city growth and development, quality of life, etc.

Build national and global networks: The Australian Institute for Commercialization was recently created in Brisbane with support of the Queensland and Commonwealth Governments. SA should aggressively seek to create a SA node of that national institute. This should be a SA-wide collaboration across the university, business, and government sectors.

Australian Ex-Pats: Bring some champions home with targeted recruitment to build “smart infrastructure” in targeted industry clusters.

For most situations leverage the talents and networks of Ex-Pats where they are for enhanced global access.

Hold international conferences: on topics of interest to Adelaide academia, business, and government – such as:

- ❑ Technology Commercialization
- ❑ Developing and networking globally competitive SMEs
- ❑ Global Angel and Venture Capital

Publish books and monographs on these conferences for global sale and distribution [IC2 Institute used this relatively simple strategy to build global recognition for its Technopolis Strategies].

5. Branding/Marketing Greater Adelaide for Success

Observations: Adelaide is a fine city. Adelaide and the greater Adelaide region is a great place to live and work, and has truly unique and outstanding life-style attractions for overseas visitors and business migrants. The unique and pleasant cultural atmosphere and the high quality of life are all factors of major importance to technology companies that may consider relocating to SA. The region is a “clean” environment ecologically that is highly attractive to skilled talent and companies for relocation.

Adelaide is the hub of an metropolitan region that includes 3 universities, DSTO, Technology Park, Science Park, the Digital Precinct, the Thebarton Commerce and Research Precinct and its adjacent BioScience complex, and the SA Research and Development Institute at the Waite Campus of Adelaide University.

While Adelaide is home to a number of start-ups, technology entrepreneurs are not plentiful. It is well established that without a critical mass of entrepreneurial infrastructure, accelerated growth is stunted.

To a visitor or prospective business migrant the Greater Adelaide Region is perceived as one totality from the Barossa and Clare Valleys in the North to the Southern Vales and Victor Harbor in the South, the Hills to the East and the beaches (including Kangaroo Island) to the West. Their perception may well include the Outback and Northern Territory.

Strategies for Action:

The whole of the Greater Adelaide Region should coordinate its wealth creation, industry attraction, and tourism initiatives.

Adelaide City is **nice** but it is not **THAT** nice - it is the Greater Adelaide Region as a whole where the leverage/attraction/uniqueness resides. Publish reports of studies on Greater Adelaide's cutting edge programs and world-class quality of life – sell the whole package which includes world unique culture, geography, horticulture, and unique native animals. Advertise Adelaide's quality of life as ideal for entrepreneurs: a Silicon Valley, Boston, Austin quality-of-life (and more) at less than half the cost.

Learn how Austin changed its “Brand” in 10 years, from being perceived as a region of cowboys and rednecks living in a flat, dry, dusty region in the center of Texas to an entrepreneurial magnet with an exceptional quality-of-life that attracts the best and the brightest entrepreneurs from Silicon Valley, Boston, and worldwide. Learn about the unintended but crucial impacts of music, the arts, sports, restaurants, and coffee houses.

“Adelaide the Land of the Tall Poppy” – the negative implications of the “Tall Poppy Syndrome” are beginning to weaken. There is a national organization that celebrates Tall Poppies. There should be a strong Adelaide-based effort to tie into the Australia-wide celebration of local Tall Poppies.

In keeping with Adelaidean's concern with being relatively modest – construct a simple list of “Significant Technological, Cultural, Artistic, and Social Accomplishments” that have occurred in Adelaide and SA. Distribute copies of this list to restaurants, bars, coffee houses – as a modest statement of significant knowledge/social (non-political) contributions of Adelaideans to Australia and to the world.

Get the regional media: Radio/TV/Press to facilitate the Re-Branding of Greater Adelaide. Possibly arrange short exchanges of radio/TV personalities and press with their counterparts in Austin.

Adelaide tolerance & friendliness - for alliances and partnerships & being a global hub – ready “access to the entrepreneurial food chain is key” and Adelaide has a competitive edge in this regard

Festival State is fine but can be better leveraged with building national and global recognition as a world centre of entrepreneurship etc - and to foster global partnerships and alliances and target opportunities of collaboration.

Tourism and Conventions could benefit cluster development by being better linked to SA emerging clusters for enhanced regional and global awareness (e.g., tours of academic centers of excellence, industrial parks) and SA quality of life assets (e.g., the arts, theater, sports, nature). In short, world leaders/influencers (tourists and conventions) travel thousands of miles to visit Adelaide. The objective is to leverage their visit to maximize the opportunity for branding The Greater Adelaide Region as a “World-Class Globally Networked Entrepreneurial Center of Excellence” in targeted industry clusters. Such a leveraged strategy is an inexpensive and high value-add as the assets already exist. It is a clear win-win for the visitors (i.e., tourism and conventions) and for Greater Adelaide's Branding.

Creative arts (e.g., music, theatre, museums) – restaurants and coffee houses are an important component of creativity and retention of talent and of regional collaboration – in getting people out of their “institutional and professional boxes” and being creative and innovative.

Advertise to recruit entrepreneurs from technology regions in the U.S., Europe, and Asia and don't worry about Sydney and Melbourne, and Queensland – they will follow.

Adelaide – The City of Churches or The City of Tolerance and Inclusion: Throughout history the greatest cities have been culturally, racially, and ethnically diverse. Ethnic diversity is an entrepreneurial asset. This is currently exemplified in North America's High Tech Regions. Adelaide and SA have a culturally and racially rich and diverse history to build upon.

Suggested Strategy for Action: More targeted recruitment of talent from a diverse range of regions, especially those with flourishing entrepreneurship but challenged Quality of Life, such as Hong Kong, Singapore, or Taiwan as well as The Americas and Europe.

It is the basic conclusion of this report that how the Greater Adelaide Region organizes and leverages its assets across its business, academic, and government sectors will, in large part, determine the region's ability to create high value jobs and sustainable growth.

Chapter

1: Introduction and Overview

Adelaide, South Australia and Austin, Texas are cities of similar size (about 1 million people) with several links. First, they are Sister Cities. Second, they have universities linked to jointly deliver training in Science and Technology Commercialisation.

The IC² Institute at The University of Texas at Austin developed the degree Master of Science in Science & Technology Commercialization in 1995. That program has the objective of training people to **create regional wealth through technology-based business development**. In 1999 Adelaide University linked with IC² to deliver essentially the same program (MSTC) and to provide participants from both universities the experience of working together in global teams.

Dr Graham Gurr, Director of the Adelaide University MSTC Program invited Dr David Gibson, Research Director of IC² and Dr Barbara Fossum, Director of the MS STC Program at IC² to lead a group study project in Adelaide. **The project was to conduct an innovative “Quick Look” study of Adelaide’s assets, liabilities, challenges and opportunities for accelerated technology-based growth.** Dr Gurr obtained \$50,000 towards the project cost through proposals submitted to SA Government, Adelaide City Council, and Land Management Corporation.

During the week of July 9, 2001 Adelaide University hosted 22 visitors from Austin, Texas. Those business and public sector professionals were staff, members and graduates of IC² Institute’s Masters Program in Science and Technology Commercialization. For one week they met with over 200 community leaders in Greater Adelaide representing 26 public and private sectors. The intent was to quickly canvass a broad range of opinions and to form vivid impressions.

The results and recommendations from that Quick Look assessment project (which was known as the “Adelaide Knowledge Hub Project”) are reported in this Part A of our report.

Details of the interviews supporting this report have been documented as Part B of our report. These details have been lodged with the project sponsors (SA Government, Adelaide City Council, LMC/Mawson Lakes) and the project facilitator (SABusinessVision2010) and treated as confidential, since the interviewees were promised confidentiality.

This Part A report is divided into five chapters.

Chapter 1 provides an introduction to and overview of the Adelaide Knowledge-Hub Project and its rationale

Chapter 2 describes the assessment process and methodology

Chapter 3 discusses challenges and opportunities for the region

Chapter 4 highlights the region’s many assets and resources

Chapter 5 suggests short- and longer-term initiatives

Appendix A gives the US participants’ acknowledgements and background

Appendix B lists the 26 group interviews and visits made by the Austin Team

Appendix C enumerates the Adelaide-based organisers and participants

Appendix D reproduces 5 previously submitted minor reports, namely:

1. Notes of Dr Gibson's verbal debriefing summary
2. Top 5 Recommendations
3. Recommendations to SA Government
4. Recommendations to Adelaide City Council
5. Recommendations to LMC/Mawson Lakes

Preamble

The 21st Century world is very competitive. Information about regional economic programs is widely available. There are no secret recipes for success. There are no shortcuts. Each community must build on its unique strengths.

Adelaide and South Australia have been the subjects of a number of lengthy studies that attempted to provide success formulae.

The study reported here was of a different nature. A large group of overseas visitors (22) interacted for one week with over 200 members of the local community from 26 sectors to study assets, liabilities, challenges and opportunities for accelerated technology-based growth. The intent was to quickly canvass a broad range of opinions and to form vivid impressions.

The Project

Graduates and current students from the Masters in Science & Technology Commercialisation program at the IC² Institute, University of Texas at Austin, led by Professors David Gibson and Barbara Fossum (in conjunction with Dr Graham Gurr and participants from the linked MSTC program at Adelaide University) visited Adelaide during the week 9th – 13th July 2001.

The 22 visitors were sponsored by the South Australian Government, Adelaide City Council, and Land Management Corporation/Mawson Lakes. Logistical support was provided by SA Business Vision 2010.

The purpose was to conduct a "Quick Look" benchmarking study on key assets and challenges for growth in the Greater Adelaide Region. The Quick Look sought to identify South Australia's potential and readiness to achieve accelerated technology-based entrepreneurship and economic growth leading to significant wealth and job creation.

The goal was to identify the state of the community's underpinning innovation assets and the challenges to their growth and exploitation. Suggested approaches to implementation were to be based on best practices elsewhere in the world.

The project involved analysis of relevant existing documentation from reports and other sources prior to arrival, followed by face-to-face discussions with selected key influencers who are directly involved in the South Australian Innovation System, including representatives from:

Secondary and higher education
 Major R&D suppliers
 Local, state, and federal government
 Business service providers
 SABV2010
 Civil infrastructure
 Technology infrastructure
 Quality of life incentives and reward structures
 Markets
 Technology businesses, small, medium, and large
 Miscellaneous

One outcome from the study is this Report “Greater Adelaide Region: Assets & Challenges for Accelerated Technology-based Growth”. The report comments on the status of the innovation system and where appropriate proposes initiatives to address:

Facilitation of public/private sector partnerships across academic, business, and government sectors
 Enhancing recruitment of companies
 Retaining and expanding existing companies
 Incubating and growing technology companies
 Retaining, recruiting, and bringing back talent
 Accelerating economic growth while maintaining a sustainable and accessible quality of life

Project Rationale

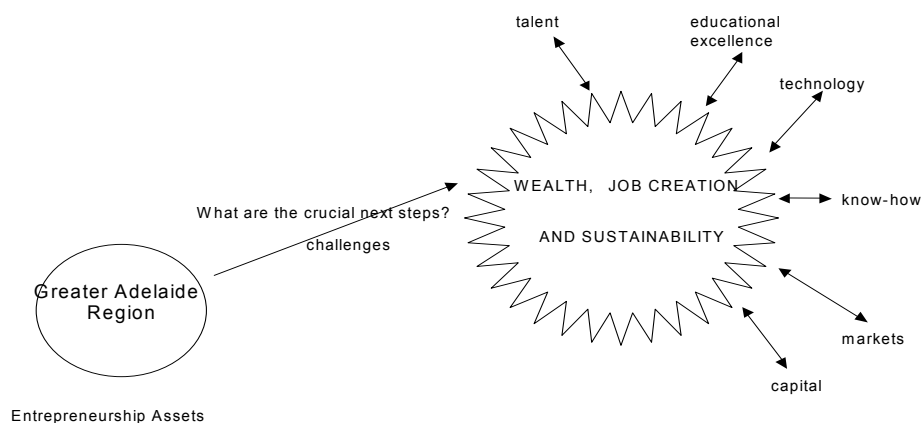
Adelaide, the capital of South Australia, is the heart of a region faced with important contradictions: rich in quality of life amenities but challenged by the need for a stronger and more robust regional economy. Highly educated and skilled young people are leaving for challenging careers elsewhere, entrepreneurial SME formation has been slow, and attraction of major industry has been difficult.

Greater Adelaide is rich with amenities; established educational assets; a growing technology knowledge base; and examples of successful and globally competitive entrepreneurial initiatives. Perhaps most important the region has capable and talented visionaries and champions from business, government, and academic sectors. The challenge is to more effectively leverage these assets and other regional resources to successfully:

- ❑ Grow, retain, and recruit world-class technology and business talent
- ❑ Exploit existing and new-to-the-world technologies and processes for the benefit of the region’s small, mid-sized, and large companies
- ❑ Recruit key manufacturing and service companies and professionals
- ❑ Incubate fast-growth regionally-based, globally-competitive companies
- ❑ Leverage national and international resources and assets

How effectively Adelaide and regional business, academic, and government sectors collaborate and cooperate will, in large part, determine the state’s ability to create high value jobs and to accelerate economic growth while enhancing the region’s quality-of-life for all its citizens.

Figure 1: Leveraging Assets--Overcoming Challenges



Source: IC2 Institute, University of Texas at Austin

High value jobs and sustainable growth are strongly linked to the development of a technology-based economy³:

High-tech industries are the main driver of success or failure of metropolitan areas

Two-thirds of the overall variation in economic growth among U.S. metropolitan regions can be explained by their performance in high-tech industries

As the US increasingly moves to a knowledge-driven, technology-based economy, improved education and training for a region's workers is crucial to be able to compete for high paying jobs

As economic activity becomes more knowledge-based, those regions with globally competitive public and private sector technology and R&D centers will experience greater economic growth

Because knowledge is generated, transmitted and shared more efficiently in close proximity, economic activity based on new knowledge has a high propensity to cluster within a geographic area

Worldwide regional economic development depends upon four basic strategies (Figure2):

- ❑ The recruitment of companies
- ❑ Retaining and facilitating the growth of regionally-based companies
- ❑ Accelerating the growth of new start-up firms
- ❑ Leveraging public/private partnerships: regionally, nationally, and globally

³ Presentation to the U.S.-Mexico Border Summit held at The University of Texas – Pan American, August 2001, by Ross DeVol of the Milken Institute.

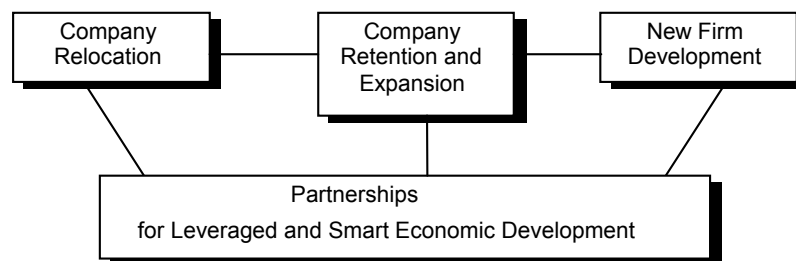


Figure 2: Four Strategies for Regional Technology-Based Economic Development

Source: IC² Institute, University of Texas at Austin

Company relocation is an important, initial strategy for economic development, but it often leads to enhanced regional competition and win-lose scenarios as communities seek to out-bid each other with tax breaks and other incentives. Retaining and expanding existing companies and facilitating the growth of new company start-ups is the economic development strategy that accelerated the growth of the most successful high tech areas in the US including Silicon Valley, Boston, and Austin. Public/private partnerships are key for technology-based economic development to “take-off” at the regional level and national and global partnerships are increasingly necessary for sustained growth.

Key to a region’s technology-based growth is leveraging regional business, academic, government, and community assets such as foundations to foster the development of talent, technology, capital and know-how (Figure 3). Community-based assets are leveraged through civic-entrepreneurship that facilitates networking and the forming of regional visions and strategies for success. Civic Entrepreneurs cross academic, business, government, and community sectors to leverage and grow talent, technology, capital, and know-how.

Figure 3: Networking and Leveraging Critical Institutions and Resources for Accelerated Regionally-Based Technology Growth



Source: IC² Institute, University of Texas at Austin

Entrepreneurial talent --- whether it is centered on technology-, civic-, or social-entrepreneurship --- results from the perception, drive, tenacity, dedication, and hard work of

special types of individuals---people who make things happen. Where there is a pool of such talent, there is opportunity for economic growth, diversification, and new business development. Talent without ideas is like seed without water.

The entrepreneurial process is underway when talent is linked with technology --- whether it be products, processes, or ideas. Talent facilitates the push and pull of the transfer process where creative and innovative knowledge is applied to solve a community challenge or to launch a new company. Every dynamic process needs fuel, and here the fuel is capital. Capital --- whether it be human, social or financial --- is the catalyst in the technology venturing chain reaction.

Know-how is the ability to leverage talent, technology, and capital to overcome community challenges for successful business relocation, retention and expansion, new firm development, and innovative partnerships. Such know-how is often referred to as “smart infrastructure” and is considered a critical component in achieving success in regionally-based technology growth and in a sustainable, accessible, and desirable quality-of-life. Know-how expertise includes public policy, legal, education and more business oriented expertise including management, marketing, finance, accounting, production, manufacturing, sales and distribution. Know-how finds and applies expertise in a variety of areas and ways during community and economic development, often making the crucial difference between success and failure.

Chapter

2: Assessment Process & Methodology**Process**

This report is centered on a “quicklook” assessment of Greater Adelaide’s assets and challenges for accelerated technology-based growth. The assessment was conducted during July 9-13, 2001. Study participants included:

- ❑ Graduates, current students, and faculty of the Masters in Science and Technology Commercialization (MSSTC) Program at the IC² Institute, The University of Texas at Austin [www.ic2.org/msdegree]
- ❑ Graduates, current students, and faculty of the twinned Adelaide University’s MSTC degree program [www.stc.adelaide.edu.au].
- ❑ Regional leaders from Adelaide’s business, government and academic sectors

Key objectives of this effort were to collect qualitative and quantitative data to allow the Austin Team to provide a critical assessment of Greater Adelaide’s challenges and assets for accelerated technology-based growth.

Data and information were drawn from multiple sources for this analysis. Interviews and focus groups were conducted with industry and government leaders during on-site visits in the Greater Adelaide area. In addition, quantitative data were collected on Greater Adelaide and other emerging and developed technology growth regions in the U.S. Both the qualitative and the quantitative information were used in developing a series of recommendations and action initiatives for possible next steps in achieving the regional goal of becoming a major technology-based economy.

The participants from the University of Texas brought with them experience from a variety of industries and organizations, including manufacturing, distribution, services, petroleum, information technology consulting, real estate, in addition to government and academic sectors. Individuals with experience from both large and small established enterprises along with successful startups were part of the team. Geographically, the participants were from the Texas cities of Austin, Dallas, and Houston. All of these cities have experienced tremendous growth in the last decade. A summary of the Texas team is included in Appendix A.

The Texas teams were formed into industry and demographic teams to reflect the various Adelaide groups they were to be interviewing. A classic analysis of the Strengths, Weaknesses, Opportunities and Threats was performed for each industry sector or organization that was interviewed. It was therefore important for the Texas teams to first understand the present situation, the state of the various industries, the overall state of the economy, which products and services are most competitive, and the competitive environment. Due to the large number of government agencies that actively participate in the South Australia private sector, the Teams also wanted to understand the dynamics between the various government agencies. It was also important to understand the various initiatives that were already in place or were in the planning stages.

The value of this structured interview process was that it enabled each organization to have their say without potential political impact. In small groups, the dynamics allowed for more and

better communications among all the participants. In sessions with larger numbers of participants, they tend to be dominated by a few participants, not enabling many to participate in the discussions.

Methodology

Over the past decade, The IC2 Institute at The University of Texas at Austin has conducted many regional assessments on emerging, developing, and developed technology centers.

Working with Adelaide champions of the Knowledge-Hub Project, during May-June, 2001, the Austin Team selected the following industry, academic, and government sectors to focus on for data collection during the Adelaide visit, July 9-13, 2001:

Business and Manufacturing: Tourism & Hospitality & Hotel Management; Wine & Food; Automotive; Aquaculture; Minerals and Environment; BioTech; Games & Animation; Smartcards; Defense

General Infrastructure and Quality of Life: Education; Transportation; Health; Arts

Civic Infrastructure: Business-Academic-Government

Technology & Entrepreneurial Infrastructure: Mawson Lakes including Technology Park, Information & Communications Technology Cluster, research facilities, corporate tenants, and Salisbury Business and Export Center; Thebarton Technology Park the Incubator and Commercialization precinct, Digital Precinct, including Gropep and Bio InnovationSA;

Finance: Venture Capital and Angel Investors

Government: Governor of South Australia; Mayor of Adelaide and Adelaide City Council; Smart City Initiative; Innovation, Science, & Technology Council; Marketing & Branding

Overall there were 26 site visits by Teams of 3-5 participants. Data and information were drawn from multiple sources including interviews, focus groups, and published data. The objective of each site-visit was to collect information and expert opinions on the assets and challenges for each of the listed sectors or organizations that were visited. A key value of this interview process was that it enabled key participants in each sector and organization to share their personal views on Adelaide's emergence as or lack of progress toward being an important technology region. The small group format encouraged all participants to have the opportunity to offer their opinions. We attempt to reflect these views and opinions in this report along with the views and opinions of the Austin Team.

Chapter

3: Challenges and Opportunities**Vision for Region and Partnering Opportunities**

On one hand, Greater Adelaide has in place the basic assets for “take-off” or accelerated technology-based growth. These assets include an exceptional quality of life, strong education infrastructure, entrepreneurial support infrastructure, and supportive community leaders from the business, government, and academic sectors. On the other hand, Adelaide has not always been successful in retaining its entrepreneurs, growing and retaining globally competitive firms, or in recruiting entrepreneurial talent to the region.

Perceptions by both public and private professionals who live and work in Adelaide include the region being a place to which it is difficult to recruit and retain technology firms and talent, entrepreneurs and mid-career professionals, and to grow globally competitive firms.

A coordinating infrastructure is in place to lead a marketing and branding “charge.” But years of history make it difficult to change perceptions. Marketing and branding has been targeted on many areas, rather than “beach heading” a specific technology sector.

Marketing and branding a high level and accessible quality of life is not “just a nice thing to have” for accelerated technology-based growth – it is essential. Entrepreneurial and “smart infrastructure” talent (e.g., scientist and technologists, knowledge workers) choose to work in areas world-wide and within nations that support the growth of technology firms and that facilitate the growth and recruitment of talent and venture capitalists, business angels, and other knowledge workers tend to locate in areas that have a critical mass of entrepreneurs and deal flow.

The Greater Adelaide Region has yet to achieve that critical mass of entrepreneurs and deal flow. Entrepreneurs are “around” but few outside the region are aware of it. Success stories are present but few outside the region are aware of them. Prior branding efforts in other areas (e.g. “the only state of Australia that didn’t colonize with slave labor”) have been so successful that current branding efforts are not gaining recognition.

Branding is fragmented. Segments of the Greater Adelaide Region are marketing targeted areas. If you put all of this information together, no theme exists for the region that is large enough to create a critical mass. When marketing the Greater Adelaide Region, you should include and feature your assets that are both near at hand and more distant. For example, when visitors come to Austin (e.g., start-up firms, relocations, technologists, students, smart infrastructure talent) marketing and recruitment is based on regional assets that feature the city’s hike and bike trail and live music scene, extend to Lake Travis, the Alamo and River Walk in San Antonio (70 miles south) and feature attributes that would interest, singles, young families and growing families.

Branding efforts need to be directed locally, statewide, nationally and internationally. The message created at each level should be the same.

As you begin the branding process, think about the investment that ALL companies will need in the region. Think of business needs of existing companies in the region. Do existing companies need fiber optics or point-of-presence sites for their communication needs? Do they need access to capital? Then determine how State and local government can assist those businesses. This is a market responsive approach to infrastructure development.

The region needs to consider a strategic position in adopting new technologies. It is good to be on the leading edge of technologies, but it's also prudent to seek proof of the viability of these technologies prior to their implementation.

As it is decided on the type of growth, pay particular attention to avoiding companies who want to take without giving. Many regions have given incentives to attract companies only to later find out that the costs of the incentives outweigh the benefits.

Another area for attention should be to address job standards. The purpose of bringing companies into the region is to improve both the education and the standard of living currently experienced by the area. These created jobs should provide jobs that are more than the average per capita wage in the region.

The reality is the regions don't want to provide incentives for minimum wage jobs.⁴

As you begin the branding process, consider and address the following questions and issues as they can create significant barriers to the developmental process:

Do existing businesses really want more jobs in the community? Competition for the workforce may create higher wages.

Is it in the best interest of, and do the citizens and region as a whole actually want the Region to become technology or business focused?

Is there a skilled workforce available to the companies you are trying to attract?

Are local bankers and/or investors willing to take risks?

What type of growth will the existing technology infrastructure support?

What type of growth will the existing civil infrastructure (water, sewer, electricity and highway) support?

Looking for leap-frog opportunities involves looking at existing trends and the intersection of existing trends to form new dynamics. When new opportunities are identified, they are then viewed from a different perspective by asking the following questions:

Does the region transform inputs into goods and services at a maximum profit on a sustained basis, better than competitors?

Does the region have a comparative advantage in this area? (Comparative advantages reside in the factor endowments and created endowments of particular regions. Factor endowments include land, natural resources, labor, and the size of the local population.)

⁴ Steven Ferry, "Local Prosperity" article, Government Technology, vol 14, issue 11, pg 12

Chapter

4: Assets / Resources**Greater Adelaide's Infrastructure*****Civic Infrastructure***

Adelaide is an historic yet modern city with a temperate climate, attractive, with a reasonably affordable cost of living and highly desirable lifestyle. There has been a discernible about turn in urban sprawl in the last few years, people want to live in the café city including suburbs close to the city, to that extent sprawl has slowed to a ½ or 1/3 of historic levels.

There are numerous natural attractions, most of which are in easy reach of the city. These environmental and geographical amenities include: River Torrens Linear Park; Outback tourism - Flinders Ranges, Andamooka, Coober Pedy etc; and unique wildlife and eco-tourism opportunities at Kangaroo Island.

SA embraces sports and the arts. Sports are quite popular in this area and an obvious basis of pride, including everything from "Australian Rules" football to Auto racing. International cycling and equestrian events are held annually in the State. There is broad based support of the arts ranging from film, dance and music (e.g. SA Film Corporation, Australian Dance Theatre, State Theatre Company, and Opera SA). A number of venues offer jazz and rock live music.

SA is the "Festival State". The world renowned 'Adelaide Festival of Arts' occurs every two years and attracts premier international talent. Other examples include: WomAdelaide - annual festival of music from around the world, Festival of Ideas, International Rose Festival, and Barossa Music Festival. . Various food and wine festivals are celebrated in the area, e.g. Tasting Australia, Bushing Festival etc.

SA is quite multicultural, originally colonized by the British, and a large proportion of residents have descended from immigrants from all over the world, particularly from the post Second World War influx. For example: Barossa Valley and Hahndorf communities established by German immigrants, Clare Valley with Polish influence, Cornish settlement at Burra, and Large Greek and Italian communities within Adelaide and in the river land regions.

Civil Infrastructure

Airport: The Adelaide Airport is Australia's fifth largest, handling 4.3 million in 1999-2000. AAL operates Adelaide Airport under a 50-year lease, renewable for a further 49 years. The airport was privatized in 1998. Adelaide airport offers direct access to other domestic cities and long runway to receive international freight traffic. There is provision of both domestic and international capacity. There is easy access to the Central Business District and other business districts. A new terminal is to be constructed to improve facilities and access. There is an air training facility next to Mawson Lakes.

Bus & Vehicles: Of the 90,000 people employed in the city in 1996, some 53,000 traveled by car versus 21,000 by public transport. Adelaide has more parking lots per capita (car parks) than any other Australian city. Public transport, though, is actually starting to grow because people are moving back into the city and nearby areas. Adelaide has the world-class O'Bahn system (O'Bahn is a guided bus way that uses little side wheels to guide the bus while traveling on the O'Bahn allowing it to travel at high speed safely i.e. 100 -120 Kph). Generally

roads are able to get traffic across town in an efficient and easy manner – Adelaide is often referred to as the ‘twenty minute city’. There are examples of wise infrastructure investment that is ‘fit-for-purpose’ i.e. the Southern freeway is a example of a reversible road to cater for morning and evening peak traffic flows when traffic flows one direction during predictable time periods.

Rail: New Adelaide-Darwin direct rail link can serve as a conduit for more imports from Asia and an export corridor. It also has longer term potential to be a major tourist route (but not planned at present).

Shipping: SA has ten ports with available capacity (3 of which are for tourism, tour ship visits). During 1999/2000 6.8 million tons of cargo were moved through SA’s regional ports - with 4.7 million tons exported to markets outside of South Australia. There are short wait times for Bulk Exports and for import customs clearance. There are intermodal facilities with container terminal, rail and road system for the efficient transfer of cargo. An Environmental Management System was implemented to deal with environmental concerns and certified to ISO 14001. There are current efforts to develop IT infrastructure for shipping.

Water & Land: There are numerous examples of leading edge environmental and conservational oriented water and land use initiatives in SA.

Unique use of valuable water resources utilizing aquifer storage - Aquifer storage involves using an underground aquifer to store water in the off peak use but high inflow period (i.e. winter). On the Northern Adelaide Plains this technique is being applied in a very productive vegetable growing region. Similarly, in the Barossa Valley, a premium wine growing/processing area the technique is being applied. Licensed water is transported out of the Murray using a potable water supply pipeline during the off peak water use period. Most of the transported water is pumped into aquifers in the winter to be used in the summer months.

Success with waste and storm water recycling. Mawson Lakes utilizes dual pipelines underground, owned and operated by SA Water, to reuse gray water. This is the first time wastewater and storm water have been joined together for recycling. Storm water discharge can be a significant environment problem in its impact on coastal environments. Mawson Lakes uses a wetland system that captures the water, slows its speed allowing suspended solids to settle and then by biological activity it is cleaned up. New wetlands and recreational areas are the outcome.

Information Technology Infrastructure

Being geographically removed from major population areas causes the State to focus on export. Citizens in SA know that their growth markets lie elsewhere. It does not take much explanation for the average South Australian to understand the advantages of utilizing the Internet.

Against National and International competition, Adelaide compares well in regard to their degree of connectivity to the Internet. Although South Australia had one of the lowest take-up rates in Australia in the late 1990s this has been turned around, with SA now showing rates that are level with, and in some cases higher than, the national average. The number of children online comes in second and number of businesses that are connected comes in third. Also, mobile telephones are well connected in metro areas. The World IT Congress to be held in Adelaide next spring is seen as a great opportunity to project the Adelaide area as a forerunner in IT related areas.

In SA, public education is viewed as being a change agent in regards to information technology. A variety of initiatives are underway or in planning to improve ICT competencies and information economy literacy for both students and faculty for K-12 schools. The IT Cadets initiative, for example, is a partnership between community, industry groups, and schools. IT skilled South Australian students are being encouraged to become volunteers to help community groups individuals and small businesses to go online. The Discovery Program has been developed to strengthen teacher IT competency. One component of the program is a series of overseas study tours (Department of Education Training and

Employment) conducted to review personal and corporate visions and benchmark and broaden the base of leading edge knowledge about technology across the Department.

There is a concerted effort to develop the quality of Internet use of South Australian students in terms of learning opportunities and technology utilization. For example, 3000 students in SA are participating in the internationally recognized Jason project. Every year the Jason project assembles students and teachers. Also, connecting the continent is an online event within the Federation that celebrates a day in the life of the communities on the overland telegraph line.

A uniqueness of SA is that outside of Adelaide, nearly all communities are quite small and quite isolated. There is often not a compelling business reason for higher-speed Internet access. Consequently the objective of bringing connectivity to these communities must be approached carefully in order to make best use of the inevitable government investment that is necessary. With that in mind, a project called Pathway SA was developed with Telstra to ensure that the smaller towns would receive higher-bandwidth connections at reasonable prices. In developing the Networks For You Program, attention was given to how connectivity programs have worked in other states and overseas. Existing institutions and gathering places in the outlying communities such as public libraries, community centres and business support agencies turned out to be the most successful sites for community access to be provided. In one case, the residents even voted to have their local pub wired.

The Smart Buildings program of the City of Adelaide promotes renewal of the city center through encouraging upgrades of older buildings that would otherwise be at a disadvantage. Fewer resources in the way of hard infrastructure will be required as a result.

The new library for the Digital Precinct will be the IT flagship for the Charles Sturt Council's library service. This nontraditional library will have a strong business focus using modern information technology resources. SA was ahead of the nation in providing Internet access to the community in public libraries (city and country) through its Public Libraries Automated Information Network.

Other Assets and Resources

Politics and Culture

The area has the advantage of a well-educated population and excellent education resources. There is good public and private education system at both primary and secondary levels. There are three major Universities in South Australia: Adelaide University, Flinders University and University of South Australia.

SA enjoys the reputation as the nation's innovative, and progressive leader in the delivery of Vocational Education and Training. For example the Virtual Learning Environment (VLE) will use Internet technology to enable community members to access quality education from anywhere in the world and at any time.

The Enterprise Education program is an example of an entrepreneurial initiative offered in the public schools. Starting in the year 2000, a process was begun to implement Enterprise Education across all schools in SA. All students now have access to this approach in all their subjects and at all year levels. The Program's goal is for students to identify, create, initiate and successfully manage business and community opportunities.

The Technology School of the Future (TSOF) is the major center for teacher development in learning technologies and is a unique facility when compared internationally. A number of leading companies are involved in joint trials and testing of equipment and applications at TSOF. These include Novell, Microsoft, Cisco, Sun Microsystems, Apple Computer, and EDS. Local companies include Intellecta, Interact, Labtronics, Tru Life Creations and Electronic Concepts. TSOF provides an ideal test bed for potential school curriculum and

administrative systems. Technical staff works with industry representatives to develop applications suitable for the school environment.

Various Entrepreneurial programs have been implemented or are being developed at Adelaide University, University of South Australia, and Flinders University. For example, Adelaide University initiated a Masters of Science and Technology Commercialization degree program in 1999.

In 1993, Adelaide University commenced a Graduate Entrepreneurial Program, which aims to assist graduates with an innovative idea for a product, process or service to embark on a business enterprise. The program consists of a number of schemes, but the cornerstones are the Business Initiates from Graduates (BIG) and The Premier's Enterprise Scholarship.

Adelaide and surrounding area has several established entrepreneurial centers including: Charles Sturt Council's Digital Precinct, Mawson Lakes (incorporating a Technology Park), the Thebarton Precinct, and Science Park.

Charles Sturt Council established the Digital Precinct in August 1997. The aim of the Precinct is to create an environment to attract multimedia and digital technology businesses, which could share resources and benefit from synergies. This also served the purpose of revitalizing a portion of Charles Sturt's business district, which had fallen into decline. Currently there are over 25 businesses located in the Digital Precinct, many in buildings that the Council has refurbished and converted to tenancies.

The Inner West Business Enterprise Centre is located within the Digital Precinct. It provides advice for small businesses to assist with start up businesses and general business advice and networking opportunities.

The Technology Park at Mawson Lakes, with 2250 workers on site is a component of Mawson Lakes and is a major location where commercialization of technology is being undertaken. Companies on the Park comprise some major international corporations, small-medium enterprises, and 'start-ups'. The University of South Australia's Mawson Lakes Campus is integrated into this development.

The Technology Park is at a pivotal and important stage in its evolution. A Master Plan has been completed and some key elements of it are in the course of implementation. It is now proposed to develop the Park as a world-class and 'next-generation' Technology Park. Key performance measures include: wealth generation, R&D intensity, commercialization outcomes, and retention and skills development of young graduates.

Adelaide University opened the Thebarton Precinct in 1992. This commerce and research precinct is the former site of a pharmaceutical manufacturing company. The Precinct is less than 4km from Adelaide's central business district and comprises 5 hectares of office, laboratory, manufacturing, and warehouse space. Thebarton programs have supported the establishment of over 40 new graduate businesses during the period, 1993-2001.

There appears to be a strong, core group of smart, talented people in South Australia who compete very favorably within all of Australia when they get the opportunity to compete. For example: Comet (Commercializing Emerging Technologies) program- 20% comes from South Australia. Seven of the recently announced Fast 50 Tech Companies of all of Australia were from South Australia. Their three Universities are ranked in the top 15% of Australia.

Capital

A recent PricewaterhouseCoopers' benchmarking study offers encouragement in regard to venture capital investment, at least for Australia as a whole. Australian venture capital

investment grew rapidly between 1998 and 1999 and early stage investment grew faster than overall investment in this sector.⁵

Various State and local government initiatives to provide infrastructure for businesses and start-ups currently exist that have proven to be quite helpful. The active role of the Governmental endorsements and grant investments appear to be paying off. Further the Government has had a positive impact on companies with training and investments. The Federal programs are available for additional help and support to round out the local governmental objectives.

Playford Centre, for example, is a seed capital investment company that is 100% owned by Government, whose scoring of applicants is based on people, market, and product, report a good deal flow.

Invest SA is a government program to encourage foreign direct investment. One of their major areas of emphasis is the Information and Communications Technology (ICT) sector. They take a marketing approach and do research working collectively with other agencies locally; review and control their own destiny, by reviewing their own sector. They are mandated to work on a State-wide basis for investment opportunities that are good for the region as a whole. At this time, the real opportunity issues are for investment opportunities within Adelaide and the high IT sector. A remote office is in London called Invest Australia.

Businesses and government have been very active with partnering with various agencies like Austrade (Austrade provides advice to companies on which overseas markets hold the highest sales potential for their product, how they can build a presence in these markets, and what sort of practical and financial help is available⁶).

A few VC funds have local representatives in Adelaide employed on an agency basis who receive commissions based on the success of the companies. In addition, there is a national group of wealthy Australian angels that occasionally invest in Adelaide start-ups, but the concept of "out of sight, out of mind" seemed to prevail since most investment capital originates in Sydney or Melbourne.

A "First Tuesday" network (100 to 180 people that meet monthly) bridges funding from angels to VCs, but there is no VC presence in these monthly networking meetings.

A VC summit is planned for this summer. Also, Business Vision 2010 is planning a VC Forum at some point in the future.

Know-How

South Australians are very comfortable with technology, partly due to a history of innovation; even in Colonel Light's initial planning for Adelaide.

SA has a very high standard of education at all levels. Excellence in: Medical research, Telecommunications, Solar and wind technology, Defense research (DSTO national HQ in Adelaide), Space research at Woomera (used by UK for atomic tests, current links with NASA), Water purification, Oenology, Aquaculture, and Distance education (both higher and vocational education).

SA has a high degree of 'export' expertise, which is critical if an enterprise wants to grow to be of any significant size. South Australia exports to 50% more countries than the rest of Australia combined. Examples of companies successfully exporting- Gropep, Vili's, mining companies, and wineries.

⁵ PricewaterhouseCoopers' "Benchmarking Australian Institutional Investment In Domestic Venture Capital", prepared for the Department of Industry, Science and Resources, Canberra, June 2000

⁶ <http://www.austrade.gov.au/generalinfo/>

SA is developing a reputation as a leader in health related products and biotechnology (e.g. Hamilton Laboratories, Dynek, Sola Optical, Faulding Pharmaceuticals, Gropep, Bresagen, and Bionomics). In biotechnology, both genetic and drug research is being emphasized.

Hamilton Laboratories is a company combining science and history to produce quality pharmaceutical products for everyday use. This family owned business started with sunburn cream. About 15% of its sales come from global markets.

Dynek Pty. Ltd is one of the southern hemisphere's leading suppliers of surgical sutures.

SOLA Optical, established in Adelaide more than 40 years ago, is now an international manufacturer and distributor of ophthalmic lenses, with 16 facilities in 12 countries.

Faulding is a diversified worldwide health and personal care company. The Company's principal businesses include generic oral and injectable pharmaceuticals, and consumer health products.

GroPep Pty Ltd was established in 1988, originally as a licensing vehicle for research emanating from Adelaide University and the CSIRO on novel growth factors and other biologically active agents supporting the growth and repair of human and animal tissue. GroPep is developing treatments for diabetic neuropathy, venous ulcers, donor-site wounds, oral mucositis, and tendon damage.

BresaGen is an innovative biopharmaceutical company committed to the discovery and commercial development of products derived from gene technologies and innovative biotherapies, with two principal areas of focus: Protein Pharmaceuticals and Cell Therapy.

Bionomics was the first pure genomics research company to be listed on the Australian Stock Exchange. Its focus is the discovery of genes associated with epilepsy and breast cancer, two disease states that are in need of improved medical treatment and for which there are significant commercial opportunities.

The Adelaide area has a growing computer applications and services industry section, (e.g. Beonic, Codan, Prophecy International, Recall Design, Sydac, and Vision Systems).

Beonic develops cost-effective solutions that enable businesses to analysis and improve their customer activity in a building environment. They are believed to have the largest range of traffic management systems in the world.

Codan is an international leader in the provision of sophisticated remote area communication equipment and systems, with markets in more that 150 countries.

Prophecy International has a global business in object oriented infrastructure software for web-based applications. Its e-Foundation suite delivers business process enterprise software solutions to large and middle market organizations.

Recall Design is a software and website development company. There services include e-commerce development, online applications development, and XML technologies. About 80% of their business comes from Singapore and the US.

Sydac develops advanced training simulators and computer based training products for the operators of Defence and commercial vehicles. Sydac specializes in immersion simulators for marine, rail, aviation and land vehicles.

The Vision Systems Group manufactures a range of products aimed at world markets including video based surveillance and security systems and fire protection systems based around aspirated smoke detection.

Adelaide has a small but internationally respected computer games and animation industry (e.g. Anifex, Oasis Post, Ratbags, and Rising Sun Pictures).

Anifex is a leading Australian film production company specializing in all forms of animation including clay, cel, and 3D. They do quite a bit of offshore work.

Oasis Post specializes in the post production of high-end television commercials, feature films, documentaries and DVD programs.

Ratbag's first title Powerslide was released in 1998 and was a worldwide hit. It is considered by many to be the among the world's premier PC racing game developers.

Rising Sun Pictures, is a visual effects production house based in Adelaide, specializing in feature film digital effects creation, 3D animation and providing unique software solutions for visual effects production.

In regard to general manufacturing, SA is known for: low volume process engineering, defense electronics, water processing techniques (e.g. Prophecy), good manufacturing design base, and the fact that SA fits the profile for New Product Introduction. Holden's and Mitsubishi's automotive manufacturing processes are acknowledged as world class. SA produces more than 50% of Australia's automobiles and 28% of the country's automobile components.

Adelaide has great knowledge and reputation for events management and project management (Grand Prix, Le Mans, Tasting Australia, National Equestrian Championships, Tour Down Under)

SA Mineral companies are innovative and creative: "world leaders in new technologies".

Chapter

5: Short- and Longer-term Initiatives

Next Steps – Less Than One year

New Venture Support/Entrepreneurial Initiatives

- ❑ Encourage private industry to develop “roadmaps” for industry for a five to ten-year period. Industries can create these roadmaps together to create synergies. Ensure that emphasis is on the quality of SA products and services and premium markets are sought. An effort to build the roadmaps MUST BE industry led, but can be government supported. The Bio Innovation SA strategy or the SA Electronics Industry Association strategy might be modified for a common, cross-industry format for a roadmap.
- ❑ Implement business-led, government-attended industry/entrepreneurial councils (e.g., software entrepreneurial, biotech entrepreneurial council, young entrepreneurs organization, etc.). Capitalize on existing services like cluster meetings of Invest SA, Information Economy Policy Office, SABV2010, Premier’s Business Roundtable, and Bio Innovation SA as facilitators.

Leverage the “First Tuesday” organization, and other existing networking and collaboration such as the Business Ambassadors Network.

- ❑ Create joint entrepreneurial initiatives with cities around the world. Take advantage of existing programs and add value. For example the last visit by Sister Cities of Austin/Adelaide was the most successful to date through exchange of ideas and business practice.
- ❑ Create an “entrepreneur of the year” award and find other ways to celebrate success. Industry, academic and government groups should collaborate to do this.
- ❑ Promote at a high level currently funded programs that encourage technology. For instance the Federal government has provided \$3.5m for the Australian Microelectronics Network to establish itself and provide a highly informed resource that can take the gospel of microelectronics and silicon technologies, and spread it to general industry with a view to creating awareness and the adoption of new venture support through integrated electronics into otherwise naive or stale manufacturing industries and their products. Another example is the MISG program (led by SA) which is working in the field of diffusing ‘mathematics technology into industry’.

Leadership

- ❑ Identify a core group of industry change catalysts, including successful entrepreneurs, who are willing to step up and lead whatever initiatives are defined to increase entrepreneurial spirit and attitude, and the number of entrepreneurial efforts.

Join the numerous commercialization activities that are occurring in order to foster synergy and led by a few very exceptional individuals.

Example: The Authors of this report were introduced to two “technology parks” close to the city — The Digital Precinct and the Thebarton Precinct — and one within the region - Mawson Lakes – yet the city and the entities themselves tend not to market or advertise these assets as an important part of the entrepreneurial environment in the Greater Adelaide Region.

Example: The Greater Adelaide Region has 5 Incubators – this number can be an asset with increased collaboration, sharing of lessons learned, activities targeted to particular sectors and niches, celebrating each others successes – if not, these separate efforts will be a waste of resources that compete and fail to realize their full potential.

- ❑ Identify a core group of industry change catalysts, including successful entrepreneurs and governmental agencies, who are willing to step up and lead public/private and private collaborative initiatives.

For over 10 years Adelaide's leaders from the business, academic, and government sectors have been encouraged to collaborate.⁷ Yet, the authors of this report were struck by the lack of regional collaboration and leveraging of resources across the very sectors that are considered Adelaide's main assets of quality of life, university education, entrepreneurial support structures, and community leaders. "Committees are NOT collaboration."

"Adelaide's SMEs can win and grow in the global marketplace and not consider or even think about contributing to the local or regional business development environment."

"We are preaching to the choir – we need to find a meaningful ways of connecting with and involving the other 95% of Adelaide." Wealth creation linked to prosperity sharing has its challenges in the lead technology centers in the U.S. (e.g., Silicon Valley and Austin, Texas) but in general regional universities have benefited in terms of funding, education, and cutting edge research; innovative education programs, and jobs for graduates: city governments have benefited from considerable increase in taxable income and property taxes; businesses have benefited from global competitiveness, growth, market share, and profit.

- ❑ Get the "can-do" people to lead the state-wide attack on the cultural barriers that challenge entrepreneurship. There are many of these "can do" individuals in the community.

Develop an active group of IC2 SA Fellows (from these "can do" people) as leaders of entrepreneurial initiatives. Network their activities with those of the 12 IC2 Queensland Fellows. (For example, IC2 fellows in both states could be the catalyst to join Queensland and SA business angels and VCs.)

Venture Funding

- ❑ Venture funding can be fostered through routes like those used in Great Britain. They have Development Capital Exchange which is a commercial service matching potential investors with businesses seeking finance. There is also the Venture Capital report – a monthly report linking potential investors to businesses seeking capital, which is free to entrepreneurs. They have additionally established what is known as the Local Enterprise Company. It functions as a site for business advice and support.

- ❑ Approach the entrepreneurs in the area to help foster the entrepreneurial spirit.

Ask them to identify influencers capable of launching a seed fund. The seed funds might be started within industries. For example, successful entrepreneurs in the health manufacturing industry could support start-ups in the industry.

Ask them to select, groom and mentor several high success probability entrepreneurial teams to match with funders. These teams could be informal or external to existing entrepreneurial ventures.

Investment/Finance

- ❑ Reduce risk-aversion of (IT) investments (for local investors) by developing creation of entrepreneurial support programs and marketing their efforts

⁷ Doug Henton reports to SA Government

Develop an Angel Network and incentive programs for start ups

Educate how investment network works and what it looks for in start ups

Increase utilization of The Business Center.

Entrepreneurial Infrastructure

- ❑ Initiate actions to grow the number of technology-oriented entrepreneurs within South Australia.

Establish a network of entrepreneurial clubs within Adelaide and between Adelaide and Austin (for example Austin Software Council and UT Entrepreneurial Society – Idea to Product Competition might be a springboard. The emphasis is on “grassroots efforts”).

Numerous studies and experience from around the world clearly indicate that only with a critical mass of a resource of this type will you get the accelerated growth required for success. Technology entrepreneurs are alive and well in South Australia, but too few in number. When there is an optimum size of this population developed with their associated creative ideas and product concepts, money will come. With money in hand, jobs will be created, economic growth will ensue and the cycle will continue upward and outward.

Adelaide has a lot of start-ups, but not a lot of entrepreneurship: need to develop the next stage to make the most of ideas and turn them into growing businesses. Entrepreneurship may be the step that takes off the handbrake that is currently holding Adelaide back. There is a problem in access to capital - one way to overcome this is for entrepreneurs to learn to sell themselves. There is a need for a forum to assist entrepreneurs to do this

IP Sourcing

- ❑ Initiate actions to grow the number of technology-oriented ideas and intellectual property available to South Australia entrepreneurs.

Encourage local divisions of national and multi-national companies, such as Motorola, to license corporate technology to SA entrepreneurs. Sources of this IP should be from all parts of multi-national companies (source globally) (Will need leadership from government).

Education

- ❑ Initiate actions to continue the development and implementation of technology and entrepreneur oriented programs and initiatives in SA's K-12 and university schools.

Initiate programs in K-12 school systems to encourage females to go into engineering, the sciences, and/or IT.

Encourage universities and other schools to teach and preach prosperity sharing hand in hand with wealth creation (Will need cooperation of Universities, DETE and industry).

Growing a strong technology infrastructure begins with the education systems for all age groups. Creativity, the value of the enterprise system, and how to be a successful entrepreneur (either within a company or on your own) are all skills and abilities that can be taught and honed through education.

Business Growth

- ❑ Develop Mawson Lakes' Technology Park not as just a Business Park but more as a sophisticated and 'wealth generation' focused next generation Technology Park. Factors that can contribute include implementation of a Business Accelerator/Technology Incubator Business Plan that has just been finalized. Also explore potential initiatives (for Mawson

Lakes more broadly) such as a Centre of Excellence in Sustainable Water use and Salinity Management to capitalize on strengths already in place.

- ❑ International collaboration expansion, and a presence at Mawson Lakes/interaction with the Adelaide University/Austin Masters Program in Science & Technology Commercialisation for awareness/collaboration re R&D opportunities, special projects etc. Collaborate with Texas and particularly Austin with its focus on high tech in a more broad sense across a variety of project areas.

General

- ❑ Change name of “Directions” magazine to better reflect successes of South Australia (e.g. South Australia Success, South Australia is Great, New Directions in SA, etc.) and make readily accessible to public and to local entrepreneurs. Make covers more interesting – they seem to show portraits of persons in industry and it is hard to tell by looking at them that it is a magazine of SA successes. One person in the group had a magazine for two weeks thinking it was a general electrical industrial magazine before opening the cover only to discover the “real content”.
- ❑ Create a community-based quality award and a state-based quality award similar to the Baldrige awards in the U.S. These awards are joint efforts of Industry, Academic, and Government.

Cultural Approach in the Media

- ❑ Publish success column emphasizing entrepreneurship, technology advances, and technology issues, in the government, industry, and education. In addition, make publications readily accessible to the public. For example, in schools for inspiration of youth.

Political Morale Considerations

- ❑ Deal with huge deficit caused by State Bank loss on a more local level. Publish plans that include not only paying off, but celebrate the end of term, and future growth plans after payoff.

Political Transportation Considerations

- ❑ An Adelaide-Darwin Railway should increase the push to open more mining locations for increased commerce. This can also help benefit the shipping industry.
- ❑ Step up efforts to facilitate exportation by sea and air.

Political Opportunities for Improvement

- ❑ Reduce number of entities addressing economic development and create single collaborative governance structure – perhaps regional council. Reduce infighting rivalry between different government assistance programs. Develop collaboration by linking groups to act cooperatively for action.
- ❑ The Information Communications and Technology sector is endeavouring to create research concentrations via five, cross university programs led by co-ordinating professorial chairs, part sponsored by the government. Connectivity with the industry has been promoted by the creation of the SA Consortium for Information Technology and Telecommunications. It is notable that apart from the CRC for Sensor Signal and Information Processing, the significant R&D strengths of DSTO have not spawned other strong collaborative arrangements with the university sector in SA. Better linkages between the engineering and IT, R&D and education

groups within this sector could also provide opportunities to build stronger linkages with DSTO and with the ICT industry.⁸

- ❑ It is suggested that reform should be pursued by the SA Region for laws that are progressive and supportive of new enterprises. Other countries such as the UK are forging ahead in these areas, so it is important that SA be proactive to work on a Federal, State and Local level. The UK has been consistently working not only to implement progressive laws for commercialism, but is working to reform the old laws to make them simpler and more conducive to the business environment.⁹
- ❑ Consolidating and streamlining web services. Areas for concern are easy access and clear understanding of government forms, rules, and regulations which are important to effective commercialization of technology. Direct government access should be designed to access regulatory guidance and forms published on government websites specifically for small businesses with Company and Corporate tax forms should also be easily accessed. There are many small governmental entities that often cross the same borders and are confusing for businesses when dealing with regulations. Effective government means cutting through the red tape as much as possible, and making life easier for its citizens prosperity. Also, there is a need to encourage use of Intranets particularly in smaller governmental agencies with links to larger agencies for increased documentation and resource utilization.

Next Steps – One to Five Years

New Venture Support/Entrepreneurial Initiatives

- ❑ Encourage Universities to collaborate to conduct venture and business plan competitions. They should collaborate to assess the commercial potential of technologies or products in all industries. For example, an Adelaide University MSTC team might be assigned to the arts community. Expect Universities to assist Industry in bringing entrepreneurial spirit and abilities into their organizations.
- ❑ Integrate entrepreneurial-oriented programs into engineering and science curriculums.

General

- ❑ Attraction of large strategically important corporates is essential to economic growth and stability.
- ❑ The Adelaide Region needs to publish studies and research papers globally via the web: these will be picked up and quoted by researchers etc and become part of the 'literature' of global development.
- ❑ Put emphasis on commercialisation of technology from DSTO in those cases where this would not be counter to national security interests.

Investment/Finance

- ❑ Reduce risk-aversion of (IT) investments (for local investors) by developing creation of entrepreneurial support programs and marketing their efforts.

Reach to wealthy for leadership initiatives for new technology investments.

⁸ South Australian R&D Sector and Commercialisation, by Robert Taylor, Director, Robert Taylor and Assoc. Pty. Ltd, June 2001

⁹ <http://www.companies-house.gov.uk/frame.cgi?OPT=about>
COMMERCIAL IN CONFIDENCE

Emphasize stronger entrepreneurial support infrastructure.

Capitalize on IP licensing out of universities.

Business Recruitment

- ❑ Businesses have to move quickly to stay competitive. One aspect of moving quickly is site selection for growth. Site selectors and community economic developer must work together and be able to respond quickly to address the questions. “The International Economic and Development Council and the publisher of the Site Selection magazine, Conway Data Inc., formed an alliance to use technology to address this issue.” They created a website (www.developmentalliance.com) that provides a source of community and research information for companies seeking business or facility locations, and to assist communities in attracting new businesses to the region. The Greater Adelaide region has several sites that would meet partial needs of a site selector. It would be beneficial for them to create one location that integrates all of this information, tracks daily commercial real estate transactions, financial markets and other information that would affect the industries being attracted to the area.

Create a set of technology indicators that will measure, over time, both positive and negative effects of the new and existing technology in the region. “If there is a deficit, you try to overcome it. And if things are going well, you acknowledge it and try to support it a little more.”¹⁰

IP Sourcing

- ❑ Initiate actions to grow the number of technology-oriented ideas and intellectual property available to South Australia entrepreneurs.

Develop more business oriented commercialization organizations for university and government research facilities (Will be very difficult and needs leadership). Perhaps the Centre for Commercialisation headed by a joint Foundation Chair would be appropriate. This leader would link all of the existing initiatives at each University and Enterprise Development Incorporated (EDI has run the Enterprise Workshop in Adelaide for almost 20 years).

Funding

- ❑ Initiate actions to grow the number of technology-oriented investors, especially those willing to fund “early stage” ideas available to South Australia entrepreneurs.

Create an “early stage” investment partnering relationships between Adelaide and Austin for technology oriented opportunities (Develop an angel to angel mentoring network, with IC2 being the focal point).

As noted above, investment capital is one of the critical components needed to grow a strong technology. While there are clear indications that there are some “startup” and venture investors available to fund SA entrepreneurs, more are needed. To help grow the base of entrepreneurs, investors that are willing to take risks at the idea stage are critical. These normally come from the local community.

Education

- ❑ Initiate actions to continue the development and implementation of technology and entrepreneur oriented programs and initiatives in SA’s K-12 and university schools.

Get SA universities to cooperate to develop and implement a program for manufacturing engineers (Will need federal action and should be scoped first to clarify that an adequate number of jobs will be available).

¹⁰ Doug Schuler, “Realizing the Virtual Community” article, Government Technology, vol 14, issue 11, pg 24
COMMERCIAL IN CONFIDENCE

Educate University of Adelaide MSTC graduates to “give back to the community”

- ❑ Better support for innovations that can be commercialized and greater freedom to partner with outside entities for the commercialization of the services TAFE can offer which is in high demand overseas in a number of places, eg in service training.
- ❑ IP license and protection training and resources for educational facilities. The lack of “know how” and access makes for losses in capital and stifles growth.
- ❑ There is a strong case for developing co-operative programs across all three, Universities producing Centres of Excellence in key areas. The University of Texas could act as a broker in helping establish such Centres

Business Growth and Development

- ❑ Initiate actions to develop updated entrepreneurial focus, strategic direction for South Australia's technology oriented industries that takes full advantage of existing assets and global industry alliances.

Develop a technology industry roadmap that builds on knowledge of how to leverage entrepreneurial outcomes from existing assets (University of Adelaide and IC2 could resource).

Roadmap industry strategic plans based on entrepreneurial metrics.

Refine company visions based on updated assessment of entrepreneurial capabilities and goal of achieving high value business outcomes.

Promote global growth through intra-industry and cross-industry alliances.

Roadmap and foster cross industry links between business that have global links and alliances.

While there are certainly various strategic documents that have been developed for SA's industrial growth, there does not seem to be as clear a strategic direction as there could be, built on existing technology and entrepreneurial assets and geared to take advantage of global industry alliances available to SA.

Some South Australian industry appears to be divided up too extensively. The area of "health" is an example. Biotech and bioscience, even as they affect health via innovation in such areas as drug discovery, appear to have been separated into their own industry. The separation reduces greatly the opportunities for one company to help another, for clustering to get contracts, and for companies to help commercialize research at home. The industry segments should be grouped together for synergy in collaboration.

Branding

- ❑ Perception is everything - packaging and branding of an 'Adelaide Region' as a single entity - maybe from the Barossa, through Cleland and the hills towns, round to McLaren Vale - but also including KI which is considered by the visitors to be close enough in international traveller terms to be part of the 'Adelaide Region'. The uniqueness and quality of life is important to technology companies that want to relocate.
- ❑ The region is a “clean” environment that is attractive to many. Although efforts could be initially costly to keep the region this way, the future will payoff. Austin has kept distinctive atmosphere from other high tech cities in USA as an environmentally conscious town. It is attractive to high skilled talent and companies for relocation. Stay away from nuclear dumping and other environmentally damaging efforts that are short-term economically attractive but can have long-range negative branding.

- ❑ Initiate actions to modify and adjust SA and Adelaide's branding campaigns to emphasize their current technology and entrepreneurial strengths and their potential for growth.

Develop more dynamic approach to sell city and state as a "Producer of high quality, high value technology goods and services".

Promote Adelaide as a "Smart City" (has worked well for Amsterdam). Support of internal strategies for development of Business Incubators, expanding Adelaidebiz.com.au, utilize mNet Australia for wireless, Tech Hub, increase bandwidth, low cost service, public access kiosks, data centers, and work to establish the ICT Centre of Excellence.

SA and Adelaide have so much to be proud of in regard to: technology industries to build upon, growing numbers of entrepreneurs, quality output, and strong technology and enterprise education programs and approaches. Crafting media messages for the outside world that reflect those strengths are vital.

Cultural Attitudes

Cultural Visionary Statement

- ❑ Stimulate action, innovation, and visionary changes through marketing and realization that a strong technology future for Adelaide is achievable and build on successes. Pursue efforts to work with technology NOT as a disruption to current lifestyle and loss of quality of life, but as an enhancement and improvement to lifestyle and as creator of jobs by carefully guided directions/strategy.

Cultural Change

- ❑ Emphasize independent thinking. Less reliance on government by entrepreneurs, but work to change the social/economic impact on the entrepreneurs of a failed venture. The Regional view should 'focus on commercial industries and de-emphasise government relationships and military (old) industries'.

Cultural High Tech Labor Resource Building

- ❑ Focus more attention on 30 to 50 year old high tech skilled families with young children. They are less likely to leave, have children that will grow in a few years, and invest in the community. Adelaide has an exceptionally strong and attractive family atmosphere.

Cultural Inhibitors and Cultural Change

- ❑ Show more confidence. "Adelaide is not nearly arrogant enough." According to general sentiment expressions: politicians and industry seem to be afraid to brag or publish successes in a direct manner, but must rely on press or distortion through interpretation. Leaders should demonstrate and cultivate more confidence among population, but not forget the need for lifelong learning and improvement.
- ❑ Go Grassroots. Work with people on grass roots level. Utilize "Tall Poppy" for positive cultural change. Public morale has been noted across the board to be very low. This strategy has already gained some ground in Australia, so capitalizing on the work that has already been done is in the best interest. The Australian web site is www.tallpoppies.net.au
- ❑ Work to retain the youth. The exodus of the youth and the ageing population of GAR is documented and a concern of the public at large. The area at large should work to take a more "youthful stance" on issues makes it attractive to the youth. An example would be to promote Adelaide as a "live music city". Leaders could side for an issue like lessening the strict curfews and not closing the Governor Hindmarsh Hotel (pub) in Adelaide - which could

go a very long way with the youth of Adelaide. This is a cause that has gained a high profile stance, and could demonstrate that Adelaide is not an “old city”.

Political Morale Considerations

- Work with low morale issues. Many sectors are losing people and talent due to high stress and lack of funding. Also many feel they have to wait for yearly budgets to know if they will have a job the next year. (Aquaculture and defense are good examples). Perhaps longer terms of allocating budgets for workforce funding to establish more continuity.

Appendix A

US Participant's Acknowledgements and Background

Introduction

Support of collaboration is a key theme to emerge from this study. To best understand the nature of this document it is important to have the background of the participants and the organizations that they represent. The project is a case where business, government, and education come together for the good of the region. The technical background of the participants would be too cumbersome in the body of the report, so brief descriptions are included in this Appendix.

Information is given in this report from a USA perspective of providing individual background information. In the USA it is believed the best way to understand research and writing is to know information about the background of authors and those providing the work. In some cultures this may be viewed as a way of boasting about accomplishments, but this is not the case. The material is provided for informational purposes in order that viewers might better understand perspectives and rationale behind the document.

US Participants and their Acknowledgements

The Austin participants in the Adelaide Knowledge Hub Project would like to thank the Adelaide leaders who welcomed us into their community and supported this effort. They gave freely of their time and they provided insights crucial to our memorable and successful visit and crucial to this report.

During the period of July 9-13, 2001, these Adelaide participants from business, government, and academia took large segments of their days and evenings to share their views on their region's assets and challenges for accelerated technology-based growth. It is these views in combination with the perspectives of the Austin Team that provide the major basis for this report. Please refer below for the professional background of the participants from Austin and other Texas cities.

The Austin Team was faced with the challenge of conducting a range of interviews and collecting much needed information within a 5-day period. Our Adelaide hosts organized a full and value-added schedule of business, government, and community visits while, at the same time, providing many opportunities for us to enjoy Adelaide's exceptional quality of life and welcoming hospitality.

In short, the hospitality extended to the Austin Team was exceptional as were the knowledge transfers, and lessons learned. The major challenge has proven to be writing a final report that would reflect well on our visit and provide key value-added information for our Adelaide hosts.

While this report is considered one important product of our "quick look" assessment we would hope that it also signals a beginning of future and longer-term mutually beneficial partnerships and activities between Adelaide, South Australia and Austin, Texas.

The US Participants

David V. Gibson, Ph.D.

Director of Research & Global Programs

IC2 Institute, The University of Texas at Austin

Director of Research and Global Programs at IC² Institute, The University of Texas at Austin. Director of the Multidisciplinary Technology Transfer Research Group at The University of Texas at Austin. Fulbright Scholar at Instituto Superior Tecnico, Lisbon, Portugal. Teaches graduate courses on knowledge/technology transfer and adoption, and regional technology-based economic development. His research and papers have been translated into Mandarin, Japanese, Korean, Russian, Spanish, Italian, French, German, Finnish, and Portuguese. Research and publications focus on the strategic management of knowledge; cross-cultural communication, management, and technology transfer; the management and commercialization of technology; the growth and impact of technopoli or regional technology centers. Consultant to businesses and governments worldwide.

Education: Ph.D. in Organizational Behavior and Communication Theory, Stanford University.

Barbara Martin Fossum, Ph.D.

Founding Director of MSSTC Program, IC2 Institute Fellow

IC2 Institute, The University of Texas at Austin

Directed IC² Institute's Master of Science in Science Technology Commercialization Degree Program for six years, piloting the program from its inception. Joined the University of Texas at Austin in 1991 as a lecturer in the Department of Management in the College of Business. She was the Founder and Director of the Quality Management Consortia program, and an instructor in the MBA and undergraduate programs. Previously the principal owner and operator of Reveille Technology, Inc., a manufacturing software company. Prior to Reveille, she worked as an independent consultant for a variety of companies, and in software development, consulting and management roles for Bell Laboratories and Sperry Computer Systems. Fellow and member of the International Board of Directors for the Society of Manufacturing Engineers.

Education: MS in Mathematics/Computer Science, Stevens Institute of Technology; MBA, Ph.D. in Operations Management, The University of Texas at Austin.

Margaret Cotrofeld

Administrative Associate

IC² Institute, The University of Texas at Austin

Assistant to IC² Institute's MSSTC Program since January 2001. Co-owner of RMR Co Productions and director of office operations. Previous experience as a child educator, technical writer, screenwriter, and photographer.

Education: Belmont University, Nashville, Tennessee; Watkin's Film Institute, Nashville, Tennessee

MSSTC Executives Supporting

Knowledge Hub Project - Tour 2001 to Adelaide, Australia

GRADUATED IN MAY 2001:

The following professionals are strategically placed in a dozen hi-tech and business companies (including Dell and Motorola) within the Austin Regional Area; four are President and/or company owners; and represent a combined business experience of over 250 years.

Nicholas G. Daley

President,

Performance Technologies in Dallas, Texas, USA

Age sixty with twenty years upper level experience. President of a consulting company doing substantial work with companies in dealing with organizational behavior to positively increase

productivity, sales, and profits. Additionally, a member of the Chancellor's Council of The University of Texas System, a Life Member of The Ex-Students Association, The University of Texas, and on the Advisory Board of the Dr. Kenneth Cooper Fitness Center in Dallas, Texas. Also, an active investor in high technology companies. Worked in various industries during his career and held various operational management positions with profit and loss responsibilities. Acknowledged for success in taking budding divisions, developing operating teams and producing viable business entities. In addition, put together a business plan and raised venture capital to start a manufacturing and distribution company.

Education: BA degree in Math from The University of Texas; MBA degree in Finance from The University of Texas; Masters of Science in Science and Technology Commercialization from The University of Texas

Martha Flores

Dell Computers, Austin, Texas, USA

Age thirty-eight with sixteen years experience. Mid-level Financial Manager with sixteen years experience in commercial banking and high tech with Fortune 100 companies. Skilled at commercial lending, financial planning and forecasting, accounting, operational analysis, project management, and sales and marketing finance. Strong emphasis on analyzing business investments and risks, internal and external funding decisions, starting up new departments, improving cross-functional processes, and maximizing productivity and P&L benefit. Numerous awards. Experience includes High Tech Management Experience at Dell Computer, supporting \$8B corporate accounts division (25% of Dells global revenue). Saved Dell \$1.5M in last 2 years in programs established and changing processes. Worked in Sydney on global Dell project team. Six years in banking, including funding decisions of \$500K to \$4M, and worked with business risk assessment.

Education: BBA Accounting, University of Texas at Austin; Masters of Science in the Science of Technology Commercialization from the University of Texas at Austin.

Anna Milena Hardesty, P.E.

President, Hardesty & Associates Houston, Texas, USA

Registered Professional Engineer (P.E. in Texas and Florida) and consultant with over eighteen years experience in project management, and petroleum, reservoir, and environmental engineering for both domestic and international operations. Known for estimating reserves and value for use in company reports, sales, acquisitions, mergers and bank loans. Significant experience in project coordination, design and execution with strong bilingual communication skills (Spanish/English) and presentation abilities. Projects have ranged in size from \$100K to over \$500M in value. Skills include: International and domestic projects, marketing reports/audits, production scheduling, technical evaluations, planning and forecasting, reserve calculations, economic and risk analysis, sales and acquisitions, and project management. Formerly employed for consulting and high-level engineering by EXXON, Santa Fe Energy Resources, and others.

Education: University of Texas, Austin, Texas M.S in Science and Technology Commercialization; Tulane University, New Orleans, Louisiana B.S. Mechanical Engineering

Adrienne Carter Hughto

System Analyst V, Information and Systems Division Texas Department of Transportation, Austin, Texas, USA

Age forty-six with twenty-two years advanced experience in the computer industry. Internet developer and architect with expertise in networking and telecommunications systems. Systems Analyst for new software and hardware systems for implementation on statewide basis. Develop and write Biennial Operating Plans for Legislative approval for technological direction, budgets, and implementation. Current budgetary status 11M. Provide consulting, design, implementation, and top-tier support for 500+ offices statewide. Frequent consultation, negotiation, and executive training by Cisco, IBM and other major tech companies. Prior positions in Public Relations and Field Engineer for Memorex-Telex Corp, and Data Processing at the University of Texas.

Education: Masters of Science in Science & Technology Commercialization, Univ. of Texas, Bachelor of Arts in Business Management, Concordia University, Telecommunications Certification, College of Engineering, Univ. of Texas (one yr track), C and C++ Certification, College of Engineering, Univ. of Texas (one year track)

William (Bill) D. Minter, Jr

President and CEO

Leapfrog Technologies, LLC, Abilene, Texas, USA

Currently President and CEO of Leapfrog Technologies, LLC, an Internet service provider and web development firm that serves communities in western Texas. Before Leapfrog was in the marketing and advertising business for more than 20 years. Also, a director of the First National Bank of Abilene and a member of the Direct Marketing Association. Founder of AfricaNews.com, one of the first online news sites covering Africa.

Education: graduate of Cox School of Business at Southern Methodist University. Master of Science in Commercialization of Science and Technology from The University of Texas at Austin.

Cheri Kirby

Director of Records

Girling Health Care, Inc., Austin, Texas, USA

Age forty-two with twenty-one years corporate level experience. Manages Corporate Records Division for a multi-state Home Health Agency. Assists in quality assurance efforts of billing applications. Travels as corporate office representative to field locations to insure compliance of company policy, procedure, and record management requirements. Supports administrative responsibilities for Executive Vice President of Professional Services

Education: Science & Technology Commercialization (M.S.), University of Texas; Health Information Management (B.S.), University of Texas at Galveston

Stephen W. Long, C.P.M.

Senior Consultant, Global SAP Practice

Computer Science Corporation, Houston, Texas, USA

Age forty-five with over nineteen combined years experience in supply chain management, purchasing and material management, experienced in SAP R/3 software versions 4.5B, 3.1H, and 3.0D, plus SAP New Dimension products, SAP R/3 implementations, and logistical support operations. Responsibilities include developing and recommending strategies for, the implementation of B2B e-commerce systems and business intelligence software.

Member: National Association of Purchasing Management (NAPM), Certified in Purchasing Management, American Production and Inventory Control Society (APICS)

Education: Science & Technology Commercialization (M.S.), The University of Texas at Austin, Biology and Chemistry (B.S.) Texas Christian University

Robert H. Meyer

Consultant, Attorney at Law

Land Development and Construction, Austin, Texas, USA

Age fifty-two, with thirty years of professional experience. Worked includes sole proprietor and corporate officer. Roles in the land development and construction industries for residential and commercial projects (senior management, litigation support, expert witness, site observations and written reports, sub-standard construction investigations and building code compliance). Skills include cost estimating, budgeting, purchasing, subcontracting, operations management, contract administration. Served as the Depart. Head of the Land Management and Development Depart. at the Univ. of the South Pacific, Fiji where lectured in land law and business organizations. Admitted to practice law in four states in USA. Recently, interned at the Global Business Accelerator at Austin Technology Incubator and Office of Technology Licensing at the Univ. of Texas.

Education: Bachelor of Science in Home Building, Trinity Univ., (J.D.) Juris Doctor, the Univ. of Arkansas, (LL.M.) Master of Legal Letters in Real Property Finance and Development,

Univ. of Miami, (M.B.A.) Master of Business Administration, Univ. of Arkansas, (M.S.) Master of Science Science and Technology Commercialization, the Univ. of Texas.

Pete Polonski

Founder and Owner,

Adventures in Advertising, and E-Specialties.com, Austin, Texas, USA

Age forty-one with eighteen years of Technology experience. Spent twelve years at IBM, in sales, management. Started personal business in 1995 and have successfully developed alliances with several fortune 500 companies. We were the first company in our industry to adopt e-commerce back in 1998. We were recognized by Interactive Week, Ziff-Davis, and PriceWaterhouseCoopers as having one of the top E-Commerce sites across all industries. We recently opened an office in New York and hired a representative in London to handle our growing international business.

Education: Science & Technology Commercialization (MS), University of Texas at Austin, B.S. Commerce from University of Virginia with Double Major in Marketing and Management Information Systems

David E. Schieck

President,

Ersen Consulting in Austin Texas, USA

Age fifty six with almost thirty years profession experience in oil and gas exploration and production, state government and environmental and internet startups. President of a consulting company offering business development and regulatory affairs services. With Conoco Oil and Gas Company, held various leadership positions including Division Exploration Manager and Regional Manager for the Southern US Onshore. Was Division Director for the Texas Oil and Gas Regulatory Commission. With the Commission, designs, lead, and/or coordinate numerous multi-stakeholder efforts involving information technology and the Internet. Focus has always been on knowing and using the right technology tools and techniques, to best assure bottom line results.

Education: BS degree in Geology from The Pennsylvania State University; Masters of Science degree in Geology from The University of Michigan; Masters of Science in Science and Technology Commercialization from The University of Texas. Addition advanced professional training includes Southern Methodist University's Oil & Gas Management Program and the Pennsylvania State University's Executive Management Program.

Simi Shonowo

Product and Test Engineering

Motorola, Austin, Texas, USA

Age twenty-seven, and in professional career for six years. Experience in semiconductor development and manufacturing environment, working on micro-controllers and peripherals. Also, experience in the areas of: Design Engineering, Technical Marketing, Product Engineering, and Reliability Engineering. Additional experience in using Teradyne tools and SAS analysis software. Major strengths in debug analysis and program development and maintenance. Extensive skills in: Product correlation, qualification, test methodology, and tools.

Education: Science & Technology Commercialization (MS), University of Texas at Austin, Electrical Engineering (B.Sc.), The University of Texas at Austin.

Eric Sloan

Electrical Engineer, Mobile PC Platforms

Advanced Micro Devices, Inc., Austin, Texas, USA

Age twenty-five with five years high tech experience. Design engineer and project lead the the Mobile PC Platform division of Advanced Micro Devices. Most recently has been working on bringing to the market laptop computers based on AMD's 7th generation processor, the AMD Athlon. Current activities include actively pursuing a new venture which seeks to commercialize a new process for producing radioisotopes suitable for use in Nuclear Medicine diagnostic procedures. **Education:** Bachelor of Science in Electrical Engineering

from the University of Texas at Austin, and Masters of Science in Science and Technology Commercialization, University of Texas, May 2001

Eddy Trevino

President

The Sachem Group, Austin, Texas, USA

Age forty-five with twenty-five years professional experience. Entrepreneur/Owner of The Sachem Group, a successful Consulting Engineering firm in business for 10 years. Responsible for identification of business opportunities, strategic direction. Specializes in strategic partnerships and alliances. Experience includes consulting job for implementation of Austin Airport (AUS) at Bergstrom Airforce Base. Currently, reinventing company from previous focus on litigation consulting.

Education: Bachelor of Science in Architectural Engineering; Master of Business Administration; Masters of Science in Science and Technology Commercialization, University of Texas, May 2001

Celeste Yeakley

Assistant Director, Engineering

Metrowerks, A Motorola Company, Austin, TX

Age forty-eight with seventeen years of experience in software engineering. Specialized training in program management, effective teaming and strategic business processes. Current responsibilities include international management and coordination of test engineering and setting strategic direction for a team of 7 managers and 52 test engineers. Member of UT's Software Quality Institute Advisory Board.

Education: Science & Technology Commercialization (M.S.), Graduate Level Electrical Engineering, Chemical Engineering, Pre-medical Microbiology (B.S.), Software Project Management Certificate from the Software Quality Institute at the University of Texas, specialized training in Pragmatic Marketing.

SCHOLARS ENTERING MSSTC PROGRAM IN MAY 2001:

Already professionals in their fields, this group of incoming scholars has significant international connections; also, three out of these seven hold one or more graduate degrees coming into the MS program.

Amy Blakely

Education Director

Association and Society Management, Austin, TX

As Education Director, Amy works with not-for-profit organizations providing education and certification programs. Amy is involved in the strategic planning for educational alliances, product development and e-learning/training for the medical industry. In addition to the Education team, she publishes resource books, develops/designs educational seminars, fosters medical teaming with governmental agencies, corporations, non-profit organizations and Universities throughout the U.S.A.

Education: Masters degree in Gerontology.

Cristiane Chaves Gattaz

President

Ambiência Sistemas de Informação Ltda, Campinas, São Paulo, Brazil

Currently company president, guiding the company's overall direction and focus. Consults with individuals, communities, business teams, and international companies on current business process technology and methodology issues. Began career at Ambiência Sistemas de Informação Ltda., Brazil in 1996 as an intern and provided support in process modeling and simulation, accounting, legal, marketing, and operations. Between 1997 and 2000

became the president and made critical leadership decisions, as well as developed own business process methodology. Also broadened experience in all areas of management.

Education: B.A. degree in Business Administration from Pontifícia Universidade Católica de São Paulo - PUC-SP in 2000.

Kevin K. Hudson

Global Data Networking Consultant

Concert: a joint venture of AT&T and British Telecom, Dallas, Texas, USA

Kevin Hudson has worked with the World Trade Organization (WTO) and the International Telecommunications Union (ITU) in Geneva Switzerland. He was recruited by AT&T to work as an e-Commerce consultant. Upon completion of his MBA in International Business, Mr. Hudson was asked to join CONCERT, a joint venture of AT&T and British Telecom, created to focus on the global telecommunications needs of large, globally active companies.

Education: B.A. in History, University of Texas, 1990; and completed hours in Political Science to earn a double major had one been offered by the University; MBA in International Business from LeTourneau University, Geneva, Switzerland.

Catherine M. Polito

President

Management by Design

Fourteen years of advertising, public relations, and marketing experience. Reestablished Management by Design and re-branded company as a Marketing services organization. Prior to that position, served as Director of Marketing for Globeset, Inc. where created a new corporate identity and successfully branded the digital wallet for lighthouse customers American Express and Visa International. In addition, created product interest through Trade Shows, direct mail, and web initiatives for Globeset's eCash management tools and SET products. (Spotlight customers included: ACI, Best Buy, Dillard's, Hertz, Kinko's, NetLife and Oki-Japan.) Prior to joining Globeset, Inc. Also President of Management by Design, an advertising firm based in Austin, Texas. The firm provided ad campaigns, public relation services and design services for a wide range of profit/non-profit customers. (Spotlight customers included: 7-11, Hilton Hotels, IBM, State of Texas and YWCA.) Before launching Management by Design. Held a variety of management positions in both the private and public sectors since 1977. As part of her Masters of Science in Science and Technology Commercialization program assessing technologies from across the United States as well as from Russia and Australia.

Education: BS, the University of Texas-North Texas (cum laude).

Burrjed Stafford

Investor Communications Web Team Supervisor

James Mutual Funds, Austin, Texas, USA

Prior to obtaining his degree Mr. Stafford was employed as a Ranch Manager for Stafford Brothers Ranch in Edna, Texas from May of 1989 to August of 1993. During this time he was responsible for the day-to-day activities, as well as the long term planning, of the ranching operation. After college he began his career at Van Kampen Mutual Funds in Houston, Texas in 1998 where he became an Investor Service Representative. Mr. Stafford currently is an Investor Communications Web Team Supervisor at Janus Mutual Funds in Austin, Texas where he manages a team of eight representatives.

Education: B.S. degree in Agricultural Economics from Texas Tech University in 1997.

Appendix B

Group Interviews

The following is an index table for the cases studied.

TEAMING INFORMATION – This section serves as an index for informative purposes for the focus groups during the Adelaide Knowledge Hub Project

Aquaculture- Team lead Adrienne Hughto with members Amy Blakely, Cheri Kirby, and Cristiane Gattaz. They met Friday July 13, 2001 with host Dr Michael Deering at venue SARDI, Westbeach.

Arts - Team lead Amy Blakely with members: Barbara Fossum, Amy Blakely, Eric Sloan, Pete Polonsky, and Robert Myer. They met Thursday July 12, 2001 with host Mandy-Jane Giannopoulos at venue Arts SA, Hindley Street.

Australian Submarine Corporation - Team lead Celeste Yeakley with members Robert Meyer, David Schieck, and Eric Sloan. They met Friday July 13, 2001 with host Ross Milton at venue Australian Submarine Corp.

Automotive - Team lead Nick Daley with members Simi Shonowo, Bill Minter Jr, Anne Hardesty, and Barbara Fossum. They met Friday July 13, 2001 with host Frank Woolford at venue General Motors Holden.

Branding - Team lead David Gibson with members Catherine Polito, Pete Polonsky, and Barbara Fossum. They met Thursday July 12, 2001 with host Ron Tomlian at venue Adelaide Town Hall.

Civic Luncheon -Team lead David Gibson with members Barbara Fossum, Adrienne Hughto, John Hunt, and Simi Shonowo. They met with host Margaret Caust of Capitol City Project team. The Adelaide team included: Sue Filby, General Manager, City Assets; Ian Harrison, Chief Executive, SA Business Vision 2010; Roseanne Healey, CEO of SA Great; Tony O'Malley, Consultant Business Development works with Business Vision 2010; Peter Smith, Strategic Consultant, Defense and Aerospace and others.

Civil Infrastructure and Civil Infrastructure Lunch - Team lead Adrienne Hughto with members Anna Hardesty, and Robert Meyer. They met Thursday July 12, 2001 with host Steve Ward at venue Dept of Industry and Trade. Lunch was with host Margaret Caust and venue Capital City Committee

Defence Science Technology Organization - Team lead Eddy Trevino with members Burrjed Stafford, Kevin Hudson, and Stephen Long. They met Friday July 13, 2001 with host Gary Smith at venue Defence Science Technology Organisation, Salisbury.

Defense Teaming Centre - Team Lead - Celeste Yeakley Members - Burrjed Stafford, Kevin Hudson, Eric Sloan Met on Monday July 9, 2001 with host John Farger at Technology Park

Education - Team lead Robert Myer with members Adrienne Hughto, Amy Blakely, and David Schieck. They met on Monday July 9, 2001 with host Kevin Richardson at venue Education Development Center.

Entrepreneurial Infrastructure - Smart City- Team lead Pete Polonsky with members, David Gibson, Nick Daley, Catherine Plito, and Robert Meyer. They met Wednesday July

11, 2001 with host: Cr Michael Harbison at venue Town Hall.

Food - Team lead Cheri Kirby with members Stephen Long, Amy Blakely, and Celeste Yeakley. They met Thursday July 12, 2001 with host Justin Ross at venue Grenfell Street (Black Stump).

Games and Animation - Team lead Burrjed Stafford with members Martha Flores and Anna Hardesty. They met on Thursday July 12, 2001 with host Chris Hannaford at venue Adelaide Town Hall.

Health - Team lead Cheri Kirby with members Barbara Fossum, Celeste Yeakley, Eric Sloan, and Amy Blakely. They met Wednesday July 11, 2001, with host Barbara Erichsdotter.

Hotel Restaurant Management - Team lead David Gibson with members Catherine Polito, Peter Polonsky, Barbara Fossum, Robert Meyer, and Bill Minter Jr. They met Friday July 13, 2001 with host Gerald Lipman at venue Regency TAFE .

ICT - Team lead Adrienne Hughto with members John Hunt, Bill Minter Jr, Simi Shonowo, and Kevin Hudson. They met Thursday, July 12, 2001 with host Paul Wiszniak at venue EDS.

Innovation, Science, and Technology Centre - Team lead Pete Polonsky with members David Gibson, Martha Flores, and Catherine Polito. They met on Monday July 9, 2001 with host Peter Schultz at venue EDS Building.

Manufacturing - Team lead Nick Daley with members Simi Shonowo, Anna Hardesty, and Barbara Fossum. They met on Monday July 9, 2001 with host Len Piro, at venue Centre for Manufacturing.

Mawson Lakes - Team lead Bill Minter and Simi Shonowo with entire IC2 group as members. The hosts were Eric Olsen and Kathy Laycock with tour of Mawson Lakes development, Technology Park, Mawson Lakes Campus of UniSA, Mawson Central Area, Lakes and urban villages.

Minerals Environment – Team lead David Schieck with members Anna Hardesty, and Kevin Hudson. They met Wednesday, July 11, 2001 with host David Blight, venue Minerals SA, Glenside.

Smart Card - Team lead Nick Daley with members Robert Meyer, Eric Sloan, and Eddy Trevino. They met Thursday July 12, 2001 with host Chris Hannaford and venue Adelaide Town Hall.

Technology - Team lead David Schieck with members Cristiane Gattaz, Bill Minter Jr, Simi Shonowo, and Kevin Hudson. They met Thursday July 12, 2001 with host Paul Wiszniak at venue EDS.

Thebarton - Team lead David Schieck and Eric Sloan with entire IC2 group attending. First stop was Gropep , next Thebarton Incubator and Commercialization precinct, then Digital Precinct with Charles Sturt Council

Tourism and Hospitality - Team lead Stephen Long with members Martha Flores, Anna Hardest, Cristiane Gattaz, and Catherine Polito. They met Thursday July 12, 2001, with host: Joseph Tuma, at venue Santos Building.

Transportation - Team Lead Eddy Trevino with members Stephen Long, and Adrienne Hughto. They met Wednesday July 11, 2001 with host Wayne Parnham and Phil Baker at venue Ports Corp.

Venture Capital, Angels, etc. - Team lead Anna Hardesty with members: David Gibson, Nick Daley, Martha Flores, Burrjed Stafford, and David Schieck. They met with host Jim Hazel at venue Equity one, Level 2, 89 King William Street.

Wine - Members Cheri Kirby, Cristiane Gattaz, Bill Minter, and Eddy Trevino met on Monday July 9, 2001 at with host Linda Boews at venue the National Wine Center.

Appendix C

Adelaide Participants

The authors are grateful for the excellent organising work that was done in the 2 months prior to the visit by a coordinating team under the guidance of Peter Turner, and sponsored by SA Business Vision 2010. Many hours were spent in ensuring that a broad cross-section of interviews were arranged, as well as sourcing information about the SA economic environment to provide to the Austin visitors in advance. The members of the coordination team were:

ADELAIDE KNOWLEDGE HUB PROJECT COMMITTEE

NAME	ORGANISATION	E-MAIL
Ian Harrison	SABV2010	ian.harrison@sabv2010.com.au
Peter Turner	EVE	turner.peterm@saugov.sa.gov.au
Joseph Tuma	SABV2010	joseph.tuma@sabv2010.com.au
Chris Hannaford	ACC	c.hannaford@adelaide.sa.gov.au
Vanessa Little	IEPO	little.vanessa@saugov.sa.gov.au
Graham Gurr	UniAdelaide	graham.gurr@adelaide.sa.edu.au
Margaret Caust	Capital City Committee	caust.margie@saugov.sa.gov.au
Barbara Erichsdotter	AHII	ahii@camtech.net.au
Eric Olsen	LMC	olsen.eric@lmc.sa.gov.au
Paul Wiszniak	DIT	wiszniak.paul@saugov.sa.gov.au
David Frith	Business SA	davidf@business-sa.com
Stephen Marlow	SABV2010	stephen.marlow@sabv2010.com.au

Listed below are current students in the Adelaide University Master of Science and Commercialisation program, some of whom participated in the Adelaide Knowledge Hub Project.

JENNY KARAVOLOS	Co-Manager, Professional Systems, Saab Systems B. Acc, CPA, MBA (incl attaining Brook Scholar Award)
MATTHEW SULMAN	Solicitor and Trade Mark Attorney, Peter Maxwell & Associates BA (Hons), Dip Law (BAB)
GERALD BUTTFIELD	Business Manager, Dept of Physiology at Adelaide University
MARK NEELY	Principal Consultant, Infolution Pty Ltd LLB
MARIANNE DUNHAM	Senior Associate, Finlaysons LLB
DEREK ROGERS	Staff Engineer, Motorola BE (Hons), BSc (MA Comp Sc), PhD
TOM WALTHAM	Associate, Palmerston Projects B. Acc
MICHAEL BRIDGE	Proprietor, Michael E. Bridge & Associates
BYRON RIESSEN	General Manager, Sales & Operations, Foursticks

MICHELLE BUSUTTIL	Department of Paediatrics, Adelaide University
SHANE CHEEK	Project Officer, Enterprise Education Group, Adelaide University
ANDREW BARTLETT	Manager, Laboratory Animal Services, Adelaide University
JOHN KING	General Manager, Cells Plus Pty Ltd
MICHAEL PARTRIDGE	Team Lead, Motorola Australia Software Centre
SHAUN BERG	Ward & Partners
HELEN ANDERSON	Normandy Exploration Senior Geologies
ROSEY BATT	Norman Waterhouse Partner
KATRINA BURZYNSKI	Dept of Administration Information Services Business Development Manager
PAUL DALY	Dept of Industry and Trade Senior Investment Manager
NICK EDOLS	Grain Growers Association Business Manager
MICHELLE FRASER	Adelaide University Research Coordinator – Colgate Research Centre
RON GRILL	Electronics Industry Association Business Development Manager
GEOFF HALL	IQ Branding Managing Director
JANE SCHUELER	Techstyle Mondial Director
GAY WALLACE	Austereo Pty Ltd Group General Manager – Corporate Affairs
HORDEN WILTSHIRE	(recently retired from Navy)

Graduates of the MSTC program in 2001 (the first graduating class), who participated to various degrees in this Project are:

- ❑ Roger Boot
- ❑ Darren Cundy
- ❑ Lusia Guthrie
- ❑ Brian Louey-Gung
- ❑ Paul Rennie
- ❑ Stan Shepherd
- ❑ Andrew Cecil
- ❑ John Hunt
- ❑ Gerard Rankin
- ❑ Peter Vroom

The following table shows the interview themes that were established (both by industry sector and also for specific issues), and also the persons who coordinated the interviews.

SECTOR	COORDINATING CONTACT	EMAIL
AUTOMOTIVE	GMH – FRANK WOOLFORD	frank.woolford@holden.com.au
MANUFACTURING	DON SWINCER/LEN PIRO – DIT	Swincer.don@saugov.sa.gov.au Piro.len@saugov.sa.gov.au
HOSPITALITY/TOURISM	MARTIN WINTERS ADELAIDE CONVENTION TOURISM AUTHORITY	martin@acta.com.au McEvoy.andrew@saugov.sa.gov.au
FILM	JUDITH CROMBIE, SA FILM CORP	
VIS AND PERF ARTS	MANDY-JANE GIANNOPOULOS, ARTS SA	Giannopoulos.mj@saugov.sa.gov.au
WINE	LINDA BOWES	Linda@winesa.asn.au
FOOD/ DAIRY	SUSAN NELLE Justin Ross	Nelle.susan@saugov.sa.gov.au
AQUACULTURE	Dr MICHAEL DEERING	Deering.michael@saugov.sagov.au
ICT	PAUL WISZNIAK	Wiszniak.paul@saugov.sa.gov.au
TECHNOLOGY	PAUL WISZNIAK	Wiszniak.paul@saugov.sa.gov.au
BIOTECH	ANGELA LESKE – BIO) INNOVATION SA)	
HEALTH	BARBARA ERICHSDOTTER) AUSTRALIAN HEALTH) INDUSTRY INC.)	ahii@camtech.net.au
AGED CARE	HUGH FORDE - SABV2010)	
TRANSPORTATION	WAYNE PARHAM PORT CORP	parham.wayne@portscorp.com.au
DSTO	GARY SMITH	debbie.barnett@dsto.defence.gov.au
DEFENCE SYSTEMS	LLOYD GROVES – TENIX John Fargher – Defence teaming Centre	Lloyd.Groves@tenix.com team@dtc.org.au
SUBMARINE CORP	ROSS MILTON	Rhilton@subcorp.com.au
MINERALS	DAVID BLIGHT MINERALS SA	Blight.david@saugov.sa.gov.au
WATER ENVIRONMENT	MALCOLM COLEGATE WATER INDUSTRY ALLIANCE	exdir@waterindustry.com.au
BACK OFFICE	KELLY MCGLOIN – DIT	mcgloin.kelly@saugov.sa.gov.au
ISSUES	KEY CONTACT	
EDUCATION & TRAINING	DENIS RALPH (FLINDERS) Kathryn Byrnes DETE	Denis.Ralph@flinders.edu.au Byrnes.Kathryn@saugov.sa.gov.au
FINANCE	JIM HAZEL	
CIVIL INFRASTRUCTURE	ANDREW SCOTT Steve Ward DIT	scott.andrew@saugov.sa.gov.au ward.steve@saugov.sa.gov.au
ENTREPRENEURIAL INFRASTRUCTURE	GEOFF THOMAS PLAYFORD CENTRE	gthomas@playford.com.au
BRANDING	RON TOMLIAN ACC	r.tomlian@adelaide.sa.gov.au
SCIENCE & TECHNOLOGY	ERIC OLSEN	olsen.eric@lmc.sa.gov.au

Appendix D**Previously Delivered Minor Reports**

Following are 5 minor reports that have been previously delivered. They are included here for comprehensiveness, and also because each report has a special focus that might provide additional details or insights beyond the preceding main body of this report.

- 1. Notes of Dr Gibson's verbal debriefing summary**
- 2. Top 5 Recommendations**
- 3. Recommendations to SA Government**
- 4. Recommendations to Adelaide City Council**
- 5. Recommendations to LMC/Mawson Lakes**

IC² Institute, University of Texas

Summary of Debriefing Remarks by

Team Leader Dr David Gibson.

Adelaide, 16 July 2001

Context:

South Australia's capacity for high-tech growth, innovation and enterprise was assessed during the past week by one of the world's top business schools.

A 22-member project team from the IC² Institute at the University of Texas, Austin undertook the study of 11 knowledge economy and ICT sectors.

South Australian industries examined by the IC² team included automotive; hospitality and tourism; arts; wine, food, agriculture and aquaculture; technology; health and biotechnology; transport; defence and aerospace; minerals and water; and services such as data centres and call centres.

The high-powered Texas team was led by Dr David Gibson, Director of Research and Global Programs at IC², and comprises post-graduates from the Masters of Science in Science and Technology Commercialisation (MSSTC) at the University of Texas. Adelaide University offers the MSSTC program in conjunction with the University of Texas.

The strategic study was an initiative of Adelaide University and funded by Adelaide City Council, the Department of Industry and Trade and the Land Management Corporation. The project was coordinated by SA Business Vision 2010.

The visit was an innovative and collaborative research exercise: such a program had never been undertaken before on such a short time frame and is therefore regarded by the team as cutting edge research

The group's Report is currently being drafted for distribution to its Adelaide stakeholders but Dr Gibson made the following points during a verbal debrief to the sponsors and organising committee:

Debriefing comments - Dr David Gibson:

'Adelaide has enormous potential as a science-based city. Adelaide is poised for takeoff. You have both barrels loaded and are just waiting for someone to pull the trigger. Our major concern: that when Adelaide takes off, you're going to be pulling talent and investment out of Austin'.

- All of the study members were impressed by "greater" Adelaide and all return to Austin as Ambassadors for Adelaide and SA
- The Adelaide-Austin link (forged through the Sister City affiliation) has been strengthened through the visit of the past week through personal friendships and at the level of Governors and Mayors

- Adelaide's sister city relationship with Austin could be expanded to take in Curitiba in Brazil (Austin and Curitiba already enjoy a close relationship)
- Festivals and conferences also provide a strong way to develop linkages/collaboration
- Another opportunity to be further developed is the link between the Adelaide and Austin 'green building' policies/programs to be included in the Adelaide Festival of Arts 2002.
- One Austin TV station started showing 5 minutes of 'good news stories' each night and became top rating
- An exchange of radio announcers was proposed between the two cities to develop ideas, experience
- Issue to be addressed: how to "grow, retain and attract talent" - people leaving SA/brain drain. In retrospect the team would have liked to have spoken with more young people about this
- Proposal for a 'Festival of Tall Poppies' to celebrate our major achievements and turn the 'tall poppy syndrome' on its head

Quality of Life

- Physical assets - e.g. beaches, ocean, wine country, 'hike and bike trail', East End, restaurants and hotels, and wildlife - add up to an Adelaide Region that is unique in the world - but is not packaged and marketed as such
- Examples shown of brochures for various conferences/festivals which did not list the above in totality as a promotion feature
- None is probably unique in itself but the Texan group was at a loss to think of anywhere else in the world that had it all together in one place with such diverse attractions so close together and 'reachable' in such a short time. (e.g. - pat a wombat in the morning, visit a top restaurant for lunch and swim in the ocean an hour later). ('Better than the Bay Area at San Francisco - the Adelaide Region is a world-beater')
- Noted that in attracting and maintaining industry, Universities also had to play a big role ('Universities are a big component - Adelaide can't afford to be weak in that sector')
- Also noted that the current 'live music' issue is not trivial: it's far more than just a planning issue, it's very much a quality of life issue fundamental to the vibrancy of Adelaide. 'Austin - live music capital of the world'.
- Very important that there is an enhanced range of activities for young people to keep them here
- Perception is everything and the report will recommend the packaging and branding of an 'Adelaide Region' as a single entity - maybe from the Barossa, through Cleland and the hills towns, round to McLaren Vale - but possibly also including KI which is considered by the visitors to be close enough in international traveller terms to be part of the 'Adelaide Region'
- Noted that the new Adelaide City Council promotional video only talks about the City of Adelaide, not the region: comment from David Gibson was 'Adelaide is nice, but it's not THAT nice: it's the *region* which creates the uniqueness of this area'.
- Adelaide's tolerance and friendliness made a big, positive impression
- Tolerance is important because it encourages the development of a culture of experimentation and civic entrepreneurs

Business development

- Adelaide appears to have a lot of 'patch protection'
- Committees are not collaboration (and collaboration is better)
- There is a need for continuation of the industry cluster program - e.g., a biotechnology cluster
- Universities, education and training are key factors in building the future
- Noted that the University of Texas with around 50,000 students is roughly the same size as SA's three Universities combined. This 'critical mass' was crucial in attracting major corporations such as Motorola and IBM to Austin; as they grew, so did secondary support industries and related service industries
- While it may not be practical to combine our three Universities into one there is a strong case for developing co-operative programs across all three, producing Centres of Excellence in key areas
- University of Texas could act as a broker in helping establish such Centres

- Attraction of large corporates is essential to economic growth and stability
- Need strategies to recruit big business to Adelaide and to retain and grow existing corporations.
- The existence of business incubators in Adelaide demonstrates an entrepreneurial spirit exists and this impresses big companies.
- Link Adelaide's incubators via a network. Austin has one major incubator formed by collaborative effort.
- \$2,000/job created in Austin through the incubator process: more efficient and effective than grants/tax concessions
- Look at the Austin program called 'Entertech' which is an Internet delivered program to help people enter the workforce
- SMEs in Austin have a large domestic market and therefore do not have the same pressures to think globally: we have a small domestic market so overseas trade is very important to enable business to grow. Adelaide's SMEs currently do not have a sufficiently global view.
- SA Business Vision 2010 has the capacity to act as a catalyst in bringing sectors together to develop business in the same way that IC² does in Austin
- Adelaide has a lot of start-ups, but not a lot of entrepreneurship: need to develop the next stage to make the most of ideas and turn them into growing businesses
- Entrepreneurship may be the step that takes off the handbrake that is currently holding Adelaide back
- Culturally there is a great hunger for ideas in Adelaide - common question to the group was 'tell us what we can do . . .'
- There is a problem in access to capital - one way to overcome this is for entrepreneurs to learn to sell themselves
- There is a need for a forum to assist entrepreneurs to do this
- The Adelaide Region needs to publish studies and research papers globally via the web: these will be picked up and quoted by researchers etc and become part of the 'literature' of global development.

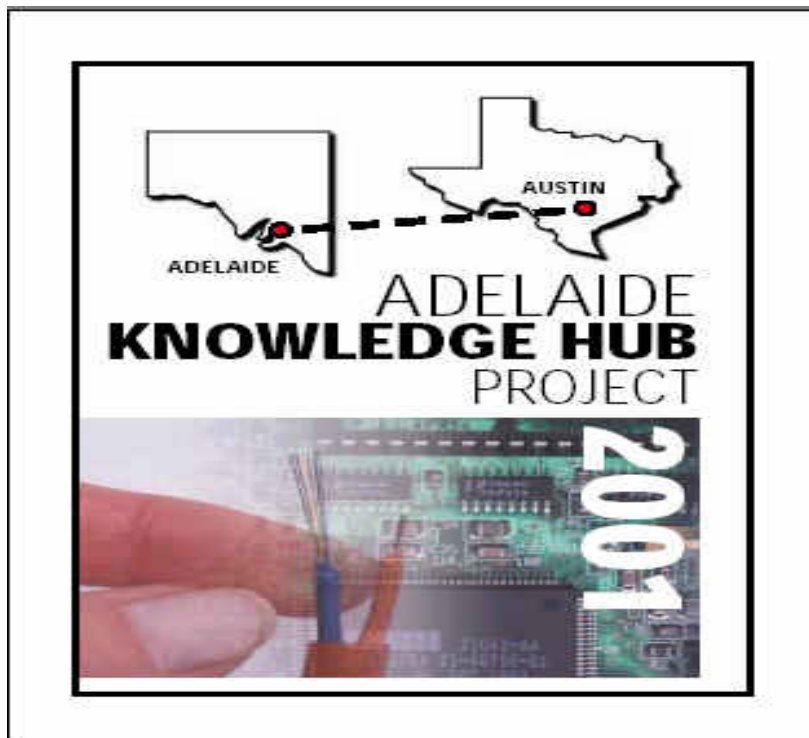
Media contact details:

<i>Ian Harrison</i>	<i>SABV2010</i>	<i>8403 0300</i>
<i>Stephen Marlow</i>	<i>SABV2010</i>	<i>8403 0300; 0409 600 557</i>
<i>Bob Evans</i>	<i>Adelaide City Council</i>	<i>8203 7760; 0418 820 281</i>
<i>Collette Snowden</i>	<i>Adelaide University</i>	<i>8303 3864; 0414 769 382</i>

“Quicklook” Assessment of Greater Adelaide’s Assets & Challenges for Accelerated Technology-Based Growth

Adelaide Knowledge Hub Project
November 2001

Recommended Top 5 Initiatives



DRAFT – 11/4/01

Greater Adelaide Region: Assets & Challenges for Accelerated Technology-Based Growth

Recommended Top 5 Initiatives

Preamble

The study reported here is based on a “Quick Look” assessment by a group of 22 visitors from Austin, Texas. These business and public sector professionals were members and graduates of IC2 Institute, UT-Austin’s Master Program in Science and Technology Commercialization. For one week they met with over 200 community leaders in Greater Adelaide representing 26 public and private sectors to study assets, liabilities, challenges and opportunities for accelerated technology-based growth. The intent was to quickly canvass a broad range of opinions and to form vivid impressions.

The interviews and conclusions supporting this report have been documented and lodged with the project sponsors (SA Government, Adelaide City Council, LMC/Mawson Lakes) and the project facilitator (SABusinessVision2010).

What is reported here are our **suggested top 5 initiatives** that we believe form an interrelated set of strategies for action that will accelerate Greater Adelaide’s Technology-Based Growth. These are not instant remedies; we do not believe that is realistic. Our recommendations are for **ongoing support** of programs that will summon continuing effort of people with enthusiasm and commitment. One clear advantage of the proposed strategy is that only **modest capital spending** is required.

The Top 5 initiatives are:

Academic/Business/Government Collaboration Targeted to Specific Industry Clusters

Enhanced Regional-Based Entrepreneurship

SMEs Collaborating for Global Growth

Partnerships & Alliances: Regional, National, Global

Branding/Marketing Greater Adelaide for Success

I. Academic/Business/Government (ABG) Collaboration: Action oriented on critical, focused initiatives with clear metrics for success

Civic Entrepreneurship. **Leadership in these initiatives can come from a range of participants and from a variety of levels in each sector and related institutions – the crucial issue is to tap into true champions for the chosen initiative. These champions will usually self-select according to the critical issues of different initiatives.**

“Patch protection” is not collaboration – **committees are not collaboration - collaboration is meaningful knowledge sharing and targeted leveraging of resources (viz., financial, intellectual, and physical assets) to improve “the patches” of all collaborators and others for the betterment of the entire community/region.**

Sustainability. **For such collaboration to be sustained it needs to be action oriented with specific metrics for success – short and longer-term**

The Natural Development/Evolution of Industry Clusters. The strategy we advocate is focused on processes and value-added supporting activities rather than physical and structural assets. We advocate enhanced leveraging of existing regional assets and talent to overcome regional challenges.¹¹

A key question to ask is, “What unique assets exist within the Greater Adelaide region and how can Adelaide build on and leverage these assets for enhanced global competitiveness? One key focus is to target “underutilized assets and resources” that can make a significant value-added difference.

A key objective is to build on the technology/knowledge that Australia has developed to solve “its own problems/challenges” and to locate customers worldwide “who have the same sort of challenges/markets” whether it be mining, biotech, water conservation, tourism, etc. Industry cluster development needs to be grounded on the region’s assets with shorter and longer-term strategies for action and metrics for success.

Objective. To become globally competitive in niche markets of established and emerging (new to the world) industries where SA has a distinct competitive advantage.

¹¹ For example, IC2 Institute has an award winning incubator – The Austin Technology Incubator (ATI) that has been a catalyst for academic/business/government/community collaboration in the Greater Austin Region. ATI has graduated 60 technology companies since its founding in 1989, five of which had successful IPOs with 13 more being acquired. ATI companies created about 2,500 high value jobs and generated \$-----million in income and \$-----tax revenue for the city of Austin. The incubator has been a valuable experiential learning laboratory for University of Texas students and faculty. Yet visitors from the US and worldwide tend to see the building and the physical infrastructure as THE CRUCIAL ASSET (even to the point of asking for building diagrams) when in fact the true VALUE ADDED is in the management, partnering, networking, culture processes embodied in ATI. Buildings and ICT are necessary fundamentals but they are not determinants of entrepreneurial success and accelerated regional economic development.

Strategies for Action

Following are *suggested* targets of A/B/G collaboration for cluster development and high-value jobs in the Greater Adelaide Region – the goal is the accelerated creation of wealth and high value jobs and expanded career options for all participants.

We suggest that two types of economic development (ED) initiatives be pursued simultaneously:

1. **Type I:** Initiatives that are deemed central to the 21st Century economies of the world, industries where it is important for Australia to have a “seat at the table”
2. **Type II:** Initiatives that are more regional-specific, that are based more on South Australia’s and Adelaide’s existing assets and competitive advantages.

Type 1 Cluster. - National and Global High Profile

- Wine Industry (the enhanced global competitiveness of the Australian wine industry is an excellent example of a winning strategy for SA where world-class value added processes come together with state-of-the-art technology and Australia’s regional competitive advantages.
- Defence Industry (another good example of where Australia’s own and unique challenges leads to successful entrepreneurial and technology-based initiatives.
- ICT
- Biotech

Reality Check: There will be an Australian and global shakeout in BioTech and ICT, etc. - there are many global players – there will be many “non-starters” and few global winners – to “win” in this game Adelaide needs to be focused on a global market niche that builds on existing and growing regional strengths.

Type 2. Building industry clusters that are focused on Adelaide/South Australia’s/Australia’s unique strengths and competitive advantages and established Branding

- Entertainment and the Creative Arts (music, film, theater)
- Culinary Arts (Adelaide again demonstrates a natural evolution of cluster development with the recruitment of the local chef schools and the training of talent and the commercial applications in the region’s diverse and excellent restaurants.)
- Mining
- Metals
- Agriculture
- Aquaculture
- Environmental (e.g., the Water Alliance and the Layering of Spatial Information (e.g., Robert Torrens) and global applications in Eastern Europe)
- Desert Knowledge Project, Alice Springs, NT (The key question here is how best to define SA’s strategic region for economic development. We suggest that for unique and targeted initiatives that it might be extended to include the Northern Territory and we exemplify this strategy by highlighting the Desert Knowledge Project that seeks to build a global knowledge network dedicated to fostering the integration of technological and cultural strategies for indigenous people and for sustainable communities in arid lands. Technology/knowledge venturing applications will be diffused and commercialized worldwide with the

global center of excellence being located in Alice Springs and its surrounding region (including perhaps Adelaide.)

Common Strategies to both Types 1 and 2 Cluster Development

The objective is to build on established competitive advantages and to work toward a critical mass with early successes (that are recognized and publicized) and longer-term visions

Building and leveraging **World Class Cycles of Excellence between Business and Academia** - with government acting as a catalyst.¹²

Focus R&D, education, and training and re-training on critical technologies, processes, and skills needed for cluster development.

Leveraging R&D and education/training for established and new-to-the-region industries: the creation of new, cutting-edge knowledge is a desirable objective, but it needs to be balanced with the use of existing knowledge and the leveraging of existing assets (e.g., mining, aquaculture, defence) – indeed existing assets/knowledge are likely to be closer to the market place and provide crucial income to support the more basic, leading edge research.

Community support and involvement also includes service providers – fostering “cycles of excellence” benefit the larger community in terms of national and global perceptions, increased tax income for the region, enhanced sales in consumer goods, real estate development, residential and commercial construction, automobile sales, etc.

Challenge: University-Business collaboration takes dedicated champions and much effort. Adelaide and SA is populated with a preponderance of SMEs and a great percentage of leading-edge technology and business processes is being developed by these SMEs. Taken individually these SMEs do not have sufficient budgets to fund or otherwise impact university programs. Furthermore, Adelaide universities do not have the faculty and staff to devote time to numerous SMEs.

Strategy for Action: Work to form clusters of SMEs around target technology needs and niche markets and focus on linking these “Cluster Associations” with the most appropriate university R&D and education resources. Once technology company winners emerge foster the culture of “Financial Endowments” where these “winners” give back to their partner universities and local business leader mentors contributing to the “Cycle of Excellence.”

Metrics for Success

- ❑ Enhanced global competitiveness and firm growth
- ❑ Shortened learning curves, speed to market
- ❑ Wealth creation
- ❑ High value job creation

¹² This “Cycle of Excellence” has been proven as a viable strategy for Stanford University and Palo Alto, CA; MIT and Boston, MA; and UT and Austin, TX. It does not attempt to involve all possible players but focuses on motivated champions – win-win strategies and results are the models for others to follow on a self-selected basis.

- ❑ Enhanced regionally-based career options
- ❑ The retention and attraction of talent
- ❑ Enhanced quality of university education, research, and world reputation
- ❑ Increased tax revenue

II. Enhanced Regional-Based Entrepreneurship (venture creation and more)

Entrepreneurship is seen to be key to both Type I and II cluster development as well as fostering creative and innovative academic and government sectors.

Objective: To have Adelaide become nationally and globally recognized as a world recognized center of creativity and innovation in academic, business, and government sectors. For Adelaide to be a world leader in how to best grow, recruit, and retain talent – as a “cool place for hot jobs.”

Reality Check: Currently the Greater Adelaide Region is losing much of its educated talent to Melbourne and Sydney and abroad. Adelaide is challenged to recruit nationally and globally and to retain highly qualified talent.

Strategies for Action:

Celebrate the “Tall Poppies” of entrepreneurial success, foster a tolerance for entrepreneurial failures, and encourage entrepreneurial risk taking

- ❑ Establish a SA “Tall Poppy Association”
- ❑ Advertise favourable news (TV, Radio, Press) stories and profiles
- ❑ Establish Global Networked Entrepreneurship links with partner regions worldwide – foster business/academic/government/cultural exchange with a focus on entrepreneurship – further develop the existing Austin-Adelaide Partnership as a model
 - ❑ Award scholarships and provide additional funding for exchange visits for academic faculty and staff from 2-weeks to one-year
 - ❑ Provide funding for fostering links between The Austin Technology Incubator and Austin’s Angel Capital Network (TCN) and counterparts in the Greater Adelaide region

Construct and advertise a clear and accessible **Roadmap of Entrepreneurial Services** – with clear links to the region’s Smart Infrastructure – coupled with access to regional mentors (e.g., experienced entrepreneurs at home and abroad, seasoned and retired executives) for:

- ❑ Talent: Discuss lessons learned from regional entrepreneurial successes and failures
- ❑ Technology: Spectacular success is not always built on Leading Science - DELL computers was built on a novel business idea
- ❑ Capital: Angel and VC and alternative forms (alliances with established firms)
- ❑ Business Know-How: Establish pro-bono and favorable links with local business professionals including retired professionals and academics

- Advertise win-win success stories as role models to be emulated

Metrics for Success: The growth, attraction, and retention of world-class entrepreneurs and increased numbers of fast growth globally competitive firms.

III. Down Stream Collaboration: Going Global/Firm Growth

Adelaide academic/business/government support needs to move beyond early-stage, life-style businesses and increase the number of later-stage globally competitive, growth oriented firms.¹³

Objective: To have Adelaide be recognized as a World-Class Knowledge-Hub for value-added knowledge and networks for SMEs to go global.

This strategy is taking Australia's challenge (developing a viable global business strategy for SMEs) and turning it into a competitive advantage. Such expertise is not a global competitive advantage of SMEs in Silicon Valley, Boston, or Austin as their focus is on the large domestic market.

The Vision is developing Adelaide and South Australia as a dynamic environment where ideas and research and technologies and business practices are developed in Adelaide and as they go through their product/process cycles some are retained and expanded and some are spun off to global locations for additional competitive advantage – only high-value added products and services would be retained for domestic manufacturing and production.

Strategies for Action: Develop the smart infrastructure, knowledge networks, roadmaps and mentors for SMEs to go global, shorten learning curves and speed the process – For example, SA's Exporters Club currently provides value-added knowledge for SMEs going global.

IV. Partnerships & Alliances:Regional/National/Global

Foster enhanced links/partnerships with strategic regions worldwide – begin by building on **The Adelaide-Austin Connection.**

Academic

- Build on the Adelaide University-IC2 Institute, UT-Austin partnership with the Masters Program in Science and Technology Commercialization – scholarships for students
- Fund student, faculty, and administrative staff exchanges from several weeks to a year or more – as Visiting Scholars or Practitioners

Entrepreneurial

- Strengthen links between the Austin Technology Incubator and technology incubators in Greater Adelaide

¹³ Entrepreneurs in the U.S. benefit from a large and comparatively wealthy large domestic market of 250 Million (and over 20 million Canadians) –relatively large firms can be built on technology and management processes targeted for this large domestic market. Australian entrepreneurs that seek to move beyond lifestyle businesses must go global. Many Australian SMEs are successfully competing in the global market but more needs to be done in this regard.

- ❑ Strengthen links between Austin's Angel Capital Network (TCN) and emerging Angel Networks in Greater Adelaide

Business

- ❑ Strengthen links between Austin and Adelaide business professionals
- ❑ Strengthen links between large firms in Austin and Adelaide: e.g., Motorola

Government

- ❑ More in-depth comparisons and learning between city governments on such issues as city growth and development, quality of life, etc.

Build national and global networks

The Australian Institute for Commercialization was recently created in Brisbane with support of the Queensland and Commonwealth Governments. SA should aggressively seek to create a SA node of that national institute. This should be a SA-wide collaboration across the university, business, and government sectors.

Create two programs to derive value from Australian Ex-Pats:

- Bring some champions home with targeted recruitment to build “smart infrastructure” in targeted industry clusters
- For most situations leverage the talents and networks of Ex-Pats where they are for enhanced global access

Hold international conferences on topics of interest to Adelaide academia, business, and government – such as:

- ❑ Technology Commercialization
- ❑ Developing and networking globally competitive SMEs
- ❑ Global Angel and Venture Capital

Publish books and monographs on these conferences for global sale and distribution. [IC2 Institute used this relatively simple strategy to build global recognition for its Technopolis Strategies.]

5. Branding/Marketing - “Perception Is All There Is”

Strategies for Action:

Adelaide City is nice but it is not THAT nice - it is the Greater Adelaide Region as a whole where the leverage/attraction/uniqueness resides and this region might range from the DSTO in the North to Science Park & Flinders University in the South. It may well include the Outback and Northern Territory. Publish reports of studies on Adelaide's cutting edge programs and world-class quality of life – sell the whole package which includes world unique culture, geography, horticulture, and unique native animals. Advertise Adelaide's quality of life as ideal for entrepreneurs: a Silicon Valley, Boston, Austin quality-of-life (and more) at less than half the cost.

Learn how Austin changed its “Brand,” in 10 years, from being perceived as a region of cowboys and rednecks living in a flat, dry, dusty region in the center of Texas to a entrepreneurial magnet with an exceptional quality-of-life that attracts the best and the brightest entrepreneurs from Silicon Valley, Boston, and worldwide. Learn about the unintended but crucial impacts of music, the arts, sports, restaurants, and coffee houses.

“Adelaide the Land of the Tall Poppy” – the negative implications of the “Tall Poppy Syndrome” are beginning to weaken. There is a national organization that celebrates Tall Poppies. There should be a strong Adelaide-based effort to tie into the Australia-wide celebration of local Tall Poppies.

In keeping with Adelaidean’s concern with being relatively modest – construct a simple list of “Significant Technological, Cultural, Artistic, and Social Accomplishments” that have occurred in Adelaide and SA. Distribute copies of this list to restaurants, bars, coffee houses – as a modest statement of significant knowledge/social (non-political) contributions of Adelaideans to Australia and to the world.

Get the regional media: Radio/TV/Press to facilitate the Re-Branding of Greater Adelaide. Possibly arrange short exchanges of radio/TV personalities and press with their counterparts in Austin.

Adelaide tolerance & friendliness-for alliances and partnerships & being a global hub – ready “access to the entrepreneurial food chain is key” and Adelaide has a competitive edge in this regard

Festival State is fine but can be better leveraged with building national and global recognition as a world centre of entrepreneurship etc.....and to foster global partnerships and alliances and target opportunities of collaboration.

Tourism and Conventions could benefit cluster development by being better linked to SA emerging clusters for enhanced regional and global awareness (e.g., tours of academic centers of excellence, industrial parks) and SA quality of life assets (e.g., the arts, theater, sports, nature). In short, world leaders/influencers (tourists and conventions) travel thousands of miles to visit Adelaide. The objective is to leverage their visit to maximize the opportunity for branding The Greater Adelaide Region as a “World-Class Globally Networked Entrepreneurial Center of Excellence” in targeted industry clusters. Such a leveraged strategy is an inexpensive and high value-add as the assets already exist. It is a clear win-win for the visitors (i.e., tourism and conventions) and for Greater Adelaide’s Branding.

Creative arts (e.g., music, theatre, museums) – restaurants and coffee houses are an important component of creativity and retention of talent and of regional collaboration – in getting people out of their “institutional and professional boxes” and being creative and innovative.

Advertise to recruit entrepreneurs from technology regions in the U.S., Europe, and Asia and don’t worry about Sydney and Melbourne, and Queensland – they will follow.

Adelaide – The City of Churches or The City of Tolerance and Inclusion: Throughout history the greatest cities have been culturally, racially, and

ethnically diverse. Ethnic diversity is an entrepreneurial asset. This is currently exemplified in North America's High Tech Regions. Adelaide and SA have a rich and diverse culturally, racially, diverse history to build upon.

Suggested Strategy for Action: More targeted recruitment of talent from a diverse range of regions, especially those with flourishing entrepreneurship but challenging Quality of Life, such as Hong Kong, Singapore, or Taiwan as well as The Americas and Europe.



SUMMARY OF FINAL REPORT TO SA GOVERNMENT

ADELAIDE KNOWLEDGE HUB PROJECT

November 6, 2001

**Dr Graham Gurr
Adelaide University**

During the week of July 9, 2001 Adelaide University hosted the visit to Adelaide of 22 professionals from the IC² Institute at The University of Texas at Austin.

The purpose of the visit was to perform an assessment of the Greater Adelaide Region's assets and challenges for accelerated technology-based growth.

The project was sponsored by Adelaide City Council with SA Government and Land Management Corporation/Mawson Lakes.

This report provides summary highlights of findings of particular relevance to the SA Government.

Recommended SA Government Initiatives flowing from IC2 study

1. Establish SA Institute for Innovation & Commercialisation (see following)
3 universities, SA DIT, Business SA, key corporates,
City of Adelaide, SABV2010
link to Australian Institute for Commercialisation (Brisbane)
tie into commercialisation part of SA bid for ICT Ctr. of Excellence
cooperate with other Australian centres of expertise (e.g. Swinburne)
2. Explore a CRC in Innovn. & Commercialisation Processes (bend the rules), or more likely, a
National Network linked to the Australian Institute for Commercialisation funded under
Innovation Access
3. SA become an IC2 partner (US\$10,000)
identify 8-10 IC2 Fellows from SA (Qld has 12)
link to similar program in QLD
tap into C'wealth Innovation Access funding
use IC2 network to identify programs for economic progress
4. Ensure Innovation Programs are founded on a natural advantage, such as:
mining
arid land issues
agricultural science
storm water management (Mawson Lakes, Salisbury)
irrigation practices; river reclamation
saline land reclamation
Desert Knowledge
telecommunications for low density, widely dispersed users
biotech with an Australian twist (desert plants, animals, etc.?)
defence industries
wine
aquaculture
etc. where we have an **unfair** advantage because of our situation
5. Scholarships for advancing SA entrepreneurship and commercialisation
6. Continue and strengthen support of the Tall Poppies Program in SA
7. Staff and student exchange with overseas (Innovation Access again)
IC2 (Austin); Commercialisation
Carnegie Mellon University (Pittsburgh); Business Startup
Uni New Mexico (Albuquerque); Technology Transfer
Uni Minnesota (Minneapolis); Innovation
Harmony (Switzerland)

G Gurr
6/11/2001

ATTACHMENT

SA Institute for Innovation & Commercialisation**[A Proposal]**

Australia needs to improve its return from public sector research. That is a fertile area that is being given much emphasis by the Commonwealth, Victorian, and Queensland Governments. There is a need to pull together SA's fragmented efforts, and to build upon them.

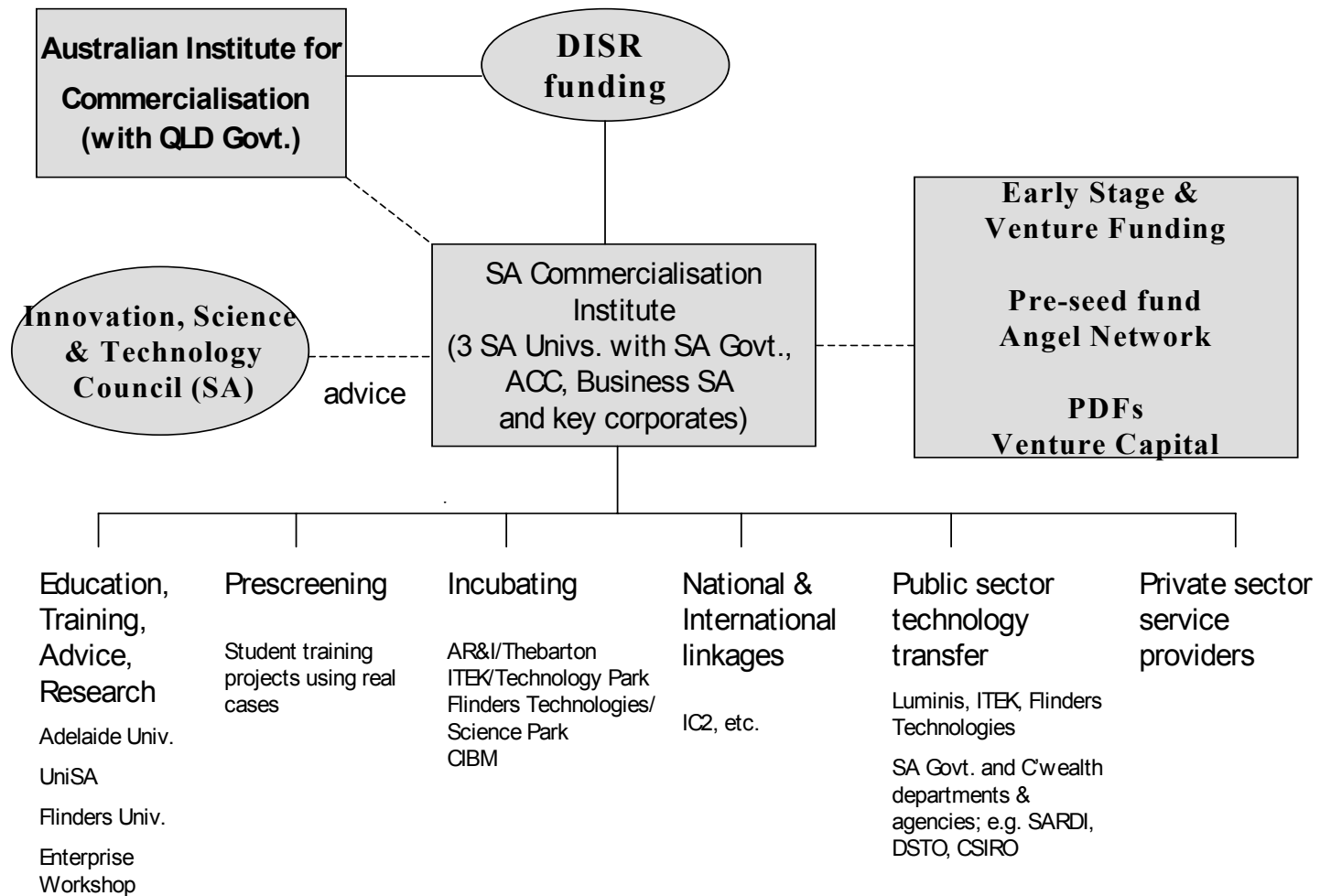
What is proposed is a SA Institute for Innovation & Commercialisation. This would be a centre (mostly virtual) to network all SA participants in the technology-based wealth generation chain. The hub could be hosted in CIBM, or perhaps SABV2010. The conceptual diagram following shows possible linkages and activities.

The SA Institute should link to the newly created Australian Institute for Commercialisation (AIC) in Brisbane. AIC has been established by the Queensland Government (with support from Commonwealth DISR). The SA Institute should develop initiatives for the specific benefit of the SA economy while participating in and contributing to the national agenda.

AIC states as its principal objectives:

- ☐ Enhance the international competitive position of Australian industry
- ☐ Facilitate rapid diffusion and uptake of research
- ☐ Encourage and coordinate collaboration between existing scientific and technology organisations and industry groups (particularly SMEs)
- ☐ Enhance overseas linkages and encourage research and commercialisation activities
- ☐ Develop and promote appropriate commercialisation models for the Australian environment
- ☐ Promote a culture of entrepreneurship both in the research community and in our student population as a whole
- ☐ Provide intelligence on and influence the direction of research to address gaps and exploit opportunities
- ☐ Address the innovation progression gap

It is not proposed that all SA activities be swept into a new SA Institute, merely that they be linked together through it, and also linked to the AIC. Neither should all the AIC activities and programs be replicated in SA. But SA must take care of our local priorities and ensure that they are part of the national innovation agenda. The proposed SA Institute will only need a small group of key staff with the appropriate values and experience.





SUMMARY OF FINAL REPORT TO ADELAIDE CITY COUNCIL

ADELAIDE KNOWLEDGE HUB PROJECT

November 12, 2001-11-09

**Dr Graham Gurr
Adelaide University**

During the week of July 9, 2001 Adelaide University hosted the visit to Adelaide of 22 professionals from the IC² Institute at The University of Texas at Austin.

The purpose of the visit was to perform an assessment of the Greater Adelaide Region's assets and challenges for accelerated technology-based growth.

The project was sponsored by Adelaide City Council with SA Government and Land Management Corporation/Mawson Lakes.

This report provides summary highlights of findings of particular relevance to Adelaide City Council.

Recommended

Adelaide City Council Initiatives

flowing from the IC² study

1. **Balancing Physical Development and “People/ Business Programs”**

Adelaide is a fine city.

Adelaide and the greater Adelaide region is a great place to live and work, and has truly unique and outstanding life-style attractions for overseas visitors and business migrants.

Wealth creation linked to prosperity sharing has enjoyed qualified successes in the lead technology centers in the U.S. (e.g., Silicon Valley, Route 128, and Austin Texas), but it can't be denied that benefits have flowed to three recipients:

- to **regional universities** in terms of funding, education, and cutting edge research, innovative education programs, and jobs for graduates;
- to **city governments** in term of considerable increases in taxable income and property taxes; and
- to **privately held business concerns** in term of global competitiveness, growth, market share, and profit.

Adelaide is home to a number of start-ups, but technology entrepreneurs are not plentiful. It is well documented and established that without a critical mass of entrepreneurial infrastructure, accelerated growth is stunted. Technology entrepreneurs are alive and well in Adelaide, but too few in number to achieve the spontaneous combustion required to spark economic growth. An optimum entrepreneurial population with associated creative ideas and product concepts will act like a magnet for venture capital.

Deliberately fostering growth in entrepreneurship may be the next desirable step for Adelaide. Well-funded entrepreneurs create new jobs; jobs precipitate economic growth; and economic growth cycles itself exponentially.

Recommendations:

- Rebalance ACC initiatives to include more emphasis on “**people and business programs**” alongside property and physical infrastructure development, with the objective of assisting the creation of more technology-based businesses. Coordinate this with SA Government.
- Potential programs and activities for Adelaide City Council are:

- ❑ work collaboratively with SA Govt. to support and promote programs leading to new business, such as the Centre for Innovation Business & Manufacturing Investor Ready
- ❑ Development of an investment attraction program that provides funding in conjunction with the State Government (as a replacement for the City Centre Vital Fund) targeted at Information Technology, Knowledge Management, and Bio Tech firms, in addition to a range of “high-value, low-mass” enterprises
- ❑ join SA DIT in support of the proposed SA Institute for Innovation and Commercialisation (see attached)
- ❑ join SA Govt. in becoming an IC2 partner (US\$10,000); identify 8-10 Adelaide-based IC2 Fellows; use IC2 network to identify programs for economic progress
- ❑ support the “First Tuesday” organization, and other existing business and entrepreneurship collaboration networks such as Business Ambassadors
- ❑ create an “Entrepreneur of the Year” Award and other ways to celebrate success stories under the auspices of industry, academic and government groups
- ❑ join in sponsoring local activities in the national “Tall Poppies” initiative
- ❑ promote international exchange under the “Sister Cities” program, and in other relevant international fora, to monitor economic regional development programs elsewhere and to promote Adelaide generally
- ❑ foster linking of Adelaide-based entrepreneurs, incubators, Angel investors and VCs both nationally and internationally.

2. Smart City Business Development Strategy

Adelaide City Council has a well thought out Smart City Business Development Strategy, discussion paper. An example of a city with a track record of success in promoting and working to be a “Smart City” is Amsterdam. There are 3 main aspects to a Smart City program:

- ❑ basic physical infrastructure
- ❑ creating Intranets, Web sites, Web content
- ❑ getting people using the technology productively

2.1 Physical infrastructure for IT growth

The City needs to continue its focus on upgrading its physical infrastructure for the knowledge economy through increased bandwidth, low cost service, public kiosks, data centres, utilising mNet Australia for a wireless technology hub, and working to establish the ICT Centre of Excellence. The **physical infrastructure** projects that should continue to occupy the attention of Council are:

- ❑ **mNet Australia** to establish a 3G/4G wireless network centered along North Terrace.

- ❑ Support for the further attraction of **Internet Data Centres**, Shared Services Centres and Call Centres. A tangible step should be the identification of key sites, and the development of building envelopes and infrastructure including consideration of an uninterrupted power supply to identified sites.
- ❑ Support for the Adelaide City Council to work collaboratively with the State Government and the Universities in seeking funding for an **ICT Centre of Excellence** intended to create a critical mass of world-class ICT research capability in Australia, expected to employ at least 250 to 300 people.
- ❑ Support the development of a **High Tech Hub** within the City's square mile on a large site, such as the rear of the Advertiser Site, the Franklin Street Bus Depot, or the Balfours Site. A defined High Tech Hub in the City would increase the attractiveness of Adelaide to High Tech companies seeking a Asia Pacific base.
- ❑ That the Adelaide City Council develops options to expand access to high bandwidth connections in the City. At the technical level this could involve the leasing of existing underground conduit at competitive prices to enable telecommunications carriers to place more accessible fibre "in the ground". At the user level, this could involve the City of Adelaide undertaking an Invitation / Expression of Interest (**EoI**) to Telecommunication Companies to invite them to **provide high bandwidth and low cost services for a part of the City Adelaide and or North Adelaide**. This project would need to involve a minimum of 3,000 households and 500 - 1,000 businesses to be connected to high bandwidth services.
- ❑ That Adelaide City Council continues to work with the State Government and the smart card industry to develop a multiple application smart card that includes: public transport ticketing, carparking, libraries, e-purse, and loyalty schemes for city shops.
- ❑ That Council investigate the establishment of public access terminals/info kiosks to address the digital divide and provide access to the internet for visitors/tourists.

2.2 Creating Intranets, Web sites, Web content

The second category includes www.adelaide.sa.gov.au , www.Adelaide.biz.com.au , www.sacentral.sa.gov.au and their cross-referencing and linking.

Recommendations

It is important to maintain and strengthen these resources, and to keep comparing their utility with global standards of reference. The sites listed below promote two elements; The business in their location as being developed by Adelaidebiz and the location as a place to do business. Adelaidebiz should further develop both of these elements. Some examples of these types of websites are listed below for reference:

www.minnesotatechnology.org/index.asp is the Web site for Minnesota Technology, Inc. to promote technology-based business in Minneapolis/St Paul, Austin is promoted by www.ci.austin.tx.us/defaultfull.htm, and the University of California at San Diego provides support services for high tech business through www.connect.org/ while the city of San Diego is promoted through www.sandiegoconnect.com/

Businesses must move quickly to stay competitive. One aspect of moving quickly is site selection for growth. Site selectors and community economic development must work together and be able to respond quickly to address the questions. The International Economic and Development Council and the publisher of the Site Selection magazine, Conway Data Inc., formed an alliance to use technology to address this issue. They created a website (www.developmentalliance.com) that provides a source of community and research information for companies seeking business or facility locations, and to assist communities in attracting new businesses to the region. It would be beneficial for Adelaide to create one location that integrates all of this information, tracks daily commercial real estate transactions, financial markets and other information that would affect the industries being attracted to the area.

2.3 Getting people using the technology productively

In the final category, enabling and promoting the use of the Smart City to pursue a positive economic future for the area are:

- work with Invest SA to attract software developers
- foster a business-led, government-attended software entrepreneurs council
- strengthen links with existing groups like cluster meetings of SABV2010, Information Economic Policy Office, and Premier's Business Roundtable
- link entrepreneurial clubs in Adelaide with Austin (for example Austin Software Council and UTexas Entrepreneurial Society – "Idea to Product" Competition)
- Publicise entrepreneurs and technology advances in all local media..

3. Branding and Promotion Strategy

Perception is everything. The unique and pleasant cultural atmosphere and the high quality of life are all factors of major importance to technology companies that may consider relocating to SA. The region is a "clean" environment ecologically that is highly attractive to skilled talent and companies for relocation.

Adelaide can be promoted as a Smart City in much the same way that has benefited Amsterdam and other cities. Adelaide's "Smart City" is the hub of an entrepreneurial metropolitan region comprising four principal nodes:

To the West: the Digital Precinct, and the Thebarton Commerce and Research Precinct and its adjacent BioScience complex;

To the North: Technology Park at Mawson Lakes and DSTO;

To the East: SA Research and Development Institute at the Waite Campus of the University of Adelaide; and

To the South: Science Park and Flinders University.

Recommendation

- ❑ Package and brand the 'Adelaide Region' as a single entity, from the Barossa, through Cleland and the hills towns, through McLaren Vale to Victor Harbor, including the beaches and also KI which is considered by visitors to be sufficiently close.
- ❑ The City and the region can be marketed as a “producer of high quality, high value technology goods and services”.

ATTACHMENT

SA Institute for Innovation & Commercialisation**[A Proposal]**

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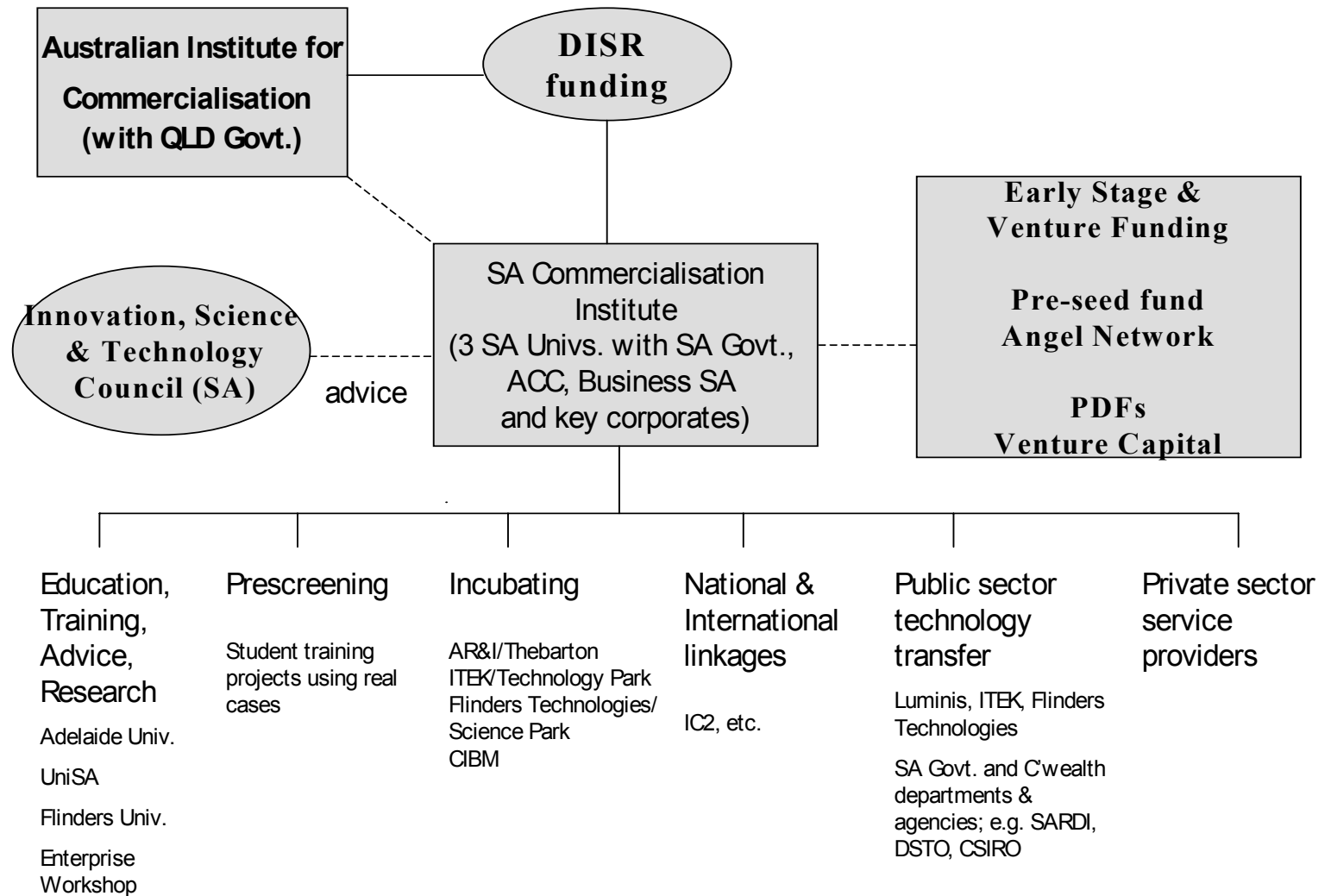
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**SUMMARY OF FINAL REPORT TO:
LAND MANAGEMENT CORPORATION/MAWSON LAKES**

ADELAIDE KNOWLEDGE HUB PROJECT

November 12, 2001-11-09

**Dr Graham Gurr
Adelaide University**

During the week of July 9, 2001 Adelaide University hosted the visit to Adelaide of 22 professionals from the IC² Institute at The University of Texas at Austin.

The purpose of the visit was to perform an assessment of the Greater Adelaide Region's assets and challenges for accelerated technology-based growth.

The project was sponsored by Adelaide City Council with SA Government and Land Management Corporation/Mawson Lakes.

This report provides summary highlights of findings of particular relevance to LMC/Mawson Lakes.

Comments of Robert Meyer (expert in land development and technology parks)

Recommendations

First, I would strongly recommend that management remove the sales office from their current location, dedicate that location to public use by leasing to a restaurant/book shop/coffee shop tenant and relocate the sales staff to modular/portable buildings elsewhere on the property.

Second, you should mount an effort to prelease the town center space currently under plans for development. That phase of the project is important to further chances for success. Space requirements of tenants and "finish-out" should be customized for predetermined uses to help ensure vitality in this, the new heart of the community.

Third, pedestrian paths should take pre-eminence over providing pathways for vehicular traffic.

Fourth, rethink the tactics of further phases of development and planning to reflect a commitment to the goal of developing a "community" with all the social implications that are attached. Although the marketing plan is based on a living/working/learning/playing environment, the production and design component of the development does not reflect that philosophy.

Fifth, documentation creating the agreements between the public and private parties should be drafted in a way that provides the private partners a stake in the overall success of the project. They should bear part of the risk and receive part of the reward for success.

I would be happy to receive from you any comments regarding my recommendations.

I am so grateful for the hospitality offered our entire team and I would be anxious via email to engage in a conversation with you that could lead to any enhancement of your opportunities for success at Mawson Lakes. However, in fact, I am confident that for my input to most benefit you, a return visit would be required. If you wanted to attempt to plan such a trip, I would be pleased. The details were not explained to me, but I understand the private ownership partners of the Mawson Lakes Project are currently involved in a company reorganization and the resulting parent company will be involved in further technology/research park developments in similar markets. I would be anxious to begin conversations with the management of that company to try to add value to other schemes in Australia and elsewhere.

General Comments & Recommendations from the (non-expert) IC2 Visitors

Observations

Technology Park is a component of Mawson Lakes and is a major location where commercialisation of technology is being undertaken. It appears that this project is a “mini high tech centre.” Companies on the Park comprise some major international corporations, small-medium enterprises, and ‘start-ups’. There has been a lot of great groundwork laid that needs further development. The University of South Australia’s Mawson Lakes Campus is integrated into this development.

Recommended Viewpoint

Conceive of Mawson Lakes as not merely a Business Park’ but a highly sophisticated and ‘wealth generation’ focused next-generation Technology Park.

New businesses and other new initiatives

Further promotion is needed of high tech businesses to move to the area, as well as for capture of new business startups. Where possible, consolidate strands of technology commercialisation to take advantage of synergies. For example, if recognized as a single regional asset, the 5 incubators of the Greater Adelaide Region, through collaborative strategic planning in order to avoid duplication of effort and wasting of resources, can more efficiently target separate industry sectors and market niches, avoiding the inefficient allocation of scarce resources otherwise inevitable in a traditionally open free market competition.

Bring in all three universities for innovative programs and collaborative efforts.

A Centre of Excellence in Sustainable Water Use and Salinity Management could capitalize on strengths in applications already in place.

Incubation

Implement a Business Accelerator/Technology Incubator.

Strengthen links between the Austin Technology Incubator and Technology Park.

Financing new businesses

Initiate actions to grow the number of technology-oriented investors, especially those willing to fund “early stage” ideas available to South Australia entrepreneurs.

Create “early stage” investment partnering relationships between Adelaide and Austin for technology oriented opportunities (Develop an angel to angel mentoring network, with IC2 being the focal point).

Strengthen links between Austin’s Angel Capital Network (TCN) and emerging Angel Networks in Greater Adelaide

Promotion

Collaborate with SA Government and City of Adelaide to ensure that Mawson Lakes and Technology Park are promoted as strategically important features of the entrepreneurial environment in the Greater Adelaide Region.

Linkages

Foster enhanced links/partnerships with strategic regions worldwide – begin by building on the Adelaide-Austin connection.

Strengthen links between Motorola in Austin and Adelaide.

Quality of Life

Continue development in areas such as smart housing that will make the area distinctive as well as attractive.