



*AUSTRALASIAN SOCIETY FOR TRENCHLESS TECHNOLOGY*

# **TRENCHLESS 2K10**

**STRATEGIC PLAN**

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# Strategic Direction

## History and Profile of ASTT

In October 1989, a Technical Sub Committee of the Water Resources Council conducted a two-day seminar on Trenchless Technology in Perth, Western Australia. A panel discussion at the end of the seminar with some 170 delegates from around Australia and New Zealand agreed that an independent Australian Society for Trenchless Technology should be formed.

The Society was to become established independent of other Professional Bodies and related Societies such as the Institution of Engineers, Australia; the Australian Underground and Construction Tunnelling Association (AUCTA); the Australian Water and Wastewater Association (AWWA); the Australian Drilling Industry Association (ADIA); and the Federation of Australian Construction Contractors. Although these organisations had some members with an interest in Trenchless Technology the specialised nature of the Trenchless Technology industry suggested the new Society should stand alone.

The Australian Society for Trenchless Technology (ASTT) was formed in 1991, and was affiliated with the International Society for Trenchless Technology, (ISTT) in the same year.

ASTT became Incorporated (Registered Number 1001093) in Perth, Western Australia on 11 March 1991.

On the 28 June 1994, the name of the Society was changed to the ***Australasian*** Society for Trenchless Technology, enabling membership to include those living in New Zealand. The distinctive ASTT logo was amended to show both Australia and New Zealand.

ASTT grew from a membership of 35 when inaugurated, to some 200 members in 2007. There are two classifications of Membership: Corporate and Individual. Members belong to a number of categories within the Trenchless Industry, and may represent the areas of contracting, manufacturing, support services, education and a wide range of private and Government client organisations.

The growth in ASTT membership has reflected the growth of Trenchless Technology in Australia and New Zealand. With ASTT having the highest membership of any of the affiliated societies on a per capita basis, the Society continues to provide a focal point for the continued development and application of trenchless technology in Australia and New Zealand.

The scope of the Trenchless Technology Industry in Australia and New Zealand is significant. There is an enormous investment in infrastructure associated with small diameter cables, conduits and pipelines in Australia and New Zealand.

These assets have been conservatively estimated to be worth AU\$300 billion, and include the water, wastewater, power, gas, tele-communications and oil industries in both these countries.

The growth, repair, renovation and refurbishment of this asset base, provided an estimated AU\$500 million turnover in 2007. Although this represents a very small proportion of the total annual expenditure on renovation, replacement, and new infrastructure, it is significant in terms of its influence and impact, as it represents the many programs and projects realising the ever-growing range of benefits trenchless technology has to offer.

Since inauguration, the objectives of ASTT have been to:

- Advance the science and practice of trenchless technology for the public benefit;
- Provide a forum in Australia and New Zealand for interchange of multi disciplinary knowledge and skills in the field of trenchless technology;
- Arrange or sponsor meetings, conferences and symposia on subjects consistent with the objectives of the Society;
- Encourage the interchange of specialists in Trenchless Technology within Australia and New Zealand;
- Liaise and establish affiliations with related organisations, both within Australia, New Zealand and overseas;
- Inform and advise the public and Government on matters concerned with trenchless technology;
- Encourage education, training and research.

The Society endeavoured to achieve its objectives through a number of strategies including:

- National Conferences and Exhibitions
- National Seminars
- Working groups dealing with specific key issues
- Trenchless Australasia Magazine

The Trenchless 2K10 Strategic Plan will re-set the Strategic Direction of ASTT in moving towards the Year 2010. It will help achieve the new Vision for the Society, after confirming the new Mission, Objectives and Strategies for ASTT.

It will provide the basis for the assessment of newly developed Business Plans and will help guide the Society in both the short term and long term planning cycles.

## TRENCHLESS INDUSTRY STRATEGIC OVERVIEW

Trenchless Technology is the practice of installing, repairing, renewing, replacing or refurbishing underground pipes, ducts and cables using techniques, which minimise or eliminate the need for excavation.

Trenchless techniques may reduce environmental damage and social costs, and at the same time provide an economic alternative to open trench methods of installation, renewal and repair. Trenchless or No-Dig techniques are being recognised as mainstream activity rather than a specialised application. As a consequence many utility organisations now require that trenchless techniques be considered as an alternative means of installation, renewal and repair. Forward looking utilities have adopted high level strategies in the application of Trenchless Technology to their asset management programs.

The potential for the future growth in trenchless technology may be gauged by the enormous investment in infrastructure associated with small diameter cables, conduits and pipelines throughout the World. The value of these assets, which include the international water, wastewater, power, gas, tele-communications and oil industries, is unimaginable. An indicator is the value of US\$200 billion recently estimated for a small country such as Australia, which serves a population of only 20 million people. This relatively small asset base, and growth in these assets, currently provides an estimated US\$250 million turnover annually in the trenchless industry in Australia. Although this trenchless component only represents a very small proportion of the total annual expenditure on renovation, replacement, and new infrastructure, it is significant in terms of its strategic influence and impact. It represents the many programs and projects realising the ever-growing range of benefits trenchless technology has to offer.

The trenchless industry will continue to grow as the replacement and renovation requirements increase with the aging of the asset base, the majority of which was installed over the past 30 to 50 years. This growth in the use of trenchless technology will be compounded as awareness, and realisation, of the benefits of the technology progressively reaches more and more client organisations, engineering design consultants and the broader contracting industry.

Trenchless techniques can be divided into three broad categories of repair and renovation; on-line replacement and new installation. The three broad fields of Trenchless Technology under which these categories are carried out are Horizontal Directional Drilling; Micro-tunnelling and Refurbishment.

Service industries worldwide are realising the need to become increasingly competitive. National reform agendas in the power, gas, water and telecommunications industries have driven a broad range of reforms and consequential institutional changes.

Corporatisation, privatisation and the consequential restructuring in these industries have changed the very face of service organisations throughout the World. As a consequence, we now see competitive, customer focussed and environmentally and community aware client organisations willing to adapt their approach to the traditional business of installing and maintaining services.

This has been supported by equally progressive development, manufacturing, contracting and related industries becoming increasingly aware of the commercial opportunities arising from these changes.

Trenchless Technology or “No-Dig” techniques are emerging as the major area of technological change that will impact on these significant service industries.

## **FUTURE ENVIRONMENT**

There are a number of key issues and major areas of impact, as well as a range of factors, that will shape the future direction Trenchless Technology will take in the next three years. The ASTT will need to be acutely aware of these issues, and position itself to build on its strengths to capitalise on opportunities, which may come its way.

Some of these issues are:

- **Geographic Location**

Australia and New Zealand are already isolated geographically from the rest of the world. This isolation is also true for the spread of the membership throughout this region.

- **Information and Communications Technology**

Information and Communications Technology (ICT) continues to expand at enormous speed. In 1999 global spending on ICT was US\$2.1 trillion, and is expected to rise to US\$3 trillion by 2003 (Institute for the Future 2000). At the same time, with computing power doubling every 18 months, the cost of performing 1 million instructions has decreased from \$1 million in 1975 to US\$1.50 in 2000. The cost of communications bandwidth has been reducing at 25% annually, and is expected to trend towards zero.

Computers have become more pervasive, portable, faster and interact with more sophisticated data networks. By 2010 we can expect wireless Internet broadband access to overtake PC's as the dominant means of accessing the Internet. The utilisation of ICT is becoming common place in the application of Trenchless Technology, and will play a major part in the further expansion of applications.

The geographic spread of members of the Society will require optimal utilisation of ICT to remain relevant and useful to the Members

The major application of the growth in ICT has been the Internet. By the year 2000, the Internet Society estimated there would be some 187 million hosts connected around the World, 2.5 billion users, more traffic than voice telephone and 75% global Internet penetration by 2020. The Internet will become faster, easier to use, and become more accessible with wireless access becoming the norm.

- **Environmental Awareness**

One of the most significant environmental changes has not so much been in the environment, as in Governments, business and public attitudes towards it. Environmental sustainability is no longer a fringe issue, but an important issue on any mainstream political agenda. This applies equally to the urban environment, where local communities are becoming more vocal and politically astute in wishing to preserve their streetscape.

Noise pollution, dewatering and social disruption associated with open trenching are becoming increasingly unacceptable.

There is also an increasing realisation of the potential of using Trenchless Technology in innovative ways in solving local environmental issues such as drainage of contaminated land sites. At the other end of the scope scale is the utilisation of a myriad of Trenchless Technology techniques to install sewers in large regional sewerage schemes to deal with waste water drainage in tidal flats and deltas.

The emerging awareness of the potential political impact of consumer action groups will continue to elevate the contribution made by Trenchless Technology to society.

#### ▪ **Reductions in Unit Costs (Economy of Scale)**

The application of new technology has resulted in high initial cost, especially for those pioneering new techniques. However the continued application and growth in the use of Horizontal Directional Drilling, Refurbishment and Micro-tunnelling throughout the World has meant that most contractors involved with the installation or repair of utility services carry Trenchless Technology equipment as part of their normal range of equipment. As a consequence, the unit rates for trenchless installations and repair are reducing. This trend, facilitated by the continued advancement of materials and equipment technology, is expected to continue.

#### ▪ **Asset Management**

The driving forces of competition, customer needs, quality products, productivity improvements and, ultimately, reduced prices places a clear focus on the commercial manner in which the utilities providing products and services through pipes, ducts and cables, are run. This has led to increased private sector involvement in all aspects of the utilities with a resultant, fully commercial approach to all aspects of pipeline installation.

This is best illustrated within those industries that are particularly capital intensive such as power, gas and water. As some 80% of these assets are pipelines or cables, it will be readily understood that, for the utilities to run as successful commercial enterprises, effective asset management of these pipelines and distribution and reticulation networks is vitally important.

Asset management can be defined as the comprehensive management of asset demand, procurement, use, maintenance, operations, rehabilitation, disposal and replacement to maximise the return on investment at the required standard of services.

The role of Trenchless Technology in all phases of the life of below ground assets cannot be understated.

The main elements of asset management include: minimising life cycle asset costs; ensuring reliability and performance of assets; matching asset capability to business needs; managing reliable asset date; managing risk associated with assets; and ensuring environmental compliance and performance.

The application of trenchless technology to each of these areas of asset management continues to expand. An area growing in importance is the technology being applied to determine asset condition through remote inspection and assessment.

▪ **Integrity of Transport Systems**

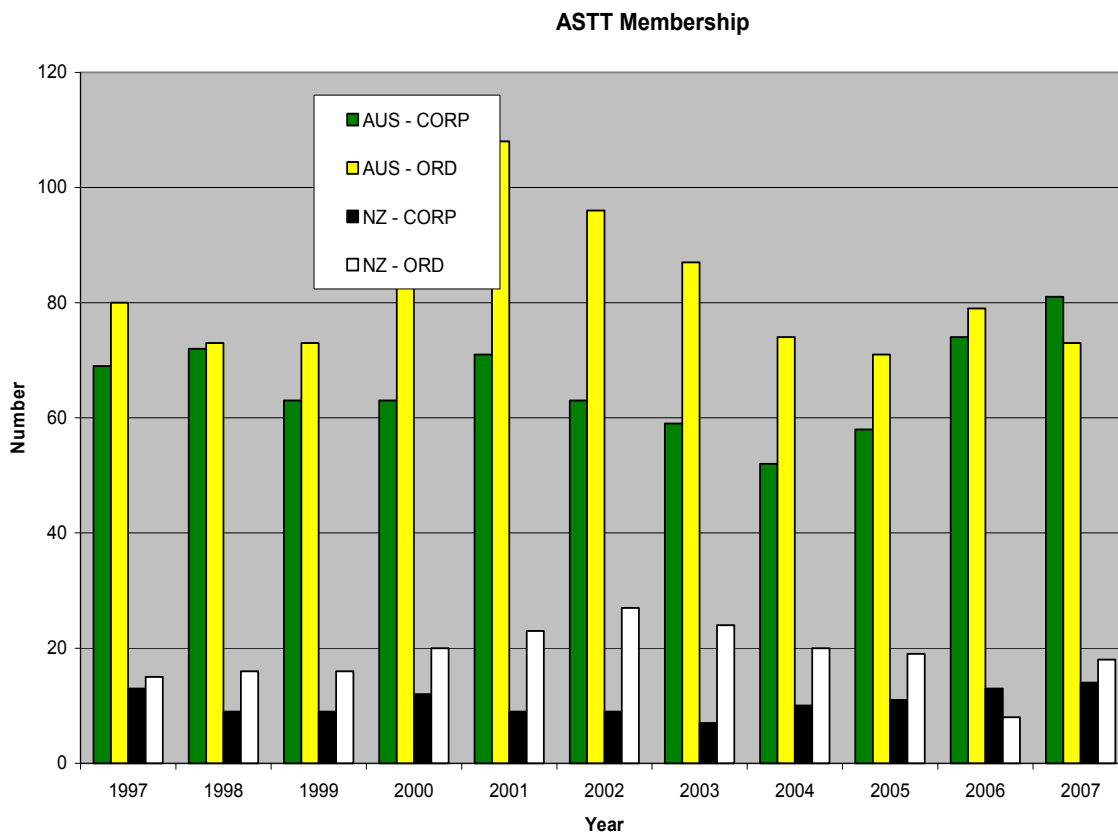
The greatest impetus for the increasing application and development of Trenchless Technology will come from those responsible for the maintenance and operation of highways, road networks, rail systems, airports and other transport systems. The continuing ability to translate traffic disruption into tangible cost savings when comparing trenchless with open trenching will improve the benefit side of the economic equation in favour of Trenchless Technology.

**MEMBERSHIP**

Table 1 under reflects membership growth since inception in 1997 to the year 2007. The table shows Corporate and Individual memberships for Australia and New Zealand.

It is anticipated that membership of ASTT will grow in aggregate by some 10% by the year 2010.

Membership numbers have traditionally increased in those years leading up towards the running of National and International Conferences and Exhibitions. The retainment rate then seems to drop off after these events. This trend should not remain with the running of National Conferences and Exhibitions now on an annual basis.



**Table 1: Membership History for ASTT**

Growth will arise from utilising cross membership with special membership fee rates and will provide additional benefits to all concerned. Examples of membership sharing with other associations, which may be appropriate, include Tunnelling, Drilling, Pipeline, Construction etc. The Society should do all in its power to ensure National movements to separate different functional areas in Trenchless Technology (Horizontal Directional Drilling, Refurbishment, Micro -Tunnelling) are dealt with in an orderly and professional manner.

### Current Structure of ASTT

The Australasian Society for Trenchless Technology (ASTT) is managed by a Council, which consists of not more than one representative from each State or Country, plus the Federal President and Past President. Council also appoints a Federal Secretary and a Federal Treasurer as well as a representative to the Board of the International Society for Trenchless Technology (ISTT). The day-to-day conduct of ASTT is managed by the Secretariat, or administrative arm of the Society consisting of the Secretary/Treasurer on an honorary part time basis, in liaison with the President. Figure 1 refers.

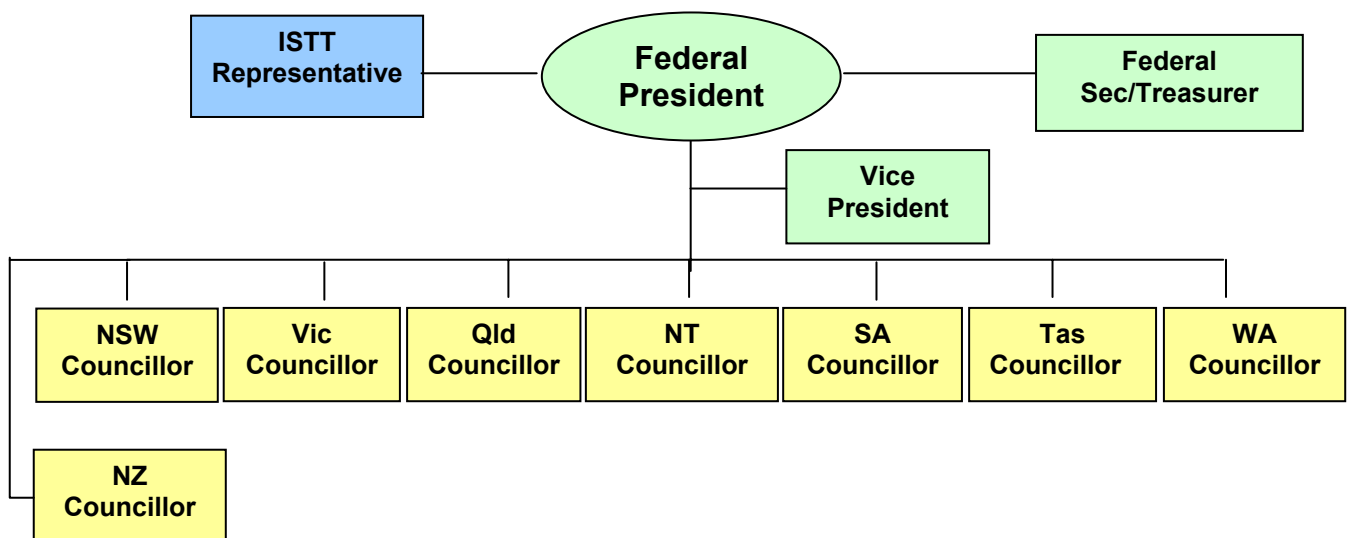


Figure 1: Management Structure of ASTT January 2008

## MISSION STATEMENT

The purpose of the Australasian Society for Trenchless Technology is to;

**GUIDE INDUSTRY IN AUSTRALIA AND  
NEW ZEALAND TO RECOGNISE AND  
ACHIEVE THE BENEFITS OF  
TRENCHLESS TECHNOLOGY.**

This Mission Statement explains the Society's primary role – it is the reason for its existence.

## AIMS

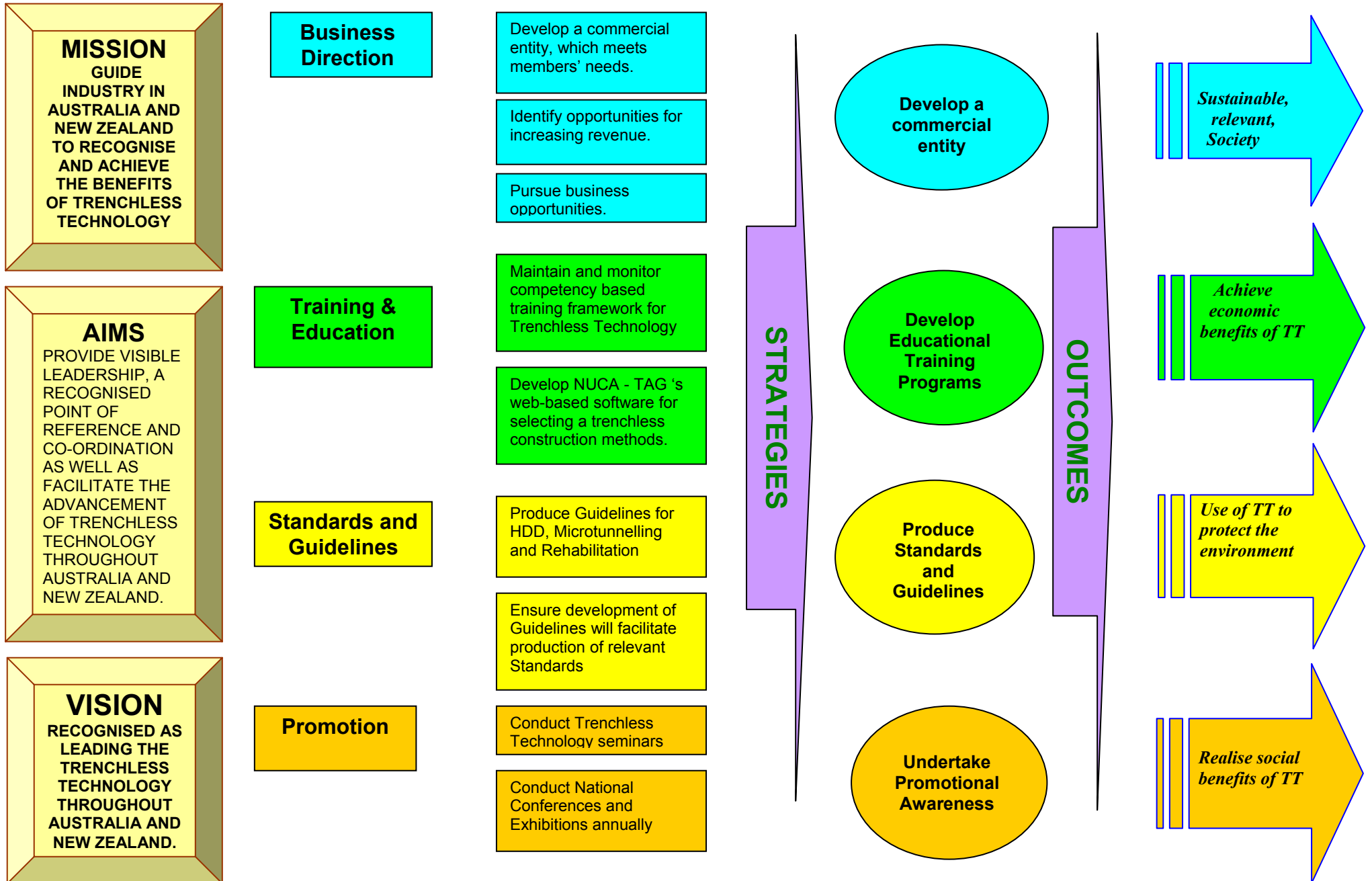
The primary aims or objectives of ASTT, in endeavouring to fulfil its Mission, are to:

**Provide visible leadership and a  
recognised point of reference and  
coordination for Trenchless Technology  
throughout Australia and New Zealand.**

and to

**Facilitate the advancement of Trenchless  
Technology in Australia and New  
Zealand.**

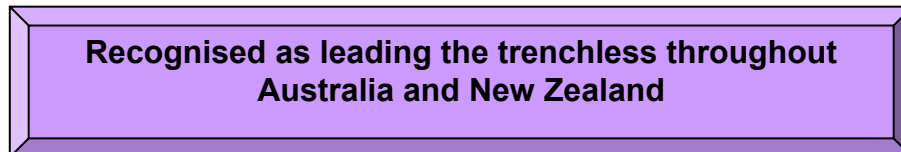
## ASTT – STRATEGIC FRAMEWORK - 2010



## VISION

The Vision for ASTT broadly describes the type of organisation ASTT wants to be, and how it will be perceived. It provides a framework to enable planning towards a common goal. The Vision is consistent with the Mission and Objectives of the Society.

The Vision for ASTT for the next three years is to be:



## MAJOR STAKEHOLDERS

The major stakeholders for ASTT, and consequently, those whose needs it must satisfy include:

- The members;
- Australian and New Zealand communities;
- Environmental groups;
- Politicians at all levels of Government,
- Media Representatives
- Tertiary Institutions.

## ASTT IN 2010

### Issues and Challenges facing ASTT

The vision provides a clear picture as to what ASTT needs to be like in the year 2010 if we are successful in achieving our Objectives.

Tabled under are the issues and challenges that have been considered in the development of this Strategic Plan. It is these issues that will directly impact ASTT achieving its Vision.

<b>Social/Demographic</b>	<p>What is happening in Australia and New Zealand that is driving the industry?</p> <p>The geographic location of our Society.</p> <p>The geographic spread of our members.</p>
<b>Technological and Development</b>	<p>Information/communication technology, materials technology, new methodology/technology coming out for trenchless technology.</p> <p>What is happening overseas that is driving change in the application of trenchless technology?</p>
<b>Education and Awareness</b>	<p>The current level of understanding and awareness of trenchless technology.</p> <p>Reluctance of tertiary institutions to change programs to incorporate trenchless technology.</p> <p>The rapidly changing technology and maintaining relevance in education and training.</p>
<b>Economic Environment</b>	<p>Globalisation, regional positioning, alliances/joint ventures, national economic growth, micro-economic reform.</p>
<b>Management</b>	<p>What are the International trends in the way the trenchless technology industry is managed.</p> <p>Role of Councillors.</p>
<b>Role of Industry Bodies</b>	<p>Possible fragmentation of membership.</p> <p>Establishment of independent Society's or amalgamation with other Society's.</p> <p>Achieving recognition.</p> <p>Membership growth,</p>
<b>Structure of ASTT</b>	<p>No perceived change in structure for next 3 years.</p> <p>Councillor involvement to increase through communication and liaison within their area of responsibility.</p> <p>ASTT will continue provide central support for activities undertaken by the Society.</p>

## STRATEGIC DIRECTION

Key Result Areas	Strategies
Business Direction	To develop a commercial entity which meets the members needs and actively pursues business development opportunities.
Training and Education	To utilise existing training programs developed by others and develop education programs for awareness in tertiary institutions, industry and the community.
Guidelines	To develop Guidelines for microtunnelling, horizontal directional drilling and rehabilitation which are suitable for Australasian conditions utilising current International best practice.
Standards	To produce Standards in conjunction with the publication of the Guidelines for microtunnelling, horizontal directional drilling and rehabilitation.
Promotion	Undertake the promotion of trenchless technology through National Conferences and Exhibitions, publications, internet, seminars and other awareness opportunities as they arise.

The Key Result Areas for the Society represent areas of activity, which are most critical for the future success of the Society.

Strategies have been developed within each of these areas to ensure this success.

The Objectives that will be determined on an annual basis align with each of these strategies.

## OBJECTIVES

Each year objectives will be determined in the Business Plan for each of the Strategies identified above.

These will be reviewed on an annual basis.

## MONITORING and REPORTING

Each year a Business Plan will be developed in accordance with the Strategic Framework. The Business Plan will develop Action Plans to achieve Objectives, which align with the Strategies in the Strategic Plan.

A fundamental requirement of the Business Plan is the need to monitor progress on those activities and report in a timely manner to both Council and the membership.

Each year the Business Plan will state the frequency and manner of reporting.