



**AUSTRALASIAN SOCIETY FOR
TRENCHLESS TECHNOLOGY**

**TRENCHLESS 2020 - 2024
STRATEGIC PLAN**

Executive Summary

The ASTT has represented and promoted trenchless technologies in Australia and New Zealand for close to 30 years. Since its inception the ASTT has achieved significant growth, financial stability and an excellent local and international reputation through the hard work of its stakeholders and office bearers. This strategic plan builds on the successes of the past, respects the needs of the future and lays out a plan for the continued success and growth of the ASTT.

This strategic plan clearly articulates the Mission, Vision and key areas of focus over the next 5 years whilst continuing to operate in accordance with its values.

The ASTT Council has consulted with members and stakeholders in the process of developing this Strategic Plan. The council has endorsed the plan and is committed to working towards implementing the identified strategies and delivery the action plan as part of its annual business planning cycle.

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Our Mission

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

INFLUENCE AND SUPPORT INDUSTRY IN AUSTRALASIA TO REALISE THE BENEFITS OF TRENCHLESS TECHNOLOGY.

Our 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 ASTT Vision is:

LEADING TRENCHLESS TECHNOLOGY THROUGHOUT AUSTRALASIA

Our Values

The ASTT will promote the advancement of Trenchless Technology in Australia and New Zealand by being;

- ❑ Ethical
- ❑ Impartial
- ❑ Innovative
- ❑ Inclusive
- ❑ Visionary

The values above articulate how the ASTT has operated in the past and how it will conduct itself in the future to ensure it continues to act in the best interest of all of its members and continues to hold itself to a high moral and ethical standard.

SWOT Analysis

As part of the process of reviewing where the ASTT sees itself and in light of the feedback received from the member and stakeholder survey, a SWOT analysis was undertaken and outlined as follows;

Strengths (Internal Capabilities)

- Industry network
- Trenchless magazine
- Good reputation
- No Dig Conference
- Financial resources
- Stable association
- Good International connections
- GSP Relationship

Weaknesses (Internal Limitations)

- Member engagement and commitment
- ASTT membership is questioned as value for money
- Voluntary organisation leads to lack of resources
- Geographic coverage difficult and limits regional involvement
- Members lack of understanding of the role of GSP – commercial tension
- More reactive than proactive
- Targeted communication
- Role clarity
- Member numbers

Opportunities (External factors that we can exploit)

- Promote technology and successes
- Promote industry advancements in the last 10 years
- Increase membership of asset owners, councils, drillers, consultants and small contractors
- Build strong alliances with relevant industry associations
- Leverage reputation as an industry authority
- Good practice journal's and 'lessons learned' publications – using international association links – promote through universities and RTO's
- Uniformity and synergies of tunnelling and trenchless definitions
- Grouting and geopolymer opportunities

Threats (Current and emerging external challenges)

- ASTT not seen as the trenchless industry leader or voice – old fashioned
- Utility industry approach by media competitors may dilute the ASTT market and No Dig conference participation
- Other associations (NULCA, AWA and ADIA)
- Ease for interested parties to gain information using the internet rather than attending conferences
- International conferences are seen as more relevant than Australian and New Zealand conferences
- Conservative view by industry to new technology – “what if it fails”
- Not having up to date standards and guidelines

Issues and Challenges facing the ASTT

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.

Social/Demographic	Geographic coverage difficult and limits regional involvement.
Technological and Development	Information/communication technology, materials technology, new methodology/technology coming out for trenchless technology. What is happening overseas that is driving change in the application of trenchless technology?
Education and Awareness	The current level of understanding and awareness of trenchless technology. Reluctance of tertiary institutions to change programs to incorporate trenchless technology. The rapidly changing technology and maintaining relevance in education and training. Not up to date standards and guidelines.
Economic Environment	Competing magazines may dilute ASTT market at Conferences. Other associations.
Management	Keep up with the most effective financial and governance practices.
Membership	Member engagement and commitment and value for money Member numbers. Members lack of understanding of the role of GSP – commercial tension Membership is questioned as value for money.
Structure of ASTT	Voluntary organisation leads to lack of resources. Role of Councillors. ASTT not seen as the trenchless industry leader or voice. No perceived change in structure for next 5 years. Councillor involvement to increase through communication and liaison within their area of responsibility. ASTT will continue provide central support for activities undertaken by the Society.

Key Focus Areas

As a result of the findings of the SWOT analysis and to achieve the society's Mission and vision, a number of areas that require a specific focus have become apparent. To achieve its objectives the ASTT we need to focus on;

- ❑ Our Members
- ❑ Promotion
- ❑ Training and Education
- ❑ Industry and Best Practice
- ❑ A Sustainable Society

Key Focus Areas	Strategies
Our Members	Increase membership numbers. Increase our NPS score. Improve membership benefits.
Promotion	Improve trenchless forums. Enhance Trenchless Australasia magazine. Use website as a promotional tool. Undertake the promotion of trenchless technology through National Conferences and Exhibitions, publications, internet, seminars and other awareness opportunities as they arise.
Training and Education	Run trenchless training programs. Develop and promote tertiary educational pathways for trenchless professionals. Develop and implement operator training programs at VET/TAFE level.
Industry and Best Practice	To develop and update best practice Guidelines. To provide input into development of industry Standards Actively engage with relevant industry associations.
A Sustainable Society	To review the organisational structure. Maintain financial excellence and governance Operate ethically and transparently. Benchmark against other Societies.

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

For year 2020, the Business Plan objectives have been summarised in the Strategic Framework diagram included in Attachment A and listed in the Action Plan included in Attachment B. An annual review will be undertaken as part of the annual planning cycle.

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 as well as being reported at Annual General Meetings.

Operating Environment

The context for the Strategic Plan is an acknowledgement that the ASTT is operating within the broader Utility, Construction, business and community environment and as such needs to take into account firstly, it's history and corporate knowledge and secondly consider the broader operating environment.

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 181 members in 2019. 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 and large diameter cables, conduits and pipelines in Australia and New Zealand.

These assets have been conservatively estimated to be worth AU\$200 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\$400 million turnover in 2019. 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
- Trenchless Forums

- Special Interest Groups dealing with specific key issues
- Trenchless Australasia Magazine
- E-Newsletters
- Participation on local and national government working groups

The Trenchless 2020 Strategic Plan will re-set the Strategic Direction of ASTT in moving towards the Year 2024. 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 both small and large 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 AUD\$400 million recently estimated for a small country such as Australia, which serves a population of only 25 million people. 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 several 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 five 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**

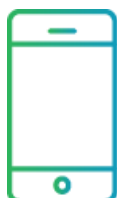
The rate of technological change is accelerating. It's unpredictable and unprecedented. As the World Economic Forum acknowledged in its Future of Jobs report, (refer: <https://www.pluralsight.com/blog/career/tech-in-2025>) we're entering a fourth industrial revolution:

Developments in previously disjointed fields such as artificial intelligence and machine learning, robotics, nanotechnology, 3D printing and genetics and biotechnology are all building on and amplifying one another. On average, by 2020, more than a third of the desired core skill sets of most occupations will be comprised of skills that are not yet considered crucial to the job today.

The key to surviving this new industrial revolution is leading it. That requires two key elements of agile businesses: awareness of disruptive technology and a plan to develop talent that can make the most of it.

▪ 10 technologies that will transform the global economy by 2025

With so many technologies emerging on so many fronts, it's a challenge to keep up. Every advance is billed as "the next big thing." Combining a report by The McKinsey Global Institute and knowledge of Pluralsight's subject-matter experts, we've compiled a list of 10 technologies that will lead the fourth industrial revolution. As the Institute notes, "Not every emerging technology will alter the business or social landscape – but some truly do have the potential to disrupt the status quo, alter the way people live and work, and rearrange value pools."



1. Mobile Internet

Interfaces, formats, sensors and apps will evolve as mobile computing devices dominate internet connectivity. By 2025, mobile connectivity could be accessed by an additional 4.3 billion people.



2. Artificial Intelligence

Machine learning and user interfaces such as speech and gesture recognition technology will advance to increase productivity or eliminate some knowledge work altogether.



3. Virtual and augmented reality

Goldman Sachs is betting on the virtual and augmented reality industry to become an \$80 billion market by 2025 – it's around \$7 billion right now. Major upgrades will come to technology infrastructure and an ecosystem of apps will form for consumers and enterprises alike.



4. Cloud technology

One of the biggest buzzwords of the last decade will continue to impact the next. Nearly all IT services and web apps could be delivered through the cloud with more enterprises using the public cloud as cyber security improves.



5. Internet of Things

More than 9 billion devices are currently connected to the internet – that number is estimated to grow between 50 billion to nearly 1 trillion in the next decade. Organizations will face monitoring and securing products, systems, devices and even people.



6. Advanced robotics

Advances in artificial intelligence, machine vision, sensors, motors, hydraulics and materials will change the way products and services are delivered. A surge in tech talent for building, operating and maintaining advanced robots will occur.



7. Biometric technology

A recent survey of security professionals revealed that 72 percent of companies are planning to drop traditional passwords by 2025. This will give rise to new authorization services for face, voice, eye, hand and signature identification.



8. 3D printing

3D printing could enable unprecedented levels of mass customization and dramatically reduce the cost of supply chains generating an estimated economic impact of \$230 to \$550 billion annually by 2025.



9. Genomics

Genetic engineering technology will grow with faster computer processing speeds. DNA sequencing technologies and advanced analytics will improve agricultural production, reduce reliance on fossil fuels and extend human life expectancy.



10. Blockchain

Blockchain is best known in the context of virtual currency Bitcoin, but a recent report showed 64 different use cases of blockchain across 200 companies. Streamlined, secure contracting and transacting will drive commercial use.

▪ **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 wastewater 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 place 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 2009 to the year 2019.

As at October 2019 the Society had a total of 181 members. In 2009 there were 206, in 1999 there were 161.

Over the past 5 years membership levels have been fairly static in Australia and this trend is expected to remain or even decline until the Australian economy improves. The New Zealand economy on the other hand is currently seeing record infrastructure spending and membership levels are expected to increase.

Optimistic membership growth targets have been set with a view of reaching 335 members by 2024.

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.

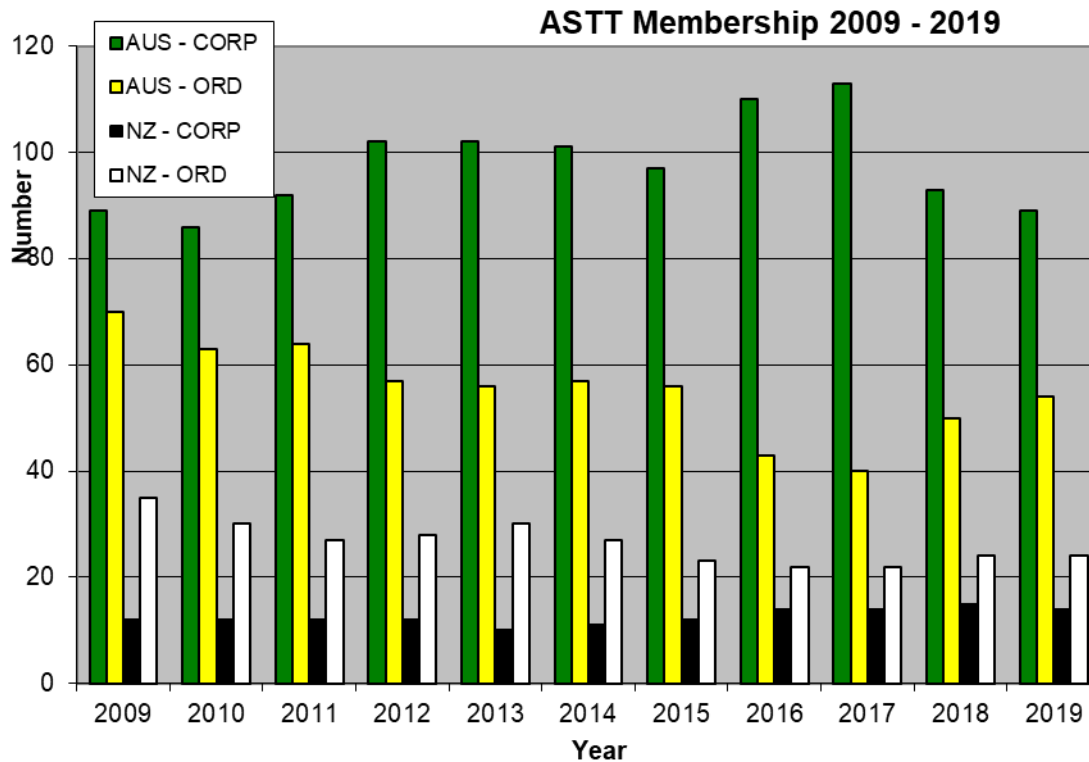


Table 1: Membership History for ASTT

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 through a Council, which consists of not more than one (1) representative from each State and 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). Figure 2 refers.

The Secretariat, or administrative arm of the Society is managed by a part time Secretary/Treasurer.

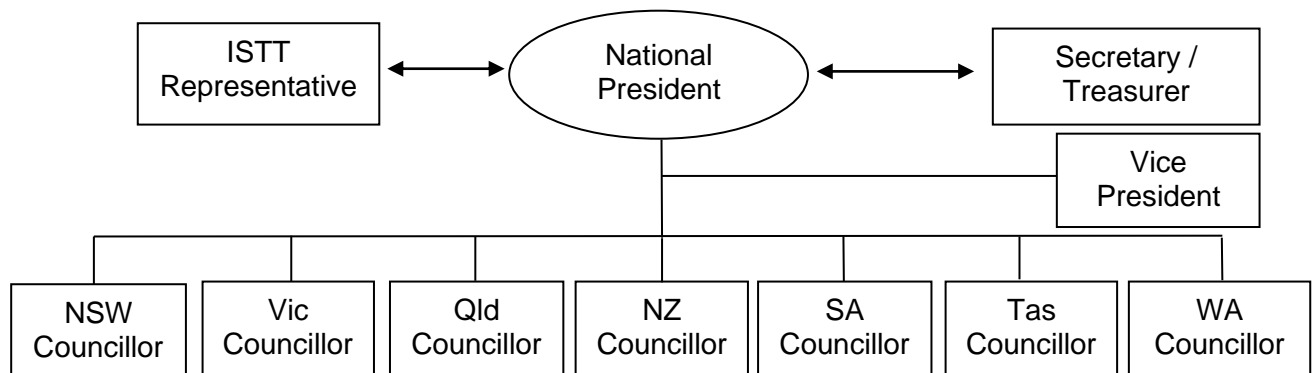


Figure 2: Management Structure of ASTT October 2019

Major Stakeholders

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

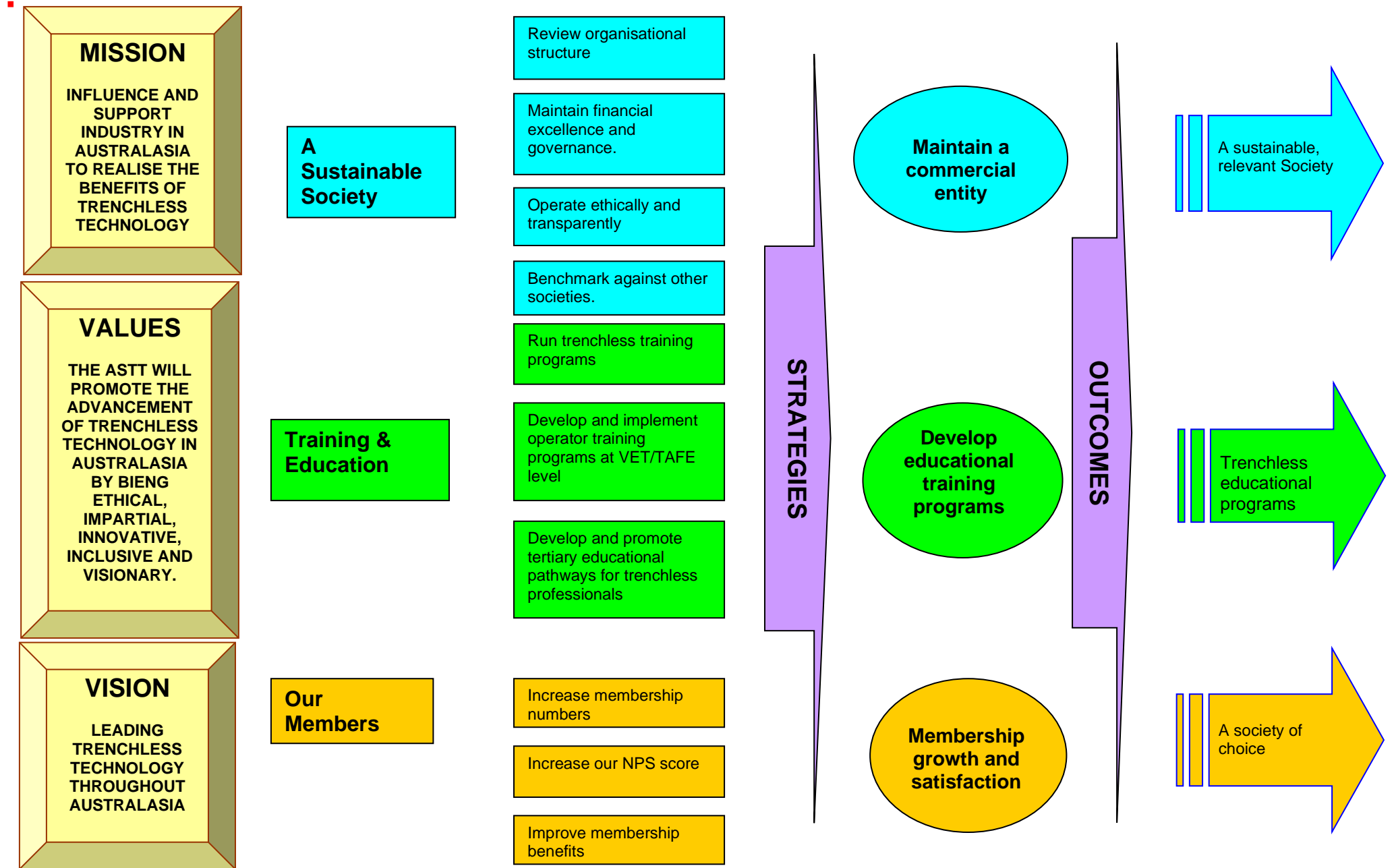
- The members;
- Australian and New Zealand communities;
- Environmental groups;
- Politicians at all levels of Government,
- Media Representatives
- Tertiary Institutions.

Attachments

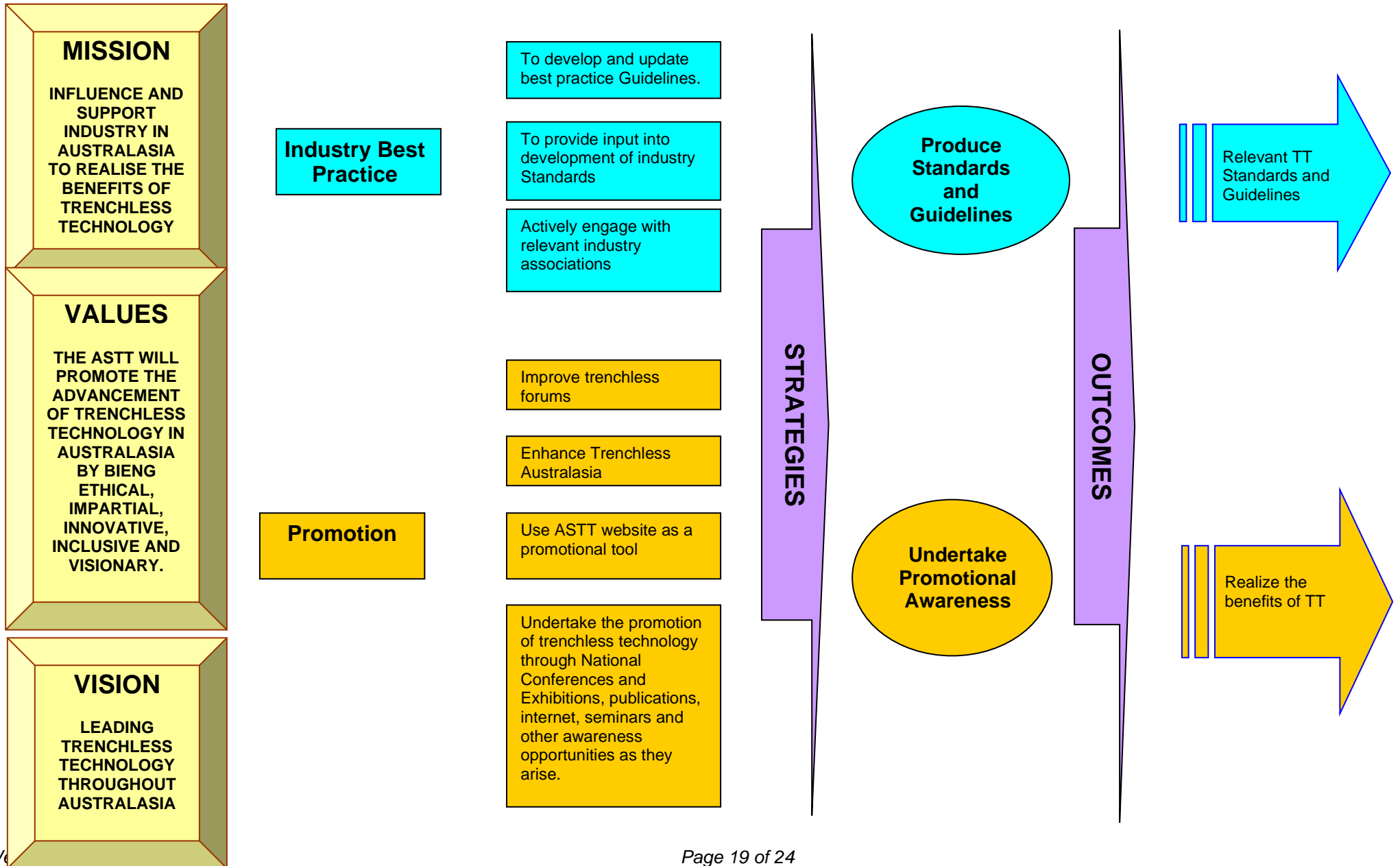
Attachment A - STRATEGIC FRAMEWORK – 2020 – 2024

Attachment B – Action Plan

ASTT – STRATEGIC FRAMEWORK – 2020 - 2024



ASTT – STRATEGIC FRAMEWORK – 2020 - 2024



Attachment B