

# Towards Solutions for Assistive Technology – Discussion Paper

December 2014

*To deliver an empowering, sustainable and nationally consistent approach to ensuring NDIS participants have ready access to the quality assistive technology they require to fully participate in their communities.*

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## Key objectives

- **Maximise participant choice and control** – Choice and control is optimised throughout every process at every level of assistive technology services to ensure all NDIA Participant's have access to the right support at the right time. Opportunities for choice and control will be supported by:
  - Building participant capacity to self-assess and / or seek preferred peer mentors and trusted others (including allied health professionals) to assist in the process of selection of necessary supports.
  - Facilitating “knowledgeable consumers” by ensuring accessible, accurate and impartial information is available at the right time to compare, explore and trial AT options
  - Building participant capacity and confidence to manage ongoing support for AT solutions
  - Actively engaging participants' nominees in sourcing, evaluation and procurement activities for the diverse range of assistive technology products
  - Ensuring appropriate safeguards including Codes of Practice and competency requirements are in place for all services and supports
- **Support innovation** – Innovation in product designs, assessment approaches, service delivery options and support systems is actively encouraged and supported. The NDIA wishes to capture and apply creative solutions, improvisations and new and emerging technologies in:
  - Digital and information technologies and applications used in industry, business, health services, social media etc.
  - AT Assessment strategies and techniques
  - Product design and use
  - Materials and manufacturing techniques
  - Service delivery options, systems, platforms & processes
- **Ensure sustainability** - The intention is to develop a sustainable approach for purchasing / procuring and supplying the diversity of assistive technologies required by NDIA participants, with a focus on early investment for sustainability at an individual and systems level. The aim is to develop a range of strategies for sourcing, procurement and contracting for supply of assistive technologies that stimulate a vibrant market wherever possible and in which
  - Reasonable and necessary assistive technology solutions are readily available
  - Participants' choice and capacity to identify options are drivers for sourcing and procurement processes and not the reverse.
  - A variety of strategies are employed to ensure the approach remains agile, reflects the diversity of assistive technology solutions required and brings greater transparency to activity and costs associated with the supply chains.
  - The market is stimulated by growing demand creating the potential for movement of some products into mainstream retail markets

*“The Scheme should fit the person – not the person fit the Scheme”  
Bev Freeling, Carer Representative, Assistive Technology Sector Reference Group*

## Introduction

### What is assistive technology?

The agreed World Health Organisation definition is "Assistive technology can be defined as "any piece of equipment, or product, whether it is acquired commercially, modified, or customized, that is used to increase, maintain, or improve the functional capabilities of individuals with disabilities" (WHO, 2011)

The array of possible assistive technology products and solutions reflects the diversity of the needs of people with disabilities – ranging from digital technologies that can support social engagement, communication, employment, learning, memory, planning and safe guarding services through to products and devices that support mobility and personal care requirements. Typically as the complexities of assistive technology solutions increase, so do the costs and potential risks (if not appropriately set up or maintained).

This document is primarily focused on the Assistive Technology solutions derived from aids and equipment. Home and vehicle modifications and prosthetics have not yet been explored in the same level of detail and will be subject of further work.

### Proposed approach

The proposed assistive technology service approach has been developed in line with the strategic goals of the NDIA. It is one aspect of a broader strategic approach the NDIA has to using technologies to enhance its engagement and management of relationships, services and supports with suppliers, providers, participants and the Australian community. The NDIA's goal is to use technology in its various forms to ensure that services, supports, and communications between all stakeholders are as streamlined as possible and services are timely and effective.

This document outlines the elements of a proposed service delivery approach for individuals to access assistive technology solutions and is based on the three key objectives outlined above.

In order to move towards an effective and sustainable model, the NDIA has undertaken a project to develop an assistive technology framework to guide it towards an individualised, participant empowered and sustainable approach for assistive technology service delivery. This document is a distillation of work undertaken by the NDIA, Supports and Services Assistive Technology project team, with input from the Assistive Technology Sector Reference Group and the Aids and Equipment Working Group. (Refer **Attachment One** for membership of both groups).

NB: While these groups have made valuable contributions to this process, this paper has been produced by the NDIA, and the proposals outlined are not necessarily consistent with the views of all of the groups' members or of the organisations they represent.

The NDIA wants to ensure participants are actively engaged in decision-making and they exercise choice and control in gaining access to assistive technology solutions to meet their reasonable and necessary support requirements, while ensuring the NDIA remains financially sustainable. The pathway described in this document aligns NDIA participant expectations with the NDIA's policy and operational intent. The proposed direction explores how participants are empowered in all processes.

### Principles

The principles underpinning the service direction are as follows:

- Participants can be empowered in their decision making by building their capacity to make decisions about their assistive technology needs.
- Participants have access to all the information they require to identify assistive technology options and explore the 'fit-for-purpose', relevance and utility of potential solutions to their situation.
- The range of assistive technology options to explore and choose from is broad enough to offer real choice and ensure quality and is developed with the direct engagement and input from people with disabilities.

- The costs of assistive technology solutions are affordable for participants and over time for the NDIA, and all costs associated with the assessment, trial, delivery, set-up, fitting, implementation and on-going support, can be identified and effectively managed.
- There are sufficient safeguards in the systems and services to ensure products and services are of a high standard and providers are accountable to participants for all their services.
- Innovation in product design can be drawn from all areas, including industry and business, and be recognised and harnessed to optimise assistive technology products wherever possible.

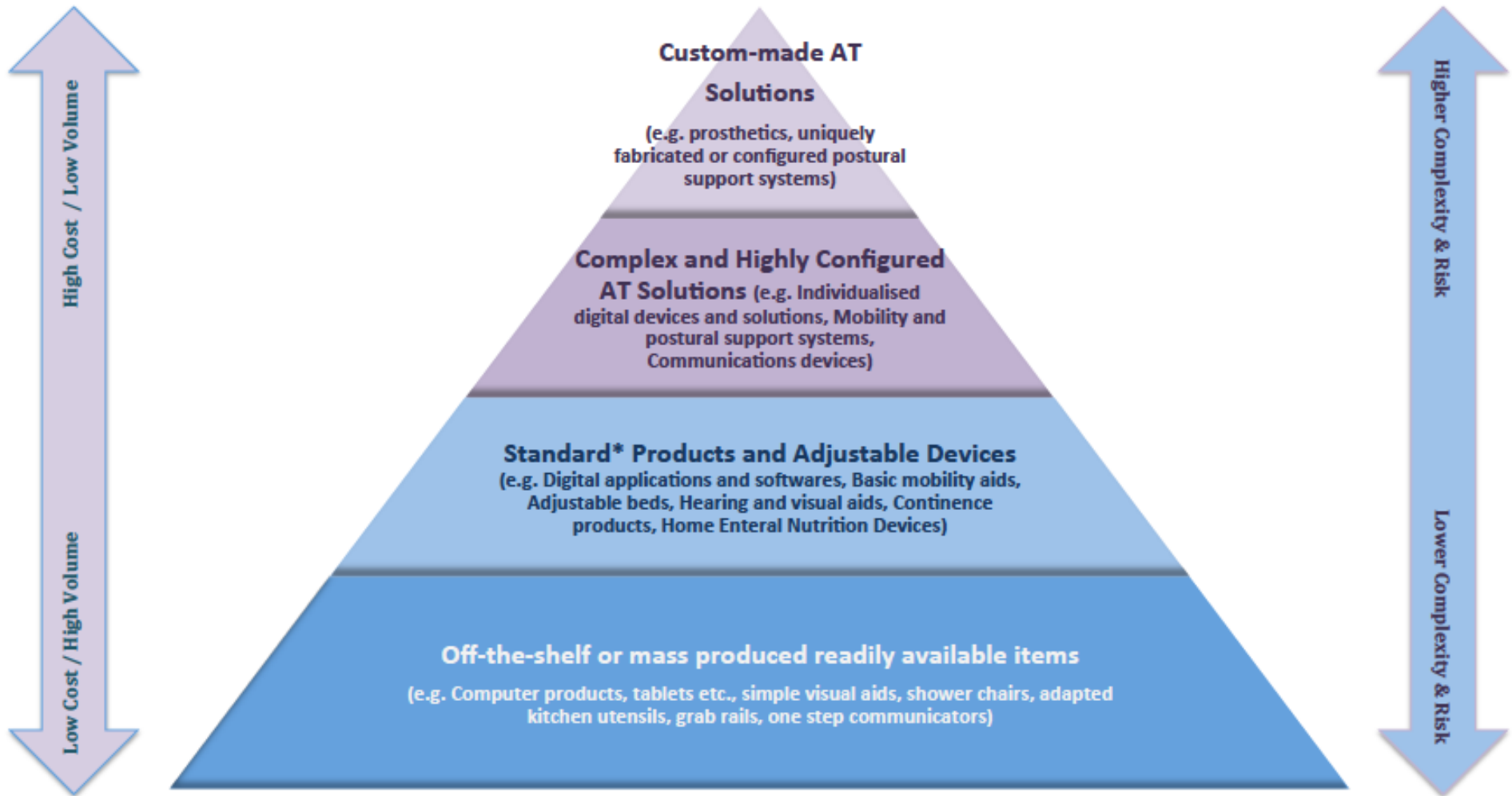
## The variety of assistive technology products

The Pyramid in **Figure 1** below depicts the diversity and range of assistive technology products in relation to their volume, cost, complexity and potential risk.

The NDIA is committed to ensuring a wide range of assistive technology options, including custom-made items, are available to participants. The NDIA is proposing the use of a range of sourcing and procurement strategies widely used in other arenas but not currently used for Assistive Technology purchasing in Australia. These could include but will not be limited to 'Panel Supply' arrangements for 'category supply' (as distinct from tendering for lists of equipment) that will give access to a broad range of options and choices and to ongoing support arrangements. Refurbishment and reissue of quality and viable devices is also an option being proposed to ensure speedy access to readily available Assistive Technology. If participants are not able to identify the Assistive Technology they particularly require through the contracted supply arrangements there will be provision for them to purchase them from alternative sources.

The NDIA is committed to actively supporting technology exploration, new and emerging, and those in use in other human services arenas or any other assistive technologies being developed in the manufacturing, telecommunications or IT industries. It is envisaged new and diverse technologies will bring a greater range of products with varying complexity into the market place and deliver a broader range of potential solutions for NDIA participants.

Figure 1 Assistive technology hierarchy pyramid



\* Standard Products as defined in the NDIS Operating Guidelines refers to a range of basic and adjustable solutions.

## Approaches

### Participants are empowered to select their own assistive technology

The NDIA is committed to supporting all people with disability to self-manage and encourage them to make their own decisions. This may include support to exercise choice, including the impact of taking reasonable risks in the planning and delivery of assistive technology solutions. The NDIA's approach to all plans and supports is individualised and as a result it will vary from person to person.

The NDIA recognises a participant's capacity to make and manage assistive technology choices is varied. Some participants are quite 'expert' at self-assessing and selecting assistive technology solutions. Others require supports to build their capacity to direct and/or fully participate in their assistive technology choices. Some participants will always need some degree of support.

In the past, blanket rules applied to the type of allied health assistance people needed to get assistive technology funding. The NDIA's individualised approach recognises each participant's capacity alongside the complexity of the assistive technology solutions.

The four common elements of participant decision-making capacity are:

- The environments in which the participant will use the assistive technology solution; their abilities and impairments; the functional impact; and the likely changes in the person's roles or environment in the immediate future and how well they may adjust.
- The participant's ability and desire to gather, evaluate and interpret information about assistive technology products, specifications and function.
- The participant's ability and desire to source and trial equipment and then critically evaluate options and adjust them for personal use.
- The participant's ability to contact, negotiate and manage relationships with allied health professionals and/or assistive technology suppliers.

Having considered the person's capacity to make choices about assistive technology solutions and products, activities to increase capacity may be undertaken either ahead of the assessment and selection process or in combination with it. At an early stage, it is important to consider the type of assistive technology solution being considered. Professional support is necessary with most custom-made solutions and most participants will need some level of professional support to select and implement highly configurable or technically complex assistive technology items.

Consideration also needs to be given to ensuring that adequate explanation and reassurance is given to participants and their families when assistive technology solutions are first introduced. The need for assistive technology solutions is often an indicator of a change in circumstances. They can replace or minimise the need for direct supports and open up opportunities in people's lives. Nonetheless people need time to adjust. Support must be available and time allowed for people to come to terms with assistive technology solutions becoming part of their lives.

A set of simple tools, a Participant Capacity Building Framework (**Attachment two**), has been designed to assist in the process of determining participant capacity building areas and the need for professional supports. It is important to recognise although some participants are quite savvy and could manage their assistive technology needs without assistance, they may at times seek support. For example, at different times a person may have so many other commitments managing their supports or lives, on their own they are unable to address the elements needed for a successful assistive technology outcome.

Recognising and respecting the many views of disability within Australia's culturally and linguistically diverse communities are essential elements of responsive service delivery and this will be a feature of ongoing workforce development.

With specific reference to Indigenous Australians it is essential to establish effective and trusting relationships to work alongside Kinship relationships with Aboriginal and Torres Strait Island people and

their families. This will require a specific and dedicated capacity building approach to increase the workforce of Indigenous Australians who are competent assistive technology practitioners.

## Participant –centred framework

Working collaboratively with the NDIA Assistive Technology Sector Reference Group we identified four key assistive technology elements to be considered from a person with disability perspective<sup>1</sup>.

These four elements, outlined in **Figure 2** below, are the cornerstones for an assistive technology services framework. They underlie all necessary service components and considerations and provide a structure to develop nationally consistent assistive technology service delivery.

1. **Participant initiation, assessment and assistive technology solution selection** (Recognising participant expertise, creating 'knowledgeable consumers' and drawing upon evidence of best practice described by Strong<sup>2</sup> and Federici<sup>3</sup>).
2. **Obtaining funding (authorisation), acquisition (purchase or requisition sourcing and procuring).**
3. **Implementation (delivery, set-up/fitting, implementation, training (for participants and support people).**
4. **Follow-up and review (on-going maintenance, periodic review and validation to make sure it is still meeting the need).**

Each of the above four elements will be delivered/supported via a range of key services and/or service providers. Some of these are familiar from existing services throughout the states and territories, while others will require new service approaches to be delivered by a range of emerging entities.

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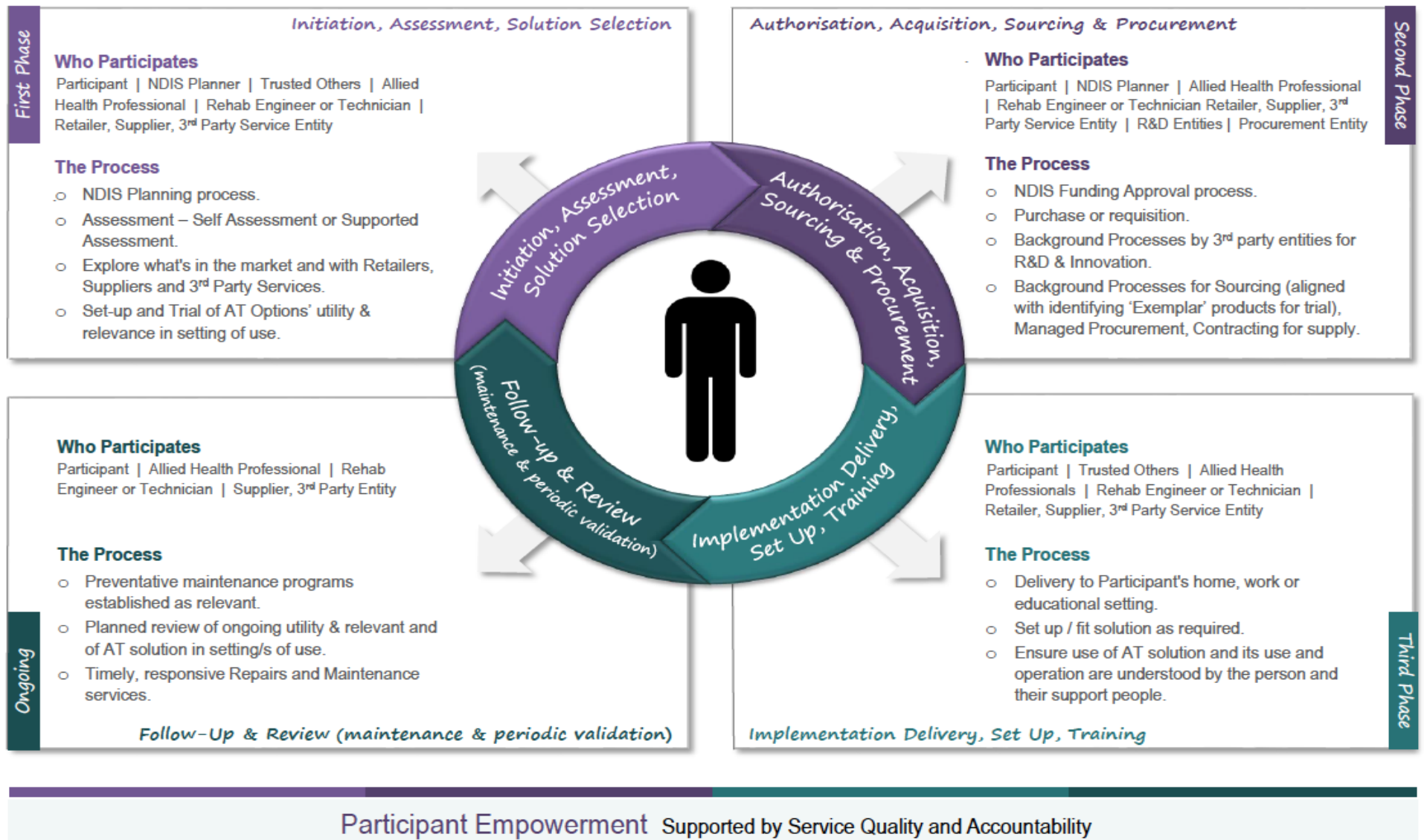
<sup>1</sup> NB. The service element definitions are consolidated from definitions outlined in a position paper developed at AAATE / EASTIN workshop "Service Delivery Systems on Assistive Technology in Europe" (held in Copenhagen on May 21–22, 2012) in which seven steps were drawn from The HEART Study and further refined.

<sup>2</sup> Strong, J. G., Jutai, J. W., Plotkin, A. D. and Bevers, P. (2008) 'Competitive Enablement: A Consumer-Oriented Approach to Device Selection in Device-assisted Vision Rehabilitation' in Mann, W. C., ed. *Aging, Disability and Independence*, Assistive Technology Research Series, vol 22, Amsterdam: IOS Press, 175–195.

<sup>3</sup> Federici, S. Scherer, M. & Borsci, S. (2014). 'An ideal model of an assistive technology assessment and delivery process'. *Technology and Disability*, 26, 27-38.



Figure 2 The four cornerstones of assistive technology services delivery



## Trialing of AT

A common-sense approach must be taken to supporting people in exploring and choosing optimal assistive technology solutions. It will require the establishment and publication of clear processes and protocols for selection from a range of options for trial, supporting participant choice and control and effectively managing reasonable and necessary support in respect of the scope of Assistive Technologies and their cost effectiveness.

The NDIA wishes to encourage participants to actively engage in identifying all the relevant features for their assistive technology requirements and provide opportunities to compare options/devices to see what functions best fit their needs for reasonable and necessary assistive technology solutions. Being able to trial a range of solutions in the environments they will be used and test them to be sure they meet all their requirements effectively, is a crucial part of the process of choice. This approach has the potential to become a core component of a streamlined and empowering approach to assistive technology service delivery as follows.

### **Alignment with participant empowerment strategies**

The success of an effective Assistive Technology selection and trial approach is based on supporting participants to become 'knowledgeable consumers' – i.e. people who learn and know what assistive technologies are relevant to their needs. They can then be actively engaged, directly, or with allied health professionals and trusted others, in determining what features and supports are most relevant to deliver an effective Assistive Technology solution by comparing and trialling options to best suit their needs.

Removing the potential 'information imbalance' between participants and suppliers by making sure there is enough detailed, relevant and helpful information available for a participant to understand the features of a range of possible Assistive Technology solutions and how those features match with their requirements. From that information, the person can identify the solutions to trial to best deliver those features. It ensures people are not just 'taking a chance on getting it right' when they determine their choices.

While this approach may not initially work for everyone, it does ensure participants are in control of the process. It also ensures participants gain greater insight into what works and what doesn't and how to evaluate it from their own perspective – the relevance, practicality, and use of various assistive technology devices and features in the context of their life and needs.

### **Alignment with potential sourcing and procurement activities**

The selection and evaluation by participants of a range of suitable and fit-for-purpose Assistive Technology products and services, or 'exemplars', as they explore and trial options, is a process aligned directly with proposed activities for effective sourcing, procurement and contracting for supply of assistive technology products and services.

The processes of seeking supply of 'exemplar' solutions (i.e. a broad range of possible options and categories of Assistive Technology products and services) and evaluating these technologies will be mechanisms of the proposed 'category supply' and 'panel supply' sourcing, procurement and contracted supply arrangements. These procurement strategies and approaches are used widely in various business and industry arenas where one solution will not meet all needs. Panel supply arrangements give diverse groups of customers access to a wide range of options to explore to ensure their needs can be met, while ensuring transparent and affordable pricing. This approach has not been used in Australia to purchase Assistive Technology but has the capacity to deliver a win / win approach in delivering choice and control to participants while ensuring sustainability for the NDIA.

All products presented in a procurement process must be thoroughly tested and preferably physically evaluated for safety, design integrity, alignment with specifications and fit-for-purpose. This provides an ideal mechanism for identifying a range of quality 'exemplar' products, readily available, to access and purchased via contracted supply arrangements at benchmarked prices and with all necessary product and process safeguards in place throughout the supply chain. There is also provision under this model to give trial access to a range of unique non-contracted products.

## How will participants have choice and control?

Limitations on choice and control have already been alleviated in NDIA trial sites as participants set their own goals and receive full funding for a wider range of assistive technology options. As noted above, the NDIA is also committed to increasing participant capacity to make informed choices and to be in control of the assistive technology selection and implementation process.

Complexity by its very nature can reduce the scope and avenues for access to Assistive Technology solutions and options. Correspondingly the reliance on specialist professional and technical advice and support may increase as complexity of participant's requirements or the possible solutions increases. Therefore while the means by which participants' choice and control is enacted and supported may vary (depending on the complexity of possible solutions and / or a participant's requirements), the need to uphold and facilitate participants' self-direction does not change.

There is an expectation by some that NDIA participants will be able to purchase all their assistive technology requirements from retail outlets or on-line but this may not be the most suitable or sustainable approach for all products. As outlined in the section below, it is proposed that some products may be purchased directly from retail suppliers. Equally many items could be purchased via contracted supply arrangements and made available through preferred suppliers to ensure participants have greater access to a range of options at reduced prices.

However not all products are readily available in the retail market, particularly the more complex, expensive and customised items. As noted above, as assistive technology complexity increases, many participants will be relying more on specialist assessors/teams and suppliers to identify optimal fit-for-purpose solutions.

Other specific cohorts of Australians for who choice is currently very limited are those living in remote and rural community settings, primarily Aboriginal and Torres Strait Island people. There is limited access to assistive technology solutions and products, in appropriate materials and designs that can endure the harsh conditions and rigorous terrain of outback Australia. To respond adequately to these needs there is an opportunity for specific and dedicated research and development of products that are able to meet these challenges to delivery durable and functional Assistive Technologies. This will become a specific feature of targeted sourcing and of an open approach to innovation.

It is also proposed people with disability will have nominated representatives on sourcing and procurement teams, who will be actively engaged in the exploration, sourcing, evaluation processes for assistive technology product options. This is a crucial process feature, ensuring the range of products and the scope of functional, aesthetic and safety requirements are suitable for people with disabilities and that there is enough variety and product options from which to make reasonable choices. The intention is to create a model for sourcing and procurement of assistive technology products and services in which participants' choices are driving procurement and not procurement driving their choice.

## Purchasing Models

### **Can the NDIA leverage its market volume and what is the potential to work with other Commonwealth and jurisdictional funding bodies?**

In considering consolidated sourcing and procurement, or refurbishment and reissue, it is important to note no single approach is suitable for all types of assistive technology. Sourcing and procurement or refurbishment or reissue would not be suitable for every type of assistive technology. In addition, although the NDIA may undertake sourcing and procurement activities and refurbishment and reissue of returned stock, participants will always be able to obtain alternate procured items where their needs are not met.

It is predicted there will ultimately be around 160,000 NDIA participants nationally who will require assistive technology products and solutions. However, this is just a segment of the total national volume of assistive technology needs.

The Aged Care sector, managed by Department of Social Services, is one of the largest other funders of assistive technology products, followed by the Department of Veterans Affairs (DVA). The collective volume and value of these programs, and state and territory programs, would suggest a consolidated approach to sourcing, procurement and contracted supply arrangements across many categories and

ranges of assistive technology products, which could deliver significant benefit from leveraged volumes. It is worth noting savings benefits for the Aged Care sector are likely to be higher than those modelled for this paper. This is evidenced from data gathered for this project from the jurisdictional Aids and Equipment services, which indicates that older people typically utilise more basic equipment (as distinct from complex or custom made) and a higher proportion of their needs can be met from refurbished items. NB: delivered form data gathering from jurisdictions

## **The current value of managed procurement of assistive technology products as reported in Australian jurisdictions**

Existing jurisdictional aids and equipment schemes that undertook sourcing and activities generously provided the NDIA scheme design team with commercial-in-confidence information to enable the NDIA actuarial team to evaluate the potential economic benefits. As activities undertaken by jurisdictional schemes include people of all ages, the data and information gathered has been extracted and applied as relevant to the potential NDIA participant population of people under 65 years.

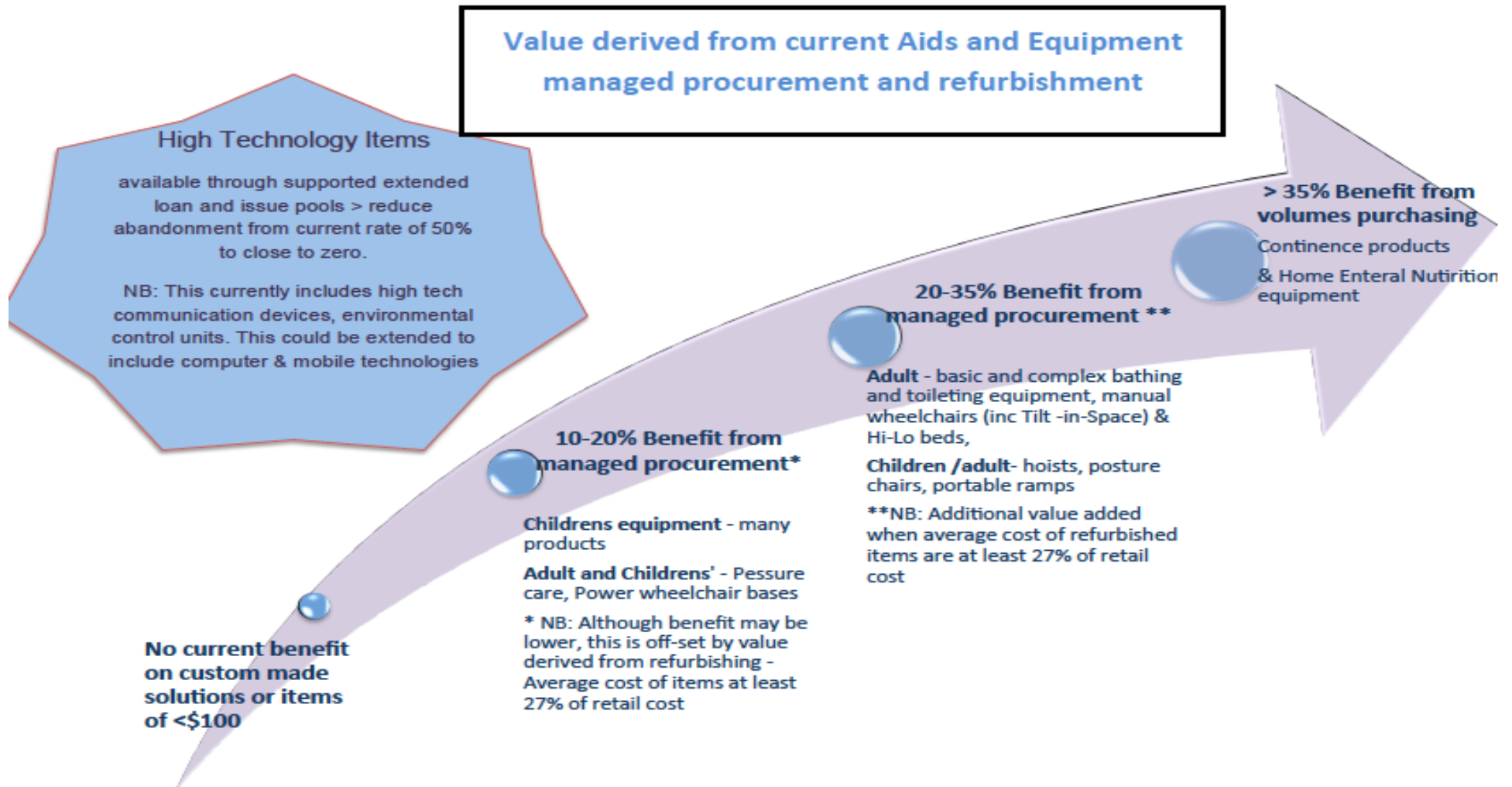
Jurisdictions have **reported** average net added value of 25% from their current sourcing and procurement activities when compared to retail costs. This was useful data for the NDIA actuarial team to refer to when assessing the impact that sourcing and procurement activities could have on NDIA Assistive Technology costs in the long term.

### **Method**

Having obtained specific retail prices for identical items to those on jurisdictional supply contracts, the procured prices were compared to the retail prices to ascertain the benefit of managed procurement for specific typical items. In the few instances where there was a significant variation in prices and value reported by jurisdictions, the more conservative figures were used. The benefit derived from procurement varies by Assistive Technology category – some products are comparatively low cost but the sheer volume of products purchased allows added benefit from consolidated purchasing. **Figure 3** (below) depicts the value of managed procurement that is currently being delivered.

Although the focus of this was sourcing and procurement, four jurisdictional aids and equipment services operate pools of 'high tech' communication devices either directly or through suppliers and NGOs that have proven effective in reducing abandonment of items such as complex speech generating devices. The pools feature an extended trial and training period where the participant retains solutions that work, and the pool is replenished with new (possibly updated) items. Those items that are not suitable are returned to the pool. This way selection is optimised and training, individualisation of the device and technical support is assured leading to good retention and use. As abandonment rates for this group of assistive technology items have a tendency to be high, this has been included in **Figure 3** on the following page.

Figure 3: Value derived from current aids and equipment managed procurement and refurbishment





## Managed sourcing and procurement

Having noted existing benefits from managed procurement activities, the NDIA Actuarial team were asked to model the potential impact of a managed procurement approach by NDIA for medium to high cost assistive technology products, based on cost, benefit and utilisation assumptions provided to them by the scheme design team. The modelling did not include all possible Assistive Technologies or all potential participant groups. A sample group of participant profiles and Assistive Technologies were compiled and analysed to calculate an indicative estimate of potential benefit from managed procurement.

Applying the price benefits achieved through State sourcing and procurement initiatives, a loading was added where delivery and basic set up costs had not already been accounted for in the item values for procured and retail items. A loading was also added to account for on-going repairs and maintenance costs.

The next step was to generate some typical participant scenarios that outlined and mapped typical usage of self-care and mobility equipment across a participant's life span. Thirty-two (32) scenarios were generated accounting for different levels of functional impairment for fourteen (14) different diagnostic groups to create the sample to be modelled. These included various severities of degenerative neuromuscular conditions, cerebral palsy, stroke, acquired brain injury, spinal cord injury, intellectual impairment, and sensory impairments. The actuarial team used this information alongside other data regarding the prevalence of disability to estimate the value of procurement and refurbishment and reissue compared to retail costs for the NDIA participants who would use this type of assistive technology at full scheme development.

The analysis clearly demonstrates the benefit of a managed procurement approach for many categories of Assistive Technologies **and the key points noted were;**

- The **retail** cost of assistive technology products analysed in this sample is estimated to be around **\$457.6 million per annum**. This includes self-care and mobility equipment suitable to procure based on current retail prices.
- The value derived from **managed procurement** for the same range of items is estimated to be around **\$168.4 million per annum** (that is, under a managed procurement approach the same items are estimated to cost around **\$289.2 million per annum**, an average of 37% lower than retail costs)
- The value of **refurbishment** is estimated to be around a further **\$31 million per annum** (that is, costs under a managed procurement approach are estimated to be 11% lower with refurbishment programs compared to without refurbishment programs).

**(NB:** This does not account for the entire diverse range of assistive technology products and is used as an indicative measure of potential value of this approach. Additional costs will be incurred for other items such as custom made and low volume items and newly funded items for which no procurement has been attempted to date).

If procurement were to be undertaken either within the NDIA or by an independent entity contracted by the NDIA, the costs of this activity must be deducted from the value of procurement. The on-going costs of such an entity (initially estimated at around \$2.5 million for the first year (inclusive of establishment costs) with ongoing estimated costs of \$1.5 million / annum) are fully offset by the procurement benefits noted above.

## Refurbishment of AT products

An increasingly common feature across the jurisdictions' aids and equipment programs is the volume of 'used' assistive technology devices being returned with useful economic life. Consequently, several programs have been developed to utilise quality and viable returned equipment by refurbishing and re-issuing them. This supplements the assistive technology provision programs; provides ready access for trialling products; and is much more environmentally friendly than sending good and useable products to landfill.

Data gathered from successful refurbishment programs highlights the average total cost of refurbished items is 27.5 % of the new purchase (retail) price. (NB: This is inclusive of all costs associated with

warehousing, refurbishing, parts supply, labour and delivery of refurbished complex assistive technology items). This is a reasonably conservative estimate. These benefits are hard to overlook in the process of developing sustainable assistive technology services.

Based on South Australia and New Zealand experiences, with judicious procurement and effective quality management strategies in place, it is possible to meet up to 45% of assistive technology equipment requirements from refurbished products for people under 65 years of age. Based on data analysed from mature refurbishment programs, equipment being refurbished and issued to subsequent users has an average lifespan of between five (5) to eight (8) years and on average is issued to between two (2) to four (4) people for an average of 2-2 ½ years each. This means that refurbished Assistive Technologies remain current.

## Procurement, refurbishment, and reissue of assistive technology devices

Cost benefits are not the only consideration in a future model. The approach to assistive technology solutions purchase and procurement will have an impact on how associated services will be configured and which components will be vested entirely with participants and which might more effectively be managed on behalf of some or all participants.

Modelling has primarily focussed on the potential for economic benefit from some type of managed procurement and contracted supply activity for some, or all, categories of assistive technology. But for it to succeed, it will be seated in a backdrop of a well-integrated continuum of services. These have yet to be fully developed and will become part of the on-going develop of the NDIA's Assistive Technology Strategy.

A 'straw man' model for how participants might access assistive technology has been developed and is outlined below. The model is based on the characteristics of the Assistive Technologies rather than the cost, and explores what acquisition approaches best achieve the desired outcome for supply of those categories of Assistive Technology to participants. This proposed approach includes access to new and refurbished products and proposes options for participants to acquire assistive technology as outlined in **Figures 4 and 5** on the following pages.

Figure 4: Acquisition options and decisions

ACQUISITION		Retail	Hire / (Lease)	Requisition for supply or extended trial
		From retailer or supplier (incl. on-line)	From retailer, supplier or third party entity	Via specialist third party entity or contracted supplier
		Varied (centralised) strategies for managed sourcing, procurement and contracting for supply, distribution and hire / lease (see Figure 6 below)		
<b>CHARACTERISTICS OF Assistive Technologies</b>	<b>Examples</b>	Simple, common use, off-the-shelf items	<ul style="list-style-type: none"> <li>Items for interim provision or for limited timeframes</li> <li>The duration of person’s need (usually less than 2 years) is the most pertinent issue</li> </ul>	<ul style="list-style-type: none"> <li>AT solutions that will be required for long term use</li> <li>Consumable products</li> <li>Unique products less commonly required items</li> </ul>
	<b>Value</b>	Items of low value	<ul style="list-style-type: none"> <li>Medium to High cost</li> <li>And where the net cost of hire / lease does not exceed purchase price and total cost of ownership over the duration of a person’s use.</li> </ul>	<ul style="list-style-type: none"> <li>Medium to high cost or unique products</li> <li>Products for which consolidated procurement delivers consistently better value than retail discounts</li> </ul>
	<b>Market availability</b>	Mass-produced, commonly available in the retail market	<ul style="list-style-type: none"> <li>Specialist disability or medical suppliers and market</li> <li>NDIA participant accesses via a referral to a specialist retailer, supplier or third party entity</li> </ul>	<ul style="list-style-type: none"> <li>Specialist suppliers and / or Items for which retail markets may not be available</li> <li>NDIA participant accesses via requisition to a third party entity</li> </ul>
	<b>Complexity, Risk &amp; Cost of Ownership</b>	Low complexity No or minimal adjustment Low risk items No material cost of ownership	<ul style="list-style-type: none"> <li>Low to medium complexity</li> <li>Adjustable, configurable</li> <li>Medium to High risk</li> <li>On-going cost of ownership – variable and related to complexity of device</li> <li>R&amp;M, parts supply and servicing to be undertaken by “owner” of device within hire / lease arrangements</li> </ul>	<ul style="list-style-type: none"> <li>Medium to high complexity – adjustable, configurable and possibly multi-componentry / customisable</li> <li>Customised AT Solutions</li> <li>Custom made AT Solutions</li> <li>Medium to high risk</li> <li>On-going cost of ownership - R&amp;M, parts supply and servicing</li> </ul>



Sometimes a suitable refurbished assistive technology product may be available for a participant to use. **Figure 5** outlines what type of products these might be and it is proposed they would be accessed by a requisition for supply.

**Figure 5 Products suitable to be refurbished (arranged by characteristics)**

<b>Value</b>	<p>Medium to high cost items and categories of AT for which a net material benefit can be demonstrated from refurbishment and recycling. (i.e. taking into account all costs related to parts supply, labour and return transport costs).</p> <p>(i.e. Net value of refurbishment and distribution to successive participants is no greater than 30% of new purchase price).</p> <p>NB: Effective management of refurbishment programs have a direct relationship with sourcing and procurement strategies to ensure appropriately robust products are sourced and procured to maintain a quality pool of assets for refurbishment.</p>
<b>Complexity &amp; Risk</b>	<p>Some off-the-shelf items of medium complexity.</p> <p>Medium to high complexity – adjustable, configurable and possibly multi-componentry for final solution.</p> <p>Customised and / or highly configured AT Solutions comprised of a range of components</p> <p>Medium to high risk</p>
<b>Cost of Ownership</b>	<p>On-going cost of ownership - R&amp;M, Parts Supply and servicing</p> <p>On-going need for specialist support from appropriately skilled engineers and / or technicians.</p>
<b>Duration of Use</b>	<p>Trial required and can be utilised for trial.</p> <p>Medium to Long Term Use (depending on type of device and component durability / substitution).</p>
<b>Capacity to re-use</b>	<p>High capacities for re-use.</p> <p>Mechanisms for tracking &amp; monitoring unique asset histories, stock-turn frequency, and quality assurance processes and procedures in place to ensure refurbished items meet all required quality and safety standards.</p>

### Developing the new assistive technology market place

There is no doubt that the NDIA will create a larger and more responsive market to ensure participants have access to reasonable and necessary Assistive Technology supports. The modelling outlined above demonstrates that there is merit in consolidating purchasing to leverage cost advantages for sustainability. It is equally imperative that the market is developed to be diverse, flexible and readily accessible to participants. This will require innovative and varied approaches than have not previously been possible across Australia. The proposed approach is different to most current procurement and supply arrangements for Assistive Technologies. There is potential for more agile and flexible purchasing strategies to be deployed to deliver a diverse range of Assistive Technology options to participants, while providing a mechanism for sustainability.

The proposed approach includes the establishment of an independent entity within or external to the NDIA, to manage the processes of sourcing, procurement and contracting for supply of assistive technology products. This entity would work in partnership with people with disability to ensure the range of products sourced and procured provides sufficient scope for participant choice to ensure procurement does not drive or limit choice but instead that participant’s requirements drive the approach to procurement and the product options sourced.

It is anticipated change will be driven in the market place by developing an agile approach to sourcing and procurement in which a number of new and varied tendering and supply arrangements would be

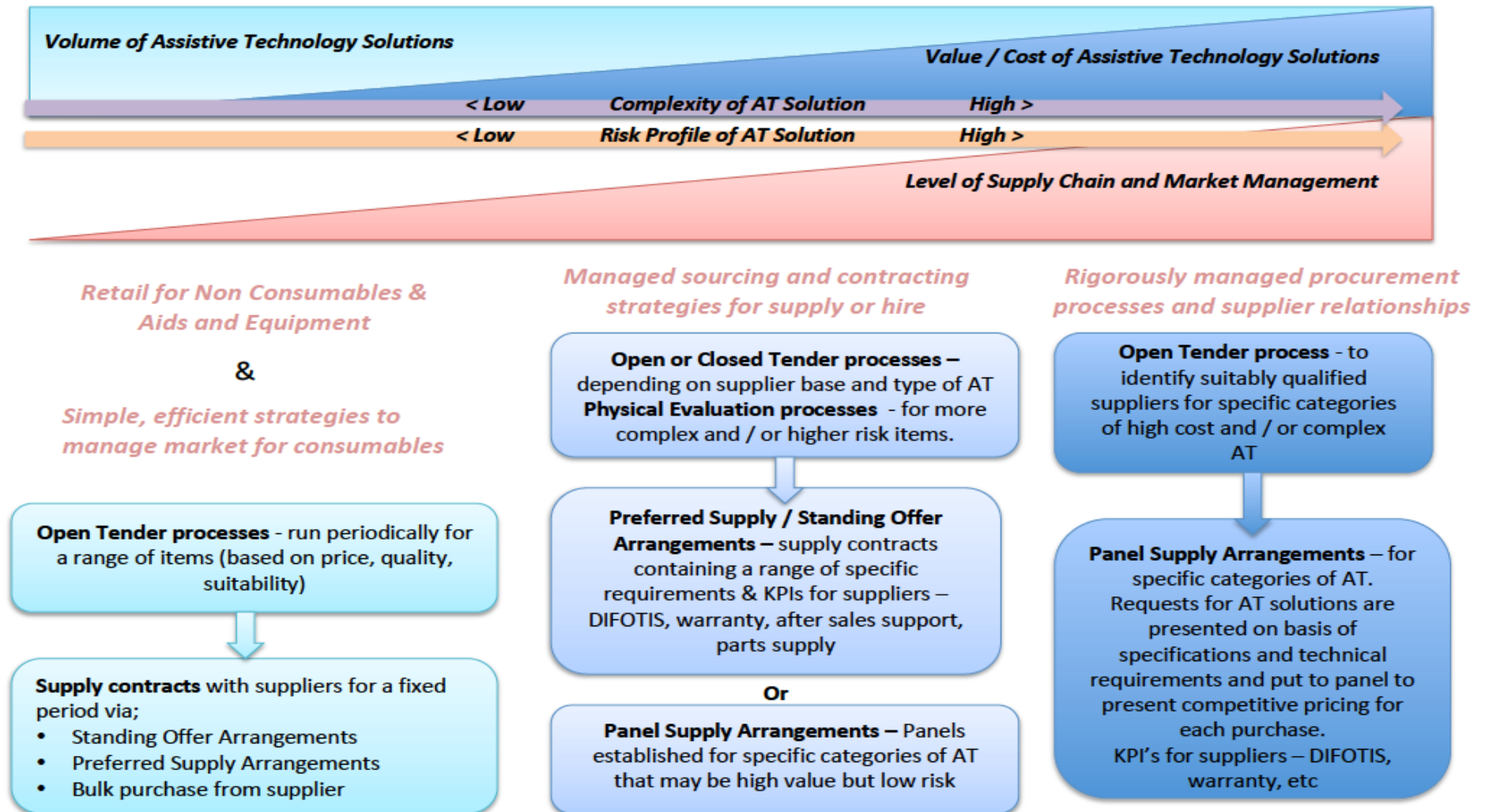
utilised to reflect the diversity of products being purchased and increase the available range. There are many procurement and supply strategies that are used in industry and business that give customers access to a broad range of possible options from a range of suppliers. These strategies, such as panel supply arrangements for categories of products and services, have not been used in Australia for the purchase of Assistive Technologies. The advantages they deliver are not only an increase in diversity of options for customers to explore, but access to discounted pricing by virtue of leveraging from the consolidated volumes of products sold. The manner in which supply contracts are negotiated also provides a mechanism for ongoing support and maintenance that manages the ongoing cost of ownership without negating the value from initial purchase. See **Figure 6** below depicting a range of acquisition and procurement approaches that are varied depending on the complexity, risk profile, initial cost and on-going cost of ownership of the assistive technology products and solutions.

Working with suppliers to provide a range of items across various product categories and encouraging them to submit tender documents that break out pricing of the componentry of configurable products, will facilitate greater transparency in product supply and associated costs. It is anticipated that this will deliver more information to support participants' choices about where the supply costs lie and identify the likely on-going costs of ownership and use and how those will be met.

Contracting strategies also provide a mechanism for the development of key performance indicators (KPI's) suppliers must meet to retain contracts and ultimately their market share. These might include, but not be limited to, warranty arrangements, delivery timeframes, product availability and technical support for set-up, and on-going maintenance arrangements. Supply arrangements can also be configured and managed to ensure the on-going cost of ownership of assistive technology products is factored into pricing agreements and includes requirements for parts supply, mitigating obsolescence by integrated configurations etc.

When the market is stimulated, there is an opportunity for smaller and/or new suppliers to enter the market and the opportunities for product diversity to increase. Furthermore, as high volume products become more readily available and 'mainstream', retailers may recognise the commercial opportunities to bring products into the retail market at affordable prices, thus potentially increasing the geographical distribution of products and 'mainstreaming' products that may have once been viewed as specialist disability items.

Figure 6: Acquisition and procurement approaches in the context of volume, complexity and risk profiles



NB: Figure 6 should be viewed in tandem with Figure 4 to understand the types of products or services for which managed procurement is an effective option.

This is the basis of the model moving forward and the scope of other services around this will be worked through once the acquisition and procurement approach is developed. Particular consideration must be given to ensuring effective services can be delivered to individuals and communities, primarily Indigenous living in the rural, remote and harsh Australian environments where standard available technologies are not adequate and retailers and supply entities are not immediately available.

## Stimulate and nurture innovation

The NDIA is in a unique position to stimulate and actively support innovation in services and product design. This provides some exciting opportunities for people with disabilities to have access to the most innovative options available. There are many technologies already available to facilitate independence, enhance functional capacity or supplement support arrangements to reduce reliance on family members and care workers. Some of these may be “high-tech” solutions and some may be tried and true “low-tech” solutions.

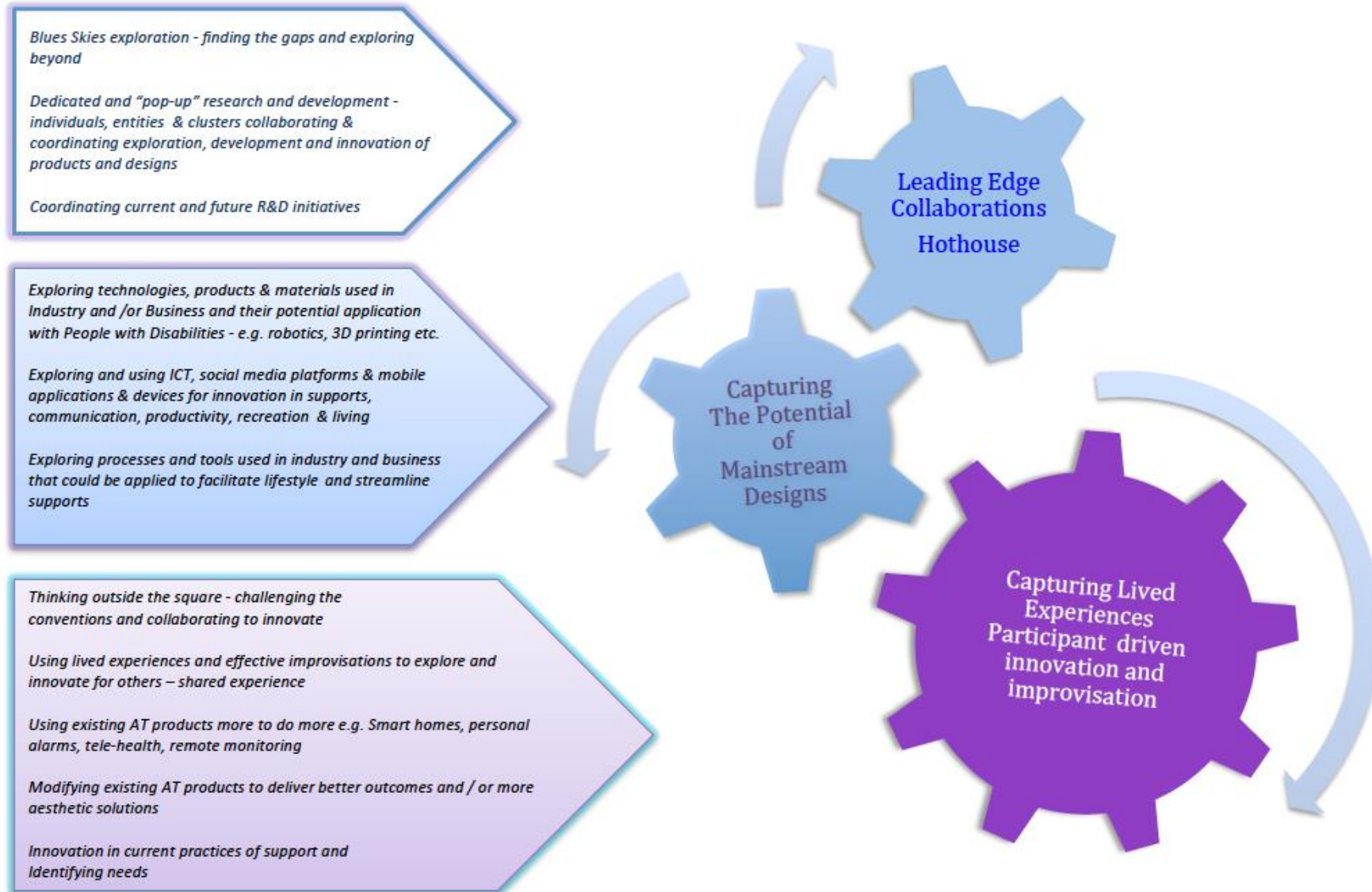
We all know necessity is the mother of invention and the most innovative thinking and improvised solutions come from people who have a lived experience of the problems they are trying to solve or activities they are trying to undertake. This wealth of inspiration and innovation is waiting to be tapped and shared to enhance the lives of other people with disabilities. The NDIA is keen to ensure there is a mechanism to explore and collaborate with people with disabilities to ensure innovation is captured and experiences are shared so the best use is made of existing and potential technologies.

There is an opportunity to develop assistive technology products with uniquely Australian designs and using ultra-resilient materials and technologies to respond to the needs of (primarily) Indigenous people with disability in isolated communities. There may even be potential to develop products for export to other jurisdictions with similar climates and harsh and isolated environs.

Although there are a number of specific assistive technology research and development activities underway around Australia, there is very little coordination of these across the sector and the capacity to share these across regions and communities has been limited. There is now an opportunity to coordinate these efforts and strengthen the approach to innovation and research and development for new and emerging assistive technologies in Australia.

In our current environment of technological advance, there are doubtless other generic and emerging technologies in industry, manufacturing and business that could have application in the lives of people with disability that have not yet been considered.

Figure 7: Stimulating and capturing innovation in assistive technology





## Quality assurance framework

‘Getting it right the first time’ and not just ‘taking a chance on it’ should be what every person with a disability should expect when seeking to identify the right assistive technology solution for them. In order for this to be possible there is a need to develop a robust Quality Assurance and Accountability Framework for assistive technology service delivery.

*The Competition and Consumer Act 2010* provides some cover for people purchasing any product in Australia and this applies to many assistive technology products. Other items may be classified as ‘medical devices’ and must also comply with the *Therapeutic Goods Act* and Regulation requirements, so there is already a range of protection for participants to ensure assistive technology product quality and safety.

However there is also a need to ensure services and practitioners provide an acceptable level of quality and accountability to NDIA participants. Work is currently underway at a Commonwealth Government level to develop a nationally consistent approach to quality and safeguards in the NDIA. This will provide an umbrella to the considerable amount of work already done by a variety of entities involved in the assistive technology sector to ensure there are adequate safeguards in place for the delivery of services. This includes several Competency Frameworks and Codes of Practice already in place in some assistive technology services. Work will be required to further develop these and bring them together to align with, and become enshrined in, the NDIA National Framework for Quality and Safeguards.

## Conclusion

The NDIA is engaged in a period of significant development and is developing an approach to best ensure assistive technology services will meet the needs of participants well into the future. NDIS participants must be supported to exercise choice and control and to increase their capacity to make informed choices about their assistive technology supports. Services need to be safe and sustainable and participants need to have access to a range of options to explore and experiment with to best meet their needs.

The way in which assistive technology services are delivered is somewhat different to most other services. It is episodic with intense periods of selection, implementation and review, followed by less intense periods of use, maintenance and periodic adjustment and reappraisal. There are many more steps and decision points than with other support services and often many people involved, particularly when assistive technology solutions are complex or require customisation. Sometimes the process can seem cumbersome and overwhelming to people if they are not well supported. Once a decision has been made about which assistive technology solution to choose and costs have been incurred, it is much more difficult to reverse a decision or find an alternative solution in a timely manner than with many other services.

With this in mind the NDIA is working systematically through ensuring that services will be developed with a robust foundation. This is the starting point and there is much planning and development ahead. These are outlined in the following next steps for the Assistive Technology development program.

## Next steps

### Participant Empowerment

1. Further develop the framework to create specific tools to support participant evaluate their capacity to self-assess.
2. Complete a stocktake to identify availability of and/or gaps in Tier Two supports for participant information and support resources. This will include a variety of media including on-line, via specific applications, free call support lines, printed media, databases etc.
3. Continue current liaison with AHPA (Allied Health Professionals Australia) to work with allied health professionals in developing advisory functions and resources to facilitate participant driven/centred decision-making.

### **Service Framework**

1. Identify all necessary service components and associated competencies in a clear structure for service delivery.
2. Map processes for participants' access and transition through various stages and phases of assistive technology service delivery continuum.
3. Align the assistive technology service delivery structure and processes to the Quality Assurance and Accountability Framework to ensure all necessary safeguards are considered and put in place.

### **Acquisition and Procurement**

1. Identify retailers and suppliers able to respond to retail markets for low cost assistive technology products for NDIA participants.
2. Liaise with DSS and other assistive technology funders to explore the potential for shared benefit from consolidated procurement.
3. Explore the options for identifying the best approach to consolidated sourcing and procurement for assistive technology products and services.
4. Explore the capacity currently available throughout the sector for managing the refurbishment and re-issue of appropriate assistive technologies.

### **Innovation Framework**

1. Further develop and refine the Innovation Framework (**See Attachment three**).
2. Design and implement strategies to increase the successful uptake of existing generic (converging) and emerging technologies such as alternative communications devices, environmental controls and home automation systems, interfaces and adaptations which enable access to mobile and computing technology and similar.
3. Identify mechanisms and develop core principles for undertaking Cost Benefit Analysis on emerging technologies, to be incorporated into the Innovation Framework as an aspect of the environmental scanning and product evaluation process for converging and emerging technologies that may have application for NDIA participants. (It will be necessary to develop a rigorous process for evaluating emerging technological products that are not yet market tested).
4. Identify and draw together existing research, development and innovation efforts to better understand their work and ensure NDIA participants provide input and drive research and innovation efforts.
5. Support appropriate applications for funding to entities such as the Australian Research Council for longer term research whilst supporting development of prototypes in partnership with other authorities (TAC, Worksafe, LTCS Authorities ) experiencing similar gaps in supply through the judicious use of NDIS research funding .

## Attachment 1: Membership

### Membership of Assistive Technology Sector Reference Group

Chair = Mary Hawkins, Branch Manager, Supports and Services.

Membership includes a nominated representative from each of the following;

- Francis Vicary – nominated by NDIA Advisory Council
- Damian Griffiths - nominated by First Peoples Disability Network – FPDN
- Sean Fitzgerald - nominated by Disability Advocacy Network Australia Ltd – DANA
- John Harmer - nominated by South Australia NDIA (nomination of person with a disability sought from a launch site)
- Chris Sparks / Dr Michael Summers - nominated by Assistive Technology Suppliers Australasia - ATSA
- Dr Natasha Layton - nominated by Allied Health Professionals Australia - AHPA
- Dr Lloyd Walker - nominated by National Committee on Rehabilitation Engineering - NCRE
- Sandra Lowe - nominated by Independent Living Centres Australia - ILCA
- Dr Anthony Hobbs - nominated by Therapeutic Goods Association
- Bev Freeling – Carer Representative nominated by South Australia NDIA (in lieu of representative from Carers Australia)
- Tony Spano - nominated by DVA  
supported by Heather Browning and Jackie Hiller-Broughton - Project Managers.

### Membership of Aids and Equipment Services Working Group

Chair = shared between Project Managers Jackie Hiller-Broughton and Heather Browning

Membership included a Manager from each of the Jurisdictional Aids and Equipment Schemes.

- South Australia – Matthew Massey-Westropp
- Victoria – Jeni Burton
- New South Wales – Maria Passarello / Bronwyn Scott
- Tasmania – Peter Maree
- Queensland – John Vasil
- Northern Territory – Valli Camara
- ACT – Michael Keen
- West Australia – Linda Higgie / Linda Sperring



## Attachment 2: Participant Capacity Building Framework

### Overview of tools and approach

The proposed NDIA Assistive Technology Assessment Framework starts with the participant's capacity to assess and select assistive technology solutions. Next, capacity building activities are considered. Finally the need for professional support to select assistive technology products is considered in light of the participant's capacity.

Three simple tables

Table 1 - Aims to assist a participant in determining the level and type of support they require to make effective assistive technology product selections. It can also be used to identify the type of supports that could be used to increase the participant's capacity to make more independent choices or to engage more actively in assistive technology selection. The participant could do this independently or they could be supported to evaluate their expertise in each area.

Using the Tables 2 and 3

Step 1: Evaluate the participant's current skills knowledge and capacity for self-directing assistive technology solutions. Looking at Table 1, column A, work down the column and circle the description that best describes the participant's current experience and life circumstances in relation to making assistive technology product choices. Repeat this process for columns B, C, and D.

Step 2: For participants with current skill levels of 'novice' or 'developing' consider how the participant's capacity may be enhanced using Table 2. These capacity building activities may be implemented by an allied health professional employed to assist in assistive technology product selection and solution design or they may be implemented independently.

Step 3: Using Table 3 make a recommendation in regards to the level professional support required. Consider the persons current capacity, capacity building activities and the equipment's complexity.

**Table 1: Levels of participants’ current capacity in relation to Assistive Technology (AT) selection and implementation**

Current capacity	Experience using AT, current circumstances and understanding of impact of impairment	Ability to access AT information	Access to suppliers and trial equipment	Capacity and experience self-directing AT choices
<b>Novice</b>	<p>The person has little experience using AT or their needs, goals, or living situation are new or changing significantly. For example:</p> <p>Onset of the condition or impairment is recent</p> <p>There are recent significant changes such as improvement or deterioration in condition</p> <p>The person is entering a period of significant life transition</p>	<p>The person is unable to access information about the AT and its expected impact. For example:</p> <p>They have significant difficulty accessing or understanding information. E.g. due to illiteracy</p> <p>They do not have access to the internet or alternate information sources</p> <p>Meaningful information about the relevant AT is not available or is not applicable to their situation</p>	<p>The person does not have ready access equipment for trial for an effective period. For example due to:</p> <p>Living remotely</p> <p>The Assistive Technology solution required is usually customised or custom made for their needs</p> <p>The equipment is not available in Australia</p>	<p>The person has not previously made AT choices or engaged with a supplier.</p> <p>OR</p> <p>The person will require substantial support to indicate their preferences or make AT choices</p> <p>OR</p> <p>The person has behaviours of concern which impact decision making or negotiating and engaging with a supplier</p> <p>OR</p> <p>The person’s circle of support lacks sufficient experience or capacity to assist</p>
<b>Developing</b>	<p>The person has experience using AT to meet their needs that is not directly applicable. For example there is:</p> <p>A gradual change in condition for example due to ageing</p> <p>A change in place of work or study or moving to a new but similar home</p> <p>A significant development in the availability or type of AT the person can access</p>	<p>The person is able to access some information about AT but it is less than optimal in some way. For example the person needs:</p> <p>Assistance to find available electronic information</p> <p>Support to access information lines or to request assistance from suppliers</p> <p>Help to navigate, distil and evaluate the amount of information available</p> <p>Help to work out a strategy to fill information gaps</p>	<p>The person can access trial equipment but trial is not optimal due to:</p> <p>Exact model is not available to trial</p> <p>Equipment could not be trialled in all environments</p> <p>Equipment could only be briefly trialled and the trial time is insufficient to demonstrate its effects and limitations.</p>	<p>The person has not previously directed AT choices but has directed other supports.</p> <p>OR</p> <p>The person requires some support to set up effective trials such as interacting with suppliers/ allied health but can then make AT choices and engage a provider</p>

<b>Current capacity</b>	<b>Experience using AT, current circumstances and understanding of impact of impairment</b>	<b>Ability to access AT information</b>	<b>Access to suppliers and trial equipment</b>	<b>Capacity and experience self-directing AT choices</b>
<b>Expert</b>	The person has significant experience using AT for an impairment that is stable or changing minimally. Their environments of use and life circumstances are not significantly changed and the developments in the AT are incremental.	The person is adept at finding information, distilling it and evaluating it. E.g. the person can find and sort information and distinguish between marketing claims and information which may demonstrate effectiveness. The person is able to identify information gaps and devise a strategy to fill them.	The person has had access to an optimal trial. A trial can take place in the person's place of intended use for sufficient period to make decision about effectiveness. OR  The Assistive Technology solution is replacing an effective item with a like product.	The person has previously made effective AT choices and managed engagement with all provider(s)

**Table 2 Suggestions for building participant capacity**

<b>Participant’s relevant AT experience in relation to their needs</b>	<b>Participants ability to access AT information</b>	<b>Participants access to trial equipment</b>	<b>Participants capacity and experience self-directing AT choices</b>
<p>Consider pairing the participant with a peer mentor who can discuss or demonstrate AT they are using.</p> <p>Ask an Allied Health Professional or other Assistive Technology Service Provider with experience in Assistive Technology for the type of disability, to discuss how Assistive Technology may assist in achieving planned goals, and related factors of relevance (e.g changes in condition)</p> <p>Consider the relevant resources available to the participant to increase their knowledge of strategies and experiences of others with a similar disability such as fact sheets, internet resources etc.</p>	<p>Introduce the participant to web based resources including the Independent Living Centres sites, Ask Sara etc.</p> <p>Introduce the participant to help lines for example Independent Living Centre</p> <p>Provide a list of relevant Assistive Technology service providers with a guide sheet on “Key Questions to Ask”</p> <p>Provide personal support to access the internet, sort information and identify information gaps</p> <p>Participate in capacity building workshops which include information about how to critically evaluate information</p> <p>Create opportunities to have allied health professionals available as coaches</p>	<p>Assist the participant to identify suppliers who have display or trial stock</p> <p>Introduce the participant to Independent Living Centre display centres and rural mobile services</p> <p>Link participants to other people with equipment they can try</p> <p>Assist the participant to identify suitable length and location of trials and strategies to negotiate this with a supplier</p> <p>Hire equipment and negotiate to deduct the hire from the cost of equipment if selected</p> <p>Negotiate trial of like stock or a mock-up of equipment that helps the participant determine effectiveness.</p>	<p>Encourage the participant to self-direct low cost, non-complex and low risk AT choices in the first instance.</p> <p>Provide a mentor or other support to rehearse steps or implementation /negotiation activities</p> <p>Develop participant skills and understanding through their active partnerships and engagements with a range of entities involved in the Assistive Technology supply chain and its management</p>

**Table 3: Recommended level of professional support for assistive technology selection based on participant capacity and assistive technology type**

Complexity of Assistive Technology	Participants status following capacity building	Allied Health Professional Recommendation	Additional direction to allied health professional	Supplier recommendation
<p><b>Custom Made Solutions</b> The AT is custom made for the person by an expert provider. e.g. Prosthetic Limbs, Orthotics, Specialist Seating &amp; Postural Support and other bespoke solutions</p>	Novice participant	<p>Specialised AT Assessor AHP with demonstrated experience, competence or additional qualification in specific AT area. If not available (i.e. rural or remote) ensure active supervision from suitably qualified AHP</p> <p>*Could also access an AT mentor for additional support</p>	Capacity building activities should be added to the assessment time.	<p>Specialist Assistive Technology Supplier and / or Fabricator / Manufacturer</p> <p>Access to specialist workshop and equipment.</p> <p>Experienced /specialist staff directly employed and/ or contracted</p> <p>Promotes a multidisciplinary approach.</p> <p>Supplier will repair and maintain AT.</p>
	Developing participant		Where possible, capacity-building activities targeted to areas of need in order to progress to expert status.	
	Expert participant		Assessment only, assessor should be aware of and adapt approach to account for participant expertise	
<p><b>Complex Solutions</b> The AT is 'off the shelf' but is configured specifically for the person OR requires interconnection or integration with other AT or the persons home/work/place of study, OR carries significant risk e.g. pressure care, modular seating, complex wheelchairs, communication devices</p>	Novice participant	<p>Specialised AT Assessor AHP with demonstrated experience as described above</p> <p>*Could also access an AT mentor for additional support</p> <p>Optional - Specialised AT Assessor as described above</p> <p>*Could also access an AT mentor for additional support</p>	Capacity building activities should be added to the assessment time.	<p>Specialist Assistive Technology Supplier (incl. Refurbishment Supplier)</p> <p>Focus on supplying AT for PWD and older Australians.</p> <p>Experienced /specialist staff directly employed and/ or contracted</p> <p>Promotes a multidisciplinary approach.</p> <p>Supplier will repair and maintain AT.</p>
	Developing participant		Where possible, capacity-building activities targeted to areas of need in order to progress to expert status.	
	Expert participant		Assessment only, assessor should be aware of and adapt approach to account for participant expertise	
<p><b>Standard Products and Solutions</b></p>	Novice participant	AT assessor with relevant professional qualification	Capacity building activities suggested in table 2 should be	Range of Suppliers

Complexity of Assistive Technology	Participants status following capacity building	Allied Health Professional Recommendation	Additional direction to allied health professional	Supplier recommendation
AT product is available 'off the shelf' and either needs minor adjustments or straightforward training (i.e. adjust shower chair legs, instruct in use) e.g. basic commodes, basic folding wheelchairs, mobile hoists, adjustable bed		*Could also access an AT mentor for additional support	added to the assessment time.	Including; Retail Specialist Suppliers Refurbishment Services
	Developing participant	Optional - AT assessor with relevant professional qualification. *Could also access an AT mentor for support or other capacity building	Professional may assess, provide capacity building or support first time self-assessment.	
	Expert participant	Participant Self-Assessment	NA	
Basic Mass-produced commonly available items such as non-slip bath mats, built up cutlery.	Novice participant	Participant Self-Assessment	Could be directed to an AT Mentor or ILC for additional support	Retailer And range of suppliers with various expertise
	Developing participant		NA	
	Expert participant		NA	

## Attachment 3: The Assistive Technology Innovation Framework

### Focus

People with disability lead, participate in and contribute to processes to gain optimal access and use of the most appropriate technology to achieve their goals.

Scope: All aspects of the inception, development, trial, implementation and use of technology by people with disability, including AT service delivery systems and processes and product development and lifecycle are included.

### Principles

#### Openness

Successful AT sector innovation depends on openly encouraging and capturing ideas and concepts from everywhere. There are many potential contributors, in all walks of life, roles in the system, and locations (including international) who can contribute.

Opportunities and creative thinking may emerge from unexpected quarters and a successful AT innovation approach will develop mechanisms for stimulating, seeking, evaluating and capitalising on these.

#### Coordination

The NDIA behaves as a leader in guiding the policies and operations of other government agencies and bodies in delivering optimal access and support to assistive technology development. This will mitigate potential for the constraining effects of fragmented policy and regulations. It will also facilitate collaboration and creativity and promote all efforts to deliver innovative and novel assistive technology solutions to people with disability and/or introduce alternate service systems.

#### Investment, capacity building, and strengthening for downstream innovation

We need an emphasis on turning good ideas and early-stage innovations into successful products, services and systems. We need to invest, optimising available capacity and maximising research resources from within and beyond the assistive technology sector (including developing innovation partnerships both domestically and internationally) to support, development and undertake research and development.

#### Collaboration

The NDIA behaves as a facilitator and enabler to form and strengthen links and relationships. It needs to promote collaboration between existing stakeholders, innovation centres and innovation clusters, particularly assistive technology users. These virtual or physically co-located groups would have capacity to address assistive technology innovation projects/areas, yet be flexible enough to share and adapt to the rapidly changing demands and expectations of assistive technology and those who deliver it.



**Table 4: Assistive Technology innovation framework**

Starting with what is...	Moving to what could be...
<p><b>1. Environmental scanning and sharing</b></p> <p>a) Review how people with disabilities' needs &amp; experiences of technologies and processes are being captured and used for innovation.</p> <p>b) Capture innovation and improvisation from people with disabilities, members of their family and support networks to evaluate and share, or develop for broader use.</p> <p>c) Identify and appraise existing technology evaluation methods.</p> <p>d) Explore existing systems and partnerships to deliver innovative assistive technology outcomes.</p> <p>e) Regular international review of new and emerging and converging technologies and processes, and developing research.</p>	<ul style="list-style-type: none"> <li>• Prioritise technology/process areas for innovation investment using mixed method approaches and wide consultation with stakeholders.</li> <li>• Develop and implement the most appropriate methods to capture the needs of people with disability and their technology and evaluation processes.</li> <li>• Establish the most appropriate assistive technology evaluation approach for Australians in need, including a cost benefit analysis on generic and emerging technologies</li> <li>• Develop networks/partnerships to share the insights gained as a resource for learning for all stakeholders.</li> </ul>
<p><b>2. Facilitation &amp; coordination</b></p> <p>a) Create and facilitate inclusive, respectful communication and participation forums and processes for all potential stakeholders<sup>4</sup> in the assistive technology service delivery system.</p> <p>b) Supporting the capacity to explore new thinking without a preconception of existing design by attracting innovators and explorers, including people with disability, who will be prepared to work inclusively and collaboratively to push boundaries.</p> <p>c) Review the pathway to final adoption/funding by the NDIS of new/novel assistive technologies or assistive technology processes.</p> <p>d) Review regulatory requirements, applying to assistive technology from conception through development/production/import and in use.</p> <p>e) Identify facilitators for assistive technology development and innovation in Australia (e.g. funding, policy, partnerships), and applicable international exemplars.</p>	<ul style="list-style-type: none"> <li>• Build and maintain a collaborative forum to identify ways to streamline regulation and pathways to conceptualisation, delivery and use of innovative assistive technology solutions.</li> <li>• Facilitate (under the National Disability Strategy) adoption of the recommendations of the forum across all levels of government and industry.</li> <li>• NDIA facilitate forums/inclusive networks of trust, respect and openness from all stakeholders in the assistive technology service delivery system who communicate to learn and deliver on the framework focus.</li> <li>• NDIA facilitate the strengthening of a robust assistive technology innovation sector by:             <ul style="list-style-type: none"> <li>– Encouraging partnerships, locally, nationally &amp; internationally</li> <li>– Developing a register/database of potential contributors to all the stages of innovation, research, design, development and prototyping processes</li> <li>– Embed quarantined assistive technology support for innovation within existing/new research/commercialisation schemes</li> <li>– Utilising collaborative procurement</li> </ul> </li> </ul>

<sup>4</sup> NOTE: Stakeholders at all stages could include people with disability, family members & support networks, Allied Health Practitioners, other relevant practitioners, Planners, engineers & technologists (rehabilitation, biomedical, human factors, industrial, ICT, Software & Mobile Apps developers), ergonomists, industrial designers, suppliers, manufacturers, funding providers, among others.



Starting with what is...	Moving to what could be...
	frameworks with a focus on the assistive technology outcomes desired, and local engagement.
<p><b>3. Capacity Development</b></p> <p>a) Identification of innovators as educators – particularly people with disability whose lived experience of disabling environs has led them to push boundaries and think/create ‘outside the square’.</p> <p>b) Review local and international approaches to optimising the involvement of end-users of assistive technology in the innovation/development process through collaborative consultancies (e.g. <a href="http://www.fastuk.org">www.fastuk.org</a>) or individual research/development training (e.g. <a href="#">Toronto Rehab Scholarship</a>).</p> <p>c) Coordinate events from government industry innovation support programs tailored for the assistive technology sector.</p>	<ul style="list-style-type: none"> <li>• Facilitate the skill development of planners &amp; allied health practitioners in linking new developments in technology and processes with unmet need of participants – ‘exploring possibilities’.</li> <li>• Consider developing a ‘Centre’ – virtual or actual (with high participation at all levels of people with disability) focused on education and sharing/ consultancy, fostering innovation and creative/disruptive thinking on technology and service use and development. Promote the ‘Centre’ as a resource for broader industry and government accessible innovation.</li> <li>• Facilitate the exchange of personnel and ideas between businesses, assistive technology centres and government agencies to foster understanding, innovation and discovery.</li> </ul>
<p><b>4. Program evaluation and monitoring</b></p> <p>a) Collate and review findings of all recent and relevant Australian studies on the assistive technology systems and access for users.</p> <p>b) Review national and international reviews on innovation programs to identify key metrics and aspects for evaluation within the NDIS’s Quality Framework.</p> <p>c) Review and evaluate assistive technology outcomes literature and the extent to which the innovation enhances or sustains health and wellbeing metrics, including avoiding any reduction in participant capacity and other measures of participant goal achievement.</p> <p>d) Identify relevant international research work on assistive technology outcomes which NDIA (and Australia) could partner.</p>	<ul style="list-style-type: none"> <li>• Form a specialist advisory group of suitably competent and relevant members to specify a method for Innovation Framework evaluation and monitoring.</li> <li>• Establish a requirement for all activities in assistive technology innovation, supported by NDIA, to demonstrate:             <ul style="list-style-type: none"> <li>– Equitable participation by people with disability,</li> <li>– Full framework support,</li> <li>– Consumer input and knowledge translation are appropriately incorporated, and</li> <li>– They are conducted in accord with accepted ethical practice.</li> </ul> </li> <li>• Participate in relevant national and international forums (e.g. WHO GATE) to facilitate the international development of assistive technology.</li> </ul>

## Attachment 4: Glossary

Assistive Technology Mentor	Assistive Technology Mentor – is a person with a disability who has been trained to support other people with disabilities in their decision making about their Assistive Technology requirements.
Contracting	Contracting is defined as formal contractual agreements and arrangements established with suppliers for the supply of goods and services within specifically defined parameters and with agreed KPIs. Contracting is an integral process of procurement and arrangements may include but are not limited to, standing offer agreements, category panel supply arrangements and preferred supply agreements.
Customisation	Customisation is the process of configuring an AT solution from a number of pre-fabricated components specifically for an individuals' requirements. While the final solution may not easily be transferrable to another individual, the component parts are able to be re-utilised in future solutions for the same individual (as their needs change) or for other individuals in reconstructed solutions. Customisation pertains primarily to postural support systems / solutions (i.e. seating and 24 hour positioning solutions).
Custom made	A Custom Made AT solution is one that is manufactured specifically for individuals' specific and unique requirements and is usually viewed as not easily or reasonably transferrable to another individual.
Form-fit-function	Form-fit-function is an expression used to define AT solutions by their dimensions, technical specifications and their match in the functional performance to the requirements of the participants, without reference to brand or model. This is used as a mechanism for identifying solutions in panel category supply arrangements where impartiality for supplier is required.
Modification and adaptation	Modification and / or adaptation of equipment refers to the need to adapt, adjust or make small alterations to equipment to accommodate specific persons' needs and usually refers to a single item of equipment (as distinct from Customisation that typically includes a number of components). e.g. height adjustments, equipment configuration – adjustability that the equipment is designed to accommodate.
Procurement	For the purposes of this document the Government Procurement Rules definition is applied as follows:
Procurement – encompasses the	whole process of procuring good and services. It begins when a need has been identified and a decision has been made on the procurement requirement. Procurement continues through the processes of risk assessment, managing contestable processes for seeking and evaluating alternative solutions, the awarding of a contract, delivery of and payment for the goods and services and, where relevant, ongoing contract management and consideration of disposal of goods.
Refurbishment	Refurbishment of AT solutions will include an initial assessment of viability – i.e. assessment as to whether or not items or component parts are beyond economic repair BER (this refers to the cost of repairing or replacing items or component parts. Once confirmed as viable, items are cleaned (to a standard to ensure infection control), repaired, compliance certified where relevant and returned to stock for re-issue. NB: in some instances parts may be salvageable from items that are BER.
Re-issue	Re-issue refers to the practice of issuing equipment that has been returned and refurbished, to a subsequent users and / or multiple

	<p>times. Each time an item is considered for re-issue it must firstly be refurbished to a suitable standard.</p>
Service Delivery	<p>For the purposes of this document service delivery includes all aspects of the potential means and methods for NDIA participants gaining access to appropriate AT solutions to meet their requirements.</p>
Sourcing	<p>For the purposes of this document Sourcing means a strategic approach to identifying product specifications, product lines, potential product suppliers and opportunities for developing strategic partnerships / alliances with selected suppliers. The outcomes of this of this approach are to achieve sustainable cost reductions, stability of supply and reduction in supply risk. Sourcing in this context is a necessary prerequisite to the processes of procurement.</p>
Supply	<p>Supply in the context of this document refers to the delivery of specified products of a specified volume and composition to a geographical location defined by the purchaser.</p>
Supply Chain	<p>For the purposes of this document Supply Chain refers to the entire continuum of activity related to the sourcing, procurement and supply of AT solutions. It includes various steps and a range of entities from production to the final delivery to the participant. A supply chain for AT will include manufacture, warehousing, shipping / freighting / transportation, configuration and / or modification, delivery and where relevant installation. Each step of a supply chain will have associated activity and cost to ensure reliable and quality supply and delivery.</p>