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AGED CARE'S DIGITAL REVOLUTION

HOW FUTURE TECH WILL TRANSFORM THE LIVES OF OLDER ADULTS

SILVR ADVENTURES

FOREWORD

COLIN PUDSEY, *CEO AND FOUNDER OF SILVR ADVENTURES*

"You never change things by fighting the existing reality. To change something, build a new model that makes the existing model obsolete."

- Buckminster Fuller, Designer, Inventor and Futurist

These unprecedented times have shown that innovation and technology are critical to facing the challenges of the new decade.

Typically aged care has not been a place of new ideas - but to face the unexpected we need to adapt.

We need a **Digital Revolution**.

At SilVR Adventures we're committed to building a culture of innovation that makes the old approach obsolete, and that starts by looking at what needs to change.

Moving away from the days of bingo ruling the activities calendar. Where a resident's only outside contact is an occasional visitor. Where misdiagnoses and falls happen all too frequently. Where high staff turnover is a challenge.

With unpredictable pandemic lockdowns, a rapidly ageing population and a shortage of aged workers we can't rely on old solutions to fix new problems.

Technology is not the answer to all of our problems, the Royal Commission into Aged Care Quality and Safety has shown that issues of funding, regulation and neglect are endemic – and we all need to do our part. But technology can help make our care residents less isolated, allow our staff to prioritise connecting with elders and improve the quality and longevity of life for all of us.

The Digital Revolution is here, and it's time to embrace it.

AGED CARE'S DIGITAL REVOLUTION

THE FUTURE OF AGEING IN AUSTRALIA WILL BE DEFINED BY THE PROBLEMS FACED TODAY, AND THE SOLUTIONS EMBRACED.

The Aged Care Industry is facing significant challenges that it must address and plan for; a rapidly ageing population, increased health risks brought by the pandemic, high staff turnover and an increased scrutiny on the industry's ability to deliver personalised and appropriate care.

But technology is establishing itself as a driving force in the solving the industry's biggest challenges, and its innovative use will set the benchmark of care for years to come.

By 2025 the global market for aged-tech is projected to grow to $USD2.7 Trillion, and revenues from private investment in aged-tech business is set to rise to $USD35 Billion annually.
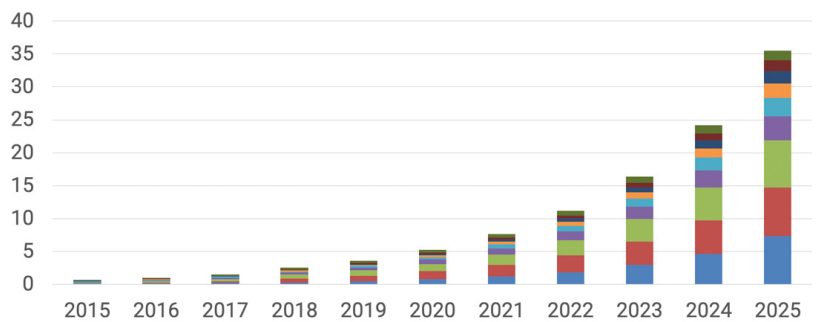
VC Backed Aged Tech Revenue $B

This means more and more innovators and companies are entering the field to develop products that will improve the lives of older adults.

Closer to home, organisations such as the Global Centre for Modern Ageing are building infrastructure to help existing businesses pivot and deliver their services to this rapidly growing market.

With all of this growth and new development, it's difficult to predict which technologies will be the most important in years to come, and which innovators have the staying power to affect meaningful change.

The goal of this research was to identify the most promising emerging technologies in the aged care sector and identify key innovators and collaborators within each field.

WHAT KIND OF TECHNOLOGIES DO WE NEED?

When looking for new tech it's important to avoid 'techno-solutionism' - the belief that technology will be a solution for all current problems. The technologies and innovators in this paper must achieve one or more of the following goals:

Reduce the burden on carers so they can focus on personal connections. This includes automation, and software solutions

Increase the safety and wellbeing of older adults. With the help of new developments, we have access to information that has never before been possible.

Improve the quality of life for seniors. From making it easier to live in their own homes, to being able to connect to others and have remote experiences.

Empowering Older Adults. The digital revolution is not just devices and ideas, but literacy and access. Older adults need greater access and familiarity with technologies to enhance their independence

OUR RESEARCH

Many of the technologies and innovators in this paper have been sourced through conversations with industry experts, thought leaders and passionate individuals.

These conversations have posed the question – how we can improve the quality of care and quality of life for seniors, and the research process has been documented in the Aged Care Enrichment Podcast.

SilVR Adventures has also partnered with researchers at the University of Melbourne to understand the successes and pain points of new technologies in residential aged care.

Through this research it is clear which technologies and innovators will lead Aged Care's Digital Revolution, but its ultimate success depends upon *care providers and industry adopters*.

1.   BIO-DATA COLLECTION TECHNOLOGIES

The long-heralded development of AI is here and it's already revolutionising industries.

Powered by machine learning, new insights and efficiencies can be extracted from data to streamline workloads and enhance the accuracy of output.

But to get to these we need accurate and relevant data, and in more advanced care settings there is one type of data that is more valuable than all others – Biometric.

BIOMETRICS

Biometrics are the datatization of human information – your heart rate, cholesterol levels, etc – but they're using in revolutionary ways.

Using smart wearable devices (wearables for short) biometric data can be collected around the clock to paint an accurate picture of health for older adults.

The possibilities here are immense, advanced health screening, early disease detection, symptom monitoring can now all be done with the help of AI.

And all with stunning accuracy, as shown by the University College of London's eye disease AI diagnosing at 96% accuracy.

INNOVATORS

ARMED is focused on preventing falls amongst the elderly, by collecting biometric data linked to frailty (sleep loss, dehydration, inactivity, heart rate) and alerting care teams when an individuals health places them at risk.

59 Falls Prevented

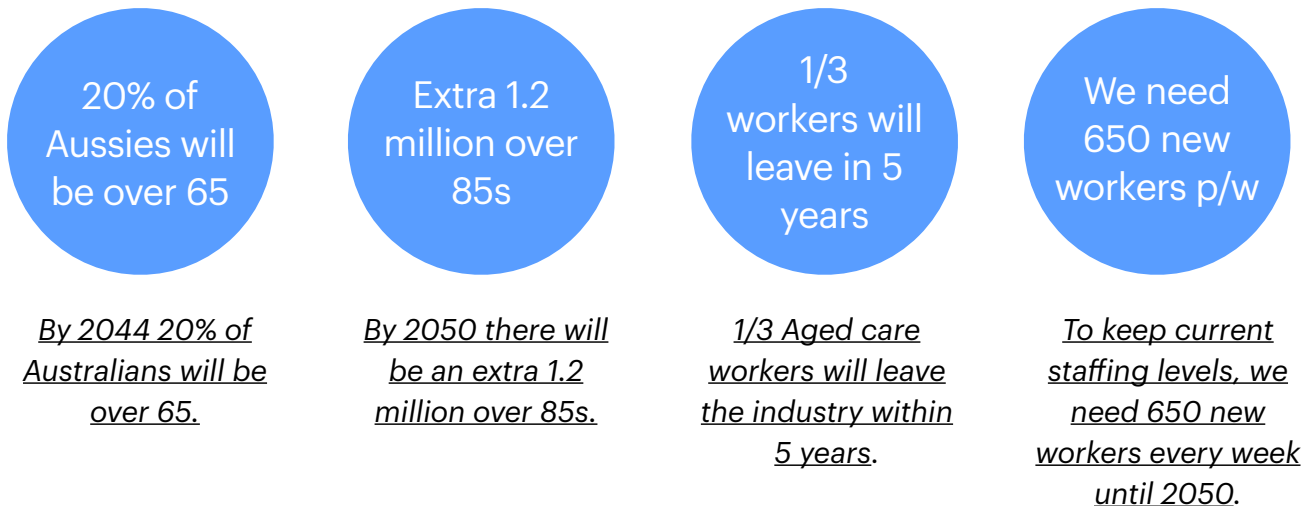One ARMED Clinical trial saw 59 falls within control group and 0 falls in test group.

The market for aged care wearables is massive - worth more than $50 Billion a year.

$USD50 Billion Per Year

2. AUTOMATION

AI will lead the development of one of the most useful technologies we can implement in aged care, Automation.

Australia's aged care system is under strain, due to underfunding and understaffing a situation that's likely to get worse:

20% of Aussies will be over 65	**Extra 1.2 million over 85s**	**1/3 workers will leave in 5 years**	**We need 650 new workers p/w**
By 2044 20% of Australians will be over 65.	*By 2050 there will be an extra 1.2 million over 85s.*	*1/3 Aged care workers will leave the industry within 5 years.*	*To keep current staffing levels, we need 650 new workers every week until 2050.*

WHAT THE TECH CAN DO

Automation can help by eliminating the most repetitive and menial tasks from our care workers, giving them more time to connect and support our elders.

This means better quality, more personal care for seniors and also a reduced care worker turnover rate as the most common reason for leaving aged care was reported as "high workloads and time pressures".

We'll never replace aged care workers with automation, but we can free them up to spend more time connecting with and helping seniors.

INNOVATORS

Lamson self-driving trolleys are used effectively for transporting food, linen and clothes care facilities and can navigate crowded rooms, call elevators and even place themselves on charge.

3. SMART HOME TECHNOLOGIES

New technologies also have the ability to change the environments that we grow old in – and this is proving to be a core challenge of the future of ageing with 8/10 over 65's saying they'd like to stay in their own home as long as possible.

80% over 65s want to age in place

But whether adapting a home or fitting out a care facility we need spaces that support the strengths of older adults and compensate for the challenges of later life.

And with the help of smart home technology, we can take a proactive approach in planning for reduced mobility, increased isolation and possibly reduced cognitive function associated with dementia.

WHAT THE TECH CAN DO

Smart home technologies are a rapidly growing field of innovation and development which uses centralised control (or automated control) to simplify tasks that can become burdensome for some older adults.

Examples include:

- Voice Activated Remotes - such as Google Nest or Amazon Alexa

- Fall Sensors - Now in smart watches, or wall mounted sensors

- Universal Remotes - Control lights, windows, doors, music, TVs from one device

- Inactivity Sensors - Using motion sensors to detect when a person is unresponsive

INNOVATORS

Oval is a non-intrusive sensor that doesn't use microphones or cameras, but monitors for changes of light, temperature, motion and more and syncs data with a smart phone app.

It can be used to monitor inactivity, falls and changes in the physical environment that may affect older adults.

4. PERSONAL COMMUNICATION TECHNOLOGIES

It's no secret that personal devices like laptops, tablets and smart phones make older adults more connected and less isolated – and the COVID-19 pandemic has shown that more and more older adults are getting online.

But despite the growing adoption, there are still large obstacles to overcome in improving digital literacy and comfort for older adults.

> ### DURING THE PANDEMIC
> **- 21% of over 65 Australians used a new tech for the first time**
>
> **- 29% of over 65 Australians increased their social media usage**
>
> **- 61% of over 65 Australians who video called once a week felt more connected**

ACCESS

Many older adults, especially those living in rural and remote communities, may have no ability to access a device, or an internet connection in the home. For some remoteness is a factor, and for others the cost of purchase can be too great.

The purchase of personal devices can now be covered under individual home care packages, and some organisations may be eligible for a technology grant from Be Connected.

CONFIDENCE

Knowledge and confidence are still some of the biggest barriers to engagement with technology, and as most technology isn't designed for older adults it's easy to see why.

Many home care providers provide digital training and assistance for older adults, like Lively which pairs tech-savvy younger people with older adults to create a two-way care relationship.

5. ENGAGEMENT AND EXPERIENCE TECH

Connecting to friends and families is only one piece in the puzzle of reducing isolation in older adults, and like any relationship shared experiences are crucial in strengthening that sense of connectedness.

But there's another danger which is not immediately obvious, and one that can lead to dementia and cognitive decline; Apathy.

One study found that apathy has a prevalence rate of <u>84%</u> in residential care residents living with dementia.

WHAT THE TECH CAN DO

Virtual reality can be a solution for reducing isolation, loneliness and apathy in older adults.

VR is more than just a headset, it can be used to

- Have shared immersive experiences that take users on a fun and exciting adventure.

- Reminisce and stimulate memories by revisiting important places and moments from the past.

- Express a digital identity through avatars and connect with other people in digital world.

The possibilities of VR have been exciting researchers across Australia and the world for years:

"Virtual reality in aged care engages residents who might otherwise self-isolate."

"Those with higher levels of apathy demonstrated the greatest cognitive improvements after a VR reminiscence experience"

SILVR ADVENTURES

SilVR Adventures is Australia's only VR solution design exclusively for seniors, and we're partnering with residential and retirement living facilities to provide a turnkey solution, including headset, software, content, training and support.

We've built a complete library of curated and professionally voiced-over cinematic VR experiences that are designed to be engaging, fun and emotionally moving.

We also have a suite of reminiscence therapy programs to simulate memories and discussion amongst participants.

Our system can connect up to 40 participants anywhere in the world to have an experience, catch up and reminisce together - a feature which we've been proud to launch during the pandemic.

RESEARCH

- 83% of customers advise that residents "really enjoy" VR Sessions.

- 85% of customers advise that SilVR Adventures has helped to significantly drive social engagement

- 88% of customers advise that SilVR Adventures has helped stimulate memories and the sharing of stories

   If you'd like to know more about how Virtual Reality can change the lives of older adults, or book a demo or trial call or email today

   1300 992 552 or colin@silvradventures.com.au