

# EXECUTIVE SUMMARY

## Background

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The first *Defence Personnel Environmental Scan (Scan 2020)* was completed in 2001 and provided a significant foundation document on which to build the Department of Defence's personnel knowledge base.

## Aim of the Scan 2025

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The aim of this report is to both update and build on *Scan 2020* and to present emerging personnel trends out to the year 2025. *Scan 2025* serves as a primary resource document to inform, guide and support Defence personnel strategic analysis, planning, policies and projects. Scan 2025:

- Analyses relevant contemporary national and international personnel related reports, expert and practitioner opinion and judgements that are available in the public arena from other government organisations, academia, industry and professions, trade and union organisations.
- Identifies and describes future war-fighting, social, economic, demographic, educational, health, climate change, energy and water resources, and technological trends that will impact on the Department of Defence's ability to manage its total workforce to the year 2025.
- Provides Defence with forward human resource (HR) intelligence to best position itself in terms of workforce outcomes necessary to sustain war-fighting capabilities and to ensure it possesses a total work force profile that can support its military requirements.
- Provides Defence with an idea of the likely level of national support infrastructure and related workforce skills available to sustain and maintain Defence logistic support capabilities.

Scan 2025 is a major personnel resource document incorporating significant detail and academic rigor in order to assist with evidence based decision making and consequent personnel policy development. The key personnel issues are summarised in Table 61.

## Presentation of Scan 2025 Information

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The personnel data considered in developing *Scan 2025* was daunting both in volume and complexity and the bulk of the data utilised was often only 12 to 24 months old. The data often reflected a very strong global realisation about the challenges to be faced in western nations with regard to ageing workforces and skill shortages. There appear to be significant opportunities for ‘whole of government’ approaches in meeting the challenges posed by emerging personnel trends. For instance, the Department of Work Place Relations and Employment (DEWR) and the Department of Education, Science and Training (DEST) are working much more collaboratively to ensure education and training outcomes are meeting the current and future needs of the national economy and its workforce.

Conceptualising how the many personnel trends inter-relate to produce a ‘*personnel futures picture*’ has generally been achieved. *Scan 2025* includes some 70 new issues and significantly more detail about important personnel trends such as education, the economy, workforce, society, climate and resources. Arranging and analyses of the data, understanding these emerging personnel trends, their linkages and conceptualising the likely consequences has been in many ways, like completing a complex jigsaw puzzle but without a box lid to reference where pieces are to fit.

To assist the reader a *Summary Table* (see Table 61) has been developed at the end of chapter 12 (*Future Personnel Environment 2005 – 2025*) concerning each major future personnel issue. The Table notes the *strategic personnel issues* involved and the specific *defence personnel implications*. Likewise, *Annex A* of *chapter 12* provides a summary of the *International Military – Security and Personnel Issues* and allows ‘*future personnel comparisons*’ between the Australian Department of Defence and allied international Defence communities.

The following headings and content reflect against Table 61 and, the noted external chapters of the Scan.

### The Future Australian Security Situation

(Introduction, Chapter 12 and Table 61)

Four core strategic security issues were identified against which Defence personnel implications were developed. These set the security scene and determine the likely demand for personnel with specific qualities and skill sets. These issues are as follows:

- The threat of Terrorism.
- Failing or failed States in the region.
- Natural/climate/humanitarian disasters.
- Economic security.

## Australian Demography

(Chapter 5)

The proportion of young people in the population will reduce over the next twenty years and beyond whilst people aged 65 and over will increase from 13% (2006) to about 19% (2026) and 27% (2051) of the total population. In terms of the workforce a number of professions and sectors are particularly vulnerable to ageing; these include scientists, engineers, laboratory technicians, doctors and nurses. The demand for these skill sets is also increasing regionally, nationally and globally. Defence potentially faces a significant decrease in recruitment applications at a time of increased workforce exits. The following management policies may be necessary to help address the situation:

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Enhance the attraction/recruitment of personnel to the ADF, particularly younger Australians (aged 16 – 28).

Develop all personnel so they have the skill sets and experience to be more effective and later able to transition to new careers and new ways of working within the total Defence workforce.

Increase labour force participation within Defence among the over 55's, women with children, and people with disabilities.

Increase productivity, participation and sustainment of the workforce by improved work/lifestyle balances, flexible work practices and improved ways of achieving work.

Enhance the use of technology to replace or reduce the requirement for personnel.

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## Workforce

(Chapters 6 and 12)

Part time work is likely to play an increasing role in an ageing labour market. Understanding and providing for the needs of employees of different generations and also at various 'ages and stages' of their careers/lives will become increasingly important for the recruitment, development, sustainment, retention and transition of the workforce.

Workforce skill demands from industry will impact on Defence. There will be a demand for currently serving/separating Defence personnel across the entire range of Defence trades and professions.

Training and development of ADF personnel to fulfil their military tasks whilst gaining skills, qualifications and experience to enable a successful transition to the civilian workforce could form part of a potent attraction and retention strategy. The approach would need to reflect national workforce and industry opportunities.

Defence may need to consider the strategic use of part time workers to address staff shortages in many support areas.

Reserve service may come under threat as civilian employers respond to the decrease in the number of employees in the market place. This may impact on the ability of employers to release employees for Reserve service. However, employers are expected over time to change their working practices to be more supportive and accepting of part time work arrangements. This could result in increased willingness to both serve in the Reserve and to enhance Reservist availability. Transfer of permanent force members to the Active Reserve may be enhanced over time due to businesses becoming more 'part time friendly'.

## **Australian Society**

(Chapters 7 and 12)

The timing of births and marriage has shifted to older ages. The effect of this trend is that for many, the responsibilities associated with having children later in life will also be combined with the responsibilities of caring for aged parents. Significant challenges will be posed for people maintaining work and at the same time, coping with family responsibilities. In particular for single parents – a group projected to grow by 45% for men and 42% for women. A 19% increase in the number of children living in lone person households is also projected.

Many regional areas are experiencing population ageing earlier and at a faster rate than is the case at the national level or in capital cities. Labour supply issues will therefore become a concern for rural areas, particularly in the medical, nursing and mental health professions.

Defence recruitment and retention strategies will need to consider the importance of childcare arrangements, and the impact of postings and overseas deployments on single parents and their dependants. Family factors will increasingly become issues for older and more experienced/qualified ADF/APS personnel. Some members will also have increased requirements to care for ageing parents and stability for care support/accommodation will be necessary.

Since the 1990's there have been further shifts in the ethnic composition of Australia's population. Nearly 25% of the current population was born overseas with people arriving from 200 different countries. Targeted recruitment and retention strategies will be required to consider the values important to people from a variety of cultural backgrounds.

To sustain tomorrow's national workforce, economic performance and the social culture, strategies which consider individual lifestyles, community and social responsibilities need to be developed.

## **The Australian Economy – Personnel Issues**

(Chapter 8 and 12)

Australian GDP per capita as a measure of economic activity is projected to continue growing. At the global level, world GDP growth is also expected to remain strong. In the short term, potential risks to growth include falling domestic consumption, rising oil prices and a decline in housing demand. In the longer term, without appropriate policy instruments, population ageing will place downward pressure on economic growth and productivity, necessitating reforms to boost labour market productivity and participation.

Defence may find it more difficult to acquire goods and services as industry seeks to meet the new ‘aged’ demands. As the proportion of younger workers in the Australian workforce declines this will increase opportunities for younger workers and potentially reduce the numbers of young people considering the ADF as a career. High levels of competition for young talent can be expected across all industries.

Total Defence workforce personnel costs will need to be managed carefully with remuneration, recruitment, educational, career/job management and professional development budgets under pressure to meet strategies designed to recruit and retain personnel in a competitive market. Retaining older specialised and experienced Defence APS staff will become a priority alongside the attraction, career development, mentoring and remuneration of relatively more junior APS/ADF staff.

The cost of procuring and using new technologies to counter reduced workforce availability and enhance worker productivity will also need to be considered.

## **Australian Education**

(Chapters 9 and 12)

Significant risk exists to the nation’s economy and security if there is not a substantial increase in the number of students completing science, engineering and IT degrees over the coming decade.

The ageing of the Australian workforce means the up-skilling and retraining of mature aged workers in the workforce has become an urgent economic and social policy issue.

Recent changes to the Australian education system seek to ensure a greater level of participation both in the general workforce but also to increase the number of young people choosing to undertake trades in areas of current and future skill shortages.

There is a strong movement away from having no post school training, towards having a minimum of a bachelor degree or other post school training, particularly amongst young women.

Flexible Learning is an approach which offers Defence greater flexibility and cost effectiveness in re-skilling and up-skilling its total workforce as required. Education, training, development and accreditation opportunities are significant incentives which can be used to attract and retain personnel. Relationship development between DEST, DEWR and Defence will be of increasing importance to ensure Defence is aware of emerging educational and workforce initiatives, opportunities and threats.

About a quarter of 18 and 19 year olds are not fully engaged in employment or study, and this proportion has remained relatively constant for the past six years. There appear to be substantial differences in full engagement of young people between the states. ADF recruitment opportunities exist for the large pool of 18-19 year olds not fully engaged in studies or employment, particularly for 'under achieving' male youths. Linking a Defence job to the opportunity for further education and development will become increasingly important.

## **Health**

(Chapters 10 and 12)

The ageing of the population is shifting the dynamics of health problems to be managed and the range of services being offered. Greater budgetary allocations to public health will be necessary. By 2025, chronic illnesses will account for over 60% of the total cost of national health services. The health system in 2025 will be technologically, organisationally, and structurally very different to that of 2005 mainly to cope with the challenges of supporting an ageing population.

Anti-biotic resistant bacteria, as well as SARS and 'bird flu' are emerging health risks.

With the burden of increased budgetary expenditure on public health, Defence may come under additional financial pressure at a time when global issues may require more and more from the Defence organisation.

Strategies to recruit and retain health professionals into the ADF will be essential. Linkages to State and National Health Departments, medical schools and hospitals are a crucial part of being better placed to both support and be supported by the 2025 health system concept.

The pool of potential ADF candidates may be limited by the rising incidence of obesity, diabetes and mental health problems amongst young people. The provision of medical, dental and pharmaceutical services as part of the ADF member's conditions of service will continue to provide a strong incentive for both attraction to the ADF and retention of existing ADF members.

Preventive approaches for maintaining physical and mental health will offer cost effective outcomes for promoting resilience, enhancing retention and productivity of ADF/APS personnel and thus contribute to total workforce sustainment.

# Climate Change

(Chapters 11 and 12)

*Collective research has indicated the following trends:*

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Concentrations of 'greenhouse' gases and aerosols are effecting atmospheric changes, notably global warming.

Even if carbon emissions were to cease, human influence will continue to change atmospheric composition (in particular carbon dioxide) throughout the 21<sup>st</sup> century.

Global temperatures (and sea levels) are projected to rise by 1.4 - 5.8 degrees Celsius between 1990 -2100.

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*Emission reduction has to be achieved against a back drop of the following issues:*

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Meeting the needs of the 2 billion people who currently do not have access to the benefits of adequate energy resources, and a projected additional 2 billion people by 2050.

Maintaining economic growth.

Amortising the existing energy systems infrastructure investment.

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*Defence will potentially have a greater role in:*

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Protecting the nation from a number of physical or warlike threats brought about as a consequence of climate change and increased competition for resources.

Being able to support national and international efforts in dealing with the myriad of climate triggered situations: natural disasters, environmental refugees and the spread of diseases and pandemics.

Ensuring the most efficient and effective use of natural resources.

Developing and training a large workforce to contribute to establishing new technologies and associated infrastructure that help address emerging national energy and water needs.

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## **Energy**

(Chapters 11 and 12)

Between 2000 and 2020 global energy demand will increase by a further 60%. The contribution of fossil fuels to meeting this energy demand is projected to increase fossil fuel consumption from the current 85% to 87% in 2020. Thus the problems caused by global warming can be expected to be accelerated even further.

Approximately half of the estimated ultimately recoverable reserves of crude oil have now been exhausted. There is a strong likelihood that global crude oil production will slow down before 2020. Demand for this energy source is projected to further increase. The supply-demand situation will deepen the global energy crisis. Crude oil is the major source of transport energy in Australia. An inquiry into Australia's future oil supply and alternative transport fuels is being undertaken with a report due in late 2006.

Oil scarcity and costs could restrict operational training, deployments and thus overall Defence capability outcomes. Energy efficient use of transport fuels is a very high priority for Defence whilst the development of alternative transport fuels and propulsion systems is of crucial medium and longer term concern. A move to new energy technologies will be required. This niche skilled workforce will be much in demand by global industry.

## **Water**

(Chapters 11 and 12)

The use of water resources in many parts of Australia is approaching the limits of sustainability. Pressure on the availability of Australian freshwater resources is increasing principally due to emerging climate change and population growth. World freshwater demand has been doubling every 20 years.

The need to access clean and reliable sources of water is essential to sustaining Defence operations either in Australia or offshore. The development of skills to operate, maintain and repair water supplies including recycling and purification systems will be essential for many Defence operations.

Location of bases may be effected by changing climate and population issues. Specific water technology equipment and the personnel trained to operate and maintain them will be required in greater numbers and such skilled personnel would be likely to be in demand by global industry.

# The Future Workplace

(Chapter 12)

In developed markets such as Western Europe and the United States, companies face a rapidly ageing workforce and high labour costs. In China and India, and much of the developing world there are crucial shortages of suitable candidates to assist with the rapid expansion of these economies. It is against this pace of growth that companies can not attract and retain enough qualified personnel. It is predicted that higher uses of flexible staff arrangements across all levels of business and in the majority of industries will occur.

The following is a summary of trends which have been suggested will contribute to changes in the way businesses will run in the next 20 years:

### *Business and Education.*

Increased access and partnering between corporations and educational institutions will occur to enhance the performance of students and associate them with future work prospects.

### *Artificial Intelligence (AI).*

Technological advances will improve the ability of AI to enhance efficiencies of businesses (for example: detecting financial fraud and using real time data to maximise the efficiency of trucking fleets, machinery, and network resources).

### *Workplace Discontent.*

Higher turnover in some organisations reflect discontent in the workplace and this places productivity at risk. Smart organisations that value employees however, will gain a competitive edge by sustaining and stabilising their workforce.

### *Office Design.*

Office design will become more important to enhancing future productive work environments, through reducing energy usage and promoting a 'healthy' work environment.

### *Superannuation.*

Attracting and retaining quality and experienced staff in the future will become reliant on the development of effective superannuation plans.

### *Flexible Work Arrangements.*

As work arrangements become more flexible, and with further technological advances, working from home will become a more common practice. New styles of work that combine technology and service will become more feasible as technology improves.

### *Child Care.*

To support the workforce there will be an increased requirement for child care arrangements.

#### *Women in the Workforce.*

Increasing numbers of young women will earn university degrees and enter and progress through corporate careers. Organisations will need to create an environment where a balance between work and home life is more valued. Temporary and part time work and job sharing will create greater opportunities for women to re-enter an organisation after a break of several years.

#### *Wellness Programs and Performance.*

Preventive health strategies focused on employees will be important to sustaining the workforce and maintaining productivity. Taking a proactive approach by educating and assisting employees achieve healthy lifestyles will enhance both performance and workforce participation.

#### *The Spirit of Work.*

People are seeking more purpose in their lives. Jobs will need to be meaningful and satisfying to attract and retain staff. Occupational analysis and job design may become important tools in developing jobs and careers, addressing underlying retention aspects whilst also lifting organisational productivity.

#### *Generational Workforce.*

The tri-generational workforce (Baby Boomers, Generation X and Y) provides organisations with some significant challenges as each 'generation' has a different view on how work and career paths should be structured and each has different needs. The ability to manage cross generational workforce issues will be a major challenge.

#### *Structure and Achieving Work.*

Organisations have moved from hierarchical to much flatter structures with more flexible ways of achieving work outcomes. The resultant changes will continue and shall include:

- increased use of outsourcing,
- the de-layering of management levels,
- re-structuring,
- use of non standard work arrangements, and
- traditional occupations will seek new skills and work processes.

Many organisations are now characterised by a small core group of full time permanent staff who outsource components of their operations to independent contractors, consultants, or temporary employees.

#### *The Rise of the Knowledge Worker.*

The underpinning competitive advantage both in current and in future organisations will be the ability to capture, store, transfer, and exploit knowledge. All workers shall require higher levels of cognitive and intellectual abilities than was previously expected.

### *The Manager of 2025.*

Managers of the future will be expected to have generalist management skills as a minimum, with deep industry expertise also required. It is predicted that the manager of 2025 will have worked within the same industry or stayed with the one company rather than having been recruited from another industry. Future managers will focus more on developing and maintaining both professional teams and the relationships with other work areas.

### *Changes to Organisational Culture.*

The structural changes occurring in organisations as a result of technological and market forces impact on the culture of organisations and shape the way work relationships are established and maintained. Organisational culture redevelopment and change management may offer the greatest possibility for enhancing workforce effectiveness in the future. Increasingly, the mode of operation will be within 'a whole of Government' context.

## **Defence Implications**

(Chapter 12 and summary Table)

Similar to many organisations in Australia, Defence is starting to experience the impact of personnel shortages across many professions and trades. Operating in parallel is a worsening security situation regionally and globally which may demand even more from an already heavily committed organisation. During the coming decades, the competition for skilled individuals within local and global markets will become fierce as organisations compete for the same shrinking pool of qualified candidates. Defence critical employment categories including specific Defence APS professions will be in high demand in other industry sectors and by other Departments.

In the coming decades, Australia's rapidly aging population and declining labour force participation rates will adversely impact on Defence's ability to meet and maintain its workforce goals. The changing nature of the Australian workforce will present a number of challenges to Defence's ability to recruit and retain desired personnel. Defence may find itself faced with a reduction in the quality and quantity of available recruitable candidates.

The development of organisational commitment to Defence through the building of both trust and a learning culture will be extremely significant to achieving overall organisational success. Achievement of Defence recruitment and retention profiles for the entire workforce will depend on the organisation's ability to offer a compelling employee value proposition and to develop a culture suited to the emerging environment. The employment offer must be based around competitive remuneration, superior career delivery systems designed to enhance job satisfaction, development (training, education and learning) and be considerate of the individuals' 'age and stage' of their life and career.

The introduction of 'lifelong learning' programs will assist in addressing the high demand for skills in our increasingly knowledge-based society. It will require the development of a culture of continuous learning as well as the infrastructure to support it. To embed such a learning culture in an organisation should provide a significant advantage both in operational terms as well as in strategic value.

Network Centric Warfare (NCW) training and education will require advanced and highly sophisticated tools with a high level of realism. NCW will have a profound effect on Defence's recruitment, training, education, organisation and culture. Emerging concepts and technological developments in the realm of training and development will radically change the way in which training is designed and delivered.

Techniques, processes and technologies will be required to facilitate knowledge transfer between workforce generations.

Workforce sustainment will become a crucial issue as there may be only limited scope to enhance recruitment and, current retention initiatives can only achieve so much.

# Conclusions

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Defence will be required to make significant personnel policy changes in how it recruits, develops, sustains, retains and transitions its people to account for the emerging demographic, societal, workplace/workforce, economic, climate, health, educational, globalisation and technological trends. To sustain tomorrow's national workforce, economic performance and the social culture, strategies which consider individual lifestyles, community and social responsibilities need to be developed.

The following personnel issues are important:

- There is a global economic struggle between nations, organisations and communities to achieve high talent workforces.
- Australia's rapidly aging population and declining labour force participation rates will adversely impact on Defence's ability to meet and maintain its workforce goals.

Consequently

- Many Defence critical trades and professions are unlikely to recover to full strength in the short or medium term due mainly to high global and local skill demand.
- The quantity and quality of available recruitable candidates is likely to decrease.
- The development of organisational commitment via the building of trust, provision of a compelling employment offer and having a learning culture suited to the emerging environment, is critical to achieving overall organisational workforce success.
- Techniques, processes and technologies will be essential in facilitating workforce knowledge transfer, skill development and the delivery of a learning culture.
- Workforce sustainment will become significantly more important.

