



Ensuring Victorian startups have the skills to scale

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About LaunchVic

LaunchVic is Victoria's startup agency. Its role is to fuel the growth of Victoria's startup ecosystem by building the confidence and capability of Victorians to create, scale and invest in startups. LaunchVic was established by the Victorian Government in 2016.

Since 2017, LaunchVic has upskilled over 11,400 entrepreneurs and supported over 850 Victorian startups to grow. Through its work LaunchVic has unlocked more than \$371 million of private sector investment into the Victoria startup ecosystem.



About the Tech Council of Australia

The Tech Council of Australia is the peak industry body for Australia's tech sector. Providing a trusted voice for Australia's technology industry, with almost 160 members, the Tech Council comprises the full spectrum of tech companies.

We aim to advise and engage with Australian governments, businesses, and the wider community to help support the ongoing creation, development, and adoption of technology across industries. Our vision is for a prosperous Australia that thrives by harnessing the power of technology.

We wish to thank the stakeholders interviewed as part of this project for their expertise and time.

Foreword

As the CEOs of the Tech Council of Australia and LaunchVic, we are proud to present this inaugural joint report addressing the talent shortages in the Victorian startup ecosystem.

This has been a growing concern for our community of entrepreneurs, investors, and industry partners. As the demand for skilled talent continues to rise, it is essential that we work together to identify and address these skills challenges so we can foster a strong and sustainable future for Victoria's startup ecosystem.

Despite recent news of layoffs in the tech sector, both in Australia and globally, as well as lower VC investment, we know that there has been a net increase in tech jobs nationwide. This research into the Victorian startup ecosystem reveals that demand for these skills remains robust.

The Victorian startup ecosystem is a thriving hub of innovation. It is increasingly a driving force in the Victorian economy now employing more than 52,000 Victorians. It is also home to some of the world's leading technology startups, such as Airwallex and Linktree, attracting significant investment and talent from across the globe. However, as the sector's growth accelerates, there is an increasing need to address the skills gap and develop a strong talent pipeline to meet the demands of our rapidly evolving industry.

The findings of this report highlight key areas where we must focus our efforts to bridge the talent gap. To ensure startups have the technical talent to build their products we need to ensure there is a sufficient supply of these skills. This is a nationwide issue, and our recommendations highlight the need for cooperation and collaboration. To enable startups to scale, we need to ensure they have the right business and operations expertise which will involve more people making the transition from larger businesses into startups. Our recommendations emphasise the importance of expanding programs that are already effective in supporting people to make this transition successfully. By addressing these areas, we can ensure that the Victorian startup ecosystem continues to attract and retain top talent, driving innovation, economic growth, and job creation.

This joint report is the culmination of extensive research, consultation, and collaboration between the Tech Council of Australia and LaunchVic. We believe that this partnership is symbolic of the collaborative spirit and shared vision necessary to address the talent shortages in our startup ecosystem. Our organisations are committed to working together to develop innovative solutions that will help Victoria maintain its position as a global leader in technology and innovation.

We would like to express our gratitude to everyone who contributed to the development of this report, including the startups, industry partners, and educational institutions that provided invaluable insights and perspectives. As the CEOs of the Tech Council of Australia and LaunchVic, we are committed to playing our part in driving this change and supporting our startups as they grow and develop into global success stories.

By working together to overcome talent shortages, we can unlock the full potential of our technology sector and create an environment in which great ideas and companies can thrive.



Kate Pounder
Chief Executive Officer
Tech Council of Australia



Kate Cornick
Chief Executive Officer
LaunchVic

Executive summary

Victoria's startup ecosystem has seen remarkable growth, with the combined enterprise value of its tech companies rising from \$5.6 billion to \$91 billion between 2016 and 2022.

This expansion has led to increased employment opportunities, with over 30,000 new startup jobs being created in the last 5 years. These jobs contribute to the broader tech industry, which now employs around 259,000 people in Victoria and significantly contributing to the state's GDP. However, the rapid growth has also resulted in talent shortages in key roles across startups.

Startups face unique challenges based on their growth dynamics. Most startups (53%) have very small teams, with zero and five employees, and the next largest share (32%) have more than 10 employees. That suggests startups experience rapid growth, expanding their headcount in a relatively short period of time. This leaves little room for transitional periods during which startups could steadily build their teams and round out skillsets. To support startups to make these rapid transitions successfully, we have undertaken research to better understand where there are skills gaps and challenges for the Victorian startup ecosystem.

This research examined three skill areas: founders, non-technical talent and technical talent.

Founders are running high growth businesses and need to scale with their startups. Significant growth is often required of founders, particularly at the scaleup phase when businesses become more complex and founders' roles change significantly.

Existing programs to support founders building out their skillsets are very effective and we recommend expanding these to meet more of the unmet demand.

Non-technical talent includes business, operations and design roles. These roles become crucial in the scaleup phase and comprise 32% of the tech workforce. This research shows shortages across most non-technical occupations in the Victorian startup ecosystem. These shortages are concentrated in senior roles and are driven by two factors: attraction and retention issues. There are a range of existing programs that address attraction and retention issues some of which should be evaluated and possibly expanded. We have also identified gaps in existing offerings that should be filled.

Technical talent includes roles that require coding or STEM skills. Shortages in these roles affect tech employers across Australia. This research confirms Victorian startups also face these challenges, driven by a sheer lack of talent amid record and rising demand. There are an array of initiatives underway to expand the technical talent pipeline, we recommend LaunchVic act, advocate and collaborate to support those initiatives that will benefit the Victorian startup ecosystem.

Recommendations

- 1 Expand the 30x30 Program to include a stream dedicated to founders looking to scale
- 2 Evaluate existing programs supporting attraction of executives with business, operations and design backgrounds to inform future program design
- 3 Establish information campaigns and targeted outreach to support attraction of executives with business, operations and design backgrounds
- 4 Establish a talent strategy advice voucher program to incentivise startups to engage HR specialists to provide talent strategy advice earlier than is currently common practice
- 5 Expand the 30x30 program to encompass senior leaders in a broader range of non-technical roles including customer, marketing, sales and general executive roles
- 6 Act to improve diversity in the Victorian tech ecosystem by maintaining existing, effective initiatives and exploring new opportunities
- 7 Collaborate on existing initiatives by governments and industry that will improve technical talent pathways
- 8 Advocate for ongoing work by the Commonwealth Government that will support an improved supply of technical talent

1. Introduction

Victoria's startup ecosystem is growing strongly

Victoria has experienced a notable upswing in its startup sector, resulting in a marked increase in the combined enterprise value of its tech companies. Between 2016 and 2022, the combined enterprise value surged from \$5.6 billion to \$91 billion, representing a 16-fold growth.

This expansion reflects the state government's effective stewardship of this nascent industry, the entrepreneurial spirit of its founders and the risk tolerance of its investors. Exhibit 1 shows this steady growth, as companies such as Airwallex, LinkTree and CultureAmp have continued to grow strongly.

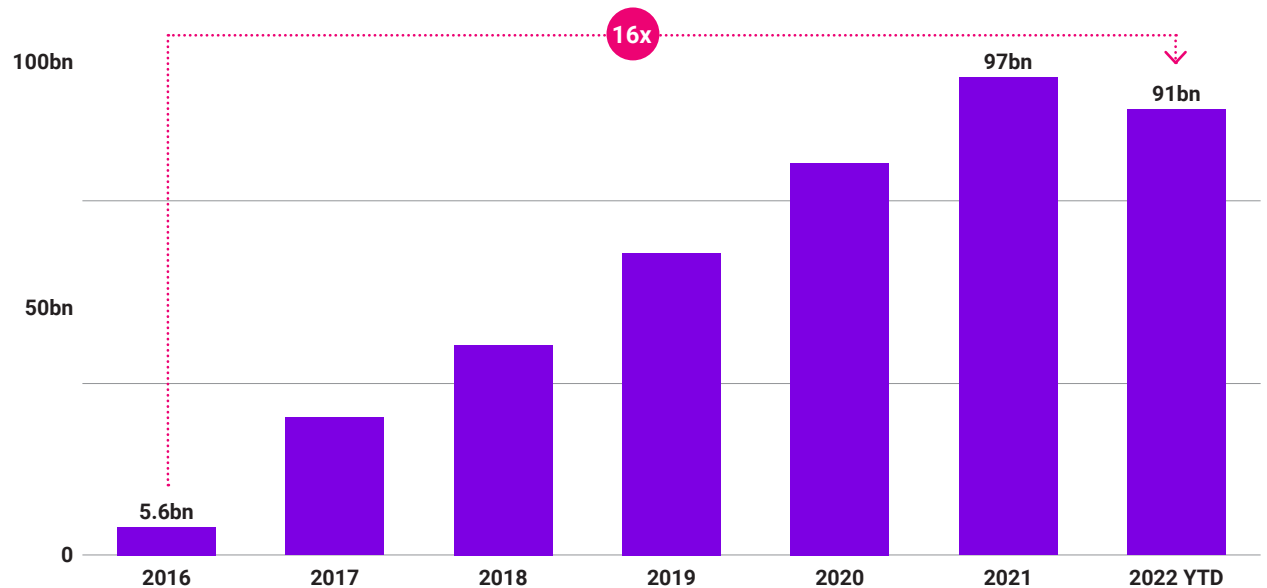
The impact of the tech sector in Victoria extends beyond the startups, with the broader industry employing approximately 259,000 people.¹ Startups account for just over 20% of Victoria's tech workforce employing 52,000 people.² This shows the growing importance that technology plays in the state's economy and the considerable opportunities it creates for the local workforce.

Despite recent news of layoffs in the tech sector, in Australia and globally, demand for talent in the Victorian startup ecosystem remains robust. News of layoffs appears to have had a larger impact on supply, with many stakeholders reporting heightened concerns regarding the risk of being laid off from prospective hires.

Victorian startups are also competing in a highly competitive local job market, with a low unemployment rate of 3.8%.³ While demand may have lessened slightly across the whole tech sector, there still appears to be strong demand and limited supply across a range of roles commonly found in startups.

EXHIBIT 1: *Victorian startups demand will continue to grow; ensuring we meet this demand will support startups to reach their potential*

Combined enterprise value of Victorian tech companies
\$, billions, 2016–2022 YTD



Source: LaunchVic, The State of Startup Funding Victoria, December 2022
Note: Valuation of Afterpay is excluded from 2021 and 2022 valuations

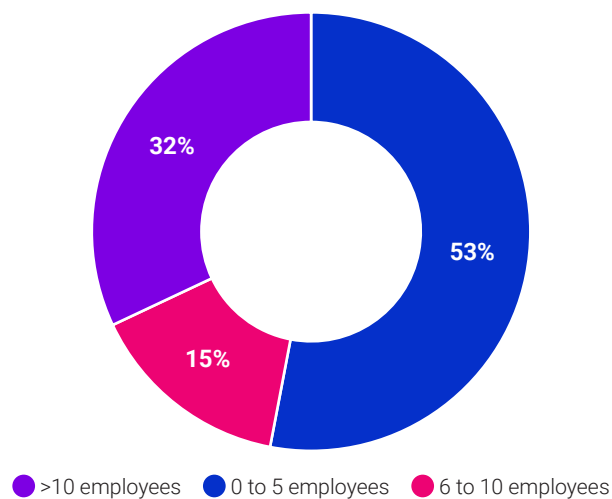
1. Tech Council of Australia
2. LaunchVic & dandolopartners, Victorian Startup Ecosystem Mapping 2022
3. Flinders University, Labour Market Brief Victoria, January 2023

But Victoria's startup ecosystem is experiencing growing pains

Startups are now experiencing skills gaps. With more startups and opportunities to scale, there is now a greater need to support founders build out their skillsets. When it comes to employees, technical skills shortages are a significant issue for many startups. These shortages are driven by a lack of supply amid record and rising demand across the Australian economy. Non-technical skills are also in shortage for startups and are concentrated in senior roles across a range of occupations from design to finance. However, these shortages are not driven by a lack of potential supply, but by attraction and retention issues.

EXHIBIT 2: *Some parts of the economy can fix their own skills shortages, but due to rapid growth startups can't solve these problems alone*

% , firms by number of employees, 2022



Source: LaunchVic, The State of Startup Funding Victoria, December 2022

Startups can't resolve these challenges alone

Startups face unique challenges based on their growth dynamics. As can be seen in Exhibit 2 most startups (53%) have very small teams, with 0 and 5 employees, and the next largest share (32%) have more than 10 employees. That suggests startups experience rapid growth, expanding their headcount in a relatively short period of time. This leaves little room for transitional periods during which startups could steadily build their teams and round out skillsets.

Better understanding the skills challenges facing startups helps us identify where other stakeholders, such as LaunchVic, can act to support the long-term health of the ecosystem.

Analytical approach

The research underpinning this report has been conducted in three parts.

First, we undertook quantitative analysis with a variety of data sources to assess whether occupations (technical and non-technical) are in shortage for Victorian startups. This gave us insight into where shortages are present and possible drivers.

Second, we conducted qualitative analysis based on stakeholder interviews. This allowed us to delve deeper into the causes of these shortages identified in the quantitative analysis and explore potential solutions.

Third, we conducted a desktop analysis of potential solutions to support the qualitative research. This enabled us to identify the breadth of possible solutions and test the strength of these solutions against objective criteria.

How this report is structured

Our analysis has identified that there are three kinds of skill gaps that are affecting the Victorian startup ecosystem. The remainder of the report analyses these and provides solutions in turn.

Chapter 2 explores existing offerings and opportunities to expand successful programs focused on founder skill gaps. Founders are running high growth businesses and need to scale with their startups. Significant growth is often required of founders at the scaleup phase when businesses become more complex and founders' roles change significantly.

Chapter 3 explores shortages affecting non-technical roles and potential ways to better support both these employees and startups. This research shows shortages across most non-technical occupations in the Victorian startup ecosystem. These shortages are concentrated in senior roles and are driven by two factors: attraction and retention issues.

Chapter 4 explores shortages affecting technical jobs and opportunities to ensure these shortages are addressed for the whole tech sector. Technical talent includes roles that require coding or STEM skills. Shortages in these roles affect tech employers across Australia. This research confirms Victorian startups also face these challenges, driven by a sheer lack of talent amid record and rising demand.

2. Founder skills need to scale with their startups

Founders play a distinct role in the startup ecosystem and broader economy. They act as both anchor and engine for new ideas which turn into products and ultimately businesses. The most successful of these businesses are global industry leaders, creating thousands of local jobs and raising productivity across the economy.

Across the growth lifecycle of successful startups, founders have radically different experiences compared to other business leaders running similar-sized but more established companies.

At the inception of a startup, founders need to do a wide range of tasks to survive but excel at only a few things to succeed. As their startup scales, the scope of the founders' role continually changes within only a few years.

Most founders need support to grow with their roles

Most business leaders have many decades of experience before rising to senior roles – some founders also share this experience, but many don't. Over those decades, most business leaders will have time to complete additional study or training that equips them for senior roles. They're also exposed to a wide range of working and management styles.

To continue to grow, most business leaders must change jobs (and often companies, as well as industries) multiple times across decades of experience. Conversely, founders remain with their startup and must grow with their role for both to succeed.

Research confirms the zeitgeist in the Victorian startup ecosystem that most founders need support to build out their skillset as their startup scales. This is particularly pertinent when growing between startup and scaleup phases because this represents a significant change in the nature and complexity of the business.

Founders come from a wide range of skillsets and professional backgrounds and experience. This means there is no single skill gap that affects all founders and programs will need to be flexible in meeting different skills needs. . The most common, and effective solution is to hire new staff with skills that complement founders – filling the startup's skill gaps. However, representatives from VC firms stressed that this means founders' soft skills must then develop to become the connective tissue that brings the diversity of skillset together. These soft skills are a gap for many founders, particularly technical founders.

There are a wide range of existing programs to support founders' skill development

To identify the range of programs supporting founders' skill development we interviewed stakeholders and conducted a desktop analysis. This included identifying the full range of potential solutions including looking at programs available in other countries and in parallel problems.

We have identified that there are a wide range of programs which already exist to support Victorian startup founders' skill development. Examples of these are noted in Table 1. There are three types of programs: short courses, educational tools, and resources and communities of practice.

We have also noted in Table 1 the type of skill needs these programs support. Collectively, these programs can address one or more of the following skill areas; hard business skills, soft business skills and exposure to broader business experience.

Many of these programs are primarily focused on early stage founders, but can still be relevant in later stages – depending on an individual's needs. However, given the greatest need identified is the progression to scaleup, we think it will be important to focus future additional efforts on founders and common skill needs at that stage.

We have assessed possible solutions for the target audience against four criteria: Scalable, Targeted, Time-effective and Cost-effective. Results from this assessment are presented in Table 2. Based on this assessment, we recommend LaunchVic take forward one possible solution which receives a High rating.

TABLE 1: Programs to support founders' skill growth

Program type	Examples	Hard business skills (e.g. accounting)	Soft business skills (e.g. managing staff)	Exposure to broader business experience	Are there sufficient existing options for founders ready to scale?
Short course Short course (<12 weeks) for startup founders to gain key skills and knowledge	<ul style="list-style-type: none"> > Blackbird Founder Academy (AUS)* > Various accelerator programs 	✓	✓	✓	There are limited short courses available to scaleup founders that are at the right price point, sufficiently concise with content directly relevant to scaling.
Educational tools and resources Tools and resources to help startup founders learn and upskill in key skills and knowledge areas	<ul style="list-style-type: none"> > Mintable 	✓	✓		While there are many resources for early-stage founders, there are few resources for scaleup founders to build core management skills.
Community of practice Space for startup founders to connect, learn and share knowledge about startup topics and experiences	<ul style="list-style-type: none"> > Third Space Founder to Leader Accelerator > StartupVic's Founder Connect program > Startmate fellowships & community > Earlywork AUS 			✓	There are communities for founders but few specifically focused on people ready to scale.

* These programs are limited to startups within the portfolio of the program operator.

RECOMMENDATION 1

Expand the 30x30 Program to include a dedicated stream for founders looking to scale

This program scores highly across these criteria and has stakeholders have volunteered resoundingly positive feedback about the program. This could be expanded through greater numbers of the existing target audience of scaleup founders, or expand to earlier stage founders.

As part of expanding the program, we recommend augmenting it with a cohort-based community of practice for founders. This would involve setting up an event and contact list for graduates of the program to enable them to remain in touch beyond the program. We believe this would be more cost-effective and useful for participants than establishing additional communities of practice for founders (which was a separate option evaluated). This could be delivered in partnership with existing communities of practice while still retaining clear cohorts.

TABLE 2: Assessment of possible programs to support founders skill growth

Potential solution	Overall rating* <i>Extent to which LaunchVic should support the program</i>	Scalable <i>Able to be scaled efficiently to reach a wide range of people</i>	Targeted <i>Involves targeted skill development</i>	Time-effective <i>Able to deliver positive results within a short time frame</i>	Cost effective
Expand 30x30 Program to include founders ready to scale	High	Medium	High	High	Medium
Create educational tools and resources	Medium	High	Low	Medium	High
Establish separate communities of practice	Medium	High	Medium	Low**	High

Note: Overall rating is the average of the three criteria. This assumes each criteria is weighed equally.

* While the main 30x30 program has limited scalability, we note that any communities of practice built out of this program would be highly scalable over time.

3. Business, operations and design talent are critical to growing firms

Startups are often founded by one, or a small group of people with very specific skillsets and strengths. In the early life of a startup, when product development is the sole focus, these specific strengths underpin their success. In the background, founders and early employees often do a bit of everything else – from hiring to sales and marketing – to keep the business going and focused on product development.

But as startups begin to scale, these ‘everything else’ tasks required to run a business quickly become more complex. It then becomes critical to hire experienced professionals who can expand and mature these aspects of the business. In the broader tech sector, business, operations and design talent comprise 33% of the workforce, as seen in Exhibit 3.

To examine whether the Victorian startup ecosystem is facing shortages in these business, operations and design roles, we have analysed data on the occupations listed in Table 3. First, for each occupation we calculated comprised four measures:

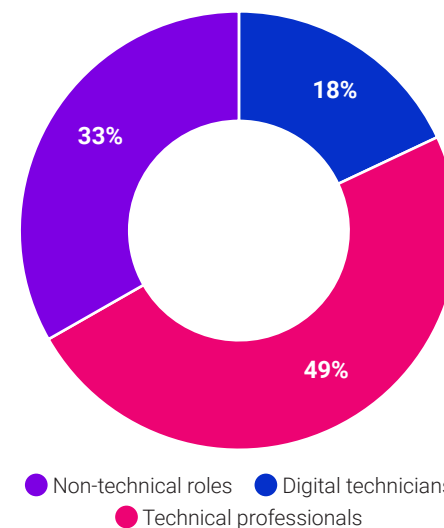
- > the vacancy rate
- > time to fill
- > projected growth and;
- > stakeholder assessment

For each measure, we rated the occupation’s result ‘low’, ‘medium’, or ‘high’, relative to the economy-wide average for that measure, as follows:

- > **Low:** If the occupation’s score for a measure is below the economy average, it is a ‘low’.
- > **Medium:** If an occupation had an above average score for a measure, between the 51st to 74th percentiles, it was labelled as facing a ‘medium’ shortage based on that measure.
- > **High:** If the measure score was in the 75th to 100th percentiles, it was labelled ‘high’.

The shortage rating, displayed on Exhibit 4 is the average score across all four measures.

EXHIBIT 3: Breakdown of broader tech sector by occupational group
% of workforce



Note: Based off project demand for tech jobs by 2030
Source: Tech Council of Australia, Getting to 1.2 million

Unlike larger tech businesses, many startups are struggling to recruit business, operations and design talent

Previous research into talent shortages across the Australian tech sector did not reveal shortages in these business and operations areas. While the Australian tech sector is facing workforce shortages, those are found in occupations requiring technology skills like software engineers and product managers.⁴

TABLE 3: Business, operations and design roles assessed for shortages

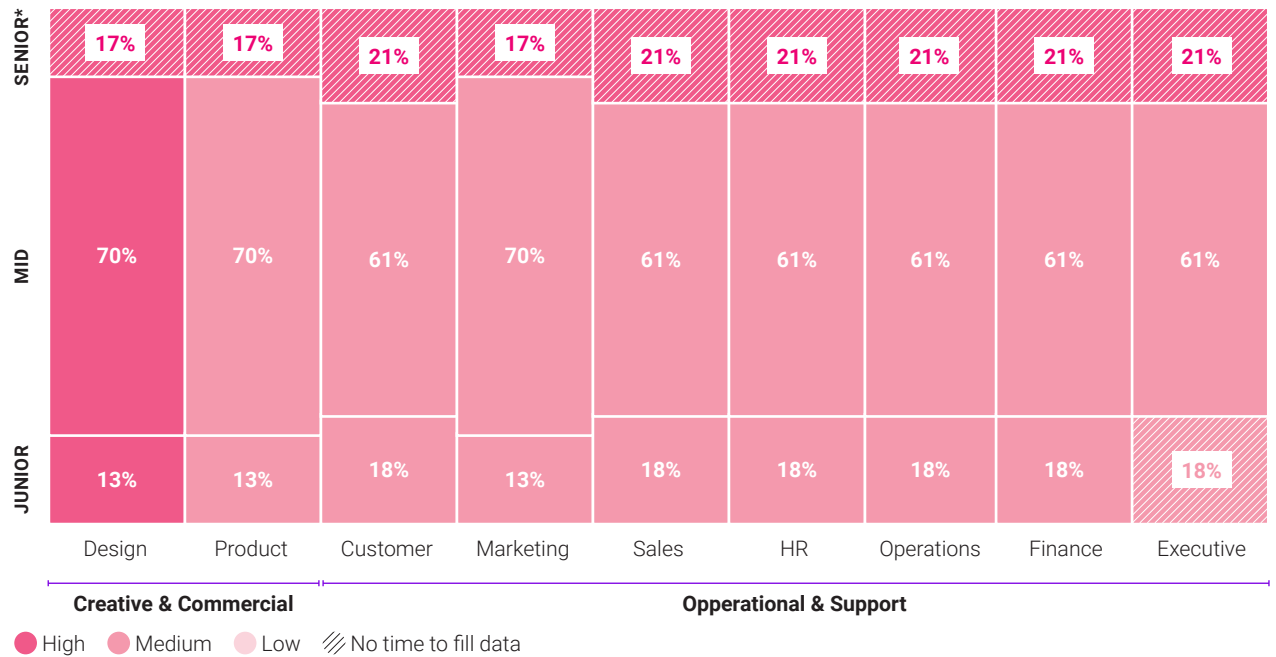
Occupational group	Example
Creative & Commercial	
Design	Chief Design Officer
Product	Chief Product Officer
Operational & Support	
Customer Support	Chief Customer Officer
Finance	Chief Finance Officer
Marketing	Chief Marketing Officer
Sales	Chief Revenue Officer
HR	Chief People Officer
Operations	Chief Operations Officer
Executive General Management	Chief Executive Officer

However, our analysis for this report shows that the Victorian startup ecosystem is facing significant issues in recruiting and retaining business, operations and design talent.⁵ Exhibit 4 summarises the results of this research.

The non-technical occupations facing the greatest shortages are Creative & Commercial occupations in Design and Product, and most Operational & Support occupations, which include most business areas like marketing and finance. These shortages are consistently concentrated in senior roles, with the exception of design occupations which face shortages across all levels.

EXHIBIT 4: Shortages are mostly concentrated in senior roles across business, operations and design roles

Startup workforce by occupational level and occupational group



Note: This chart represents the overlay of time to fill data, occupational shortage ratings and interview results. There is no time to fill data on senior roles, only results from interviews. Design includes roles such as Chief Design Officer, Product Designer

Source: TCA startup salary survey, TCA analysis

4. Tech Council of Australia, Getting to 1.2 million

5. This report focuses on the Victorian startup ecosystem, but we have no reason to believe these issues are specific to Victorian startups.

But these shortages are not driven by a lack of suitably skilled talent

While measures like vacancy rates indicate that these occupations are in shortage for Victorian startups, there is an abundance of suitably skilled people. For every vacancy in these business and operations roles, there are approximately 25,000 people with suitable skills and experience in Victoria, on average. This is shown in Exhibit 5. Interviews with stakeholders confirm that this is broadly understood in the startup ecosystem, and factors other than the potential supply of skilled talent are driving these shortages.

Skills shortages in senior business, operations and design roles are driven by attraction and retention issues

There are two drivers of shortages in senior business, operations and design roles: attraction and retention.

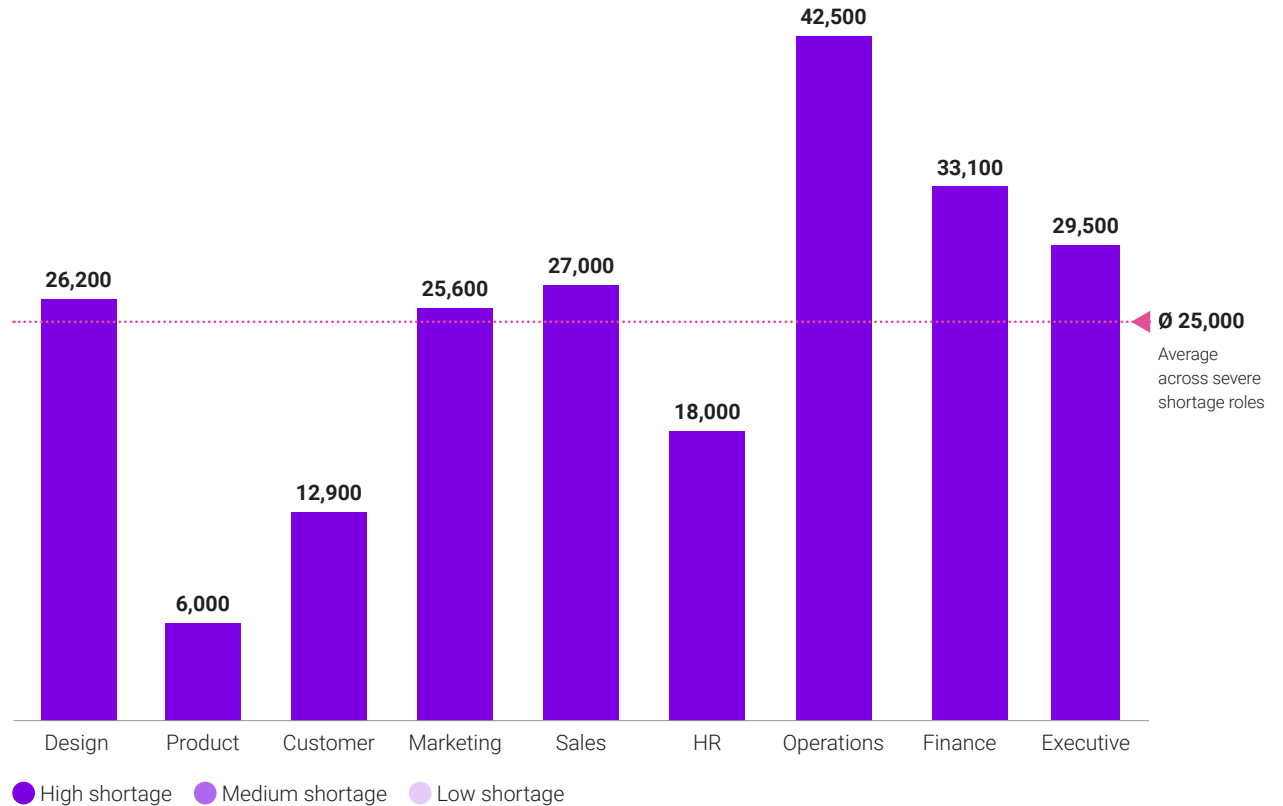
Attracting experienced, senior executives to these roles can bring significant benefits. However, it is currently a challenge for many Victorian startups. The attraction issue has two parts. First is broad attraction into the Victorian startup ecosystem. Second is attracting the right people to the right startups, which facilitates effective matching.

Retention is the second driver of shortages in senior business, operations and design roles. In this section, we explore the nuances of this issue and possible solutions that LaunchVic could support.

EXHIBIT 5: There is plenty of potential supply for senior non-technical roles – for every vacancy there are 25,000 people with similar skillsets in Victoria, on average

Labour supply in Victoria for senior-level business and operations roles

Number of people with similar skillsets in Victoria per vacancy, by occupation and seniority



Note: If there are zero vacancies in the current job ads data, we impute one vacancy to calculate this ratio

Source: 2021 Census, TCA startup salary survey

Attracting experienced, senior executives to these roles can be a challenge for many startups.

Jobs in startups have several differences compared to otherwise similar roles in larger organisations. There are often expectations of long hours in the office, a different remuneration package (sometimes with a lower salary but the addition of equity) and higher risk of the company failing. There can also be significant cultural differences in small, rapidly changing startups compared to larger companies with a more established, stable culture.

While this is not the case for all startups, it is seen as broadly diminishing the attraction of the startup ecosystem for many potential applicants. This is a point worth acknowledging in the design of solutions for two reasons. First, we need to ensure that founders and their leadership team have the skills and support to shape healthy workplace cultures – this is addressed in Chapter 2. Second, a healthy startup culture will still not attract some people (even if only at specific stages of their life). This means startups and their supporters need to ensure we're making the most of the limited talent supply. This point is further expanded on below in the discussion about effective matching.

Part of the attraction issue is effective matching. For those people attracted to the Victorian startup ecosystem there can be issues attracting them to the right startup resulting in effective matching between employee and business.

There are a few things that are currently undermining effective matching in the startup ecosystem:

- > **'Winner takes all' effect.** This means a small number of startups receive very large numbers of applications for open positions, while most startups struggle to recruit sufficient people. This is partly driven by limited awareness of the full range of opportunities, with media coverage thus broad awareness often focused on a few, very successful startups.
- > **Cultural mismatches.** Startups and their founding teams often have very distinct cultures. Matching potential employees to those cultures is near-impossible via conventional recruiting methods like job applications. Adopting different ways of recruiting, which are discussed in the solutions section, is becoming more common in the start-up ecosystem and there's space to further support this growth.
- > **Startup-specific skills gaps.** Founders often want senior business, operations and design employees with startup-specific experience and skills. However, due to the relative nascency of the Victorian (and Australian) startup ecosystem, there is a very shallow talent pool. This talent pool could be much bigger, and relatively quickly, with the right educational offerings – and many founders would welcome this kind of solution.

Programs that support the attraction of executives into startups provide startup-specific training, networking or both. These programs help interested executives make the transition to startups by being better equipped and informed about opportunities and how they can be effective in those startups.

We have identified programs available to prospective startup employees in Victoria through stakeholder interviews and desktop research. A summary of the results are shown in Table 4.

From this research, we have identified that there are two categories of programs: networking programs, and programs combining networking and training in startup-specific skills.

Networking programs enable prospective executive employees to build connections in the industry and find a role that's right for them. Earlywork Village provides this opportunity, as do Stone & Chalk and other startup community groups. However, given the apparent unmet need, we believe there may be scope for evaluation of the programs to identify further opportunities.

There are fewer existing programs that combine networking and training in startup-specific skills in Australia. The programs that do exist tend to be focused on (though not exclusive to) junior and mid-career employees. We believe this area is a significant gap that should be addressed.

TABLE 4: Programs supporting attraction of senior non-technical talent

Purpose	Program type	Description	Existing offerings in Victoria	Are there sufficient options for senior non-technical talent?	
Networking	Information campaigns and targeted outreach	Promotes the benefits of startup jobs to professional and industry associations for potential employees	-	While LaunchVic has run advertising campaigns for the startup ecosystem, such as 'Startups Start Here' none have been targeted at this audience	
	Community of practice	Space for potential employees to connect, learn and share knowledge about startup topics	Earlywork Village (AUS) LaunchVic 30x30 Program (limited audience)	While there are informal virtual communities, there are few formal and in-person communities	
Networking and training	Fellowships	MBA fellowship	Fellowship for MBA students to gain exposure to the startup ecosystem	Melbourne Business School via VCs	There are few internships or fellowships for MBA students looking to work in startups
		Executive in Residence Program	Fellowship for executives to gain exposure to the startup ecosystem	-	There are no known programs of this kind
		General fellowship	Practical skills-based program for potential employees to gain startup skills and learn about startup topics	Startmate Fellowship (AUS)	While there are fellowships for early career workers, there are few programs for mid / senior-level workers

To identify the most promising solutions for LaunchVic to take forward, we have evaluated the proposed evaluation of existing offerings and gaps relevant to prospective executive employees against four criteria. This evaluation is presented in Table 5.

We recommend taking forward the three potential solutions that have a high rating. The first two solutions have been combined into a single recommendation (Recommendation 2).

RECOMMENDATION 2

Evaluate existing programs supporting attraction of executives with business, operations and design backgrounds to inform future program design

We recommend primarily focusing on the Pivott Connect program, but this review could also examine other networking-only programs such as the Earlywork Village. This evaluation could examine whether existing offerings are fully meeting the need identified in this report. This would reveal options for adaptation and/or expansion. Options for expansion that make these programs independently viable, such as co-payment models, could be explored through this review.

TABLE 5: Assessment of possible programs to support attraction of senior non-technical talent

Potential solution	Overall rating* <i>Extent to which LaunchVic should support the program</i>	Scalable <i>Able to be scaled efficiently to reach a wide range of people</i>	Targeted <i>Involves targeted skill development</i>	Time-effective <i>Able to deliver positive results within a short time frame</i>	Cost effective
Evaluate existing programs					
Evaluate previous programs which aimed to support attraction of senior non-technical talent	High	-	High	High	High
Evaluate existing communities of practice	High	-	High	High	High
Establish new programs					
Establish information campaigns and targeted outreach	High	High	High	High	High
Establish MBA fellowship	Medium	Medium	Medium	Low	Low
Executive in Residence Program	Medium	Low	Medium	Low	Low

Note: Overall rating is the average of the three criteria. This assumes each criteria is weighed equally.

RECOMMENDATION 3

Establish information campaigns and targeted outreach to support attraction of executives with business, operations and design backgrounds

Given the prevalence of shortages in senior roles across many business, operations and design backgrounds, we believe there is a role for ecosystem-wide messaging to improve attraction of experienced professionals. This should include targeted outreach facilitated through professional associations for occupations with relevant skills.

Retention of senior business, operations and design talent is an issue for the Victorian startup ecosystem.

An Australian VC firm reported that it was not uncommon for senior business and operations people to be hired then only stay two or three months. Their rapid departure is almost always hastened by a deteriorating relationship with founder/s which makes their position untenable. This typically affects senior business and operations talent who move from larger businesses.

While retention is primarily the responsibility of the business themselves, we believe there is a role for organisations like LaunchVic to support startups and these senior employees in the first few months of their transition into startups.

Addressing attraction and retention issues will involve a mix of new programs and expansion of existing offerings

For the most part, there are already programs supporting better attraction and retention of prospective executives into Victorian startups. However, given the apparent shortages and need for these programs, we believe there is reason to evaluate and expand these programs as appropriate.

We have also identified some cases where there are no programs directed at a particular need. In these cases, we have assessed whether LaunchVic is well-placed to fill these gaps and provide recommendations on possible actions.

Programs to support better retention either support the startup or executives. Through our research, we have identified three types of programs, two of which are already offered in the Victorian startup ecosystem. These are shown in Table 6.

To identify the most promising solutions for LaunchVic to take forward, we have evaluated the proposed evaluation of existing offerings and gaps relevant to prospective executive employees against four criteria. This evaluation is presented in Table 7.

We recommend taking forward two potential solutions.

RECOMMENDATION 4

Establish a talent strategy advice voucher program to incentivise startups to engage HR specialists to provide talent strategy advice earlier than is currently common practice

A voucher program can incentivise businesses to take up particular services. We believe there is a need to incentivise startups to engage HR specialists to provide talent strategy advice earlier than is currently common practice. The scope of activities eligible could also include talent and skills-related software. We recommend this is established through a pilot program with built-in evaluation.

RECOMMENDATION 5

Expand 30x30 program to encompass senior leaders in a broader range of non-technical roles including customer, marketing, sales and general executive roles

The 30x30 program is an effective solution for many executives making the transition into the startup ecosystem. We recommend this program is expanded and augmented to create communities of practice for graduates, centred on their occupations. This would be a highly cost-effective measure with long-term benefit to participants.

TABLE 6: Programs supporting retention of senior non-technical talent

Program type	Description	Existing offerings in Victoria	Additional notes
Talent strategy advice voucher program	Provides vouchers for startups to receive talent strategy advice	-	There are no known programs of this kind
Executive education & mentoring	Provides targeted training for startup executives and connects them with experienced startup leaders	30x30 Program (VIC)	There are few programs that offer tailored education and mentoring for startup executives in Victoria
Community of practice	Space for employees to connect, learn and share knowledge about startup topics and experiences from people in similar roles	The Community Collective (AUS)	While there are a number of communities for employees in certain roles (e.g. Chief of Staff), there are few communities for other types of roles. This kind of program could be delivered in conjunction with the 30x30 program or similar.

TABLE 7: Assessment of potential programs to support retention of senior non-technical talent

Potential solution	Overall rating* <i>Extent to which LaunchVic should support the program</i>	Scalable <i>Able to be scaled efficiently to reach a wide range of people</i>	Targeted <i>Involves targeted skill development</i>	Time-effective <i>Able to deliver positive results within a short time frame</i>	Cost effective
Establish talent strategy advice voucher program	High	High	High	High	High
Expand 30x30 Program to include broader range of non-technical roles	High	Medium*	High	High	High
Establish separate communities of practice	Medium	Medium	Medium	Medium	High

Note: Overall rating is the average of the three criteria. This assumes each criteria is weighed equally.

*While the main 30x30 program has limited scalability, we note that any communities of practice built out of this program would be highly scalable over time.

4. Technical talent remains a key ingredient for success

Technical talent encompasses roles like software developers, network engineers and domain-specific roles such as quantum physicists. Technical skills are crucial at every stage of growth for tech companies.

For non-technical founders, an adequate supply of technical talent is essential to getting their startup off the ground and turning their idea into a reality. For founders with technical skillsets, hiring staff who also have these skillsets is also important once their company starts expanding.

Victorian startups face challenges recruiting general technical talent

Shortages in technical talent are a pressing issue for Victorian startups. This issue is shared with the broader tech sector. Tech job vacancies are 60% higher than the national average, with a forecasted growth rate triple that of other sectors.⁶ Most severe shortages are observed in technical occupations, such as software programmers and computer network professionals and are concentrated in mid-level roles requiring three to eight years' experience.

In the Victorian startup ecosystem, we have identified two important categories of technical occupations: general technical roles (e.g. software developers) and domain-specific roles (e.g. quantum physicists).

Data analysis shows that general technical talent is in shortage for Victorian startups. These shortages are identified using the same measures as non-technical occupations: the vacancy rate, time to fill, projected occupational growth and a qualitative stakeholder assessment. The average score across these measures becomes the shortage rating, which for all general technical occupations groups is High, as shown in Exhibit 6.

The high degree of shortages present in these technical occupations is consistent with previous research conducted by the Tech Council into the national tech labour market.⁷

These shortages are compounded for startups seeking to hire general technical talent, such as software engineers, in specific domain areas like AgTech. One specialist VC emphasised that a lack of awareness was constraining these talent flows, noting "People know what Fintech is, people know what SaaS is, but getting people to move over into AgTech has been really challenging".

The good news is that awareness is improving and the most significant improvements have been in areas where LaunchVic have been leading work to raise awareness and support industry development.

We have also assessed shortages for domain-specific technical roles. The purpose of examining these occupations separately is to identify if shortages exist for roles where the training pathways are substantially different to general technical roles.

Our analysis shows that domain-specific technical roles are in shortage within the Victorian tech ecosystem. We have identified these shortages using four measures. The first three measures are tailored to this group of roles:

- > Projected growth measures the projected growth of the domain⁸ -- this proxies the demand in the short to medium term for skills closely tied to this domain, and;
- > Australia's share of global startups – this proxies whether Australia is likely to have a shortage of domestic supply of domain-specific technical skills which generally requires a foundation of general technical skills (which are known to be in shortage)
- > The ratio of startups to scaleups in Victoria – this identifies domains which have a relatively large number of startups .

6. Tech Council of Australia, Getting to 1.2 million

7. Tech Council of Australia, Getting to 1.2 million

8. Tech Council of Australia, Turning Australia into a Regional Tech Hub

The other two measures, vacancy rate and stakeholder assessment, are the same method as used for non-technical and technical roles in this report.

These results show us that like technical roles, many domain-specific technical roles are in shortage. The driver of general and domain-specific technical talent shortages is lack of supply, based on national-level research conducted by the Tech Council.⁹ Tech Council research identifies five factors contributing to shortages in technical talent across the Australian tech sector.¹⁰ We believe these are highly relevant to the Victorian startup ecosystem.

1. Lack of awareness of tech jobs
2. Gaps in training products and pathways into tech jobs
3. Limited representation
4. Limited domestic talent pool for technical and experienced roles
5. Lack of coordinated effort, analysis and planning

These issues are pertinent to the Victorian startup ecosystem and are distinct from the issues underlying shortages in non-technical talent (attraction and retention). Shortages in technical talent are being driven by record high and rising demand, coupled with restricted supply.

There are a range of solutions to technical talent shortages. Some of these solutions are within the remit of LaunchVic, and in those areas we recommend acting and collaborating with other stakeholders. Other issues are the responsibility of the Victorian or Federal Government and we recommend LaunchVic advocate for the interests of the Victorian startup ecosystem in these areas.

9. Tech Council of Australia, The economic contribution of Australia's tech sector
 10. Tech Council of Australia, Getting to 1.2 million

EXHIBIT 6: Technical talent is in shortage for Victorian startups

Category	Occupational group	Shortage rating*	Vacancy rate National	Time to fill VIC	Projected growth National	Stakeholder assessment VIC
Digital Technicians & Trades	IT Operations & Architecture	High	High	-	Medium	High
Technical Professionals	Data	High	High	High	Medium	High
	Software engineering	High	High	Low	High	High

● High 75%–100% ● Medium 50%–74% ● Low <50% (average)*

Note: *Average refers to the unique thresholds (nation-wide averages) for individual shortage criteria.
 *Shortage rating is the average of the three shortage criteria. This assumes each criteria is weighed equally.
 Source: TCA analysis, TCA Startup Salary Survey, 2021 Census, Collancer, LaunchVic, NSC

EXHIBIT 7: Domain-specific technical talent is in shortage for Victorian startups

Domain	Shortage rating*	Projected growth Global	Aus share of global startups Global	VIC share of AUS startups VIC	Vacancy rate National	Stakeholder assessment VIC
AI / ML	High	Medium	Medium	High	High	High
Quantum Tech	Medium	Medium	High	Low	Medium	High
AR / VR	Medium	High	Medium	Low	Low	High
Robotics & Drones	Medium	Low	Medium	Medium	Medium	High
Geospatial & Surveillance	Medium	Low	High	Low	Low	High

● High 75%–100% ● Medium 50%–74% ● Low <50% (average)*

Note: *Average refers to the unique thresholds (nation-wide averages) for individual shortage criteria.
 *Shortage rating is the average of the three shortage criteria. This assumes each criteria is weighed equally.
 Source: Dealroom, Airtree, Blackbird, Main Sequence, ABS, Crunchbase, CSIRO, Pitchbook, TCA analysis

RECOMMENDATION 6**Act to improve diversity in the Victorian tech ecosystem by maintaining existing, effective initiatives and exploring new opportunities**

This could include:

- > Supporting work that makes public commitments to diversity targets and industry reporting – this could be achieved through continuing LaunchVic’s ecosystem mapping reports which provide new and insightful analysis on the state of diversity in the Victorian startup ecosystem.
- > Improved support for women to transition into tech – this could be achieved by continuing to fund initiatives such as Startmate’s Women’s Fellowship which have successfully supported women to transition into tech.
- > Improved investment for under-represented founders – this could be achieved through continuing to administer the Alice Anderson Fund and funding other initiatives which improve the funding environment for under-represented founders, including but not limited to women.

We note that LaunchVic has already done substantial work in this space. We recommend that LaunchVic continue to fund effective programs and re-evaluate efforts where programs have not been successful to inform future investments.

RECOMMENDATION 7**Collaborate on existing initiatives by governments and industry that will improve technical talent pathways**

This could include supporting:

- > A nation-wide campaign to demystify the tech sector for Australians
- > National Work Experience program for Secondary School students
- > Digital Apprenticeship Model – being undertaken through the Australian Government’s Digital and Tech Skills Compact
- > Innovative learning and recognitions options
- > Development of the plan to achieve 1.2 million tech jobs in Australia by 2030
- > The Victorian Government’s Digital Jobs program and SummerTech LIVE program

We note that these initiatives are designed to support the entire tech workforce and may have different degrees of relevance to the Victorian startup ecosystem. We recommend the nature of LaunchVic’s support for these initiatives be determined by the relevancy of the program for the startup ecosystem.

RECOMMENDATION 8**Advocate for ongoing work by the Commonwealth Government that will support an improved supply of technical talent**

This could include:

- > Defined and Managed Skills Standards and Pathways
- > Streamlined skilled migration
- > Improved retention of international student graduates in Australia

We note that advocacy on these initiatives could take a number of forms, including collaborating on research and policy initiatives by organisations like the Tech Council.

5. Appendix

Roles examined in economic analysis

Type	Category	Occupational group	Examples
General non-technical	Operational & Support	Customer Support	Chief Customer Officer, Customer Insights Analyst
		Finance	Chief Financial Officer, Financial Controller
		HR	Chief People Officer, Learning & Development Manager
		Marketing	Chief Marketing Officer, Growth Manager
		Operations	Chief Operating Officer, General Counsel
		Sales	Chief Revenue Officer, Customer Success Manager
		Executive General Management	Chief Executive Officer, Managing Director
	Creative & Commercial	Design	Chief Design Officer, Product Designer
		Product	Chief Product Officer, Product Manager
General technical	Digital Technicians & Trades	IT Operations & Architecture	Head of IT, Network Architect
	Technical Professionals	Data	Chief Data Officer, Data Engineer
		Engineering	Chief Technology Officer, DevOps Engineer
Domain	Foundational	Quantum Tech	Quantum Physicist, Quantum Engineer
	<i>New and emerging technologies</i>	AI / ML	Machine Learning Engineer, AI Research Scientist
	Additive	AR / VR	Computer Vision Engineer, AR Research Scientist
	<i>Uses existing technologies</i>	Geospatial & Surveillance	Geographic Information Systems Analyst
		Robotics & Drones	Robotician, Mechatronics Engineer
		Cybersecurity	Cybersecurity Engineer, Cybersecurity Specialist
		Blockchain	Blockchain Engineer, Blockchain Developer

Shortage rating methodology for non-technical and general technical roles

Shortage criteria	Method	Threshold for shortage	Data	Scope
Vacancy rate (%) National	The number of open roles divided by the total number of roles (inc. open roles)	National average (2%)	TCA startup salary survey; National Skills Commission Internet Vacancy Index; ABS Labour Force Survey	National
Time to fill (No. of days) VIC	The average age of ads for similar roles.	National average (40 days)	LaunchVic jobs database, Tech Council research	Victoria
Projected growth (%) National	Adopt the projected employment growth for the ANZSCO-equivalent occupation	National average (9.1%)	TCA startup salary survey; National Skills Commission	National
Shortage rating	Average of criteria ranks with L/M/H being 1,2 and 3 respectively. For instance, suppose the shortage ratings are {Low, Medium, Medium}. This is mapped to {1,2,2}. The average of these ratings is 1.67 which is rounded up to 2. So, the final shortage rating is Medium.			

Shortage rating methodology for domain-specific technical roles

Shortage criteria	Method	Threshold for shortage	Data	Difference from technical roles measures
Projected growth (%) Global	Compound annual growth rate (CAGR) for the industry from 2021 to 2030	Average CAGR across all industries	Pitchbook/McKinsey analysis	This is a business domain, rather than occupation-focused measure
AUS share of global startups (%) Global	Australia's share of global total startups operating in that domain	Australia's contribution to global GDP	Dealroom	New measure tailored to this question, proxy for pressure in labour market
VIC share of AUS startups (%) VIC	Victoria's share of Australia total startups operating in that domain	Average share across all domains	Dealroom	New measure tailored to this question to highlight Victoria's relative strength
Vacancy rate (%) National	Number of open startup roles divided by the total number of startup roles (inc. open roles).	National average	Startup jobs boards (AirTree, Blackbird, Main Sequence), 2021 Census Data, O*NET data, Crunchbase data, CSIRO analysis, TCA/McKinsey analysis	-
Stakeholder assessment National	Qualitative stakeholder assessment of shortages (High / Medium / Low) for the domain	-	Interviews	-

Determining shortages for seniority x occupation methodology

Occupation		Notes
Shortage rating	Map the shortage criteria ratings to an integer with 1 = Low and 3 = High. Take the average of these ratings and round to the nearest integer. Map the average back to Low / Medium / High.	For instance, suppose the shortage ratings are {Low, Medium, Medium}. This is mapped to {1,2,2}. The average of these ratings is 1.67 which is rounded up to 2. So, the final shortage rating is Medium.
Seniority		
Time to fill	Map the time to fill for occupation x seniority to an integer with 1 = Low and 3 = High. Source: LaunchVic job ads	
Occupation x seniority measures		
Average	Average of shortage rating score for the occupation (1-3), time to fill for occupation x domain (1-3) and stakeholder assessment score (if it exists).	<p>There is no time to fill data for senior roles. For occupation x seniority roles where there is no time to fill data, the average of the shortage rating score for the occupation and the stakeholder assessment score (if it exists) is used. If there is no stakeholder assessment score and no time to fill data, the average rating score for the occupation is used.</p> <p>Stakeholder assessment scores were obtained from interviews and are available for certain roles. The stakeholder assessment scores are as follows:</p> <ul style="list-style-type: none"> > All senior x non-technical occupations are facing high shortages (High) > All junior x non-technical occupations are facing low shortages (Low) > All other seniority x occupations follow the shortage rating score for the occupation

Identifying recommended solutions methodology

Identify potential solutions		Notes
Desktop research	Conducted desktop research on startup programs in AUS, UK and US	Identified startup program types including community of practice, educational tools and resources, executive education programs, fellowship programs and mentoring programs
Interviews	Confirmed desktop research findings and discovered new startup programs not previously found	Identified additional program types including specialised fellowship programs (MBA fellowship, Executive in Residence Program) and talent strategy advice voucher program
Identify recommended solutions		
Assessment	Assessed potential solutions and identified recommended solutions using criteria	Criteria include scalable, targeted, time-effective and cost-effective



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