Startup Genome

Assessing New Zealand's Startup Ecosystem

JF Gauthier, Founder and CEO
Marc Penzel, Founder and President
Stephan Kuester, Head of Ecosystem Strategy
Forrest Wright, Assessment Lead
Parth Arora, Business Analyst
startupgenome.com

Agenda

1. Introduction
2. Ecosystem Lifecycle Phase
3. Success Factor Assessment
4. Innovation Edge

Agenda

1. Introduction
2. Ecosystem Lifecycle Phase
3. Success Factor Assessment
4. Innovation Edge

Our Role is to prioritize, shape and drive action

Our Role

- **Data-Driven Assessment:** Gaps and strengths of the ecosystem, peer benchmarks
- **Global Best Practices:** Bring relevant best practices to address gaps & invest in strengths
- **Community Alignment:** Consensus-building around priorities among stakeholders
- **Taking Action:** Support ecosystem leaders to shape and drive first actions

We performed an in-depth assessment of New Zealand's startup ecosystem

Geographic Scope

The New Zealand Ecosystem, nominally referred to as "New Zealand" in this presentation unless marked otherwise

Assessment Activities

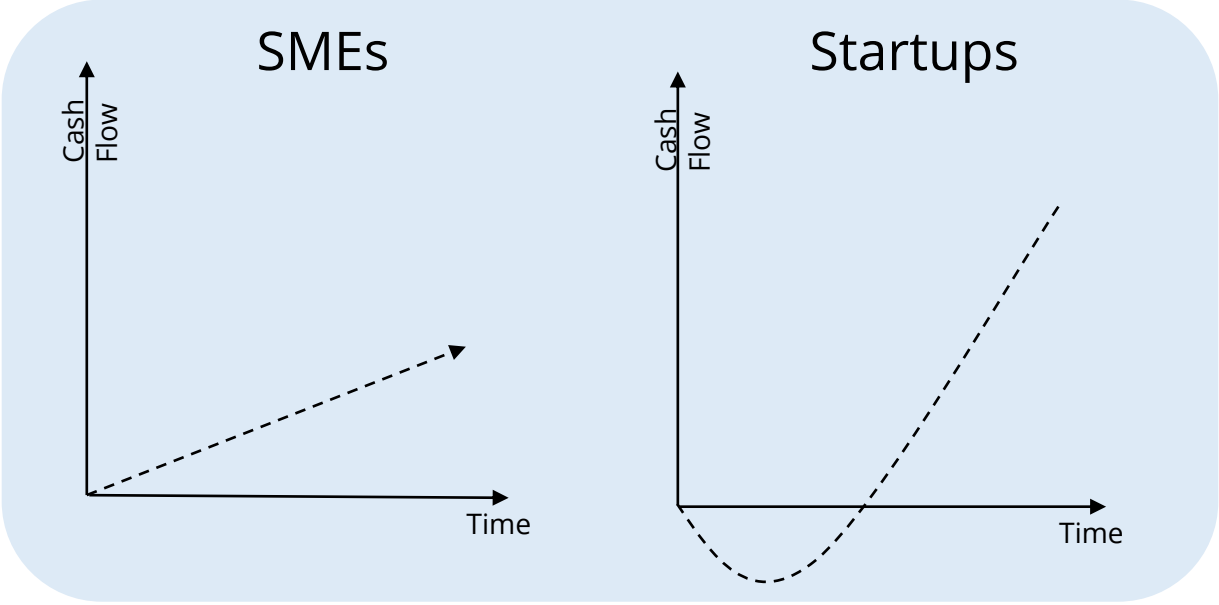
Founder Surveys and Data Analysis	Create missing Success Factor data with startup survey + combine and process data from major databases
Interviews with 24 Key Stakeholders	Founders, Angels, Accelerators, VCs, university leaders
Ranking of Sub-Sector Strengths	Objective voice of global databases for you to combine with local knowledge

Map of New Zealand is not to scale, for representative purposes only

Startups are young, technology-focused and/or high-growth organizations using scalable business models

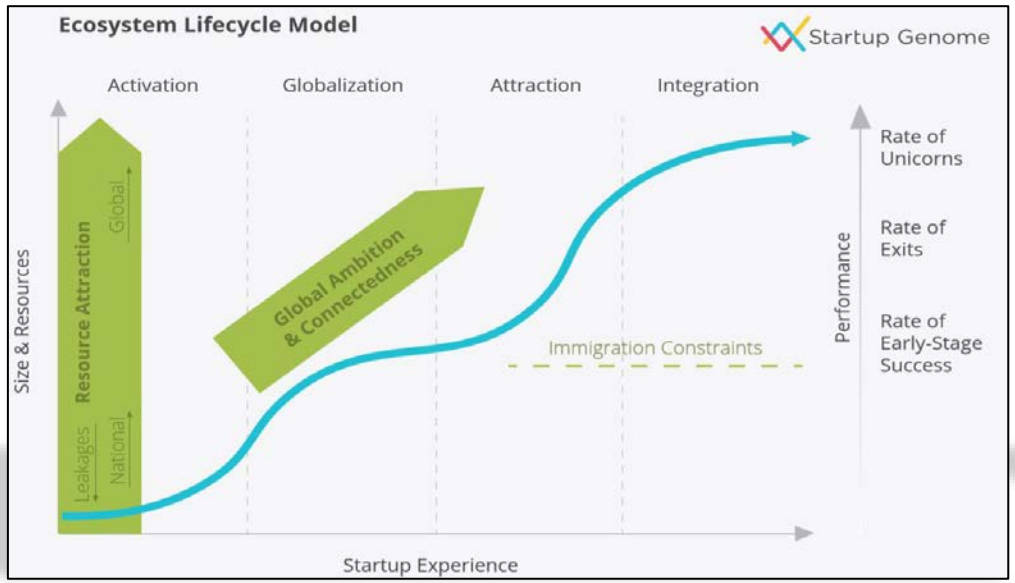
Definition of Startups

Taking inspiration from Steve Blank, we define startups as *young organizations searching for a repeatable and scalable business model*. We use this definition to look at new businesses in sectors including, but not limited to, Software, Hardware, Health, and Energy.



Our holistic assessment is driven by two facets and based on research with hundreds of startup ecosystems globally

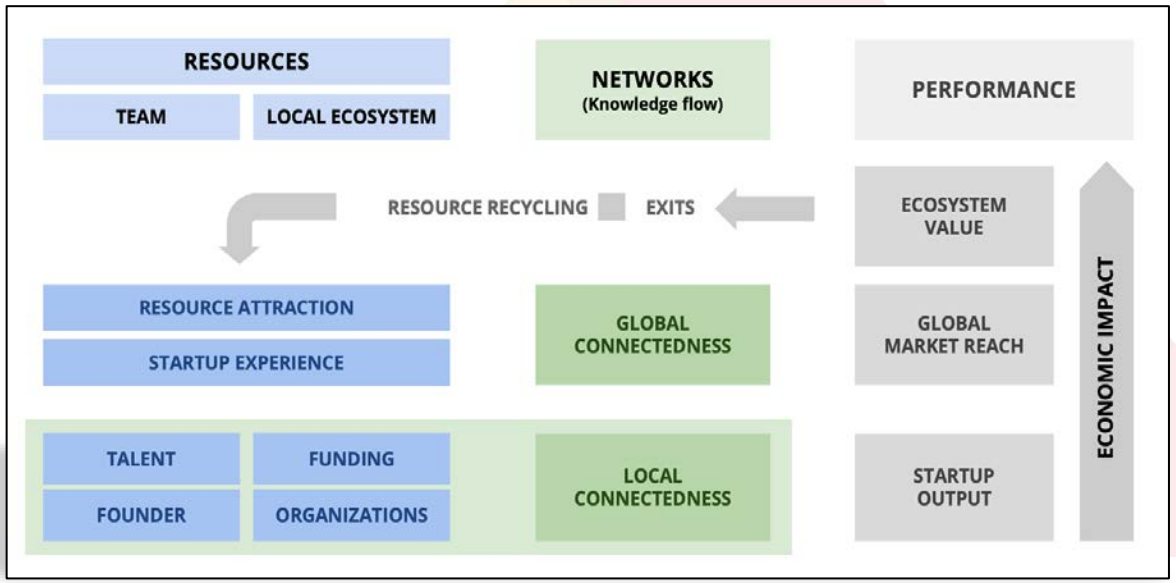
1 Startup Ecosystem Lifecycle Phase Identification



Research of 100+ startup ecosystems highlights that they evolve across predictable trajectories and exhibit specific characteristics along the way

Identify characteristics and peer set for comparison

2 Startup Ecosystem Assessment anchored on Success Factors*

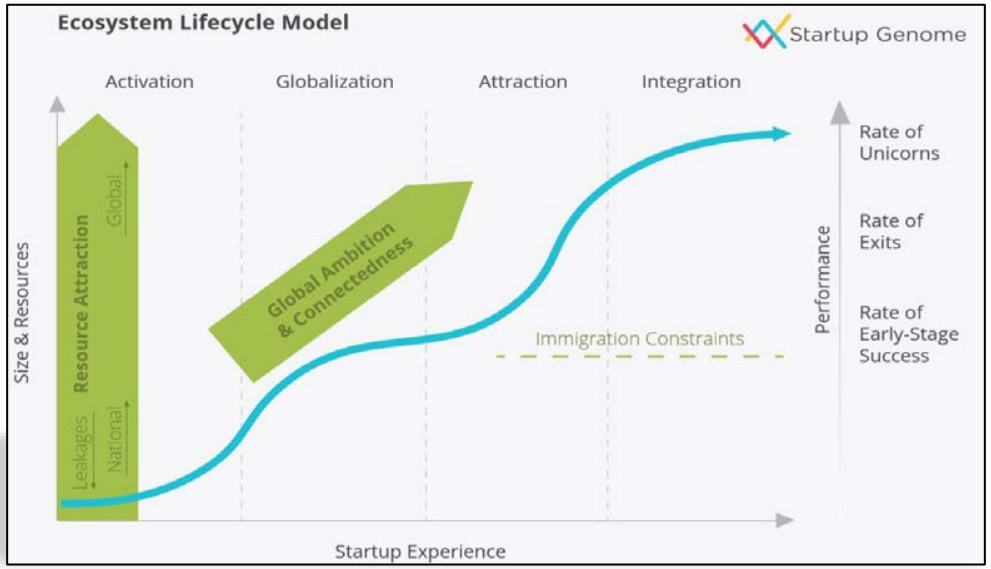


Factors critical to the success of startup ecosystems are analyzed against ecosystems in similar phases to understand strengths and gaps

Quantify key strengths and barriers to startup success

 *Success factor model is based on extensive research done across global ecosystems and is startup genome's proprietary model

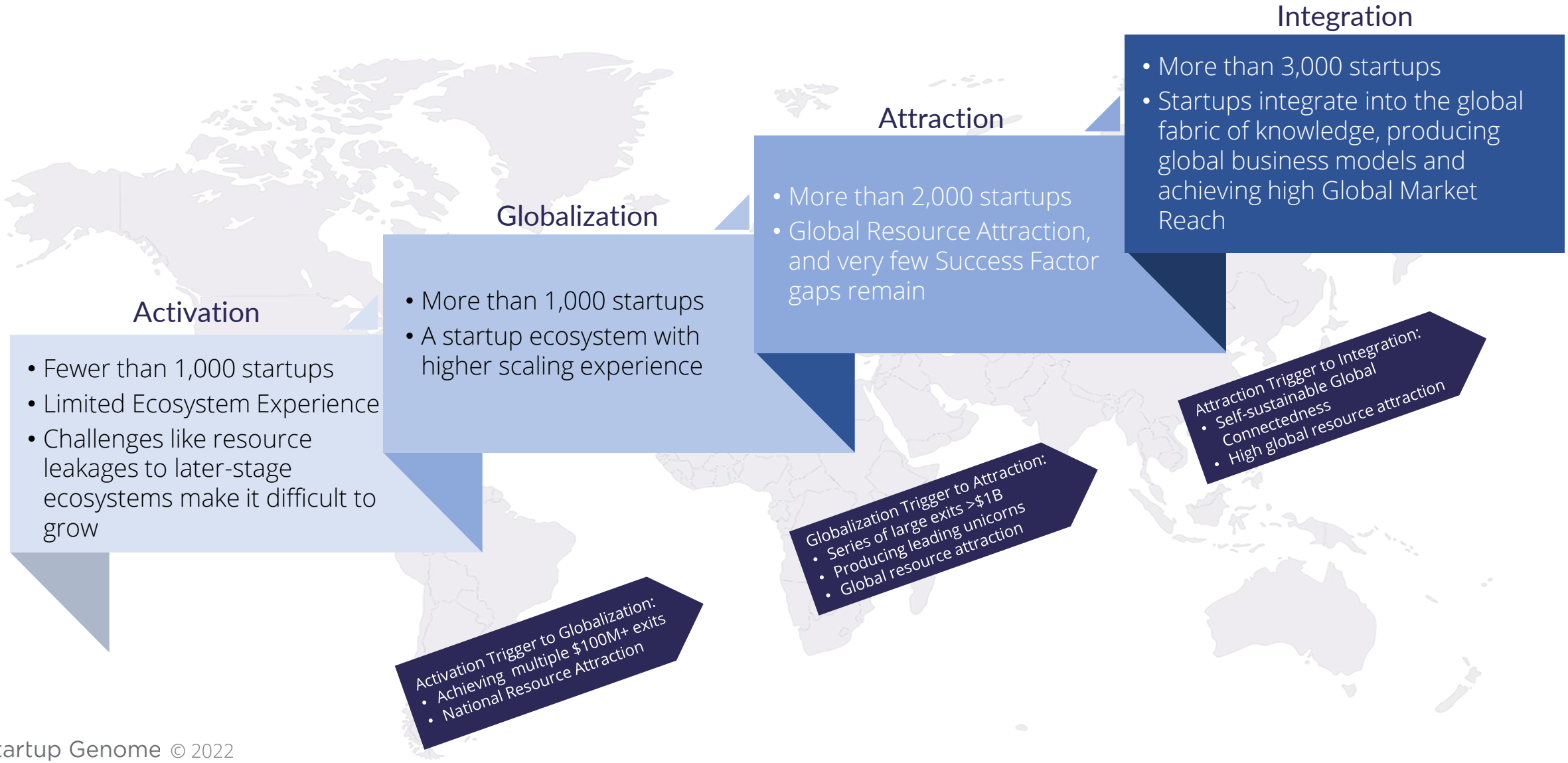
The Ecosystem Lifecycle Model explains how an ecosystem performs in comparison to others, and which measures to prioritize



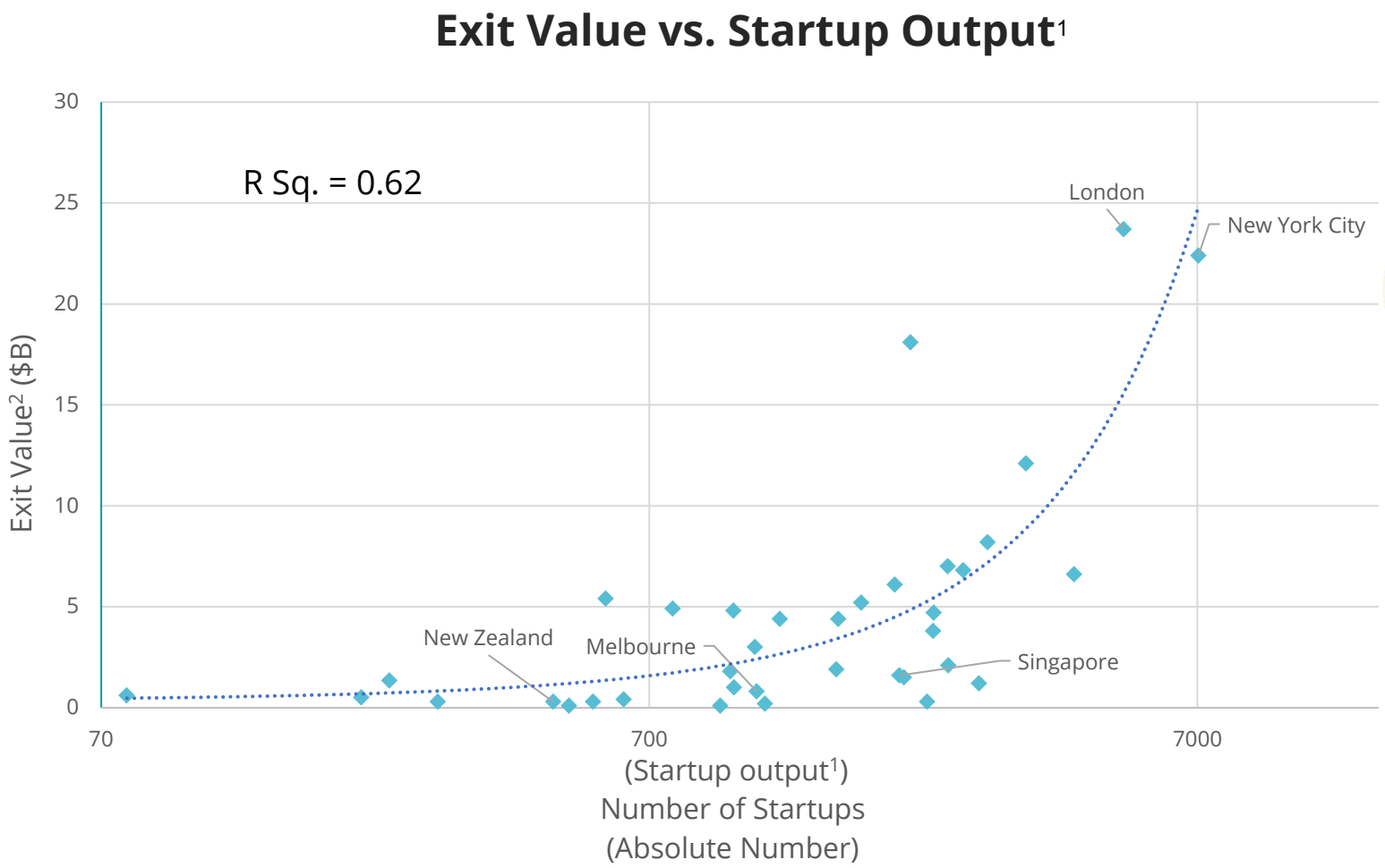
We observed a struggle among city and regional leaders to accelerate the growth of their startup ecosystems as the structure and dynamics differ radically from the traditional economy, requiring a brand-new model of economic development. Startup ecosystems are highly dynamic and, similar to new technologies, evolve rapidly through different maturity phases, with each phase having unique characteristics and needs. A global perspective on key development actions, contrary to a singular focus on Silicon Valley, can drive sustainable growth and job creation.

To categorize startup ecosystem phases and their evolution, we developed “The Ecosystem Lifecycle Model” to help leaders take appropriate action for the most direct impact relative to their current phase

The Ecosystem Lifecycle consists of four distinct phases, each with distinct characteristics and goals



SG Science: The larger the entrepreneurial community, the more value can be created via critical mass



Overview

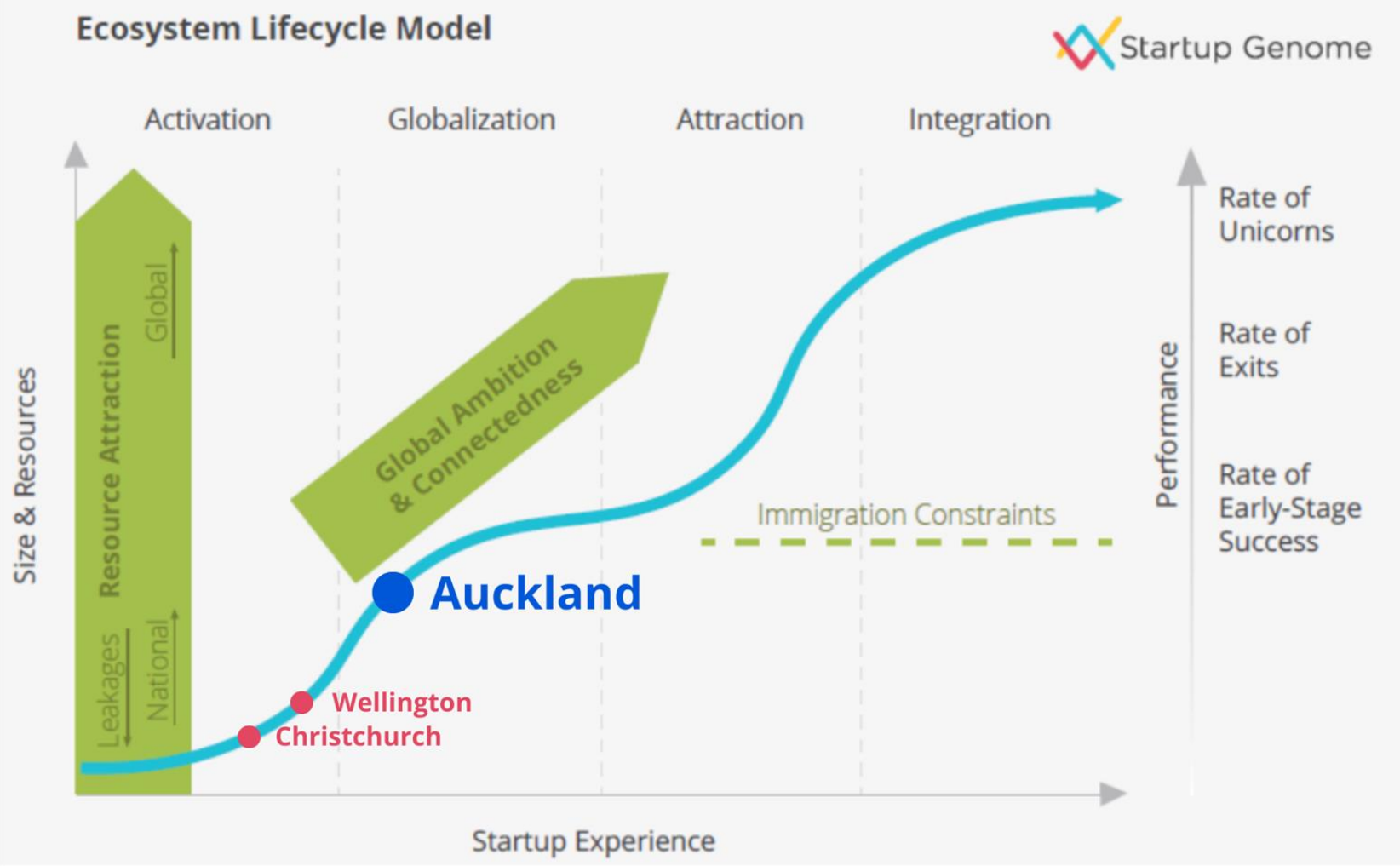
- An increasing number of startups strengthen the local community by inducing sharing of knowledge and increasing support initiatives and funding sources
- Our data shows that a larger number of startups enhances the ecosystem's capability of producing successful startups
- Cumulatively, this positive effect results in the overall development of the ecosystem

1. Startup Output measures the estimated number of startups in an ecosystem
2. Exit Value measures the aggregate value of all the startups that have exited i.e have undergone an IPO or have been Acquired/Merged in the ecosystem

Agenda

1. Introduction
2. Ecosystem Lifecycle Phase
3. Success Factor Assessment
4. Innovation Edge

Auckland has the characteristics of Globalization phase ecosystem, while the rest of NZ is in the Activation phase



Overview

- Auckland has characteristics consistent with other **Globalization phase** Ecosystems
- New Zealand *currently* has about **2,400+** startups; about 1400 from Auckland
- New Zealand has had **6** $100M+ exits in *the last 5 years*

Lifecycle stages explained

Size & Resources

Situation

Strategy

Activation

- Limited Startup Experience
- Low Startup Output under 1,000
- Resource leakages

- Grow Connected Community
- Increase Early-Stage funding
- Accelerate top startups to $100M exits

Globalization

- 800 to 1,200 startups.
- Exits over $100 million attract resources.

- Inject Global Know-How
- Increase Global Connectedness
- Accelerate top startups to $B Exits

Attraction

- 2,000+ startups
- Globally impressive unicorns and exits above $1 billion produce Global Resource Attraction
- Global Attraction of engineers requires removal of immigration barriers

- Fill Remaining Resource Gaps
- Expand Resources
- Integrate with global ecosystems

Integration

- 3,000+ startups
- Global Resource Attraction produces a high and self-sustainable degree of Global Connectedness and flow of knowledge.
- Resources are balanced and competitive.

- Integrate ecosystem with local economy, laws and institutions
- Drive inclusion and integration

Startup Experience

+ Early-Stage Funding
+ Value
+ Exits
+ Unicorns
+ Performance
+ Global Ambition & Connectedness

Auckland: Globalization Phase challenges and objectives

Characteristics	Challenges	Objectives
Increased Startup Experience has led to the production of a series of regionally impressive “Triggers”: • Several **exits over $100 million**, **attracting resources**. • **Output of 800 to 1,200 startups** growing towards 2,000 startups.	Still **leaks resources** to top global ecosystems Important resource gaps still exist across several factors. Stop focusing on activating local resources to start accumulating global knowledge. Issues: • Series A Funding • Global Know How programs • Global Connectedness • Global Growth programs • Technical & Growth talent work visas • Proactive legislation: remove roadblocks, adapt • Assess & work on specific gaps	Foster **connections with global** ecosystems so local startups can develop world-leading startups and **unicorns**. Help the startups go global, with investors that think global 2000 to 3000 startups >> trigger to next phase

Other New Zealand ecosystems: Activation Phase challenges and objectives

Characteristics	Challenges	Objectives
Limited Startup Experience **Low Startup Output** < **1,000**	Generalized **resource gaps** causing **resource leakages** to later-stage ecosystems. Entrepreneurial Spirit, English Proficiency, Education, Culture. Ease of doing business, adapted tax laws. Local connectedness Seed funding	**Grow** and build a more **connected community** by activating local entrepreneurs, talent and investors. Focus on **increasing the Startup Output and Early-Stage Funding**. Pick one or two startup subsectors that build on local economic strengths and develop focused programs to accelerate top startups to $100M exits to trigger to the next phase

Auckland hosts the largest share of startups in the NZ ecosystem

City	Startup Output	% of New Zealand Startup Output	Population Weightage (as per 2018 census)
Auckland	1,406	57.6%	30%
Wellington	289	15.1%	8%
Christchurch	147	7.7%	8%
Hamilton	53	2.8%	4%
Tauranga	41	2.2%	3%
Dunedin	35	1.3%	2%
Nelson	24	1.3%	1%
Other Cities	221	11.6%	44%

Number of Survey responses, by city

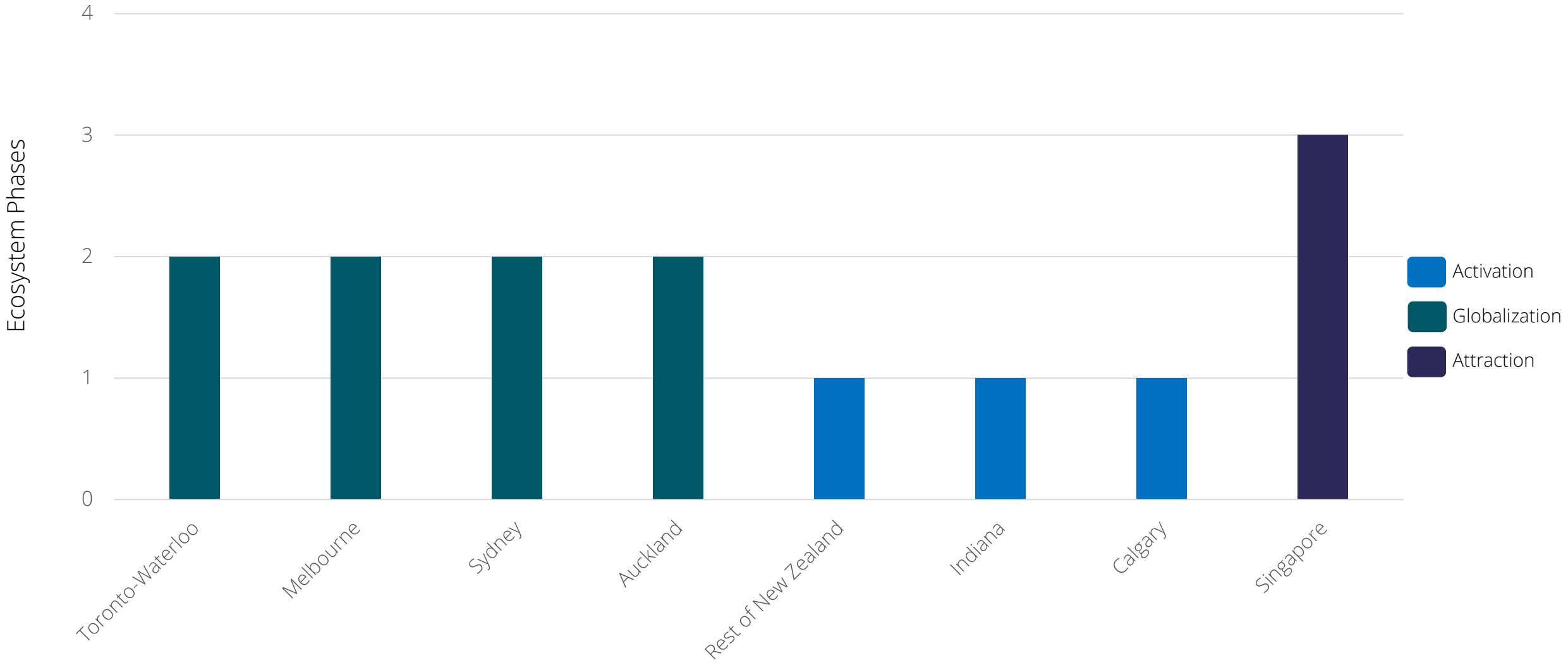
Auckland: 84

Christchurch: 31

Wellington: 25

Rest of NZ: 42

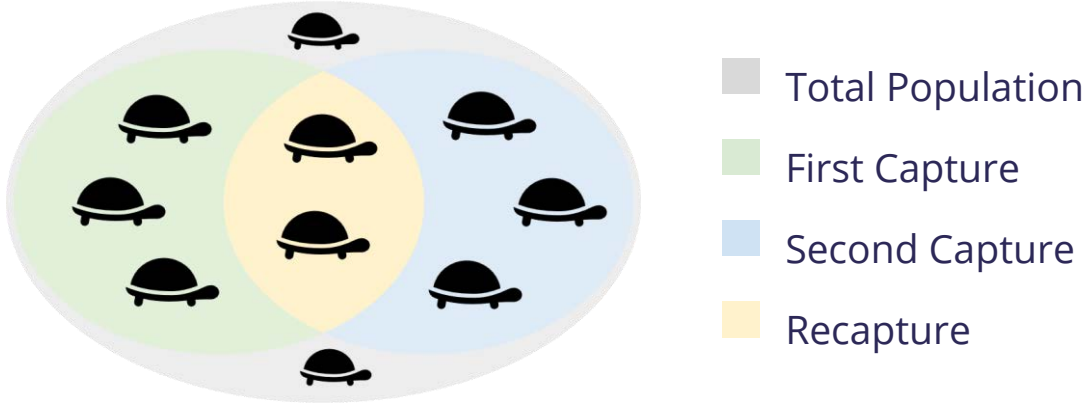
Auckland and Rest of New Zealand have been benchmarked against ecosystems in the Activation, Globalization, and Attraction Phases



We calculate and benchmark the number of startups (Startup Output) using the Multiple Systems Estimation method

- To quantify the startups in an ecosystem, we make use of the Multiple Systems Estimation methodology, a derivative of the mark and recapture method. We utilize this methodology to create powerful estimates using the overlaps between several incomplete lists

- This process involves capturing **domain names** of startups in the ecosystem using email lists of ESOs in the ecosystem and cross-referencing this data through other sources. It uses the overlaps (or lack thereof) between multiple lists to arrive at an estimate of the number of startups

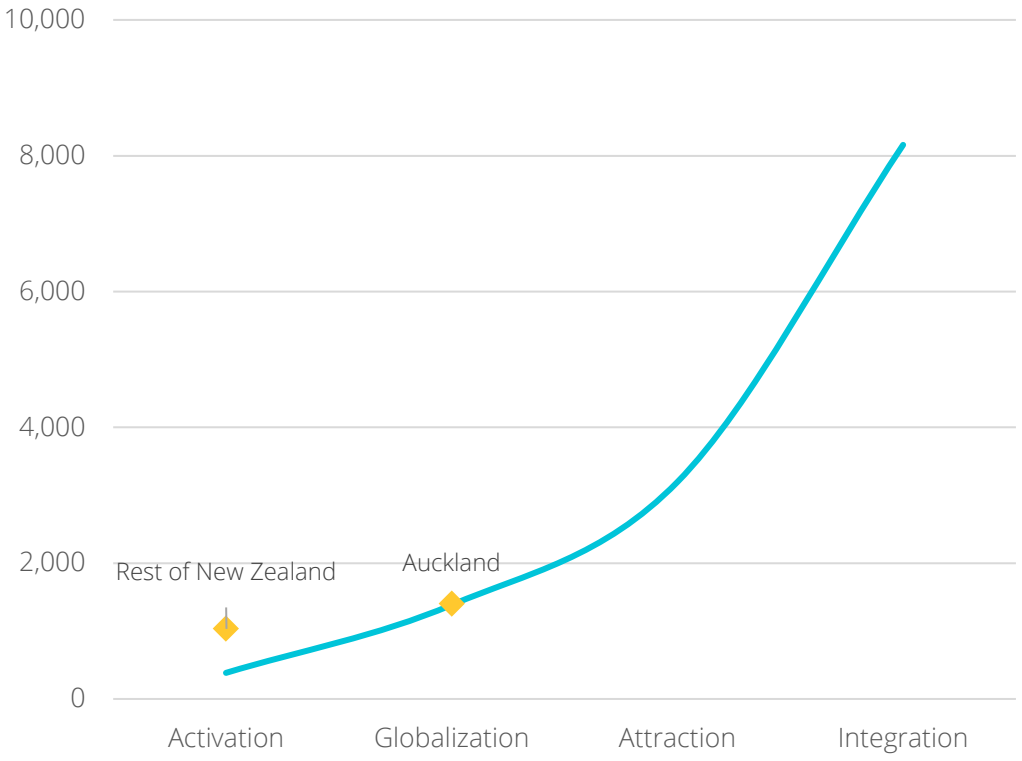


Mark and Recapture is a widely-utilized tool for measuring animal wildlife populations by biologists and ecologists

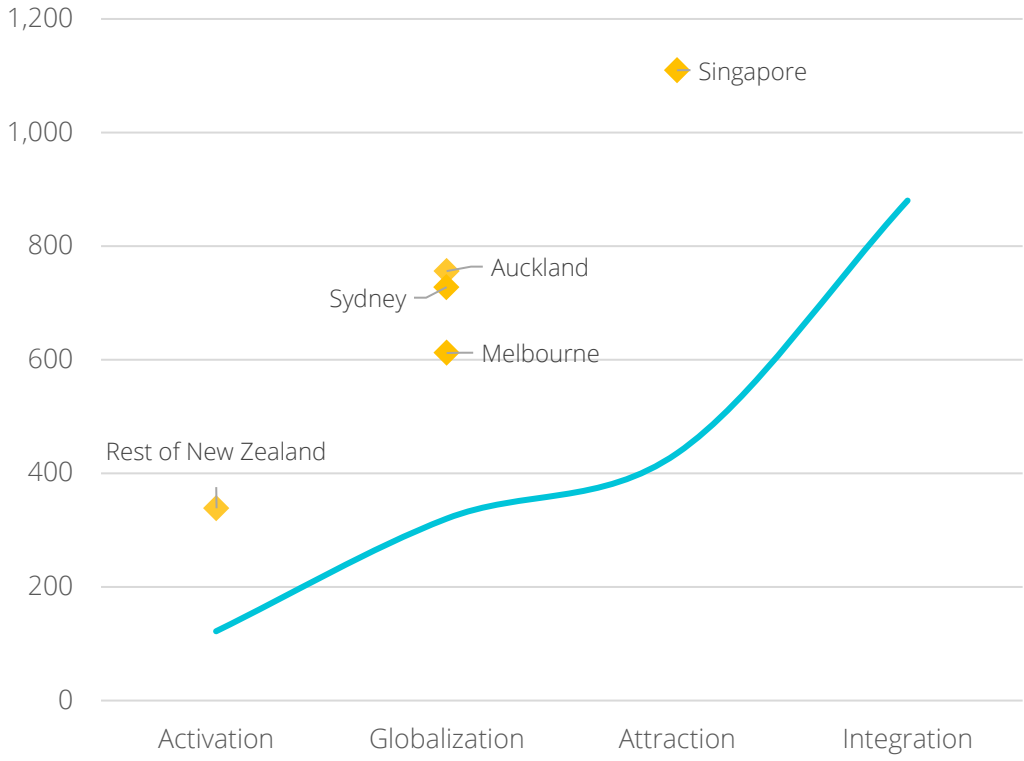
This methodology has been tried and tested with ecosystem leaders around the world and continues to produce highly accurate and, importantly, standardized results

Auckland's Startup Output is in line with the phase average

Startup Output
(Estimated number of startups[1])



Startup Density
(Estimated number of Startups Per Million Population)



1. Startup definition: Innovative, technology-enabled business in search of a repeatable and scalable business model. Applies to companies in software, hardware, energy, health, and others. This not only means that the business has the potential to scale to hundreds or thousands of employees, but that such scaling is a primary goal

Agenda

1. Introduction
2. Ecosystem Lifecycle Phase
3. Success Factor Assessment
4. Innovation Edge

We assess and benchmark ecosystems according to our proprietary Success Factor Model

- Startup Genome began as a research project with leading entrepreneurship experts such as Steve Blank, Chuck Eesley (Stanford University), and Ron Berman (Wharton School of Business)
- We codify and understand the **Success Factors** of startups and startup ecosystems by building data-driven globally standardized perspectives
- Our mission is to enable more geographies to have a chance to capture their fair share of the value created by the global startup economy
- We have created the most comprehensive, authoritative startup ecosystem research ever done by far

Since then, we have made a mark on the Global Startup Ecosystem:

Surveys in:

45+
Countries

280+
Cities

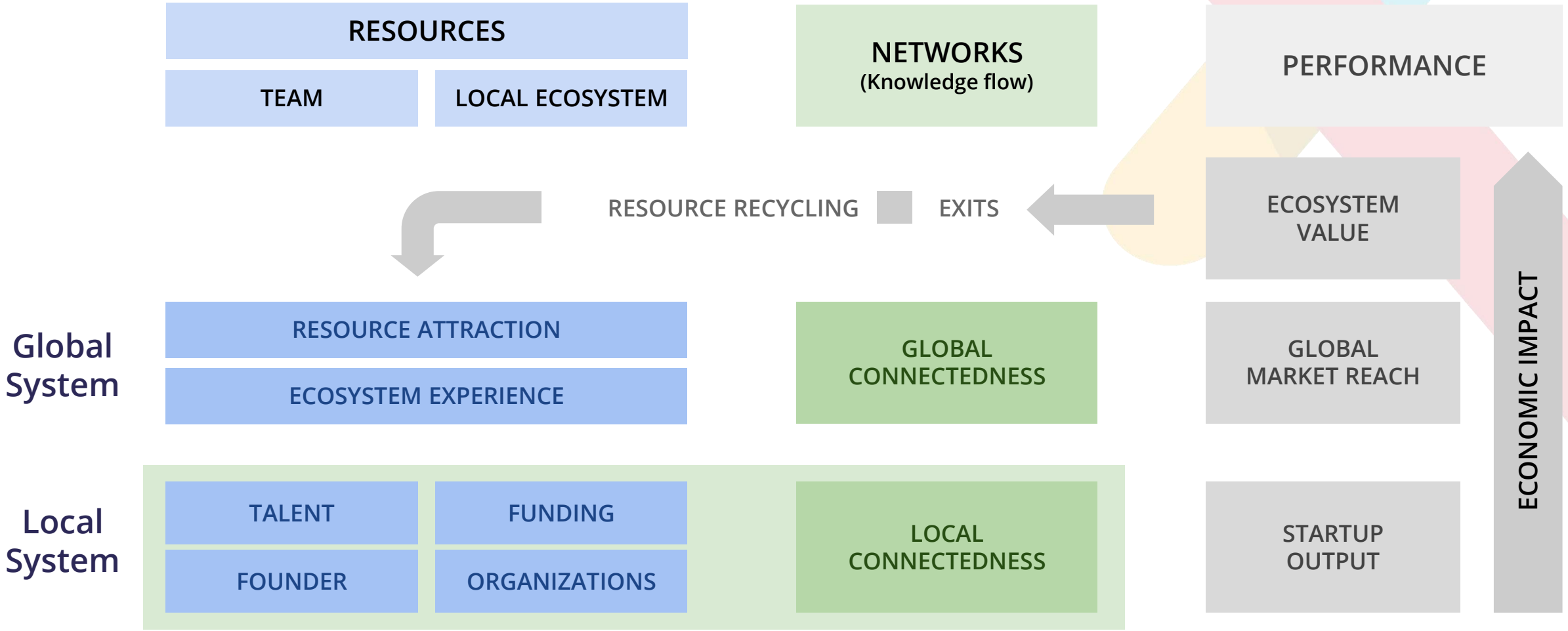
Data from:

3M+
Companies covered in our dataset

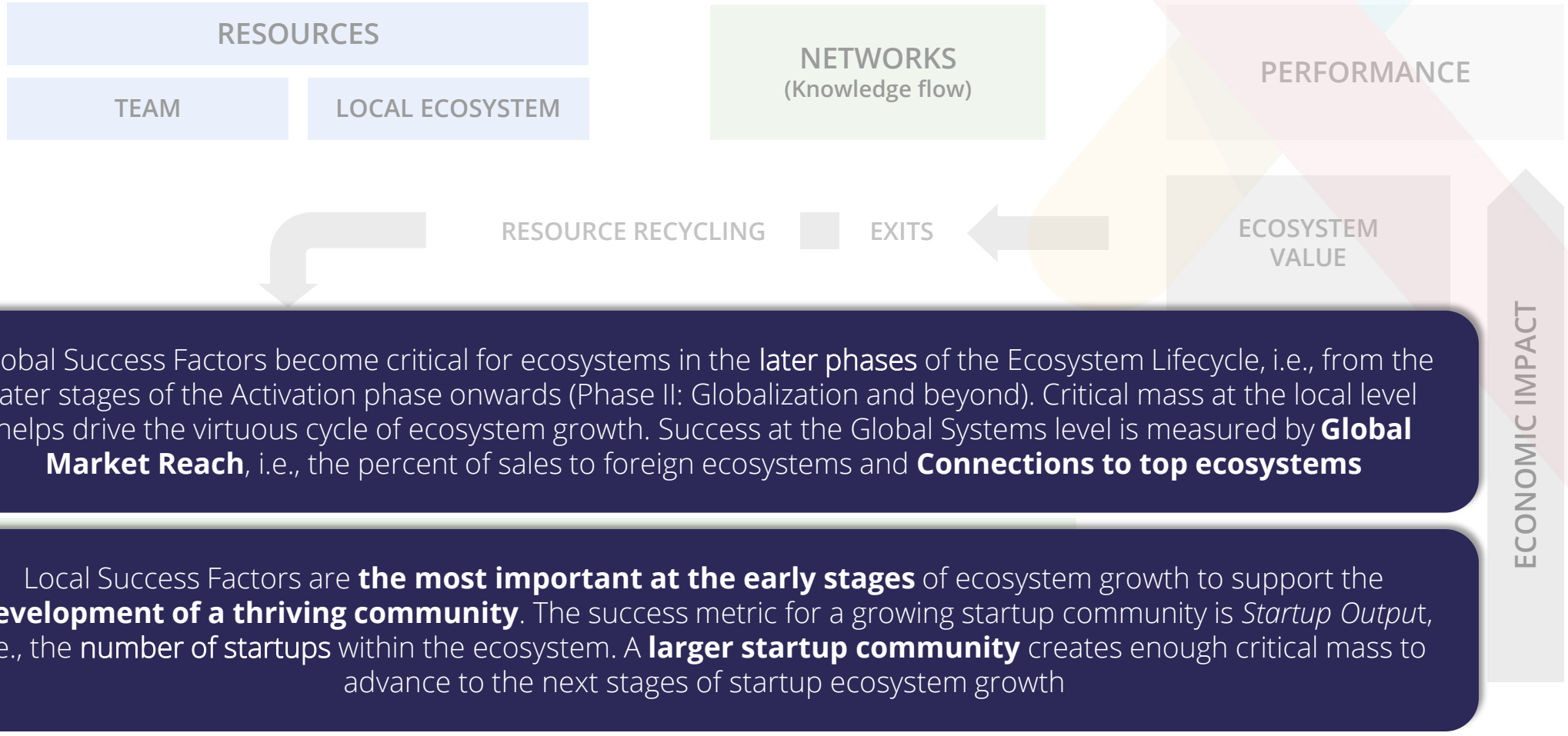
100k
Founders & executives covered through primary research

Our Success Factor Model currently incorporates 10 key Success Factors that capture the essence of what makes a startup and startup ecosystems in its entirety successful

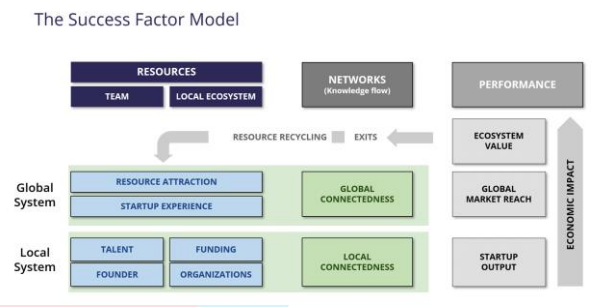
SG Science: The Success Factor Model represents the factors most strongly correlated with success based on our global research



The Success Factor Model: Overview of the Global and Local System



Success Factor Model: Definitions



Ecosystem Experience
Global resources and startup knowledge acquired and generated over time to help accelerate the startup ecosystem

Startup Output
The number of startups in an ecosystem

Global Market Reach
The proportion of sales to foreign ecosystems

Local Connectedness
The quality and volume of connections that exist between binding the local startup community together

Global Connectedness
Global networks that facilitate the inflow of global knowledge and best practices for local founders to build globally leading products

Funding
The level and growth of Early-Stage funding, looking at both access and quality

Success Factors

Resource Attraction
The gravitational pull of an ecosystem in drawing in entrepreneurs and startups from elsewhere

Talent
Measures Founder's access to key positions in terms of quality, expertise and cost

Founder
Success factors related to the startup founder, under his or her control, or internal to the start-up as opposed to external

Organizations
Availability, expertise and presence of specialized programs of Entrepreneurial Support Organizations

Local System Success Factors

Global System Success Factors

Success Factor Model
Founder

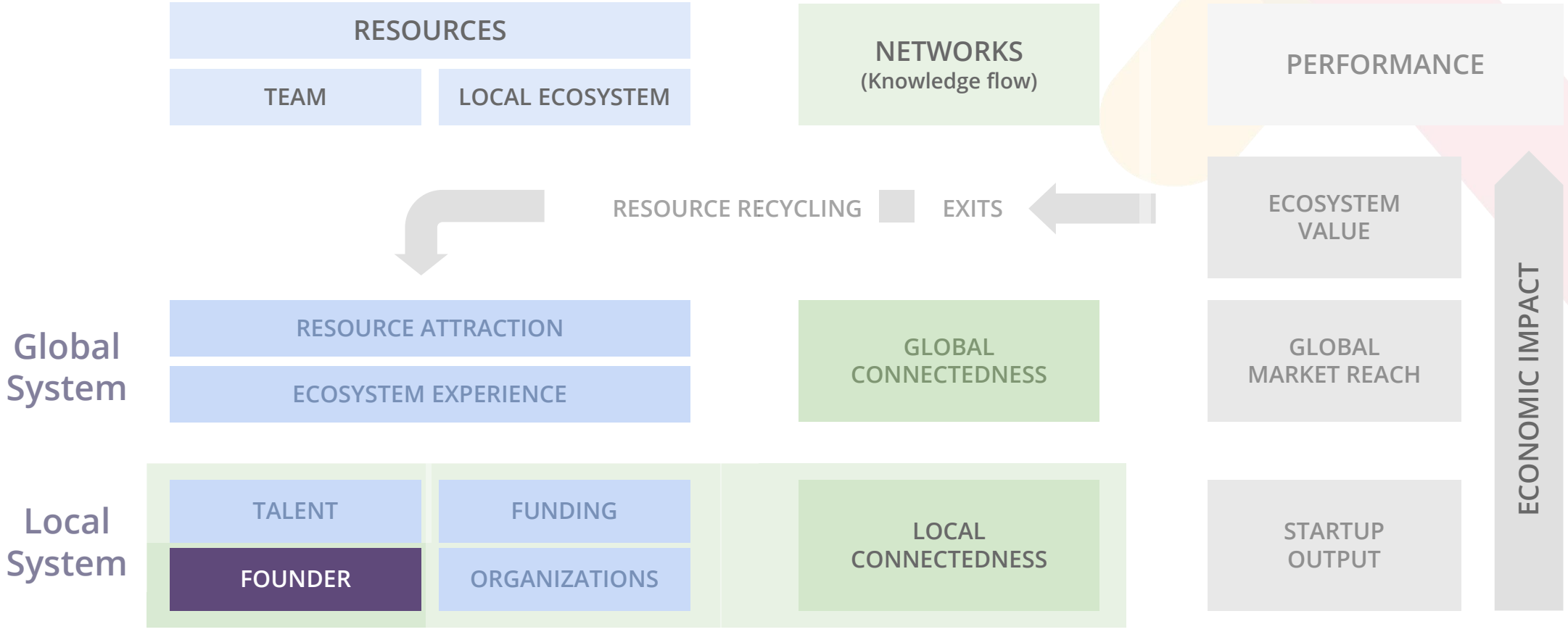
Founder: Factors concerning the profile of founders themselves, their experiences and motivations

Founder DNA:

- Founder team background, Founder Experience, Founder Demographics

Ambition:

- Founders targeting large addressable markets



SG Science: Founder DNA and Ambition factors are indicative of wider Ecosystem trends

Key Founder Factors

Founder DNA

- **Team**
- **Background**
- **Financial Situation**

- Founder DNA includes:
  - Team: Skills, relevant sub-sector experience, and size of the founder team
  - Founder Background: Demographic profile and if they were attracted to the ecosystem to found their startup
  - Financial Situation: Socioeconomic background and knowledge of other funding opportunities
- The composition of teams is imperative to see if the startups have a team that brings their own set of skills, experiences, and vision to the table, which leads to better innovation, growth, customer satisfaction, and profitability

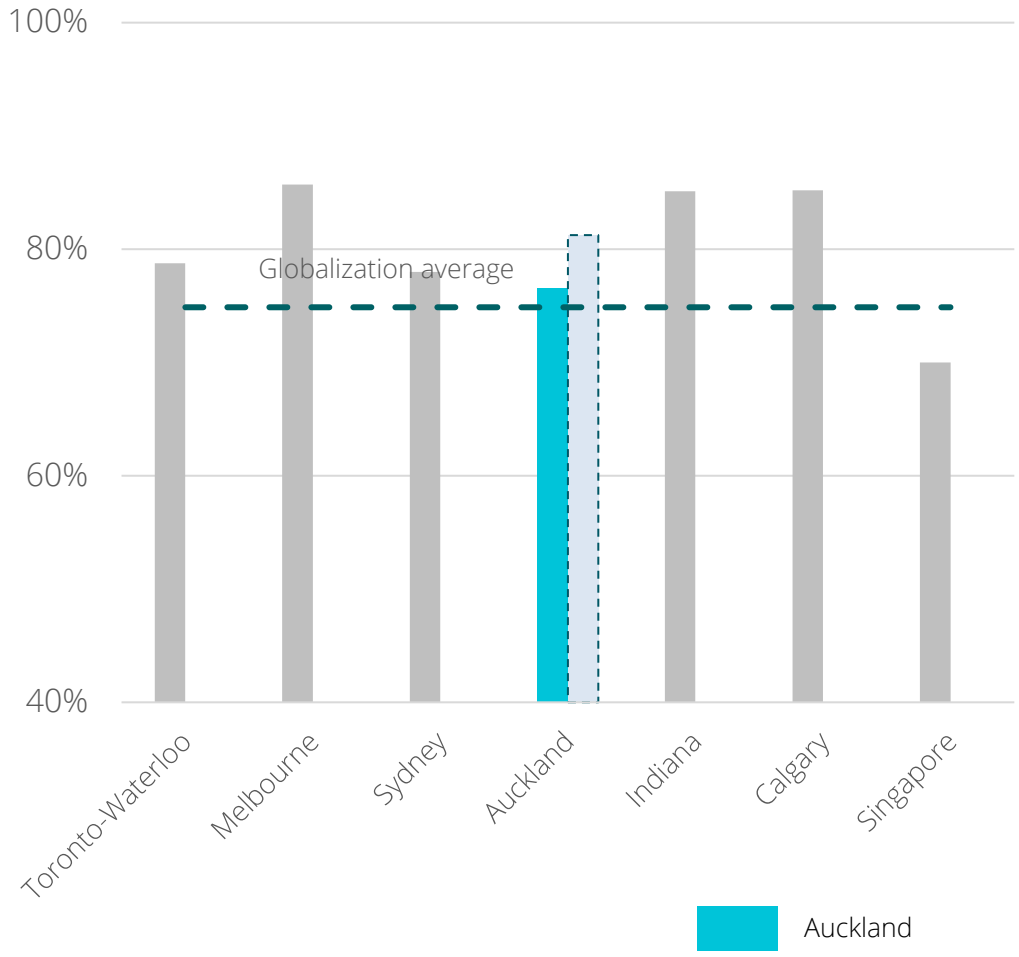
High Ambition

- **Motivation**
- **Unique Selling Proposition**
- **Total Addressable Market Size**

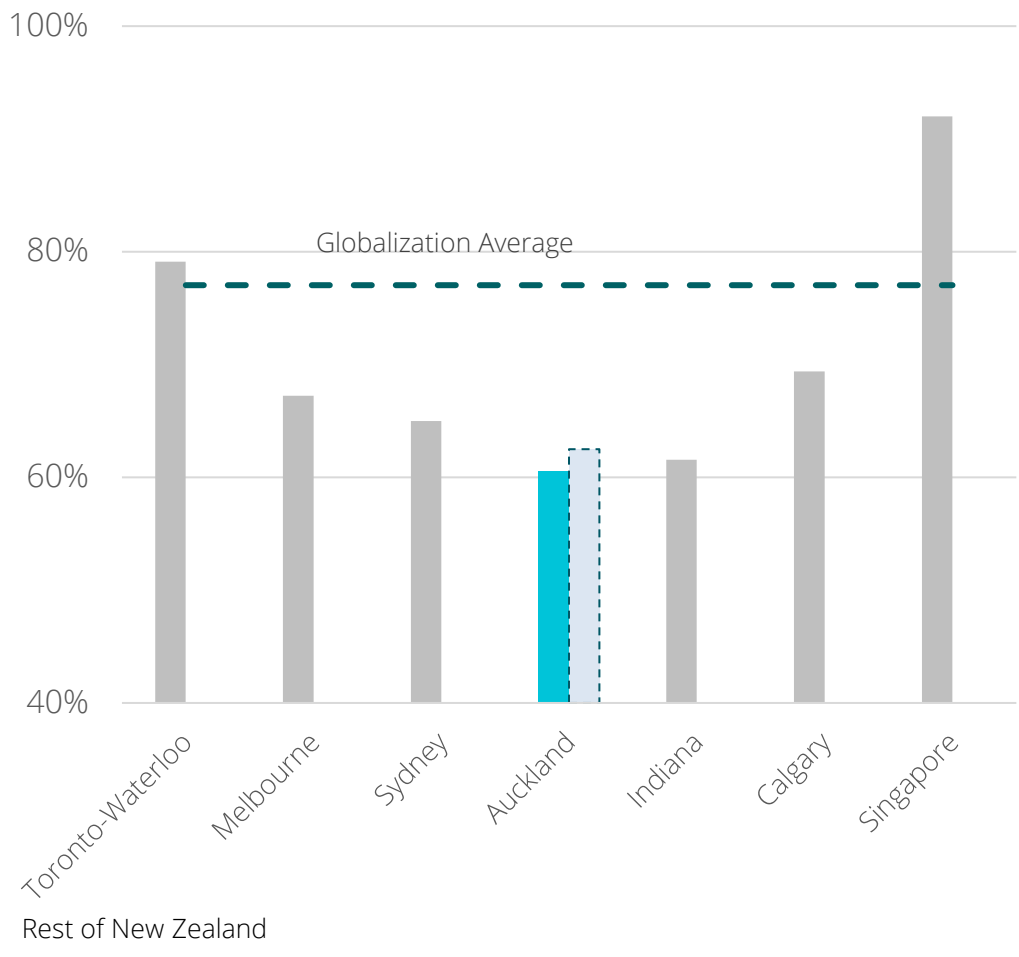
- High Ambition Includes:
  - Motivation: Change the world, build a great product
  - Unique Selling Proposition: First in the world vs. Better or Cheaper
  - Total Addressable Market: $30B as a proxy for global market potential
- We explore founders' ambition in the ecosystem through the competitiveness of their business models, their motivation or purpose, and their ability to address larger markets

Background: Startups in NZ have a lower proportion of founders with Technical Backgrounds

Startups with At least One Business Background Founder



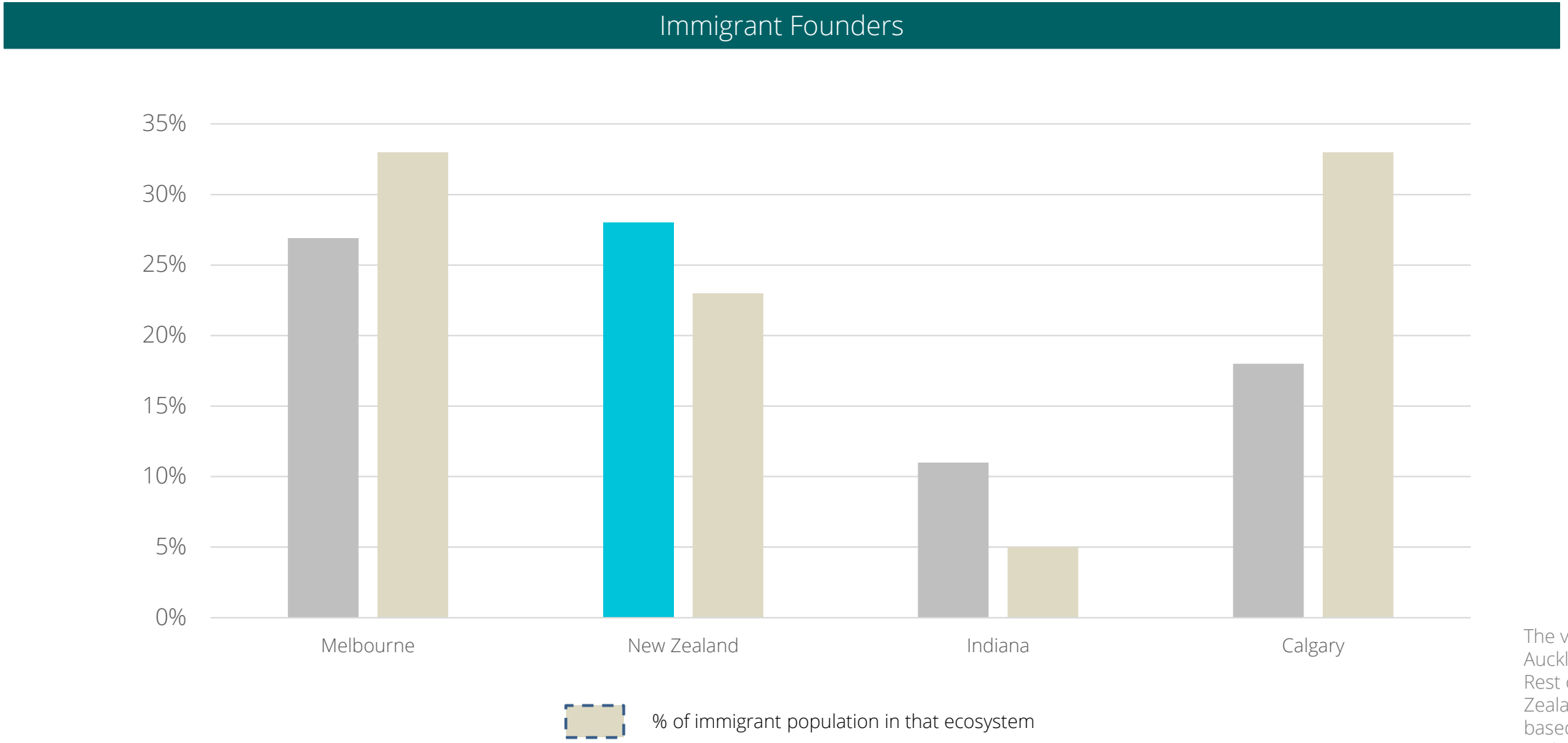
Startups with At least One Technical Background Founder



Auckland Rest of New Zealand

Business Founder Team: Percentage of startups with at least one founder with a business background
Technical Founder Team: Percentage of startups with at least one founder with a technical background

NZ has a higher rate of immigrant founders than peer ecosystems



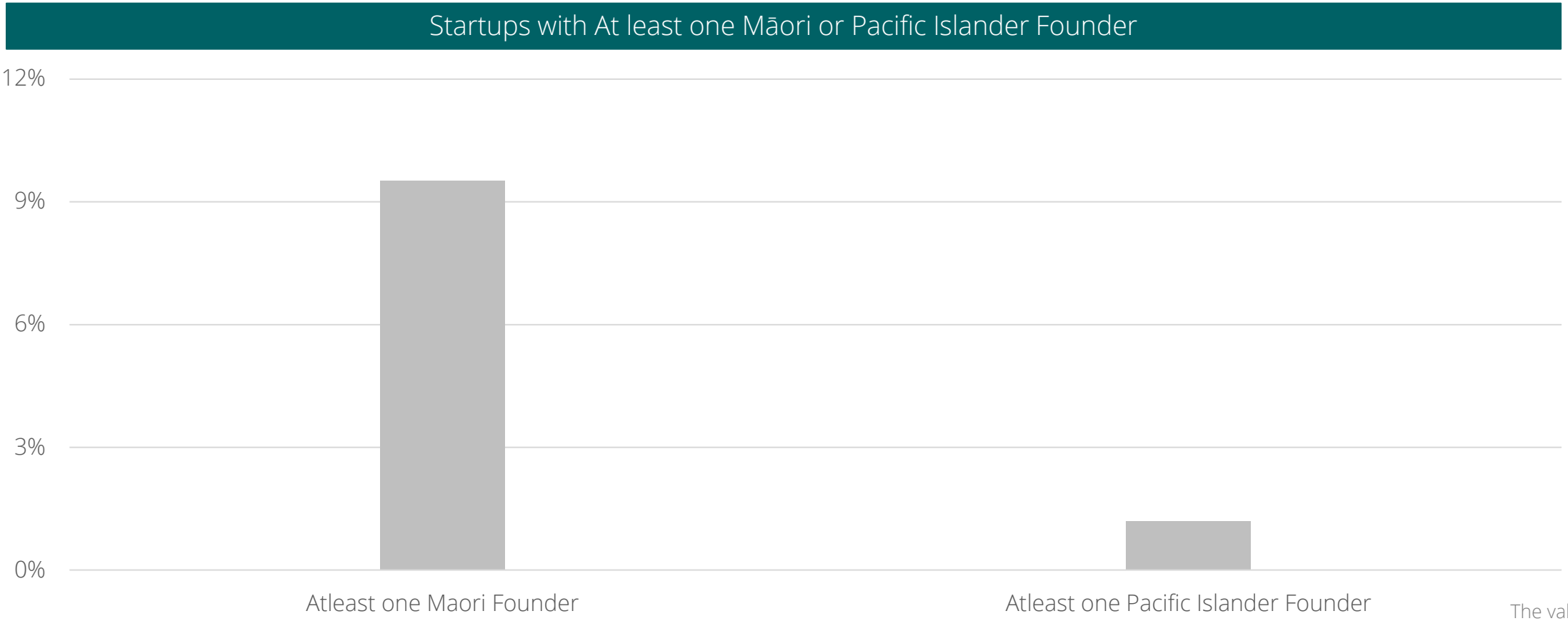
The values for Auckland and Rest of New Zealand are based on 79 and 92 responses respectively

Immigrant Founder: An individual who immigrated into the country as an adult

Participation: Proportion of Māori and Pacific Islander Founders, compared to their population % within NZ

The values for Māori and Pacific Islander Founders are based on 168 and 166 responses respectively

Participation: Startups with at least one Māori or Pacific Islander Founder



In Atlantic Canada, 8.9 % of the total number of startups had at least one founder from the Indigenous Community

The values for Māori and Pacific Islander Founders are based on 168 and 166 responses respectively

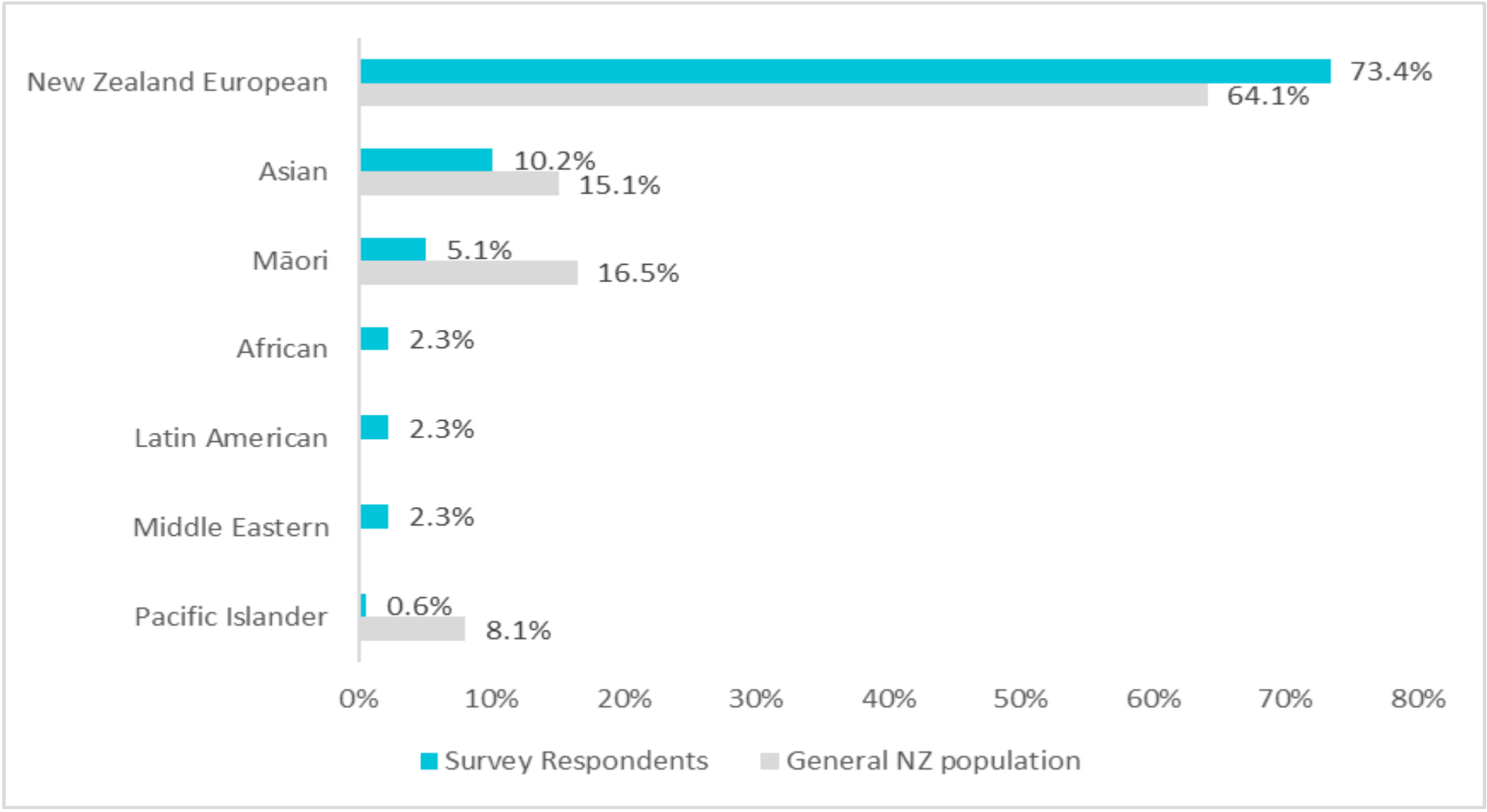
Spotlight on Māori participation in the NZ startup ecosystem

Interview Findings*		
Gaps between intention and action	**Inconsistent and insufficient funding**	**Lack of communication with stakeholders**
Interviewees noted that NZ ecosystem stakeholders (Angels, VCs, incubators, etc…) have taken significant steps in recent years to include more Māori startups in their programs. However, significant gaps still exist along the Māori startup journey which are disproportionality experienced by Māori founders who do not know about, or feel they do not qualify for, traditional startup support programs such as an incubator or university pipeline. Interviewees indicated that many Māori founders lacked the necessary mentorship, seed funding, and professional services support to grow their startup to the point where it could receive a Series A round. They may have enrolled in a program like Kōkiri or NGEN Room, but upon completion they lost those supports and did know where to go next.	Interviewees expressed some frustration over what they deemed inconsistent funding for Māori startup support program. For example, the Kōkiri accelerator, which works exclusively with Māori-led startups, initially received two years of full funding from the NZ government. This helped the program grow and thrive, but the subsequent cut to its funding after two years has meant that Kōkiri leaders must spend much of their time fundraising instead of seeking out and supporting Māori startups. Similarly, Pakihi, a previously successful Māori-focused small business support service was not offered in 2022 due to lack of funding. Interviewees indicated that the state has a strong preference for new programs because of the attention generated when they launch, while losing track of previous initiatives.	Interviewees noted that significant communication gaps existed between the NZ startup ecosystem and the Māori community. For example, an incubator based in Auckland may post that they are seeking Māori startup participation on their website. However, Māori founders who are not integrated into the NZ startup community may not know to check those sites. Instead, NZ startup support organizations should strive to seek out key Māori community stakeholders and engage them. These stakeholders will be better situated to connect Māori entrepreneurs with outside startup support organizations. The pool of potential Māori startups is currently quite small and therefore many inroads must be made to seek them out. They may not have a company website or engage in traditional founder networks.

*Findings reflect the aggregate opinions of key stakeholders in New Zealand and do not necessarily reflect the voice of the entire ecosystem

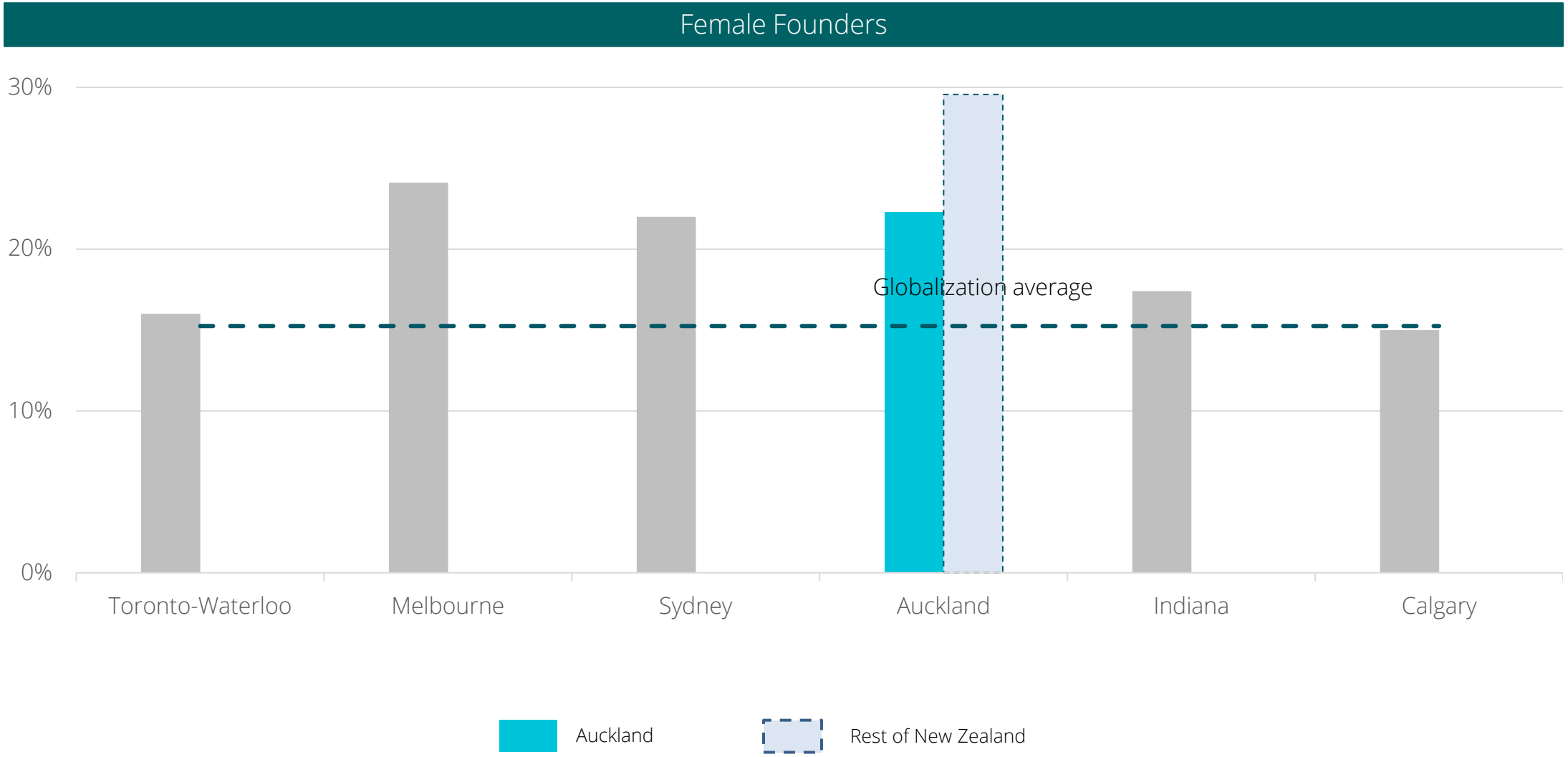
Breakdown of Racial/Ethnic Background By Respondents

Racial/Ethnic Background Breakdown of Respondents

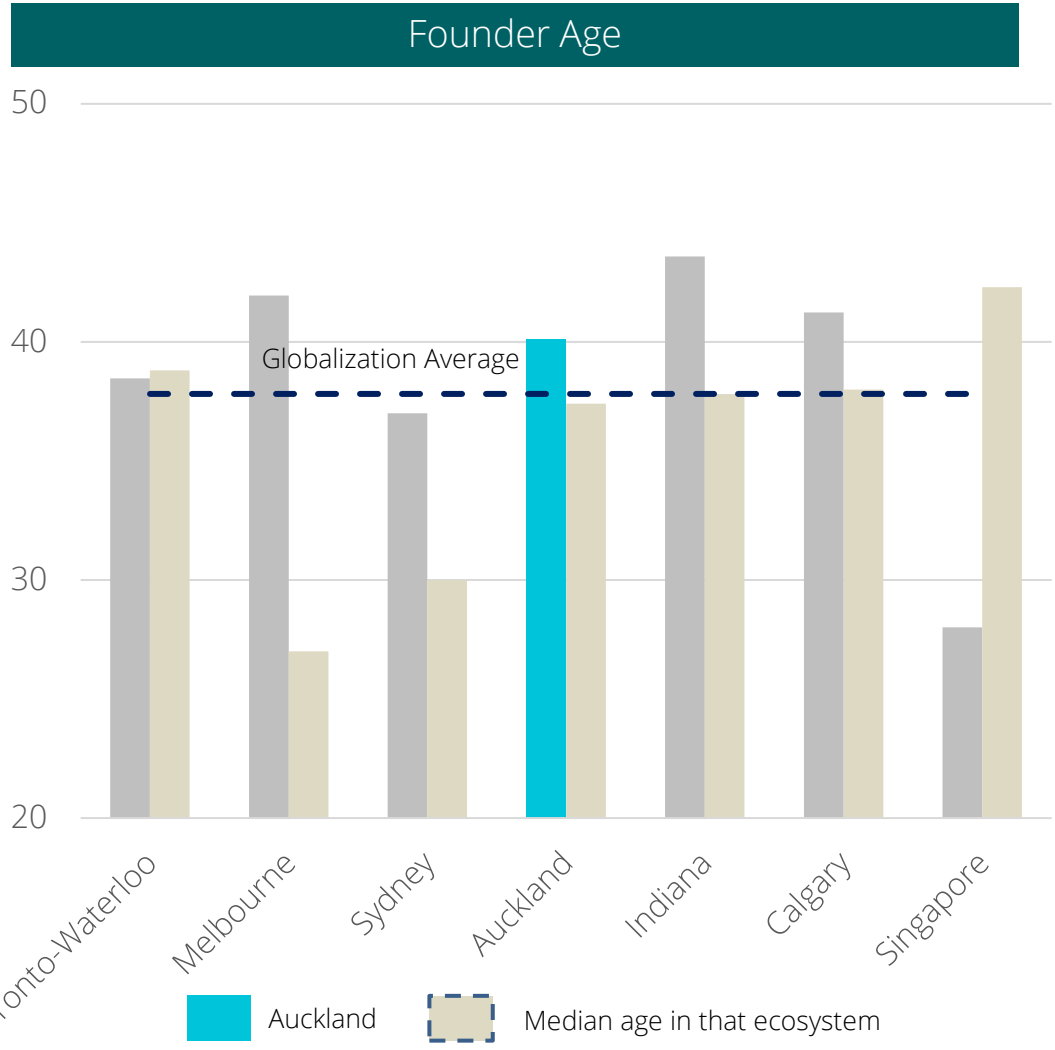


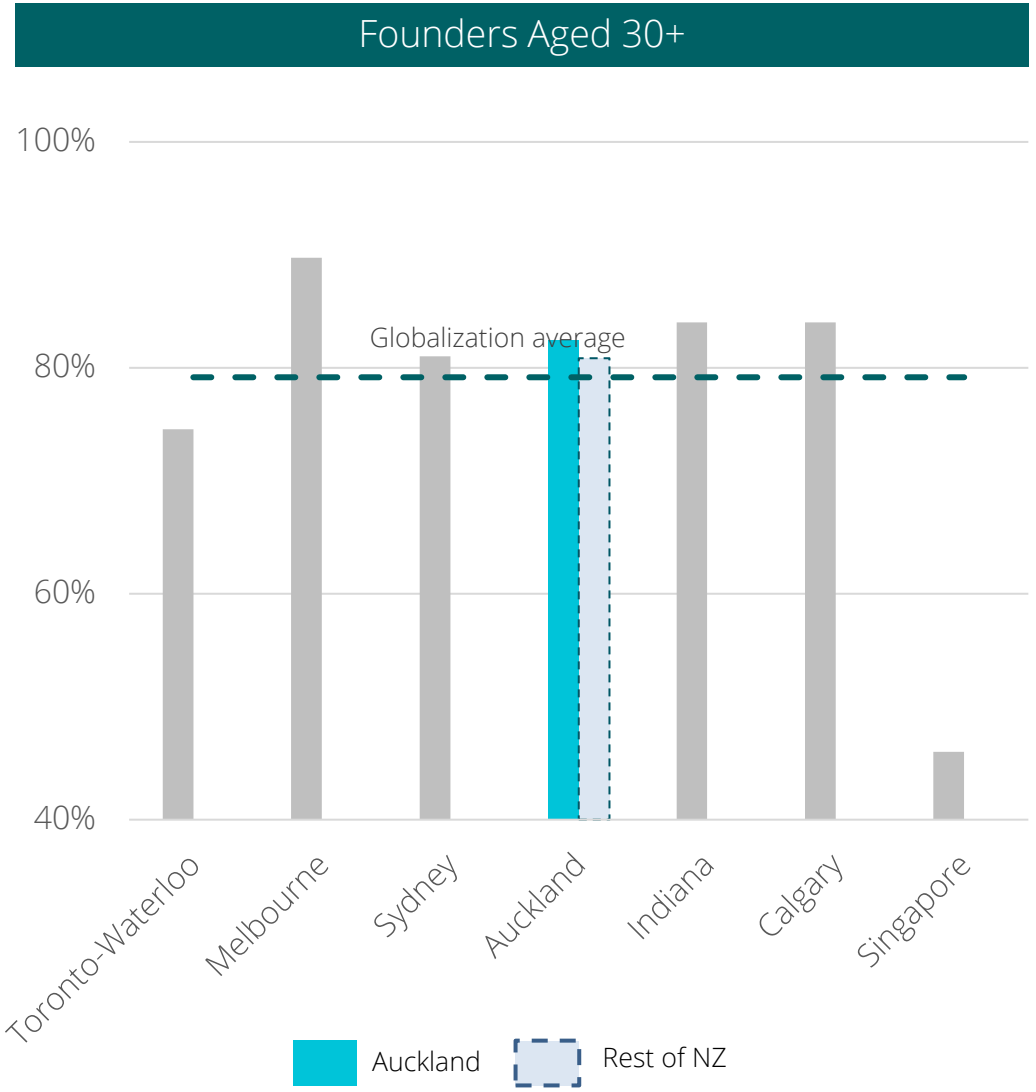
Stats NZ combines African, Latin American and Middle Eastern into one group at 1.5% total

Both Auckland and the rest of New Zealand have an above average proportion of Female Founders



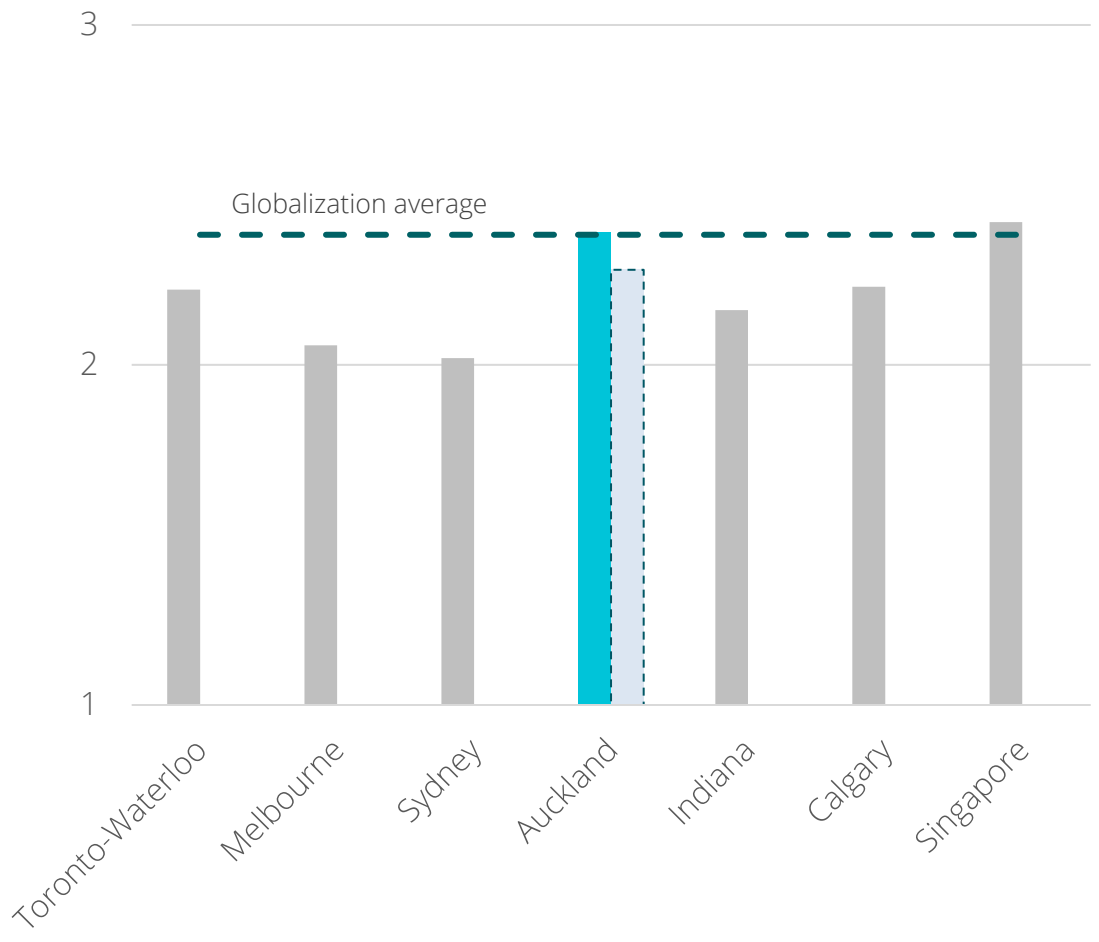
The average age of founders in NZ is higher than the Globalization phase average



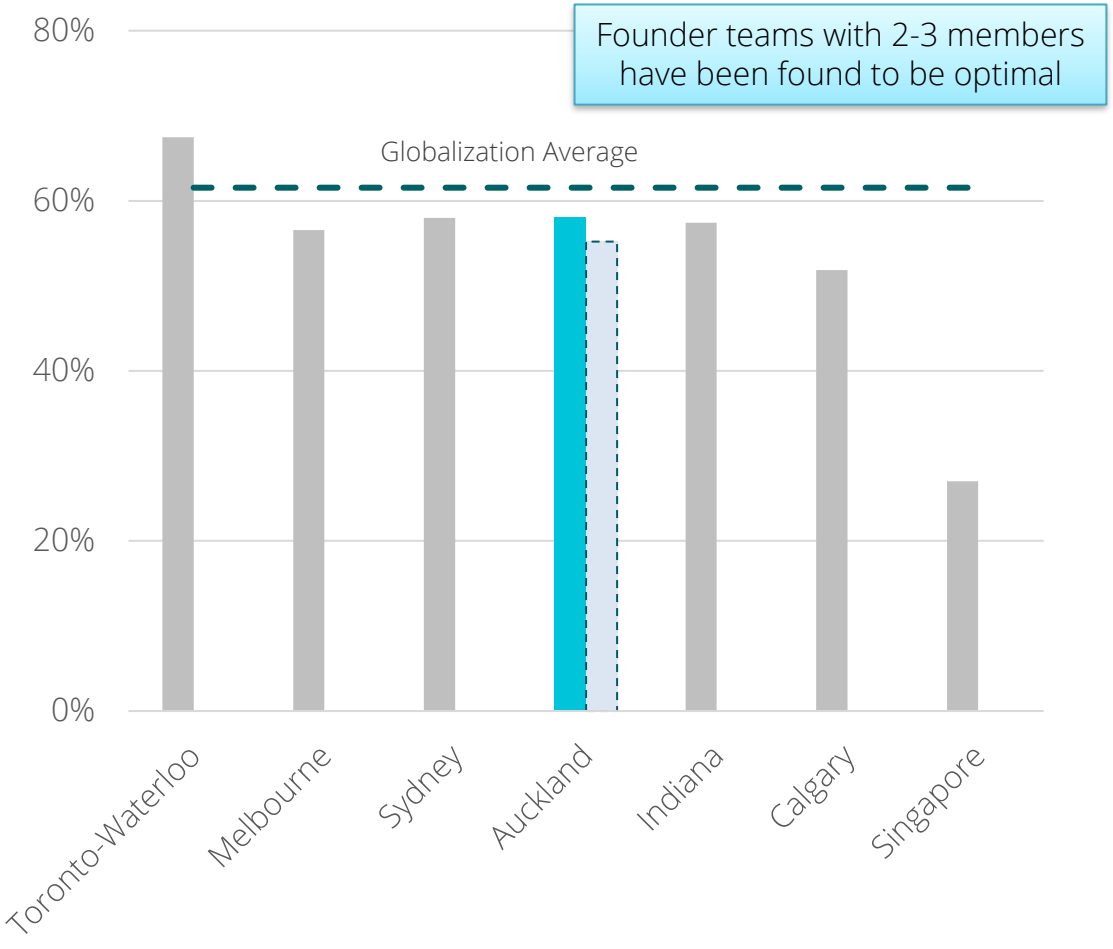


Most Auckland and Rest of NZ founding teams have a 2- or 3-member founding team, the sweet spot

Founder Team Number



Startups with 2 or 3 Founders

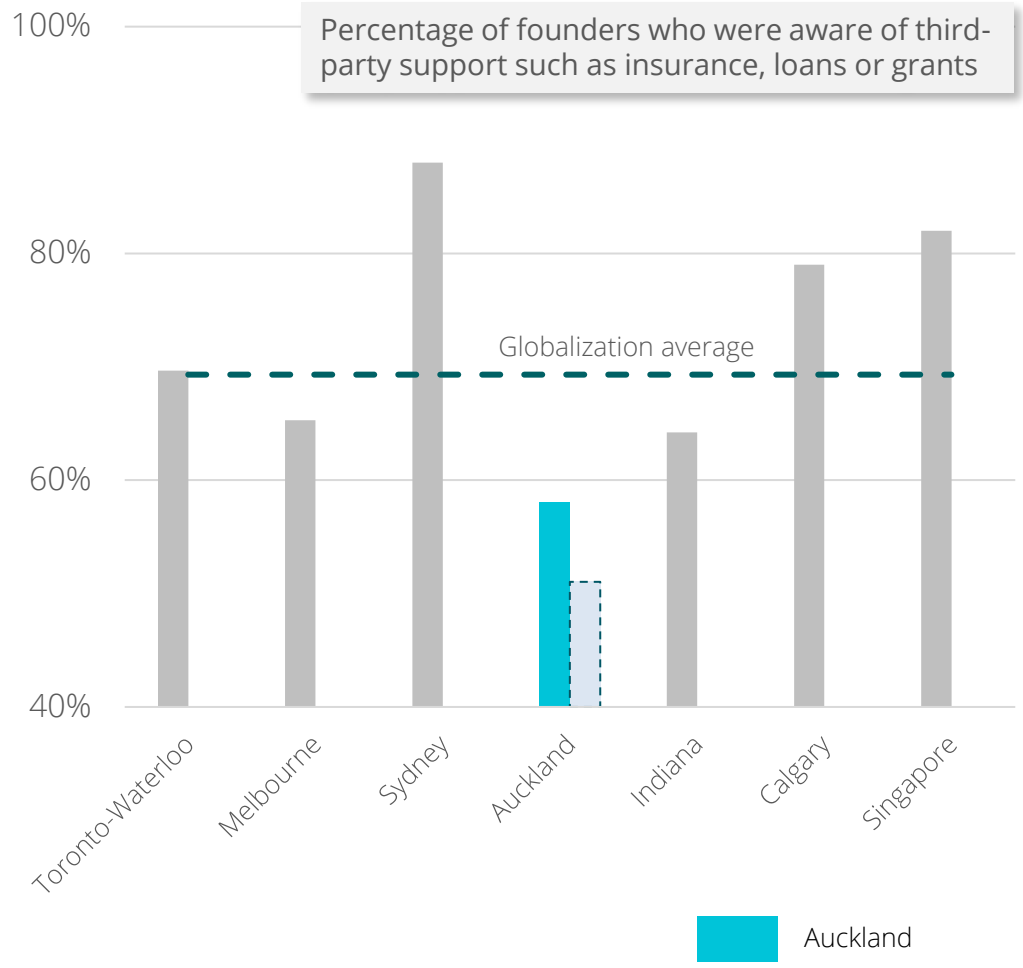


Auckland

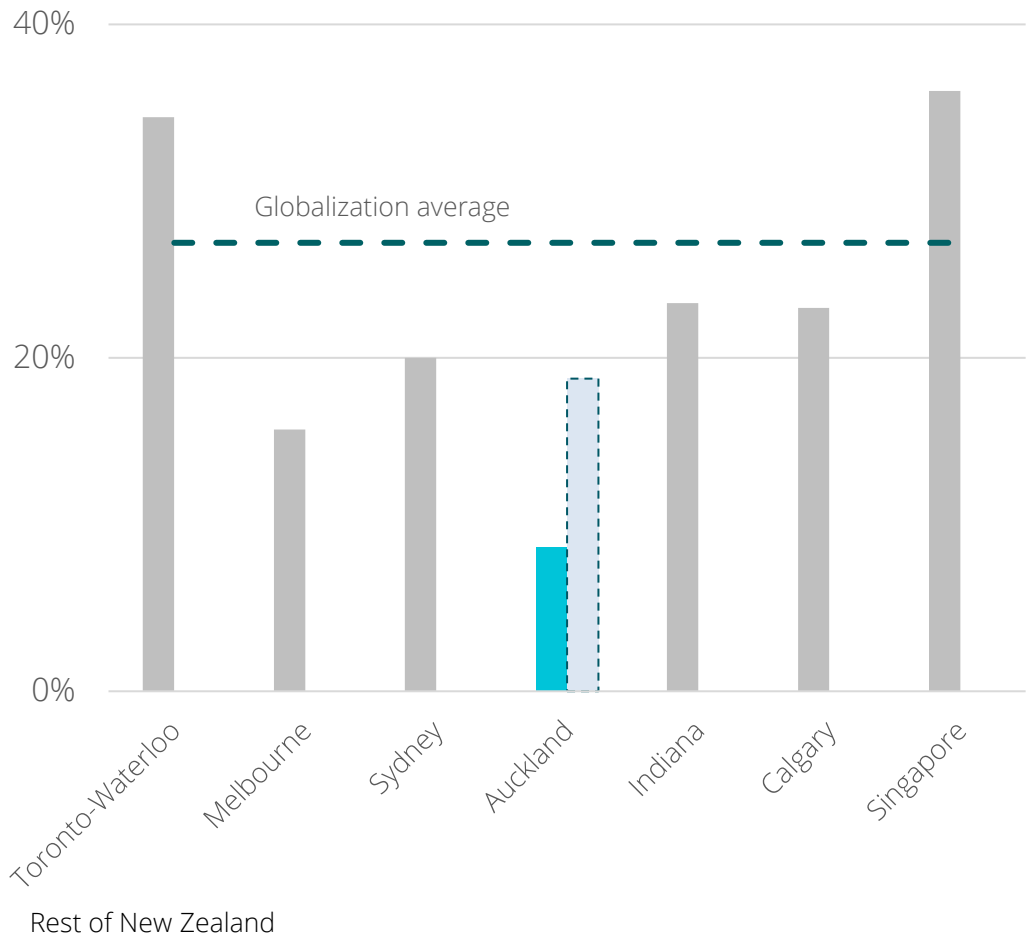
Rest of New Zealand

The proportion of NZ founders who are aware of 3rd party financial sources is well below peer levels

Founders with Personal Financial Support at Formation



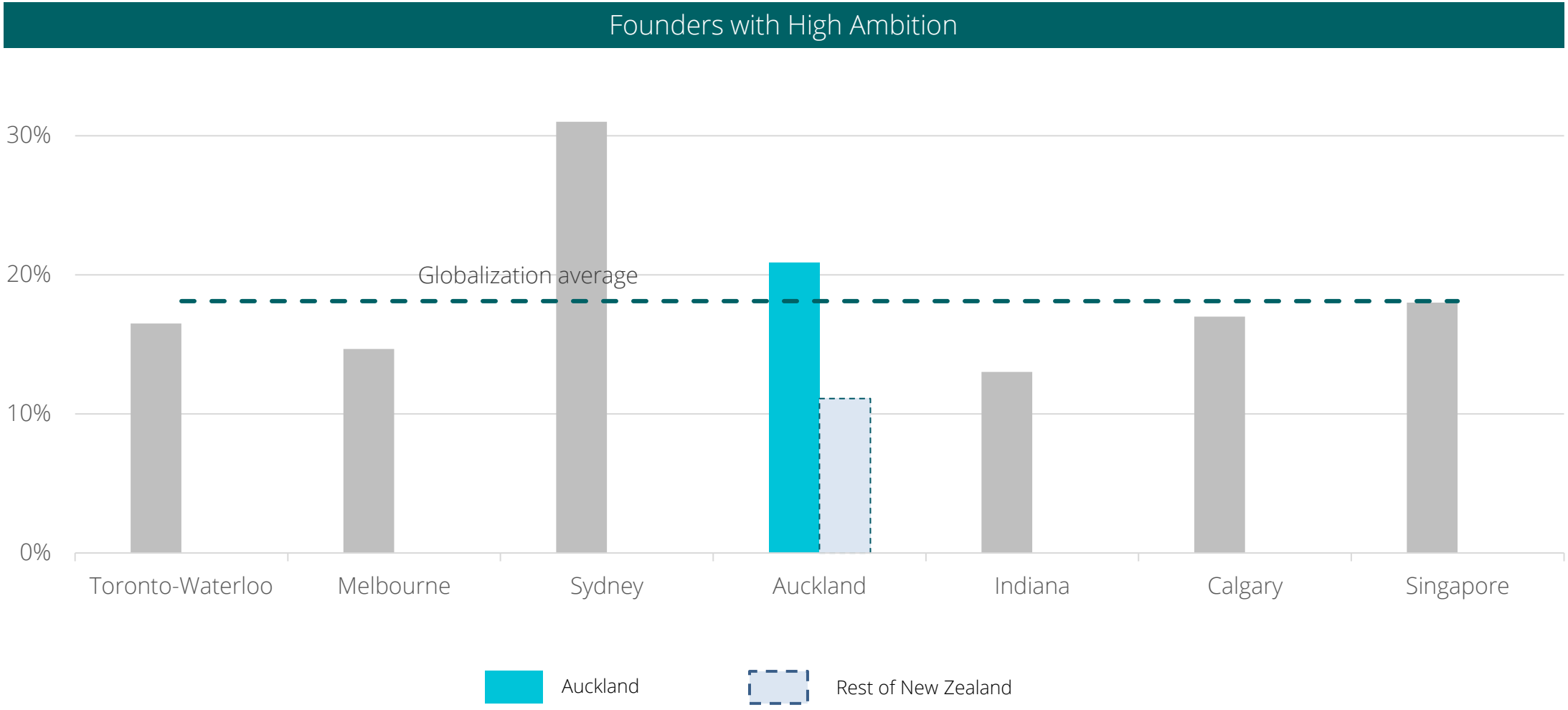
Founders Aware of 3rd Party Financial Support at Formation



Auckland Rest of New Zealand

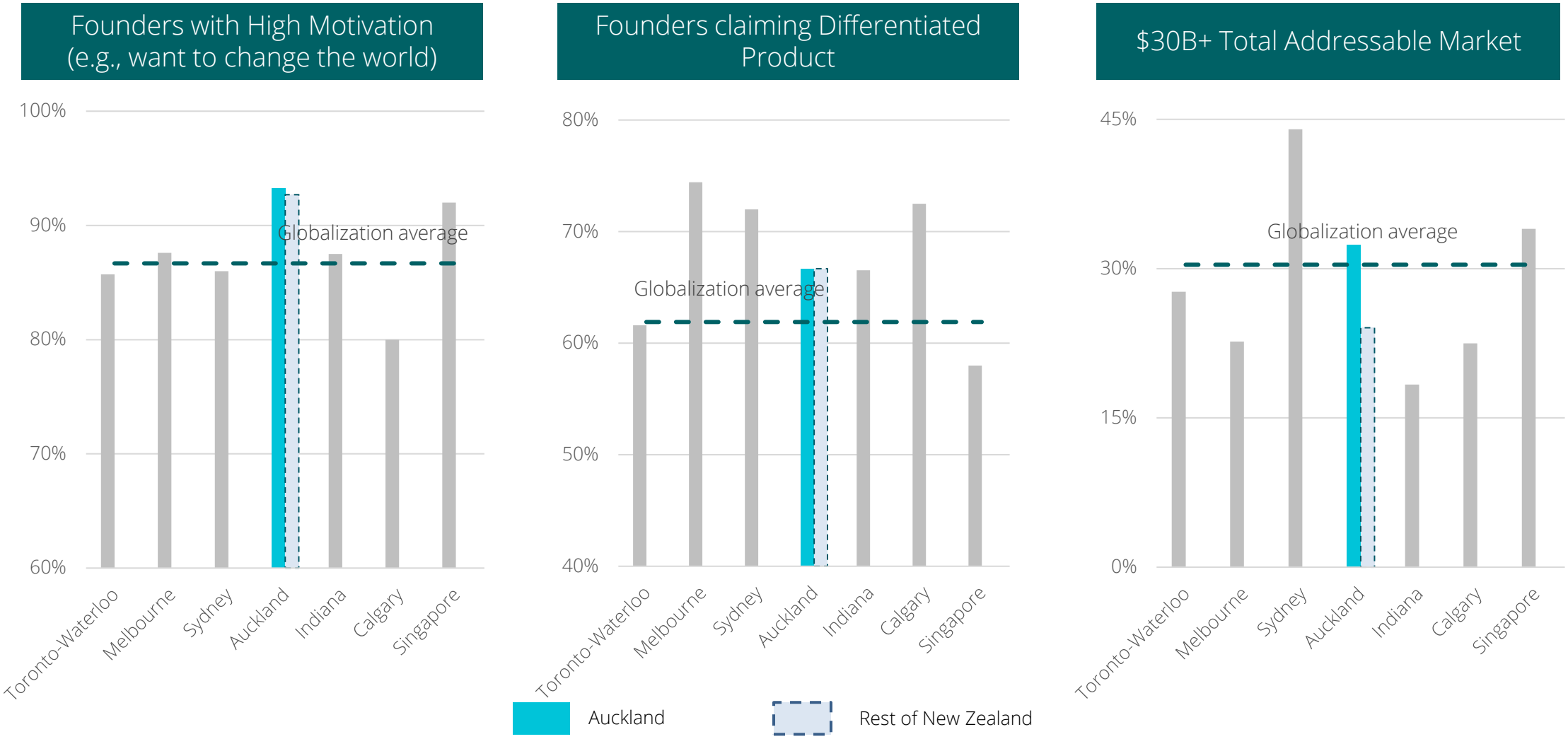
Personal Financial Support: Percentage of founders who had or were sure of financial support from personal sources such as savings, family, spouse, or friends
Third-Party Financial Support: Percentage of founders who were aware of third-party support such as insurance, loans, or grants

The percentage of founders in Auckland with High Ambition is above the Globalization average



Founders with High Ambition: Percentage of founders who show high ambition, targeting an addressable market at least $30B in size, striving to change the world or make a lot of money with a new or niche idea

Auckland founders have high motivation and also target large markets when compared to founders in Rest of New Zealand



Founders with High Motivation: Percentage of entrepreneurs who are motivated by changing the world, getting rich, or developing a great product
Founders Claiming Differentiated Product: Percentage of entrepreneurs who claimed to have either a new global product, niche, or a product that no one else has launched successfully
$30B+ Total Addressable Market: Percentage of entrepreneurs whose addressable market size is at least $30 Billion

New Zealand's Founders increasingly come from a variety of backgrounds, but many still lack key components of early-stage support

*Findings reflect the aggregate opinions of key stakeholders in New Zealand and do not necessarily reflect the voice of the entire ecosystem

Interview Findings*			
Collaborative and supportive founder culture	**Lack of globally-experienced mentors**	**Confusion over available resources**	**Lack of "proof points"**
Many founders indicated that they were easily able to reach out to and meet fellow kiwi founders. They credited the relative smallness of the NZ ecosystem in addition to the overall culture which encouraged collaboration and informal mentorship. These anecdotes are seconded by NZ's strong score "Founder Relationships" metric. However, the flip side of this culture is that kiwi founders are hesitant to ask for tangible help from other founders – the relationships do not advance beyond being collegial.	Founders and other ecosystem stakeholders stated there were not enough startup mentors with previous experience taking startups global. This experience is critical in helping NZ startups navigate towards receptive global markets and funding opportunities. While there are certainly *some* mentors in NZ with global experience, there is currently more demand than supply.	Founders and some SSOPs** mentioned that many startups were unsure of the available programs and funding available to them, or where to go to gain access to qualified investors and professional support services. This is evidenced by the Founders' Survey results where NZ scored much lower than peers on being are aware of 3rd party financial support at formation.	While NZ startup activity has increased significantly over the last few years, many interviewees said Kiwis are not as aware of high-profile startup successes. More media coverage and celebrated scaleups/exits would provide more people with "proof points" that startups are a viable career or investing option. This is changing as the ecosystem grows, but it may still take a cultural shift.

**SSOPs: Startup Support Organization Partners

New Zealand's Founders increasingly come from a variety of backgrounds, but many still lack key components of early-stage support

*Findings reflect the aggregate opinions of key stakeholders in New Zealand and do not necessarily reflect the voice of the entire ecosystem

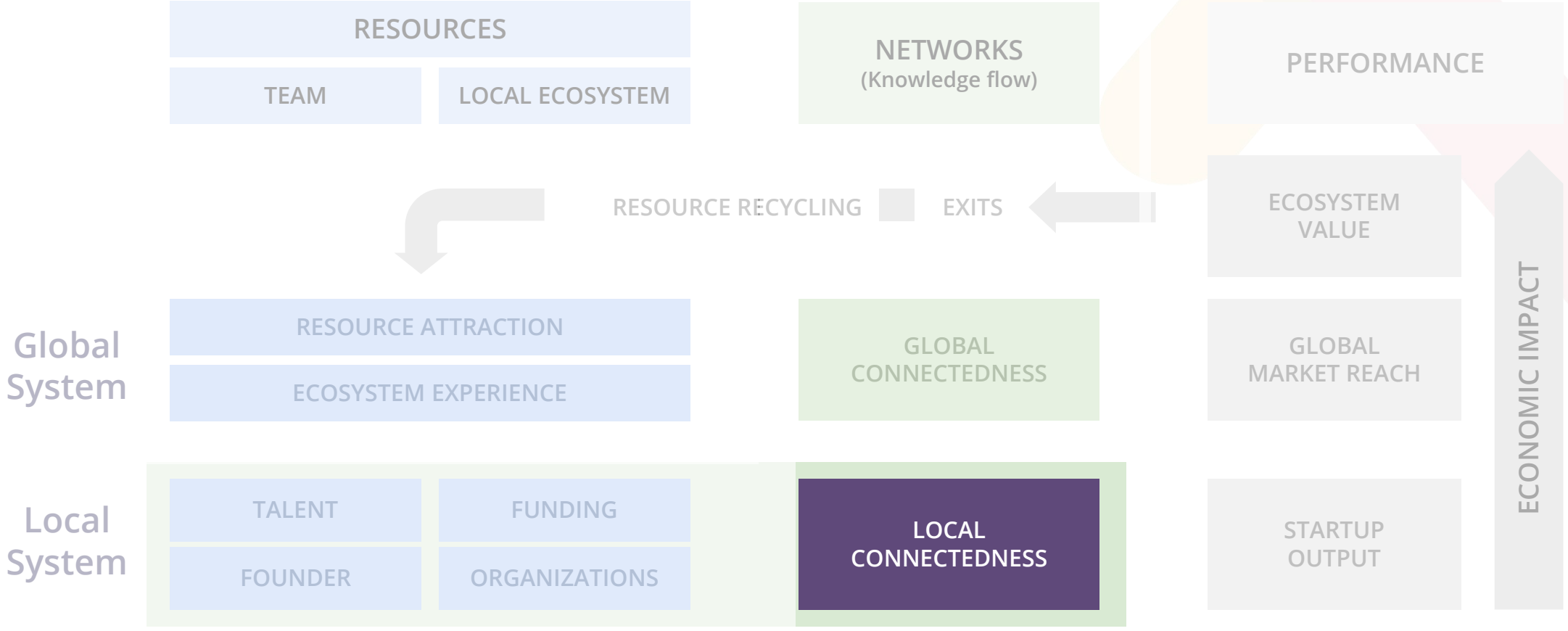
Interview Findings*		
More commercialization support needed	**Risk-averse culture**	**Well-intentioned policies; inefficient results**
Several founders involved in deep-tech startups indicated that while they were often able to secure grants to conduct innovative research, there were fewer opportunities to get funding for commercialization initiatives – both at the public and private stage. This lack of commercialization funding, for activities such as viability studies, lab equipment, or even travel to engage with overseas markets (expensive to do from NZ), prevented deep tech startups from growing within NZ, instead seeking funding abroad and eventually moving headquarters – or exiting early - rather than building from within NZ.	Many interviewees from multiple perspectives mentioned some form of risk-aversion in NZ culture. Some stated that Kiwis by nature were risk-averse, which holds back startup formation and growth. Others disagreed - saying this was a stereotype (or it's changing). Others said NZ companies were too risk-averse as potential buyers of startup products or services. This delays startups in finding that first critical large customer. For example, one interviewee stated US healthcare businesses were more willing to purchase from NZ biotech startups than NZ ones.	The NZ government has been active in offering grants and funding to myriad startup-related organizations. However, these policies do not always take into account realities on the ground. Founders and investors both commented on the inefficient and diffuse allocation of government funding for the purpose of regional equity rather than developing a cohesive ecosystem that focused on each region's strengths and relative funding needs.

Success Factor Model
Local Connectedness

Local Connectedness: Strength of the community, meaningful relationships founders hold with key stakeholders

Relationships:
- Founder relationships with other Founders, Investors and Experts

Sense of Community :
- Informal help received by founders from key stakeholders

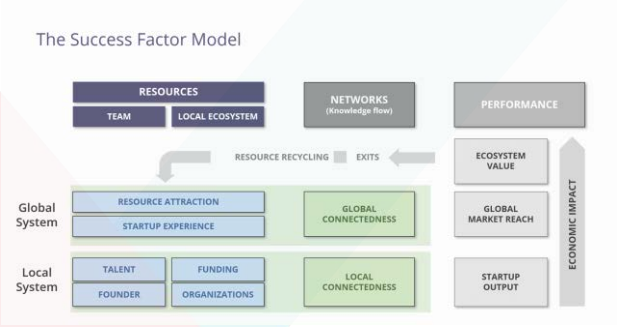


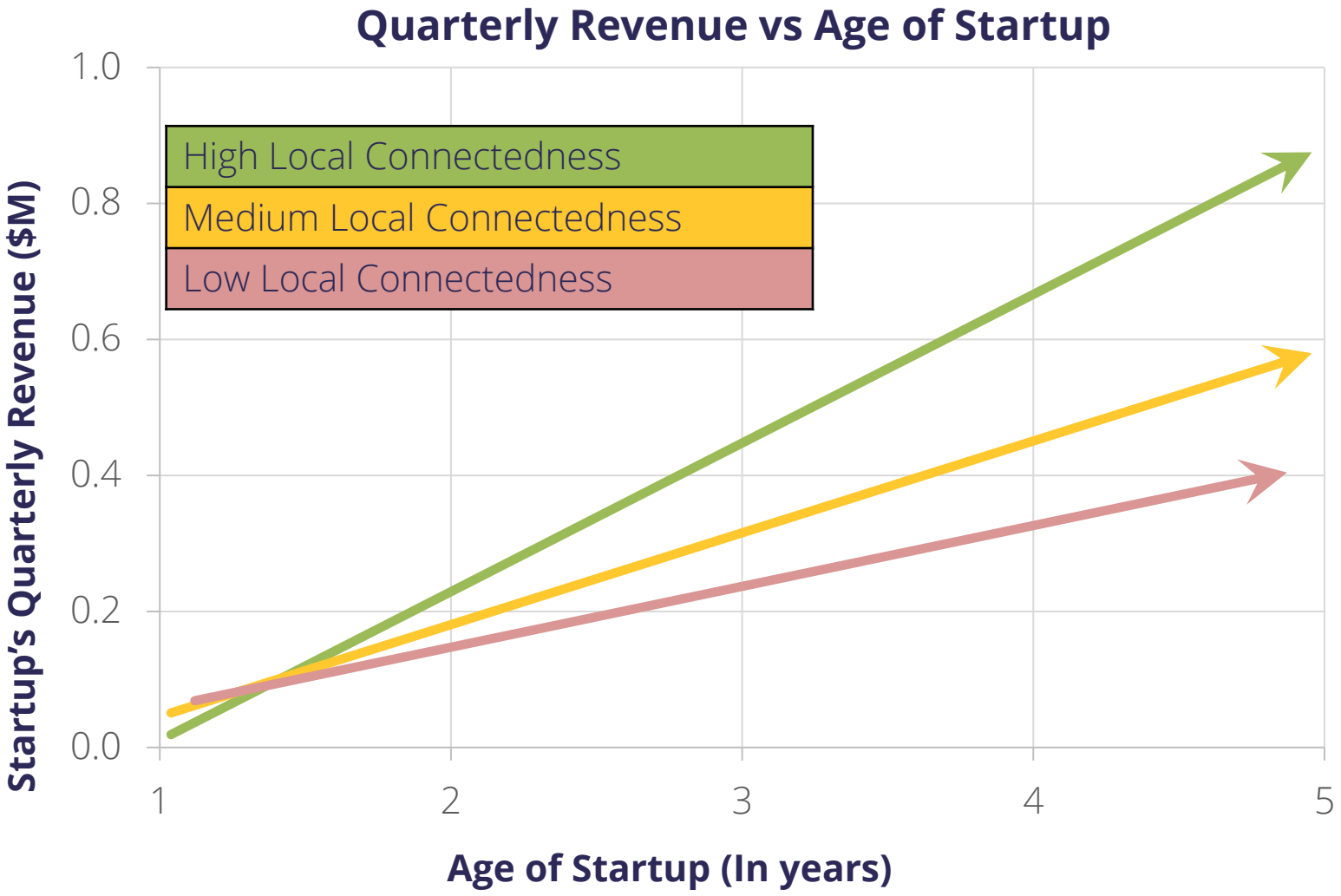
SG Science: Local Connectedness – The quality of the local community

Local Connectedness is a multi-variable assessment of the local community, including the Sense of Community and Local Relationships between founders, investors, and experts within an ecosystem.

- Our global research has identified community as one of the strongest factors correlating with ecosystem performance
- This metric comprises two principal sub-factors:
  - Sense of Community Index: a sub-factor of Local Connectedness capturing the degree to which founders informally receive help from investors, experts, and fellow founders
  - Number of Relationships Between Founders: number of quality relationships between local founders, where they know each other and can call upon each other for help "this week"
- Here, we discuss the importance of a high-quality community in general (what is the impact of community, all other factors left equal?) and its current level of development in New Zealand

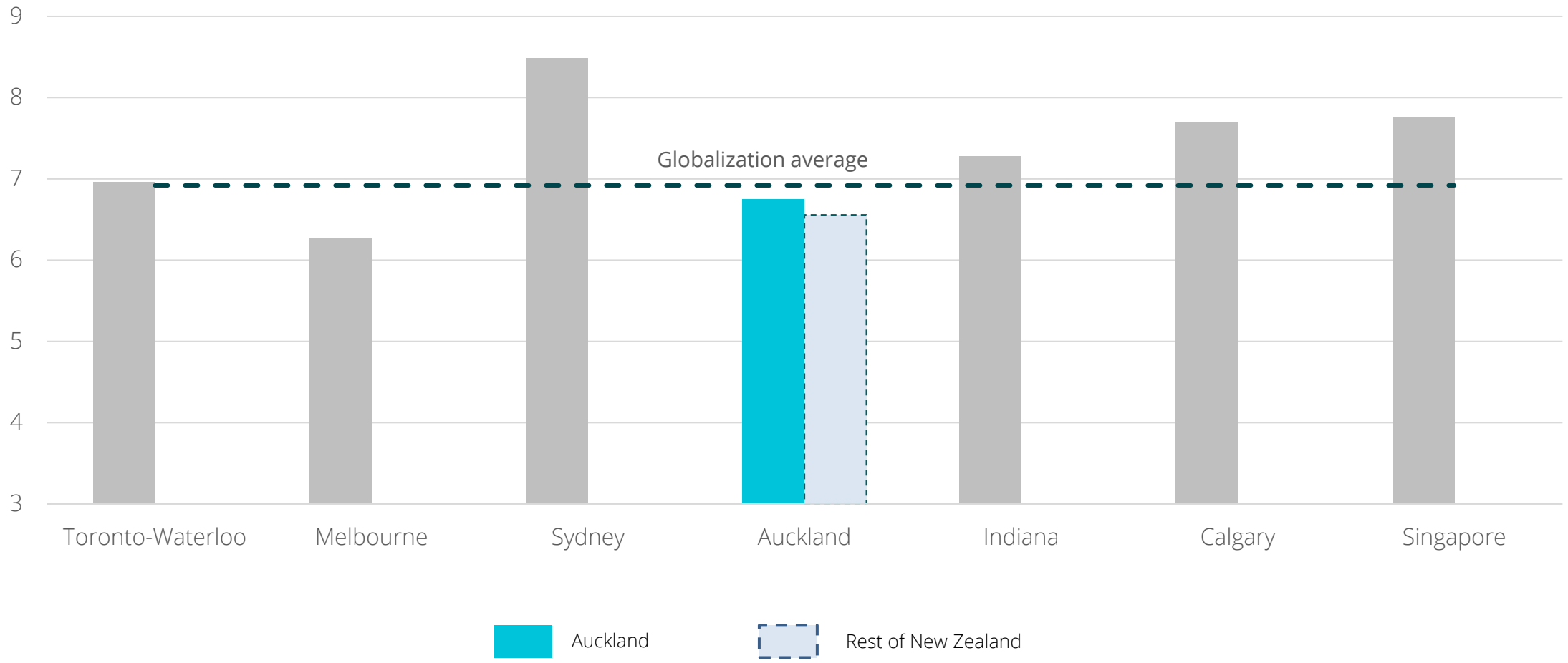
SG Science: Startups with higher Local Connectedness grow faster and have more potential for bigger exits





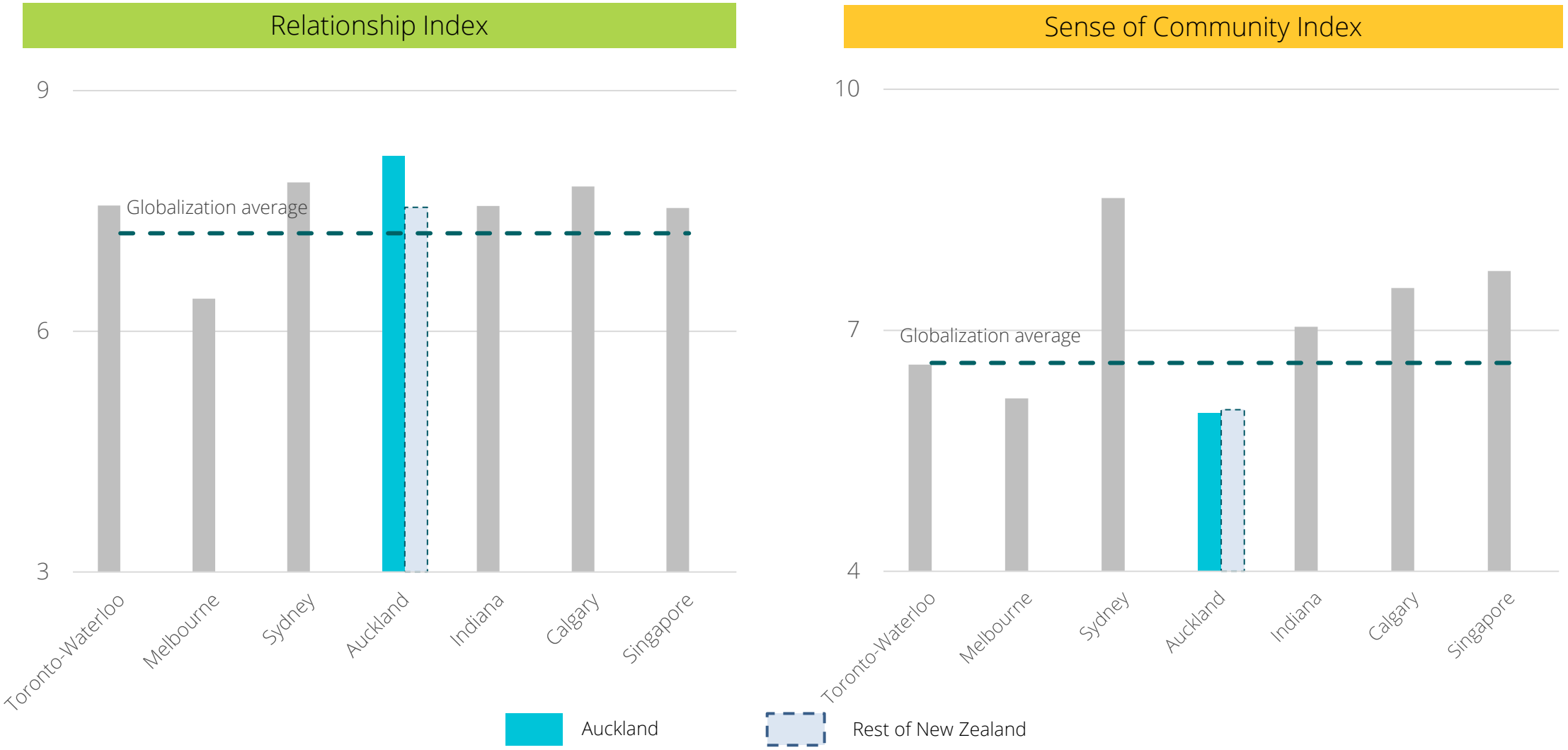
- An analysis of over 2,000 surveyed startups from across the world was conducted by Startup Genome to analyze the relationship between Local Connectedness and revenue growth
- It was observed that startups with **high Local Connectedness** grew **2.1x** faster than startups with low Local Connectedness

Auckland's Local Connectedness Index is slightly higher than Rest of New Zealand



Local Connectedness Index: Index measuring the extent to which the founders are locally connected with other founders, and investors in a startup community

Local Connectedness is measured by Quality Local Relationships and the Sense of Community within an ecosystem



Sense of Community Index: Index measuring the extent to which the startup community is helping each other
Relationship Index: Index measuring the engagement of founders with other founders, investors and experts

Founders in Auckland have a high number of quality connections with other founders, local investors and experts

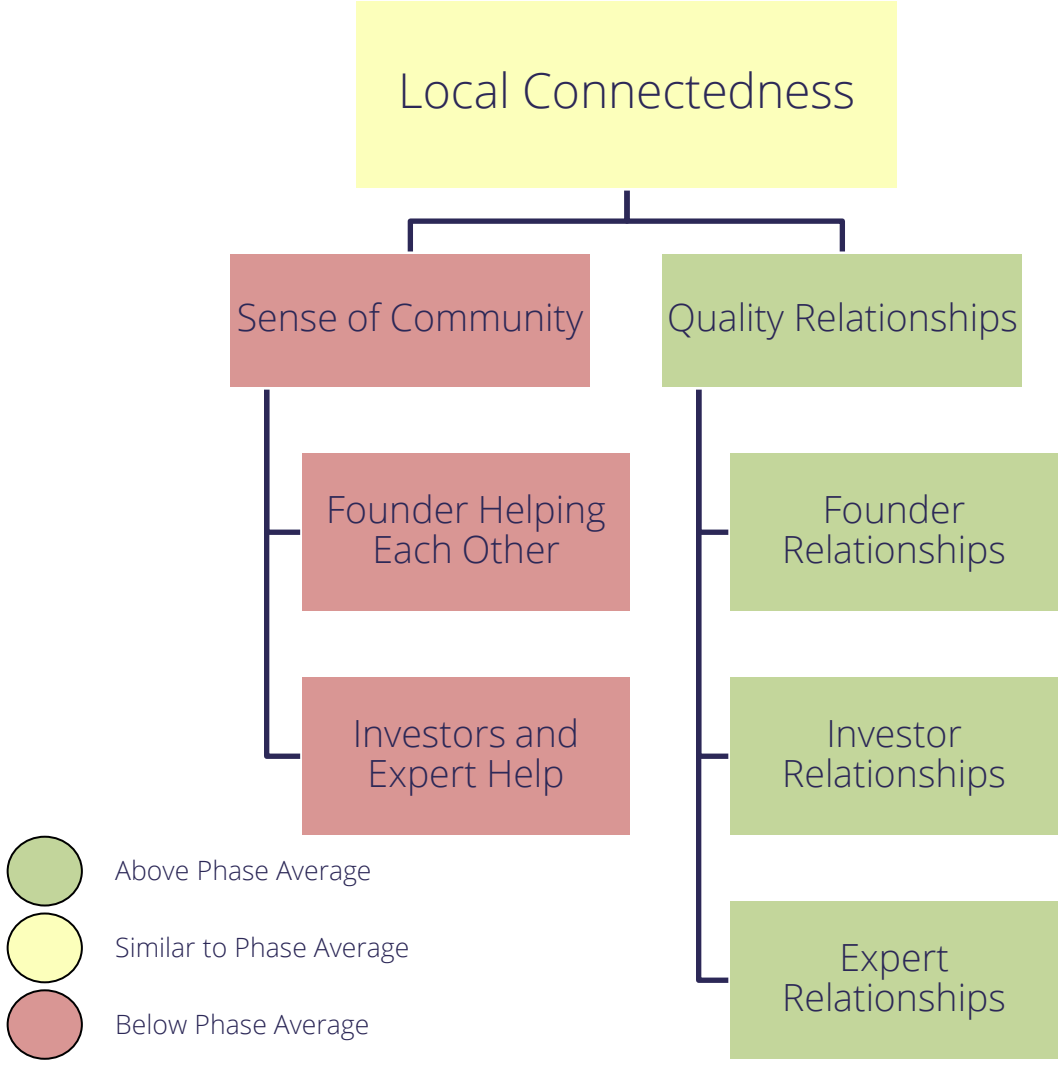
Founder Relationship Metrics

Founder Relationships: Average number of relationships to other local startup founders and executives
Investor Relationships: Average number of relationships to local investors
Expert Relationships: Average number of relationships to local experts other than investors

However, the help received from Local Investors and Experts by NZ founders is lower than many peer ecosystems

Local Founder Help: Average hours of help founders received from other founders and executives in the last two weeks
Local Investor & Expert Help: Average hours of help founders received from local investors and experts in the last two weeks

New Zealand's Local Connectedness is a bit lower than the Globalization phase average - in particular, Founders receive less help from Investors and Experts



Interview Findings

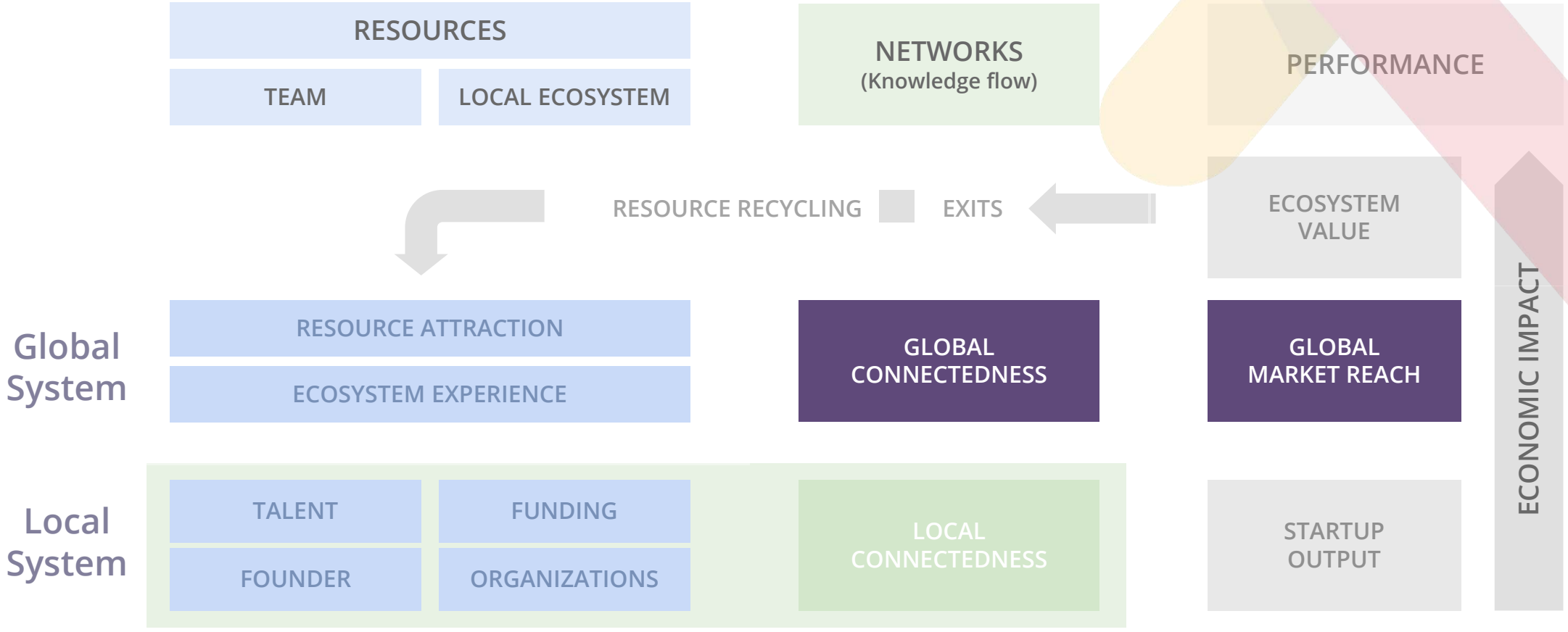
- **Founders look out for one another:** NZ Founders feel they can access other founders fairly easily, in part because the NZ ecosystem is relatively small and there is a convivial attitude among Kiwis
- **Culture may play a role:** Interviewees expressed a cultural hesitancy in NZ towards asking for things they need directly, diminishing the amount of time they are willing to ask from other founders & investors/experts
- **Lack of mentors with global experience:** Founders said they did not know too many mentors with previous experience scaling startups globally. This may reduce the number of hours they would want to take with local contacts
- **The Covid Factor:** Founders said more online groups formed during the pandemic, yet forming solid relationships where you could feel comfortable asking that person for their time was more difficult

The Color-Coded Summary scores are based on New Zealand's performance in this Success Factor from survey data as well as secondary data. Findings have been sourced from Validation Interviews

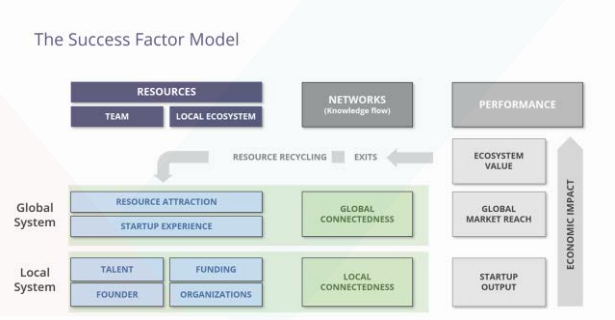
Success Factor Model
Global Connectedness and Global Market Reach

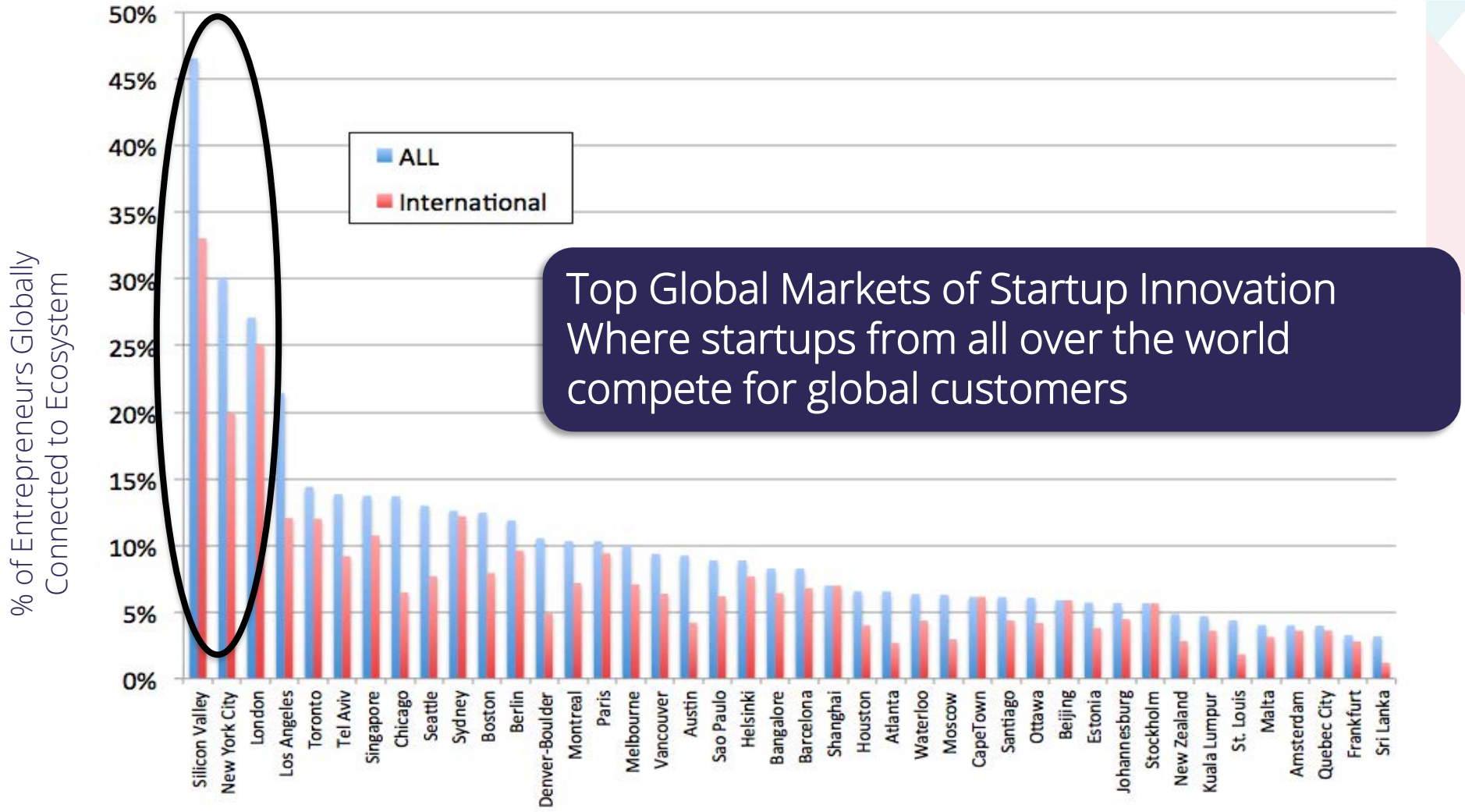
Global Connectedness: Measurement of how connected Founders are to globally-leading startup knowledge
- Relationships with peers in Top Ecosystems, Immigrant Founders

Global Market Reach: Focus, ability and customer share of local startups to sell to Top Ecosystems Nationally and Globally
- Founder Ambition, Founder Strategy



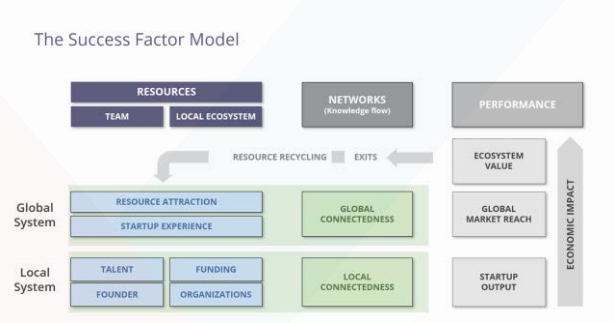
SG Science: Silicon Valley, NYC and London are the nexus of the Global Fabric of startup ecosystems

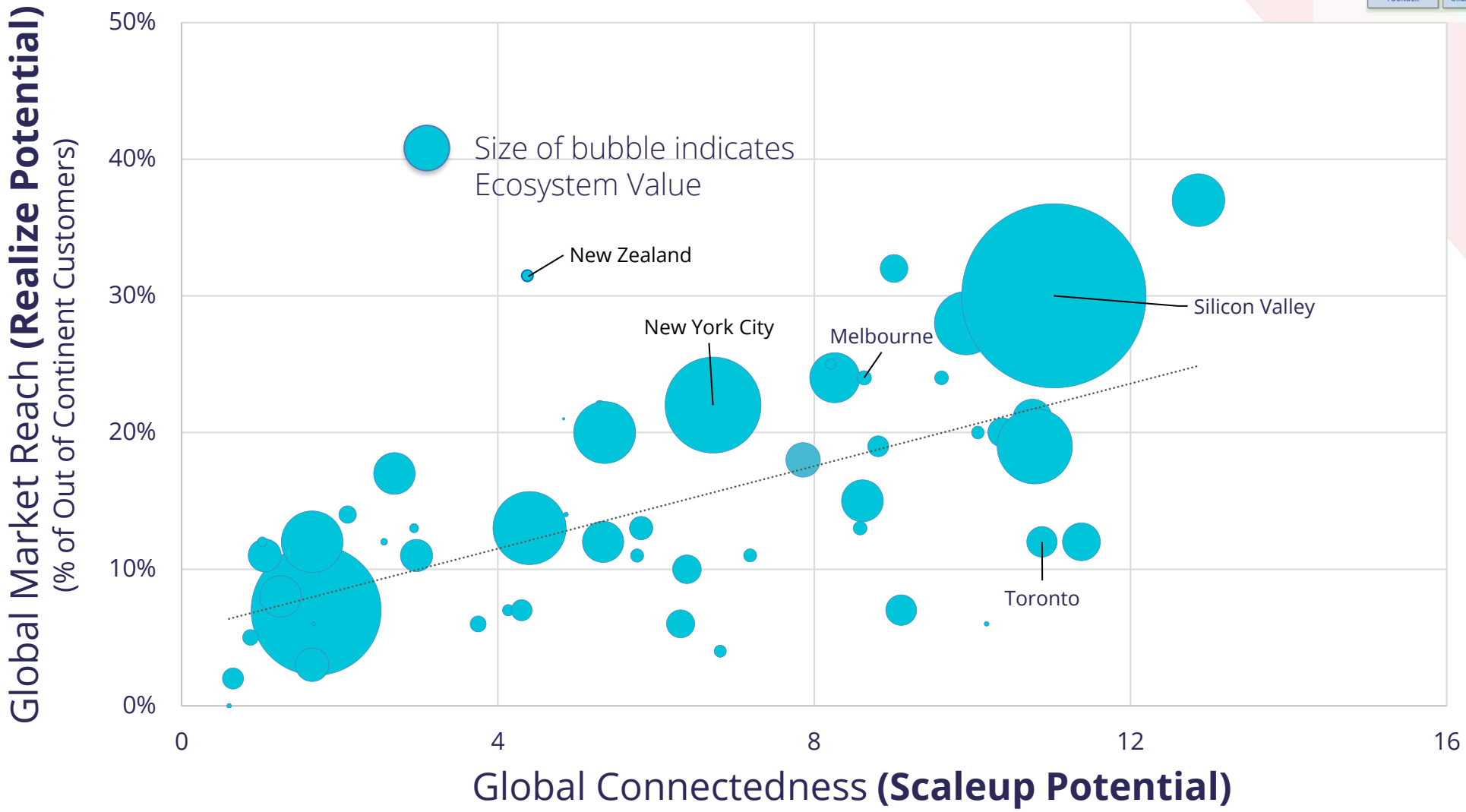




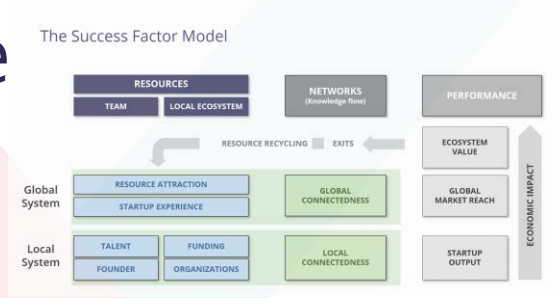
Top Global Markets of Startup Innovation
Where startups from all over the world compete for global customers

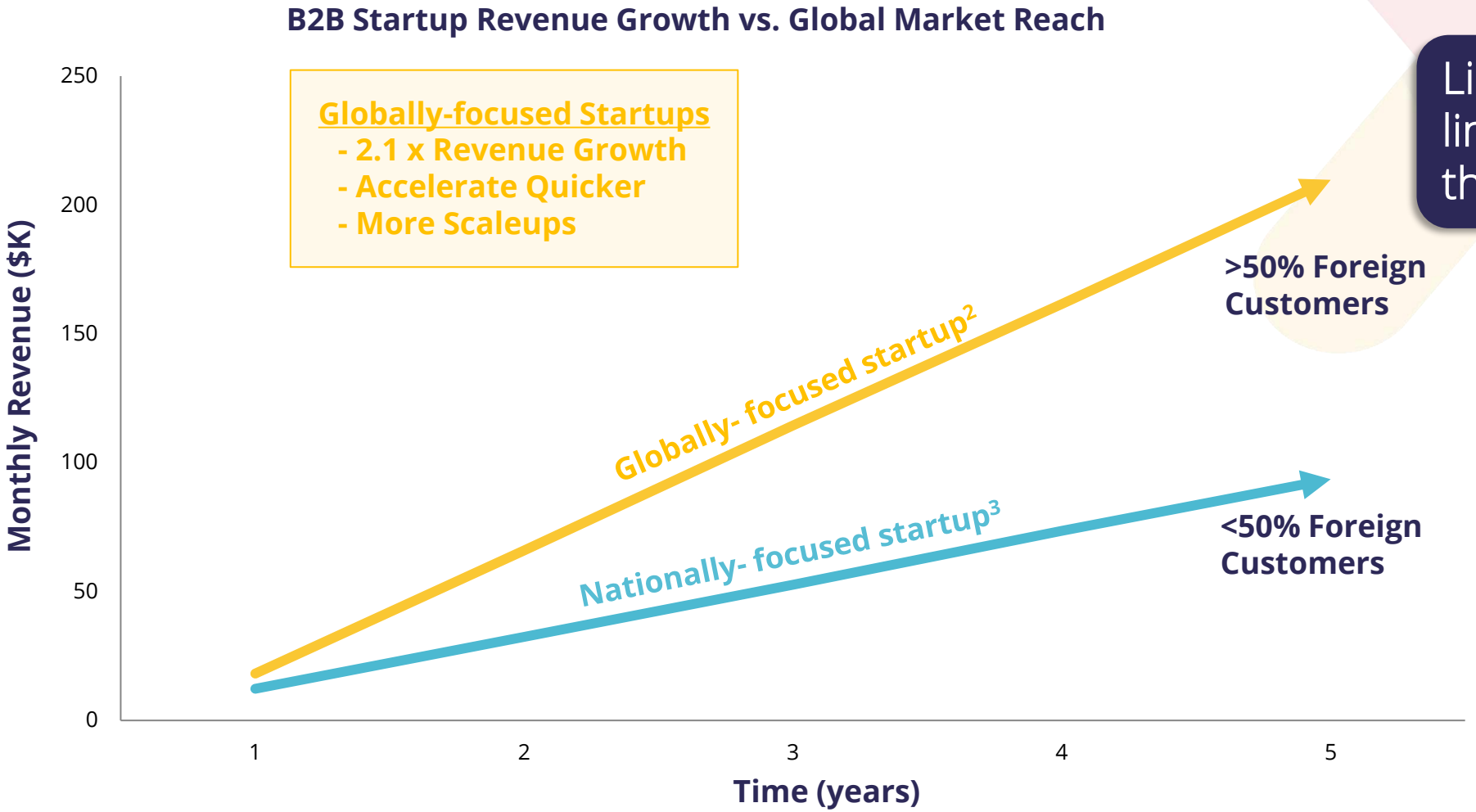
SG Science: Globally-Connected ecosystems achieve greater Global Market Reach, realizing their ecosystem's scaleup potential





SG Science: Startups that go-global early see their revenue grow faster, receive larger funding rounds and are more likely to become scaleups[1]

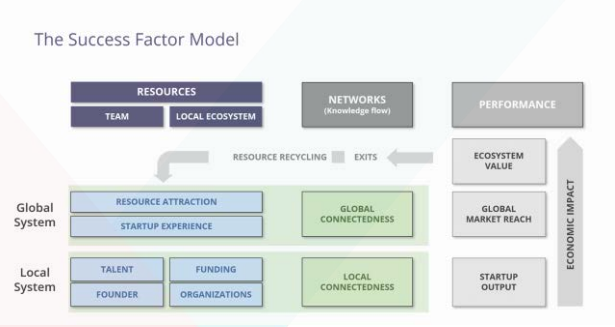




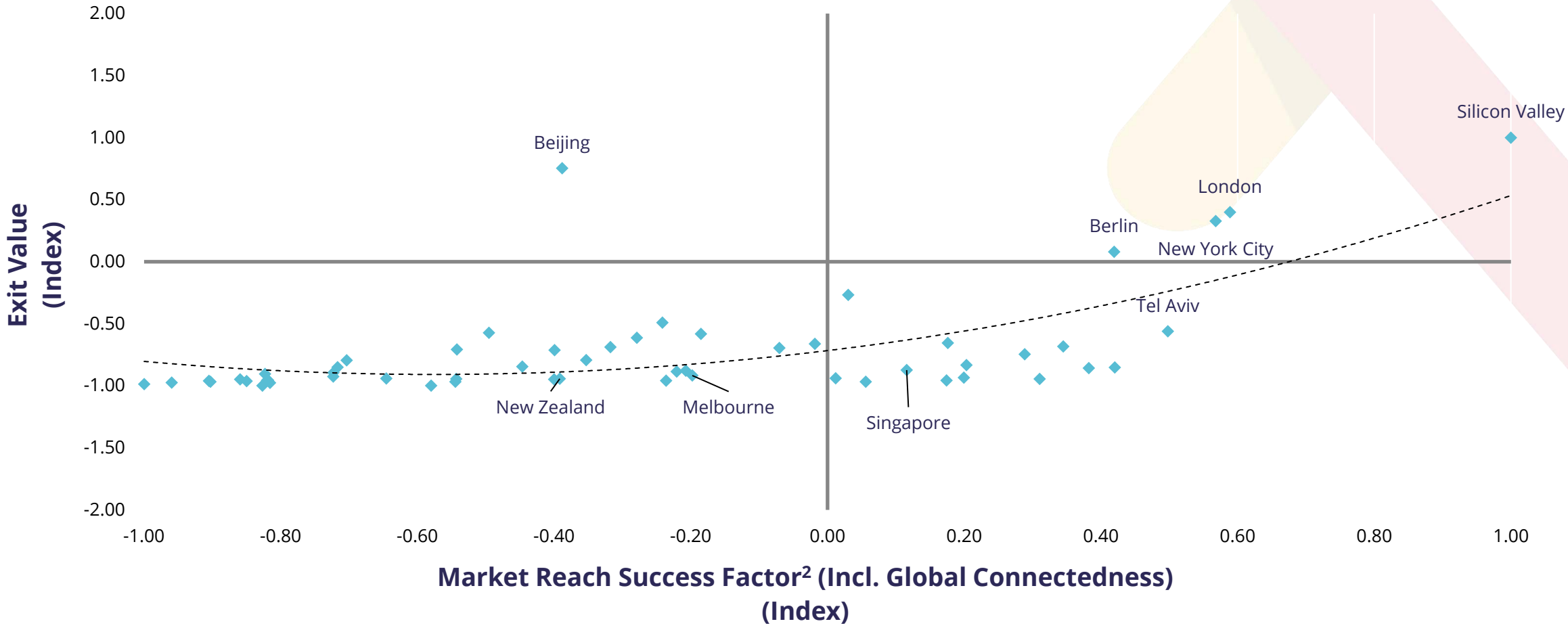
* Data is based off Startup Genome's Voice of the Entrepreneur global survey

1. A scaleup is a startup with a valuation of $100M or more
2. Globally-Focused Startups: Startups focused on targeting a customer base outside their country
3. Nationally-Focused Startups: Startups focused on targeting customers within their country

SG Science: Global Connectedness & Global Market are closely related to Scaleup[1] production



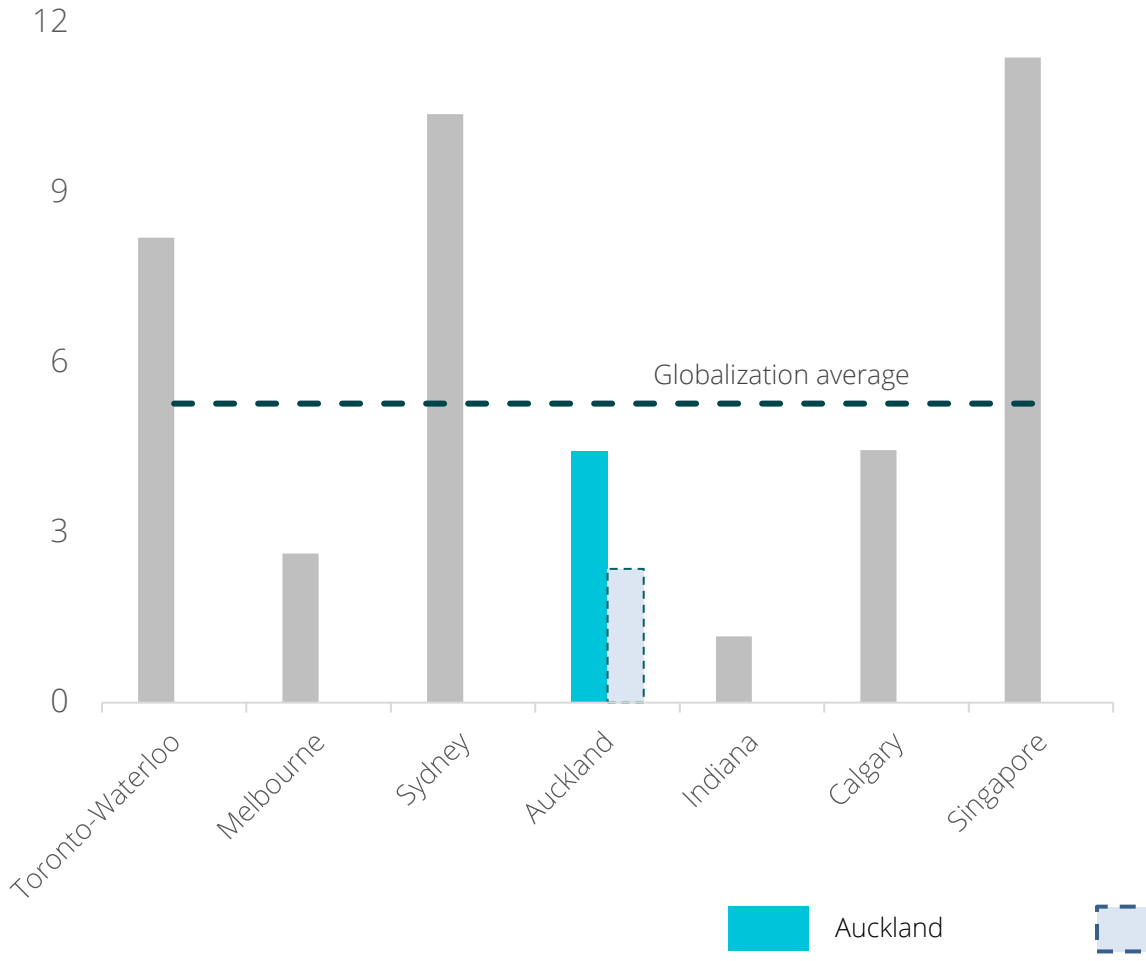
Global Market Reach + Global Connectedness Score vs. Exit Value – by Ecosystem



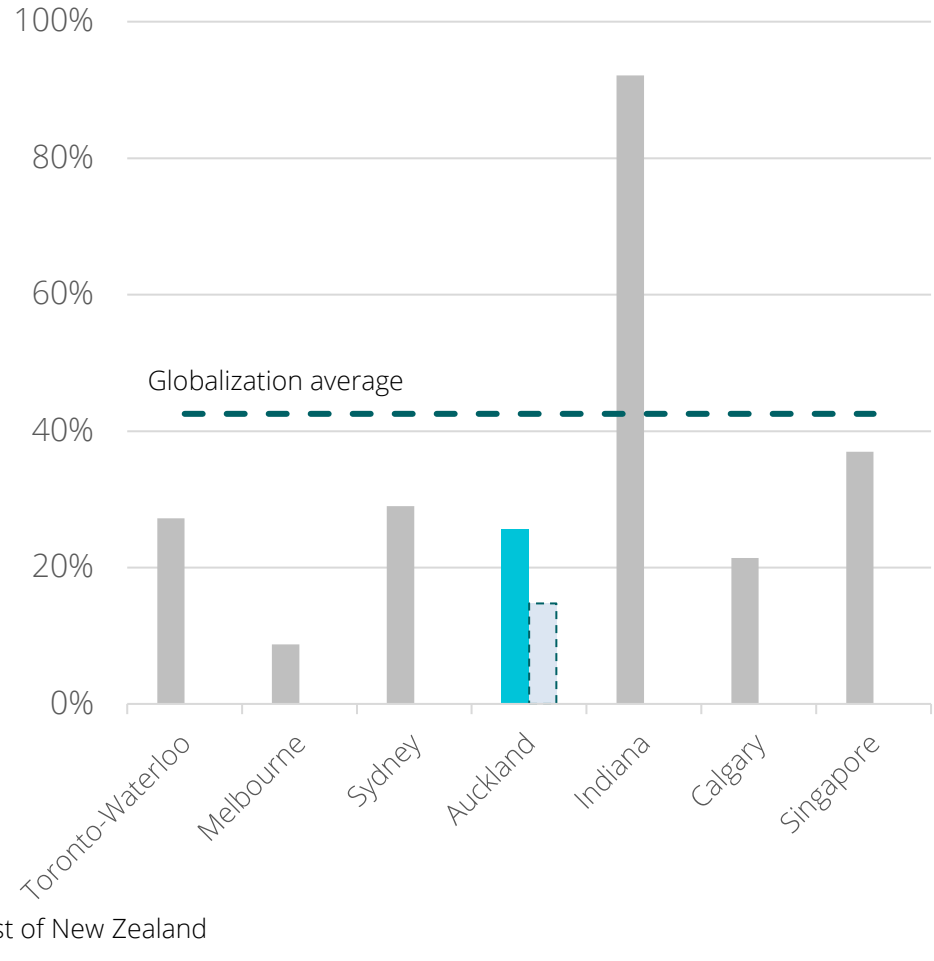
1. A scaleup is a startup with a valuation of $100M or more
2. The Market Reach Success Factor Measures early-stage startup access to customers allowing them to scale and "Go-Global" from the onset

Founders in Auckland have meaningful connections to top ecosystems and target the global market first

Connections to Top Ecosystems



Targeting Global Market First

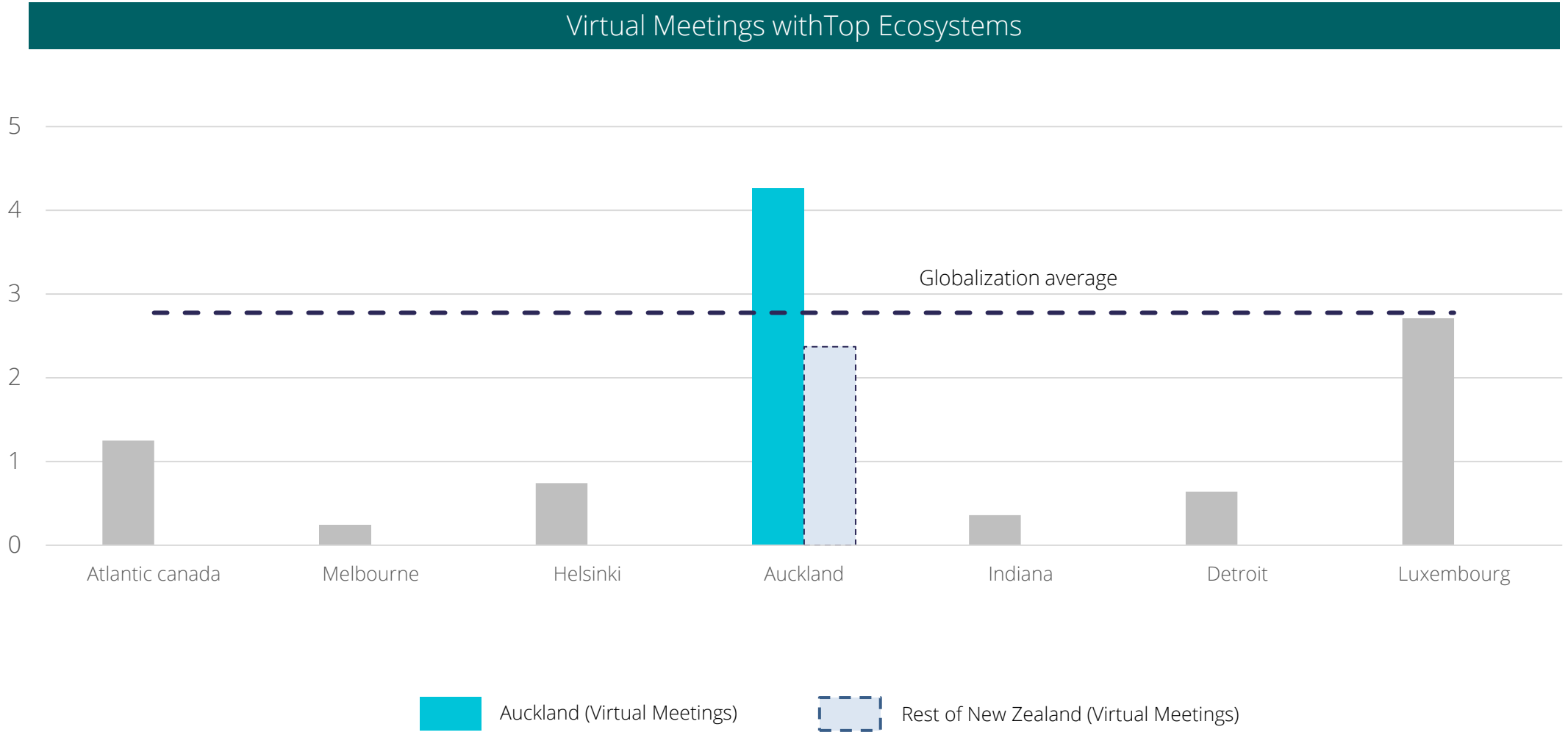


Auckland

Rest of New Zealand

Global Connectedness: Average number of significant relationships startup leaders have with founders from Berlin, Tel Aviv, London, and Shanghai

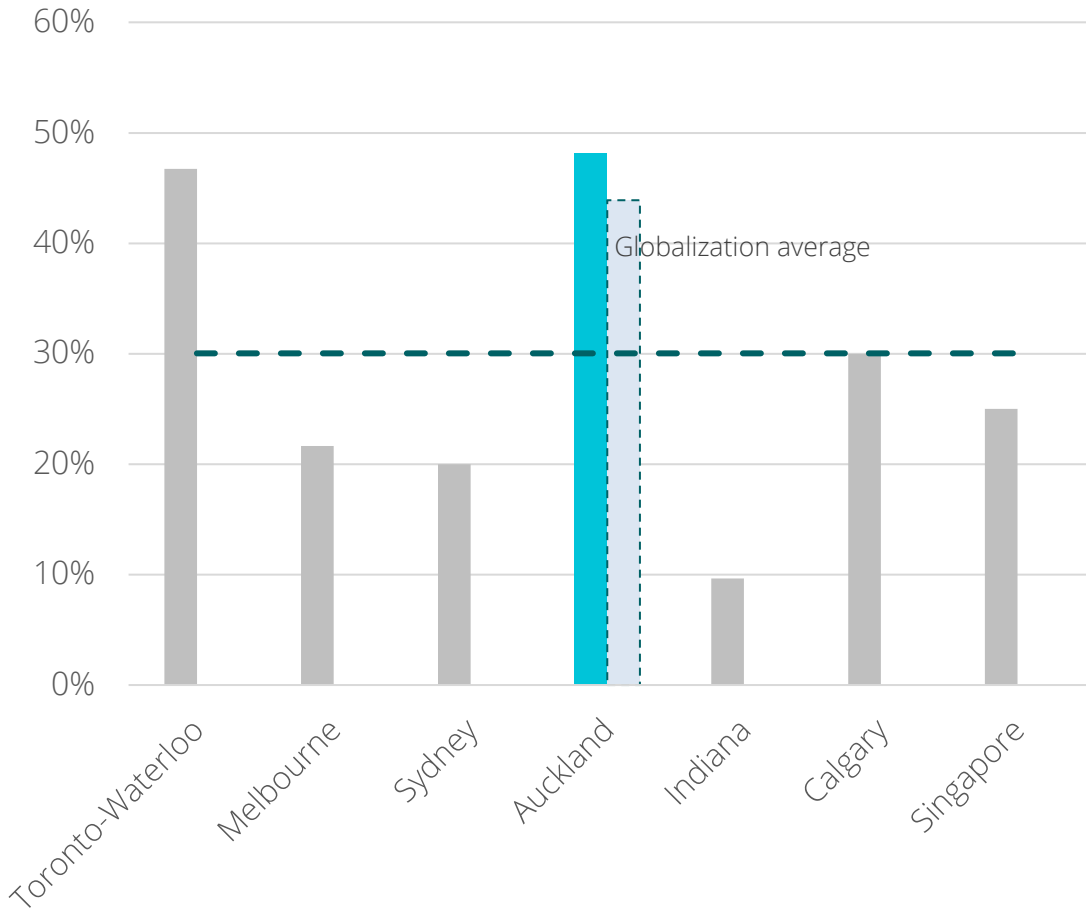
Auckland Founders have more virtual meetings with top ecosystems than peers



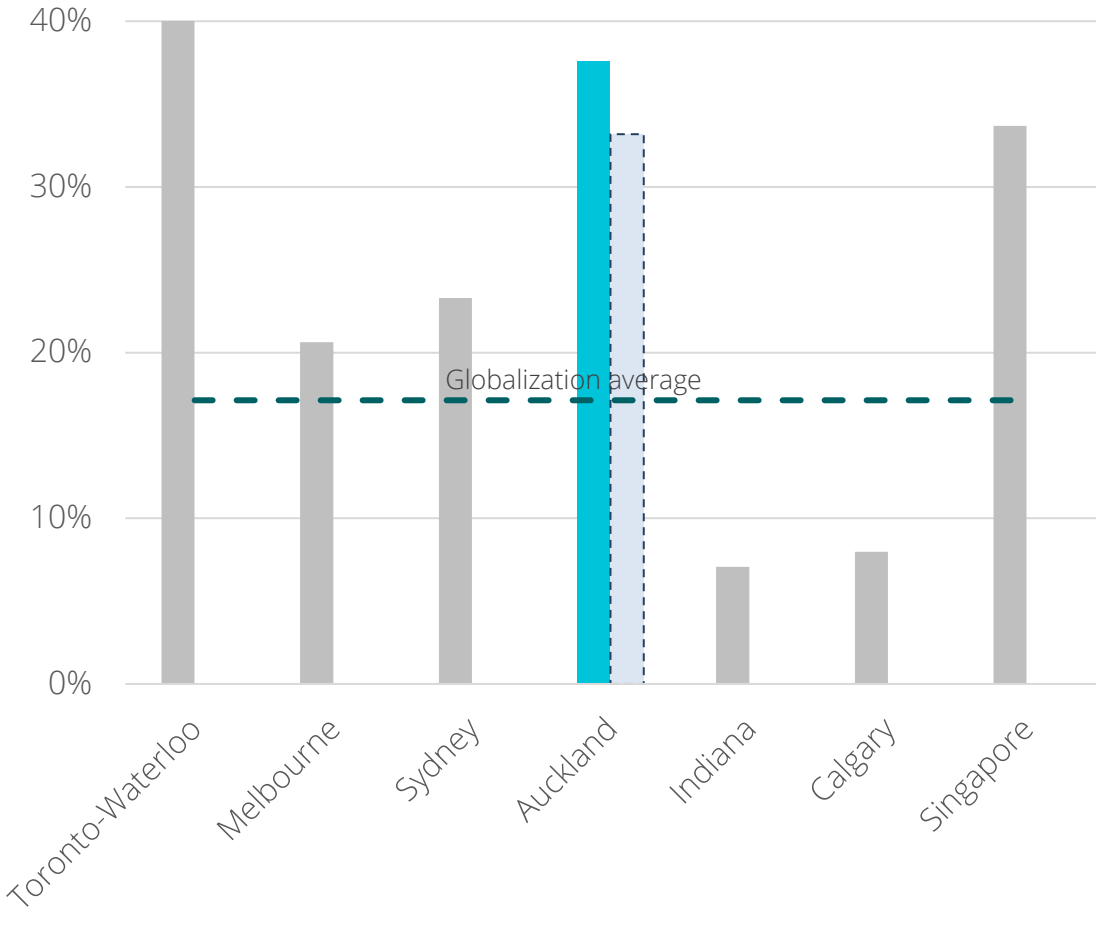
 Travel to Top Ecosystems: Average number of startup leaders who have traveled 2 or more times to top ecosystems (stated above) in the last 2 years

Startups in Auckland and Rest of New Zealand have a relatively high proportion of Foreign Customers

Customer Outside **Country**



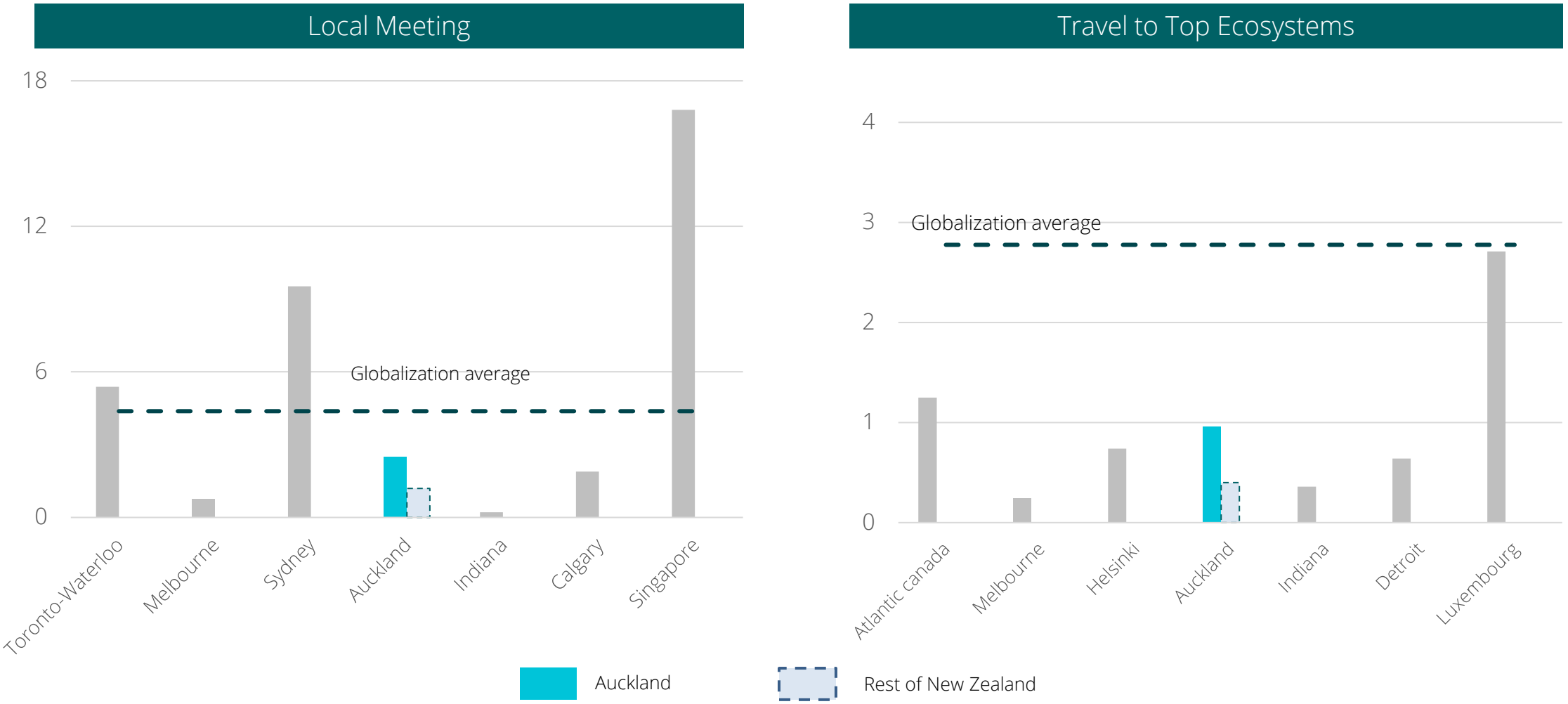
Customers Outside **Continent**



Auckland Rest of New Zealand

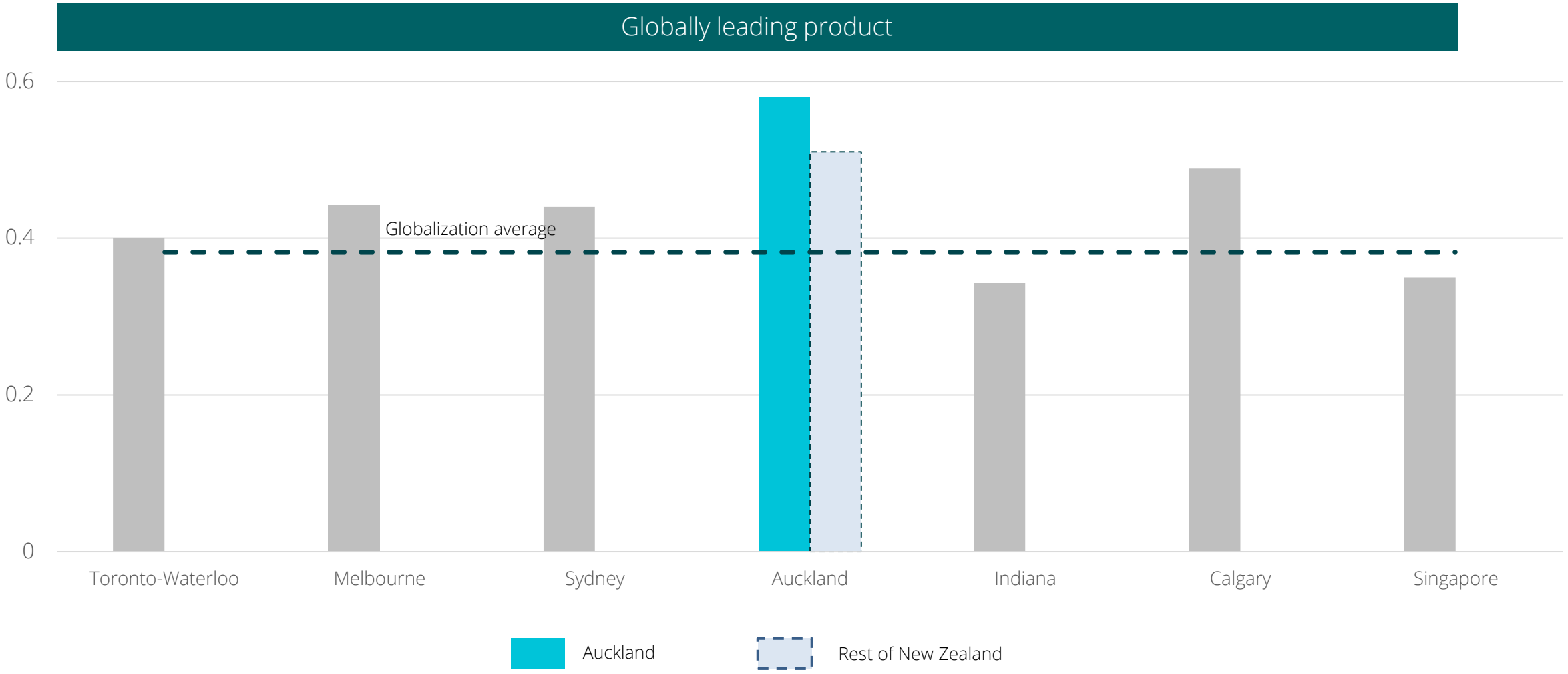
Foreign Customer: Percentage of customers outside of the ecosystem's country or continent
Customers Outside Continent: Percentage of customers outside the ecosystem's continent

Founders in Auckland and Rest of New Zealand have a below average number of interactions with peers from top international ecosystems

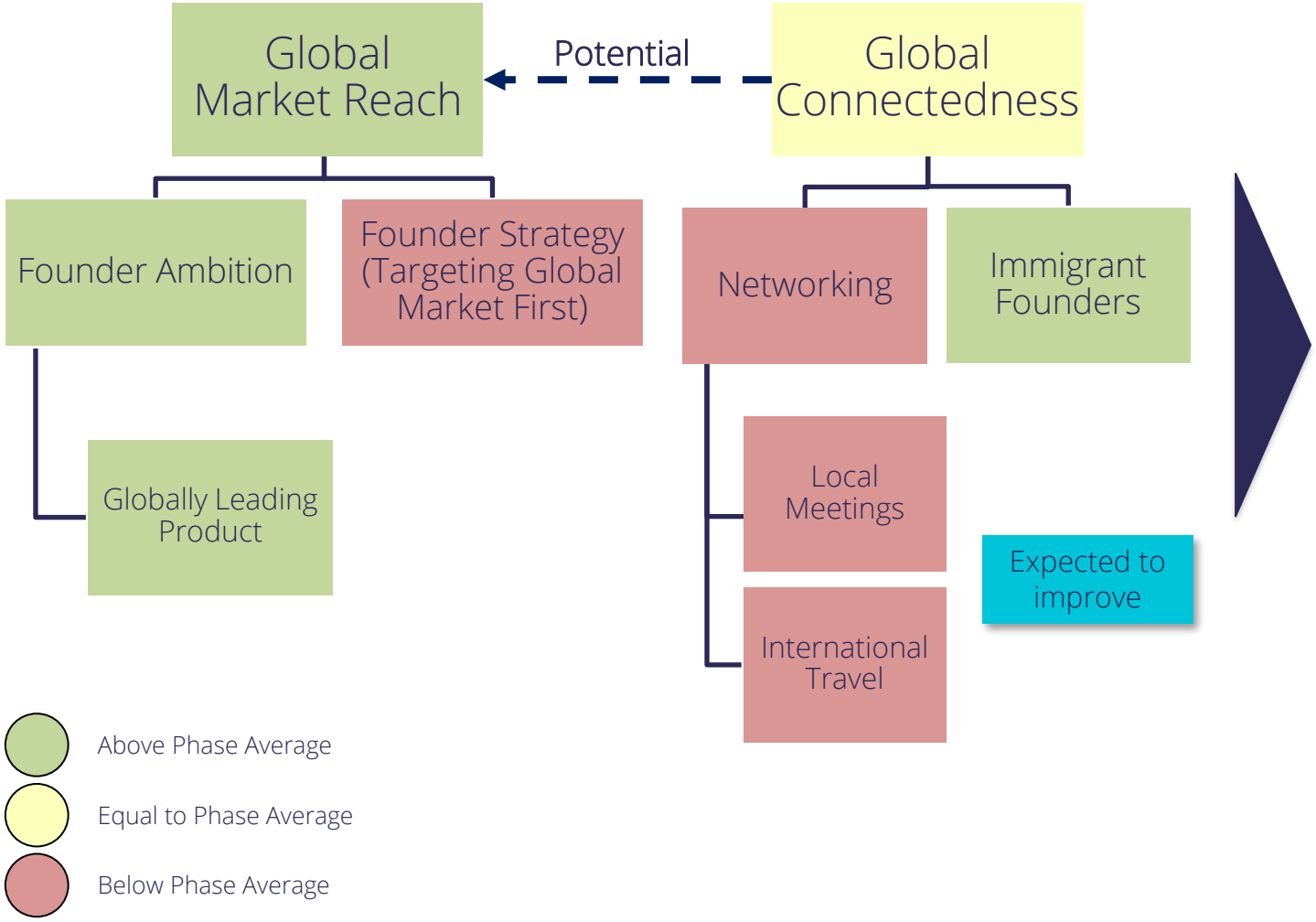


Local Meeting: Average number of startup leaders from Berlin, Tel Aviv, London and Shanghai that entrepreneurs from your ecosystem have met locally (this shows the degree to which entrepreneurs from top ecosystem travel to your ecosystem)
Travel to Top Ecosystems: Average number of startup leaders who have traveled 2 or more times to top ecosystems (stated above) in the last 2 years

Majority of the New Zealand Founders claim to have a globally leading product



New Zealand has room to grow in connecting with Top Ecosystems



Interview Findings

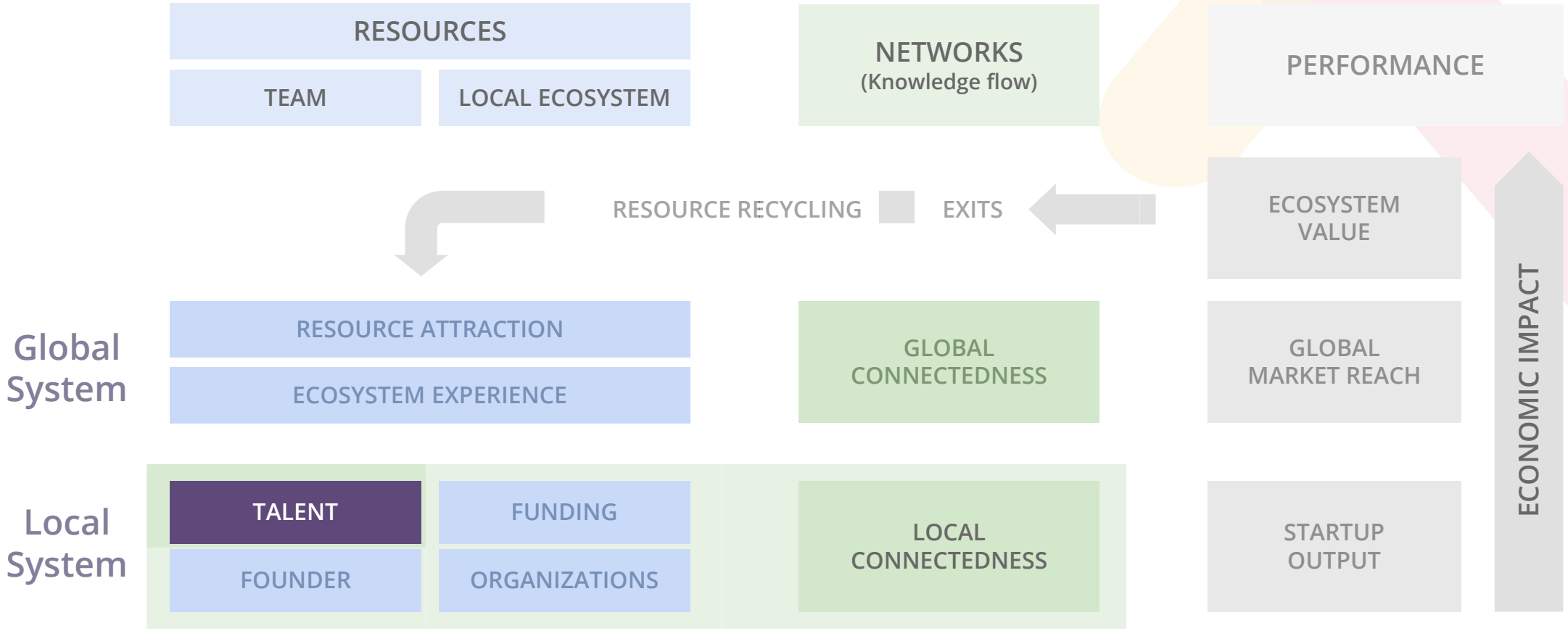
- **COVID-19's impact:** Covid limited both NZ Founder's ability to travel to top ecosystems as well as to meet with connections locally from globally leading ecosystems. There was a more pronounced impact on NZ than in most ecosystems.
- **Online meetings help:** Founders commented on the shift towards online meetings during the pandemic helped them expand their global contacts - NZ's distance was no longer as much of a hindrance.
- **Targeting global first:** Founders are below their peers in targeting the global market first with their products. The ecosystem can do more to promote the importance of global-readiness

The Color-Coded Summary scores are based on New Zealand's performance in this Success Factor from survey data as well as secondary data. Findings have been sourced from Validation Interviews

Success Factor Model
Talent

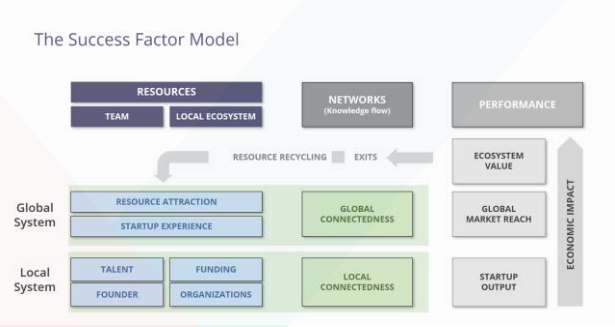
Talent: Measurement of the access startups have to critical employees, namely software developers and customer acquisition roles (i.e., marketing, hypergrowth, scaling roles)

- Experienced Software Engineers, Experienced Growth Employees

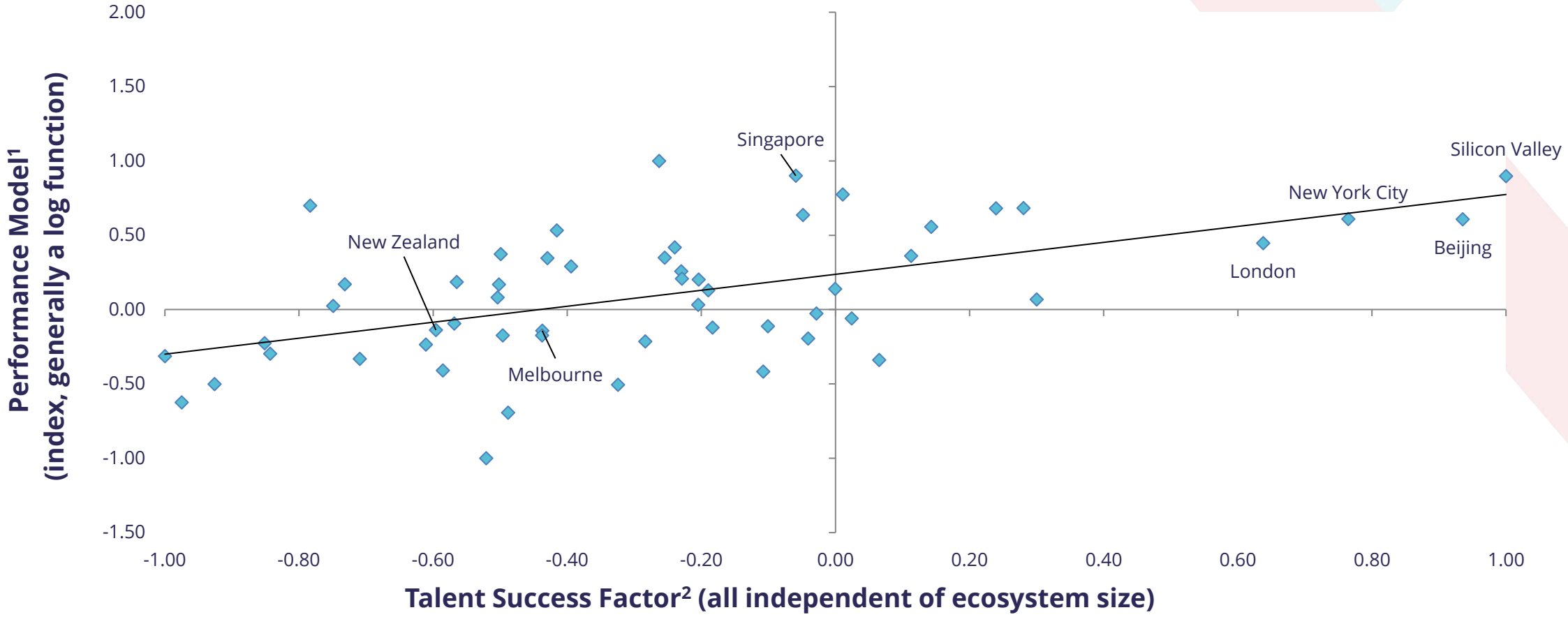


Experienced Software Engineers: Percentage of software engineers with at least 2 years of Startup Experience prior to joining this startup
Experienced Growth Employees: Percentage of growth (customer acquisition) employees with at least 2 years of Startup Experience prior to joining this startup

SG Science: Talent Success Factor correlates very highly with Ecosystem Performance

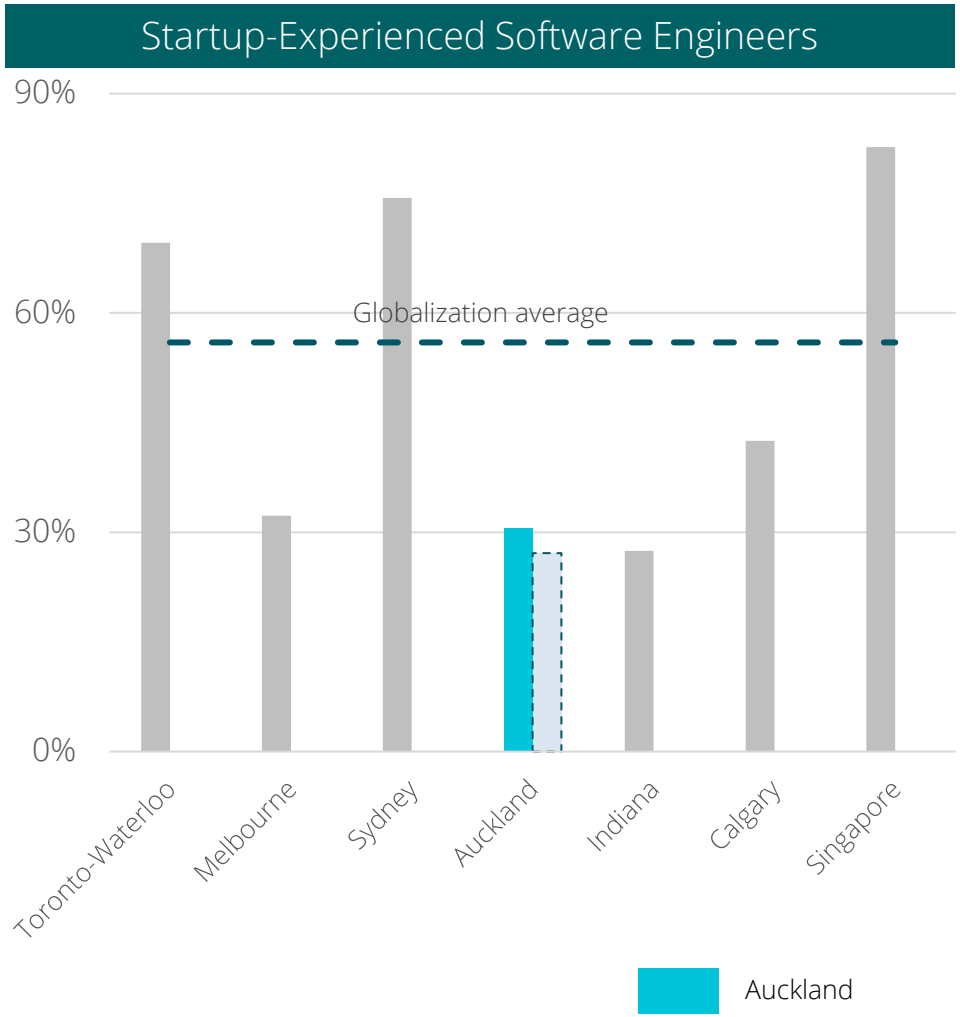


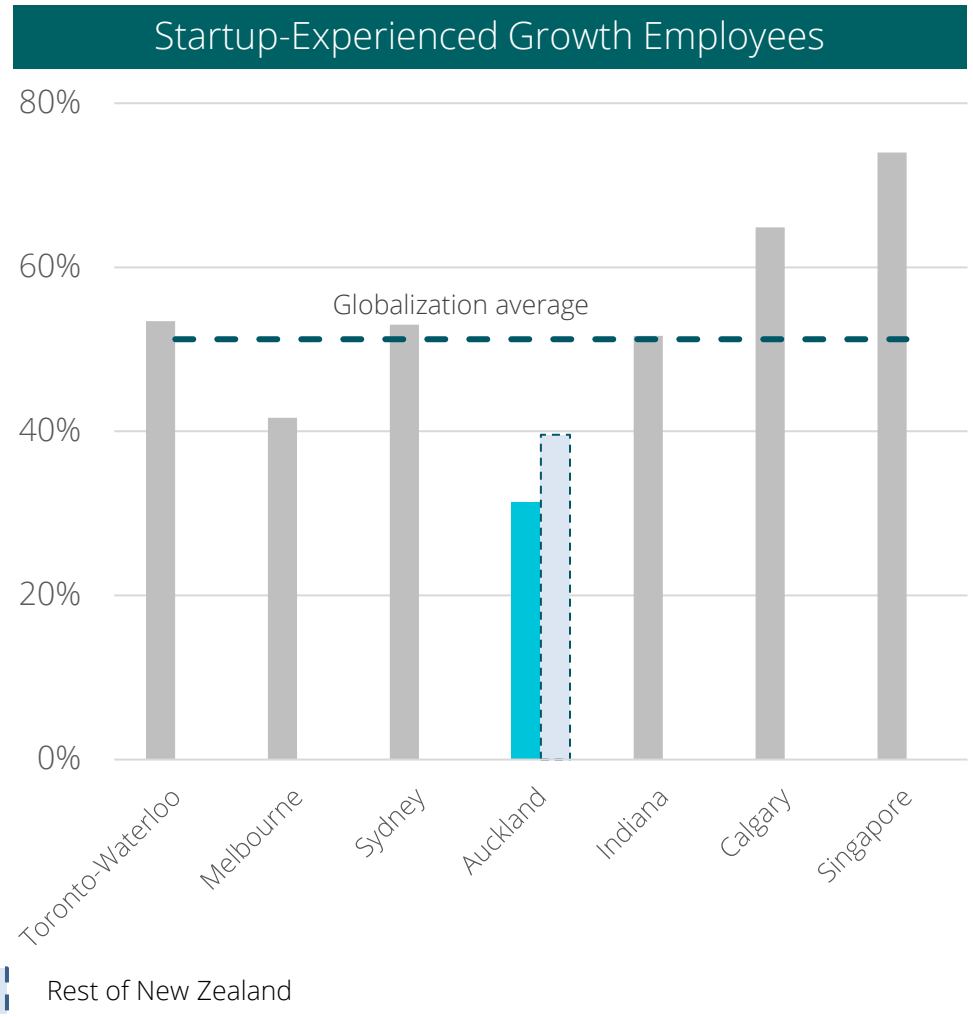
Talent Success Factor vs. Performance Model



1. The performance model analyses indicators like exits, funding and startup output to capture the economic outcomes in a startup ecosystem
2. The talent success factor assesses the availability of software development and customer acquisition talent to Startups

Startups in Auckland and Rest of New Zealand have less access to Experienced Growth Employees in comparison to the peers



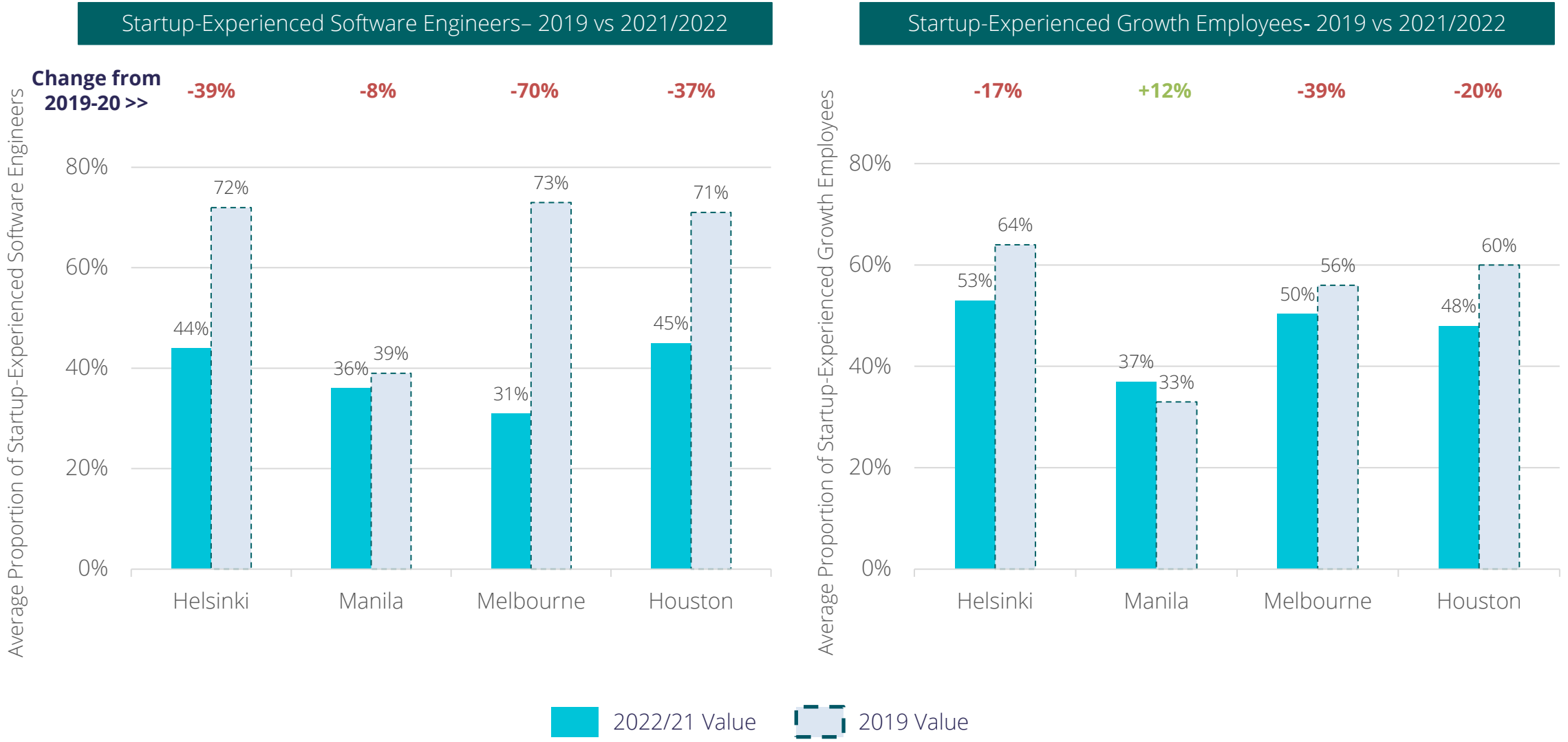


Auckland

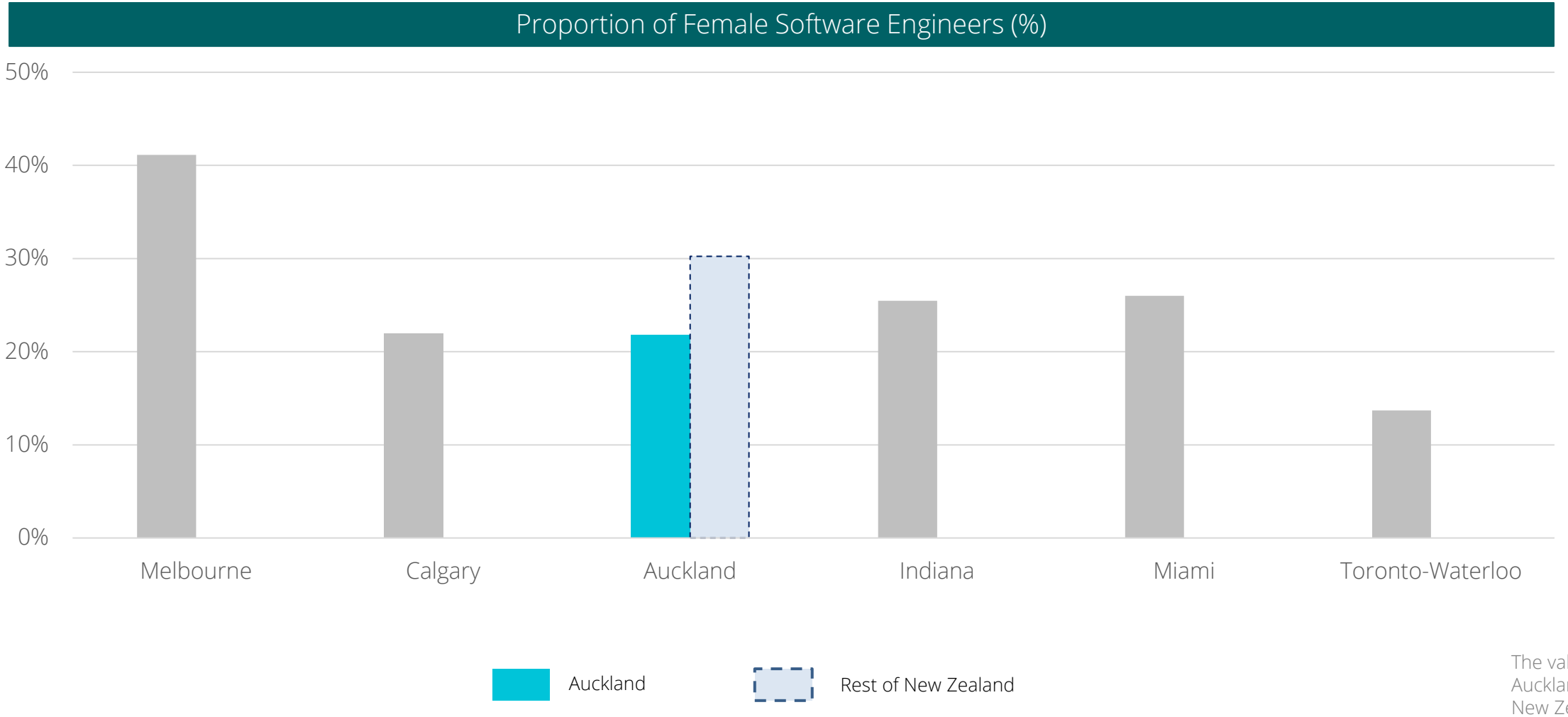
Rest of New Zealand

Experienced Engineers: Percentage of engineers with at least 2 years of startup experience prior to joining this startup.
Experienced Growth Employees: Percentage of growth (customer acquisition) employees with at least 2 years of startup experience prior to joining this startup.
Values represented refer to the average proportion of a New Zealand startup's percentage of experienced employees

Ecosystems across the globe have witnessed a decline in access to Experienced Software Engineers

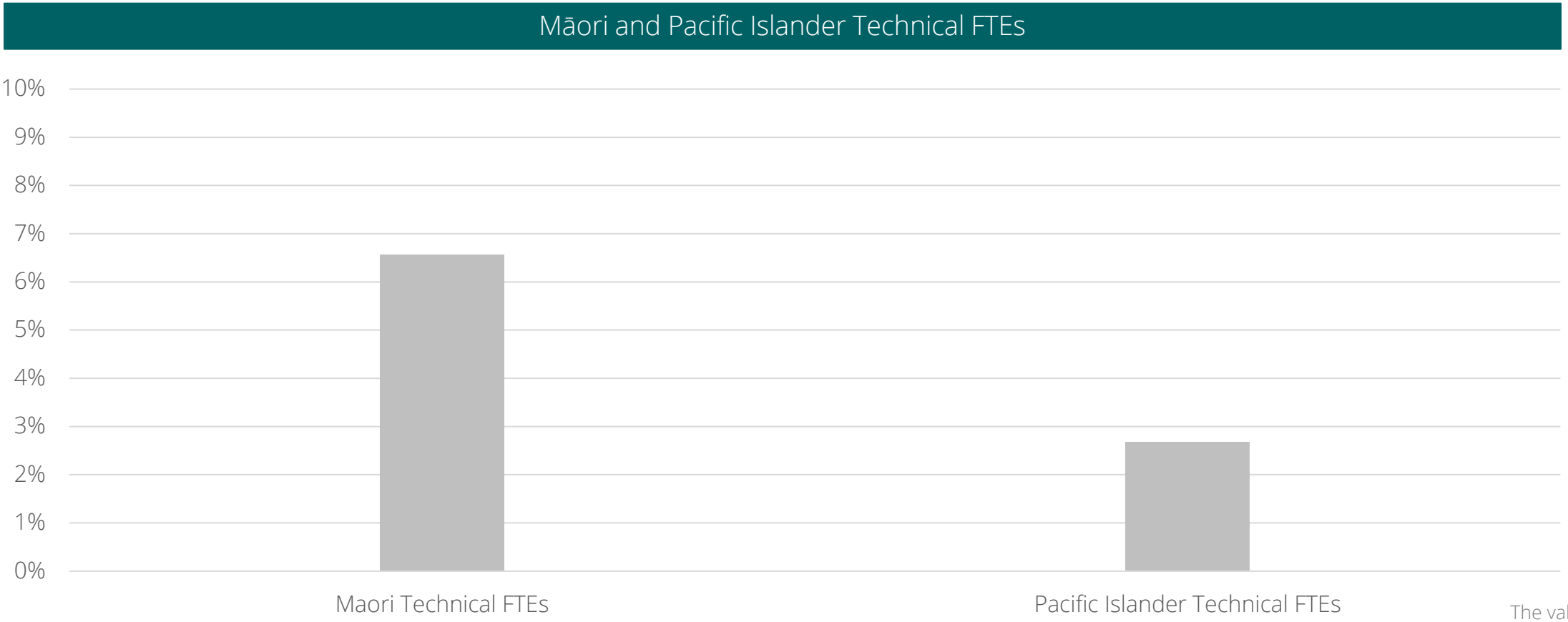


Participation: Female full-time employees (FTEs) with a technical background



The values for Auckland and New Zealand are based on 28 and 22 responses respectively

Participation: Māori and Pacific Islander Technical full-time employees (FTEs) with a technical background



In Atlantic Canada, on an average 2% of the technical FTE's belonged to the the Indigenous Community

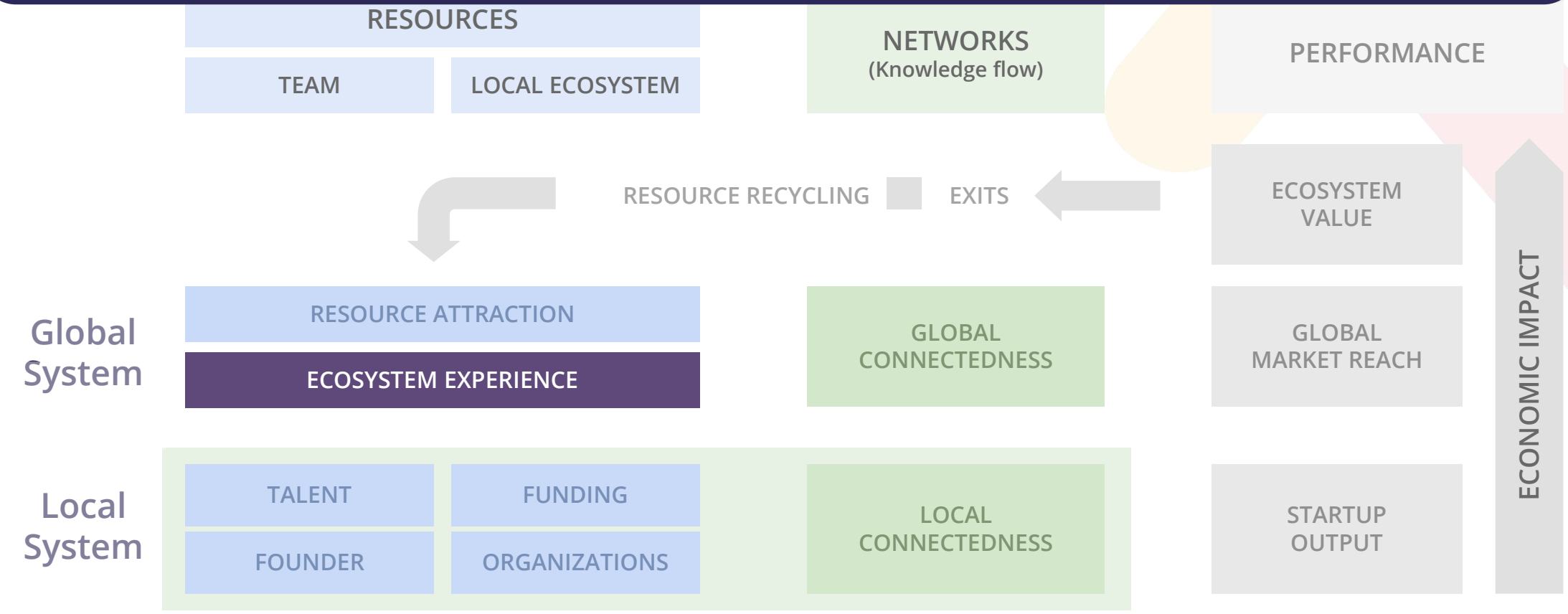
The values for Māori and Pacific Islander Technical FTEs are based on 43 and 41 responses respectively

Success Factor Model
Ecosystem Experience

Ecosystem Experience: The depth and diversity of the pool of prior experience in the ecosystem through funding and large exits

Scaling Experience:
- Large Exits, Hypergrowth Experience

Startup Experience:
- Advisors, Employee Stock Options



Auckland's Average Ecosystem Experience is above the Globalization average

Ecosystem Experience: Summary of scaling experience (record of creating or working at high-value startups) and startup experience (culture of providing and accepting equity and stock options as incentives)
Hypergrowth Experience: Percentage of founders in the team who previously worked for 2+ years at a startup with a valuation of $100M+

New Zealand struggles to attract high-level talent relative to other Globalization stage ecosystems

Interview Findings*				
More experienced employees are needed	**Need for more visible startup success**	**Simplifying ESOPs would help**	**Universities are strong; but need more startup curriculum**	**Government policies could ease talent crunch**
Founders said that many of their employees did not have significant startup experience previously. However, that is changing somewhat as more startups cycle through the NZ ecosystem. This sentiment was echoed in the 2022 Survey results where NZ performed well below Globalization phase average on the rate of Startup-Experienced Software Engineers, and Startup-Experienced Growth Employees.	Founders and investors both said that more visible startup success would help attract more startup talent. According to one investor, many students leaving NZ universities are unaware of startups as a potential career path. Overall, More media coverage and celebrated scaleups/exits would provide more people with "proof points" that startups are a viable career or investing option.	Recent changes to equity sharing schemes have made ESOPs more complex and less attractive for many potential startup employees. The result is many startups either forgoing ESOPs as part of their compensation package - or employees choose not to exercise them. One founder said executives were more likely to exercise their ESOP while general staff lacked the financial literacy to see their value. Instead, according to multiple interviewees, many startups rely more on the attractiveness of their mission than their long-term financial potential.	NZ's universities generate strong IP in many sectors, and have produced some successful startups, particularly from the University of Auckland. However, several interviewees lamented the lack of startup and entrepreneurship-related courses or skill-building at the secondary and university levels. According to one university leader, "not enough NZ universities reap the benefits of an entrepreneurial student culture."	Several interviewees said that the government could do more to attract talent by creating startup visas, or granting visas to graduating PhD students who want to stay in NZ to start a business. However, some remarked that the Edmund Hillary fellowship would bring exceptional foreign talent to NZ. On the other side of the talent equation, a few interviewees mentioned that it was quite difficult to fire poor performing employees in NZ, which raises risks when hiring.

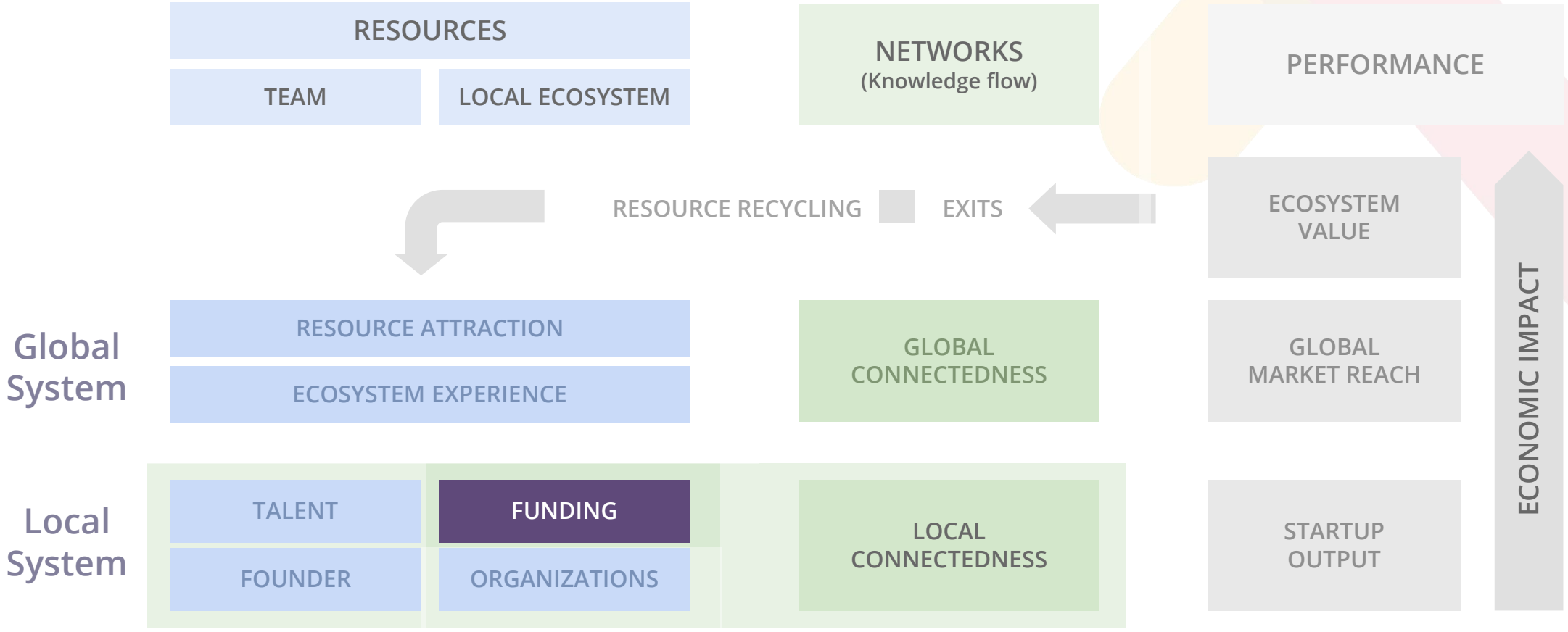
*Findings reflect the aggregate opinions of key stakeholders in New Zealand and do not necessarily reflect the voice of the entire ecosystem

Success Factor Model
Early-Stage Funding

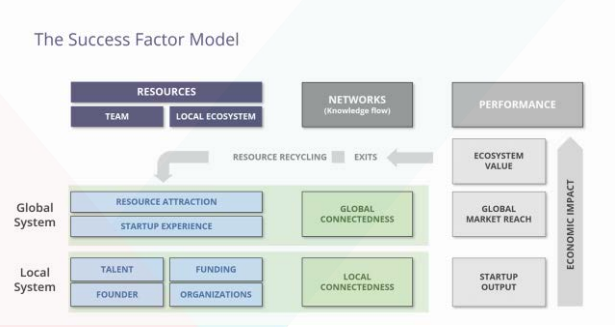
Early-Stage Funding: Volume and quantity of Seed and Series A deals raised by startups in the ecosystem

Key Measurements:

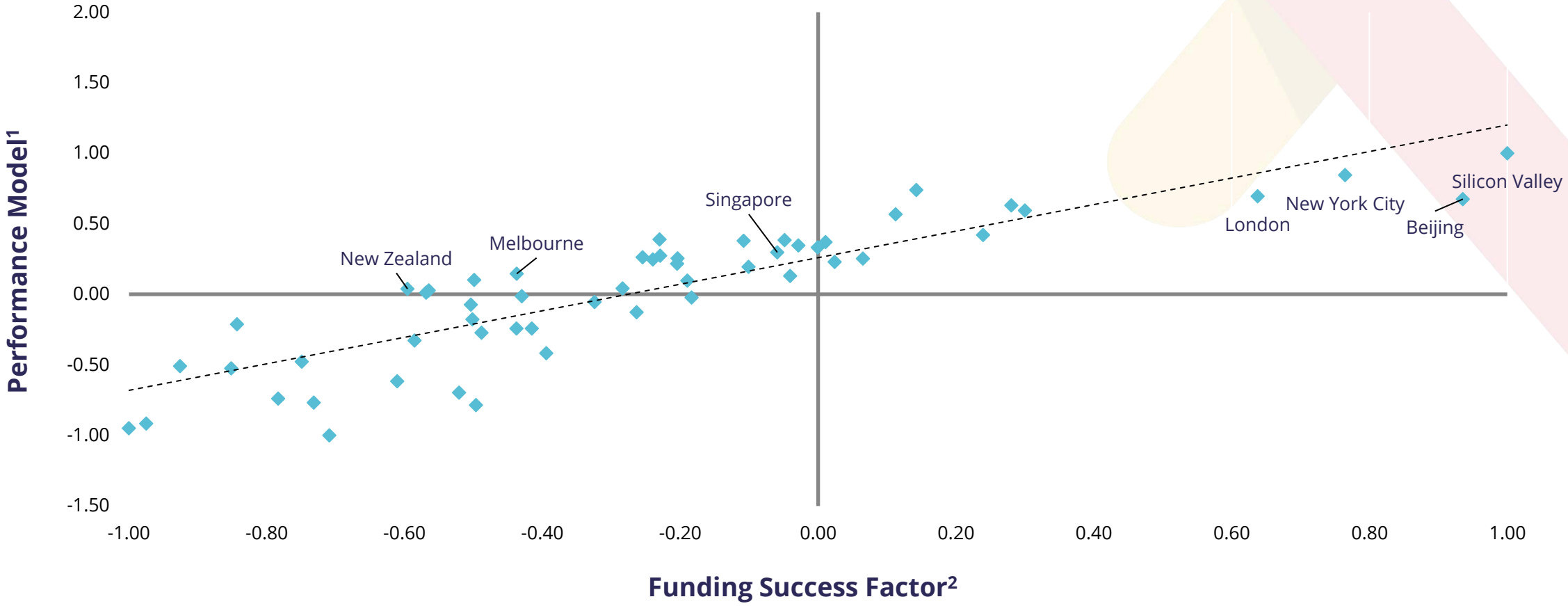
- Seed Round Median, Series A Median, % of Seed Rounds >$1M, % of Series A Rounds >$10M



SG Science: The Funding Success Factor correlates very highly with Ecosystem Performance



Funding Success Factor vs. Performance Model



1. The performance model analyses indicators like exits, funding and startup output to capture the economic outcomes in a startup ecosystem
2. The Funding Success Factor measures the growth of early-stage funding, looking at both access and quality

New Zealand's Early-Stage Funding gaps in relation to other Globalization-Stage ecosystems holds back its scaling potential

		Seed	Series A
Large Rounds	Median	Median Size & # of FTEs Funded	Median Size
	Best	% $1M+	% of $10M rounds
Many Rounds		% Seed-Funded Startups	Survival Rate

Above Phase Average

Similar to Phase Average

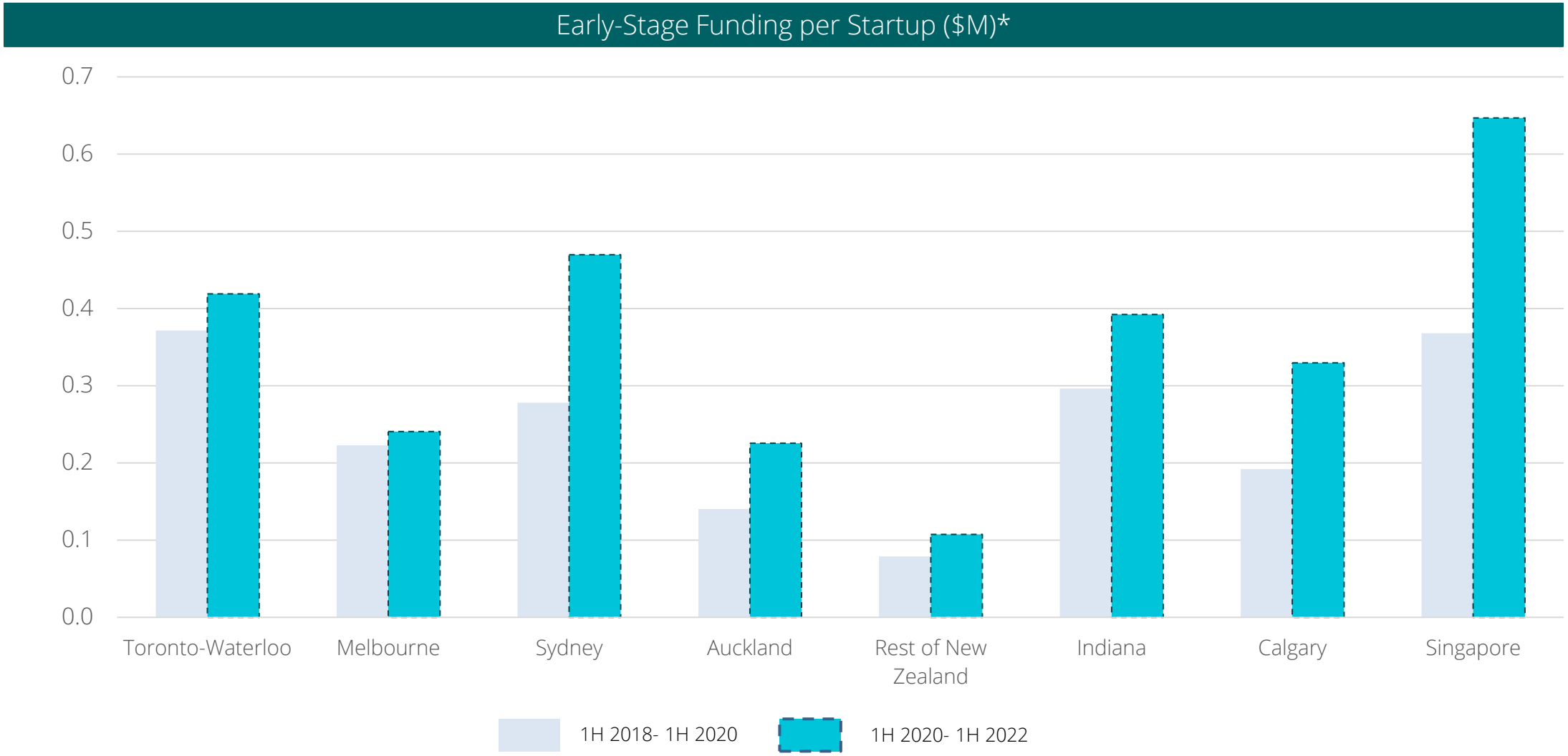
Below Phase Average

The Color-Coded Summary scores are based on New Zealand's performance in this Success Factor from survey data as well as secondary data. Findings have been sourced from Validation Interviews.

Takeaways

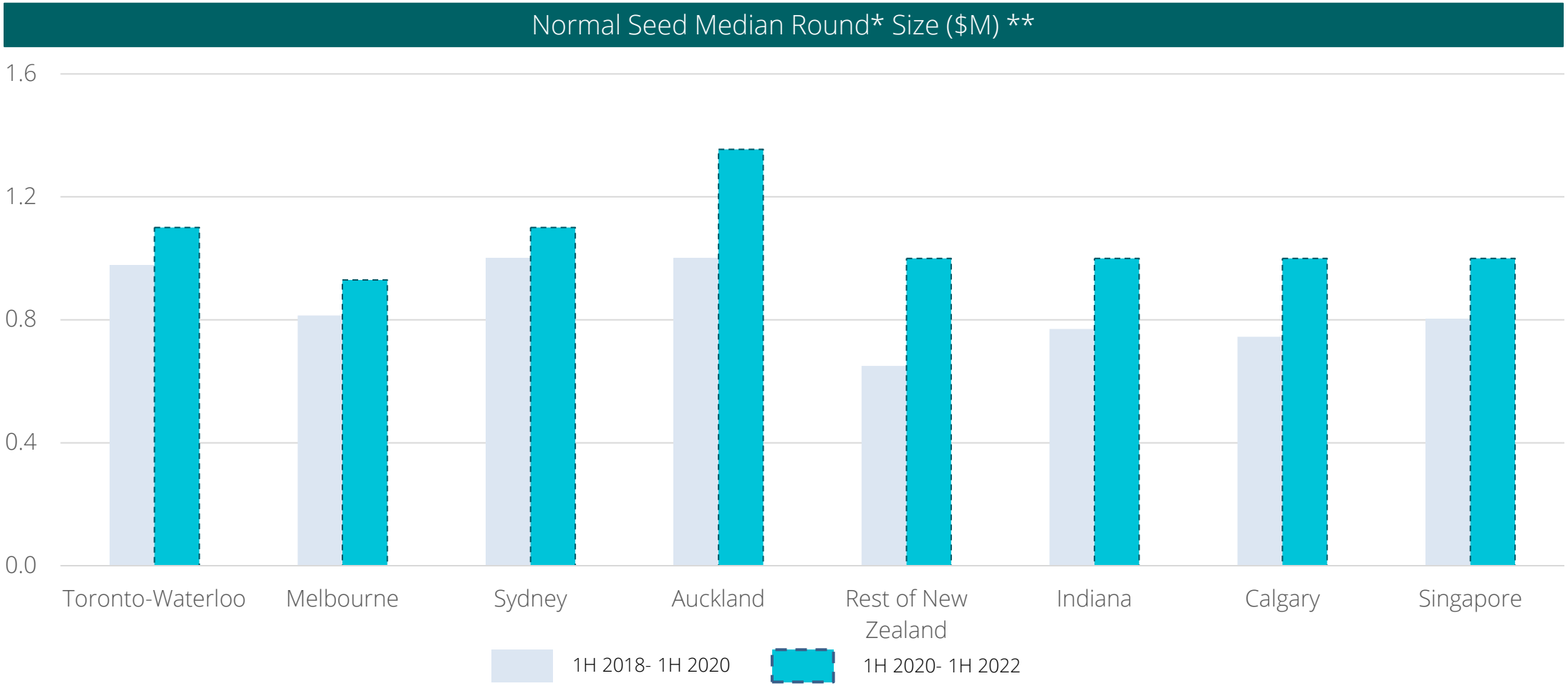
- **Gaps in Early-Stage funding:** While NZ's Seed Round Median is in line with its peers, fewer startups reach the Seed round - and it takes them longer. The result is more NZ startups remaining in the pre-seed stage, spending the time of founders when they could be scaling, or perhaps closing the startup if seed funding will never materialize.
- **Series A lagging:** The Median Series A round for NZ startups is quite small compared to peer ecosystems. This could speed the time NZ startups have before going to market, and make them look less attractive to future investors.
- **Funding data should improve:** Despite some of the early-stage funding figures, the amount of available funding in NZ has increased dramatically in 2020, a fact echoed by many interviewees. It might take some time for this windfall to be reflected in median figures.

Early-Stage Funding (Seed + Series A) per Startup in New Zealand has increased in recent years, but lower than peers



* Not based on Startup Genome data -- Based on Pitchbook, Crunchbase and Dealroom and subject to normal issues with funding data
* Mega Deals- Seed and Series A rounds of $100M and more

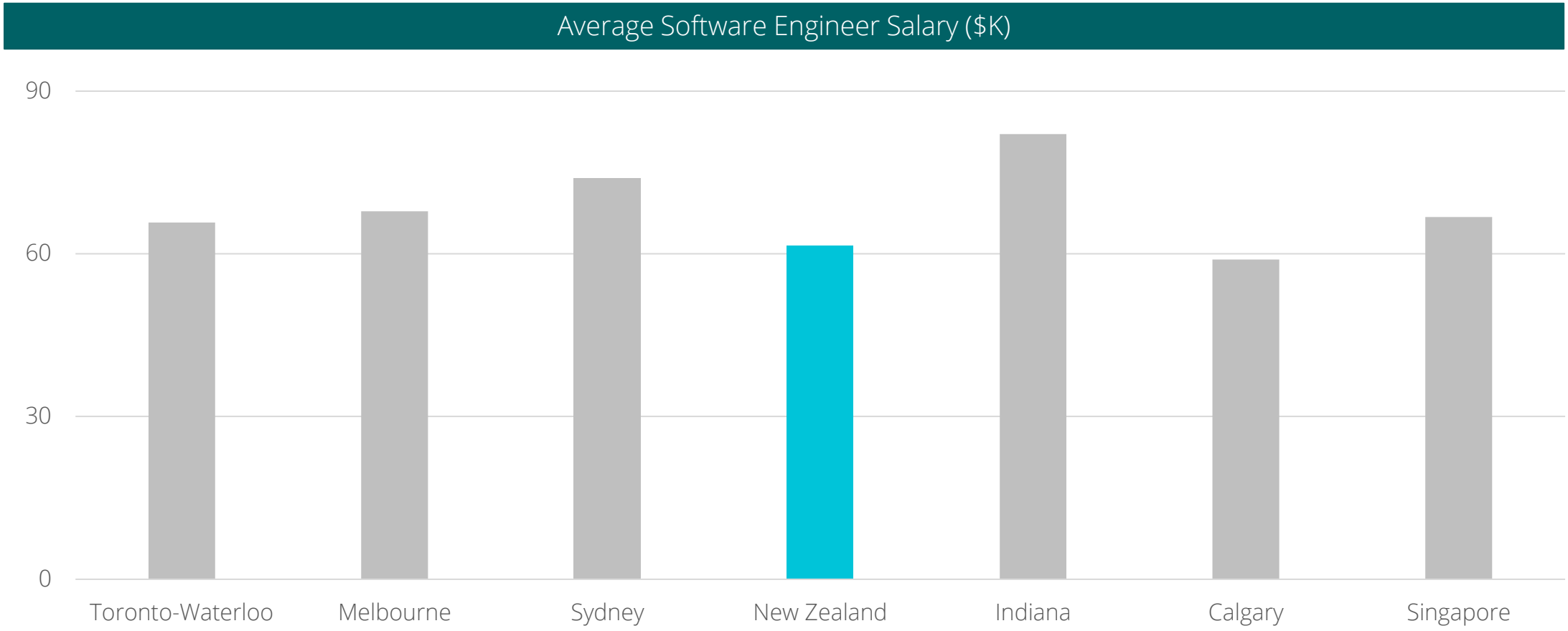
However, the *median* seed round in Auckland has increased since 2020 and is now higher than peers



Funding rounds often suffer a reporting lag between the time the deal is made and when it is properly logged in a leading online database. As such, it is possible that not all recent deals are reflected, as visibility on funding activity becomes more accurate once reporting has caught up to actual activity

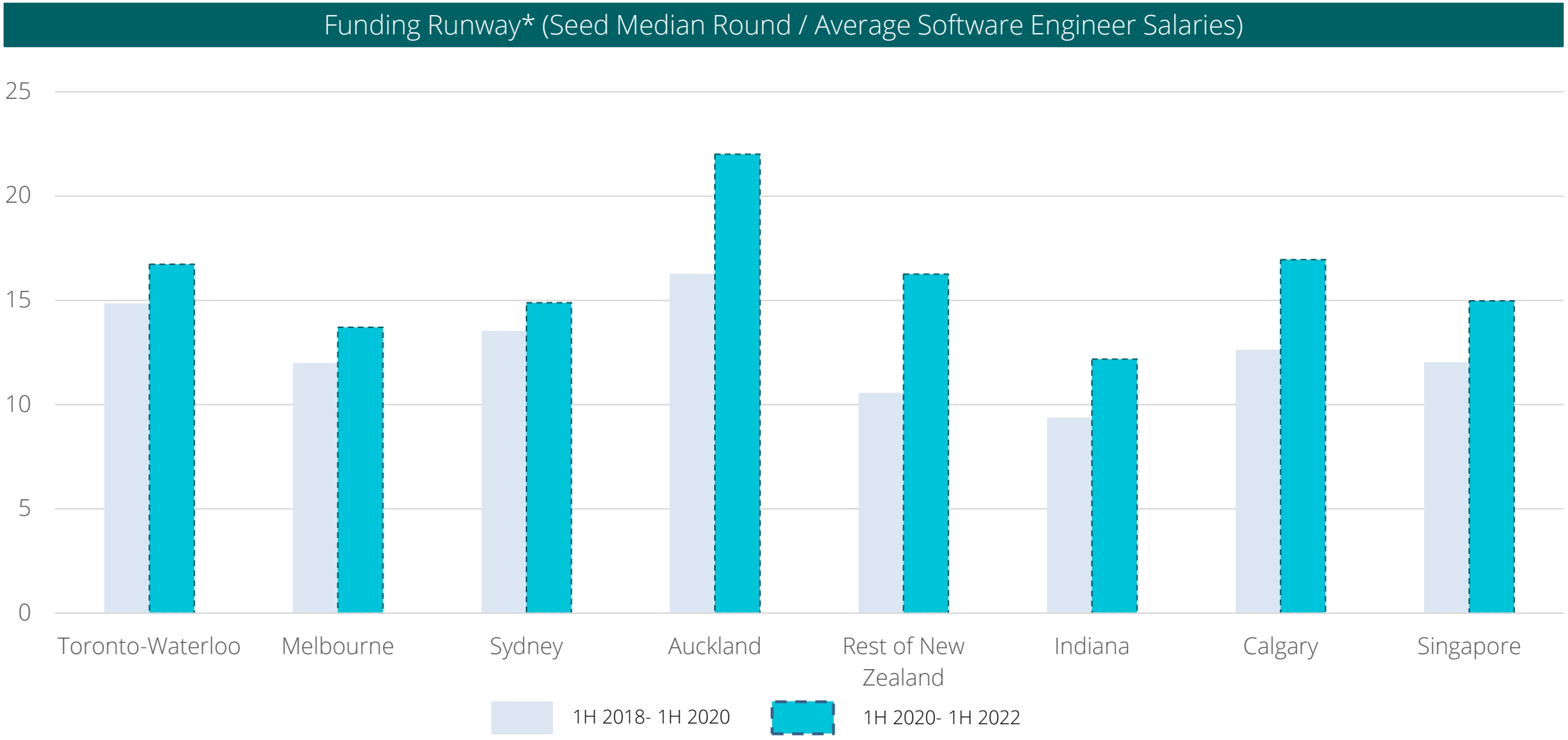
* Normal Seed Median round refers to a round having raise an amount of $125K or more
** Not based on Startup Genome data -- Based on Pitchbook, Crunchbase and Dealroom and subject to normal issues with funding data

Average Engineer Salaries are lower in New Zealand than most of its peers



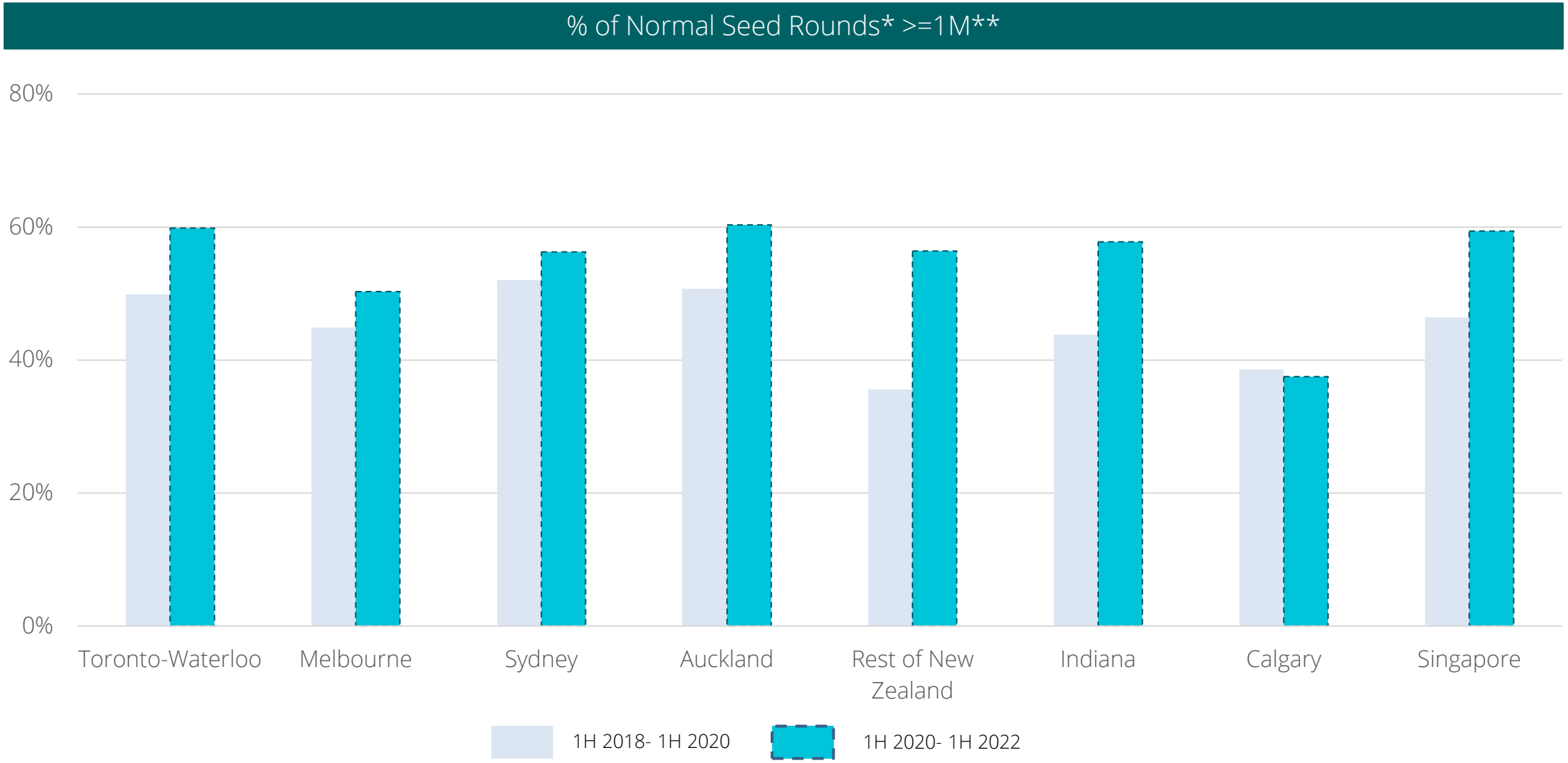
 * Not based on Startup Genome data -- Based on Pitchbook, Crunchbase and Dealroom and subject to normal issues with funding data

Looking at talent cost in tandem with seed round size, New Zealand's startups have longer runways than peers



Not based on Startup Genome data -- Based on Pitchbook, Crunchbase, and Dealroom and subject to normal issues with funding data
*Funding Runway refers to the months a startup can fund their operations in terms of the seed median divided by the average software engineer salary

Startups in Auckland raise more big Series A rounds ($1M+) compared to peers



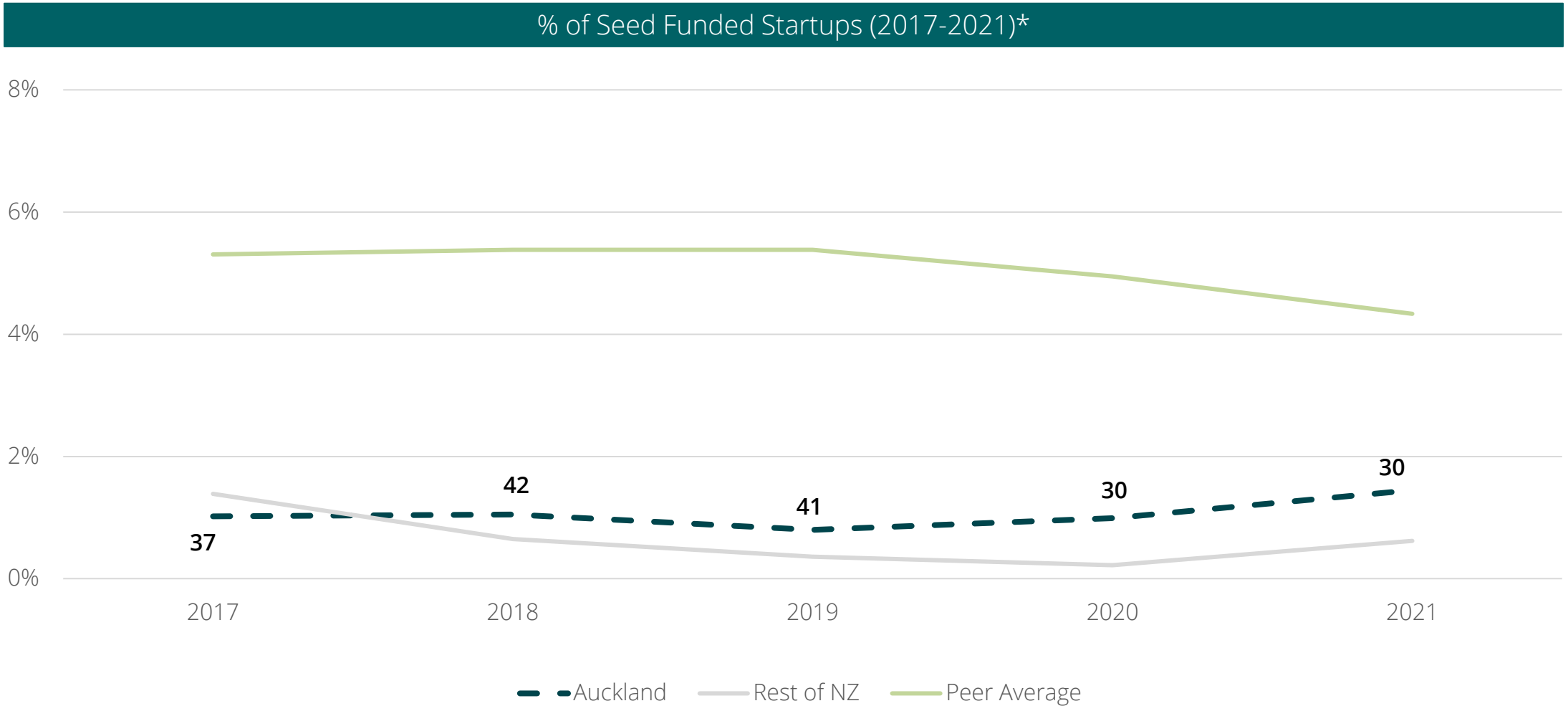
* Normal Seed Median round refers to a round having raise an amount of $125K or more
** Not based on Startup Genome data -- Based on Pitchbook, Crunchbase and Dealroom and subject to normal issues with funding data

Auckland witnessed a higher number of Normal Seed Rounds* when compared to Rest of New Zealand

Ecosystem	# Normal Seed Rounds* (1H 2018- 1H 2020)	# $1M+ Seed Rounds (1H 2018- 1H 2020)	# Normal Seed Rounds* (1H 2020- 1H 2022)	# $1M+ Seed Rounds (1H 2020- 1H 2022)
Toronto- Waterloo	441	220	426	255
Melbourne	147	66	169	85
Sydney	154	80	240	135
Auckland	69	35	58	35
Rest of New Zealand	45	16	39	22
Indiana	121	53	135	78
Calgary	70	27	80	30
Singapore	446	207	601	357

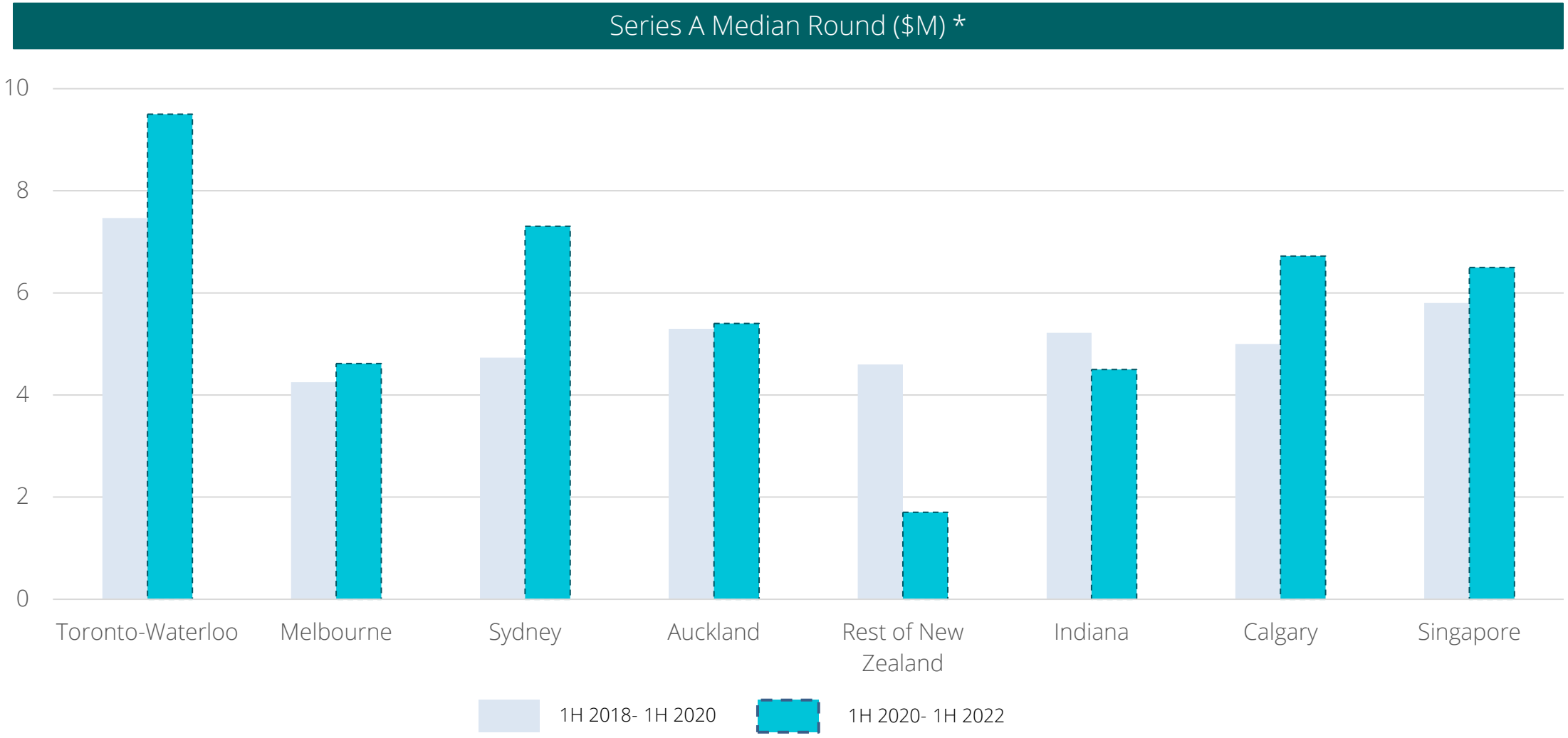
*Normal Seed rounds refer to the seed rounds having raised an amount of $125K or more

The proportion of seed-funded startups is lower than the peer average through 2021*



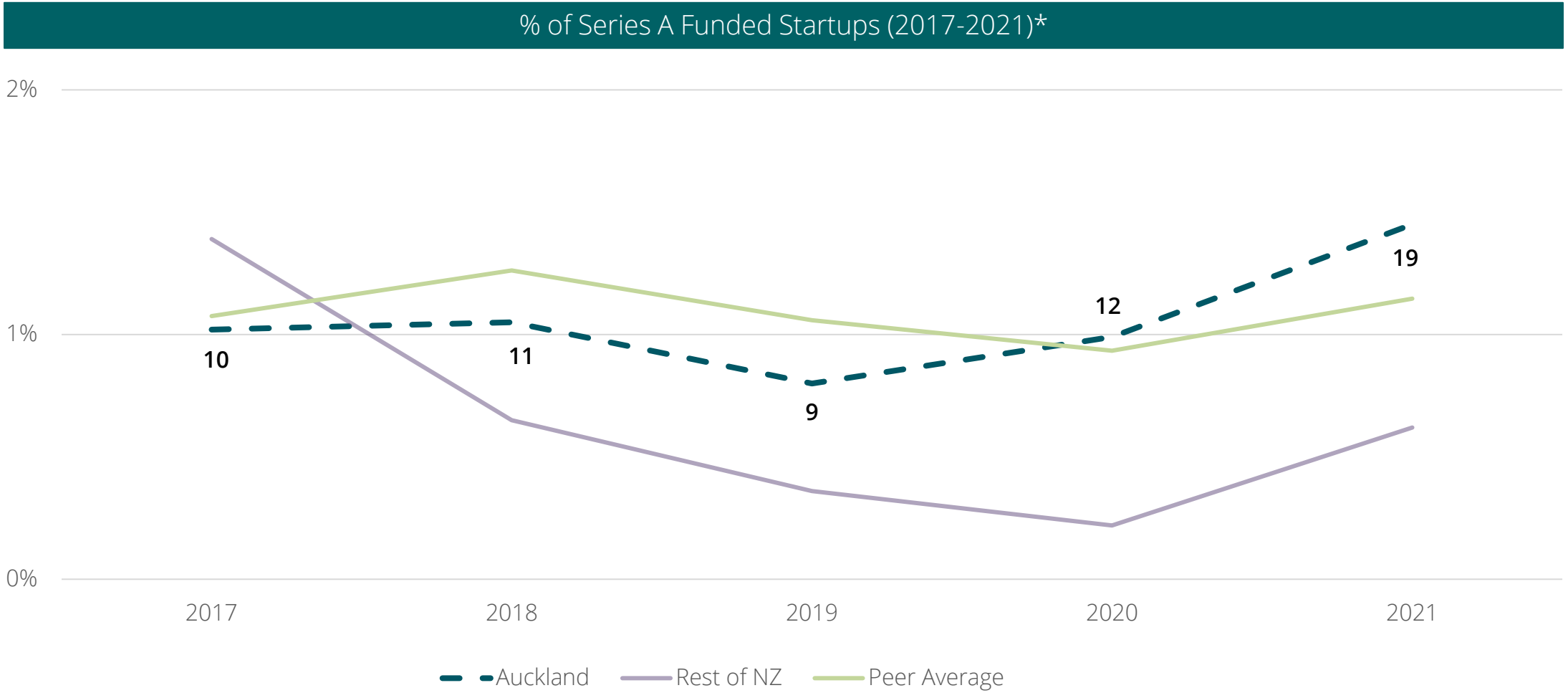
 * Not based on Startup Genome data -- Based on Pitchbook, Crunchbase and Dealroom and subject to normal issues with funding data

The median Series A deal size in Auckland has increased slightly, but is still below most peers



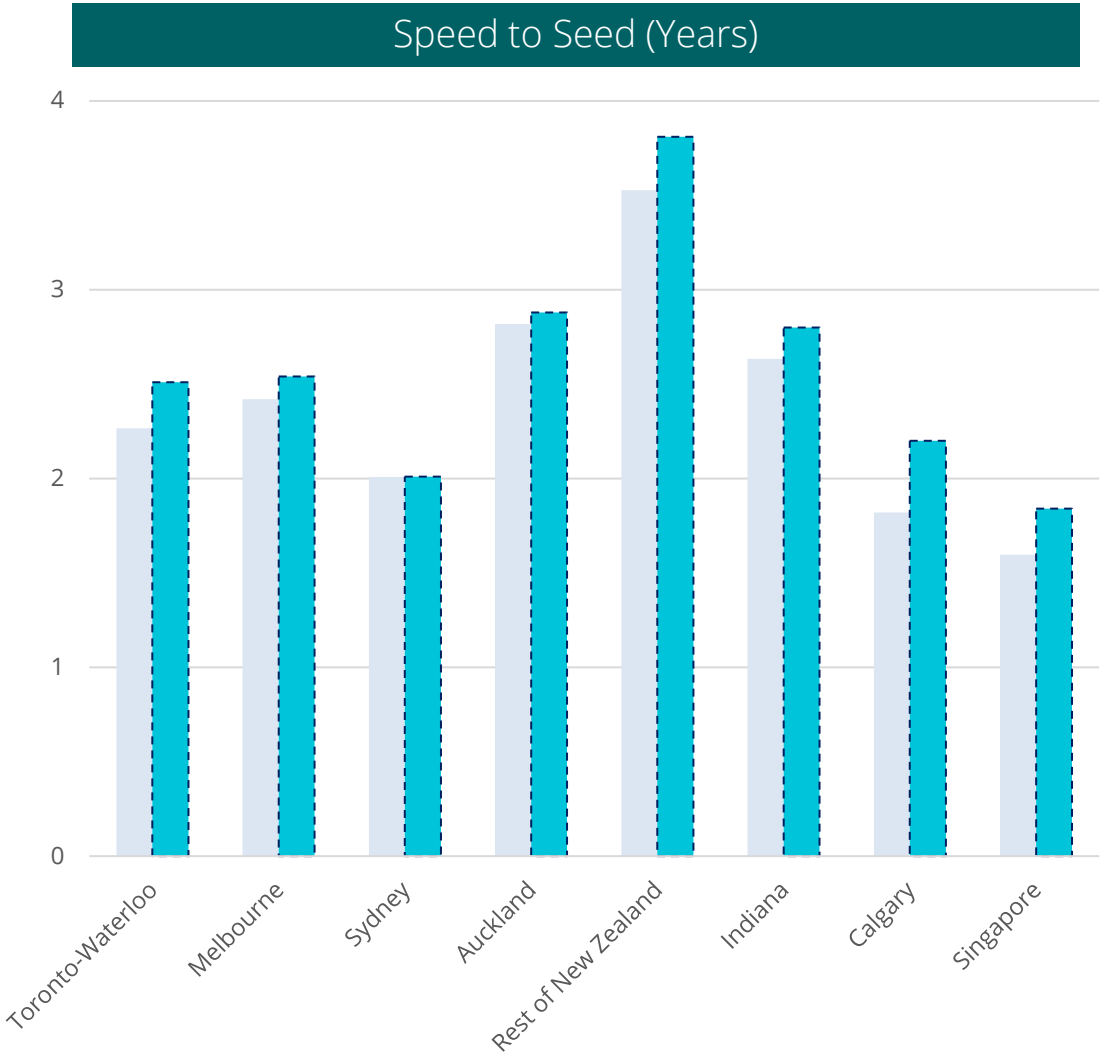
 * Not based on Startup Genome data -- Based on Pitchbook, Crunchbase and Dealroom and subject to normal issues with funding data

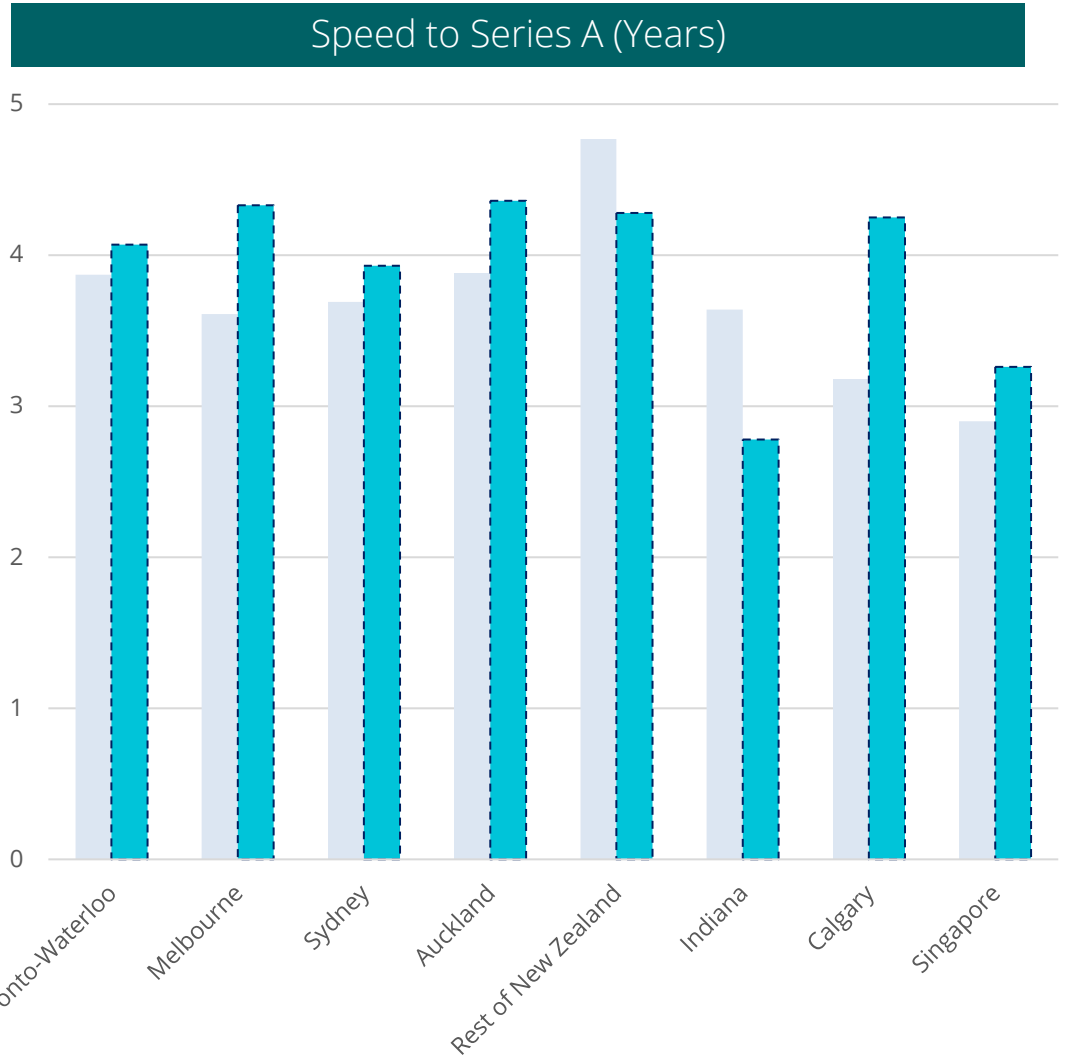
Auckland's startups tend to get funded at rates similar to peers through 2021*



 * Not based on Startup Genome data -- Based on Pitchbook, Crunchbase and Dealroom and subject to normal issues with funding data

On an average it takes longer for founders in New Zealand to raise Seed and Series A rounds

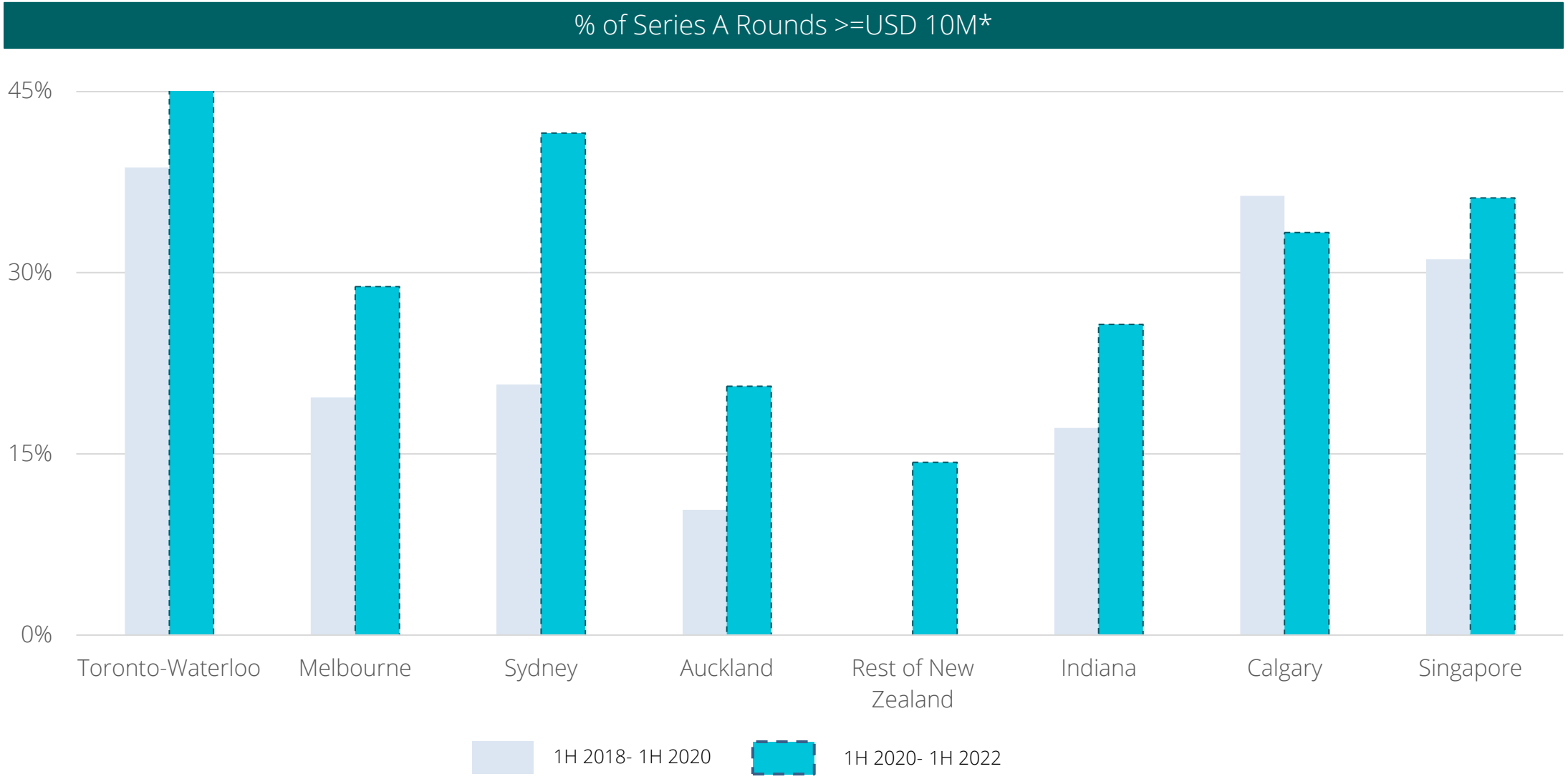




1H 2018- 1H 2020

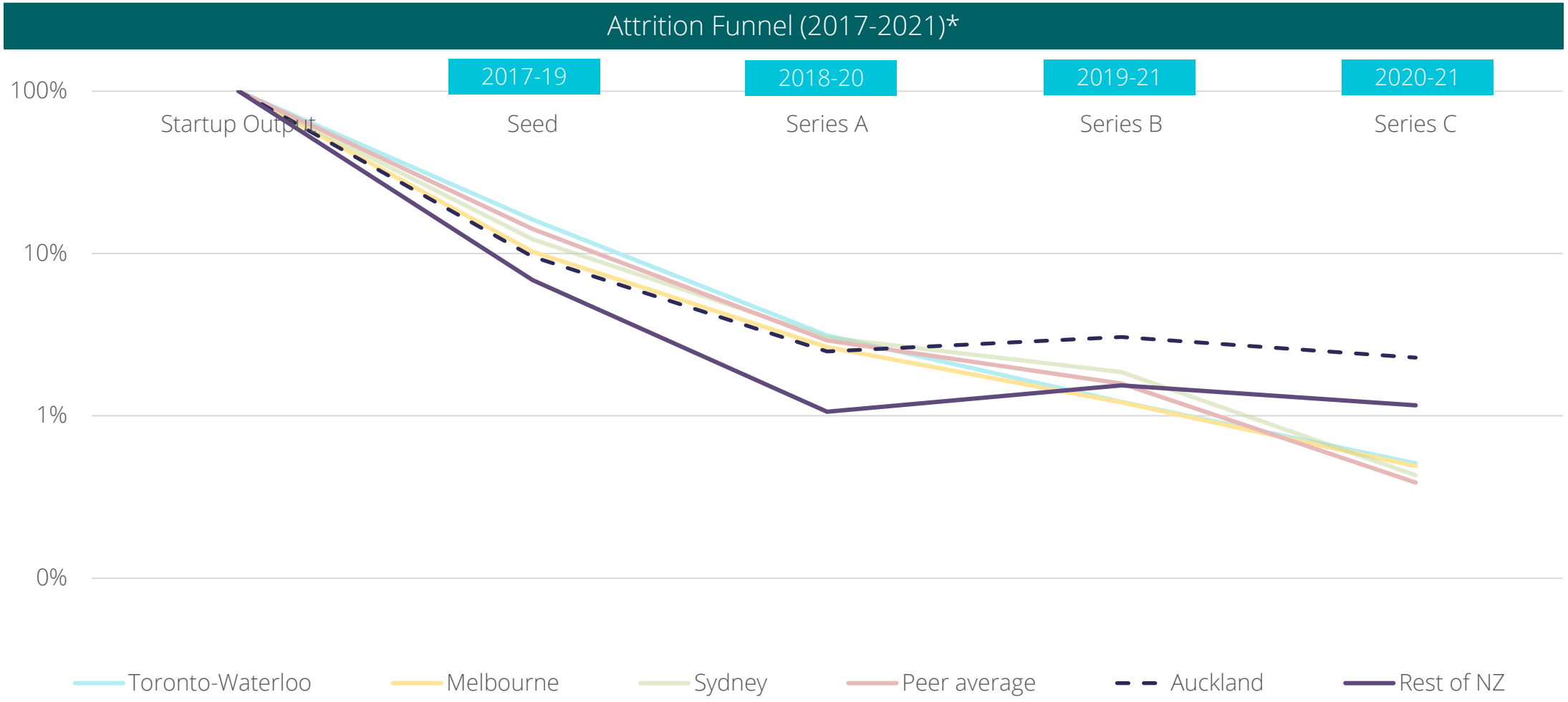
1H 2020- 1H 2022

New Zealand startups raise large Series A rounds at lower rates than peers



* Not based on Startup Genome data -- Based on Pitchbook, Crunchbase and Dealroom and subject to normal issues with funding data

Auckland and the rest of New Zealand's attrition funnel shows that startups tend to raise Seed and Series A rounds at lower rates, but level off in later rounds



 * Not based on Startup Genome data -- Based on Pitchbook, Crunchbase and Dealroom and subject to normal issues with funding data

Access to funding has improved dramatically the last couple years, but can it take the next step and solidify recent gains?

Interview Findings*		
VC experience is critical to future success	**Institutional funders mostly on sidelines**	**Legacy of "lack of funding"**
The amount of capital available in NZ has increased dramatically over the last 2-3 years. As a result, many VCs said their sector is relatively inexperienced compared to other Globalization phase ecosystem peers despite the increased funding available. One interviewee who runs a "fund of funds" said most of their investments went to VCs on their first vintage. This was simply because so few VC firms existed in NZ before 2020. VCs will need to gain experience quickly as the funding landscape will likely change in the coming years. First, the global slowdown in available funds changes the risk profile of many firms. Second, the rise of "deep tech" startups means VC firms will need to adjust their strategy to accommodate longer-term financial realities.	Several VCs indicated frustration over the lack of institutional investor participation in investing in startups. While the Kiwi Wealth and Kiwi Savers' Fund have put some money into Icehouse and Movac over the last few firms, these were relatively small amounts compared to their assets under management. Several VCs hoped the NZ government would encourage more participation from large NZ sovereign and pension funds in VC. Not only would the additional funding help more startups obtain seed and Series A financing, the interviewees noted that it would eventually increase public awareness of the viability of investing in startups as a legitimate investment vehicle.	Several VCs and founders spoke of long-held perceptions in NZ that before 2020, there was simply not enough capital for NZ startups. Kiwi startups would have to go elsewhere. As one founder put it, "five years ago you couldn't do a Series A in New Zealand." True or not, this perception is one that Angel and VC investors will have to combat when reaching new NZ startups. NZ VCs will also have to contend with the sentiment expressed by some founders that even if local VCs have more capital than before, they still lack mentorship expertise, particularly when it comes to scaling startups globally. This drives some NZ founders to prefer overseas VC firms that have more proven experience scaling startups.

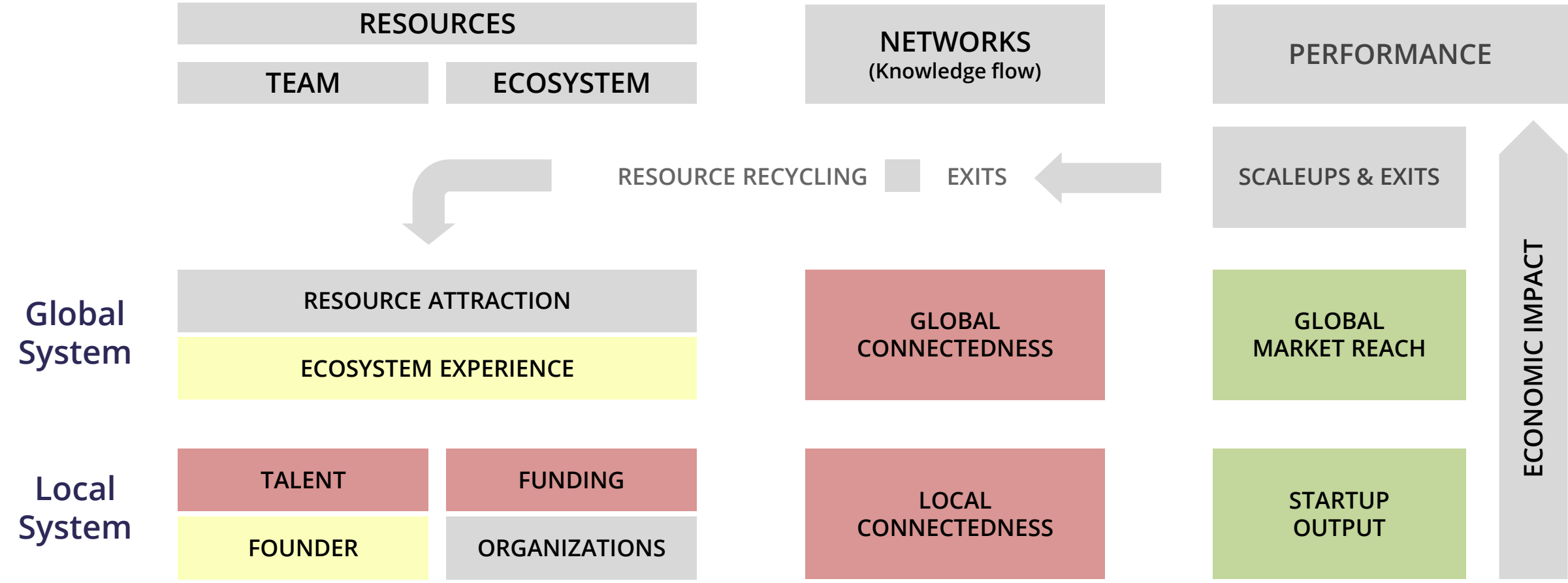
*Findings reflect the aggregate opinions of key stakeholders in New Zealand and do not necessarily reflect the voice of the entire ecosystem

Access to funding has improved dramatically the last couple years, but can it take the next step and solidify recent gains?

Interview Findings*	
Changing culture will hopefully endure	**Enough funding for research; not enough for commercialization**
Some interviewees, founders and VC firms; discussed perceptions that until very recently, Angel and VC funding networks were primarily male-dominated and could be intimidating to female founders. However, a combination of broad cultural shifts around these issues, as well as a recent proliferation of female-focused startup support groups (including a female-focused accelerator called "Electrify) has gradually improved perceptions. Still, work needs to be done according to the interviewees. For example, some female founders said that VCs asked about how having a family would impact their ability to run their business – a question not asked to their male cofounders.	Some founders remarked that there is adequate government funding available in NZ to fund innovative research. However, there is far less funding available when it comes to commercializing that research. This makes it more difficult for innovative NZ startups to run the kind of validation studies they need to see if their product is commercially viable. According to one founder, this leads many innovative, research-intensive NZ startups to exit earlier than they otherwise would have because they were unable to validate their idea.

*Findings reflect the aggregate opinions of key stakeholders in New Zealand and do not necessarily reflect the voice of the entire ecosystem

Success Factor Summary: New Zealand Founders are well-connected but key local system gaps remain



Above Phase Average

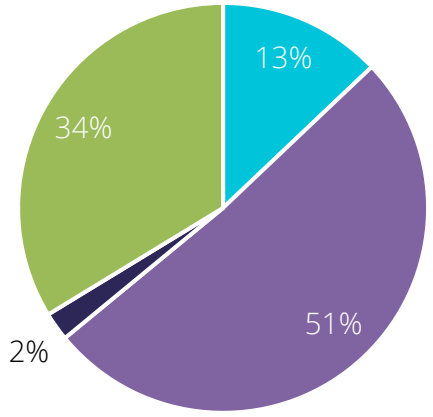
Similar to Phase Average

Below Phase Average

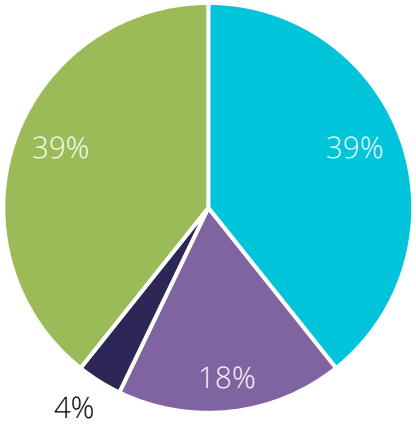
The Color-Coded Summary scores are based on the data collected from the survey and broken down to reflect the performance of New Zealand across each Success Factor. As performance is comparative to peer ecosystems in the Globalization Phase, red is behind the phase average, yellow is in line with the phase average while green is ahead of the phase average

Breakdown of Market Segments By Respondents

Segment breakdown of New Zealand Startups



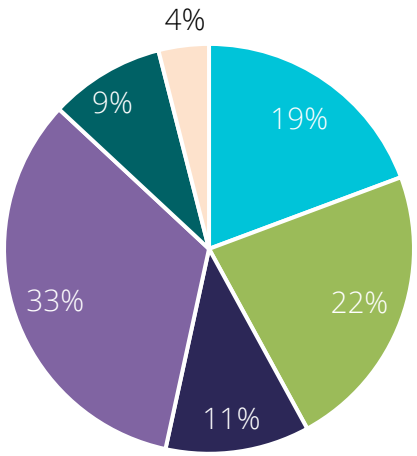
Segment breakdown of Melbourne Startups



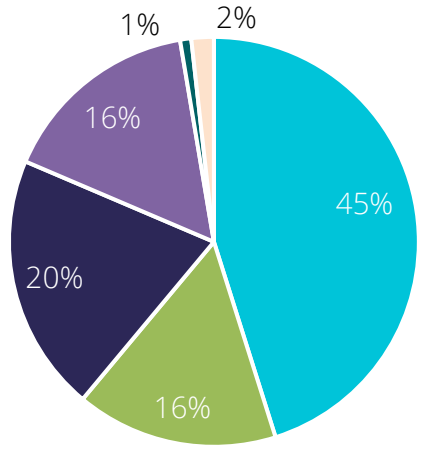
B2C B2B Marketplace Mixed

Breakdown of Funding Stages By Respondents

Funding breakdown of New Zealand Startups



Funding breakdown of Melbourne Startups



None

Angel, Grant, or Other Pre-Seed

Venture A

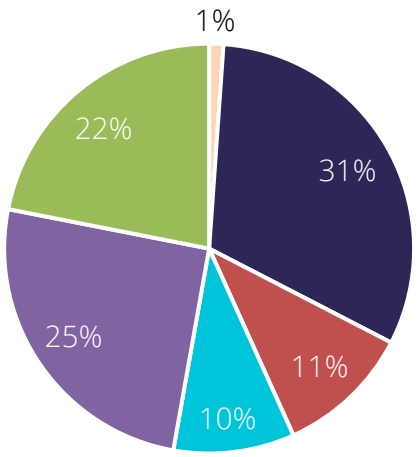
Venture B

Only Founders ,Friends or Family invested so Far

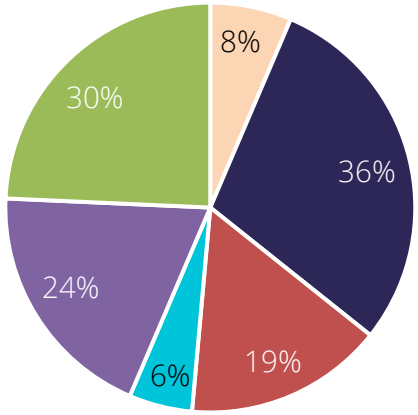
Seed

Breakdown of Startup Stage By Respondents

Startup Stage Breakdown of New Zealand



Startup Stage Breakdown of Melbourne



Concept

Development

Product Ready & Free User

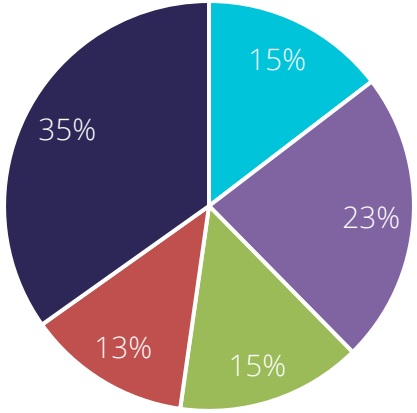
Product Ready & No User

Product Ready & Paying User

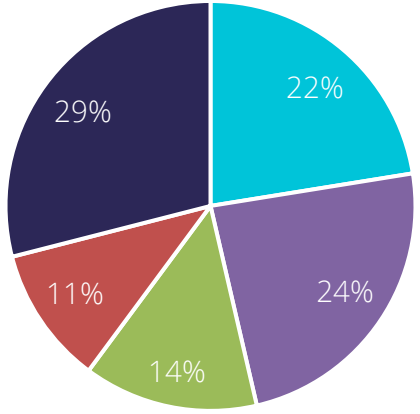
Cash Flow Positive

Breakdown of Startup Age By Respondents

Startup Age Breakdown of New Zealand (in years)

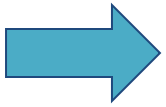
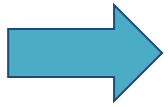


Startup Age Breakdown of Melbourne (in years)



0-1 1-2 2-3 3-4 >4

Stakeholders indicate that NZ could benefit from a more deliberate, aligned ecosystem strategy

Interview Findings*				
Well-intentioned regional innovation policies		**Duplication of efforts; founder confusion**		**Less efficient scaling pipeline; more time spent in early-stages**
Several interviewees mentioned that the NZ government's commitment to spreading access to startup support to all regions of the country was well-intentioned but creating unintended consequences.		As a result, there are several incubators, accelerators or other startup support organizations spread throughout the country - supporting startups at similar stages and sectors, effectively duplicating efforts in a small ecosystem. Founders and other interviewed stakeholders also expressed confusion over which program would best support their startup, and had few available data points (like funding totals, number of startups reaching Series A, B, etc...) to help their decision.		Because of this duplication of efforts, this is a lack of a clear pipeline to startup scaling success. As a result, NZ founders tend to take longer from founding to take longer than their peers to reach both Seed and Series A stages (slide 33). Interviewees from multiple perspectives recommended that members of the NZ ecosystem think more about coordination between startup support organizations, so that founders are clear where to go depending on their sector or stage.

*Findings reflect the aggregate opinions of key stakeholders in New Zealand and do not necessarily reflect the voice of the entire ecosystem

Agenda

1. Introduction
2. Ecosystem Lifecycle Phase
3. Success Factor Assessment
4. Innovation Edge

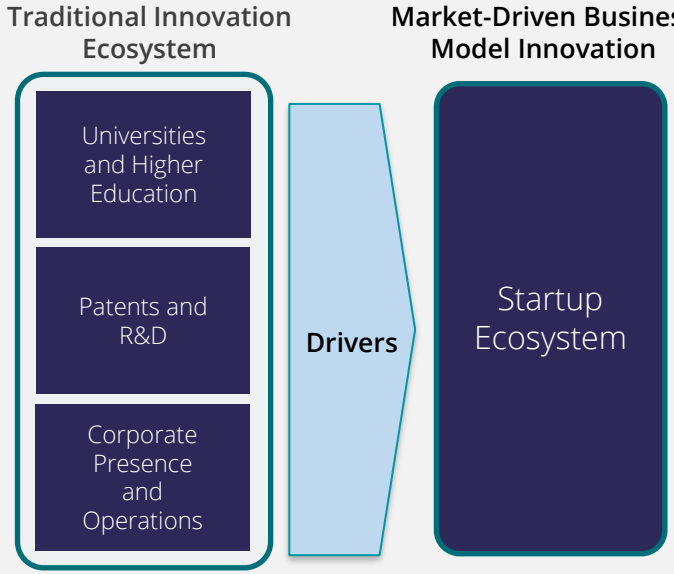
Startup Genome

Mapping New Zealand's Tech Sub-Sector Strengths

Marc Penzel, Founder & President

The **Innovation Edge** aims to identify key opportunities for sub-sector specialization based on local, regional and global potential

Local Ecosystem Strengths > **Regional Positioning** > **Global Potential**

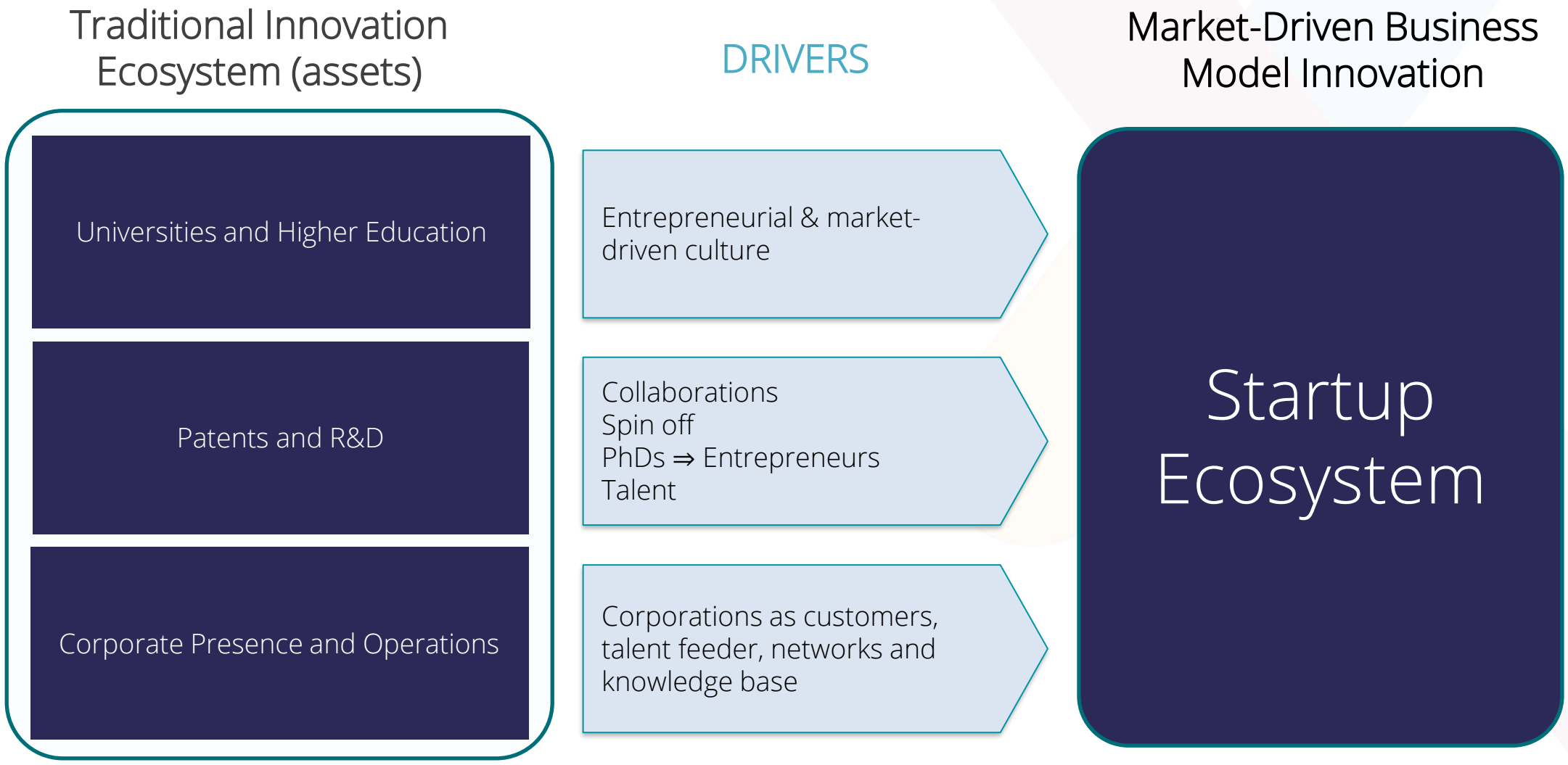


Assessment of the factors that assess startup ecosystem strength and potential

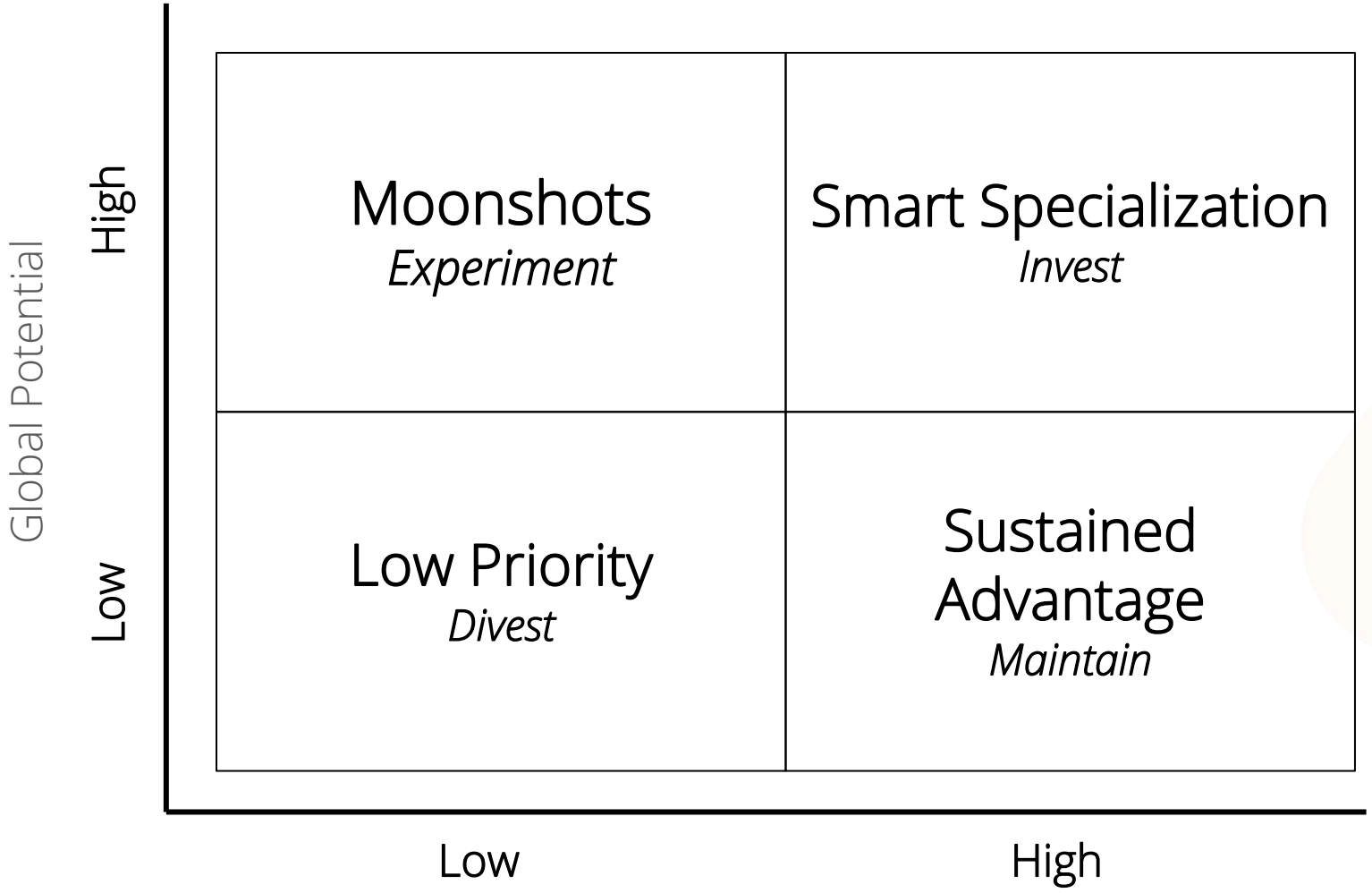
Comparison of local performance and assets to ecosystems across the region

Prioritization of top sub-sectors based on sub-sectors with highest local/regional strength and global potential

Sub-sector specialization potential is assessed by evaluating and quantifying startup sector performance and assets



Design a focused sub-sector strategy based on local and global competitive positioning

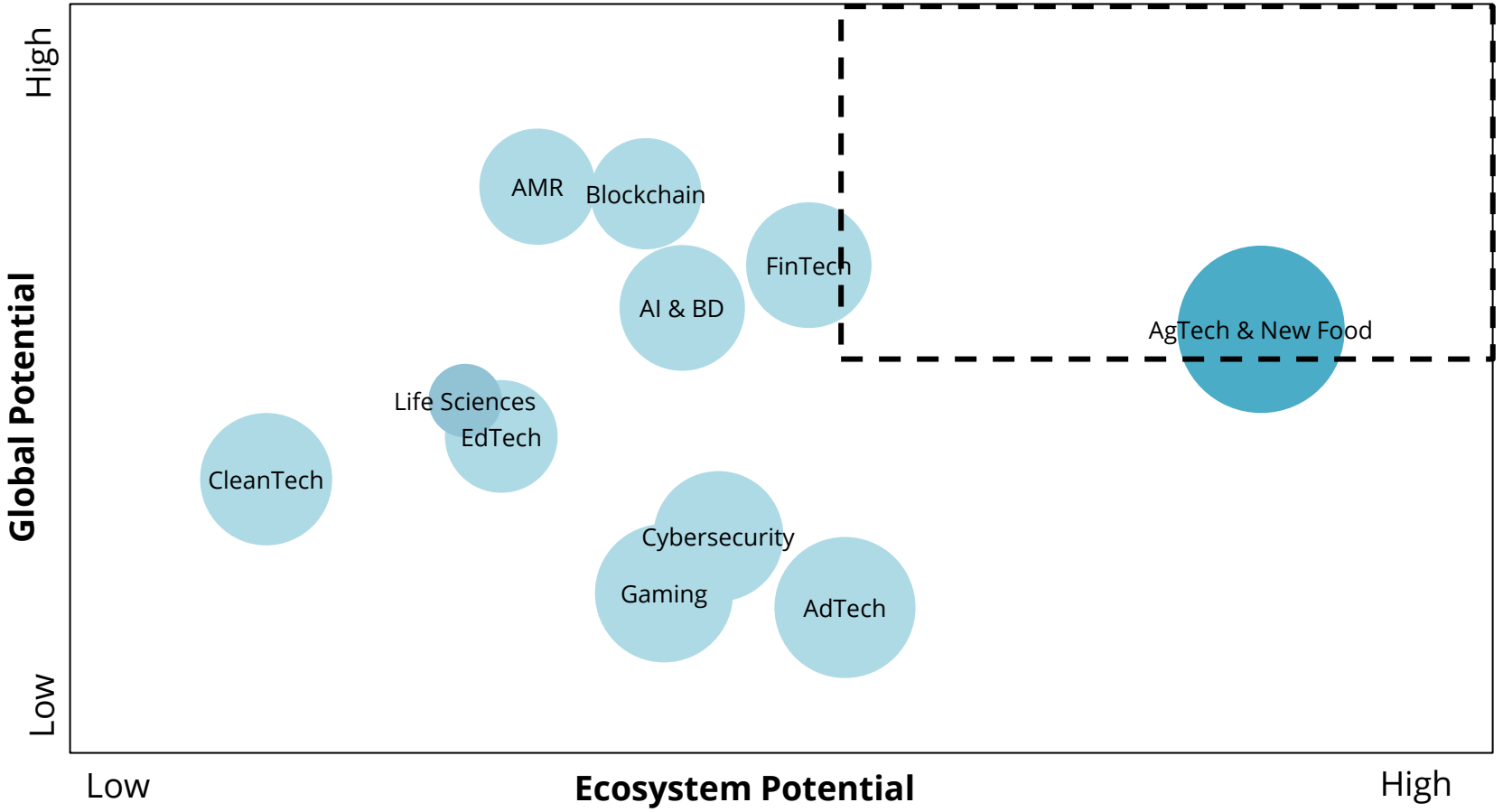


Overview

- The Innovation Edge Framework assesses sub-sector areas which perform well both locally and globally
- Utilize the Innovation Edge as guidance to assess high-potential areas

*Findings presented in this slide are not representative of the views of the Council or Government

New Zealand has the highest potential to develop strengths within Agtech & New Food



Overview

- **Agtech & New Food** stands out as the leading sub-sector, although stiff competition exists within the region
- Strong competitive advantages observed in **Fintech**

Size of the bubble indicates local Startup Output concentration vs Regional Startup Output Concentration

Smart Specialization targets for highest-performing sub-sectors

*Findings presented in this slide are not representative of the views of the Council or Government

1 We will measure and benchmark New Zealand's startup ecosystem performance across multiple factors

Factors	Overview	Rationale
Concentration of Startups	Volume of startups in a particular startup sub-sector, normalized to startup ecosystem size	Clear understanding of current sector concentrations and cluster formation
Early-Stage Funding	Volume and value of Seed and Series A funding in the startup ecosystem	The local nature of early-stage financing underscores the need to measure and quantify access and availability to Seed and Series A rounds
Late-Stage Funding	Volume and value of Series B and later stage funding in the startup ecosystem	Assessment of access to late-stage funding is a strong indicator of experience and scaleup production in the startup ecosystem
Startup Exits	Volume of big-ticket startup exits in the startup ecosystem	Startup exits act as triggers that attract resources from other ecosystems and build local experience within the community

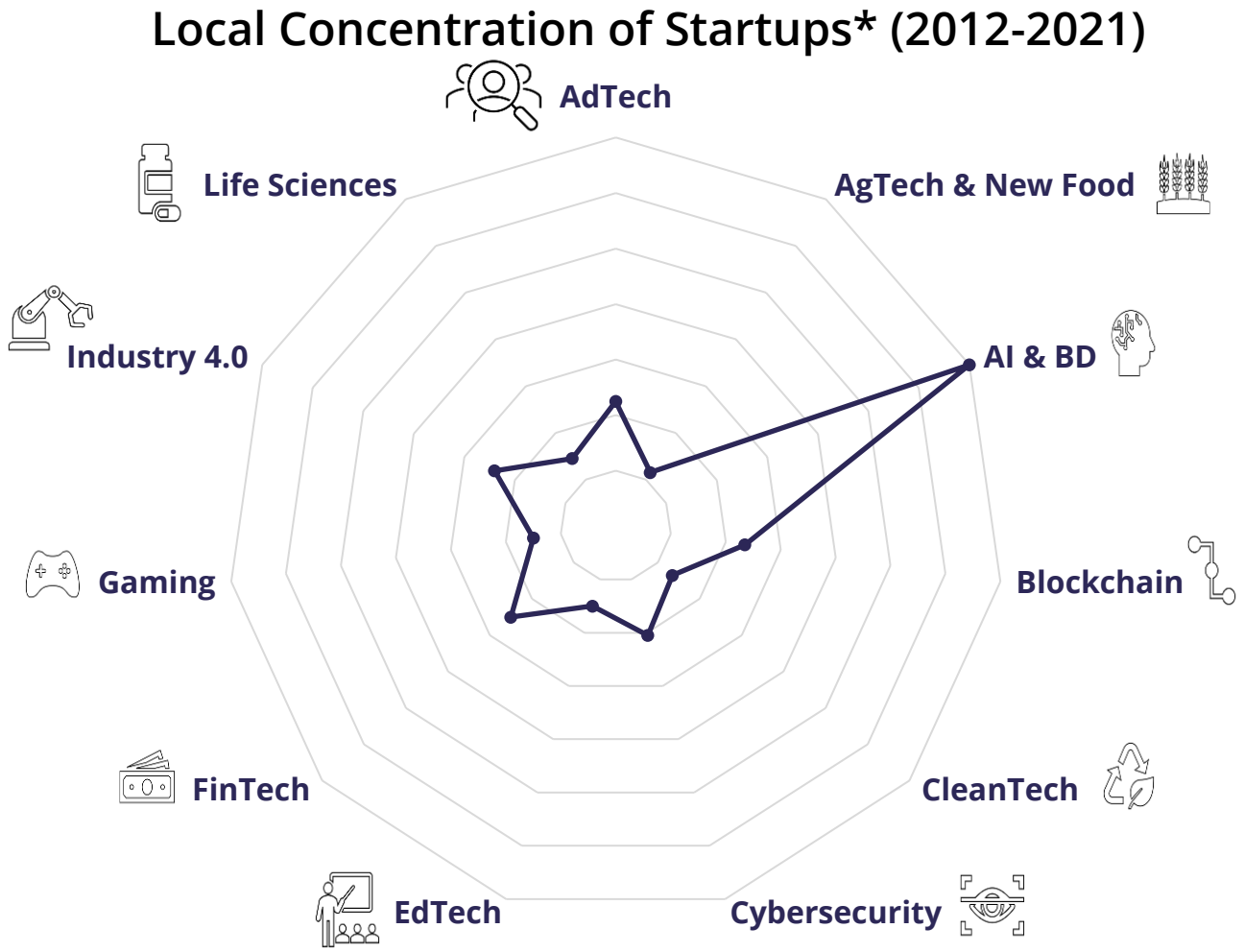
1 Startup Genome has deep capabilities in the assessment of 12 broad technology sub-sectors

- Adtech
- Agtech & New Food
- AI, Big Data & Analytics
- Blockchain
- Blue Economy*
- Cleantech
- Cybersecurity
- Edtech
- Fintech
- Gaming
- Industry 4.0
- Life Sciences

*Assessed for some parts of the analysis

*Findings presented in this slide are not representative of the views of the Council or Government

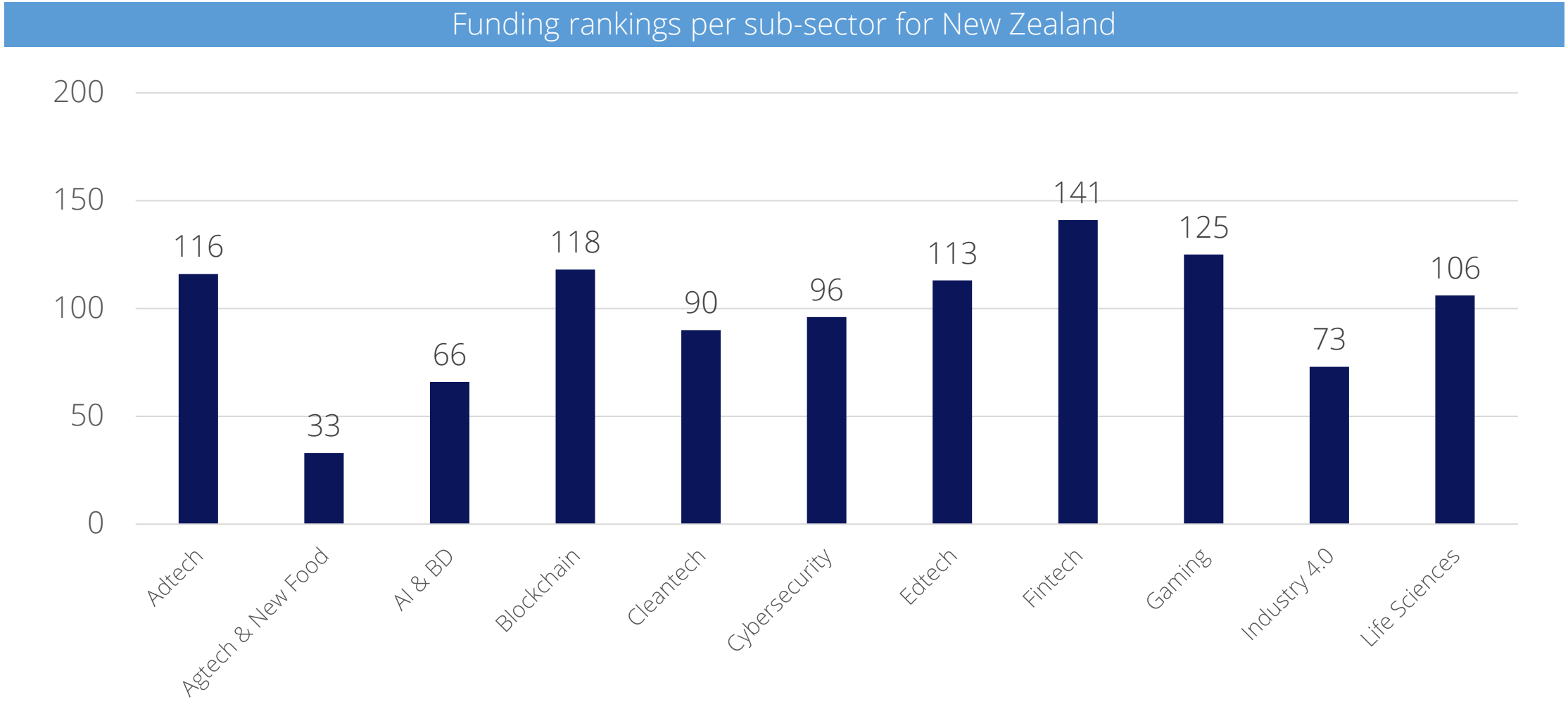
1 Most startups in New Zealand are associated with AI & BD,Fintech and Industry 4.0



Source: PitchBook, Dealroom and Crunchbase
*Local Concentration of Startups refers to the breakdown of number of startups by Sub- Sector present in New Zealand

*Findings presented in this slide are not representative of the views of the Council or Government

1 New Zealand shows relative Funding strengths in Agtech & New Food, AI & BD and Industry 4.0



*Findings presented in this slide are not representative of the views of the Council or Government

1 New Zealand's Startup Ecosystem has seen the strongest funding performances in AI & BD, Fintech and Cleantech

Startup Sub-Sectors	Early-Stage Funding[1] in $M (2017-2022H1)		Late-Stage Funding[2] in $M (2017-2022H1)	
	Volume	Value	Volume	Value
Adtech	9	$34.7		
Agtech & New Food	24	$48.1	6	$61.6
AI & BD	79	$130.3	14	$161.3
Blockchain	18	$32.4	1	$2.5
Cleantech	42	$106.8	7	$241.2
Cybersecurity	9	$11.4	1	$14.0
Edtech	20	$23.9		
Fintech	38	$81	9	$178.5
Gaming	13	$24.4		
Industry 4.0	23	$64.1	3	$88.6
Life Sciences	34	$71.0	7	$59.3

Early-Stage Funding: Seed + Series A deals
Late-Stage Funding: Series B onwards

Source: PitchBook, Dealroom and Crunchbase

*Findings presented in this slide are not representative of the views of the Council or Government

1 Auckland's Startup Ecosystem has seen the strongest funding performances in AI & BD, followed by Fintech and Cleantech

Startup Sub-Sectors	Early-Stage Funding[1] in $M (2017-2022H1)		Late-Stage Funding[2] in $M (2017-2022H1)	
	Volume	Value	Volume	Value
Adtech	4	$15.2		
Agtech & New Food	12	$28.5	2	$31.5
AI & BD	54	$100.4	5	$67.4
Blockchain	15	$32.0	1	$2.5
Cleantech	17	$47.8	4	$216.6
Cybersecurity	5	$3.7		
Edtech	12	$16.4		
Fintech	28	$59.4	4	$59.7
Gaming	10	$23.1		
Industry 4.0	13	$30.6	2	$80.6
Life Sciences	16	$27.9	5	$31.3

Early-Stage Funding: Seed + Series A deals
Late-Stage Funding: Series B onwards

Source: PitchBook, Dealroom and Crunchbase

*Findings presented in this slide are not representative of the views of the Council or Government

1 Christchurch's Startup Ecosystem has seen the strongest funding performances in Cleantech and Industry 4.0

Startup Sub-Sectors	Early-Stage Funding[1] in $M (2017-2022H1)		Late-Stage Funding[2] in $M (2017-2022H1)	
	Volume	Value	Volume	Value
Adtech				
Agtech & New Food	7	$8.0		
AI & BD			2	$28.0
Blockchain	1	$0.07		
Cleantech	10	$28.1	1	$4.6
Cybersecurity				
Edtech	3	$3.8		
Fintech				
Gaming				
Industry 4.0	5	$16.9		
Life Sciences				

Early-Stage Funding: Seed + Series A deals
Late-Stage Funding: Series B onwards

Source: PitchBook, Dealroom and Crunchbase

*Findings presented in this slide are not representative of the views of the Council or Government

1 Wellington's Startup Ecosystem has seen the strongest funding performances in Fintech Sub-Sector

Startup Sub-Sectors	Early-Stage Funding[1] in $M (2017-2022H1)		Late-Stage Funding[2] in $M (2017-2022H1)	
	Volume	Value	Volume	Value
Adtech	4	$14.7		
Agtech & New Food				
AI & BD	12	$11.3	1	$6.9
Blockchain	2	$0.3		
Cleantech	9	$12.5		
Cybersecurity	2	$3.4	1	$14.0
Edtech	3	$1.7		
Fintech	10	$21.6	5	$118.8
Gaming	3	$1.4		
Industry 4.0	2	$11.0		
Life Sciences	2	$0.8		

Early-Stage Funding: Seed + Series A deals
Late-Stage Funding: Series B onwards

Source: PitchBook, Dealroom and Crunchbase

*Findings presented in this slide are not representative of the views of the Council or Government

1 Exit activity in AI & BD and Cybersecurity is the strongest, with velocity picking up in other sectors

Exit: IPOs and M&As (#)

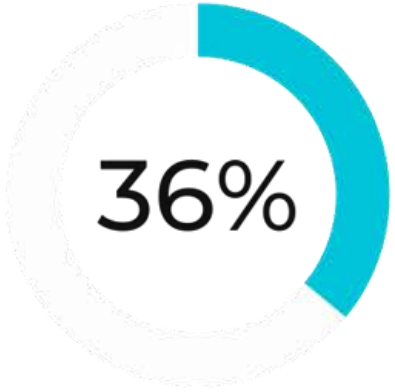
	2017	2018	2019	2020	2021	2022	TOTAL
Adtech			2	1	2		5
Agtech & New Food	3	1		4			8
AI & BD	3	3	3	6	7	2	24
Blockchain	1	1				1	3
Cleantech	2	1	4	1	1	3	12
Cybersecurity	5	2	3	5	2	1	18
Edtech	4				3		7
Fintech	2	1	1	1	1	1	7
Gaming	1	1		2	2	1	7
Industry 4.0		1		2	3	1	7
Life Sciences	2	5	1	5			13

Source: PitchBook, Dealroom and Crunchbase

Since 2017, exited NZ startups tend *not* to receive early-stage funding and are often acquired by overseas companies*

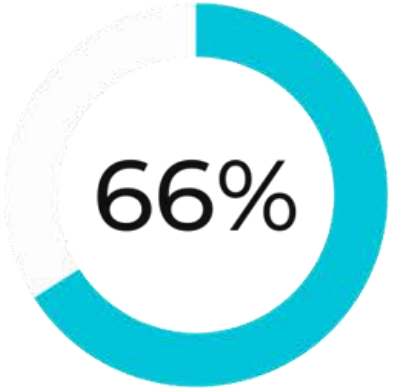
Acquisitions

94% of NZ startup exits since been acquisitions, compared to 6% IPOs



Early-stage funding

36% of acquired NZ startups received early-stage funding



Overseas Acquirer

66% of acquired NZ startups were acquired by an overseas company**

*Data from Pitchbook based on 111 verified exits from 2017 - 1H 2022

**Overseas company defined as one where the HQ is located outside of NZ and they do not have an alternative office in NZ

2 The traditional innovation ecosystem provides growth pillars for the development of the startup ecosystem

Corporate Fabric

Corporate Fabric acts as a **backbone** for the startup ecosystem by providing legacy strengths, potential clients and subject matter expertise.

University Strengths

Universities **propel** the startup ecosystem by providing a flow of talent, knowledge and expertise in the ecosystem.

Patent Development and R&D

Patents filed in the ecosystem are a **measure of the innovation** and R&D happening in the ecosystem.

Startup Genome

University Lens

3 University Strengths Analysis Methodology: Linking courses to sub sectors and analyzing their strengths

Mapping University and Courses

1. Identification of top universities in the ecosystem
2. Mapped a set of **54 courses** to the sub-sector they would have an impact on.
   For Example: Fintech will be mapped to Computer Science, Finance and Economics, etc.

Analyzing University Performance

For each university and its courses, we sourced the following scores:

A) Total Score[1]
B) CNCI Score[1]
C) Top Score[1]
D) Number of Institutions
E) Number of Courses

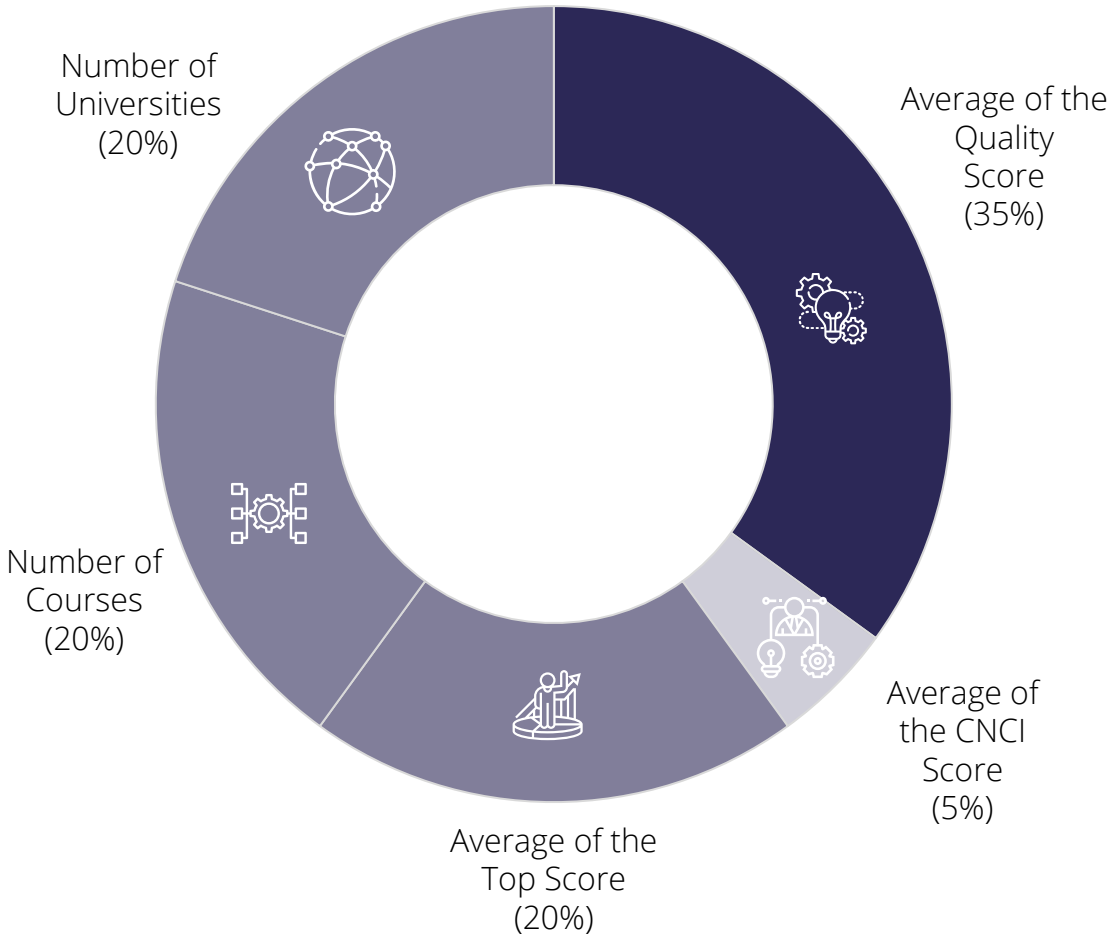
Note: All scores are sourced from Shanghai Rankings

Indexing to Peer Average

For each sub-sector, we calculated the relative scores across all highlighted metrics

1. Data sourced from Shanghai Rankings

3 University Strengths Analysis Framework



Shanghai Index Metrics Defined

Universities appearing in the Shanghai Index are scored on the following categories:

Total Score/Quality Score*: The total score is the linearly weighted sum of 6 indicator scores derived from the corresponding raw data. The indicators are as follows: Alumni score, (Award) score, Citation Score (CNCI), Nature and Science Publications, Science Citation Index, and publication scores divided by the number full time staff per department.

CNCI Score: The ratio of citations of papers published to the average citations of papers in the same category, organized by year and category of journal publication.

Top Score: Number of papers published in Top Journals in an Academic Subject for an institution. Top Journals are nominated by distinguished scholars through the Shanghai Ranking Academic Excellence Survey.

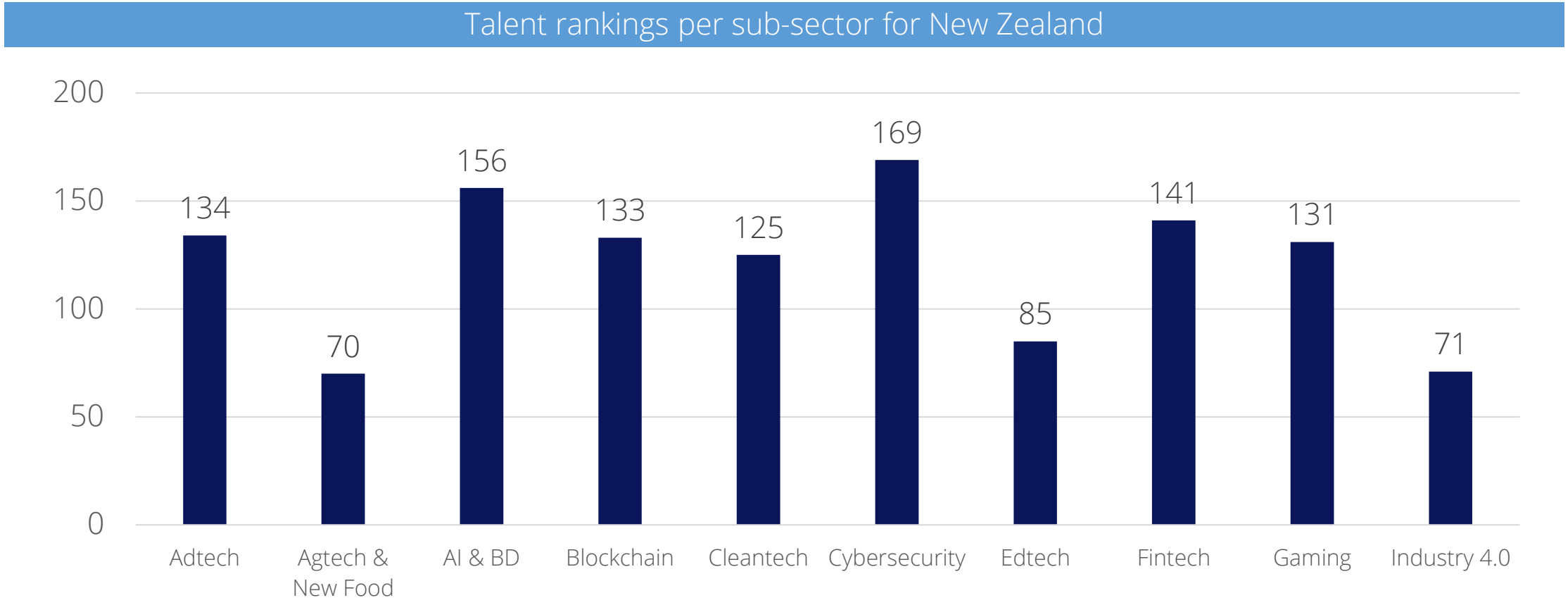
Number of Universities: The unique counts of leading universities from an ecosystem ranked by Shanghai Rankings

Number of Courses: The distinct number of programs or disciplines within an ecosystem ranked by Shanghai Rankings

* Only the courses in the 100 rankings globally are assigned a total score.

*Findings presented in this slide are not representative of the views of the Council or Government

3 For New Zealand, relative Talent strengths are in Agtech & New Food, Industry 4.0, and Edtech



Startup Genome

Overview of Patent Creation

4 Patent Development and R&D Analysis Methodology

1. Collected the patent creation data from WIPO and USPTO by applicant location and date
2. Analyzed the data for the ecosystem for the past 10 years
3. Mapped the patents to the relevant sub sector using IPC (Internal Patent Classification) codes
4. For each sub-sector, we then calculated the relative scores based on number of patents filed

*Findings presented in this slide are not representative of the views of the Council or Government

4 New Zealand shows relative knowledge strengths in Agtech and New Food, Industry 4.0 and Fintech

Overall Sub-Sector rankings

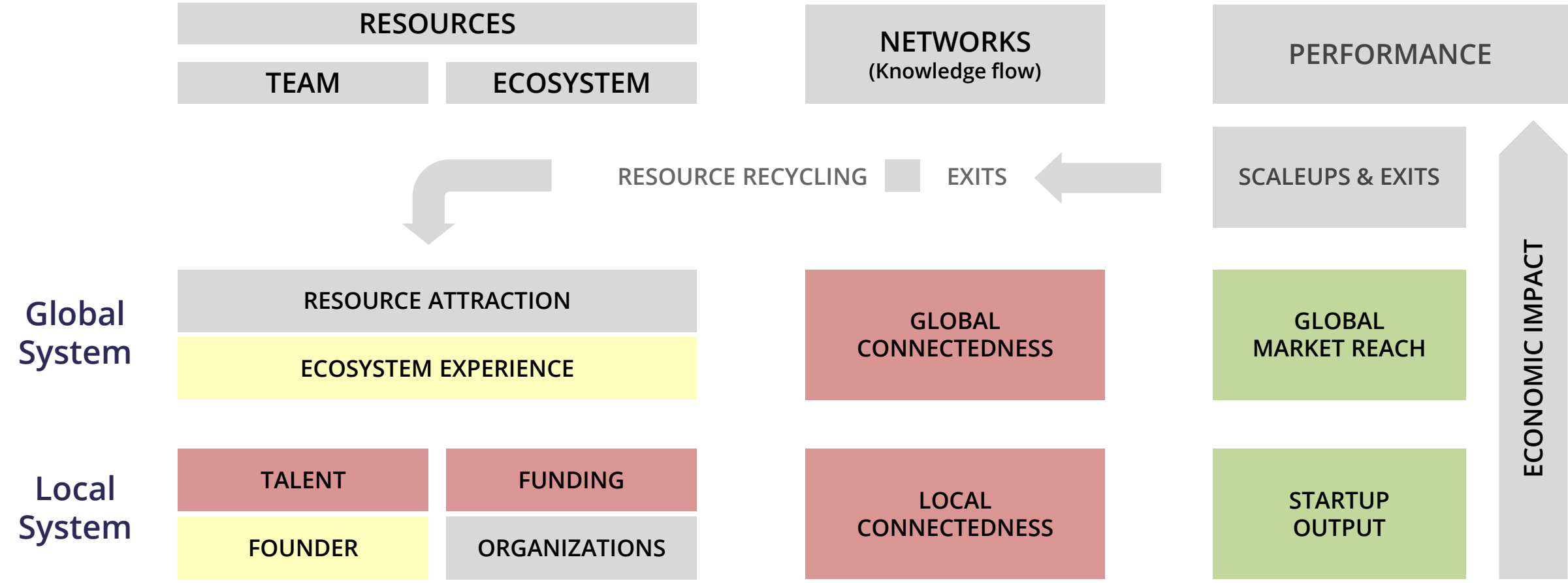
*Findings presented in this slide are not representative of the views of the Council or Government

New Zealand exhibits relative strengths in Agtech & New Food, followed jointly by Adtech, AI & BD and Cybersecurity

Overall and Sub-Factor Ranks for New Zealand

	Sub-Sector	Adtech	Agtech & New food	AI & BD	Blockchain	Cleantech	Cyber Security	Edtech	Fintech	Gaming	Industry 4.0	Life Sciences
	Overall	**77**	**28**	**77**	**120**	**118**	**77**	**144**	**93**	**117**	**86**	**105**
Startup Ecosystem	**Performance**	55	37	90	62	119	55	62	53	97	82	99
	Funding	116	33	66	118	90	96	113	141	125	73	106
	Startup Experience	59	12	55	110	61	78	174	95	102	70	80
Traditional Innovation Ecosystem	**Knowledge**	99	83	99	110	111	118	111	92	106	90	95
	Talent	134	70	156	133	125	169	85	141	131	71	
	Focus	66	72	113	171	126	109	205	111	114	171	202
	Legacy		36			61			177		108	

Success Factor Summary: New Zealand Founders are well-connected but key local system gaps remain



Above Phase Average

Similar to Phase Average

Below Phase Average

The Color-Coded Summary scores are based on the data collected from the survey and broken down to reflect the performance of New Zealand across each Success Factor. As performance is comparative to peer ecosystems in the Globalization Phase, red is behind the phase average, yellow is in line with the phase average while green is ahead of the phase average

Startup Genome

Contacts

Stephan Kuester
stephan@startupgenome.com

Forrest Wright
forrest@startupgenome.com