



**POWER
PLACES**

Dell Women Entrepreneurs Cities Index 2023

S&P Global
Market Intelligence



DELL Technologies

Contents

- Introduction
- Dell WE Cities Index Construction
- Highlights from the Dell WE Cities Index
- 2023 Dell WE Cities Ranking
- 2023 Top 10s
- Spotlight on Cities at the Top
- Digging Deeper: Getting to 100
- Momentum Since 2017
- Spotlight on Technology
- Leaderboard
- Key Conclusions and Best Practices
- About the Index



Introduction



The 2023 Dell WE Cities Index ranks global cities on their ability to attract and support high potential women entrepreneurs (those that want to start and scale a business).



This year, five new cities were added to the Index for a total of 55 cities.

Welcome Montpellier, Mumbai, Auckland, Wellington and Hamburg to the WE Cities Index.



This year's Index shows great forward progress since 2017, despite or maybe even because of the pandemic. The data shows some preliminary evidence that the pandemic may have helped disperse capital, talent and markets (the Operating environment) to more cities.



Those cities that have conducive enabling environments (culturally and technologically) seemed to be best positioned to capitalize on that dispersion.

Introduction (cont..)



We strive to ensure that the Index is capturing the relevant indicators that are important for high potential women entrepreneurs. The Index now has 90 indicators across two categories and 5 pillars.



This year's index includes an equality subpillar in the technology pillar. This subpillar captures disparities between women and men when it comes to technology use.



The 2023 index also includes additional technology indicators including 5G coverage, datacenter efficiency provided by S&P Global's 451 Research and five new indicators of equality in technology use provided by

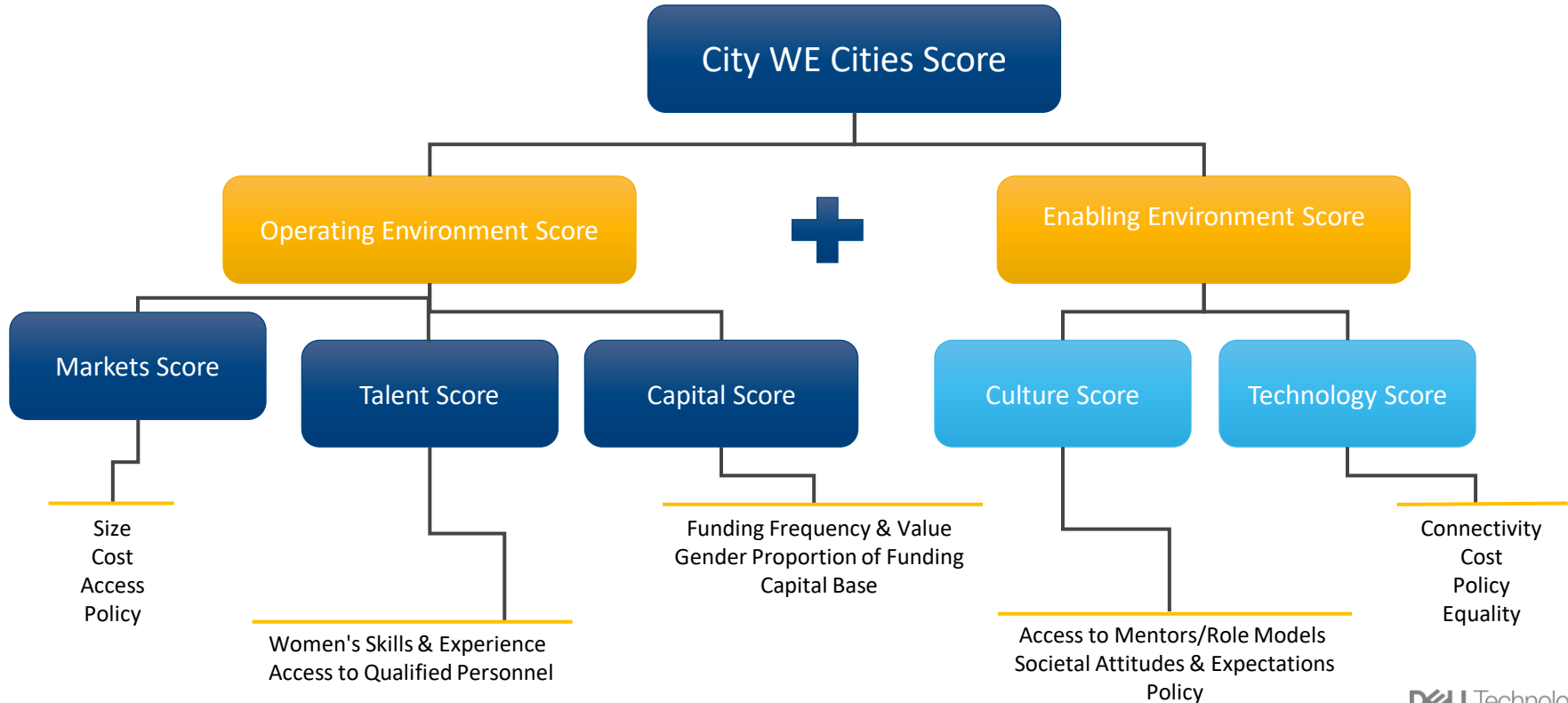
GWJ.



With the addition of new indicators and subpillar, we have re-adjusted the weights based on our four criteria.

The Dell WE Cities Index Construction:

Pillars and Sub Pillars



Highlights From The 2023 Index

With the addition of 5 new cities this year, the competition is getting tighter. Cities fall behind by staying still.



More cities are making it into the top 5 by pillar:

- 2019: 12 different cities were represented in the top spots by pillar
- 2023: 17 different cities are represented in the top spots by pillar



The 2023 Dell WE Cities Index saw an overall forward progress; the median score improved 3.3 points since 2019. All pillars improved their median score except culture, where the median score went down 2.1 points. The decrease in policy scores and attitude and expectation scores outweighed the slight increase in access to mentors and role models.



The pandemic shows some regression especially in the talent and culture pillars. The many upheavals in the world have been crowding news cycles with positive stories about women business leaders that help elevate attitudes and expectations for women. In addition, we have observed declines in the ratio of women/men executives since the 2019 index. Although women's skill and experience has increased by comparison, the median score of the overall talent pool available to women entrepreneurs has slightly decreased.

Highlights From The 2023 Index



Of the 23 key areas (pillars and subpillars) scored for cities to support high potential women entrepreneurs, all 55 cities scored above the median score in at least 2 areas – highlighting again the competitiveness of this group of cities.



Compared to 2017 (the benchmark year), Delhi and Shanghai have made the largest improvements in their scores. However, when looking at cities that have made positive improvements in 2017-19 and in 2019-23, Dublin and Dubai are at the top as the two most consistent improvers.



Only 3 US cities progressed their scores in both years: Portland (Oregon), Atlanta and Miami. Of the top 3 cities, only London's score has progressed both years. The top 10 went from having 7 of the 10 cities from the US to having 6 of the 10 from the US. Two new cities entered the top 10 this year, one from the US and one from APAC.



At least 2 cities from every region have progressed its scores through both index updates.

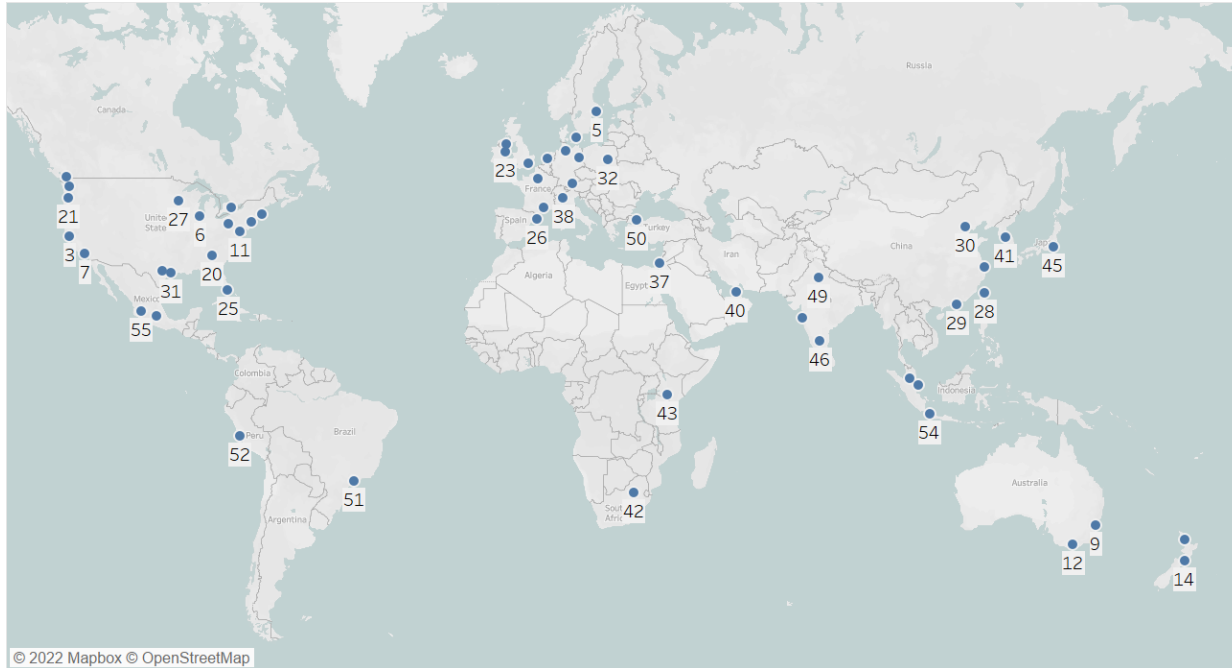
Regionally, APAC has the most cities moving up in the rank with 12, followed by Europe with 9. Only 3 cities in North America moved up. North America had 12 cities moving down (and 2 stay the same), APAC had only 1 city, Tokyo, moving down.*

*When excluding the 5 new cities added this year for a year/year comparison

The Rankings



Dell WE Cities 2023 Ranking Map



WE Cities by rank

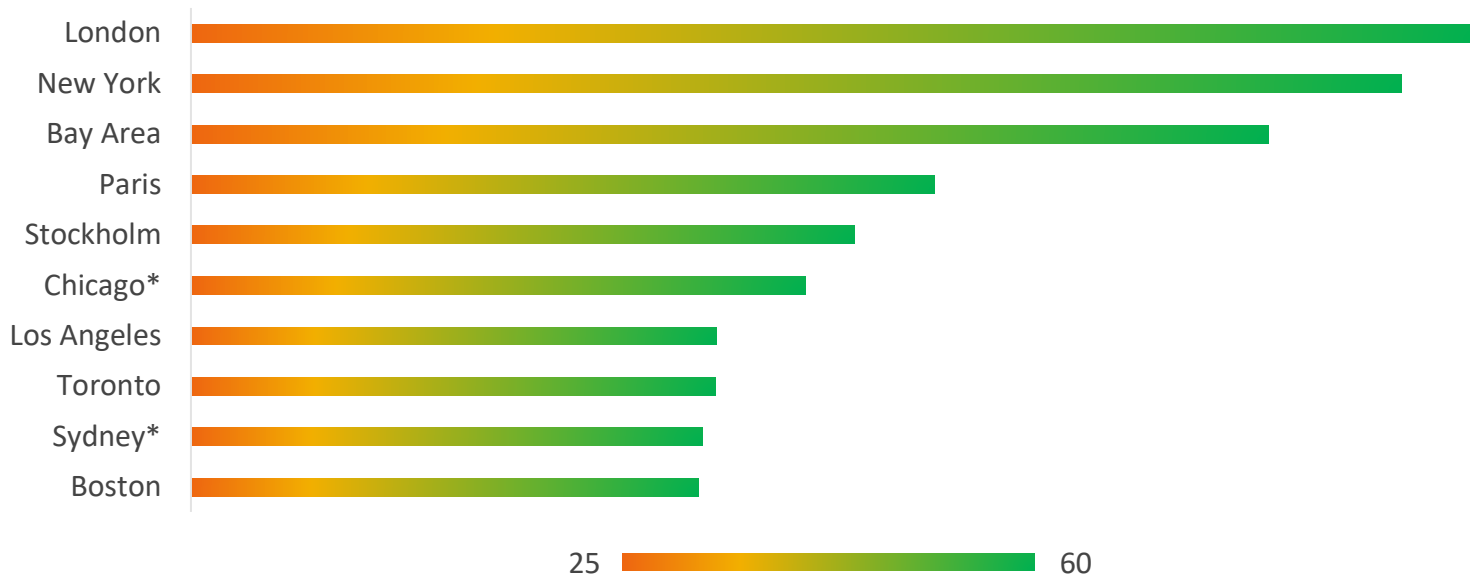
1 London	▲	28 Taipei	▲
2 New York	■	29 Hong Kong	▲
3 Bay Area	▼	30 Beijing	▲
4 Paris	▲	31 Houston	▼
5 Stockholm	▲	32 Warsaw	▲
6 Chicago	▲	33 Pittsburgh	▼
7 Los Angeles	▼	34 Belfast	▼
8 Toronto	■	35 Shanghai	▲
9 Sydney	▲	36 Munich	▼
10 Boston	▼	37 Tel Aviv	▼
11 Washington DC	▼	38 Milan	▼
12 Melbourne	▲	39 Kuala Lumpur	▼
13 Seattle	▼	40 Dubai	▼
14 Wellington*	▲	41 Seoul	▲
15 Berlin	▲	42 Johannesburg	▼
16 Amsterdam	▲	43 Nairobi	▼
17 Copenhagen	▲	44 Hamburg*	▲
18 Auckland*	▲	45 Tokyo	▼
19 Vancouver	▼	46 Bangalore	▲
20 Atlanta	▼	47 Montpellier*	▲
21 Portland	▲	48 Mumbai*	▲
22 Singapore	▲	49 Delhi	▲
23 Dublin	▲	50 Istanbul	▲
24 Austin	▼	51 Sao Paulo	▼
25 Miami	▲	52 Lima	▼
26 Barcelona	▼	53 Mexico City	▼
27 Minneapolis	▼	54 Jakarta	▲
		55 Guadalajara	▼

*New city added in 2023

Note up/down arrows are based on ranks comparison with the 2019 Index just using the 50 cities.

Dell Global WE Cities Rankings 2023

Top 10 Overall



*Newcomers to the top 10:

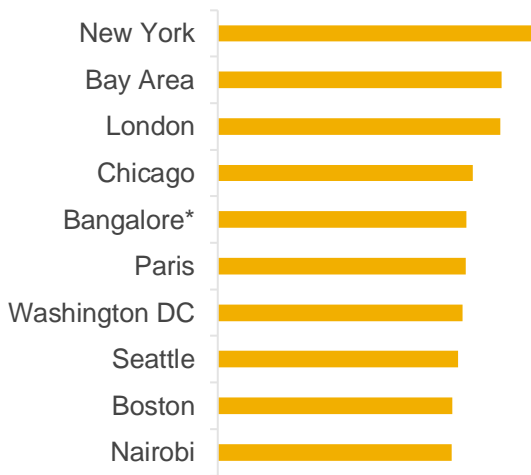
- Chicago
- Sydney

Dell Global WE Cities Rankings 2023

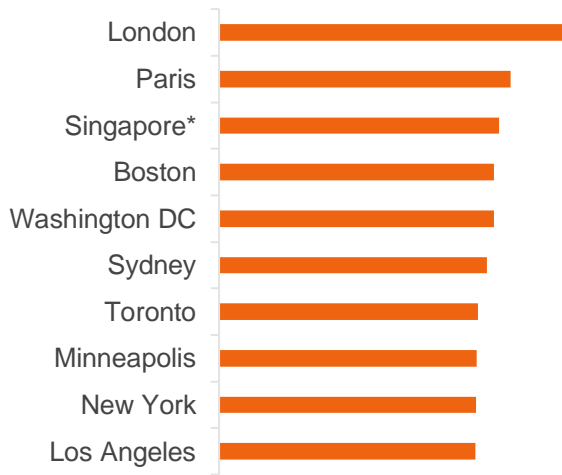
Top 10 Operating Environment



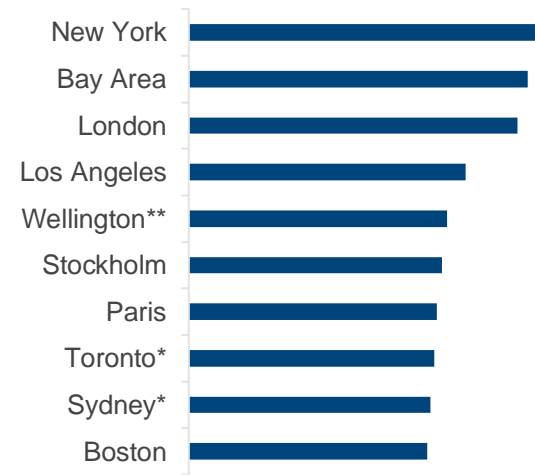
Markets



Talent



Capital



*Newcomers to the top 10 for that pillar

** City added to the index in 2023

Dell Global WE Cities Rankings 2023

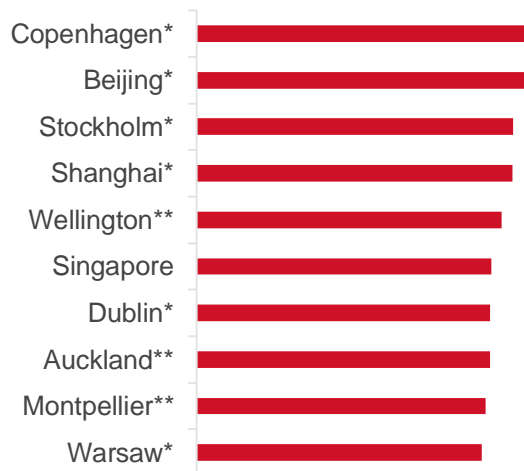
Top 10 Enabling Environment



Culture



Technology



*Newcomers to the top 10 for that pillar

** City added to the index in 2023

The Top Cities Continue To Set The Pace



London: Taking Over The Top Spot



Since the inception of the WE Cities index, London has consistently been ranked one of the top three cities in its ability to attract and support high potential women entrepreneurs. London, New York, and San Francisco have been the golden tier for women entrepreneurship since the index was created and this year London took the top spot on the podium.

London is known as a center of excellence when it comes to talent. According to the Global Power City Index, the city ranks first in 'magnetism' for its power to attract people, capital, and enterprises from around the world. London displaced Boston for the top spot in the Talent pillar this year. For access to qualified personnel, London excels.

London's high marks in the Market and Capital pillar also helped it earn the top spot. The city ranks highly in indicators related to projects on crowdfunding sites. London has the third highest number of projects and fifth highest dollars raised out of the 55 cities in the index. Crowdfunding can be an important source of funds for women entrepreneurs who still face many barriers when it comes to VC funding.

London's top 10 ranking in the culture pillar, led by its ranking in access to mentors & role models, show how the city's vibrant entrepreneurial culture is enabling women to dream big. London ranks 2nd for both the number of city level organizations for women entrepreneurs and number of female leaders of major city business associations.

London's Rise In The Ranks

London has moved from 3rd place to 1st by leveraging its talent.

London really differentiates itself with its talent pool, where it ranks 1st in Talent pillar, driven by a leading ranking in the city's access to qualified personnel

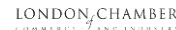
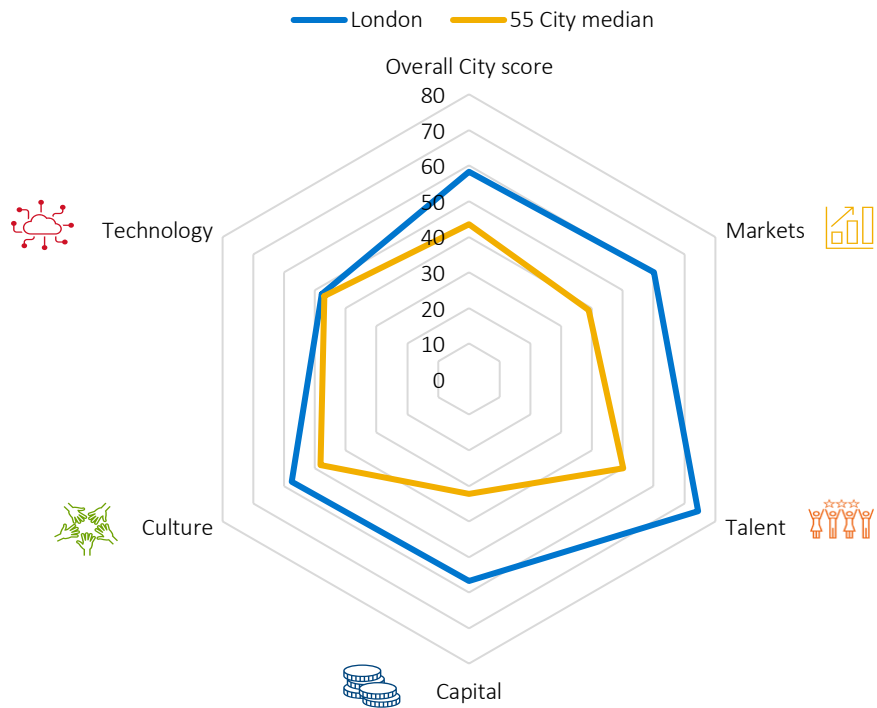
- The city is home to 22 universities ranked in the US News & World Report 2023 Best Global Universities rankings
- The London Business School ranks 8th on the Financial Times MBA 2022 rankings

London has a variety of resources that support aspiring women entrepreneurs in the city

- The city is a leader in access to crowdfunding dollars, venture capital funds, and accelerators for entrepreneurs

London ranks in the top 10 for Culture. Its 3rd place ranking in access to mentors and role models signals its lively entrepreneurial culture that creates an enabling environment for women

- Access to organizations like The Women's Organisation and the Women's Resource Centre provides targeted resources for women starting out in business.
- Female leadership in associations like the London Chamber of Commerce and Industry and the British Chamber of Commerce shows the diverse business environment and the access to women role models



A Consistent Top 3: London, New York And The Bay Area

These three cities have been at the top of the index since its inception. The jockeying between them shows that no city can afford to become complacent. While women entrepreneurs in these cities tend to get relatively high levels of capital, this seems to be more of a function of venture capital still being somewhat concentrated. When we look at gender proportionate funding, these cities do not do as well. This is something these cities should watch for as capital is starting to become more dispersed.

Technology and culture are two areas where they generally have been slipping. Early signs are pointing to the enabling environment becoming a key differentiator for cities in the future as remote work and the information age matures into the digital age.

#1 London

Pillar	2023 Ranking	Change from 2019
Overall	1	▲
Operating environment	1	▲
Main Pillar: Markets	3	■
Main Pillar: Talent	1	▲
Main Pillar: Capital	3	■
Enabling environment	10	▼
Main Pillar: Culture	7	▼
Main Pillar: Technology	24	▼

#2 New York

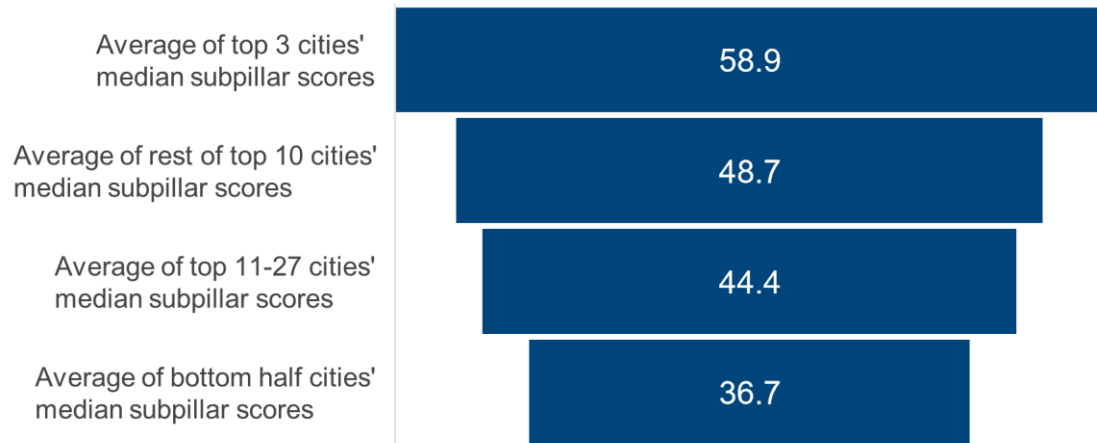
Pillar	2023 Ranking	Change from 2019
Overall	2	■
Operating environment	2	■
Main Pillar: Markets	1	■
Main Pillar: Talent	9	▼
Main Pillar: Capital	1	▲
Enabling environment	8	▼
Main Pillar: Culture	3	▼
Main Pillar: Technology	19	▼

#3 Bay Area

Pillar	2023 Ranking	Change from 2019
Overall	3	▼
Operating environment	3	▼
Main Pillar: Markets	2	■
Main Pillar: Talent	12	■
Main Pillar: Capital	2	▼
Enabling environment	7	▼
Main Pillar: Culture	4	▼
Main Pillar: Technology	15	▼

The Top 3 Cities Score Highly Across All Subpillars

Median score across subpillars (averaged by city grouping)



The top 3 cities have an average median score across the subpillar areas that are 10 points above the average of the remaining top 10 cities, demonstrating that, to get to the top, a holistic ecosystem that helps create an inclusive environment for success of all entrepreneurs is required.

REACHING THE GOAL:

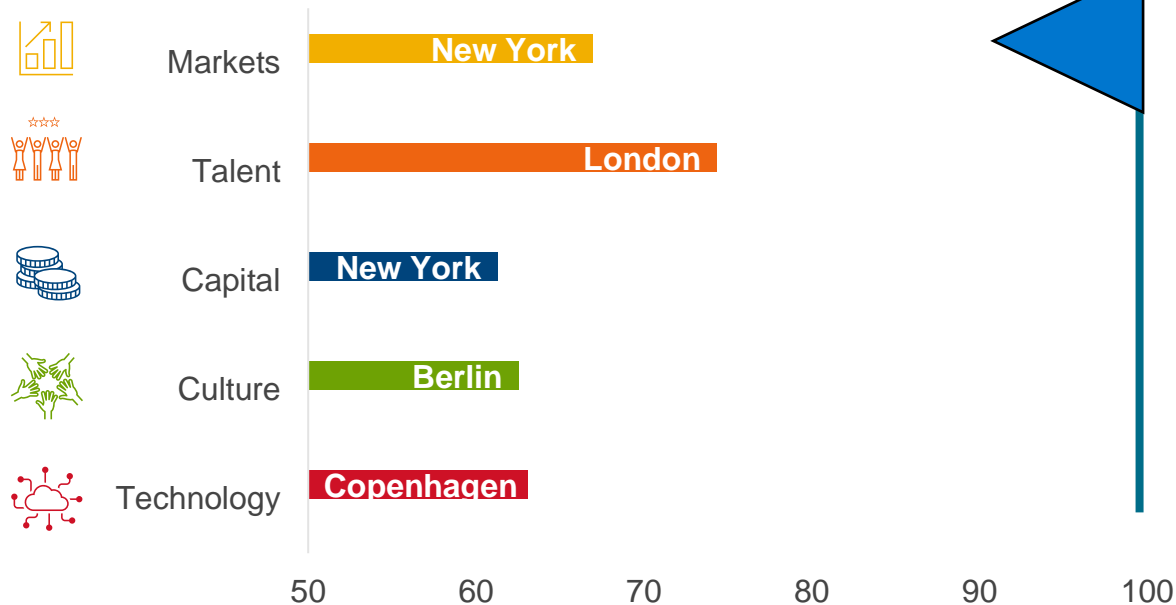
What Are The Strongest And Weakest Areas When It Comes To The WE Ecosystem



Setting The Bar:

Capital Remains The Weakest Area In The Ecosystem For Women Entrepreneurs

Top Scores for Each Pillar: To reach 100 a city needs to excel on every indicator within the pillar



The talent pillar has the highest score of the top scores with London leading the way towards achieving the maximum of 100.

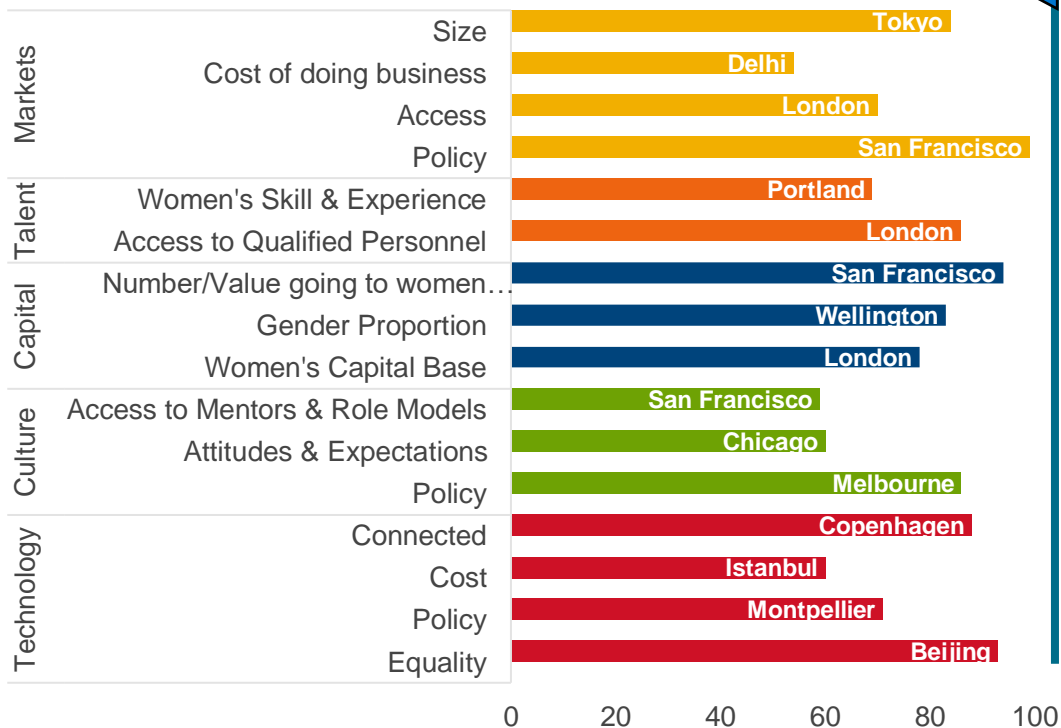
Of the top 10 cities only 2 – NYC and London – have a top score in one or more of the 5 key pillars.

Capital remains the weakest pillar for women entrepreneurs, followed by culture in general across the 55 cities

Heading To 100:

A Look At The Sub Pillars

Top Scores for Each Sub Pillar



At the sub pillar level, the scores get a little closer to the maximum score of 100.

Cost seems to be a particular issue both in Markets and Technology.

In Markets, cost includes not only cost of living, but also ease of doing business including the number of procedures to start a business. For Technology, cost constraints can be a major barrier for adopting and effectively utilizing technology.

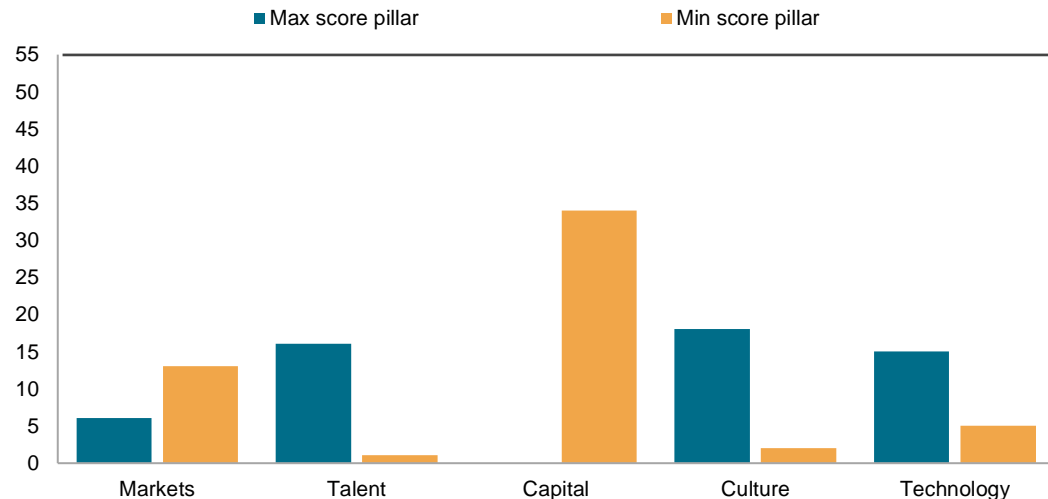
Other notable challenges for women entrepreneurs include societal attitudes and expectations and having access to adequate mentors and role models.

It is great to see some one of the new cities, leading the way – Montpellier on technology policy and Wellington on gender proportionate funding in capital.

Despite Improvements, Capital Is The Weakest Area For More Than Half The WE Cities

Total Number of WE Cities

Number of cities that have their maximum score in a pillar and minimum score in a pillar



Source: S&P Global Market Intelligence.

The fact that capital is where most cities have their weakest score again reinforces that this is still a missing piece of the ecosystem for many women to be able to scale their business.

Talent, Culture and Technology have a fairly even split of cities that have that pillar as their maximum score

While Capital Remains The Weakest Link, It Is Improving



The overall median score of the **WE Cities Index** increased from 40.3 to 43.6



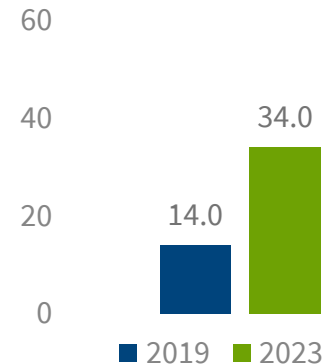
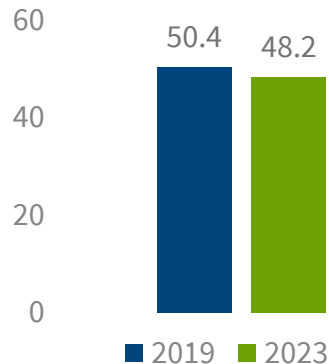
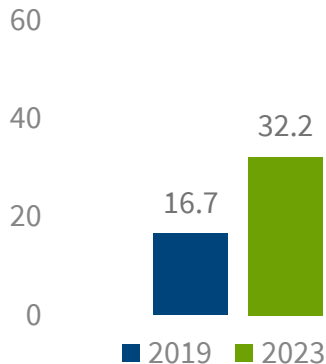
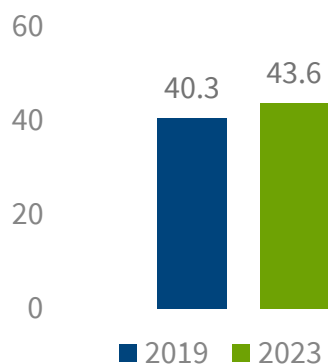
The **Capital** pillar improved the most, rising from a median score of 16.7 to a median score of 32.1



The **Culture** pillar is the only pillar to decrease its median score, down from 50.4 to 49.1



The increase in the capital pillar was largely driven by the median score of the **Women's Capital Base** increasing from 14 to 34.



The median score tells us the central tendency of the index, when it goes up it, it means the distribution of city scores is moving higher.

Momentum Scoring



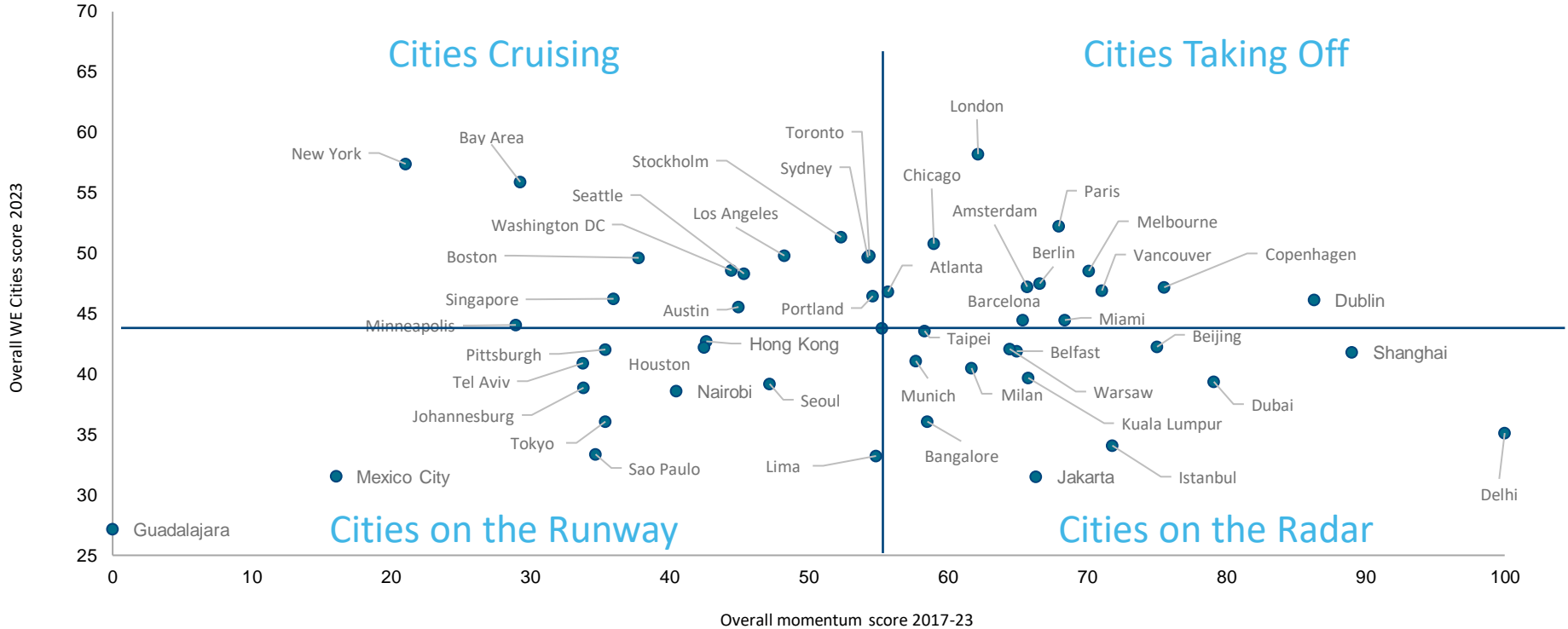
What Is A Momentum Score?

With three editions of the WE Cities Index, we can explore the trajectories of the 50 cities that we have tracked through all editions and provide insight into the drivers of progress. Momentum scores provide a view of how cities are doing relative to both their past scores and the other cities.

How did we calculate momentum?

- Momentum scores are created by first calculating the compound annual growth rate (CAGR) of the cities' score over a given time period.
- The CAGRs for all cities are then standardized on a 0 to 100 scale using the max-min method to create the momentum score.
- Both the CAGR and the momentum score provide another dimensional view of how cities are progressing by comparing each city to its past performance in the index.
 - The CAGR provides insight into how a city is progressing relative to its own history.
 - The momentum score gives insight into how competitive its improvements are relative to the other cities (which gives a view of why it went up or down in the ranking).

Tracking Progress: Where Cities Land



Source: S&P Global Market Intelligence.
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Momentum scores standardize the growth rates of the cities' scores to gain insight into how their growth is impacting their overall ranking/competitiveness.



Cities cruising have bottom half momentum scores and top half overall scores. Many of these 13 cities at cruising altitude were early leaders and are still setting the bar, albeit at a slower pace. Some of that is due to the fact they are at the top.



Cities on the runway have bottom half momentum and overall scores. These 12 cities have the potential to take off and many opportunities to grow. They do well in some areas, e.g., Bangalore and Nairobi rank in the top 10 of the Markets pillar. Nairobi, Pittsburgh, and Johannesburg excel when it comes to gender proportionate funding. But areas where these cities may need focus include developing their talent pool and creating a conducive enabling environment by fostering technology use, investing in safety, and committing to equality.

Cities cruising		
City	Momentum Score	WE City Score
Portland	54.58	46.44
Toronto	54.37	49.80
Sydney	54.25	49.66
Stockholm	52.33	51.34
Los Angeles	48.24	49.81
Seattle	45.36	48.29
Austin	44.94	45.55
DC	44.45	48.59
Boston	37.78	49.61
Singapore	35.97	46.25
Bay Area	29.29	55.91
Minneapolis	28.96	44.05
New York	21.05	57.38

Cities on the runway		
City	Momentum Score	WE City Score
Lima	54.82	33.24
Seoul	47.18	39.16
Hong Kong	42.63	42.69
Houston	42.48	42.19
Nairobi	40.50	38.59
Tokyo	35.39	36.07
Pittsburgh	35.39	42.03
Sao Paulo	34.68	33.35
Johannesburg	33.82	38.85
Tel Aviv	33.79	40.90
Mexico City	16.06	31.53
Guadalajara	0.00	27.15

Cities taking off		
City	Momentum Score	WE City Score
Dublin	86.30	46.14
Copenhagen	75.51	47.18
Vancouver	71.08	46.91
Melbourne	70.10	48.55
Miami	68.41	44.47
Paris	67.96	52.22
Berlin	66.59	47.49
Amsterdam	65.68	47.24
Barcelona	65.36	44.45
London	62.15	58.21
Chicago	59.00	50.79
Atlanta	55.69	46.82

Cities on the radar		
City	Momentum Score	WE City Score
Delhi	100.00	35.14
Shanghai	89.02	41.82
Dubai	79.10	39.37
Beijing	75.04	42.26
Istanbul	71.79	34.10
Jakarta	66.33	31.49
Kuala Lumpur	65.76	39.66
Belfast	64.93	41.88
Warsaw	64.45	42.05
Milan	61.71	40.49
Bangalore	58.52	36.07
Taipei	58.34	43.58
Munich	57.69	41.08



Cities taking off have top half momentum and top half overall scores. This group of 12 is characterized by cities that have been making fairly steady progress by leveraging their existence strengths.



Cities on the radar have top half momentum scores and bottom half overall scores. This group of 13 is characterized mainly by cities outside of the US, namely in the APAC and Europe regions, are the up-and-coming cities that could host some of the top cities for women's entrepreneurship in the future if they keep up the pace.

Major Mover: Delhi #1 In Momentum 2017-23

Overall Rank
49

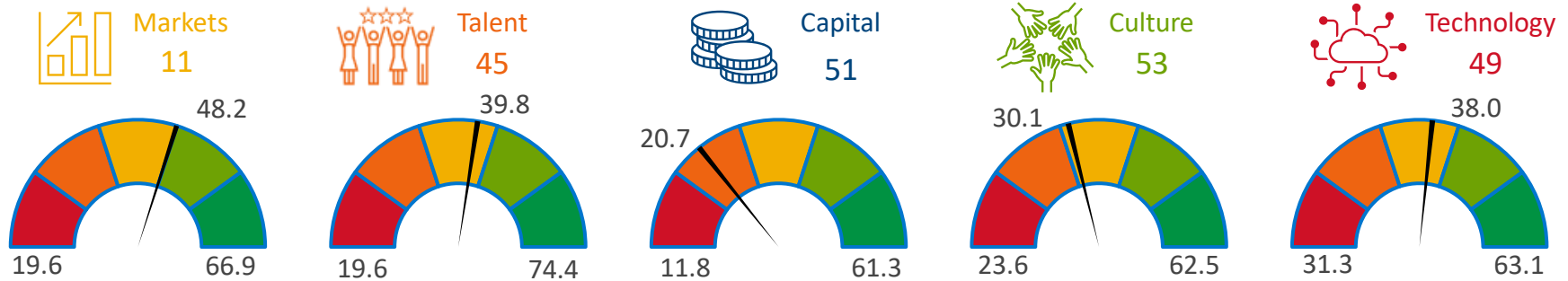
Delhi had the highest momentum score out the 50 cities*.

Being a city that is expected to become the most populated metro area by 2030 (according to UN forecasts), Delhi has significant room for economic growth.

Delhi also has the lowest cost of living among cities in the Index, according to Numbeo.com. From the perspective of women entrepreneurs who may have both work and family costs to balance, a lower burden on personal finances can be an important factor in deciding whether or where to start a business.

The city places in the top half in the access sub pillar in Markets, ranking at least 20th or better in terms of access to accelerators and representation of women entrepreneurs as a percentage of the city's startups.

Delhi also benefits from a skilled workforce, ranking 6th in the share of population with tertiary education.



*The 5 new cities do not yet have a momentum score

Delhi: Areas Of Potential To Tap Into

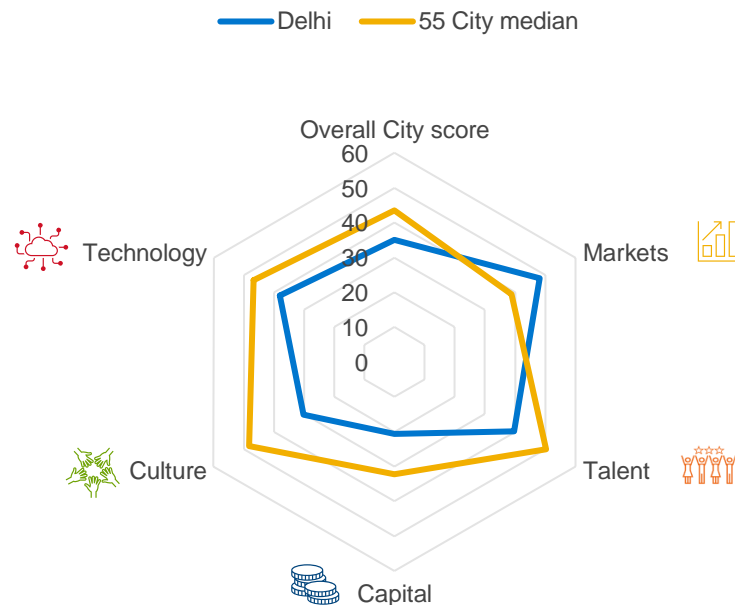
Overall Rank
49

Areas where the city may need to focus include providing encouragement to women entering the workforce and starting their businesses.

Despite having a relatively high tertiary education attainment rate among women, the labor force participation rate among women trails many global cities.

Progress is also welcome when it comes to improving the representation of women in leadership roles and business associations; the importance of a larger network of female mentors and role models can go a long way in fostering women's entrepreneurship.

In terms of capital, there is room for improvement when it comes to gender proportionate funding and the representation of women in businesses and investment companies.



Major Mover: Shanghai

Overall Rank
35

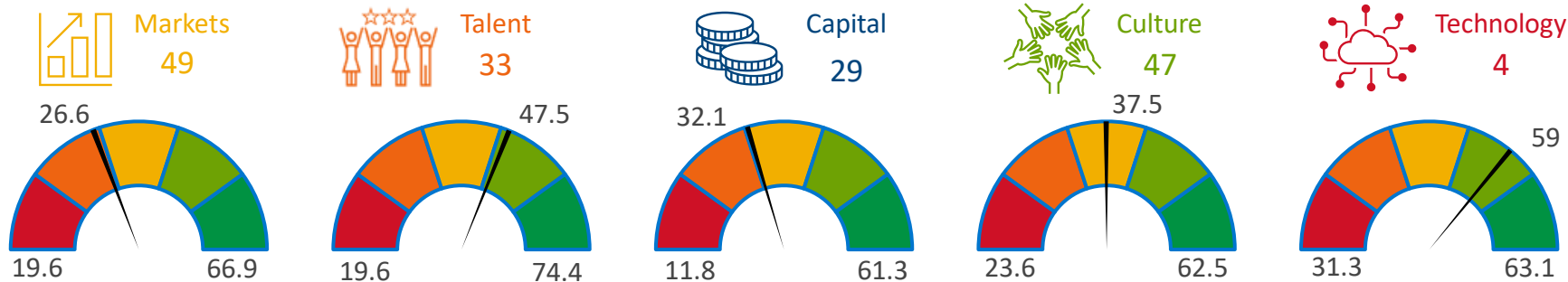
Shanghai had the 2nd highest momentum score out the 50 cities* and ranked 35th in the Index.

The city's strengths lie in the Technology pillar, driven by top 10 rankings in the connected, cost and equality sub pillars, given its excellent internet coverage and speeds and women's knowhow in using the internet for business.

With many accredited and top-ranked universities in the city, Shanghai also benefits from being able to leverage its access to qualified personnel.

Shanghai performs well when it comes to women in the VC space; the city achieves 11th and 15th respectively in terms of funding to businesses with at least 25% female executives and the share of investment companies with at least one female executive.

Revised regulations led to better social protection for women; paid maternity leave was extended from 128 days to 158 days in 2021 (Bloomberg 2021).



*The 5 new cities do not yet have a momentum score

Shanghai: Areas Of Potential To Tap Into

Overall Rank
35

In the access to markets sub pillar, scores were weighed down by the lack of women board members and accelerators.

Women owned businesses could also stand to benefit from more inclusive government procurement goals and corporate vendor programs.

Another area of potential to tap into lies in the policy sub pillar in Culture, demonstrated by the underrepresentation of women in leadership roles.

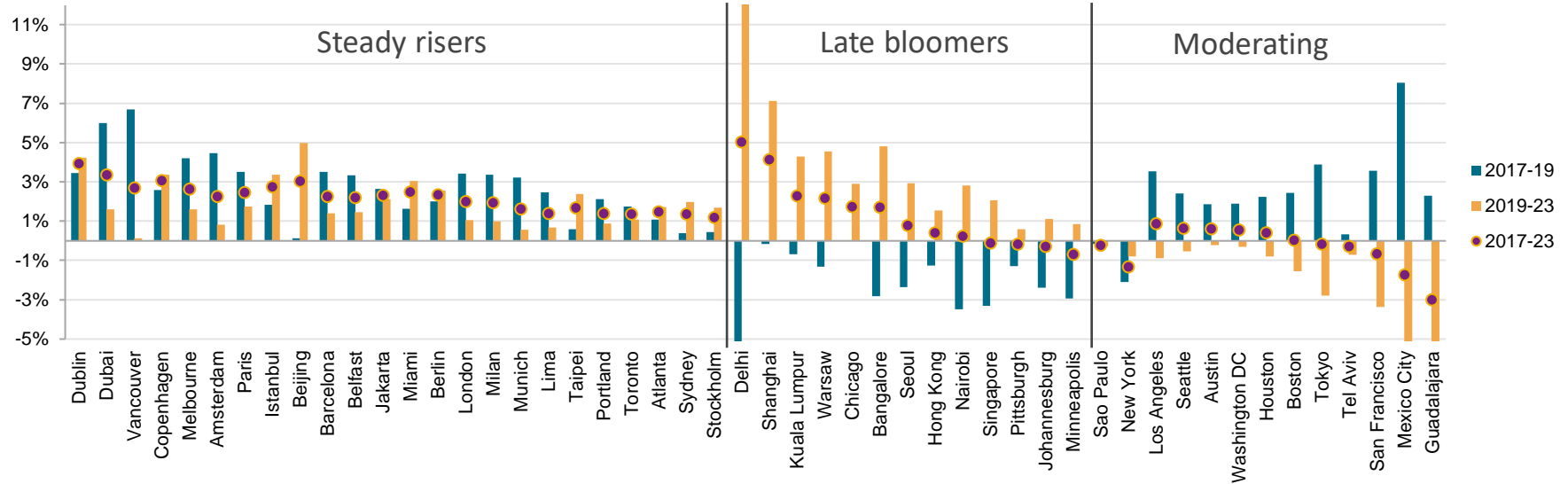
Despite ranking highly in terms of its access to qualified personnel (11th), the proportion of Shanghai's population with a tertiary education lags other global cities.



Tracking Progress:

More than 75% of the cities have seen significant improvement in their scores since 2017 (purple dot). 24 out of 50 cities have improved every index update.

Growth in WE Cities scores over time



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Note: The momentum growth and scores are based on comparing just the 50 original cities in the Index using the 2023 weights in order to make as consistent a comparison as possible.

Dublin: Consistent Improver

Overall Rank
23

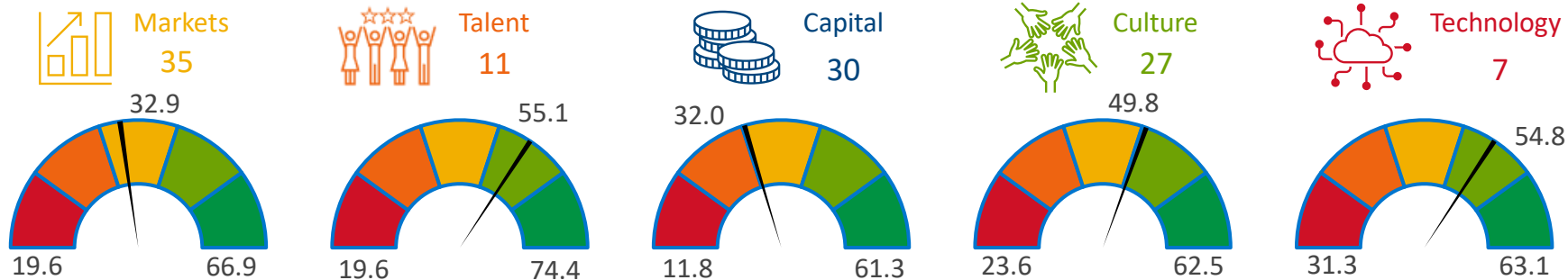
Dublin had the 3rd highest momentum score out the 50 cities* and ranked 23rd in the Index this year.

Dublin excels in the Technology pillar driven by top 10 rankings across the policy and equality sub pillars. The city's advantage also lies in the Talent pillar, supported by its access to a qualified workforce.

The strength across the two pillars shows in Ireland's growing presence as a hotbed of tech talent given its position as a major global hub for cybersecurity; Ireland is home to over 40 cybersecurity companies and 6,000 highly-skilled individuals working in the industry (Independent.ie 2022; Enterprise Ireland 2020).

Not only is the workforce highly skilled, the tech industry tends to be relatively more equal when it comes to leadership roles. Dublin ranks 8th out of the 55 cities in gender equality in leadership in the tech industry.

Another area where it shines is access to mentors and role models for women (ranked 12th) – perhaps helped by the success of the Going for Growth program sponsored by Enterprise Ireland and KPMG. In its 2021 cohort (12th cycle), 83 women entrepreneurs were selected – the highest number yet.



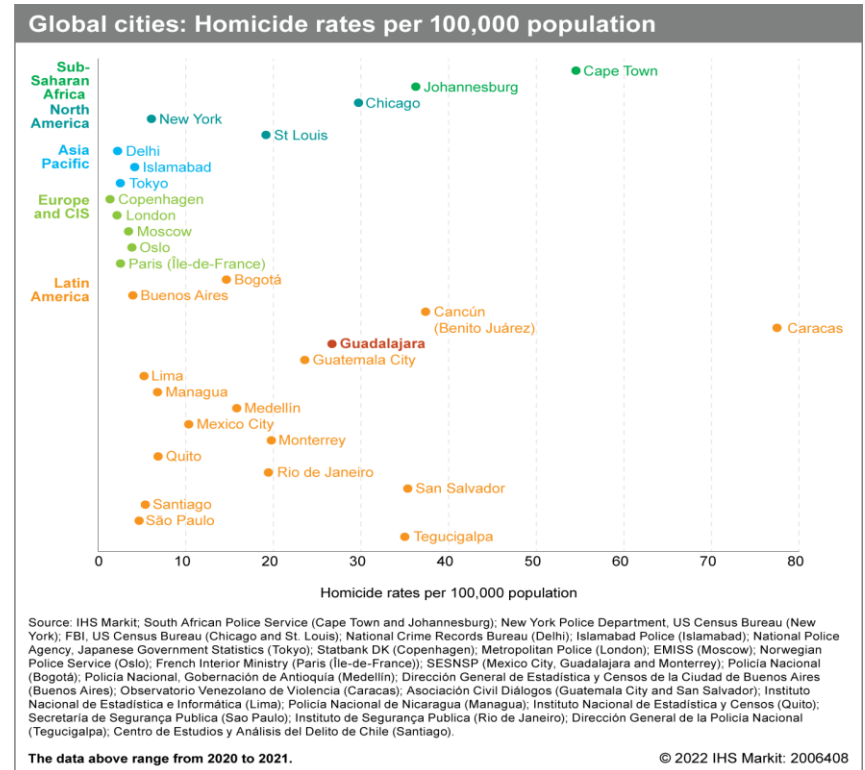
*The 5 new cities do not yet have a momentum score

A Note On Mexico's Trajectory

Both Mexico City and Guadalajara had significant momentum in the 2017-19 time period. However, in more recent years, conditions in Mexico have been deteriorating.

This has had significant impacts on all Mexican people but has been especially detrimental for women entrepreneurs:

- Domestic violence and other gender-related violence has been on the rise, particularly during the pandemic. In the Guadalajara metro area, women face a disproportionate level of risk, with Jalisco being one of the top states for violence against women after Mexico City (S&P 2022). In Mexico City, violence against women has been on the rise in the past year, particularly on the city's metro system (S&P 2022). With most Mexican women relying heavily on public transport, violence on their daily commute has forced women to navigate difficult trade-offs between paid or unpaid work or their own safety and caregiving responsibilities (LSE 2021)
- The high number of cargo theft incidents has led to many insurance companies increasing coverage costs by 225% since January 2018, or to them not providing coverage for local transporters altogether, according to the Mexican Alliance of Organisation of Transporters (AMOTAC).



Spotlight On Technology



The Technology Pillar In The WE Cities Index

As the information age quickly matures into the digital age, the need for having powerful and fast connections, combined with the right technology at a reasonable cost is no longer a differentiator. It's table stakes for cities to compete for top entrepreneurial talent.

The technology pillar measures this for all entrepreneurs and then overlays it with a gender lens to understand how women and men are using technology.

This year, the median score of the technology pillar increased 1.5 points.

Interestingly the technology pillar tends to be strongest for cities outside the top 10 – and no US city is in the top 10 for technology; 5 are in Europe and 5 are in APAC.



Technology And Its Interdependence

With 5G standards and investments continuing to be rolled out, the connectedness of cities – especially when it comes to download speeds and mobile coverage (speed and latency) – is a major competitive advantage for cities.

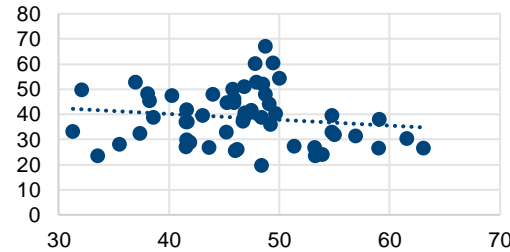
Strong mobile coverage gives women entrepreneurs, that are juggling many commitments, the flexibility to run their business anywhere is especially critical.

Interestingly, with technology expanding market opportunities, technology can potentially be a substitute for market size. That is, the city's traditional physical marketplace can be expanded with the digital marketplace; the size of the market could also be a disadvantage and can be a hindrance when size creates internet congestion and raises costs.

What really matters and is most highly correlated with technology in this year's index is talent, highlighting a fundamental shift towards online workspaces accelerated by the Covid-19 pandemic. This is different from 2019 when culture demonstrated the strongest relationship.

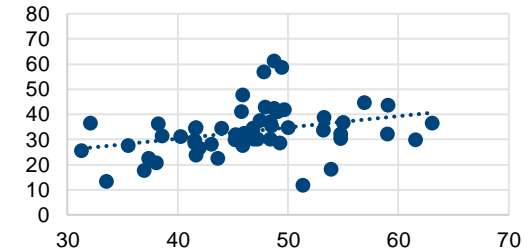
City score on the technology pillar versus it's score on other four pillars

Markets–Technology



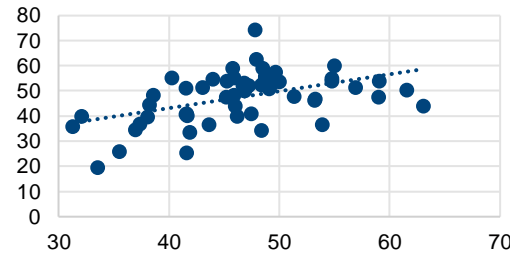
Source: S&P Global Market Intelligence.
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Capital–Technology



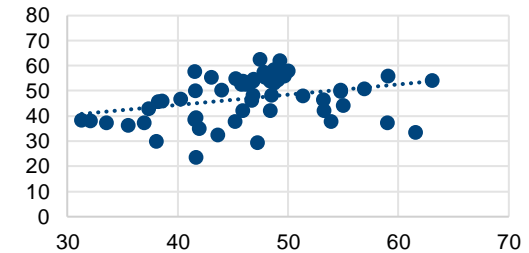
Source: S&P Global Market Intelligence.
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Talent–Technology



Source: S&P Global Market Intelligence.
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Culture–Technology

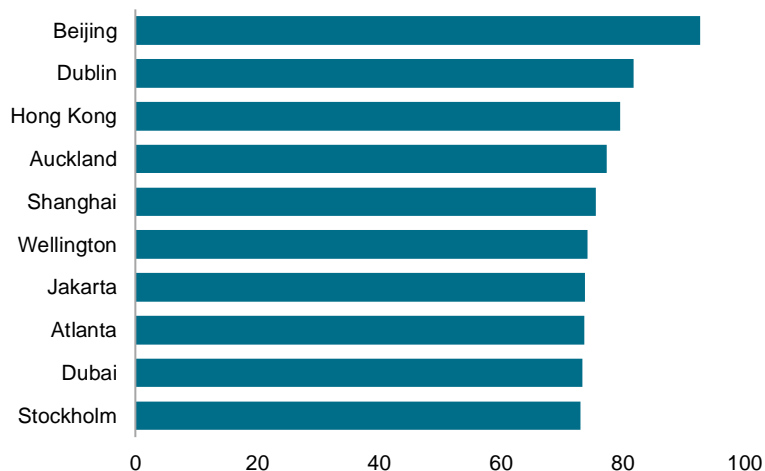


Source: S&P Global Market Intelligence.
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Technology Equality And The Need For Systematic Data

Cities from nearly every region are represented in the top 10 but interestingly APAC has the most cities indicating again that technology may be a great equalizer.

Top 10 cities for Technology equality



Source: S&P Global Market Intelligence.

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This year, we introduced an equality sub pillar to the technology pillar to measure gaps between women and men's participation in this critical space. Through the construction of this new sub pillar, it became clear that while many cities and countries are starting to measure the digital economy, there is a continued need to have detailed city level data at the gender disaggregated level.

- This year we partnered with GWI, an audience insights technology company, to gain unique insights into how women compare to men when it comes to using the internet for business and their confidence in adopting new technology. The data aligns with our 2023 Technology Deep Dive report that stressed the importance that women entrepreneurs place on networking and relying on their broader network for success.

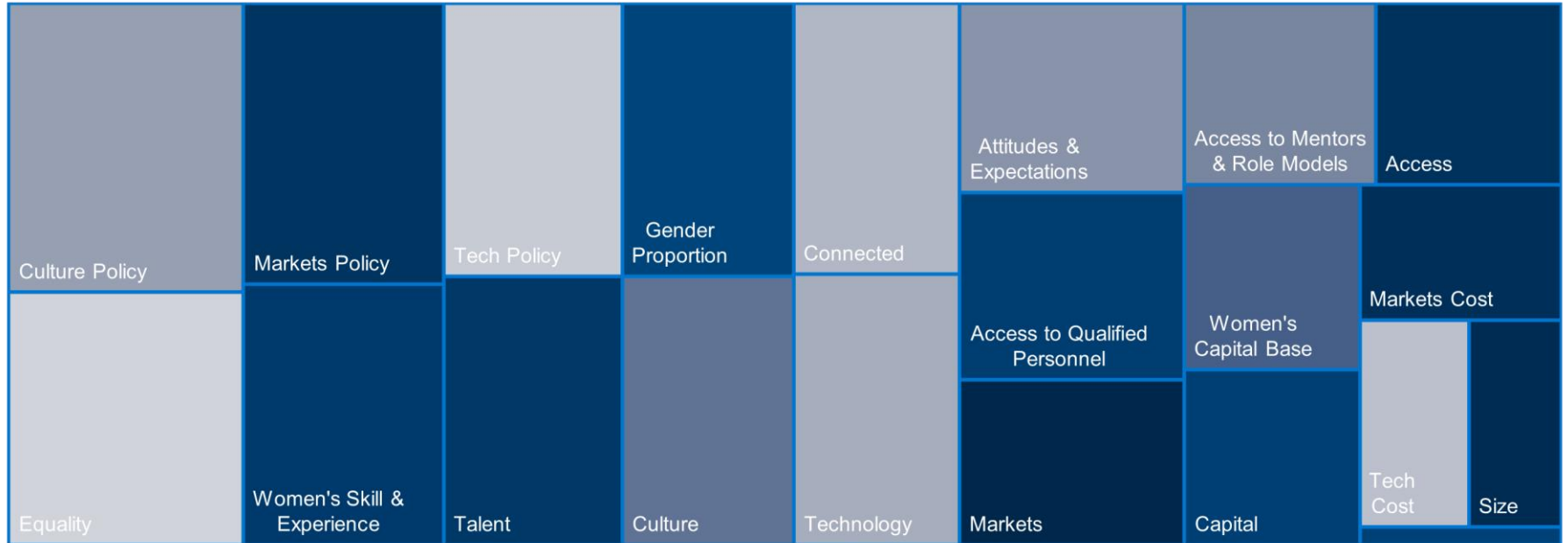
"It's clear that access to, and the quality of, technology is essential for helping women entrepreneurs thrive. In terms of how women use technology for business, the use of the internet for networking and for business research is very similar.

However, it's abundantly clear in the research that while women have the skills, initiative and know-how in using technology for business-purposes, compared to men their confidence in using new technology is in shorter supply - 33% less likely to feel confident. Fostering this confidence is crucial in creating more equity in the entrepreneurial landscape."

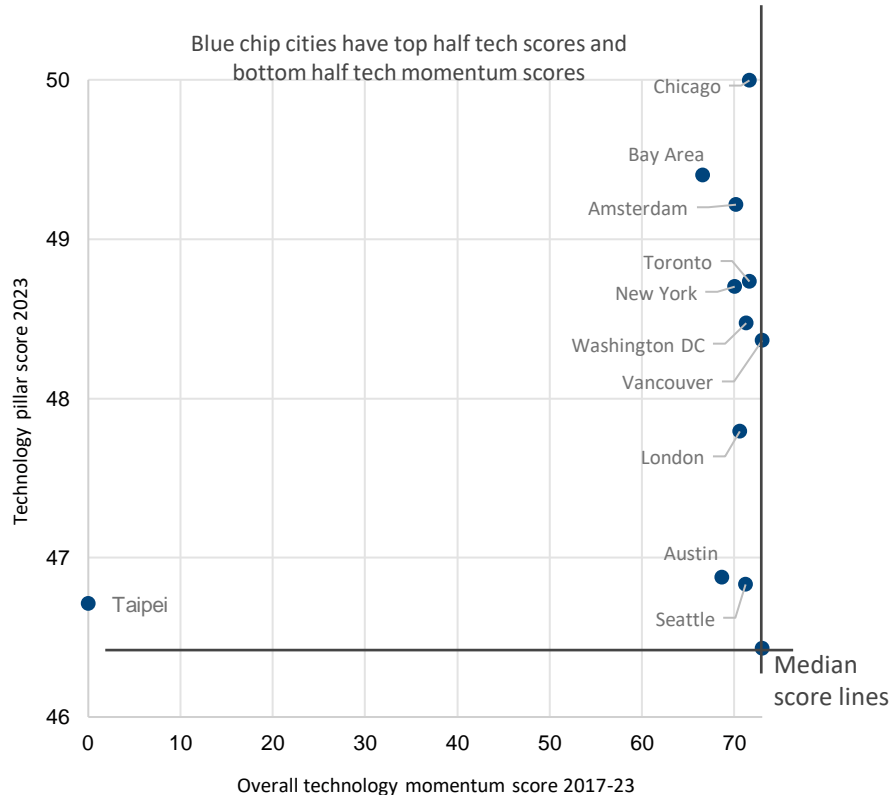
- Carrie Seifer, Chief Customer Officer, GWI

Technology is one of the higher scoring areas, potentially giving cities A way to leapfrog more established cities to become hubs for women entrepreneurs.

Median Scores By Pillar And Subpillar



The Early Tech Leaders Categorized By Above Median Tech Scores And Below Median Tech Momentum Scores.



Blue-Chip cities primarily come from North America with over half coming specifically from the United States

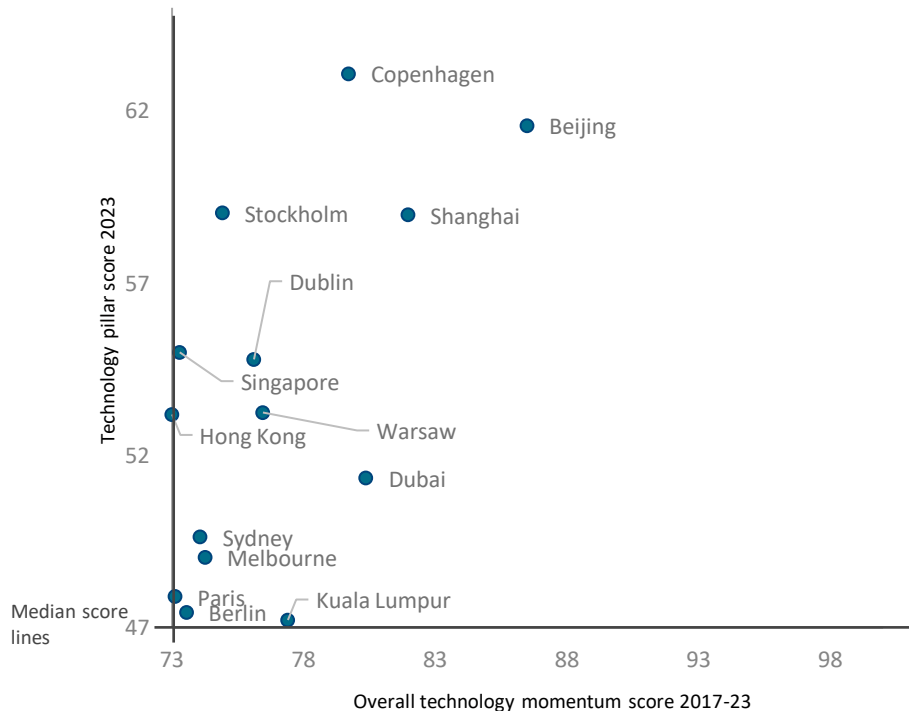
Many of these cities were early leaders in technology and are still very much viewed as “tech hubs.” It is interesting, however, that the two top cities in the group in terms of 2023 tech score and 2017-23 momentum are cities that are considered taking off.

Chicago, the highest-ranking blue-chip city, is driven by a top 15 position in the cost sub pillar and is the leader in the efficiency of data centers in the city

Vancouver, with the highest technology momentum of the group, saw especially large growth in its connected subpillar where speed and ubiquity are quickly becoming a key differentiator for cities in the digital age.

New Cities May Be Emerging As “Tech Hubs” – Many Of These Cities Were Also “Cities Taking Off” In The Overall Index

Unicorn cities have top half tech scores and top half tech momentum scores



Copenhagen, Beijing, and Stockholm lead the Unicorn cities in terms of tech scores and rank 1st, 2nd, and 3rd respectively overall

- Copenhagen and Stockholm both rank in the top 5 for the connected sub pillar led by high scores in median upload and download speeds
- Beijing leads in the equality sub pillar driven by high ratios of female/male that feel confident using the internet, use the internet to manage finances, and network via the internet

Lower ranking cities excel in other areas of the tech pillar

- Kuala Lumpur, which ranked 26th in the tech pillar, ranks in the top 15 of the equality sub pillar and is a leader for women using online payment services and in technology industry roles
- Berlin, which ranked 25th in the tech pillar, ranks in the top 10 of the policy sub pillar and leads in the National Cyber Security Index score

Source: S&P Global Market Intelligence.

Copenhagen:

Consistent Improvement And Now Leading In Technology

Overall Rank
17

Copenhagen had the fifth highest momentum score out the 50 cities*, and the second highest momentum among the European cities, putting it in the “cities taking off” category.

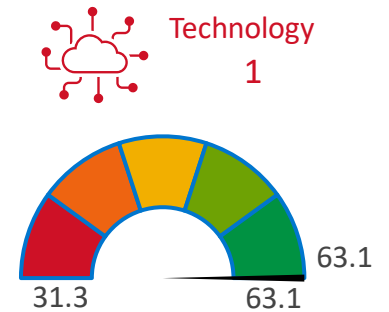
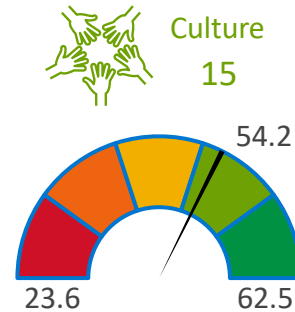
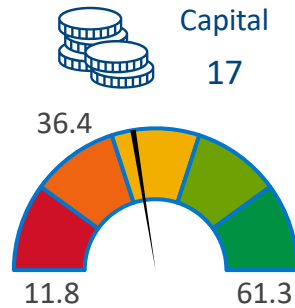
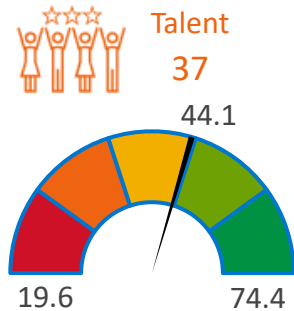
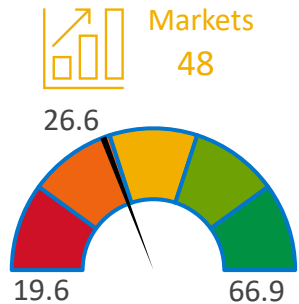
The city ranks 1st in terms of Enabling Environment and the Technology pillar.

Copenhagen ranks first in the Connected sub pillar, powered by the accessibility and speed of its internet coverage.

- According to VPN provider Surfshark, Denmark has the best digital quality of life in the world. The country achieved 0.83 index points in 2021 on the company’s Digital Quality of Life Index, taking first place among the 110 nations it compared. (msn.com 2022)

In the Policy sub pillar (4th), Copenhagen excels in its open data initiatives, per capita availability of tech training organizations for women, smart city policies, and cybersecurity measures

- **Smart City Initiatives:** Copenhagen Connecting is a smart city initiative that aggregates data from different sources – including mobile phones, GPS on buses, and waste system sensors – to support the integration of services and tech as help tackle emissions, congestion, and pollution (The Economist Group 2022)
- **Women in Tech:** In 2021, the Copenhagen mayor hosted an event which saw the launch of Tech Nordic Advocates’ – Northern Europe’s largest tech/startup ecosystem – Danish Women in Tech Programme in Denmark (TNA 2021)



*The 5 new cities do not yet have a momentum score

Copenhagen:

Areas Of Potential To Tap Into

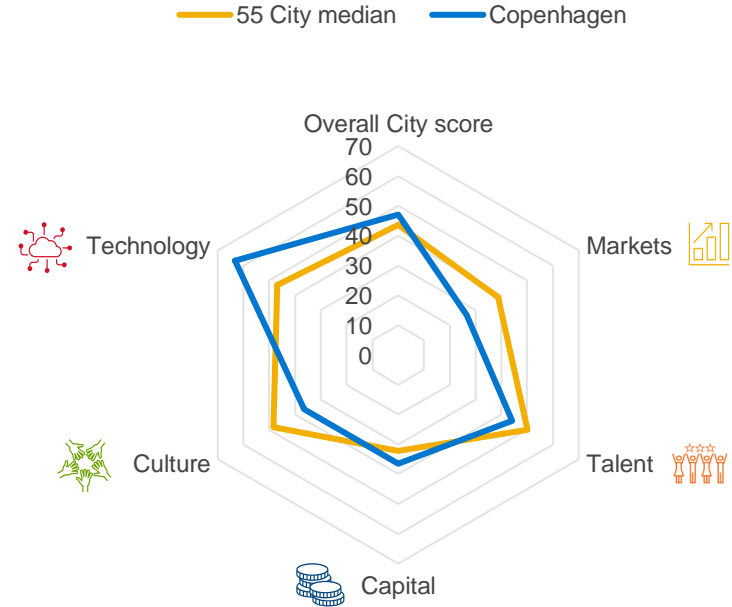
Overall Rank
17

Areas where the city may need to focus includes the Markets pillar:

- High rental and living costs hindered the cost sub pillar score
- In the access sub pillar, a lack of accelerators and relatively low representation of women entrepreneurs in the city's startups weighed on score
- Women owned businesses could also stand to benefit from more inclusive government procurement goals and corporate vendor programs

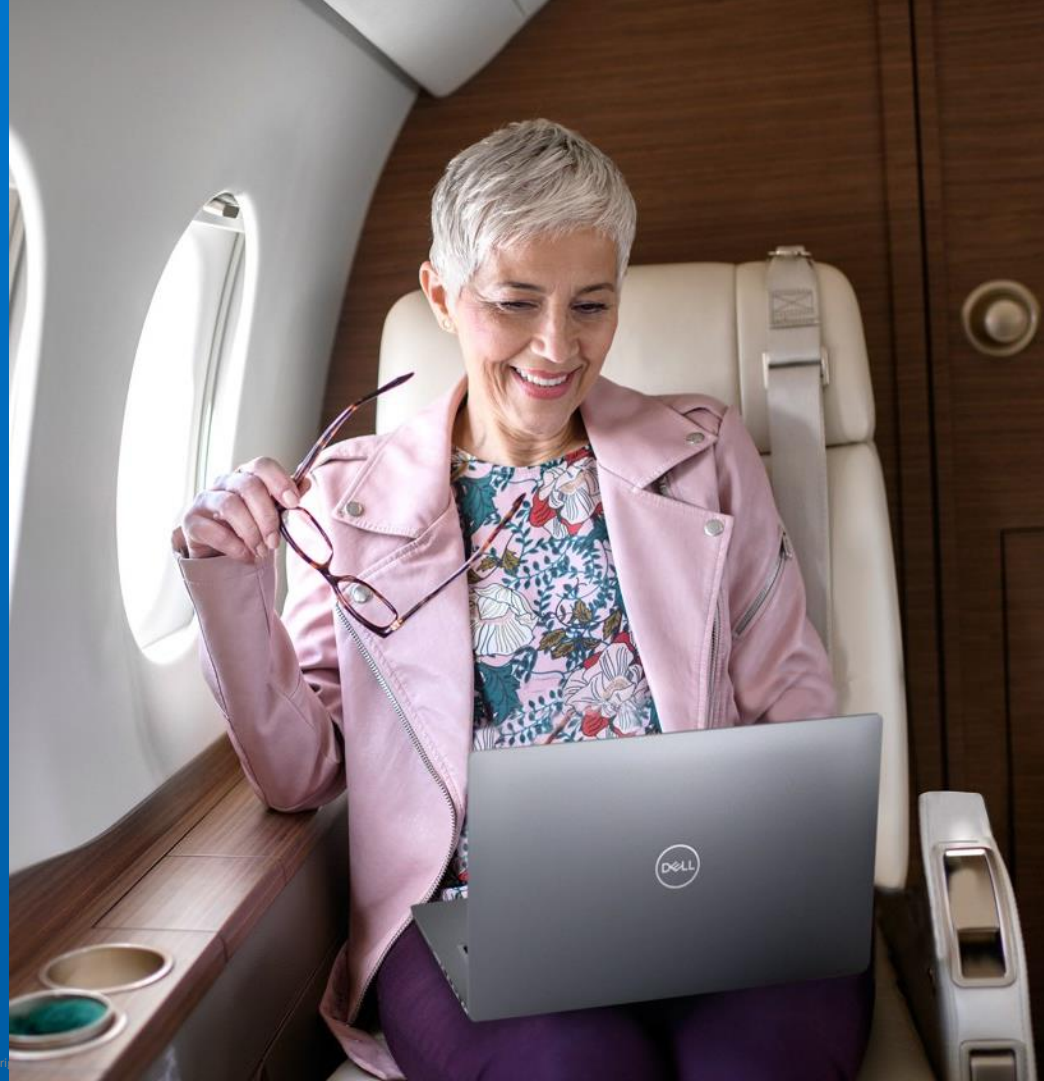
Surprisingly, despite its strengths in the Technology pillar, the city falls behind other global cities in terms of the share of its labor force that are IT professionals. Copenhagen also ranks in the bottom half for the share of female enrollment in top universities.

In terms of Capital, Copenhagen ranks in the bottom half when it comes to gender proportionate funding.



PUTTING IT ALL TOGETHER:

How Are Regions Stacking Up



Leaderboard

	Highest Score 2023	Most Momentum 2017-23
Overall City Score	London	Delhi

	Highest Score 2023	Most Momentum 2017-23
Operating Environment	London	Lima

	Highest Score 2023	Most Momentum 2017-23
Enabling Environment	Copenhagen	Shanghai

	Highest Score 2023	Most Momentum 2017-23
Markets	New York	Beijing
Size	Tokyo	Berlin
Cost	Delhi	Dublin
Access	London	Dubai
Policy	San Francisco	Beijing
Talent	London	Delhi
Women's Skill & Experience	Portland	Delhi
Access to Qualified Personnel	London	Delhi
Capital	New York	Copenhagen
Number/Value	San Francisco	Delhi
Gender Proportion	Nairobi	Copenhagen
Women's Capital Base	London	Miami

	Highest Score 2023	Most Momentum 2017-23
Culture	Berlin	Miami
Access to Mentors & Role Models	San Francisco	Miami
Attitudes & Expectations	Chicago	Barcelona
Policy	Melbourne	Shanghai
Technology	Copenhagen	Delhi
Connected	Copenhagen	Jakarta
Cost	Istanbul	Tokyo
Policy	Munich	Lima
Equality	Beijing	Dubai



Gold Medal Counts



- Of the overall score, categories, pillars and sub pillars, there were a total of 24 areas ranked.
- APAC has the most gold medals for momentum.
- Europe has the greatest number of top ranks in 2023.
- All regions have a winning city in at least one area.

	Highest score in each area	Most momentum in each area
North America	7	3
Europe	13	5
APAC	3	12
MEA	1	2
LATAM	0	2

Key Conclusions And Leading Practices



Key Conclusions



Even with the progress made since the previous index, the capital pillar remains the weakest area for the majority of the WE Cities. The importance of capital to women entrepreneurs is evident by the fact that 9 of the top 10 cities also appear in the top 10 rankings of the capital pillar.



The pandemic has tightened the correlation between talent and technology. This corresponds with what we discovered in the Dell WE Cities Technology Deep Dive i.e., that women entrepreneurs view technology skills as vital, but often worry that they don't have a strong enough understanding of technology to be able to navigate through the digital age.



Technology is a key driver for up-and-coming cities for entrepreneurs, especially in a post-pandemic world. This is especially evidenced by the fact that 9 out of the top 10 cities in technology were not in the top 10 for technology in 2019. 3 of those are new to the Index, the other 6 showed higher growth in their scores from 2019-23.



London and Delhi's first place ranking overall and in terms of momentum respectively highlight the importance of developing the talent pool and ability to leverage on the access to a qualified workforce

The Future Of The Index

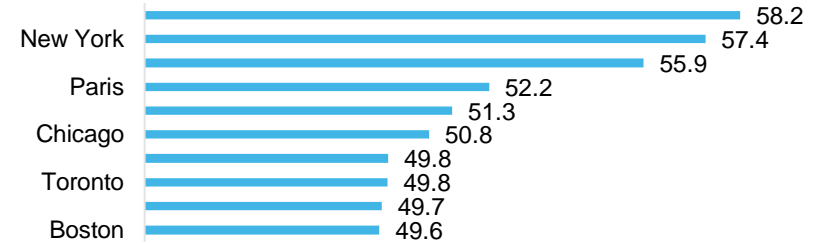
Top 10 cities should not stay complacent and should continue to strive to create an environment that attracts and supports women entrepreneurs. The top two cities for both the culture and technology pillars in 2019 were US cities. In 2023 the top two spots in those pillars were cities in Europe.

None of the top 10 cities have top 10 momentum scores and, while most of the leading overall cities are from North America and Western Europe, momentum scores are led by cities in APAC.

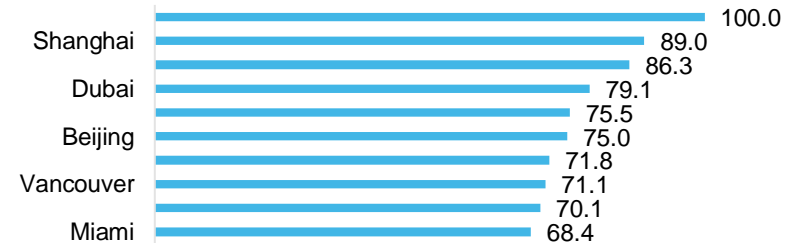
Future indices have the possibility of having a new top 3, with cities taking off like Paris and Stockholm looking to eclipse cruising cities New York and the Bay Area. Paris and Stockholm excel in areas that New York and the Bay Area have become relatively weaker, like talent and technology.

APAC is dominant in terms of technology momentum score, which will be an interesting trend to watch whether technology advantages will lead these cities to the top in the future.

Overall WE City Score 2023



Overall WE City Momentum Score 2023



Leading Practices

Creating targeted, low/no cost resources for women entrepreneurs in various stages of their business journey that simultaneously addresses multiple constraints (e.g., technology training organizations, mentorship training)

The establishment of diverse sources of capital – for example access to lending programs, crowdfunding, accelerators, impact investing, and promoting practices to reduce gender bias such as special funds for women entrepreneurs, blind pitching, and creating women investor networks.

Improving paid parental leave and childcare benefits and provide on-ramps and support for people that have gaps in their career due to taking parental leave.

Strengthening pay transparency policies by including accountability measures

Collecting sex disaggregated data, particularly in the area of technology access, and making those data public – what gets measured gets done.

Highlight women entrepreneurs' stories to help promote role models.



About The Index



Important Endnotes And Caveats

The indicators provided by GWI utilize their flagship survey, Core, which is the world's largest study on internet users aged 16-64. GWI interview 900k+ respondents to represent over 2.7 billion internet users, with data on 200k+ profiling points, and 10k+ brands across 50 markets. Quotas and weights are used to keep the data representative, which focus on national, and regional (in the US), demographics. This means the data may not be an exact match at city level.

- Because we strive to measure the most relevant and available indicators for supporting women entrepreneurs, the comparability between the Index years is not exact. In making the comparisons in this report, we strive to make as apples to apples a comparison as possible by re-estimating past indices using current weights and indicators where possible.
- Please see the associated methodology document for the 2023 Index for further details.



Why These Categories And Sub-Categories?

WE Cities	
Operating Environment	Enabling Environment
<p>MARKETS</p> <p>The Markets category measures whether the female entrepreneur operates in a market with sufficient size such that scale can be achieved, the cost of being a profitable business in that market, the transparency and clarity of steps or ladders to gain access to potential customers in that market and the local policies that help level the playing field for women owned businesses.</p> <p>TALENT</p> <p>The Talent category measures both the likelihood of finding women with the training and experience required to run and scale a business and the availability of a local labor force with the skills and education necessary for a woman entrepreneur to build a well functioning team.</p> <p>CAPITAL</p> <p>As financial Capital is fundamental for businesses seeking to scale but is often particularly hard for women entrepreneurs to access, this category measures the frequency and value of funding received by women led businesses, the proportion of funding that businesses run by women (compared to men) receive, and the capital base that women can draw on.</p>	<p>CULTURE</p> <p>A city's Culture, while less tangible, is believed by women entrepreneurs to be a critical enabler for their participation in commerce. This category measures the prevalence of relevant mentors, networks, and role models, the predominant attitudes & expectations of that society toward women entrepreneurs that help shape their own expectations, and the policies that enable women to assume leadership positions and business success.</p> <p>TECHNOLOGY</p> <p>Often taken for granted until it is not there, Technology has become critical for running nearly all business operations. This category measures women entrepreneurs' global connectivity via the internet and social media channels, the cost of staying connected, policies that enable women to access and utilize information, data and technology and equality in confidence and use of technology.</p>

Operating Environment

Main Pillar: Markets

- Markets Sub-Pillar 1 (Size): Indicators that measure if the market size is sufficient for an entrepreneur to operate in
- Markets Sub-Pillar 2 (Cost): Indicators that measure if an entrepreneur can be profitable in the market
- Markets Sub-Pillar 3 (Access): Indicators that measure if the market has transparent steps to gain access to customers
- Markets Sub-Pillar 4 (Policy): Indicators that measure if there are policies that level the playing field for WEs

Main Pillar: Talent

- Talent Sub-Pillar 1 (Women's Skills and Experience): Indicators that measure the likelihood of finding women with the training and experience required to run and scale a business
- Talent Sub-Pillar 2 (Access to Qualified Personnel): Indicators that measure the availability of a local labor force with the skills and education necessary for a woman entrepreneur to build a well functioning team

Main Pillar: Capital

- Capital Sub-Pillar 1 (Number/Value): Indicators that measure the frequency and value of funding received by women led businesses
- Capital Sub-Pillar 2 (Gender Proportion): Indicators that measure the proportion of funding that businesses run by women (compared to men) receive
- Capital Sub-Pillar 3 (Women's Capital Base): Indicators that measure the capital base that women can draw on

Enabling Environment

Main Pillar: Culture

- Culture Sub-Pillar 1 (Access to Mentors & Role Models): Indicators that measure the prevalence of relevant mentors, networks, and role models
- Culture Sub-Pillar 2 (Attitudes & Expectations): Indicators that measure the predominant attitudes & expectations of that society toward women entrepreneurs that help shape their own expectations
- Culture Sub-Pillar 3 (Policy): Indicators that measure the policies that enable women to assume leadership positions and business success

Main Pillar: Technology

- Technology Sub-Pillar 1 (Connected): Indicators that measure WE's global connectivity via the internet and social media channels
- Technology Sub-Pillar 2 (Cost): Indicators that measure the cost of staying connected for women entrepreneurs
- Technology Sub-Pillar 3 (Policy): Indicators that measure the policies that enable women to access and utilize information, data and technology
- Technology Sub-Pillar 4 (Equality): Indicators that measure the gender proportion of how women use technology and their representation in key roles in the industry

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Project Team

Jim Diffley
Executive Director, Consulting
jim.diffley@spglobal.com
Executive in Charge and Technical Lead

Karen Campbell, Phd
Associate Director, Consulting
karen.campbell@spglobal.com
Project Manager

Ben Siaw
Associate Director, Sales
ben.siaw@spglobal.com
Account Manager

Cassandra Pagan
Consulting Principal
cassandra.pagan@spglobal.com
Country Team Lead Researcher

Noah Eiseman
Senior Consulting Analyst
noah.eiseman@spglobal.com
Research and Data team

Ian Chin
Senior Consultant
ian.chin@spglobal.com
Research and Data team

Dharani Kanagasingam
Consulting Analyst
dharani.kanagasinga@spglobal.com
Research and Data team

Sean Windle
Senior Consultant
sean.windle@spglobal.com
Research and Data team

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