

## **The Smart Centres Index 10**



November 2024









We are pleased to present the tenth edition of the **Smart Centres Index** (SCI 10).

The SCI has been developed by Z/Yen as part of its Long Finance Initiative and the Distributed Futures Programme to track commercial centres' ability to create, develop, and deploy technology. It aims to help investors, governments, and regulators track the attractiveness of technology centres for new technologies and products by measuring how attuned centres and their regulatory systems are to attracting innovation and growth in Science, Technology, Energy Systems, Machine Learning, Distributed Ledgers, and Fintech.

The SCI tracks three dimensions related to innovation and technology in the cities that we rank:

- Innovation Support the support provided by regulatory and other systems to innovation and technology in a centre.
- Creative Intensity the intensity of technology and innovation services and opportunities in a centre.
- Delivery Capability the quality of the technology and innovation work that is taking place in a centre.

**Z/Yen** helps organisations make better choices - our clients consider us a commercial think-tank that spots, solves, and acts. Our name combines Zen and Yen - 'a philosophical desire to succeed' - in a ratio, recognising that all decisions are trade-offs. One of Z/Yen's specialisms is the development and publication of research combining factor analysis and professional assessments.

Long Finance is a Z/Yen initiative designed to address the question "When would we know our financial system is working?" This question underlies Long Finance's goal to improve society's understanding and use of finance over the long-term. In contrast to the short-termism that defines today's economic views, the Long Finance timeframe is roughly 100 years.

The authors of this report, Mike Wardle and Professor Michael Mainelli, would like to thank Bikash Kharel, Sasha Davis, and the rest of the Z/Yen team for their contributions with research, modelling, and ideas.

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#### **Foreword**

In this dynamic world, where rapidly evolving technology is driving profound transformations in business, finance and government institutions, it is my great pleasure to introduce the tenth edition of the Smart Centres Index published by Z/Yen. This report stands as a valuable source for understanding how financial and commercial centres worldwide are keen to embrace and implement up to date technologies and products to attract investments, bolster scientific development and economic growth.

Since its establishment in 2018, the AIFC is leading the charge in implementing and fostering digital technology. We have streamlined our participant registration process through digitalisation (E-Residency), launched the mobile application (TABYS) for retail investors to make investing in securities more simple. The AIFC is actively involved in the digital assets sector, recognising its significance in the financial landscape. In addition, the AIFC Court and IAC use an online dispute resolution system eJustice facilities, enabling parties to file cases electronically from anywhere around the world, without having to be physically present in Astana.

Our regulatory environment, which supports a broad range of financial services, established a regulatory framework for digital assets issued and traded on the AIFC, fostering innovation and providing a secure environment for market entities. Furthermore, a new legal instrument – "AIFC Venture Studio Framework" has been developed to create a favorable and sustainable environment for innovative startups, promote venture financing, and enhance the competitiveness of innovative projects within the AIFC.

These efforts have positioned the AIFC as a trusted partner for both domestic and international stakeholders. As of today, the AIFC ecosystem includes over 3,400 companies from more than 80 countries. Out of these 3,400 companies, approximately 700 are engaged in the Information and Communication Technology (ICT) industry, accounting for around 20% of the ecosystem. The AIFC also hosts several crowdfunding platforms and more than 10 cryptocurrency exchanges, including leading global players such as Binance, ByBit, BigOne and UpBit. Additionally, around 20 companies are active participants in the FinTech Lab, further driving innovation within the ecosystem.

As we move forward, we remain dedicated to staying ahead of global economic trends and embracing the challenges of an ever-changing world. A major focus will be on expanding our digital asset ecosystem, harnessing opportunities while carefully managing associated risks. This approach ensures we remain agile, resilient, and future-ready.

I express my sincere appreciation to the authors, researchers, and contributors who have made this edition of the Smart Centres Index possible.

Renat Bekturov Governor, AIFC

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### **Summary And Headlines**

#### Commentary

The Smart Centres Index focuses on technology and innovation in financial and commercial centres across the world, including Science, Energy Systems, and Machine Learning, along with other applications. The index is designed to improve our understanding of science and technology policy, regulation, and delivery. Leading centres in the SCI are based in places which combine a high performing university sector across STEM subjects, with well-developed regulatory, commercial, and financial services.

The SCI takes into account the three dimensions of Innovation Support, Creative Intensity, and Delivery Capability. In earlier editions of the index, centres in Western Europe scored higher for Innovation Support, and centres in Asia/Pacific and North America scored higher for Creative Intensity than for the other dimensions. In SCI 10, the three dimensions are more evenly balanced in these regions.

We asked respondents to the SCI survey to identify the areas of technology which are likely to have the most impact on industry over the next five years. Almost a quarter of respondents identified 'Artificial Intelligence, Digital And Computing' as likely to have the greatest impact, with 'Energy And Environmental Technology', and 'Electronics, Photonics, And Quantum Technology' mentioned by 19% and 15% of respondents respectively.

The average rating in SCI 10 fell by 1.07% following a fall of 1.31% in SCI 9. The smallest reduction in average ratings of 0.76% was in the Middle East & Africa, while the average rating for centres in Latin America & The Caribbean fell 1.77%.

The continued geopolitical threats caused by conflict and continued slow economic growth may be driving a lack of confidence in technology centres across the world.

#### **SCI 10 Results**

- London retained first place in the index, with New York overtaking Zurich to regain second place.
- Five Western European centres feature in the top 10, alongside three US centres.
- Singapore and Tel Aviv also feature in the top 10.
- Four centres rose 10 or more places in the ranking in SCI 10, while two centres fell 10 or more places.

#### **North America**

- Nine North American centres feature in SCI 10 and three are in the world top 10.
- Four centres in the region maintained or improved their rank position compared with SCI 9, with Toronto improving 5 rank places.
- All North American centres fell in the SCI ratings.
- The average change in ratings in the region was -1.05%.

#### Asia/Pacific

- 20 Asia/Pacific centres feature in SCI 10.
- Singapore, Busan, Hong Kong, and Shenzhen rank in the top 20 in the world.
- Thirteen centres in the region maintained their position or rose in the rankings in SCI 10, with only Osaka improving in the ratings.
- The average change in rating in the region was -1.03%.

#### **Western Europe**

- 26 Western European centres feature in SCI 10, with five centres ranking in the top 10 and a further four centres in the top 20.
- Fifteen centres in the region maintained or improved their ranking, and Dublin and Guernsey rose more than 10 places.
- All but five centres fell in the ratings with the average rating for Western European centres down 0.98%.

#### Middle East & Africa

- Nine centres in the region feature in the SCI with Tel Aviv and Dubai in the top 20.
- Six centres in the region rose in the rankings, and Riyadh gained 12 places.
- The average rating in the region fell by 0.76% the lowest percentage fall across all regions.

#### **Eastern Europe & Central Asia**

- There are nine centres from Eastern Europe & Central Asia in the index.
- Cyprus leads the region in 40th place globally, with Astana in second position in the region.
- All centres in the region fell in the ratings, with the average rating falling 1.45%.

#### **Latin America & The Caribbean**

- Bermuda took first place in the region at 57th overall.
- Mexico City regained second place in the region, rising 13 places in the rankings.
- The change in the average rating for this region at –1.77% was the largest fall across the six regions we track in the index.

#### **SCI 10**

The SCI is a factor assessment index, combining a number of instrumental factors - data measures drawn from a range of data providers across the world - and assessments given by business and finance professionals of three dimensions related to innovation and technology:

- Innovation Support the support provided by regulatory and other systems to innovation and technology in a centre.
- Creative Intensity the intensity of technology and innovation services and opportunities in a centre
- Delivery Capability the quality of the technology and innovation work that is taking place in a centre.

These dimensions are brought together in the overall SCI ratings to produce the index, which is updated every six months.

SCI 10 was compiled using 132 instrumental factors. These quantitative measures are provided by third parties including the World Bank, the OECD, and the United Nations. Details can be found in Appendix 4. The instrumental factors were combined with 1,804 assessments provided by respondents to the SCI online questionnaire. Details of the 287 respondents are shown in Appendix 2. Further details of the methodology behind SCI 10 are in Appendix 3.

We researched 131 commercial and financial centres for this tenth edition of the Smart Centres Index (SCI 10). The 77 centres listed in SCI 10 are those which received an adequate number of assessments from survey respondents. Assessments of respondents' home centres were excluded from the data, in order to avoid home centre bias.

# SCI 10 Ranks And Ratings

Table 1 | Smart Centres Index 10: Ranks And Ratings

Centre         Rank         Rating         Rank         Rating         Rank         Rating           London         1         706         1         713         0         ▼7           New York         2         701         3         702         ▲1         ▼1           Zurich         3         698         2         703         ▼1         ▼5           San Francisco         4         696         8         697         ▲4         ▼1           Singapore         5         695         7         698         ▲2         ▼3           Cambridge, UK         6         694         5         700         ▼1         ▼6           Geneva         7         693         9         696         ▲2         ▼3           Oxford, UK         8         692         4         701         ▼4         ▼9           Tel Aviv         9         691         10         695         ▲1         ▼4           Los Angeles         10         690         6         699         ▼4         ▼9           Dubai         11         689         13         692         ▲2         ▼3           Seattle	Contro	SC	CI 10	SC	19	Change In	Change In
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Malta       25       672       17       688       ▼8       ▼16         Dublin       26       671       41       664       ▲15       ▲7         Luxembourg       27       670       27       678       0       ▼8	Abu Dhabi	23	674	28	677	<b>\$</b> 5	▼3
Dublin         26         671         41         664         ▲15         ▲7           Luxembourg         27         670         27         678         0         ▼8	Washington DC	24	673	23	682	▼1	<b>▼</b> 9
Luxembourg         27         670         27         678         0         ▼8	Malta	25	672	17	688	▼8	<b>▼</b> 16
	Dublin	26	671	41	664	<b>▲</b> 15	<b>A</b> 7
Guernsey 28 669 45 660 ▲17 ▲9	Luxembourg	27	670	27	678	0	▼8
	Guernsey	28	669	45	660	<b>▲</b> 17	<b>▲</b> 9
Boston 29 668 21 684 ▼8 ▼16	Boston	29	668	21	684	▼8	<b>▼</b> 16
Seoul 30 667 <b>29 676 </b> ▼1 ▼9	Seoul	30	667	29	676	▼1	<b>▼</b> 9
Brussels 31 666 31 674 0 ▼8	Brussels	31	666	31	674	0	▼8
Guangzhou 32 665 <b>37 668 </b> ▲5 ▼3	Guangzhou	32	665	37	668	<b>\$</b> 5	▼3
Chicago 33 664 25 680 ▼8 ▼16	Chicago	33	664	25	680	▼8	<b>▼</b> 16
Hamburg 34 663 <b>34 671</b> 0 ▼8	Hamburg	34	663	34	671	0	▼8
Sydney 35 662 36 669 ▲1 ▼7	Sydney	35	662	36	669	<b>1</b>	▼7
Beijing 36 661 30 675 ▼6 ▼14	Beijing	36	661	30	675	<b>▼</b> 6	<b>▼</b> 14
Melbourne 37 660 43 662 ▲6 ▼2	Melbourne	37	660	43	662	<b>A</b> 6	▼2
Tokyo 38 659 33 672 ▼5 ▼13	Tokyo	38	659	33	672	<b>▼</b> 5	<b>▼</b> 13
Shanghai 39 658 <b>35 670 </b> ▼4 ▼12	Shanghai	39	658	35	670	▼4	<b>▼</b> 12

Table 1 (continued) | Smart Centres Index 10: Ranks And Ratings

Combine	sc	CI 10	SC	19	Change In	Change In
Centre	Rank	Rating	Rank	Rating	Rank	Rating
Cyprus	40	657	44	661	<b>4</b>	▼4
Osaka	41	656	50	655	<b>▲</b> 9	<b>1</b>
Doha	42	655	32	673	<b>▼</b> 10	▼18
Munich	43	654	46	659	<b>▲</b> 3	▼5
Edinburgh	44	653	40	665	▼4	<b>▼</b> 12
Taipei	45	652	47	658	<b>A</b> 2	▼6
GIFT City-Gujarat	46	650	42	663	▼4	▼13
Paris	47	649	38	667	▼9	▼18
Mauritius	48	648	56	649	<b>▲</b> 8	▼1
Madrid	49	647	52	653	<b>▲</b> 3	▼6
Frankfurt	50	646	55	650	<b>\$</b> 5	▼4
Vienna	51	645	60	645	<b>A</b> 9	0
Astana	52	644	49	656	▼3	<b>▼</b> 12
New Delhi	53	643	62	643	<b>A</b> 9	0
Tianjin	54	642	51	654	▼3	<b>▼</b> 12
Bangkok	55	641	57	648	<b>A</b> 2	▼7
Tallinn	56	640	53	652	▼3	<b>▼</b> 12
Bermuda	57	639	59	646	<b>A</b> 2	▼7
Mumbai	58	638	65	640	<b>A</b> 7	▼2
Cape Town	59	637	58	647	▼1	<b>▼</b> 10
Milan	60	636	69	636	<b>A</b> 9	0
Riyadh	61	635	73	632	▲12	<b>▲</b> 3
Mexico City	62	634	75	630	<b>▲</b> 13	<b>4</b>
Prague	63	633	61	644	▼2	▼11
Gibraltar	64	632	54	651	▼10	▼19
Manila	65	631	66	639	<b>1</b>	▼8
Isle of Man	66	630	72	633	<b>A</b> 6	▼3
Cayman Islands	67	629	64	641	▼3	<b>▼</b> 12
Budapest	68	628	63	642	▼5	▼14
Athens	69	627	67	638	▼2	▼11
Kuala Lumpur	70	626	70	635	0	▼9
Moscow	71	625	71	634	0	▼9
Istanbul	72	624	77	628	<b>\$</b> 5	▼4
Rome	73	623	68	637	<b>▼</b> 5	▼14
Warsaw	74	622	76	629	<b>A</b> 2	▼7
Johannesburg	75	616	74	631	<b>▼</b> 1	<b>▼</b> 15
Bahrain	76	615	79	609	<b>▲</b> 3	<b>A</b> 6
British Virgin Islands	77	589	78	619	<b>1</b>	▼30

#### The Three SCI Dimensions

We develop the SCI ratings and ranking by looking at three separate dimensions of technology and innovation development:

- Innovation Support the approach taken to regulation and support for the innovation and technology industry provided by the commercial ecosystem.
- Creative Intensity the extent to which technology and innovative industries are embedded in the economy of the centre.
- Delivery Capability the quality of the innovation work being undertaken in the centre.

We develop ratings for each dimension, which are ranked equally in creating the SCI. Full details of the separate ratings for each dimension are at Appendix 1. Table 2 shows the rating details for each dimension for the top 20 centres in SCI 10.

Table 2 | Rating Details For SCI 10 Dimensions: Top 20 Centres in SCI 10

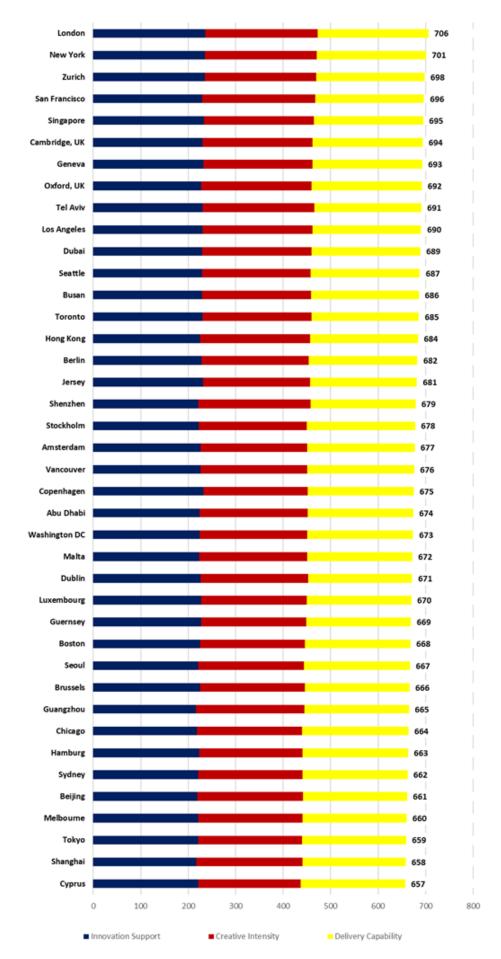
SCI 10	Contro	lunovetio	n Cunnout		mensions	Delivery Capability		
Ranking	Centre		n Support		Intensity			
		Rank	Rating	Rank	Rating	Rank	Rating	
1	London	1	236	2	236	1	233	
2	New York	3	235	2	236	6	230	
3	Zurich	2	235	6	234	12	229	
4	San Francisco	12	229	1	238	8	229	
5	Singapore	4	233	10	231	5	230	
6	Cambridge, UK	8	230	8	232	2	232	
7	Geneva	5	232	13	230	4	231	
8	Oxford, UK	17	227	7	233	3	232	
9	Tel Aviv	8	230	5	236	18	225	
10	Los Angeles	8	230	10	231	8	229	
11	Dubai	13	229	12	231	8	229	
12	Seattle	13	229	16	229	7	229	
13	Busan	13	229	13	230	14	227	
14	Toronto	8	230	13	230	17	225	
15	Hong Kong	23	225	8	232	14	227	
16	Berlin	16	228	24	225	8	229	
17	Jersey	7	231	23	226	20	224	
18	Shenzhen	32	221	2	236	28	222	
19	Stockholm	30	222	18	228	13	228	
20	Amsterdam	20	226	25	225	16	226	

This analysis shows the effect that particular dimensions have on the placing of centres in the SCI. In particular:

- Leading centres have a spread of strengths across the dimensions.
- Individual centres have differing areas of strength. San Francisco and Singapore, for example, are closely matched in their overall rank, but have different profiles in the dimensions.

The SCI 10 results showing the contribution of each dimension for the top 40 centres are shown in Chart 1.

Chart 1 | SCI 10: Contribution Of The Dimensions To Overall Ratings: Top 40 Centres



### **Top Five Centres**

640

SCI 1

SCI 2

Among the top five centres in the SCI, the ratings have narrowed further in SCI 10. London leads and New York regained its second position from Zurich.

740

720

700

London

680

New York

Zurich

660

San Francisco

Chart 2 | The Top Five Centres Over Time

The top places in Innovation Support in SCI 10 go to London, Zurich, and New York. Singapore is in fourth place and San Francisco is last in this group and ranks 12th on this measure in the overall index.

SCI 6

SCI 7

SCI 8

SCI 5

Singapore

SCI 10

SCI 9

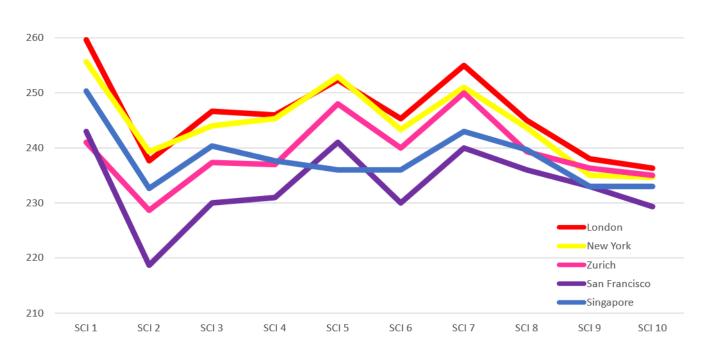


Chart 3 | Top Five Centres - Innovation Support - Ratings Over Time

SCI 4

SCI 3

In the Creative Intensity dimension, San Francisco is first, with London and New York level in second place. Zurich (6th overall) and Singapore (10th overall) complete the top five.

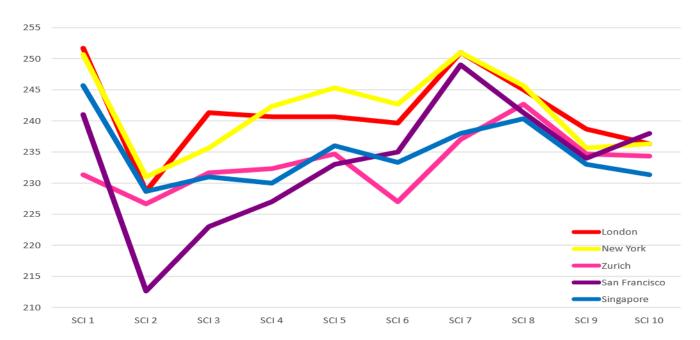
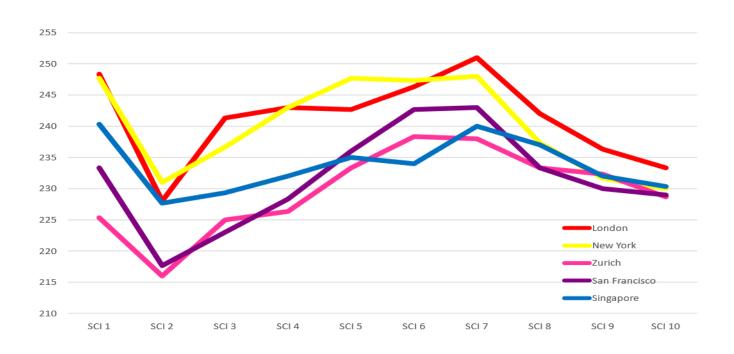


Chart 4 | Top Five Centres - Creative Intensity Ratings Over Time

For Delivery Capability, London takes first place, followed in this group by Singapore (5th overall) and New York (6th overall). San Francisco and Zurich follow.



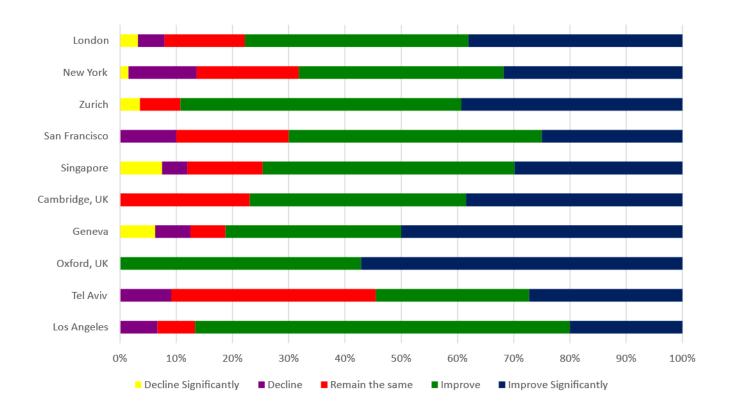


### SCI 10: Further Analysis

#### **Future Performance**

We asked respondents to the SCI survey to assess whether the centres they rated were likely to improve, decline, or stay the same in relation to their innovation and technology offerings over the next two to three years. The results for the top 10 centres are shown in Chart 6. For all centres in this group, the majority of respondents thought the centre would improve over this period. Oxford, UK has the highest proportion of those rating its performance who consider that it will improve or improve significantly over the next period, with Zurich, Geneva, and Los Angeles scoring over 80% on this measure.

Chart 6 | Future Performance - Top 10 Centres



"Transparency and consistency of regulatory implementation is vital."

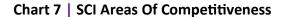
CHAIRMAN, INVESTMENT FIRM, SHANGHAI

### **Areas Of Competitiveness**

SCI 10 is created using 132 instrumental factors which relate to a range of aspects of competitiveness, including measures relating to technology development. These factors are grouped into six broad areas of competitiveness: Technology, Financial Services, Reputational, Business Environment, Human Capital, and Infrastructure.

Areas of

These areas and the instrumental factor themes which comprise each area are shown in Chart 7.



**Financial** 

Services Depth And

**Breadth Of** 

Capital

**Market Liquidity** 

**Economic** 

Output

Technology

**Factors** 

Legal

**Documentation** 

Identity

**Payments** 



**Environment** 

Institutional &

Regulatory

**Environment** 

**Quality Of Life** 

**Education &** 

Development

Infrastructure

Sustainable

Development

To assess centres' technology and innovation offerings against each of these areas, the SCI model is run for each area separately. The top ranked 15 centres in each sub-index are shown in Table 3.

And Cultural

Diversity Comparative

**Positioning With** 

Other Centres

Table 3 | Top 15 Centres By Areas Of Competitiveness

Rank	Technology	Business Environment	Human Capital	Infrastructure	Financial Sector Development	Reputational
1	London	London	London	London	London	London
2	New York	New York	New York	New York	New York	New York
3	Singapore	Singapore	Singapore	Singapore	Singapore	Singapore
4	Zurich	Zurich	Zurich	Zurich	Los Angeles	Zurich
5	Hong Kong	Seattle	Cambridge, UK	Hong Kong	Zurich	Geneva
6	Tel Aviv	Busan	Seattle	San Francisco	Hong Kong	Stockholm
7	Stockholm	Geneva	Dubai	Cambridge, UK	San Francisco	Los Angeles
8	Los Angeles	Tel Aviv	Busan	Geneva	Busan	Busan
9	Dubai	Dubai	San Francisco	Oxford, UK	Dubai	Berlin
10	Geneva	Cambridge, UK	Geneva	Busan	Berlin	Shenzhen
11	Busan	Hong Kong	Oxford, UK	Tel Aviv	Geneva	Dubai
12	San Francisco	Amsterdam	Los Angeles	Los Angeles	Cambridge, UK	Cambridge, UK
13	Toronto	San Francisco	Hong Kong	Dubai	Jersey	Hong Kong
14	Berlin	Oxford, UK	Toronto	Shenzhen	Oxford, UK	San Francisco
15	Shenzhen	Los Angeles	Shenzhen	Amsterdam	Luxembourg	Seattle
www.l	longfinance.net		10	 )		www.zven.com

The leading centres in the index have a balance of strengths across all six areas of competitiveness. Some centres have distinct areas of strength, for example, Dubai and Busan are strong in human capital compared with their overall rank, Seattle in business environment, and Hong Kong in Technology.

#### **Index Ranking For Technology**

As shown in Table 3, we have conducted an analysis of the assessments provided by respondents using only the instrumental factors that have a direct relationship to technology. We compare this analysis with the main index in Table 4. The plus and minus figures show the difference between the main index and the index calculated using only technology factors.

Comparing the ranking using only technology factors with the overall SCI ranking makes minor differences for some centres. However, in the technology ranking, Hong Kong and Stockholm gain a significant advantage. Cambridge, Oxford, and Seattle do not feature in the top 15 on this measure.

Table 4 | Top 15 Centres Using All Factors And Only Technology Factors

SCI 10						
Rank	All Factors	Technology Factors				
1	London	London				
2	New York	New York				
3	Zurich	Singapore (+2)				
4	San Francisco	Zurich (-1)				
5	Singapore	Hong Kong (+10)				
6	Cambridge, UK	Tel Aviv (+3)				
7	Geneva	Stockholm (+12)				
8	Oxford, UK	Los Angeles (+2)				
9	Tel Aviv	Dubai (+2)				
10	Los Angeles	Geneva (-3)				
11	Dubai	Busan (+2)				
12	Seattle	San Francisco (-8)				
13	Busan	Toronto (+1)				
14	Toronto	Berlin (+2)				
15	Hong Kong	Shenzhen (+3)				

Table 5 shows the top 10 instrumental factors in terms of their correlation with the SCI ranking. This shows the impact of both finance and FinTech measures, but also the contribution of wealth, safe and effective governance, and the availability of talent in the development of an advanced technology ecosystem.

Table 5 | Top 10 Instrumental Factors By R Squared Correlation

Instrumental Factor	R Squared
Global Financial Centre Index	0.615
The Global Green Finance Index	0.585
Fintech Activity Index	0.568
Urban Mobility Readiness Index	0.546
Global Innovation Index	0.527
FinTech Index (GFCI)	0.525
Adjusted net national income per capita	0.512
Government Effectiveness	0.488
Safe Cities	0.459
World Talent Rankings	0.437

Focusing only on the instrumental factors which relate to technology, the factors most closely correlated in terms of their R Squared relationship with the SCI ratings are set out in Table 6.

Table 6 | Top 10 Technology Instrumental Factors By R Squared Correlation

Technology Factors	R Squared
Fintech Activity Index	0.568
FinTech Index (GFCI)	0.525
Technological Infrastructure	0.405
Scientific Infrastructure	0.399
Government AI Readiness Index	0.387
Creative outputs	0.330
Knowledge and technology outputs	0.306
Telecommunication Infrastructure Index	0.302
Smart City Index	0.265
Global Crypto Ranking	0.255

"There is a case for providing tax benefits to encourage the development of technology talent."

HEAD OF AUTOMATION PLATFORMS, BANKING, HONG KONG

### **Commentary On Factors**

The SCI survey asks respondents to comment on factors that affect the development of technology and innovation in centres, and in particular regulation, taxation, and the availability of skills. The results are summarised in Table 7.

Table 7 | Commentary On Areas Of Competitiveness

Area Of Competitiveness	Number Of Mentions	Main Themes
Regulatory Environment	51	<ul> <li>Transparency and consistency of regulation are seen as very important.</li> <li>A controlled and monitored development environment is needed to foster innovation.</li> </ul>
Taxation	40	<ul> <li>Taxation can provide incentives, both for innovative technology, but also to support talent development.</li> <li>Taxation is less important in driving investment decisions than the regulatory framework and availability of talent.</li> </ul>
The Availability Of Skills	43	<ul> <li>It is important that talent development includes a focus on new and emerging technologies to retain a competitive advantage.</li> <li>Cross-border movement is an important factor.</li> <li>Technology has a role in improving access to opportunities for all.</li> </ul>

"Incentives must be given for young people to pursue education in the field of technology. Because of a lack of human capital, expats are currently needed to work and it would be better if local people were trained instead."

COMPLIANCE OFFICER, PROFESSIONAL SERVICES FIRM, MAURITIUS

### Reputation

We analyse the reputational advantage of centres by comparing the average assessment given in the survey to the overall SCI 10 rating. Centres with a high reputational advantage are perceived by respondents to the survey to be performing better than the underlying data may suggest and may need to pay attention to the strength of their underlying ecosystem. Those with a negative reputational advantage may need to market their strengths better to achieve a truer perception of their performance. The top 15 and lowest 15 centres on this measure are shown in Tables 8 and 9.

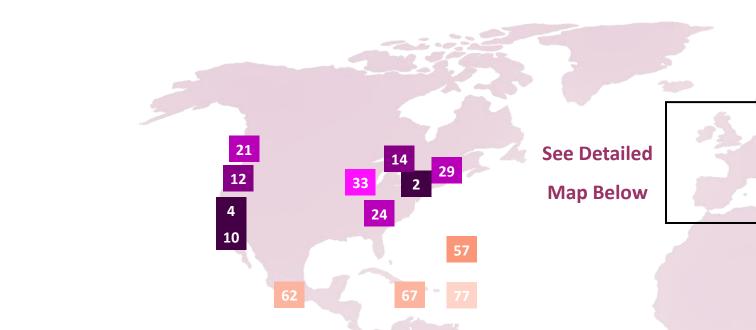
**Table 8 | Top 15 Centres By Reputational Advantage** 

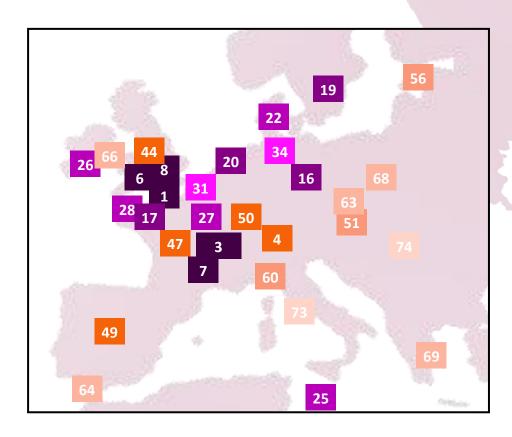
Centre - Top 15	Weighted Average Assessment	SCI 10 Rating	SCI 10 Reputational Advantage
Busan	871	686	185
Tel Aviv	853	691	162
Munich	790	654	136
San Francisco	819	696	123
Zurich	818	698	120
Brussels	781	666	115
Stockholm	789	678	111
Los Angeles	796	690	106
Guangzhou	767	665	102
Oxford, UK	790	692	98
London	795	706	89
New York	788	701	87
Toronto	761	685	76
Geneva	767	693	74
Luxembourg	743	670	73

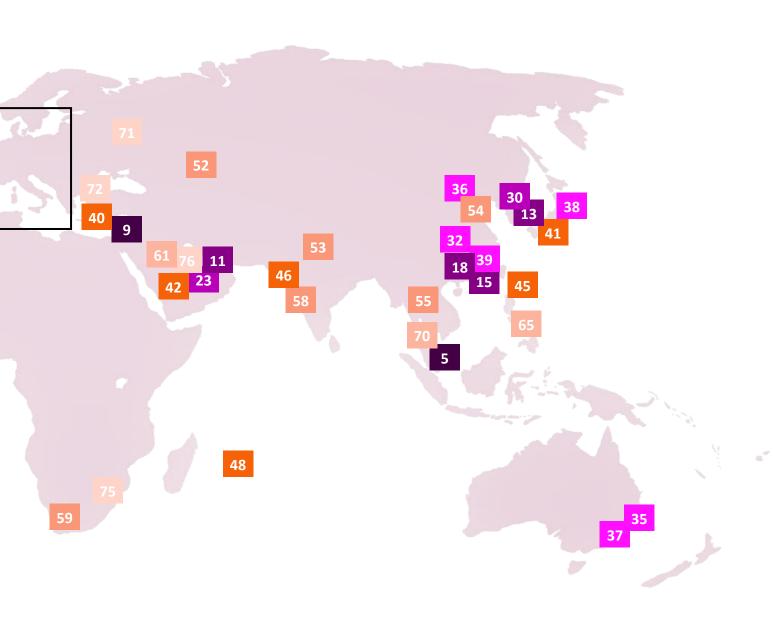
Table 9 | Lowest 15 Centres By Reputational Advantage

Centre - Lowest 15	Weighted Average Assessment	SCI 10 Rating	SCI 10 Reputational Advantage
Isle of Man	570	630	-60
Manila	568	631	-63
Malta	602	672	-70
Johannesburg	536	616	-80
Gibraltar	548	632	-84
Bangkok	544	641	-97
Moscow	524	625	-101
British Virgin Islands	488	589	-101
Rome	519	623	-104
Astana	534	644	-110
Cape Town	524	637	-113
Tokyo	528	659	-131
Athens	482	627	-145
Seoul	502	667	-165
Bahrain	409	615	-206
	4.4		

## The SCI 10 World - Centres In The Index







The numbers indicate the rank of each centre in SCI 10.

An interactive map showing the data for each centre is at <a href="https://www.longfinance.net/programmes/financial-centre-futures/smart-centres-index/sci-10-explore-data/sci-10-map/">https://www.longfinance.net/programmes/financial-centre-futures/smart-centres-index/sci-10-explore-data/sci-10-map/</a>

### **Regional Analysis**

In our analysis of the SCI data, we look at six regions of the world to explore centres' strengths in technology and finance.

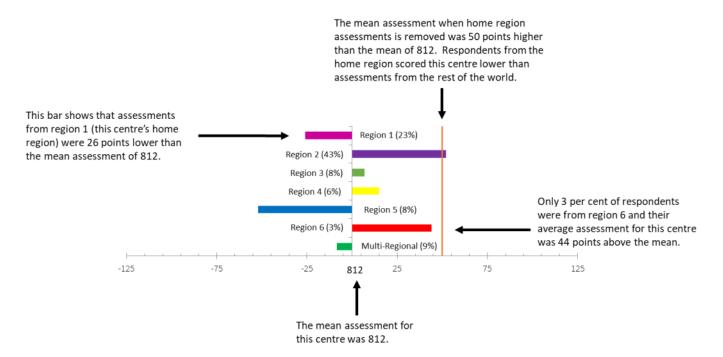
Alongside the ranks and ratings of centres, we investigate the average assessments received by regions and centres in more detail. We display this analysis in charts, which show:

- The mean assessment provided to that centre.
- The difference in the mean assessment when home region assessments are removed from the analysis.
- The difference between the mean and the assessments provided by respondents based in other regional centres.
- The proportion of assessments provided by each region.

Chart 8 shows an example of this analysis. Coloured bars to the left of the vertical axis indicate that respondents from that region gave lower than average assessments. Bars to the right indicate respondents from that region gave higher than average assessments. Assessments given to a centre by people based in that centre are excluded to remove home centre bias.

The additional vertical axis (in red) shows the mean of assessments when assessments from the home region are removed. The percentage figure noted by each region indicates the percentage of the total number of assessments that are from that region.

Chart 8 | Example: Assessments Compared With The Mean For A Centre



### North America

- All North American centres featured in SCI 10 are in the top 35 in the world.
- Canadian centres improved in the rankings, as did New York and San Francisco.
- Only respondents from Western Europe and North America score New York lower than the overall average, whereas respondents from Western Europe, Asia/Pacific, and Latin America & The Caribbean score San Francisco below the global average.

Table 10 | North American Centres In SCI 10: Ranks And Ratings

Combra	SC	10	S	CI 9	Change In	Change In
Centre	Rank	Rating	Rank	Rating	Rank	Rating
New York	2	701	3	702	<b>1</b>	<b>▼</b> 1
San Francisco	4	696	8	697	<b>A</b> 4	▼1
Los Angeles	10	690	6	699	▼4	<b>▼</b> 9
Seattle	12	687	11	694	▼1	▼7
Toronto	14	685	19	686	<b>▲</b> 5	▼1
Vancouver	21	676	24	681	<b>▲</b> 3	▼5
Washington DC	24	673	23	682	▼1	<b>▼</b> 9
Boston	29	668	21	684	▼8	<b>▼</b> 16
Chicago	33	664	25	680	▼8	<b>▼</b> 16

Table 11 | North American Centres In SCI 10: SCI Dimensions

Contro	Innovation	Innovation Support		Creative Intensity		Delivery Capability	
Centre	Rank	Rating	Rank	Rating	Rank	Rating	
New York	3	235	2	236	6	230	
San Francisco	12	229	1	238	8	229	
Los Angeles	8	230	10	231	8	229	
Seattle	13	229	16	229	7	229	
Toronto	8	230	13	230	17	225	
Vancouver	20	226	25	225	19	225	
Washington DC	26	224	21	227	24	222	
Boston	23	225	33	221	25	222	
Chicago	46	218	31	222	21	224	



Chart 9 | North American Centres In SCI 10: Top Five Centres Over Time

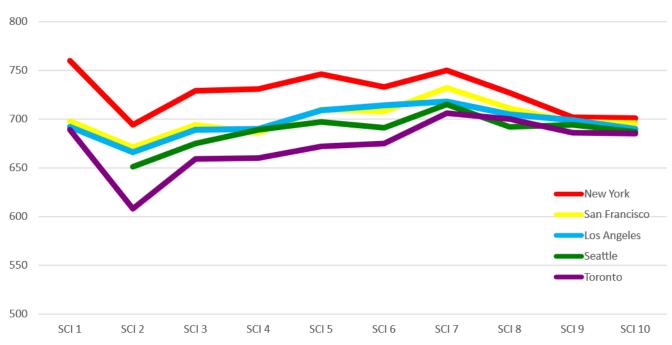


Chart 10 | New York Average Assessments – Difference From The Mean

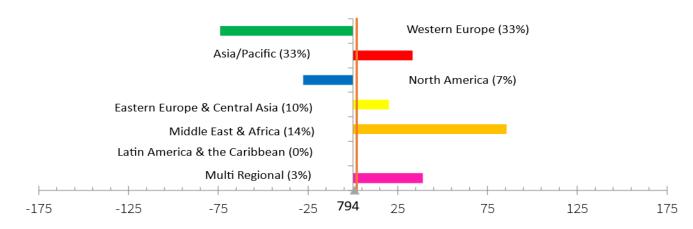
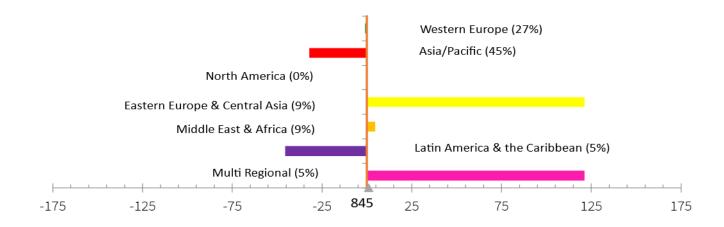


Chart 11 | San Francisco Average Assessments – Difference From The Mean



## Asia/Pacific

- Singapore is the only Asia/Pacific centre in the world top 10 and maintained its leading position in the region, with Busan moving into second place.
- Thirteen out of the 20 centres in the region maintained or improved their ranking.
- Only respondents from Asia/Pacific rated Singapore and Busan lower than the overall average.

Table 12 | Top 15 Asia/Pacific Centres In SCI 10: Ranks And Ratings

Combus	SC	10	SC	SCI 9		Change In
Centre	Rank	Rating	Rank	Rating	Rank	Rating
Singapore	5	695	7	698	▲2	<b>▼</b> 3
Busan	13	686	14	691	<b>1</b>	<b>▼</b> 5
Hong Kong	15	684	12	693	<b>▼</b> 3	<b>▼</b> 9
Shenzhen	18	679	22	683	<b>A</b> 4	<b>▼</b> 4
Seoul	30	667	29	676	▼1	▼9
Guangzhou	32	665	37	668	<b>▲</b> 5	▼3
Sydney	35	662	36	669	<b>1</b>	▼7
Beijing	36	661	30	675	<b>▼</b> 6	▼14
Melbourne	37	660	43	662	<b>A</b> 6	▼2
Tokyo	38	659	33	672	<b>▼</b> 5	▼13
Shanghai	39	658	35	670	▼4	▼12
Osaka	41	656	50	655	<b>▲</b> 9	<b>1</b>
Taipei	45	652	47	658	▲2	<b>▼</b> 6
GIFT City-Gujarat	46	650	42	663	▼4	<b>▼</b> 13
New Delhi	53	643	62	643	<b>▲</b> 9	0

Table 13 | Top 15 Asia/Pacific Centres In SCI 10: SCI Dimensions

Contro	Innovation	n Support	Creative Intensity		Delivery Capability	
Centre	Rank	Rating	Rank	Rating	Rank	Rating
Singapore	4	233	10	231	5	230
Busan	13	229	13	230	14	227
Hong Kong	23	225	8	232	14	227
Shenzhen	32	221	2	236	28	222
Seoul	32	221	28	223	23	223
Guangzhou	48	216	16	229	32	220
Sydney	32	221	35	220	29	221
Beijing	41	219	28	223	38	219
Melbourne	32	221	35	220	38	219
Tokyo	32	221	39	219	38	219
Shanghai	47	217	27	224	47	217
Osaka	41	219	42	216	29	221
Taipei	62	213	35	220	38	219
GIFT City-Gujarat	48	216	50	214	32	220
New Delhi	53	215	50	214	57	214

Chart 12 | Asia/Pacific Centres In SCI 10: Top Five Centres Over Time

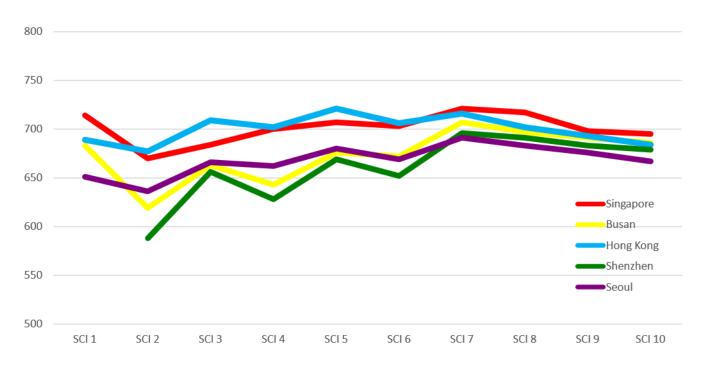


Chart 13 | Singapore Average Assessments – Difference From The Mean

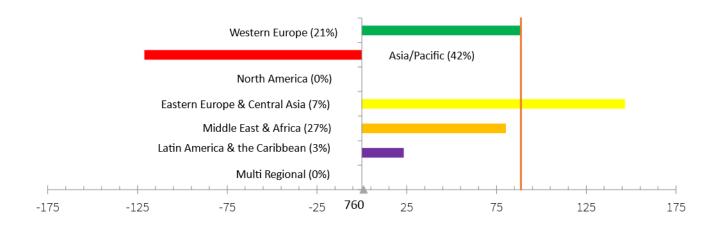
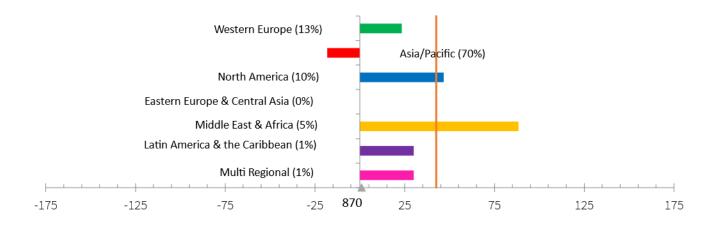


Chart 14 | Busan Average Assessments – Difference From The Mean



### Western Europe

- London takes the top position in the region, with Zurich, Cambridge, Geneva, and Oxford also in the top 10.
- Fifteen of the 26 centres in the region retained or improved their ranking.
- Respondents from Western Europe, the Middle East & Africa, and Latin America & The Caribbean rated London lower than average, while those from Asia/Pacific and Eastern Europe & Central Europe scored Zurich below the global average.

Table 14 | Top 15 Western European Centres In SCI 10: Ranks And Ratings

Combra	SCI	SCI 10		CI 9		
Centre	Rank	Rating	Rank	Rating	Change In	Change In
London	1	706	1	713	0	▼7
Zurich	3	698	2	703	<b>▼</b> 1	<b>▼</b> 5
Cambridge, UK	6	694	5	700	▼1	▼6
Geneva	7	693	9	696	<b>A</b> 2	▼3
Oxford, UK	8	692	4	701	<b>▼</b> 4	<b>▼</b> 9
Berlin	16	682	20	685	<b>A</b> 4	▼3
Jersey	17	681	26	679	<b>▲</b> 9	<b>A</b> 2
Stockholm	19	678	16	689	<b>▼</b> 3	▼11
Amsterdam	20	677	18	687	▼2	▼10
Copenhagen	22	675	15	690	<b>▼</b> 7	▼15
Malta	25	672	17	688	▼8	▼16
Dublin	26	671	41	664	<b>▲</b> 15	<b>A</b> 7
Luxembourg	27	670	27	678	0	▼8
Guernsey	28	669	45	660	▲17	<b>▲</b> 9
Brussels	31	666	31	674	0	▼8

Table 15 | Top 15 Western European Centres In SCI 10: SCI Dimensions

Centre	Innovat	ion Support	Creativ	Creative Intensity		Delivery Capability	
Centre	Rank	Rating	Rank	Rating	Rank	Rating	
London	1	236	2	236	1	233	
Zurich	2	235	6	234	12	229	
Cambridge, UK	8	230	8	232	2	232	
Geneva	5	232	13	230	4	231	
Oxford, UK	17	227	7	233	3	232	
Berlin	16	228	24	225	8	229	
Jersey	7	231	23	226	20	224	
Stockholm	30	222	18	228	13	228	
Amsterdam	20	226	25	225	16	226	
Copenhagen	5	232	38	220	22	223	
Malta	28	223	18	228	29	221	
Dublin	20	226	21	227	44	218	
Luxembourg	17	227	28	223	32	220	
Guernsey	17	227	31	222	32	220	
Brussels	23	225	33	221	32	220	

Chart 15 | Western European Centres In SCI 10: Top Five Centres Over Time

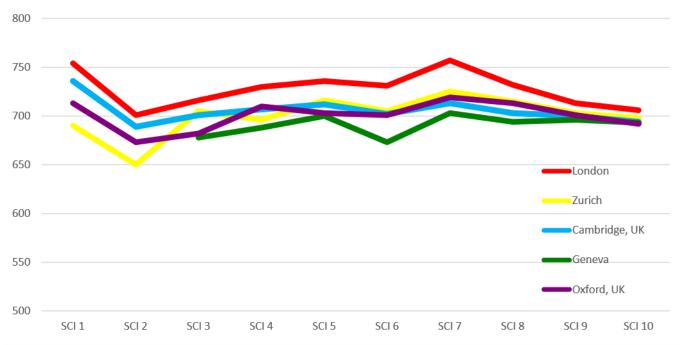


Chart 16 | London Average Assessments – Difference From The Mean

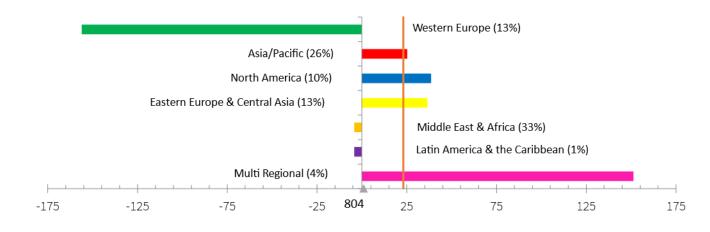
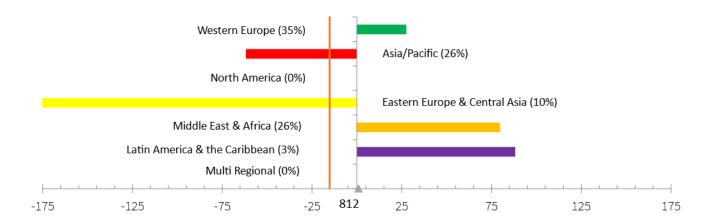


Chart 17 | Zurich Average Assessments – Difference From The Mean



### Middle East & Africa

- Tel Aviv continues to lead the region, with Dubai in second place.
- Mauritius rose eight places and Riyadh gained 12 places in the rankings.
- Respondents from Asia/Pacific and the Middle East & Africa score Tel Aviv higher than average, while respondents from Western Europe, Asia/Pacific, and Latin America & The Caribbean score Dubai lower than the overall average.

Table 16 | Middle Eastern & African Centres In SCI 10: Ranks And Ratings

Centre	SCI	SCI 10		SCI 9		Change In
Centre	Rank	Rating	Rank	Rating	Rank	Rating
Tel Aviv	9	691	10	695	<b>1</b>	<b>▼</b> 4
Dubai	11	689	13	692	<b>A</b> 2	▼3
Abu Dhabi	23	674	28	677	<b>\$</b> 5	▼3
Doha	42	655	32	673	▼10	▼18
Mauritius	48	648	56	649	▲8	▼1
Cape Town	59	637	58	647	▼1	▼10
Riyadh	61	635	73	632	<b>▲</b> 12	<b>▲</b> 3
Johannesburg	75	616	74	631	▼1	▼15
Bahrain	76	615	79	609	<b>▲</b> 3	<b>A</b> 6

Table 17 | Middle Eastern & African Centres In SCI 10: SCI Dimensions

Centre	Innovati	Innovation Support		Creative Intensity		Capability
Centre	Rank	Rating	Rank	Rating	Rank	Rating
Tel Aviv	8	230	5	236	18	225
Dubai	13	229	12	231	8	229
Abu Dhabi	26	224	18	228	25	222
Doha	39	220	42	216	38	219
Mauritius	48	216	40	218	57	214
Cape Town	53	215	60	209	62	213
Riyadh	67	212	57	211	64	212
Johannesburg	67	212	76	197	71	207
Bahrain	74	207	74	200	70	208

"Busan has made impressive efforts to develop in smart technology."

SCIENTIST, TECHNOLOGY SECTOR, OSAKA

Chart 18 | Middle Eastern & African Centres In SCI 10: Top Five Centres Over Time

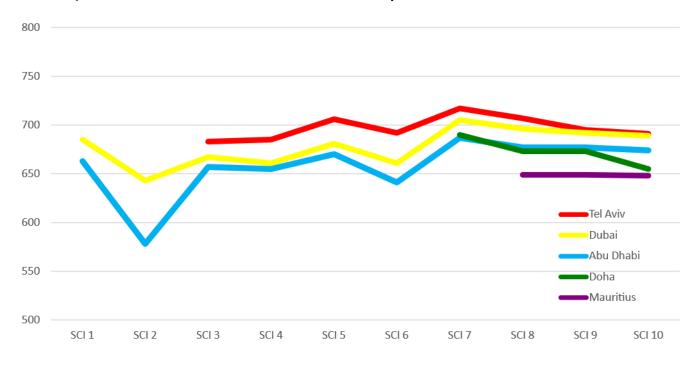


Chart 19 | Tel Aviv Average Assessments – Difference From The Mean

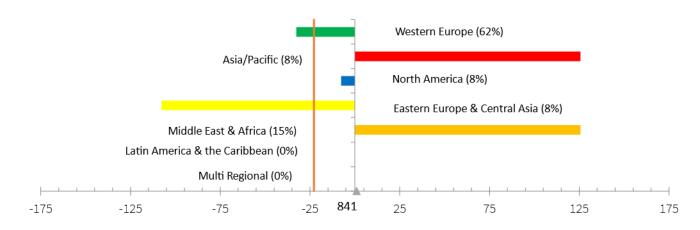
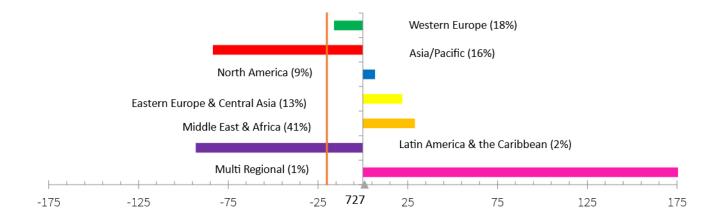


Chart 20 | Dubai Average Assessments - Difference From The Mean



### Eastern Europe & Central Asia

- Cyprus maintained its lead in the region, and rose four rank places, with Astana now in second position in the region.
- All centres in the region fell in the ratings.
- Respondents from North America and the Middle East & Africa rated Cyprus's performance above average, with over 80% of those who rated Cyprus coming from the Middle East & Africa.
- Respondents from Western Europe and Eastern Europe & Central Asia assessed Astana lower than the overall average.

Table 18 | Eastern European & Central Asian Centres In SCI 10: Ranks And Ratings

Centre	SCI 10		SCI 9		Change In	Change In
Centre	Rank	Rating	Rank	Rating	Rank	Rating
Cyprus	40	657	44	661	<b>4</b>	<b>▼</b> 4
Astana	52	644	49	656	<b>▼</b> 3	<b>▼</b> 12
Tallinn	56	640	53	652	<b>▼</b> 3	<b>▼</b> 12
Prague	63	633	61	644	▼2	▼11
Budapest	68	628	63	642	▼5	▼14
Athens	69	627	67	638	▼2	▼11
Moscow	71	625	71	634	0	<b>▼</b> 9
Istanbul	72	624	77	628	<b>\$</b> 5	▼4
Warsaw	74	622	76	629	<b>A</b> 2	▼7

Table 19 | Eastern European & Central Asian Centres In SCI 10: SCI Dimensions

Centre	Innovat	Innovation Support		Creative Intensity		Delivery Capability	
	Rank	Rating	Rank	Rating	Rank	Rating	
Cyprus	32	221	42	216	32	220	
Astana	41	219	58	210	53	215	
Tallinn	58	214	55	212	57	214	
Prague	58	214	53	213	72	206	
Budapest	32	221	73	202	75	205	
Athens	67	212	70	205	66	210	
Moscow	53	215	72	204	72	206	
Istanbul	76	202	67	207	53	215	
Warsaw	62	213	69	206	77	203	

Chart 21 | Eastern European & Central Asian Centres In SCI 10: Top Five Centres Over Time



Chart 22 | Cyprus Average Assessments – Difference From The Mean

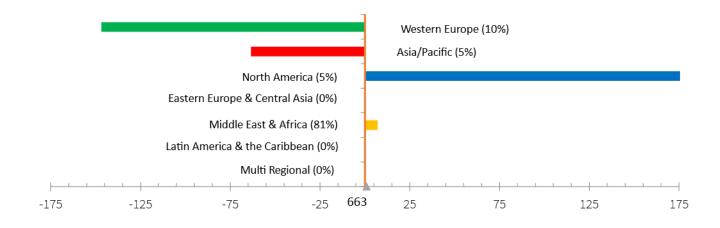
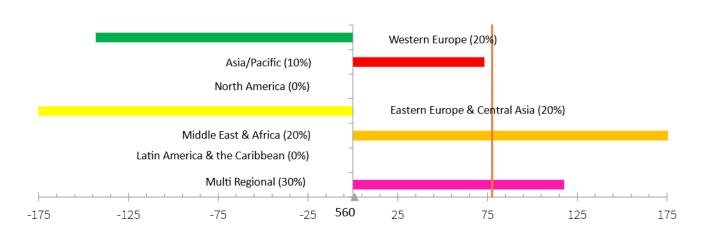


Chart 23 | Astana Average Assessments – Difference From The Mean



### Latin America & The Caribbean

- Bermuda continued to lead in the region and rose 2 places in the rankings.
- Mexico City rose 13 places to take second position in the region.
- Bermuda was rated highly by respondents from Western Europe and very much higher than average by those from North America.
- People from Asia/Pacific rated Mexico City lower than the global average.

Table 20 | Latin America & The Caribbean Centres In SCI 10: Ranks And Ratings

Centre	SCI	SCI 10		SCI 9		Change In
Centre	Rank	Rating	Rank	Rating	Rank	Rating
Bermuda	57	639	59	646	▲2	▼7
Mexico City	62	634	75	630	<b>▲</b> 13	<b>4</b>
Cayman Islands	67	629	64	641	<b>▼</b> 3	▼12
British Virgin Islands	77	589	78	619	<b>1</b>	▼30

Table 21 | Latin America & The Caribbean Centres In SCI 10: SCI Dimensions

Centre	Innovation Support		Creative	Creative Intensity		Delivery Capability	
Centre	Rank	Rating	Rank	Rating	Rank	Rating	
Bermuda	53	215	60	209	53	215	
Mexico City	67	212	60	209	62	213	
Cayman Islands	58	214	75	199	51	216	
British Virgin Islands	77	191	77	195	76	203	

Chart 24 | Latin America & The Caribbean Centres In SCI 10: Centres Over Time

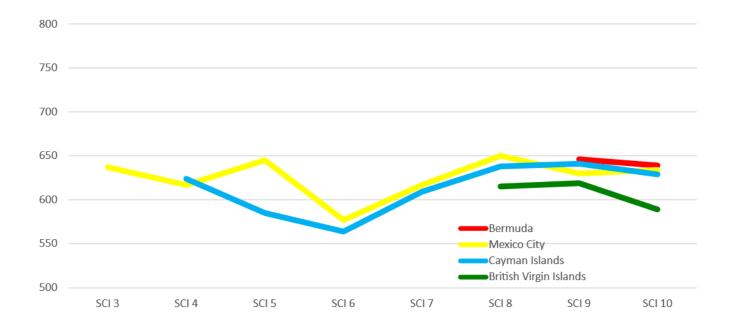


Chart 25 | Bermuda Average Assessments – Difference From The Mean

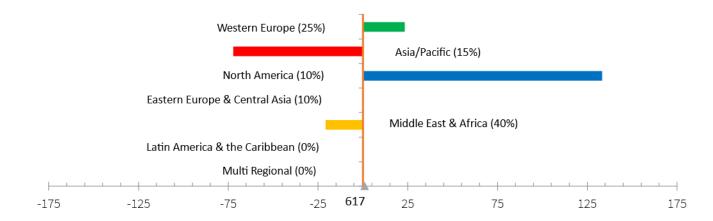
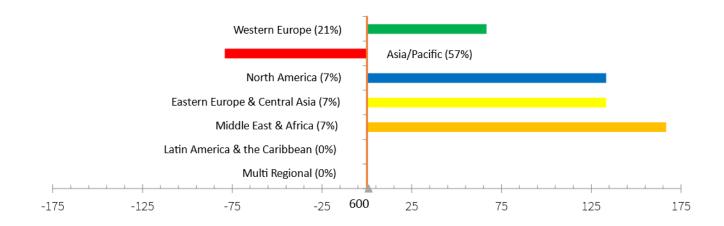


Chart 26 | Mexico City Average Assessments – Difference From The Mean



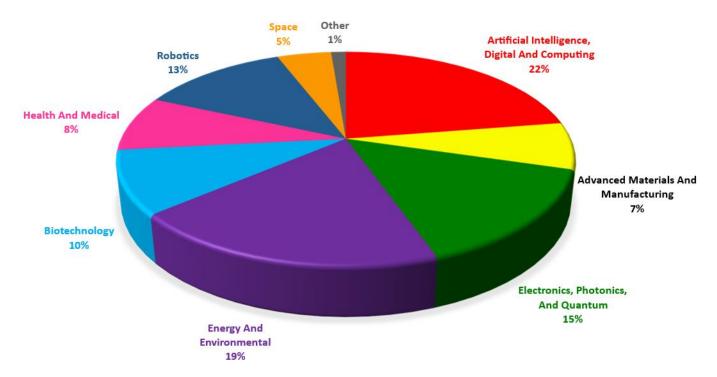


### **Technology Development**

We asked respondents to the Smart Centres Index survey for their views on what technological developments are likely to have the most impact on industry over the next five years. The results are shown in Chart 27. Almost a quarter of respondents identified Artificial Intelligence, Digital and Computing as having most impact, with Energy and Environmental Technology, and Electronics, Photonics, and Quantum technology mentioned by 19% and 15% of respondents.

In the "Other" category, people mentioned Blockchain Technology And Digital Assets, and Quantum Computing-as-a Service, Finance, and Marketing.







# **Appendix 1: Assessment Details**

Table 22 | Details Of SCI Assessments By Centre

Centre         Rank         Rating         Number         Average         St. Dev           London         1         706         70         804         192           New York         2         701         70         794         192           Zurich         3         698         31         812         183           San Francisco         4         696         22         845         161           Singapore         5         695         71         760         215           Cambridge, UK         6         694         30         758         187           Geneva         7         693         17         794         241           Oxford, UK         8         692         10         803         175           Tel Aviv         9         691         13         841         151           Los Angeles         10         690         17         788         177           Dubai         11         689         88         727         203           Seattle         12         687         7         662         159           Busan         13         686         80         870<	Centre	SCI 10	SCI 10	Assessments			
New York         2         701         70         794         192           Zurich         3         698         31         812         183           San Francisco         4         696         22         845         161           Singapore         5         695         71         760         215           Cambridge, UK         6         694         30         758         187           Geneva         7         693         17         794         241           Oxford, UK         8         692         10         803         175           Tel Aviv         9         691         13         841         151           Los Angeles         10         690         17         788         177           Dubai         11         689         88         727         203           Seattle         12         687         7         662         159           Busan         13         686         80         870         180           Toronto         14         685         19         768         121           Hong Kong         15         684         62         680	Centre	Rank	Rating	Number	Average	St. Dev	
Zurich         3         698         31         812         183           San Francisco         4         696         22         845         161           Singapore         5         695         71         760         215           Cambridge, UK         6         694         30         758         187           Geneva         7         693         17         794         241           Oxford, UK         8         692         10         803         175           Tel Aviv         9         691         13         841         151           Los Angeles         10         690         17         788         177           Dubai         11         689         88         727         203           Seattle         12         687         7         662         159           Busan         13         686         80         870         180           Toronto         14         685         19         768         121           Hong Kong         15         684         62         680         220           Berlin         16         682         21         730	London	1	706	70	804	192	
San Francisco         4         696         22         845         161           Singapore         5         695         71         760         215           Cambridge, UK         6         694         30         758         187           Geneva         7         693         17         794         241           Oxford, UK         8         692         10         803         175           Tel Aviv         9         691         13         841         151           Los Angeles         10         690         17         788         177           Dubai         11         689         88         727         203           Seattle         12         687         7         662         159           Busan         13         686         80         870         180           Toronto         14         685         19         768         121           Hong Kong         15         684         62         680         220           Berlin         16         682         21         730         221           Jersey         17         681         19         656	New York	2	701	70	794	192	
Singapore         5         695         71         760         215           Cambridge, UK         6         694         30         758         187           Geneva         7         693         17         794         241           Oxford, UK         8         692         10         803         175           Tel Aviv         9         691         13         841         151           Los Angeles         10         690         17         788         177           Dubai         11         689         88         727         203           Seattle         12         687         7         662         159           Busan         13         686         80         870         180           Toronto         14         685         19         768         121           Hong Kong         15         684         62         680         220           Berlin         16         682         21         730         221           Jersey         17         681         19         656         263           Shenzhen         18         679         8         671	Zurich	3	698	31	812	183	
Cambridge, UK 6 694 30 758 187 Geneva 7 693 17 794 241 Oxford, UK 8 692 10 803 175 Tel Aviv 9 691 13 841 151 Los Angeles 10 690 17 788 177 Dubai 11 689 88 727 203 Seattle 12 687 7 662 159 Busan 13 686 80 870 180 Toronto 14 685 19 768 121 Hong Kong 15 684 62 680 220 Berlin 16 682 21 730 221 Jersey 17 681 19 656 263 Shenzhen 18 679 8 671 255 Stockholm 19 678 11 803 106 Amsterdam 20 677 25 732 244 Vancouver 21 676 10 730 156 Copenhagen 22 675 12 728 233 Abu Dhabi 23 674 36 684 221 Washington DC 24 673 12 719 222 Malta 25 672 12 614 207 Dublin 26 671 20 587 306 Luxembourg 27 670 31 714 202 Guernsey 28 669 12 619 242 Boston 29 668 21 629 222 Seoul 30 667 49 525 285 Brussels 31 666 9 781 115 Guangzhou 32 665 5 760 143 Chicago 33 664 16 692 195 Hamburg 34 663 7 705 116 Sydney 35 662 13 685 242 Beijing 36 661 36 660 201 Melbourne 37 660 8 675 162 Tokyo 38 659 44 558 293	San Francisco	4	696	22	845	161	
Geneva         7         693         17         794         241           Oxford, UK         8         692         10         803         175           Tel Aviv         9         691         13         841         151           Los Angeles         10         690         17         788         177           Dubai         11         689         88         727         203           Seattle         12         687         7         662         159           Busan         13         686         80         870         180           Toronto         14         685         19         768         121           Hong Kong         15         684         62         680         220           Berlin         16         682         21         730         221           Jersey         17         681         19         656         263           Shenzhen         18         679         8         671         255           Stockholm         19         678         11         803         106           Amsterdam         20         677         25         732         24	Singapore	5	695	71	760	215	
Oxford, UK         8         692         10         803         175           Tel Aviv         9         691         13         841         151           Los Angeles         10         690         17         788         177           Dubai         11         689         88         727         203           Seattle         12         687         7         662         159           Busan         13         686         80         870         180           Toronto         14         685         19         768         121           Hong Kong         15         684         62         680         220           Berlin         16         682         21         730         221           Jersey         17         681         19         656         263           Shenzhen         18         679         8         671         255           Stockholm         19         678         11         803         106           Amsterdam         20         677         25         732         244           Vancouver         21         676         10         730 <t< td=""><td>Cambridge, UK</td><td>6</td><td>694</td><td>30</td><td>758</td><td>187</td></t<>	Cambridge, UK	6	694	30	758	187	
Tel Aviv 9 691 13 841 151  Los Angeles 10 690 17 788 177  Dubai 11 689 88 727 203  Seattle 12 687 7 662 159  Busan 13 686 80 870 180  Toronto 14 685 19 768 121  Hong Kong 15 684 62 680 220  Berlin 16 682 21 730 221  Jersey 17 681 19 656 263  Shenzhen 18 679 8 671 255  Stockholm 19 678 11 803 106  Amsterdam 20 677 25 732 244  Vancouver 21 676 10 730 156  Copenhagen 22 675 12 728 233  Abu Dhabi 23 674 36 684 221  Washington DC 24 673 12 719 222  Malta 25 672 12 614 207  Dublin 26 671 20 587 306  Luxembourg 27 670 31 714 202  Guernsey 28 669 12 619 242  Boston 29 668 21 629 222  Seoul 30 667 49 525 285  Brussels 31 666 9 781 115  Guangzhou 32 665 5 760 143  Chicago 33 664 16 692 195  Hamburg 34 663 7 705 116  Sydney 35 662 13 685 242  Beijing 36 661 36 660 201  Melbourne 37 660 8 675 162  Tokyo 38 659 44 558 293	Geneva	7	693	17	794	241	
Los Angeles         10         690         17         788         177           Dubai         11         689         88         727         203           Seattle         12         687         7         662         159           Busan         13         686         80         870         180           Toronto         14         685         19         768         121           Hong Kong         15         684         62         680         220           Berlin         16         682         21         730         221           Jersey         17         681         19         656         263           Shenzhen         18         679         8         671         255           Stockholm         19         678         11         803         106           Amsterdam         20         677         25         732         244           Vancouver         21         676         10         730         156           Copenhagen         22         675         12         728         233           Abu Dhabi         23         674         36         684	Oxford, UK	8	692	10	803	175	
Dubai         11         689         88         727         203           Seattle         12         687         7         662         159           Busan         13         686         80         870         180           Toronto         14         685         19         768         121           Hong Kong         15         684         62         680         220           Berlin         16         682         21         730         221           Jersey         17         681         19         656         263           Shenzhen         18         679         8         671         255           Stockholm         19         678         11         803         106           Amsterdam         20         677         25         732         244           Vancouver         21         676         10         730         156           Copenhagen         22         675         12         728         233           Abu Dhabi         23         674         36         684         221           Washington DC         24         673         12         719	Tel Aviv	9	691	13	841	151	
Seattle         12         687         7         662         159           Busan         13         686         80         870         180           Toronto         14         685         19         768         121           Hong Kong         15         684         62         680         220           Berlin         16         682         21         730         221           Jersey         17         681         19         656         263           Shenzhen         18         679         8         671         255           Stockholm         19         678         11         803         106           Amsterdam         20         677         25         732         244           Vancouver         21         676         10         730         156           Copenhagen         22         675         12         728         233           Abu Dhabi         23         674         36         684         221           Washington DC         24         673         12         719         222           Malta         25         672         12         614	Los Angeles	10	690	17	788	177	
Busan         13         686         80         870         180           Toronto         14         685         19         768         121           Hong Kong         15         684         62         680         220           Berlin         16         682         21         730         221           Jersey         17         681         19         656         263           Shenzhen         18         679         8         671         255           Stockholm         19         678         11         803         106           Amsterdam         20         677         25         732         244           Vancouver         21         676         10         730         156           Copenhagen         22         675         12         728         233           Abu Dhabi         23         674         36         684         221           Washington DC         24         673         12         719         222           Malta         25         672         12         614         207           Dublin         26         671         20         587	Dubai	11	689	88	727	203	
Toronto	Seattle	12	687	7	662	159	
Hong Kong         15         684         62         680         220           Berlin         16         682         21         730         221           Jersey         17         681         19         656         263           Shenzhen         18         679         8         671         255           Stockholm         19         678         11         803         106           Amsterdam         20         677         25         732         244           Vancouver         21         676         10         730         156           Copenhagen         22         675         12         728         233           Abu Dhabi         23         674         36         684         221           Washington DC         24         673         12         719         222           Malta         25         672         12         614         207           Dublin         26         671         20         587         306           Luxembourg         27         670         31         714         202           Guernsey         28         669         12         619	Busan	13	686	80	870	180	
Berlin         16         682         21         730         221           Jersey         17         681         19         656         263           Shenzhen         18         679         8         671         255           Stockholm         19         678         11         803         106           Amsterdam         20         677         25         732         244           Vancouver         21         676         10         730         156           Copenhagen         22         675         12         728         233           Abu Dhabi         23         674         36         684         221           Washington DC         24         673         12         719         222           Malta         25         672         12         614         207           Dublin         26         671         20         587         306           Luxembourg         27         670         31         714         202           Guernsey         28         669         12         619         242           Boston         29         668         21         629	Toronto	14	685	19	768	121	
Jersey         17         681         19         656         263           Shenzhen         18         679         8         671         255           Stockholm         19         678         11         803         106           Amsterdam         20         677         25         732         244           Vancouver         21         676         10         730         156           Copenhagen         22         675         12         728         233           Abu Dhabi         23         674         36         684         221           Washington DC         24         673         12         719         222           Malta         25         672         12         614         207           Dublin         26         671         20         587         306           Luxembourg         27         670         31         714         202           Guernsey         28         669         12         619         242           Boston         29         668         21         629         222           Seoul         30         667         49         525	Hong Kong	15	684	62	680	220	
Shenzhen       18       679       8       671       255         Stockholm       19       678       11       803       106         Amsterdam       20       677       25       732       244         Vancouver       21       676       10       730       156         Copenhagen       22       675       12       728       233         Abu Dhabi       23       674       36       684       221         Washington DC       24       673       12       719       222         Malta       25       672       12       614       207         Dublin       26       671       20       587       306         Luxembourg       27       670       31       714       202         Guernsey       28       669       12       619       242         Boston       29       668       21       629       222         Seoul       30       667       49       525       285         Brussels       31       666       9       781       115         Guangzhou       32       665       5       760       143	Berlin	16	682	21	730	221	
Stockholm       19       678       11       803       106         Amsterdam       20       677       25       732       244         Vancouver       21       676       10       730       156         Copenhagen       22       675       12       728       233         Abu Dhabi       23       674       36       684       221         Washington DC       24       673       12       719       222         Malta       25       672       12       614       207         Dublin       26       671       20       587       306         Luxembourg       27       670       31       714       202         Guernsey       28       669       12       619       242         Boston       29       668       21       629       222         Seoul       30       667       49       525       285         Brussels       31       666       9       781       115         Guangzhou       32       665       5       760       143         Chicago       33       664       16       692       195	Jersey	17	681	19	656	263	
Amsterdam       20       677       25       732       244         Vancouver       21       676       10       730       156         Copenhagen       22       675       12       728       233         Abu Dhabi       23       674       36       684       221         Washington DC       24       673       12       719       222         Malta       25       672       12       614       207         Dublin       26       671       20       587       306         Luxembourg       27       670       31       714       202         Guernsey       28       669       12       619       242         Boston       29       668       21       629       222         Seoul       30       667       49       525       285         Brussels       31       666       9       781       115         Guangzhou       32       665       5       760       143         Chicago       33       664       16       692       195         Hamburg       34       663       7       705       116 </td <td>Shenzhen</td> <td>18</td> <td>679</td> <td>8</td> <td>671</td> <td>255</td>	Shenzhen	18	679	8	671	255	
Vancouver         21         676         10         730         156           Copenhagen         22         675         12         728         233           Abu Dhabi         23         674         36         684         221           Washington DC         24         673         12         719         222           Malta         25         672         12         614         207           Dublin         26         671         20         587         306           Luxembourg         27         670         31         714         202           Guernsey         28         669         12         619         242           Boston         29         668         21         629         222           Seoul         30         667         49         525         285           Brussels         31         666         9         781         115           Guangzhou         32         665         5         760         143           Chicago         33         664         16         692         195           Hamburg         34         663         7         705	Stockholm	19	678	11	803	106	
Copenhagen         22         675         12         728         233           Abu Dhabi         23         674         36         684         221           Washington DC         24         673         12         719         222           Malta         25         672         12         614         207           Dublin         26         671         20         587         306           Luxembourg         27         670         31         714         202           Guernsey         28         669         12         619         242           Boston         29         668         21         629         222           Seoul         30         667         49         525         285           Brussels         31         666         9         781         115           Guangzhou         32         665         5         760         143           Chicago         33         664         16         692         195           Hamburg         34         663         7         705         116           Sydney         35         662         13         685         <	Amsterdam	20	677	25	732	244	
Abu Dhabi 23 674 36 684 221  Washington DC 24 673 12 719 222  Malta 25 672 12 614 207  Dublin 26 671 20 587 306  Luxembourg 27 670 31 714 202  Guernsey 28 669 12 619 242  Boston 29 668 21 629 222  Seoul 30 667 49 525 285  Brussels 31 666 9 781 115  Guangzhou 32 665 5 760 143  Chicago 33 664 16 692 195  Hamburg 34 663 7 705 116  Sydney 35 662 13 685 242  Beijing 36 661 36 660 201  Melbourne 37 660 8 675 162  Tokyo 38 659 44 558 293	Vancouver	21	676	10	730	156	
Washington DC       24       673       12       719       222         Malta       25       672       12       614       207         Dublin       26       671       20       587       306         Luxembourg       27       670       31       714       202         Guernsey       28       669       12       619       242         Boston       29       668       21       629       222         Seoul       30       667       49       525       285         Brussels       31       666       9       781       115         Guangzhou       32       665       5       760       143         Chicago       33       664       16       692       195         Hamburg       34       663       7       705       116         Sydney       35       662       13       685       242         Beijing       36       661       36       660       201         Melbourne       37       660       8       675       162         Tokyo       38       659       44       558       293 <td>Copenhagen</td> <td>22</td> <td>675</td> <td>12</td> <td>728</td> <td>233</td>	Copenhagen	22	675	12	728	233	
Malta       25       672       12       614       207         Dublin       26       671       20       587       306         Luxembourg       27       670       31       714       202         Guernsey       28       669       12       619       242         Boston       29       668       21       629       222         Seoul       30       667       49       525       285         Brussels       31       666       9       781       115         Guangzhou       32       665       5       760       143         Chicago       33       664       16       692       195         Hamburg       34       663       7       705       116         Sydney       35       662       13       685       242         Beijing       36       661       36       660       201         Melbourne       37       660       8       675       162         Tokyo       38       659       44       558       293	Abu Dhabi	23	674	36	684	221	
Dublin       26       671       20       587       306         Luxembourg       27       670       31       714       202         Guernsey       28       669       12       619       242         Boston       29       668       21       629       222         Seoul       30       667       49       525       285         Brussels       31       666       9       781       115         Guangzhou       32       665       5       760       143         Chicago       33       664       16       692       195         Hamburg       34       663       7       705       116         Sydney       35       662       13       685       242         Beijing       36       661       36       660       201         Melbourne       37       660       8       675       162         Tokyo       38       659       44       558       293	Washington DC	24	673	12	719	222	
Luxembourg       27       670       31       714       202         Guernsey       28       669       12       619       242         Boston       29       668       21       629       222         Seoul       30       667       49       525       285         Brussels       31       666       9       781       115         Guangzhou       32       665       5       760       143         Chicago       33       664       16       692       195         Hamburg       34       663       7       705       116         Sydney       35       662       13       685       242         Beijing       36       661       36       660       201         Melbourne       37       660       8       675       162         Tokyo       38       659       44       558       293	Malta	25	672	12	614	207	
Guernsey       28       669       12       619       242         Boston       29       668       21       629       222         Seoul       30       667       49       525       285         Brussels       31       666       9       781       115         Guangzhou       32       665       5       760       143         Chicago       33       664       16       692       195         Hamburg       34       663       7       705       116         Sydney       35       662       13       685       242         Beijing       36       661       36       660       201         Melbourne       37       660       8       675       162         Tokyo       38       659       44       558       293	Dublin	26	671	20	587	306	
Boston         29         668         21         629         222           Seoul         30         667         49         525         285           Brussels         31         666         9         781         115           Guangzhou         32         665         5         760         143           Chicago         33         664         16         692         195           Hamburg         34         663         7         705         116           Sydney         35         662         13         685         242           Beijing         36         661         36         660         201           Melbourne         37         660         8         675         162           Tokyo         38         659         44         558         293	Luxembourg	27	670	31	714	202	
Seoul       30       667       49       525       285         Brussels       31       666       9       781       115         Guangzhou       32       665       5       760       143         Chicago       33       664       16       692       195         Hamburg       34       663       7       705       116         Sydney       35       662       13       685       242         Beijing       36       661       36       660       201         Melbourne       37       660       8       675       162         Tokyo       38       659       44       558       293	Guernsey	28	669	12	619	242	
Brussels       31       666       9       781       115         Guangzhou       32       665       5       760       143         Chicago       33       664       16       692       195         Hamburg       34       663       7       705       116         Sydney       35       662       13       685       242         Beijing       36       661       36       660       201         Melbourne       37       660       8       675       162         Tokyo       38       659       44       558       293	Boston	29	668	21	629	222	
Guangzhou       32       665       5       760       143         Chicago       33       664       16       692       195         Hamburg       34       663       7       705       116         Sydney       35       662       13       685       242         Beijing       36       661       36       660       201         Melbourne       37       660       8       675       162         Tokyo       38       659       44       558       293	Seoul	30	667	49	525	285	
Chicago       33       664       16       692       195         Hamburg       34       663       7       705       116         Sydney       35       662       13       685       242         Beijing       36       661       36       660       201         Melbourne       37       660       8       675       162         Tokyo       38       659       44       558       293	Brussels	31	666	9	781	115	
Hamburg       34       663       7       705       116         Sydney       35       662       13       685       242         Beijing       36       661       36       660       201         Melbourne       37       660       8       675       162         Tokyo       38       659       44       558       293	Guangzhou	32	665	5	760	143	
Sydney     35     662     13     685     242       Beijing     36     661     36     660     201       Melbourne     37     660     8     675     162       Tokyo     38     659     44     558     293	Chicago	33	664	16	692	195	
Beijing     36     661     36     660     201       Melbourne     37     660     8     675     162       Tokyo     38     659     44     558     293	Hamburg	34	663	7	705	116	
Melbourne         37         660         8         675         162           Tokyo         38         659         44         558         293	Sydney	35	662	13	685	242	
Tokyo 38 659 44 558 293	Beijing	36	661	36	660	201	
	Melbourne	37	660	8	675	162	
Shanghai 39 658 24 661 231	Tokyo	38	659	44	558	293	
	Shanghai	39	658	24	661	231	

Contro	SCI 10	SCI 10	A	Assessments			
Centre	Rank	Rating	Number	Average	St. Dev		
Cyprus	40	657	21	663	183		
Osaka	41	656	23	643	228		
Doha	42	655	12	667	215		
Munich	43	654	6	756	131		
Edinburgh	44	653	16	656	190		
Taipei	45	652	10	660	217		
GIFT City-Gujarat	46	650	8	671	177		
Paris	47	649	34	638	233		
Mauritius	48	648	20	662	226		
Madrid	49	647	10	670	135		
Frankfurt	50	646	22	652	239		
Vienna	51	645	6	628	232		
Astana	52	644	10	560	270		
New Delhi	53	643	15	636	167		
Tianjin	54	642	7	610	86		
Bangkok	55	641	13	528	235		
Tallinn	56	640	10	663	203		
Bermuda	57	639	20	617	193		
Mumbai	58	638	19	640	198		
Cape Town	59	637	22	541	223		
Milan	60	636	11	733	154		
Riyadh	61	635	5	633	138		
Mexico City	62	634	14	600	194		
Prague	63	633	11	633	142		
Gibraltar	64	632	14	555	237		
Manila	65	631	5	660	207		
Isle of Man	66	630	17	514	281		
Cayman Islands	67	629	24	556	255		
Budapest	68	628	12	681	127		
Athens	69	627	8	533	241		
Kuala Lumpur	70	626	10	610	155		
Moscow	71	625	14	590	257		
Istanbul	72	624	5	567	80		
Rome	73	623	9	570	246		
Warsaw	74	622	12	569	173		
Johannesburg	75	616	26	541	238		
Bahrain	76	615	9	426	154		
British Virgin Islands	77	589	19	456	173		

Table 23 | Details Of Assessments Of SCI Dimensions By Centre

	SCI Dimensions								
Centre	Innovation Support		Creative Intensity		Delivery Capability				
		St. Dev		St. Dev		St. Dev			
	Average		Average		Average				
London	814	186	800	188	799	203			
New York	807	191	800	194	776	192			
Zurich	842	173	800	191	794	186			
San Francisco	850	122	855	192	832	167			
Singapore	772	201	759	219	749	224			
Cambridge, UK	763	187	747	172	763	203			
Geneva	812	242	782	246	788	234			
Oxford, UK	780	175	790	179	840	171			
Tel Aviv	823	154	846	139	854	161			
Los Angeles	806	148	771	226	788	158			
Dubai	728	203	727	206	724	201			
Seattle	671	125	643	162	671	189			
Busan	875	180	876	184	859	178			
Toronto	768	95	753	168	784	101			
Hong Kong	668	213	697	224	676	223			
Berlin	781	234	695	218	714	213			
Jersey	726	242	642	285	600	262			
Shenzhen	613	217	738	272	663	277			
Stockholm	818	87	809	114	782	117			
Amsterdam	752	240	704	242	740	250			
Vancouver	740	178	730	149	720	140			
Copenhagen	775	238	675	234	733	227			
Abu Dhabi	661	241	703	222	689	200			
Washington DC	717	233	742	227	700	204			
Malta	633	202	625	196	583	225			
Dublin	605	309	615	298	540	310			
Luxembourg	752	208	706	198	684	200			
Guernsey	633	239	650	243	575	245			
Boston	633	248	610	210	643	209			
Seoul	524	281	533	279	518	295			
Brussels	833	112	767	100	744	133			
Guangzhou	760	195	740	152	780	84			
Chicago	675	195	700	190	700	200			
Hamburg	714	168	700	82	700	100			
Sydney	677	255	692	225	685	244			
	650	187	675	210	656	205			
Beijing	688	164	713	146	625	205 175			
Melbourne									
Tokyo	557	290	568	307	548	282			
Shanghai	658	212	667	244	658	238			

Table 23 (Continued) | Details Of Assessments Of SCI Dimensions By Centre

	SCI Dimensions							
Centre	Innovation Support		Creative Intensity		Delivery Capability			
	Average	St. Dev	Average	St. Dev	Average	St. Dev		
Cyprus	681	204	638	172	671	174		
Osaka	648	209	635	225	648	252		
Doha	683	199	650	239	667	206		
Munich	783	117	783	98	700	179		
Edinburgh	675	208	650	171	644	190		
Taipei	660	207	690	218	630	226		
GIFT City-Gujarat	675	212	638	177	700	141		
Paris	647	242	641	223	626	235		
Mauritius	705	235	630	220	650	224		
Madrid	650	143	670	125	690	137		
Frankfurt	691	237	636	244	627	237		
Vienna	633	266	567	225	683	204		
Astana	630	287	540	255	510	269		
New Delhi	633	150	633	176	640	176		
Tianjin	600	82	600	82	629	95		
Bangkok	485	273	515	238	585	195		
Tallinn	670	216	680	187	640	207		
Bermuda	620	191	615	203	615	184		
Mumbai	642	187	647	204	632	203		
Cape Town	545	206	536	242	541	222		
Milan	745	181	764	143	691	138		
Riyadh	640	114	620	148	640	152		
Mexico City	586	221	607	206	607	154		
Prague	609	202	655	121	636	103		
Gibraltar	550	218	550	244	564	250		
Manila	600	212	720	228	660	182		
Isle of Man	571	262	500	289	471	291		
Cayman Islands	558	252	550	260	558	254		
Budapest	708	151	658	144	675	87		
Athens	550	278	525	225	525	219		
Kuala Lumpur	560	135	650	190	620	140		
Moscow	586	285	600	260	586	225		
Istanbul	500	71	640	114	560	55		
Rome	589	280	600	240	522	217		
Warsaw	617	147	558	211	533	161		
Johannesburg	562	247	535	233	527	234		
Bahrain	422	148	422	148	433	166		
British Virgin Islands	505	172	432	173	432	173		

# Appendix 2: Respondents' Details

Table 24 | Respondents By Industry Sector

Industry Sector	Number Of Respondents	Percentage Of Respondents
Banking	19	7%
Debt Capital Markets	2	1%
Equity Capital Markets	3	1%
Insurance	5	2%
Investment Management	52	18%
Knowledge	24	8%
Policy and Public Finance	32	11%
Professional Services	61	21%
Technology	68	24%
Trading	10	3%
Not Specified	11	4%
Total	287	100%

Table 26 | Respondents By Size Of Organisation

Size Of Organisation	Number Of Respondents	Percentage Of Respondents
Fewer than 50	140	49%
50 to 100	51	18%
100 to 500	31	11%
500 to 1,000	13	5%
1,000 to 2,000	10	3%
2,000 to 5,000	13	5%
More than 5,000	29	10%
Not Specified	0	0%
Total	287	100%

Table 25 | Respondents By Region

Region	Number Of Respondents	Percentage Of Respondents
Western Europe	48	17%
Asia/Pacific	104	36%
North America	25	9%
Middle East & Africa	78	27%
Eastern Europe & Central Asia	21	7%
Latin America & the Caribbean	6	2%
Multi-Regional	5	2%
Total	287	100%



# Appendix 3: Methodology

The SCI provides ratings for the innovation and technology offerings of commercial and financial centres. The process involves taking two sets of ratings – one from survey respondents and one generated by a statistical model – and combining them into a single rating.

For the first set of ratings, the **Centre Assessments**, respondents use an online questionnaire to rate three dimensions:

- Innovation Support the approach taken to regulation and support for the innovation and technology industry provided by the commercial ecosystem.
- Creative Intensity the extent to which technology and innovative industries are embedded in the economy of the centre.
- Delivery Capability the quality of the work being undertaken in the field in the centre.

Ratings are given using a 10 point scale ranging from very poor to excellent. Responses are sought from a range of individuals drawn from the financial services and technology sectors, non-governmental organisations, regulators, universities, and trade bodies.

For the second set of ratings, we use a database of indicators, or **Instrumental Factors**, that contain quantitative data about each centre. We use a machine learning algorithm to investigate the correlation between the financial centre assessments and these Instrumental Factors to predict how each respondent would have rated the centres they do not know. These 132 Instrumental Factors draw on data from a range of sources. A full list of the Instrumental Factors used in the model is in Appendix 4.

The respondents' actual ratings, as well as their predicted ratings for the centres they did not rate, are then combined into a single table to produce ratings for each dimension. These are then added together, using equal weighting, to create the SCI rating.

# **Factors Affecting The Inclusion Of Centres In The SCI**

The questionnaire lists a total of 131 commercial and financial centres which can be rated by respondents. The questionnaire also asks whether there are centres not currently in the survey that will become significant over the next two to three years. Centres which are not currently within the questionnaire and which are mentioned repeatedly in response to this question will be added to the questionnaire for future editions.

We give a centre a SCI rating and ranking if it receives a statistically significant minimum number of assessments from individuals based in other geographical locations - at least 10 in SCI 10. This means that not all 131 centres in the questionnaire receive a ranking. We will keep this number under review for further editions of the index as the number of assessments increases.

We will also develop rules as successive indices are published as to when a centre may be removed from the ranking, for example, if over a 24 month period, a centre has not received a minimum number of assessments.

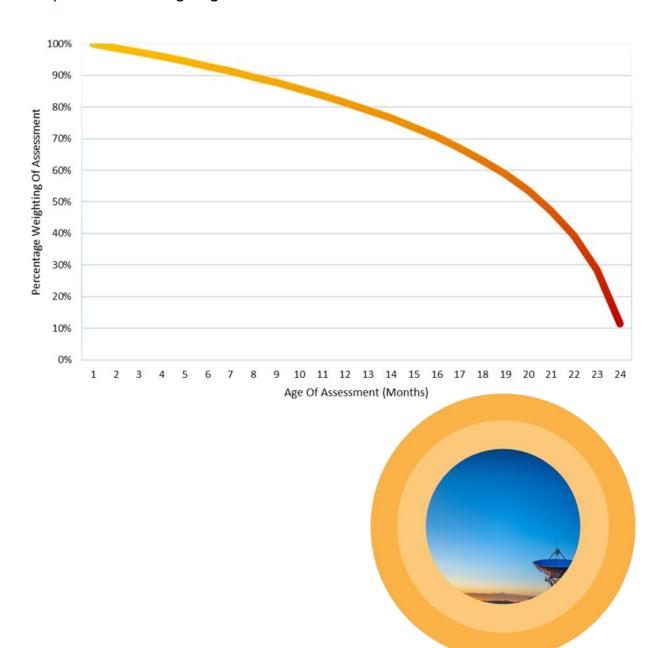
## **Centre Assessments**

Centre assessments are collected via an online questionnaire which runs continuously and is at <a href="https://www.smartcentresindex.net/survey/">www.smartcentresindex.net/survey/</a>. A link to this questionnaire is emailed to a target list of respondents at regular intervals. Other interested parties can complete the questionnaire by following the link above.

# In calculating the SCI:

- The score given by a respondent to their home centre, and scores from respondents who do not specify a home centre, are excluded from the model this is designed to prevent home centre bias.
- Financial centre assessments are included in the SCI model for 24 months after they have been received we consider this is a period during which assessments maintain their validity.
- Financial centre assessments from the month when the SCI is created are given full weighting with earlier responses given a reduced weighting on a logarithmic scale as shown in Chart 28 this recognises that older ratings, while still valid, are less likely to be up-to-date.

Chart 28 | Reduction In Weighting As Assessments Become Older



## **Instrumental Factor Data**

For the instrumental factors, we have the following data requirements:

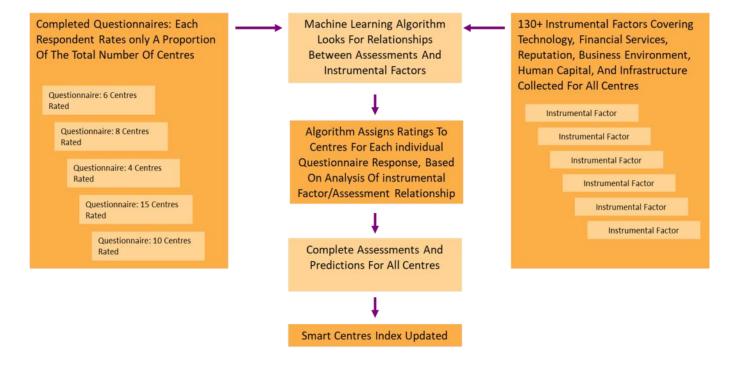
- Data series should come from a reputable body and be derived by a sound methodology.
- Data series should be readily available (ideally in the public domain) and be regularly updated.

The rules on the use of instrumental factor data in the model are as follows:

- Updates to the indices are collected and collated every six months.
- No weightings are applied to indices.
- Indices are entered into the SCI model as directly as possible, whether this is a rank, a derived score, a value, a distribution around a mean, or a distribution around a benchmark.
- If a factor is at a national level, the score will be used for all centres in that country; nation-based factors will be avoided if centre (city)-based factors are available.
- If an index has multiple values for a city or nation, the most relevant value is used.
- If an index is at a regional level, the most relevant allocation of scores to each centre is made (and the method for judging relevance is noted).
- If an index does not contain a value for a particular centre, a blank is entered against that centre (no average or mean is used).

The process of creating the SCI is outlined in Chart 29.

# Chart 29 | The SCI Process



# Appendix 4: Instrumental Factors

Table 27 | Instrumental Factor Correlation With SCI Ratings - Highest 30 Factors

	R-squared
Global Financial Centre Index	0.615
The Global Green Finance Index	0.585
Fintech Activity Index	0.568
Urban Mobility Readiness Index	0.546
Global Innovation Index	0.527
FinTech Index (GFCI)	0.525
Adjusted Net National Income Per Capita	0.512
Government Effectiveness	0.488
Safe Cities	0.459
World Talent Rankings	0.437
Technological Infrastructure	0.405
World Competitiveness Scoreboard	0.399
Scientific Infrastructure	0.399
Control Of Corruption	0.388
Government AI Readiness Index	0.387
Rule Of Law	0.382
Agility Emerging Markets Logistics Index	0.361
Legatum Prosperity Index	0.357
Household Net Financial Wealth	0.346
Global Competitiveness Index	0.345
Regulatory Enforcement	0.336
Quality Of Roads	0.332
Creative Outputs	0.330
Sustainable Economic Development	0.319
Educational Attainment, At Least Bachelor's Or Equivalent, Population 25+, Total (%)	0.318
Quality Of Domestic Transport Network	0.316
Regulatory Quality	0.308
Knowledge And Technology Outputs	0.306
International IP Index	0.306
Telecommunication Infrastructure Index	0.302

Table 28 | Technology Factors

Instrumental Factor	Source	Website	Updated Since SCI 9 Y/N
E-Government Development Index	United Nations	https://publicadministration.un.org/egovkb/Data-Center	Y
UN International Sale Of Goods	United Nations	https://treaties.un.org/pages/ViewDetails.aspx? src=TREATY&mtdsg_no=X-10&chapter=10	N
ISO TC307 Participation	International Organisation For Standardisation	https://www.iso.org/committee/6266604.html? view=participation	Υ
Internet Censorship Rank	comparitech	https://www.comparitech.com/blog/vpn-privacy/internet- censorship-map/	Υ
Volume Of Bitcoin Trades	Coin Dance	https://coin.dance/volume/localbitcoins	N
Legal Status Of Bitcoin	Coin Dance	https://coin.dance/poli/legality	N
Global Al Index	Tortoise Intelligence	https://www.tortoisemedia.com/intelligence/ai	Y
E-Participation Index	United Nations	https://publicadministration.un.org/egovkb/Data-Center	Υ
FinTech Index (GFCI)	Z/Yen	https://www.longfinance.net/programmes/financial-centre- futures/global-financial-centres-index/	Υ
The Global Fintech Index	Findexable	https://findexable.com/	N
Global Cybersecurity Index	ITU	http://www.itu.int/en/ITU-D/Cybersecurity/Pages/GCI.aspx	N
Telecommunication Infrastructure Index	United Nations	https://publicadministration.un.org/egovkb/en-us/Data-Center	N
Worldwide Broadband Speed League	Cable	https://www.cable.co.uk/broadband/speed/worldwide-speed-league/	N
Smart City Index	IMD	https://www.imd.org/smart-city-observatory/smart-city-index/	Υ
Fintech Activity Index	World Bank	https://documents.worldbank.org/en/publication/documents- reports/documentdetail/099735504212234006/ p1730060695b370090908c0bf80ed27eba6	N
Global Crypto Ranking	Coincub	https://coincub.com/ranking/q4-2022-global-crypto-ranking/	N
Global Crypto Adoption Index	Chainanalysis	https://go.chainalysis.com/rs/503-FAP-074/images/The% 202023%20Geography%20of%20Cryptocurrency%20Report.pdf? version=0	N
Blockchain Patents By Country	Coincub	https://coincub.com/ranking/blockchain-patent-report-2023/	N
Technological Infrastructure	IMD	https://imd.cld.bz/IMD-World-Competitiveness-Booklet-2023	Υ
Scientific Infrastructure	IMD	https://imd.cld.bz/IMD-World-Competitiveness-Booklet-2023	Υ
Knowledge And Technology Outputs	WIPO	https://www.wipo.int/global innovation index/en/2023/	Υ
Creative Outputs	WIPO	https://www.wipo.int/global innovation index/en/2023/	Υ
Blockchain Activity	Blockspot.io	List of All Countries with Blockchain and Crypto Companies ( <a href="https://blockspot.io/country/">https://blockspot.io/country/</a> )	Y
PWC Global Crypto Regulation Report	PWC	https://www.pwc.com/gx/en/new-ventures/cryptocurrency-assets/pwc-global-crypto-regulation-report-2023.pdf	Y
Government AI Readiness Index	Oxford Insights	https://oxfordinsights.com/ai-readiness/ai-readiness-index/ #summary	N
IBM Global Al Adoption Index	IBM	https://www.ibm.com/downloads/cas/GVAGA3JP?ref=ai-accelerator-institute-future-of-artificial-intelligence	Υ
Patent Applications, Residents	World Bank	https://data.worldbank.org/indicator/IP.PAT.RESD? end=2020&start=1980	Υ
Speedtest Global Index - Fixed Broadband	Ookla	https://www.speedtest.net/global-index	New
Speedtest Global Index - Mobile	Ookla	https://www.speedtest.net/global-index	New
www.longfinance.net		39 www.zyo	en com

**Table 29 | Financial Sector Development Factors** 

Instrumental Factor	Source	Website	Updated Since SCI 9 Y/N
Capitalisation Of Stock Exchanges	The World Federation of Stock Exchanges	https://focus.world-exchanges.org/issue/june-2024/market- statistics	Υ
Value Of Share Trading	The World Federation of Stock Exchanges	https://focus.world-exchanges.org/issue/june-2024/market- statistics	Υ
Volume Of Share Trading	The World Federation of Stock Exchanges	https://statistics.world-exchanges.org/ReportGenerator/ Generator#	Υ
Broad Stock Index Levels	The World Federation of Stock Exchanges	https://focus.world-exchanges.org/issue/june-2024/market- statistics	Υ
Value Of Bond Trading	The World Federation of Stock Exchanges	https://statistics.world-exchanges.org/ReportGenerator/ Generator#	Υ
Domestic Credit To Private Sector (% Of GDP)	World Bank	https://data.worldbank.org/indicator/FS.AST.PRVT.GD.ZS? most recent value desc=false	Υ
Percentage Of Firms Using Banks To Finance Investment	World Bank	http://databank.worldbank.org/data/reports.aspx? source=world-development- indicators&series=IC.FRM.BNKS.ZS	Υ
Total Net Assets of Regulated Open-End Funds	Investment Company Institute	http://www.icifactbook.org/	Υ
Islamic Finance Country Index	Islamic Banks and Financial Institutions	http://www.gifr.net/publications	Υ
Net External Positions Of Banks	The Bank for International Settlements	https://data.bis.org/topics/LBS/tables-and-dashboards/ BIS,LBS A3,1.0	Υ
External Positions Of Central Banks As A Share Of GDP	The Bank for International Settlements	https://data.bis.org/topics/LBS/tables-and-dashboards/ BIS,LBS A2,1.0	Υ
Liner Shipping Connectivity Index	World Bank	http://databank.worldbank.org/data/reports.aspx? source=2&series=IS.SHP.GCNW.XQ	Υ
Global Connectedness Index	DHL	https://www.dhl.com/global-en/spotlight/globalization/global-connectedness-index.html	Υ
Sustainable Stock Exchanges (Y/N)	UN Sustainable Stock Exchange Initiative	https://sseinitiative.org/exchanges-filter-search/	N
Green Bond Segments on Stock Exchanges (Y/N)	СВІ	https://www.climatebonds.net/green-bond-segments-stock- exchanges	N
The Global Green Finance Index	Z/Yen	https://www.longfinance.net/programmes/financial-centre-futures/global-green-finance-index/	Υ
The Global Financial Centres Index	Z/Yen	https://www.longfinance.net/programmes/financial-centre-futures/global-financial-centres-index/	Υ
Sovereign Green Bond (Y/N)	Climate Bonds Initiative	https://www.climatebonds.net/2021/11/cop26-briefing- sovereign-green-bond-issuance-takes-start-long-boom	N

**Table 30 | Human Capital Factors** 

Gross Tertiary Graduation Ratio         World Bank         https://liveprod.worldbank.org/en/indicator/se-ter-cmpl-zs2         Y           Henley Passport Index         Henley Partners         https://www.henleypassportindex.com/passport         Y           Human Development Index         UNDP         https://www.numbeo.com/quality-of-life/rankings.jsp2         Y           Purchasing Power Index         Numbeo         https://www.numbeo.com/quality-of-life/rankings.jsp2         Y           Number of High Net Worth Individuals         Capgemini         https://www.worldwealthreport.com/         Y           Homicide Rates         UNODC         https://www.morldwealthreport.com/         Y           Average Precipitation in Depth (mm Per Year)         World Bank         https://dataunodc.un.org/da-intentional-homicide-victims         Y           Global Skills Index         Coursera         https://www.coursera.org/skills-reports/global         Y           Global Terrorism Index         Institute for Economics & Household Recenters/world-competitiveness-center/ rankings/world-competitiveness-center/ rankings/world-competitiveness-center/ rankings/world-competitiveness-center/ rankings/world-competitiveness-center/ rankings/world-competitiveness-center/ rankings/world-competitiveness-center/ rankings/world-competitiveness-center/ rankings/world-competitiveness-center/ rankings/world-competitiveness-center/ rankings/world-competitiveness-center/ rankings/world-competitiveness-center/ rankings/world-competitiveness-center/ <b< th=""><th>Instrumental Factor</th><th>Source</th><th>Website</th><th>Updated Since SCI 9 Y/N</th></b<>	Instrumental Factor	Source	Website	Updated Since SCI 9 Y/N
Human Development Index  UNDP    https://www.undp.org/arab-states/publications/human-development-report-2023-24   Purchasing Power Index   Numbeo   https://www.numbeo.com/quality-of-life/rankings.jsp?   Y     Number of High Net Worth Individuals   Capgemini   https://www.worldwealthreport.com/   Y     Homicide Rates   UNODC   https://dataaunodc.un.org/dp-intentional-homicide-victims   Y     Average Precipitation In Depth (mm Per Year)   World Bank   https://dataank.worldbank.org/data/reports.aspx?source=world-development-indicators&series=AG.IND.PRCP.MM   Y     Global Skills Index   Coursera   https://www.coursera.org/skills-reports/global   Y     Global Terrorism Index   Institute for Economics & https://www.visionofhumanity.org/maps/global-terrorism-index/   y     World Talent Rankings   IMD   https://www.ind.org/centers/world-competitiveness-center/rankings/world-competitiveness-center/rank	Gross Tertiary Graduation Ratio	World Bank	https://liveprod.worldbank.org/en/indicator/se-ter-cmpl-zs?	Υ
Purchasing Power Index  Numbeo  https://www.numbeo.com/qualitr-of-life/rankings.isp2  Y  Number of High Net Worth Individuals  Capgemini  https://www.wordwealthreport.com/  Y  Homicide Rates  UNODC  https://dataunod.cun.org/dp-intentional-homicide-victims  Y  Average Precipitation In Depth (mm Per Year)  Global Skills Index  Coursera  https://dwww.wordwealthreports.aspx?source=world-development-indicators&series=AG.IND.PRCP.MM  Y  Global Terrorism Index  Institute for Economics & https://www.visionofhumanity.org/maps/global-terrorism-index/ #/  #/  World Talent Rankings  IMD  https://www.imd.org/centers/world-competitiveness-center/rankings/world-competitiveness-center/rankings/world-competitiveness-center/rankings/world-competitiveness-center/rankings/world-sompetitiveness-center/	Henley Passport Index	Henley Partners	https://www.henleypassportindex.com/passport	Υ
Number of High Net Worth Individuals  Capgemini  https://www.worldwealthreport.com/  Https://dataunodc.un.org/dp-intentional-homicide-victims  Y  Average Precipitation In Depth (mm Per Year)  World Bank  http://databank.worldbank.org/data/reports.aspx?source=world-development-indicators&series=AG_LND_PRCP_MM  Y  Global Skills Index  Coursera  https://www.coursera.org/skills-reports/global  Y  Global Terrorism Index  Institute for Economics & https://www.isionofhumanity.org/maps/global-terrorism-index/  #//  World Talent Rankings  IMD  https://www.imd.org/centers/world-competitiveness-center/ rankings/world-competitiveness/  Adjusted Net National Income Per Capita  World Bank  https://data.worldbank.org/indicator/NYADJ.NNTY.PC.CD  Y  Household Net Financial Wealth  OECD  https://data.worldbank.org/indicator/SETER.CUAT.BA.ZS  Y  Educational Attainment, At Least Bachelor's Or Equivalent, Population 25+, Total (%)  World Bank  https://data.worldbank.org/indicator/SETER.CUAT.BA.ZS  Y  Employees Working Very Long Hours  Cato Institute  https://www.cato.org/human-freedom-index  N  Human Freedom Index  Cato Institute  https://www.ghsindex.org/ https://www.ghsindex.org/ https://www.ghsindex.org/ https://www.ghsindex.org/ https://www.ghsindex.org/ https://www.ghsindex.org/ https://www.ghsindex.org/ https://www.ghsindex.org/ https://www.ghsindex.org/	Human Development Index	UNDP		Υ
Homicide Rates UNODC https://dataunodc.un.org/dp-intentional-homicide-victims Y Average Precipitation In Depth (mm Per Year) World Bank https://databank.worldbank.org/data/reports.aspx?source=world-development-indicators&series=AG_IND_PRCP_MM  Global Skills Index Coursera https://www.coursera.org/skills-reports/global Y  Global Terrorism Index Institute for Economics & https://www.visionofhumanity.org/maps/global-terrorism-index/#/ #/ World Talent Rankings IMD https://www.imd.org/centers/world-competitiveness-center/rankings/world-competitiveness/  Adjusted Net National Income Per Capita World Bank https://data.worldbank.org/indicator/NYADI.NNTY.PC.CD Y  Household Net Financial Wealth OECD https://stats.oecd.org/index.aspx?DataSetCode=BLI N  Educational Attainment, At Least Bachelor's Or Equivalent, Population 25+, Total (%)  Life Expectancy At Birth, Total World Bank https://data.worldbank.org/indicator/SP.DYN.LEOO.IN Y  Employees Working Very Long Hours OECD https://stats.oecd.org/Index.aspx?DataSetCode=BLI N  Human Freedom Index Cato Institute https://www.cato.org/human-freedom-index Y  Global Health Security Index https://www.cato.org/human-freedom-index Y  Nuclear Threat Initiative, Johns Hopkins Center for Health Security, and Economist Impact	Purchasing Power Index	Numbeo	https://www.numbeo.com/quality-of-life/rankings.jsp?	Υ
Average Precipitation In Depth (mm Per Year)  World Bank  https://databank.org/data/reports.aspx?source=world-development-indicators&series=AG.LND.PRCP.MM  Y  Global Skills Index  Coursera  https://www.coursera.org/skills-reports/global  Y  Global Terrorism Index  Institute for Economics & https://www.isionofhumanity.org/maps/global-terrorism-index/ #/  World Talent Rankings  IMD  https://www.imd.org/centers/world-competitiveness-center/rankings/world-competitiveness/  Adjusted Net National Income Per Capita  World Bank  https://stats.oecd.org/index.aspx?DataSetCode=BLI  N  Educational Attainment, At Least Bachelor's Or Equivalent, Population 25+, Total (%)  World Bank  https://data.worldbank.org/indicator/SE.TER.CUAT.BA.ZS  Y  Employees Working Very Long Hours  OECD  https://stats.oecd.org/Index.aspx?DataSetCode=BLI  N  Human Freedom Index  Cato Institute  https://www.cato.org/human-freedom-index  Y  Global Health Security Index  Nuclear Threat Initiative, Johns Hopkins Center for Health Security, and Economist Impact  N  https://www.ghsindex.org/ https://www.ghsindex.org/ https://www.ghsindex.org/ https://www.ghsindex.org/ https://www.ghsindex.org/	Number of High Net Worth Individuals	Capgemini	https://www.worldwealthreport.com/	Υ
Year)         World Bank         development-indicators&series=AG.LND.PRCP.MM         Y           Global Skills Index         Coursera <a href="https://www.coursera.org/skills-reports/global">https://www.coursera.org/skills-reports/global</a> Y           Global Terrorism Index         Institute for Economics & https://www.visionofhumanity.org/maps/global-terrorism-index/##/         Y           World Talent Rankings         IMD         https://www.imd.org/centers/world-competitiveness-center/rankings/world-competitiveness-/         N           Adjusted Net National Income Per Capita         World Bank         https://data.worldbank.org/indicator/NY.ADJ.NNTY.PC.CD         Y           Household Net Financial Wealth         OECD         https://stats.oecd.org/Index.aspx?DataSetCode=BLI         N           Educational Attainment, At Least Bachelor's Or Equivalent, Population 25+, Total (%)         World Bank         https://data.worldbank.org/indicator/SE.TER.CUAT.BA.ZS         Y           Life Expectancy At Birth, Total         World Bank         https://data.worldbank.org/indicator/SP.DYN.LEOO.IN         Y           Employees Working Very Long Hours         OECD         https://stats.oecd.org/Index.aspx?DataSetCode=BLI         N           Human Freedom Index         Cato Institute         https://www.ghsindex.org/         N           Global Health Security Index         V	Homicide Rates	UNODC	https://dataunodc.un.org/dp-intentional-homicide-victims	Υ
Institute for Economics & https://www.visionofhumanity.org/maps/global-terrorism-index/#/   Y		World Bank		Υ
Morld Talent Rankings   IMD   https://www.imd.org/centers/world-competitiveness-center/rankings/world-competitiveness/   N	Global Skills Index	Coursera	https://www.coursera.org/skills-reports/global	Υ
Morid Talent Rankings  IMD  rankings/world-competitiveness/  Adjusted Net National Income Per Capita  World Bank  https://data.worldbank.org/indicator/NY.ADJ.NNTY.PC.CD  Y  Household Net Financial Wealth  OECD  https://stats.oecd.org/index.aspx?DataSetCode=BLI  N  Educational Attainment, At Least Bachelor's Or Equivalent, Population 25+, Total (%)  World Bank  https://data.worldbank.org/indicator/SE.TER.CUAT.BA.ZS  Y  Life Expectancy At Birth, Total  World Bank  https://data.worldbank.org/indicator/SP.DYN.LE00.IN  Y  Employees Working Very Long Hours  OECD  https://stats.oecd.org/index.aspx?DataSetCode=BLI  N  Human Freedom Index  Cato Institute  https://www.cato.org/human-freedom-index  Y  Global Health Security Index  N  https://www.ghsindex.org/  https://www.ghsindex.org/  https://www.ghsindex.org/  https://www.ghsindex.org/  https://www.ghsindex.org/	Global Terrorism Index			Υ
Household Net Financial Wealth  OECD  https://stats.oecd.org/Index.aspx?DataSetCode=BLI  N  Educational Attainment, At Least Bachelor's Or Equivalent, Population 25+, Total (%)  World Bank  https://data.worldbank.org/indicator/SE.TER.CUAT.BA.ZS  Y  Life Expectancy At Birth, Total  World Bank  https://data.worldbank.org/indicator/SP.DYN.LE00.IN  Y  Employees Working Very Long Hours  OECD  https://stats.oecd.org/Index.aspx?DataSetCode=BLI  N  Human Freedom Index  Cato Institute  https://www.cato.org/human-freedom-index  Y  Global Health Security Index  N  https://www.ghsindex.org/  https://www.ghsindex.org/  https://www.ghsindex.org/	World Talent Rankings	IMD		N
Educational Attainment, At Least Bachelor's Or Equivalent, Population 25+, Total (%)  Life Expectancy At Birth, Total  World Bank  https://data.worldbank.org/indicator/SP.DYN.LEOO.IN  Y  Employees Working Very Long Hours  OECD  https://stats.oecd.org/Index.aspx?DataSetCode=BLI  N  Human Freedom Index  Cato Institute  https://www.cato.org/human-freedom-index  Y  Global Health Security Index  https://www.ghsindex.org/  https://www.ghsindex.org/  https://www.ghsindex.org/  https://www.ghsindex.org/	Adjusted Net National Income Per Capita	World Bank	https://data.worldbank.org/indicator/NY.ADJ.NNTY.PC.CD	Υ
Or Equivalent, Population 25+, Total (%)  Life Expectancy At Birth, Total  World Bank  https://data.worldbank.org/indicator/SP.DYN.LEOO.IN  Y  Employees Working Very Long Hours  OECD  https://stats.oecd.org/index.aspx?DataSetCode=BLI  N  Human Freedom Index  Cato Institute  https://www.cato.org/human-freedom-index  Y  Global Health Security Index  N  https://www.ghsindex.org/  https://www.ghsindex.org/	Household Net Financial Wealth	OECD	https://stats.oecd.org/Index.aspx?DataSetCode=BLI	N
Employees Working Very Long Hours  OECD  https://stats.oecd.org/Index.aspx?DataSetCode=BLI  N  Human Freedom Index  Cato Institute  Nuclear Threat Initiative, Johns Hopkins Center for Health Security, and Economist Impact  N  https://www.cato.org/human-freedom-index  Y  N  https://www.ghsindex.org/		World Bank	https://data.worldbank.org/indicator/SE.TER.CUAT.BA.ZS	Y
Human Freedom Index  Cato Institute  https://www.cato.org/human-freedom-index  Y  Nuclear Threat Initiative, Johns Hopkins Center for Health Security, and Economist Impact  https://www.ghsindex.org/  https://www.ghsindex.org/	Life Expectancy At Birth, Total	World Bank	https://data.worldbank.org/indicator/SP.DYN.LE00.IN	Υ
Global Health Security Index  Health Security, and Economist Impact  Nuclear Threat Initiative,  Johns Hopkins Center for Health Security, and Economist Impact  Nuclear Threat Initiative,  Johns Hopkins Center for Health Security, and Economist Impact	Employees Working Very Long Hours	OECD	https://stats.oecd.org/Index.aspx?DataSetCode=BLI	N
Global Health Security Index  Johns Hopkins Center for Health Security, and Economist Impact  https://www.ghsindex.org/  https://www.ghsindex.org/	Human Freedom Index	Cato Institute	https://www.cato.org/human-freedom-index	Y
English proficiency Education First <a href="https://www.ef.com/wwen/epi/">https://www.ef.com/wwen/epi/</a> N	Global Health Security Index	Johns Hopkins Center for Health Security, and	https://www.ghsindex.org/	N
	English proficiency	Education First	https://www.ef.com/wwen/epi/	N



**Table 31 | Business Environment Factors** 

Instrumental Factor	Source	Website	Updated Since SCI 9 Y/N
Real Interest Rate	World Bank	https://databank.worldbank.org/reports.aspx?source=world-development-indicators&series=FR.INR.RINR	Y
Global Services Location	AT Kearney	https://www.kearney.com/digital/article/?/a/the-2021-kearney-global-services-location-index	Υ
Corruption Perception Index	Transparency International	https://www.transparency.org/en/cpi/2022	Υ
Corporate Tax Rates	PWC	https://taxsummaries.pwc.com/quick-charts/corporate-income- tax-cit-rates	New
Personal Tax Rates	OECD	https://stats.oecd.org/index.aspx?DataSetCode=TABLE 16	N
Tax Revenue As Percentage Of GDP	World Bank	https://databank.worldbank.org/reports.aspx? source=2&series=GC.TAX.TOTL.GD.ZS&country=#	N
Number Of Tax Treaties	ICTD	https://www.treaties.tax/en/data/	New
Economic Freedom Of The World	Fraser Institute	https://www.fraserinstitute.org/economic-freedom/map? geozone=world&page=map&year=2021	N
Government Debt As % Of GDP	IMF	https://www.imf.org/external/datamapper/ GG DEBT GDP@GDD/SWE	N
Oecd Country Risk Classification	OECD	http://www.oecd.org/trade/topics/export-credits/documents/cre-crc-current-english.pdf	N
Global Peace Index	Institute for Economics & Peace	https://www.visionofhumanity.org/maps/#/	N
Financial Secrecy Index	Tax Justice Network	http://www.financialsecrecyindex.com/	N
Government Effectiveness	World Bank	http://info.worldbank.org/governance/wgi/	N
Open Government	World Justice Project	http://worldjusticeproject.org/rule-of-law-index	N
Regulatory Enforcement	World Justice Project	http://worldjusticeproject.org/rule-of-law-index	N
Press Freedom Index	Reporters Without Borders (RSF)	https://rsf.org/en/index?year=2023	N
Currencies	Swiss Association for Standardization (SNV)	https://www.six-group.com/en/products-services/financial-information/data-standards.html#scrollTo=current-historical-lists	N
Commonwealth Countries	The Commonwealth	http://thecommonwealth.org/member-countries	N
Common Law Countries	CIA	https://www.cia.gov/the-world-factbook/countries/	N
Inflation, GDP Deflator	World Bank	https://data.worldbank.org/indicator/NY.GDP.DEFL.KD.ZG	N
Rule Of Law	World Bank	http://info.worldbank.org/governance/wgi/	Υ
Political Stability And Absence Of Violence/Terrorism	World Bank	http://info.worldbank.org/governance/wgi/	Y
Regulatory Quality	World Bank	http://info.worldbank.org/governance/wgi/	Υ
Control Of Corruption	World Bank	http://info.worldbank.org/governance/wgi/	Υ
Open Budget Survey	International Budget Partnership	http://survey.internationalbudget.org/#download	Υ
Refined Oil Products Production	Enerdata Statistical Yearbook	https://yearbook.enerdata.net/download/	N
Global Business Complexity Index	TMF Group	https://www.tmf-group.com/en/news-insights/press-releases/gbci-rankings-revealed-2024/	Y
www.longfinance.net		42 www.zy	en.com

# **Table 32 | Reputational Factors**

Instrumental Factor	Source	Website	Updated Since SCI 9 Y/N
World Competitiveness Scoreboard	IMD	https://www.imd.org/centers/wcc/world-competitiveness- center/rankings/world-competitiveness-ranking/rankings/wcr- rankings/# tab List	Y
Global Competitiveness Index	World Economic Forum	http://reports.weforum.org/global-competitiveness-report- 2019/competitiveness-rankings/	N
Foreign Direct Investment Inflows	UNCTAD	http://unctadstat.unctad.org/wds/TableViewer/tableView.aspx?ReportId=96740	N
GDP Per Person Employed (constant 2017 PPP \$)	World Bank	https://databank.worldbank.org/reports.aspx?source=world-development-indicators&series=SL.GDP.PCAP.EM.KD	N
Global Innovation Index	WIPO	http://www.globalinnovationindex.org/content.aspx?page=GII- Home	N
International IP Index	U.S. Chamber of Commerce	https://www.uschamber.com/intellectual-property/2023-international-ip-index	Υ
RPI (% Change On Year Ago)	The Economist	https://www.economist.com/economic-and-financial-indicators/2023/06/22/economic-data-commodities-and-markets	Υ
Number Of International Association Meetings	World Economic Forum	http://reports.weforum.org/travel-and-tourism-competitiveness-report-2019/rankings/#series=NRFAIREX	N
Innovation Cities Global Index	2ThinkNow Innovation Cities	https://innovation-cities.com/world-city-rankings/	N
Big Mac Index	The Economist	https://www.economist.com/big-mac-index	Υ
Sustainable Economic Development	Boston Consulting Group	https://www.bcg.com/en-gb/publications/2021/prioritizing-societal-well-being-seda-report	N
Level of Internet Freedom	Freedom House	https://freedomhouse.org/countries/freedom-net/scores	N
Good Country Index	Good Country Party	https://www.goodcountry.org/index/results	N
Legatum Prosperity Index	Legatum Institute	http://www.prosperity.com/#!/ranking	N
FDI Inward Stock (In Million Dollars)	UNCTAD	https://unctad.org/publication/world-investment-report-2024	Υ
Global Power City Index	The Mori Memorial Foundation	http://mori-m-foundation.or.jp/english/ius2/gpci2/index.shtml	N
Economic Freedom	The Heritage Foundation	https://www.heritage.org/index/ranking	Υ
Safe Cities Index	The Economist	https://safecities.economist.com/	N
The Global Green Economy Index	Dual Citizen	https://dualcitizeninc.com/global-green-economy-index/	Υ

# **Table 33 | Infrastructure Factors**

Instrumental Factor	Source	Website	Updated Since SCI 9 Y/N
Agility Emerging Markets Logistics Index	Agility	https://www.agility.com/en/emerging-markets-logistics-index/rankings/	Υ
JLL Real Estate Transparency Index	Jones Lang LaSalle	https://www.jll.co.uk/en/trends-and-insights/research/global-real-	N
Quality Of Domestic Transport Network	World Economic Forum	https://www.weforum.org/reports/travel-and-tourism-	N
Quality Of Roads	World Economic Forum	http://reports.weforum.org/travel-and-tourism-competitiveness-	N
Roadways Per Land Area	CIA	https://www.cia.gov/the-world-factbook/field/roadways/country-	Υ
Railways Per Land Area	CIA	https://www.cia.gov/the-world-factbook/field/railways/country-	N
Energy Sustainability Index	World Energy Council	https://trilemma.worldenergy.org/	Υ
Environmental Performance Index	Yale University	https://epi.yale.edu/	Υ
Global Sustainable Competitiveness Index	Solability	http://solability.com/the-global-sustainable-competitiveness-	N
Logistics Performance Index	World Bank	http://lpi.worldbank.org/international/global	N
Proportion Of Population Using Safely- Managed Drinking-Water Services (%)	WHO	https://www.who.int/data/gho/publications/world-health- statistics	N
INRIX Traffic Scorecard	INRIX	http://inrix.com/scorecard/	Υ
Forestry Area	World Bank	http://databank.worldbank.org/data/reports.aspx?	Υ
CO2 Emissions Per Capita	World Bank	https://databank.worldbank.org/reports.aspx?	Υ
4G Availability	Open Signal	https://www.opensignal.com/reports/2020/05/global-state-of-the-mobile-network	N
Share Of Wind And Solar In Electricity Production	Enerdata Statistical Yearbook	https://yearbook.enerdata.net/download/	N
Energy Intensity Of GDP	Enerdata Statistical Yearbook	https://yearbook.enerdata.net/download/	N
Share Of Renewables In Electricity Production	Enerdata Statistical Yearbook	https://yearbook.enerdata.net/download/	N
Energy Transition Index	World Economic Forum	https://www.weforum.org/reports/1edb4488-deb4-4151-9d4f-	N
Urban Mobility Readiness Index	Oliver Wyman	https://www.oliverwymanforum.com/mobility/urban-mobility-	N
The Green Future Index	MIT Technology Review	https://www.technologyreview.com/2023/04/05/1070581/thegreen-future-index-2023/	N

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Global Times Consulting

Global Times Consulting Co. is a strategic consultancy with a focus on China. We help Chinese (local) governments at all levels to build their reputation globally, providing strategic counsel, stakeholder outreach and communications to support their sustainable development. We also partner with multinational companies operating in this dynamic but challenging market, serving as a gateway to China. In addition, we help Chinese companies extend their reach overseas.

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Daniel Wang at danielwang@globaltimes.com.cn www.globaltimes.com.cn



Since 2009 Busan Metropolitan City has been developing a financial hub specialising in maritime finance and derivatives. With its strategic location in the center of the southeast economic block of Korea and the crossroads of a global logistics route, Busan envisions growing into an international financial city in Northeast Asia. Busan Finance Center (BFC) will continue to develop and implement measures to promote Busan as a financial hub and bolster the local financial industry, while working together with various local economic players to pursue sustainable growth of the financial sector including FinTech. These efforts will enable BFC to play a leading role in taking Busan to the next level and become the international financial center and maritime capital of Northeast Asia.

BFC offers an attractive incentive package to global financial leaders and cooperation network of Busan Metropolitan City, and Busan Finance Center will support you to identify opportunities in Busan, one of the fastest developing cities in Asia.

info@kbfc.or.kr www.kbfc.or.kr/eng/



Supported by the industry, the Financial Services Development Council (FSDC) is a high-level, cross-sectoral advisory body to the Hong Kong Special Administrative Region Government.

FSDC formulates proposals to promote the further development of Hong Kong's financial services industry and to map out the strategic direction for the development. As of March 2020, 110 of the 137 policy recommendations had been adopted by the Government and relevant regulators since FSDC's inception in 2013. On top of research, FSDC also carries out market promotion and human capital development functions.

Among others, FSDC focuses on topics including Mainland and international connectivity, green and sustainable finance, FinTech, as well as asset and wealth management.

enquiry@fsdc.org.hk https://www.fsdc.org.hk/en



Casablanca Finance City is an African financial and business hub located at the crossroads of continents. Recognized as the leading financial center in Africa, and partner of the largest financial centers in the world, CFC has built a strong and thriving community of members across four major categories: financial companies, regional headquarters of multinationals, service providers, and holdings.

CFC offers its members an attractive value proposition and a premium "Doing Business" support that fosters the deployment of their activities in Africa. Driven by the ambition to cater to its community, CFC is committed to promoting its members expertise across the continent, while enabling fruitful business and partnership synergies through its networking platform.

Selma Bennis at <u>Selma.Bennis@cfca.ma</u> www.casablancafinancecity.com Vantage Financial Centres Please find out more at: www.vantagefinancialcentres.net or by contacting Mike Wardle at mike\_wardle@zyen.com



AIFC is an all-around financial centre located in Nur-Sultan, the capital of Kazakhstan, which offers ample opportunities for businesses to grow. AIFC provides greater access to world-class capital markets and the asset management industry. It also promotes financial technology and drives the development of niche markets such as Islamic and green finance in the region. AIFC provides unprecedented conditions and opportunities for its participants and investors: legal system based on the principles of English law, independent judicial system, regulatory framework consistent with internationally recognised standards, wide range of financial services and instruments, simplified visa and labour regimes, zero corporate tax rate, and English as a working language.

Located in the heart of Eurasia, AIFC is striving to become the gateway to the Eurasian Economic Union, Central Asia and Caucasus, and play a key role in the Belt and Road Initiative. AIFC is already gaining tremendous recognition as a leading financial hub in the region: recently, Asiamoney Awards recognised it as the best Belt and Road Initiative project of 2019.

Daniyar Kelbetov at <a href="mailto:d.kz">d.kelbetov@aifc.kz</a>
<a href="mailto:www.aifc.kz">www.aifc.kz</a>



Established in 2001, the Financial Services Commission, Mauritius ('FSC') is the integrated regulator for the non-bank financial services sector and global business and is mandated to license, regulate, and supervise the conduct of business activities in the non-bank financial services sector and global business.

Our vision is to be an internationally recognised financial supervisor committed to the sustained development of Mauritius as a sound and competitive financial services centre.

#### The FSC aims to:

- promote the development, fairness, efficiency and transparency of financial institutions and capital markets;
- suppress crime and malpractices so as to provide protection to members of the public investing in non-banking financial products; and
- ensure the soundness and stability of the financial system in Mauritius.

fscmauritius@intnet.mu www.fscmauritius.org



The Long Finance initiative grew out of the London Accord, a 2005 agreement among investment researchers to share environmental, social and governance research with policymakers and the public. Long Finance was established more formally by Z/Yen Group and Gresham College from 2007 with the aim of exploring long-term thinking across a global network of people.

We work on researching innovative ways of building a more sustainable financial system. In so doing, we try to operate openly and emulate scientific ideals. At the same time, we are looking to create a supportive and caring community where people can truly question the accepted paradigms of risk and reward.

www.longfinance.net

# DIFC令

<u>Dubai International Financial Centre</u> (DIFC) is one of the world's most advanced financial centres, and the leading financial hub for the Middle East, Africa and South Asia (MEASA) region, which comprises 72 countries with an approximate population of 3 billion and a nominal GDP of US\$ 7.7 trillion.

DIFC is home to an internationally recognised, independent regulator and a proven judicial system with an English common law framework, as well as the region's largest financial ecosystem of more than 24,000 professionals working across over 2,300 active registered companies — making up the largest and most diverse pool of industry talent in the region. The Centre's vision is to drive the future of finance. Today, it offers one of the region's most comprehensive FinTech and venture capital environments, including cost-effective licensing solutions, fit-for-purpose regulation, innovative accelerator programmes, and funding for growth-stage start-ups.

Comprising a variety of world-renowned retail and dining venues, a dynamic art and culture scene, residential apartments, hotels and public spaces, DIFC continues to be one of Dubai's most sought-after business and lifestyle destinations.

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Seoul is a rising star among the financial cities of the world. It is already one of the top 10 cities in the world based on various indices, and it has many more opportunities to offer as a financial hub and great growth potential. Seoul believes global financial companies are our true partners for growth. There are many incentives provided to global financial companies that enter into Seoul, such as the financial incentives provided when moving into IFC, so that we can all jointly work towards the growth and development of the financial market.

It is sure that Seoul will become a top star of global financial hubs in the near future! Pay close attention to Seoul's potentials and pre-emptively gain a foothold in the Seoul financial hub. Seoul is the gateway to Northeast Asia and the world

Youkyung Cho at <u>youkyung cho@seoul.go.kr</u> <u>www.seoul.go.kr/main/index.jsp</u>



Approved by the China's State Council, China Development Institute (CDI) was founded in 1989 with 116 representatives from the government, academia and business in China. Being an independent think tank, CDI is committed to developing policy solutions via research and debates that help to advance China's reform and opening-up. After years of development, CDI has become one of the leading think tanks in China. CDI focuses on the studies of open economy and innovation-driven development, regional economy and regional development, industrial policies and industrial development, urbanization and urban development, business strategies and investment decision-making. Via conducting research, CDI provides policy recommendations for the Chinese governments at various levels and develops consultation for corporate sectors at home and abroad. CDI organizes events in different formats that evokes dialogue among scholars, government officials, business people and civil society members around the globe. Based in Shenzhen, Southern China, CDI has one hundred and sixty staff, with an affiliated network that consists of renowned experts from different fields.

Carol Feng at <a href="mailto:carolf@cdi.org.cn">carolf@cdi.org.cn</a> <a href="mailto:www.cdi.org.cn">www.cdi.org.cn</a>



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Z/Yen helps organisations make better choices - our clients consider us a commercial think-tank that spots, solves and acts. Our name combines Zen and Yen - 'a philosophical desire to succeed' - in a ratio, recognising that all decisions are tradeoffs. One of Z/Yen's specialisms is the development and publication of research combining factor analysis and perception surveys.

# THE SMART CENTRES INDEX



### www.smartcentresindex.net

The Smart Centres Index is designed to track commercial centres' ability to create, develop, and deploy technology. It aims to measure how attuned centres and their regulatory systems are to attracting innovation and growth in Science, Technology, Energy Systems, Machine Learning, Distributed Ledgers, and Fintech.

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# www.longfinance.net

Long Finance is a Z/Yen initiative designed to address the question "When would we know our financial system is working?" This question underlies Long Finance's goal to improve society's understanding and use of finance over the long-term. In contrast to the short-termism that defines today's economic views, the Long Finance timeframe is roughly 100 years.



# www.distributedfutures.net

Distributed Futures is a Long Finance programme dedicated to exploring new technologies and finance. The programme looks at Smart Ledgers, but also wider technologies ranging from quantum computing to machine learning to biological finance.