Smart City Index Methodology

The IMD-SUTD Smart City Index (SCI) assesses the perceptions of residents on issues related to structures and technology applications available to them in their city. In the SCI's context, 'smart city' describes an urban setting that apply technology to enhance the benefits and diminish the shortcomings of urbanization.

The first edition of the SCI ranks 102 cities worldwide by capturing the perceptions of a randomly chosen 120 residents in each city. Therefore, we construct the SCI by using more than 12,000 surveys.

Each survey has 40 questions. The bulk of the questions, 36, are divided evenly between two factors: Structures, that captures the existing infrastructure of the cities, and Technologies that describes the technological provisions and services available to the inhabitants. In addition, there are three questions assessing attitudes towards the use of personal data, face recognition and overall trust towards local authorities. The remaining question summarizes the perceived priority areas out of fifteen possible alternatives.

The SCI is evaluated based on the 36 questions related to the two factors. Each factor is evaluated over five key areas: Health & Safety, Mobility, Activities, Opportunities for work and school, and Governance.

On the 'Structures' factor, respondents were asked to choose one out of four options: strongly agree, agree, disagree, strongly disagree.

In turn, on the 'Technology' factor, in addition to the previous four, respondents can also choose 'do not know' or 'technology not available in my city' for a total of six options.

The Score of each question is calculated as the weighted average of the percentages that the respondents provided for each option. The percentage of 'strongly agree' was weighted by 1.5, while that of 'agree' by 1.0. The percentage of 'disagree' and 'do not know' by -1.0 and finally, the percentage of 'strongly disagree' and 'technology not available in my city' by -1.5. Subsequently, the Score for each question is calibrated to offer a scale of 0 to 100.

For all cities except for Taipei, the corresponding UN Human Development Index (HDI) score of the parent economy is collected. For Taipei, this is a calculation based upon the same UN HDI methodology. Cities are then grouped across quartiles based on the HDI score.

In each of the resulting four groups, cities are assigned a Rating, based on the average of the perceptions-score in Structures and Technologies Factors for a given city compared to the Scores of all other cities within the same group. The Ratings for Structures and Technologies are then generated as follows:

- For group 1 (highest HDI quartile), scale AAA–AA–A–BBB–BB
- For group 2 (second HDI quartile), scale A–BBB–BB–B–CCC
- For group 3 (third HDI quartile), scale BB–B–CCC–CC–C
- For group 4 (lowest HDI quartile), scale CCC–CC–C–D

Finally, the total Score for a city is the average of the Scores of Structures and Technologies. The overall Rating for a city follows the breakdown above and is related to the total Score of the city.

First Group	Second Group	Third group	Fourth Group
Amsterdam	Auckland	Abu Dhabi	Abuja
Berlin	Barcelona	Ankara	Bengaluru
Boston	Bilbao	Athens	Bogota
Brisbane	Birmingham	Bangkok	Cairo
Chicago	Bologna	Beijing	Cape Town
Copenhagen	Brussels	Bratislava	Hanoi
Denver	Busan	Bucharest	Ho Chi Minh City
Dublin	Helsinki	Budapest	Hyderabad
Dusseldorf	London	Buenos Aires	Jakarta
Geneva	Lyon	Chengdu	Kiev
Gothenburg	Madrid	Chongqing	Lagos
Hanover	Milan	Dubai	Makassar
Hong Kong	Osaka	Guangzhou	Manila
Los Angeles	Paris	Hangzhou	Medan
Melbourne	Prague	Krakow	Medellin
Montreal	Rome	Kuala Lumpur	Mumbai
New York	Seoul	Lisbon	Nairobi
Oslo	Taipei City	Mexico City	New Delhi
Philadelphia	Tel Aviv	Moscow	Rabat
Rotterdam	Tokyo	Nanjing	
San Francisco	Vienna	Rio de Janeiro	
Seattle	Zaragoza	Riyadh	
Singapore		Santiago	
Stockholm		Sao Paulo	
Sydney		Shanghai	
The Hague		Shenzhen	
Toronto		Sofia	
Vancouver		St. Petersburg	
Washington D.C.		Tianjin	
Zurich		Warsaw	
		Zhuhai	