METHODOLOGY

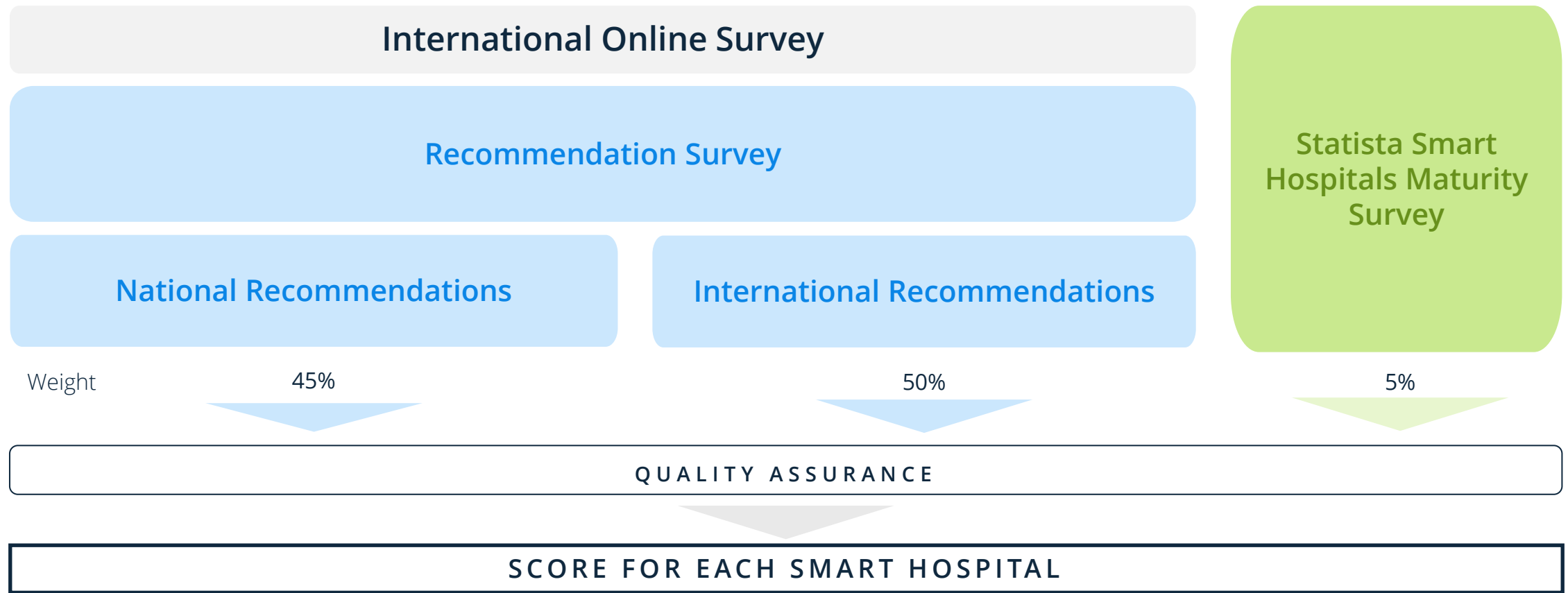# World's Best Smart Hospitals 2024

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Methodology – World's Best Smart Hospitals 2024

Summary of the project

- Smart Hospitals use state-of-the art technology to fundamentally rethink how care is delivered within the health system. Taking advantage of these new technologies can not only improve care delivery outcomes and efficiencies within the hospital but can help to drive health goals around prevention, population health and quality of life outcomes.

- To provide more transparency in hospitals' efforts to implement digital health technologies around the globe, Statista and Newsweek have partnered to identify the "**World's Best Smart Hospitals**".

- The **3rd edition** of World's Best Smart Hospitals awards the leading 330 hospitals in the field of smart technologies from 28 different countries.

- The ranking process is based on **three main steps**:

  1. **International online survey**: Hospital managers and health care professionals with knowledge about smart hospitals were asked to recommend leading Smart Hospitals across the globe
  2. **Statista Smart Hospitals Maturity Survey**: Implementation and usage of digital technologies in the hospital was assessed by hospitals and validated by Chief Digital/Information Officers or Senior Management
  3. **Desk research for every nominated hospital** as validation for this hospital's achievements

- Participants had the opportunity to name a standout category for the recommended smart hospitals. The five categories were: Electronic functionalities, Telemedicine, Digital Imaging, Artificial Intelligence, and Robotics.

- During the survey period from June to July 2023, over 4,000 votes for Smart Hospitals were collected in the survey.

- A score was calculated for each hospital based on the number of recommendations. International recommendations were weighted higher than national recommendations, reinforcing the international focus of this ranking.

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A score was calculated for each hospital

Scoring Model

International Online Survey		Statista Smart Hospitals Maturity Survey
Recommendation Survey		
National Recommendations	International Recommendations	

Weight		
45%	50%	5%

QUALITY ASSURANCE

SCORE FOR EACH SMART HOSPITAL

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The maturity survey enables data collection on the usage of digital technologies directly from the hospitals

Statista Smart Hospitals Maturity Survey

PROCESS

- Hospitals were invited to participate in **the Statista Smart Hospitals Maturity Survey** to **assess the implementation** and **usage of their digital technologies**.

- The questionnaire was designed with the guidance and input of the expert panel.

- Survey results had to be **validated by an authorized person** e.g., Managing Director/Senior Management or Chief Information Officer in order to be used in the evaluation

- The questionnaire can be accessed here.
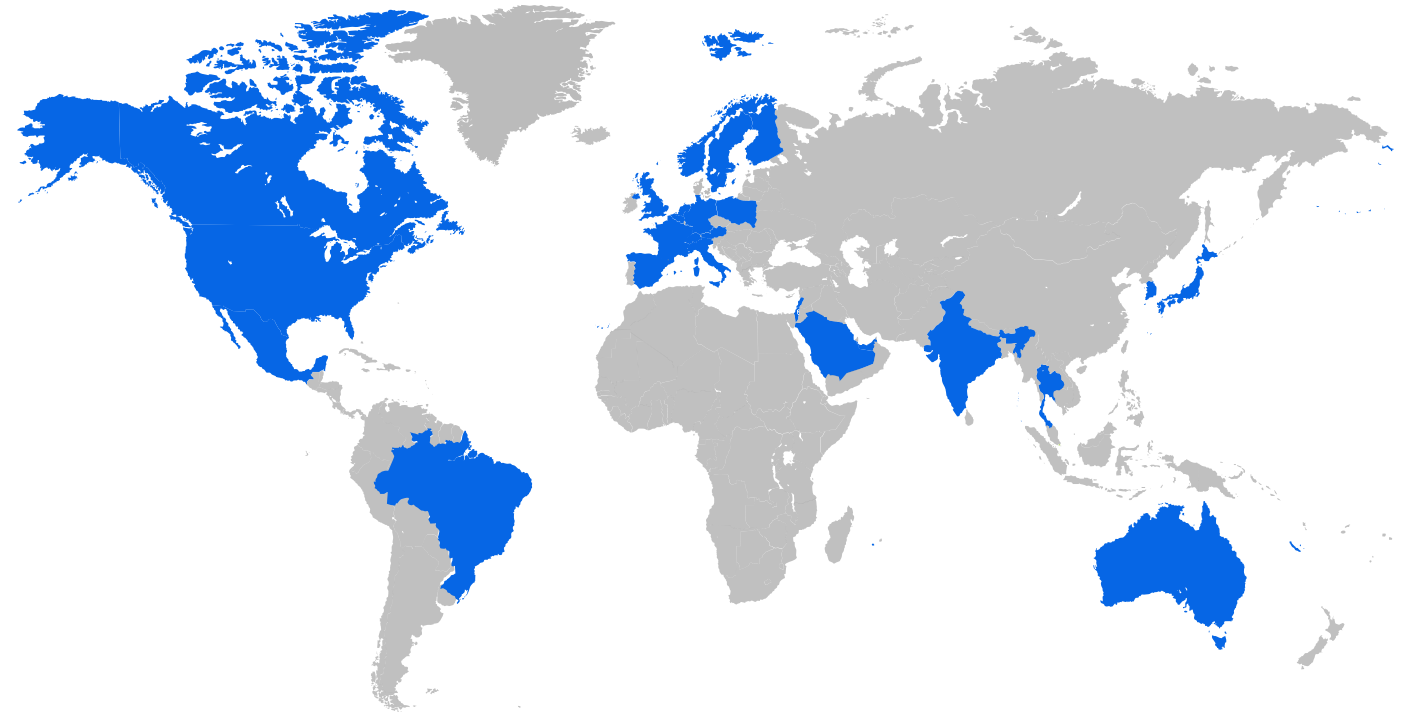
SURVEY CATEGORIES

The survey was structured around 5 categories:

1. **Electronic Functionalities** e.g., implementation of hospital information system

2. **Telemedicine** e.g., implementation of technical equipment to conduct teleconsultations

3. **Digital Imaging** e.g., usage of virtual reality and augmented reality tools to support diagnosis and treatment of patients

4. **Artificial Intelligence** e.g., usage of artificial intelligence and machine learning tools for data analysis and evaluation

5. **Robotics** e.g., implementation and evaluation of robotic surgery

➢ Participants had to respond to **at least 3** out of 5 categories

SMART HOSPITALS MATURITY SURVEY SCORE CONSTITUTES 5% OF THE OVERALL SCORE

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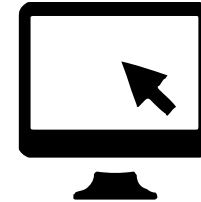# The Top 330 list includes smart hospitals from 28 different countries

Country	Hospitals awarded
United States	101
Germany	24
United Kingdom	22
Italy	21
France	20
Spain	15
South Korea	14
Switzerland	13
Canada	12
Japan	10
The Netherlands	9
Singapore	9
Denmark	8
Australia	7
Brazil	6
Finland	5
Israel	5
Norway	5
Belgium	4
Sweden	4
Taiwan	4
Austria	3
United Arab Emirates	2
India	2
Mexico	2
Saudi Arabia	1
Lebanon	1
Thailand	1

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Medical experts with knowledge about Smart Hospitals were invited to the survey

International Online Survey

From June to July 2023, Statista invited thousands of medical professionals in over 28 countries to an online survey. The survey was also promoted on newsweek.com

International online survey among hospital managers and medical professionals. Participants were invited via e-mail. For participation on newsweek.com, email verification was mandatory.

Participants were asked to recommend hospitals which are notable smart hospitals. International recommendations were weighted higher than national recommendations for each hospital. Recommendations for their own employer were not allowed.

Participants were asked to assign a ranking position (e.g. Top 1, Top 5 etc.) to hospitals. Additionally, the professional experience of the participant was considered, and participants could name a standout category:
- Electronic functionalities
- Telemedicine
- Digital Imaging
- Artificial Intelligence
- Robotics

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A global board of renowned experts supports the development of the Statista Smart Hospitals Maturity Survey

Overview of global board of medical experts

Prof Dr. Eyal Zimlichman, MD
Chief Transformation and Innovation Officer, Sheba Medical Center, Israel

Prof. Dr. David Bates
Professor of Medicine, Harvard Medical School, USA

Prof. Dr. Gregory Katz
Chair of Innovation Management & Value in Health, University of Paris Medical School, France

Dr. Gary Kaplan
Senior Advisor and Senior Vice President, CommonSpirit Health, USA

Prof. Dr. med. Christoph Meier
Director, Department of Internal Medicine, University Hospital Zürich, Switzerland

Dr. med. Jens Deerberg-Wittram
CEO, RoMed Kliniken, Germany

THE GLOBAL BOARD OF MEDICAL EXPERTS PROVIDES GUIDANCE FOR THE METHODOLOGY OF THE RANKING

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Every nominated hospital was reviewed through a rigorous process

Quality assurance via desk research

APPROACH

- All nominated hospitals must be known for **technical innovations** and a **leadership role** in the field of Smart Hospitals

- Eligibility for the ranking was based on results from the **international survey** and the passing of the **quality assurance process**

- The project team conducted **desk research** and analyzed the implementation of smart technologies in eligible hospitals

REVIEW PROCESS

- **Sources for technological innovations**: established healthcare technology websites (e.g. healthcareglobal.com), scientific publications (e.g. PubMed) and press releases

- Survey **subcategories** were used as keywords for the search

- **Additional keywords** used (excerpt): technological innovation, Internet of Things (IoT), Machine learning, smart buildings, preventive analytics

QA PROCESS ENSURED AWARDED HOSPITALS HAVE A LEADERSHIP ROLE

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As a result, the 330 leading smart hospitals were awarded

Rank	Hospital	City	Country	Standout Category
1	Mayo Clinic - Rochester	Rochester	United States	Telemedicine, Digital Imaging, Artificial Intelligence
2	Cleveland Clinic	Cleveland	United States	Telemedicine, Electronic Functionalities, Digital Imaging
3	Massachusetts General Hospital	Boston	United States	Electronic Functionalities, Digital Imaging, Robotics
4	The John Hopkins Hospital	Baltimore	United States	Telemedicine, Robotics, Digital Imaging
5	The Mount Sinai Hospital	New York	United States	Electronic Functionalities, Telemedicine, Robotics

[…]

LEADING SMART HOSPITALS WERE AWARDED

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World's Best Smart Hospitals partner network

Overview of involved parties

Newsweek

About Newsweek

Newsweek is a premier news magazine and website that has been bringing high-quality journalism to readers around the globe for over 80 years.

Newsweek provides the latest news, in-depth analysis and ideas about international issues, technology, business, culture and politics. In addition to its online and mobile presence, Newsweek publishes weekly English print editions in the United States, Europe/Middle East/Africa and Asia as well as editions in Japanese, Korean, Polish, Serbian and Spanish.

newsweek.com

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About Statista R

Statista R is a world leader in the creation of company, brand, and product rankings, based on comprehensive market research and data analysis.

With a team of over 100 expert analysts and partnerships with more than 50 media publications across all continents, Statista creates transparency for consumers and helps companies build trust and recognition across a plethora of industries and product categories.

Please visit r.statista.com for further information about Statista R and our rankings.

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Disclaimer

The rankings are comprised exclusively of hospitals that are eligible regarding the scope described in this document. The ranking is the result of an elaborate process which, due to the interval of data-collection and analysis, is a reflection of the last 12 months. Furthermore, events preceding or following the period August 2nd, 2022 – August 1st, 2023, and/or pertaining to individual persons affiliated/associated to the facilities were not included in the metrics. As such, the results of this ranking should not be used as the sole source of information for future deliberations.

The information provided in this ranking should be considered in conjunction with other available information about hospitals or, if possible, accompanied by a visit to a facility. The quality of hospitals that are not included in the rankings is not disputed.

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