



World's Best Smart Hospitals 2023

Methodology

Newsweek

statista 

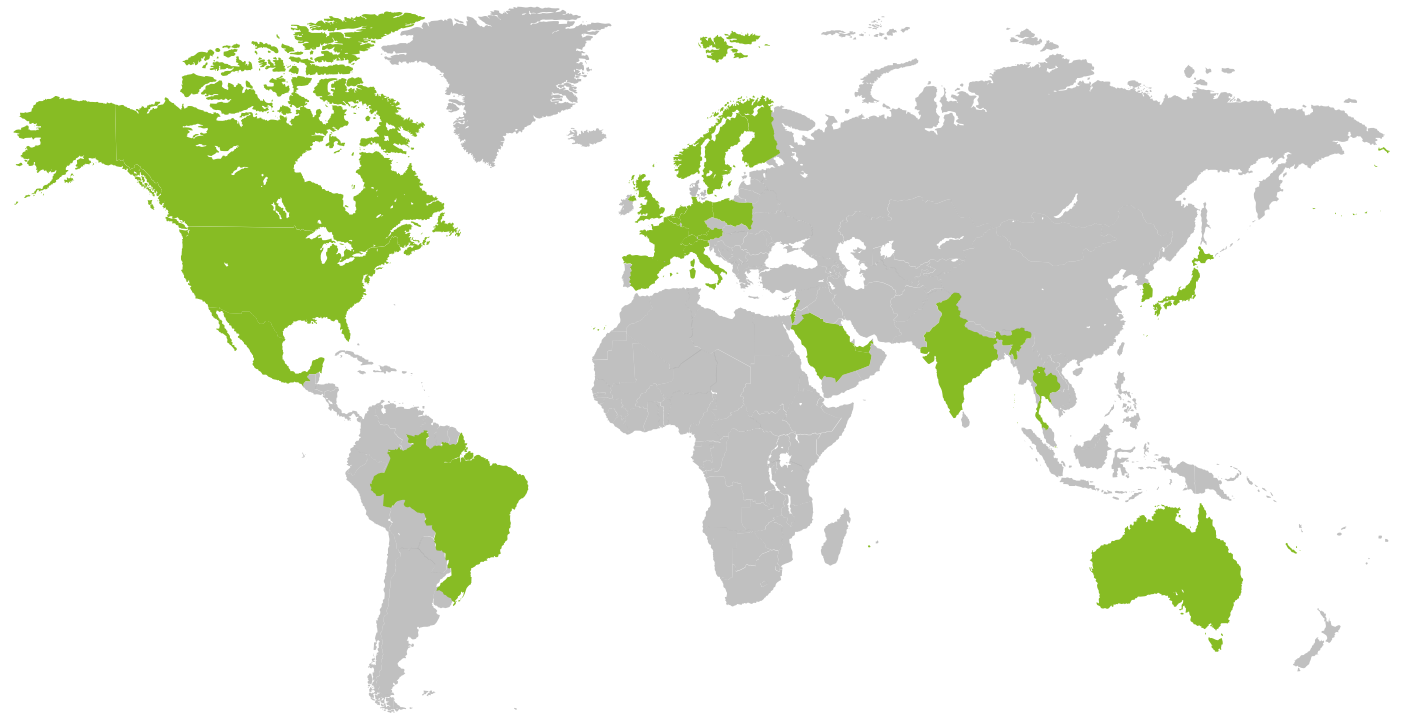
Methodology – World’s Best Smart Hospitals 2023

Summary

- 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 **2nd edition** of **World’s Best Smart Hospitals** awards the leading 300 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. International hospital 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 which they consider relevant in the context of Smart Hospitals. The five categories were: **Electronic functionalities, Telemedicine, Digital Imaging, Artificial Intelligence, and Robotics.**
- During the survey period from June to July 2022, 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.

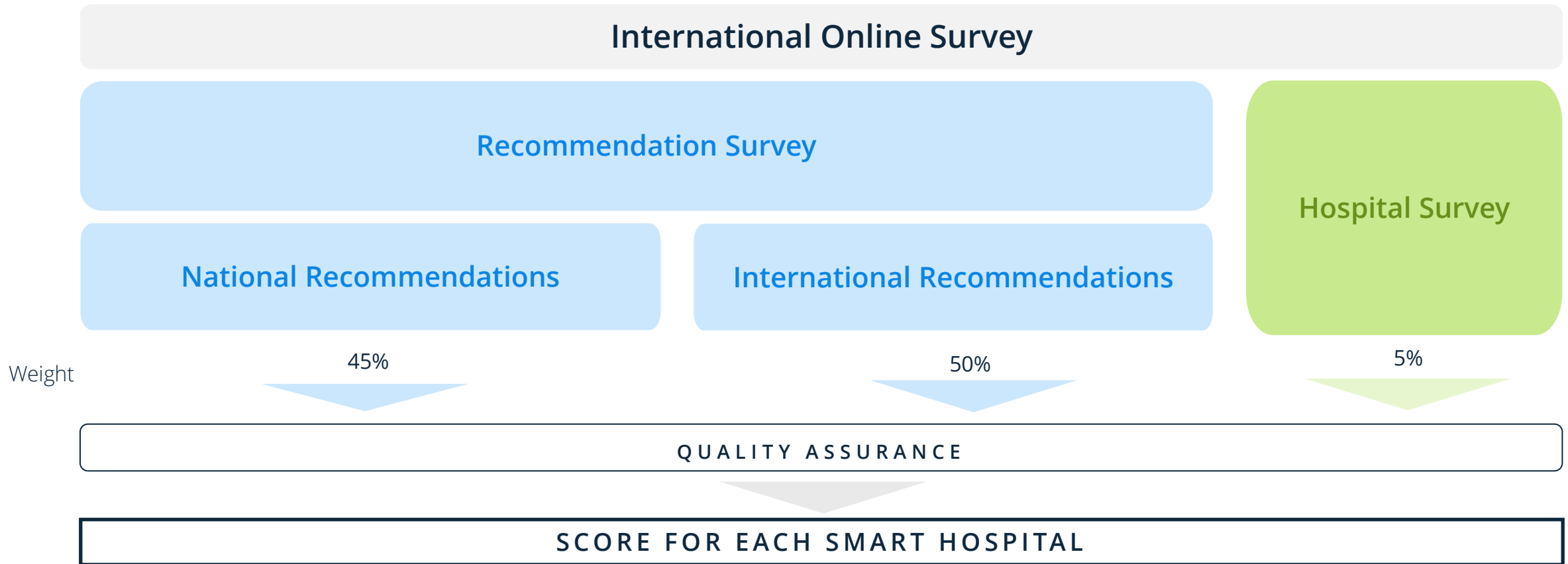
The Top 300 list includes Smart Hospitals from 28 different countries

Country	Hospitals awarded
United States	85
Germany	23
France	19
Italy	18
United Kingdom	17
Canada	15
Japan	13
South Korea	10
Switzerland	8
Spain	8
Singapore	7
The Netherlands	7
Australia	5
Denmark	5
Finland	4
Brazil	3
Israel	3
Norway	3
Belgium	3
Sweden	3
Austria	2
Mexiko	2
Saudi Arabia	2
India	2
Thailand	1
United Arab Emirates	1
Lebanon	1



A score was calculated for each hospital

Scoring Model



The recommendation survey generated over 4,000 votes for Smart Hospitals

Scoring Model

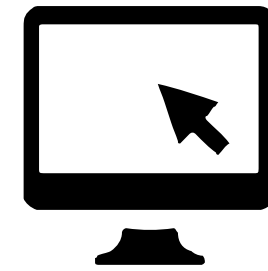
From June to July 2022, Statista invited thousands of hospital managers and medical professionals with knowledge about Smart Hospitals to an online survey. The survey was also promoted on newsweek.com.



International online survey among hospital managers and medical professionals. Participants were invited via e-mail.



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



Participants were asked to assign a ranking position (e.g. Top 1, Top 5, Top 10, Top 50, etc.) to hospitals. Additionally, participants could name a standout category:

- Electronic functionalities
- Telemedicine
- Digital Imaging
- Artificial Intelligence
- Robotics

RECOMMENDATIONS CONSTITUTE 95% OF THE REPUTATION SCORE

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

International hospital survey

PROCESS

- Hospitals were invited to participate in the international online 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

HOSPITAL SURVEY SCORE CONSTITUTES 5% OF THE OVERALL SCORE

A global board of renowned experts supported the development of the hospital survey

Overview of global expert board



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



Dr. Eyal Zimlichman, MD
Chief Medical Officer, Sheba Medical Center, Israel



Dr. Gary Kaplan
CEO, Virginia Mason Health System, USA



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



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

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



THE GLOBAL BOARD OF MEDICAL EXPERTS PROVIDED METHODOLOGICAL INPUT FOR THE RANKING

Every nominated hospital was reviewed through a rigorous process

Quality assurance via desk research

APPROACH

- All nominated hospitals have to 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

As a result, the 300 leading hospitals were awarded as Best Smart Hospitals

Final Hospital Score

Rank	Hospital	City	Country	Standout Category
1	Mayo Clinic - Rochester	Rochester, MN	United States	Artificial Intelligence, Robotics
2	Massachusetts General Hospital	Boston, WA	United States	
3	The Johns Hopkins Hospital	Baltimore, MD	United States	
4	Cleveland Clinic	Cleveland, OH	United States	Artificial Intelligence
5	The Mount Sinai Hospital	New York, NY	United States	Digital Imaging, Artificial Intelligence

[...]

LEADING SMART HOSPITALS WERE AWARDED

World's Best Smart Hospitals partner network

Overview of involved parties

The Newsweek logo is displayed in white, bold, sans-serif font against a solid red rectangular background.

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

The Statista logo consists of the word "statista" in a bold, black, sans-serif font, followed by a square icon containing a white stylized line graph.

About Statista

Statista publishes worldwide established rankings and company listings with high profile media partners.

This research and analysis service is based on the success of statista.com. The leading data and business intelligence portal provides statistics, business relevant data, and various market and consumer studies/surveys.

statista-research.com

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 17/08/2021-17/08/2022 and/or pertaining to individual persons affiliated/associated to the hospitals 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.