Smart Spaces

Connectivity with Smart Sensor to Cloud Solutions

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What are Smart Spaces?

Smart Spaces are physically existing or digital environments in which people and technology-based systems interact in open, networked and intelligent ecosystems. These are based on sensor-generated building status data. Smart Spaces adapt to the needs of their users and can decrease running costs, increase health & wellness, optimize productivity as well as saving energy & CO_2.
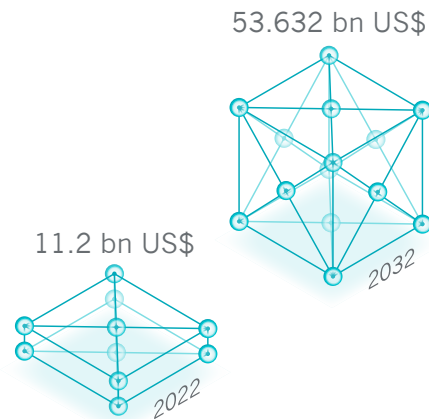
_2 What is the market for Smart Spaces like?

The global smart spaces market is projected to grow at a value CAGR of 16.2 % during the forecast period (2022 – 2032) and is estimated to reach a market value of US$ 53.632 bn by the end of 2032.

Future Market Insights, 2022
Source: Smart Spaces Market. Global Assessment 2022 – 2032,
Industry Analysis & Opportunity

"Smart spaces (…) will disrupt and transform entire markets.
(…) Smart spaces have a very high mass because they offer broad, cross-industry appeal wherever people and mobile traffic require observation and management."

Gartner, Dec. 2021
Source: https://www.gartner.com/en/articles/5-impactful-technologies-from-the-gartner-emerging-technologies-and-trends-impact-radar-for-2022-1

53.632 bn US$

11.2 bn US$

2032

2022

**CAGR 2022-2032:**
16.2 %

_3 How do Smart Spaces work?

Smart Spaces are equipped with networked sensors that collect environmental and status data at multiple spots in the building. The data can be processed locally on site or, if desired, in a cloud-based IT platform – also as a "digital twin" if required. Thus, digital services and analysis tools complement the physical space. A dashboard presents the data in a structured and user-friendly way so that managers and decision-makers can review it and utilize it for intelligent building management.

Smart Spaces in practice. *As an example, heat maps show the current occupancy status by means of infrared sensors.* (Source: T-Systems MMS)

Live status

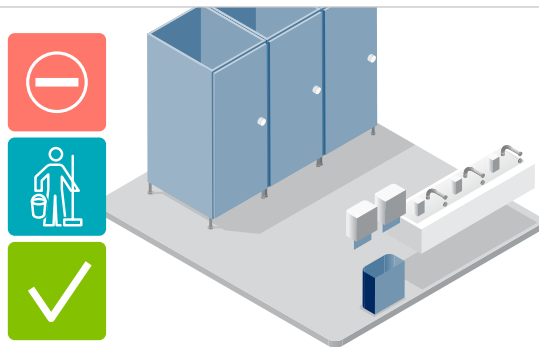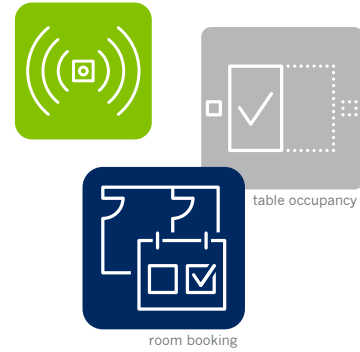Space utilization

Space analysis

Heat map
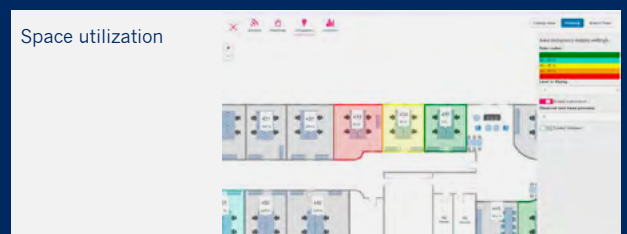
4 What are the Use Cases of Smart Spaces?

The current top 5 use cases for Smart Spaces are:

1. Office Space Optimization

Sensors provide data showing occupancy of areas, rooms or even individual desks or chairs enabling 25-40 % savings in office space required.

table occupancy

room booking

2. Digital Restroom Management

Sensors provide data to enable on-demand cleaning, disinfecting and stocking of restrooms. They show real-time availability of facilities and any alarm situations.

3. Employee Productivity (Health & Wellness)

Sensors monitor and control key parameters (e.g. air quality, lighting, temperature, humidity & occupancy levels), leading to up to 15 % increased productivity and 15 % less absenteeism.

CO_2

4. People Counting

Sensors provide the real-time data required to monitor occupancy levels in offices, conference rooms, retail spaces etc. for space/energy optimization or on-demand services. They can also monitor people counting to ensure no over-occupancy and lack of social distancing.

5. Energy Monitoring and Savings

Sensors monitor occupancy and key parameters such as temperature, window status and lighting and control these according to actual demand, helping to save up to 30 % energy.

30 %
energy savings

_5 What are the benefits of Smart Spaces?

Monitoring and controlling spaces can bring significant benefits. Smart Spaces provide more safety, comfort and efficiency while saving costs.

Health & Wellness:

15 %
increase in employee motivation and productivity

15 %
reduction in absenteeism

Space optimization:

25-40 %
reduction in space and operating costs

Safety of buildings
(e.g. social distancing, air quality)

Energy & CO_2 savings:

20-30 %
in commercial properties (typically)

_6 What are the benefits of wireless technology in Smart Spaces?

Sensors play a pivotal role in intelligent buildings. They provide the raw data for digital space management. Wireless-based solutions offer clear advantages in Smart Spaces:

> Simple, quick installation without cables – no downtime or closing of areas, no mess or noise
> More cost-effective than wired solutions (up to 70 % for retrofitting, around 30 % for new buildings)
> Flexibility: "Peel & Stick" sensors or push-buttons can be installed anywhere, easily added or repositioned
> Data can be sent via existing WiFi™ network in building – no new infrastructure or wiring necessary

The battery-free wireless technology from EnOcean goes one step further.

> Self-sufficient operation thanks to energy harvesting: wireless modules harvest energy from the environment (e.g. movement, light, temperature differences).
> No battery changing, no maintenance, no toxic waste
> Comprehensive ecosystem with interoperable products from numerous suppliers (international standard)
> Proven: EnOcean technology installed in over 1,000,000 buildings worldwide

Wireless sensors and Wi-Fi access points make buildings smart in an instant.

_7 A dynamic network for professional Smart Spaces

The EnOcean Alliance is an international association of leading companies in the building and IT industries. Founded in 2008, the open non-profit society is committed to developing and marketing interoperable, maintenance-free and field-proven system solutions for smart homes, smart buildings and smart spaces based on the EnOcean wireless standard (ISO/IEC 14543-3-10/11).

Scan the QR code to learn more about the world of energy harvesting wireless Smart Homes.

www.enocean-alliance.org/products

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Building Smarter Connectivity