Transformation in the modern workplace:
How technology is revolutionizing health, safety and productivity for tomorrow's offices

As businesses across the globe anticipate employees returning to offices, emerging technologies enable corporate leaders to reimagine the workplace as an *experiential destination*.

Smart offices promise to promote employee health, security and comfort by continually synthesizing and responding to the needs of their inhabitants, ushering in a new era of personalized flexibility that will draw and retain talent, drive engagement, and boost performance.

Covid-19 impact on enterprise, employees & environment

The pandemic reshaped industrial and digital landscapes by sorting and establishing essential and non-essential businesses and pushing traffic online while reducing travel and cutting fuel consumption, cost and emissions.

Although the shift to remote work affords benefits, many employees suffer from inadequate facilities, distractions and a sense of disconnect. Working parents, particularly women, must juggle attendance to frequent zoom calls and children who are out of school. Mental health, productivity and innovation have taken a hit, and companies realize their employees need accommodations in space and flexibility.

To call for a return to the office, companies must instill confidence in both safety and comfort by prioritizing their investment in the employee journey.

Reimagining return to work through emerging tech

Over the past twenty-five years, "smart" buildings have evolved to combine IOT sensors, edge computing, computer vision, GPS, voice and other inputs to gather and securely process local data in real-time. AI and machine learning then contextualize data to govern and optimize conditions and predict and automate operational flow and maintenance. For remote workers, 5G and emerging devices promise a future of telepresence and collaboration through augmented, virtual and mixed reality and guidance from digital assistants.

Safety and health

A recent Honeywell survey found that sixty-eight percent of workers feel unsafe in their workplace, and a quarter of remote workers would rather find another job than return to a facility that does not adhere to safety guidelines.

Smart systems will afford security and cognizance through health screening and contact tracing of personnel upon entry, mask detection, measurement of crowd density and social distancing.

[UV sterilization and disinfectant-ready devices and equipment](#) allow for continual cleaning of scanners, computers and printers.

Companies seeking to upgrade existing, older structures will benefit most from predictive analytics, gaining insights for prioritizing maintenance to ensure safety. Monitoring and automation prevent accidents and mechanical failures of power and lights, HVAC, temperature, ventilation and air purification, security, fire, water and waste systems.

Communications through digital signage, wireless AV and room-based systems will offer employees critical awareness and ease of use.

Employee experience

[PWC](#) found that 87% of employees seek offices for problem solving with coworkers and for learning.

Speaking at a [recent round table discussion](#) hosted by a leading workplace futurist think tank, Mark Needham of Cisco said 'we need to treat the office as a consumer product and earn the loyalty of employees to keep them returning time and time again'.

The effort of travel to work should afford the reward of superior facility. Modern offices will offer a range of private, open and multipurpose rooms, featuring ample natural light, adjustable, modular furniture for sitting or standing, along with dining and exercise facilities to promote wellness. New audio technologies will eliminate noise distractions and enhance communication.

Employees will enjoy frictionless immersion upon arrival, using personalized workspace settings to enter via touchless access, navigate to their destinations, connect devices without setup, and save their ideal ergonomic and room temperature preferences.

Through scheduling and personalization, [a facility with 1,000 desk capacity can support 2,500 workers](#) who decide when to reserve space based on their needs, thereby driving higher morale, engagement and performance.
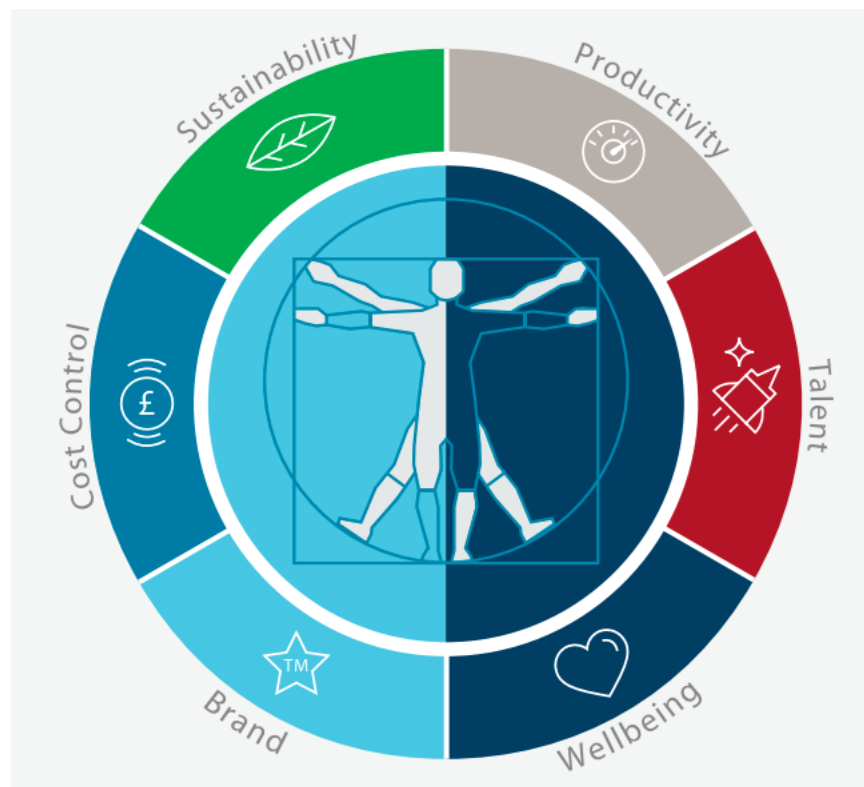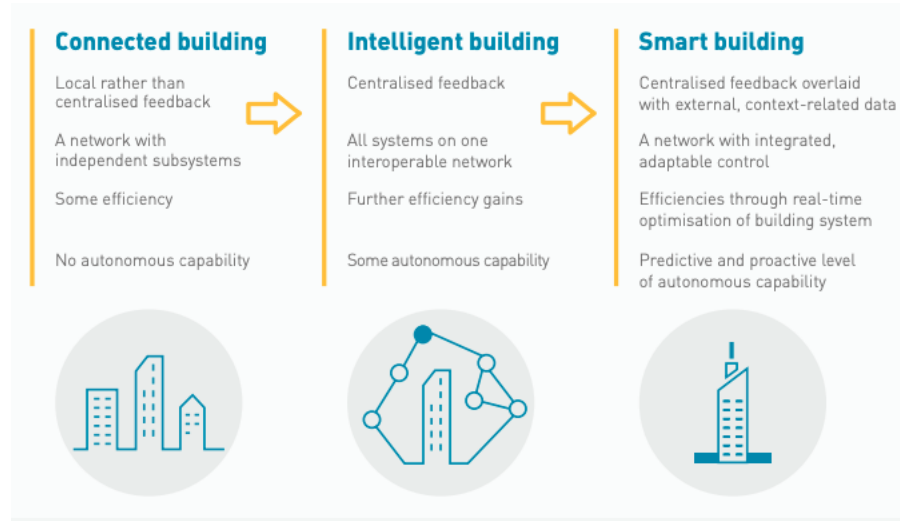
Quality of life & environment

[Amazon's HQ2 'indoor-outdoor building'](#) is slated for completion in 2025, and sets a very high bar for employee and environmental wellbeing. Companies who adapt to 'the new normal' will position themselves to offer an unprecedented standard of sustainable, professional lifestyle while making an ultimate statement of their brand's core values.

Experts project that smart offices [will cut 30% of urban emissions by 2050](#). A connected ecosystem may ultimately encompass personal devices, cars, homes, and buildings to comprise smart cities, like [Toyota's 'Woven City'](#), currently under development in Japan. Mass adoption of smart systems will continue to lower the cost of technology, thereby increasing ubiquity and environmental benefit.

Example graphics

https://officeagenda.britishland.com/assets/pdfs/smart-offices.pdf

Connected building

Local rather than centralised feedback

A network with independent subsystems

Some efficiency

No autonomous capability

Intelligent building

Centralised feedback

All systems on one interoperable network

Further efficiency gains

Some autonomous capability

Smart building

Centralised feedback overlaid with external, context-related data

A network with integrated, adaptable control

Efficiencies through real-time optimisation of building system

Predictive and proactive level of autonomous capability

Sustainability

Productivity

Talent

Wellbeing

Brand

Cost Control

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WORKPLACE

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TALKING POINTS EXTRACTED

Honeywell Connected Enterprise

OT - OPERATIONAL TECHNOLOGY

HONEYWELL - RETROFITTING HVAC & AIR PURIFICATION - UPDATING - SOCIAL DISTANCING, MASKS, HEALTH SCREENING VIA TEMP CHECK, UV STERILIZATION, CLEANING, TOUCHLESS ENTRY, CONTACT TRACING

CONNECTED OFFICE - TOUCHLESS ENTRY VIA PHONE APP, RESERVING CONFERENCES & WORKSPACES, NAVIGATION, TEMP CONTROL EMPLOYEE FEEDBACK
WHY RETURN TO WORK - MENTAL HEALTH, INNOVATION - ESSENTIAL AND NONESSENTIAL

REDUCED TRAVEL AND PAPER

AI, AR, 5G, RENEWABLE ENERGY

AI + 5G REDUCE COSTS OF ALTERNATIVE FUELS

BIOTECH

CHATBOTS TO VISIT REMOTE WORKERS, ZOOM MEETINGS

DISINFECTANT-READY DEVICES - SCANNERS, COMPUTERS, PRINTERS

ENSURE SAFETY AND COMFORT TO DRIVE EMPLOYEE ENGAGEMENT AND PERFORMANCE

OPTIMIZE OPERATIONAL COST WHILE PROMOTING ENVIRONMENTAL SUSTAINABILITY

MONITOR PERSONAL HEALTH TO PREVENT

ESSENTIAL VS NONESSENTIAL

WORKPLACE

1. BOOST EMPLOYEE ENGAGEMENT - take attention off of covid - focus on 1-1

Modular, flexible furniture for changing - social millennials/genz

Private-open spaces - SPACE PLANNING

Multipurpose, lounge, client lounge

Less personal space

Privacy pods, quiet zones

Wellbeing - natural light, sit-standing, encourage movement

Food - exercise -

Connectivity without setup

Digital training

2. SAFTEY VIA ANALYTICS, IOT, AI

- health monitoring + privacy + social distancing/safety:

CROWD DENSITY/SOCIAL DISTANCING, TEMP MONITORING, MASK DETECT, entry

ACCIDENT PREVENTION

3. REMOTE SUPPORT - AI/REMOTE COMM
DATA CAPTURE TOOLS - IMAGES, VOICE, GPS
COLLABORATION TOOLS

4. Women + diversity

SMART BUILDINGS

PERSONALIZATION

AUTOMATION OF FACILITY OPERATION - LIGHTS, TEMP, VENTILATION, SECURITY, POWER, WATER, POWER GRID

WATER - LEAK DETECTION & PREVENTION, MAINTENANCE, WASTE COLLECTION

EXISTING, OLDER STRUCTURES + NEW

OPTIMIZE ENERGY COST AND IMPACT WHILE MONITORING SAFETY

SUSTAINABLE, PRODUCTIVITY, COST EFFICIENCY

PRIORITIZED ENERGY

granular data monitoring and *advanced analytics*

granular data monitoring - more sensors, more measurements, more data and improvements

advanced analytics - integrate, predict and make sense of data streams

IMPACT

30% CUT BY 2050 URBAN EMISSIONS