

Buildings Sector Transformation: Top Strategic Imperatives and Growth Scenarios

Empowering Growth Through AI, Sustainability,
and Operational Resilience in Smart Buildings

FOCUS POINTS

1	FROM RISK TO RESILIENCE: ADAPTIVE APPROACHES
2	BUILDINGS SECTOR SCENARIOS AND STRATEGIC PRIORITY
3	EVOLUTION FRAMEWORK OF BUILDINGS
4	TOP 10 STRATEGIC IMPERATIVES IN SMART BUILDINGS
5	CHALLENGES PREVAILING IN SMART BUILDINGS
6	NEXT-GEN APPROACHES IN SMART BUILDINGS
7	CALL TO ACTION FOR SMART BUILDING ADVANCEMENT
8	THE EUROPEAN WAY FORWARD
9	KEY TAKEAWAYS

FROM RISK TO RESILIENCE: ADAPTIVE APPROACHES

WHAT'S HOLDING US BACK

Escalating operations and maintenance expenses, plus ESG compliance demands

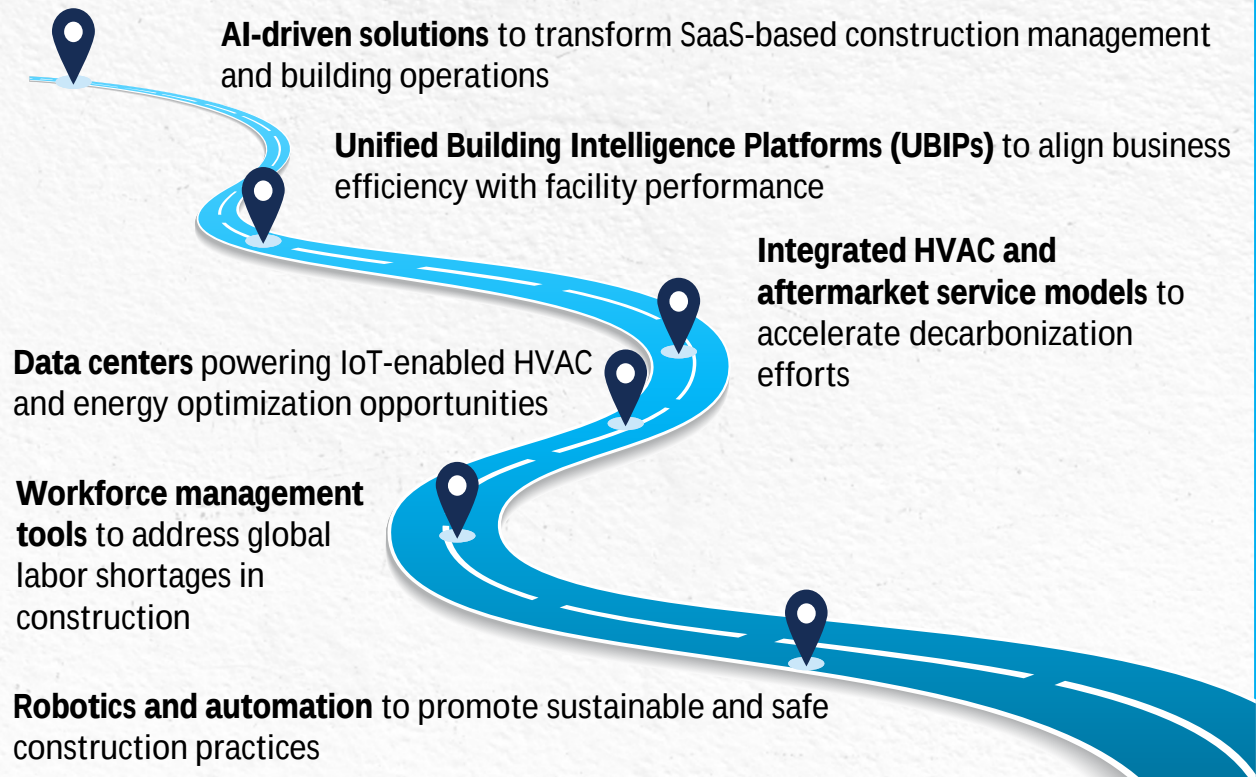
Complexities in AI adoption and data management

Concerns around data storage, privacy, and security

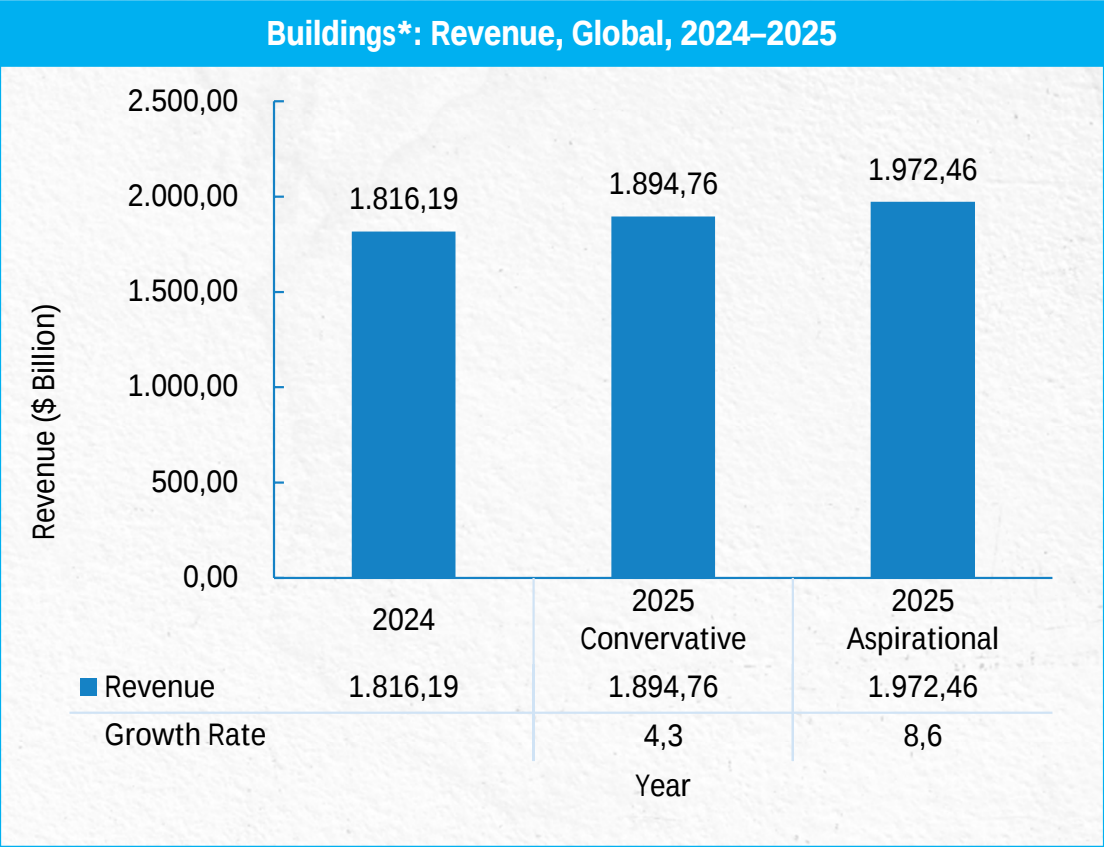
Limited availability of skilled labor for maintenance, repairs, and construction

Global market volatility and uncertainty

HOW WE MOVE FORWARD



BUILDINGS SECTOR SCENARIOS AND STRATEGIC PRIORITY



* Comprises smart building management, critical building equipment (HVAC, fire, security, elevator, etc.), lighting, facility management, construction management, and smart homes only

Smart Buildings as a Strategic Priority

SMART BUILDINGS

- Sustainable climate-smart systems
- Digitized maintenance
- Integrated smart building platforms

50B

IoT devices by 2050

70%

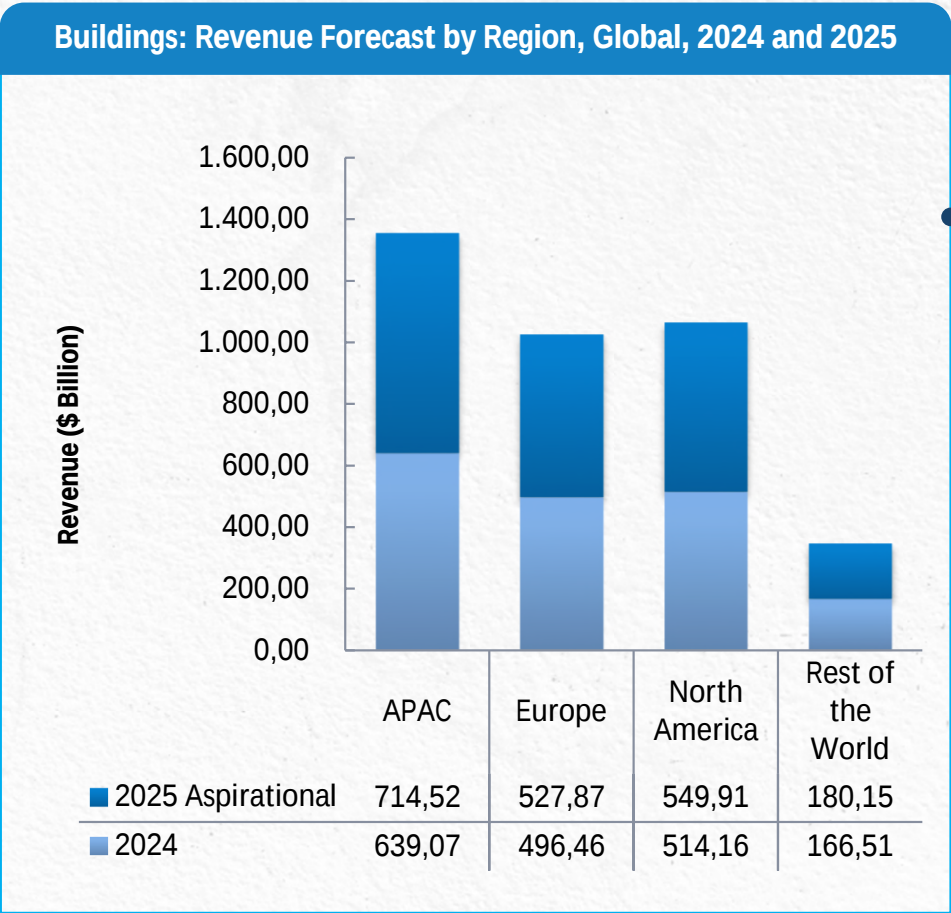
Building energy consumption from HVAC and lighting

3 to 5 years

Smart buildings ROI

BUILDINGS SECTOR SCENARIOS AND STRATEGIC PRIORITY

Growth And Segment Focus

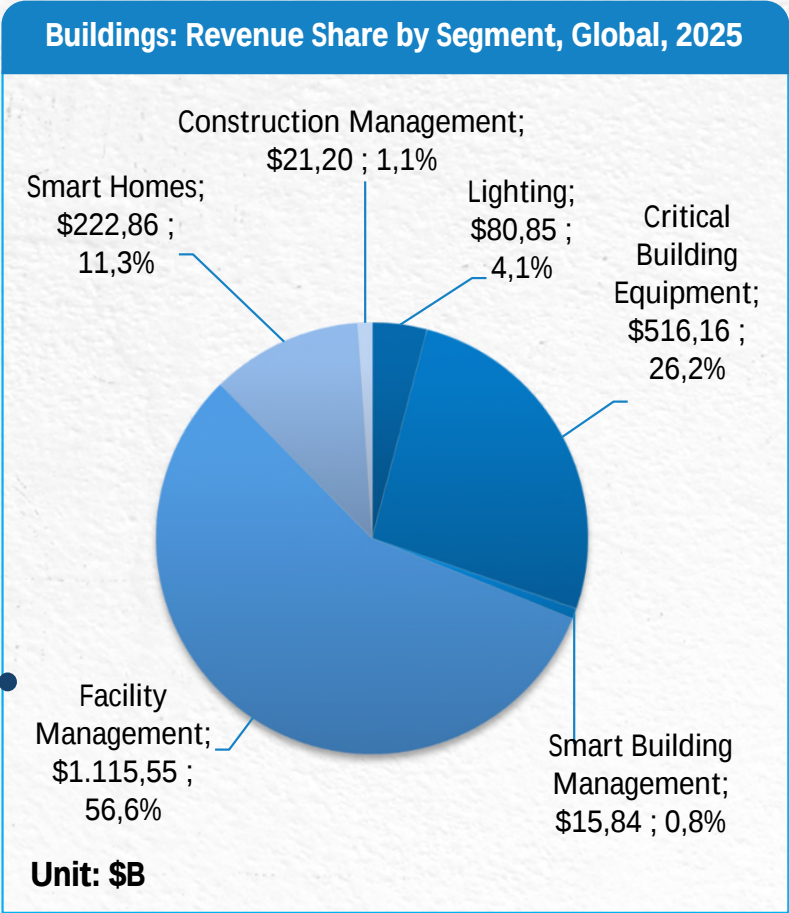


Fastest growing region in 2025:
APAC (11.8%)

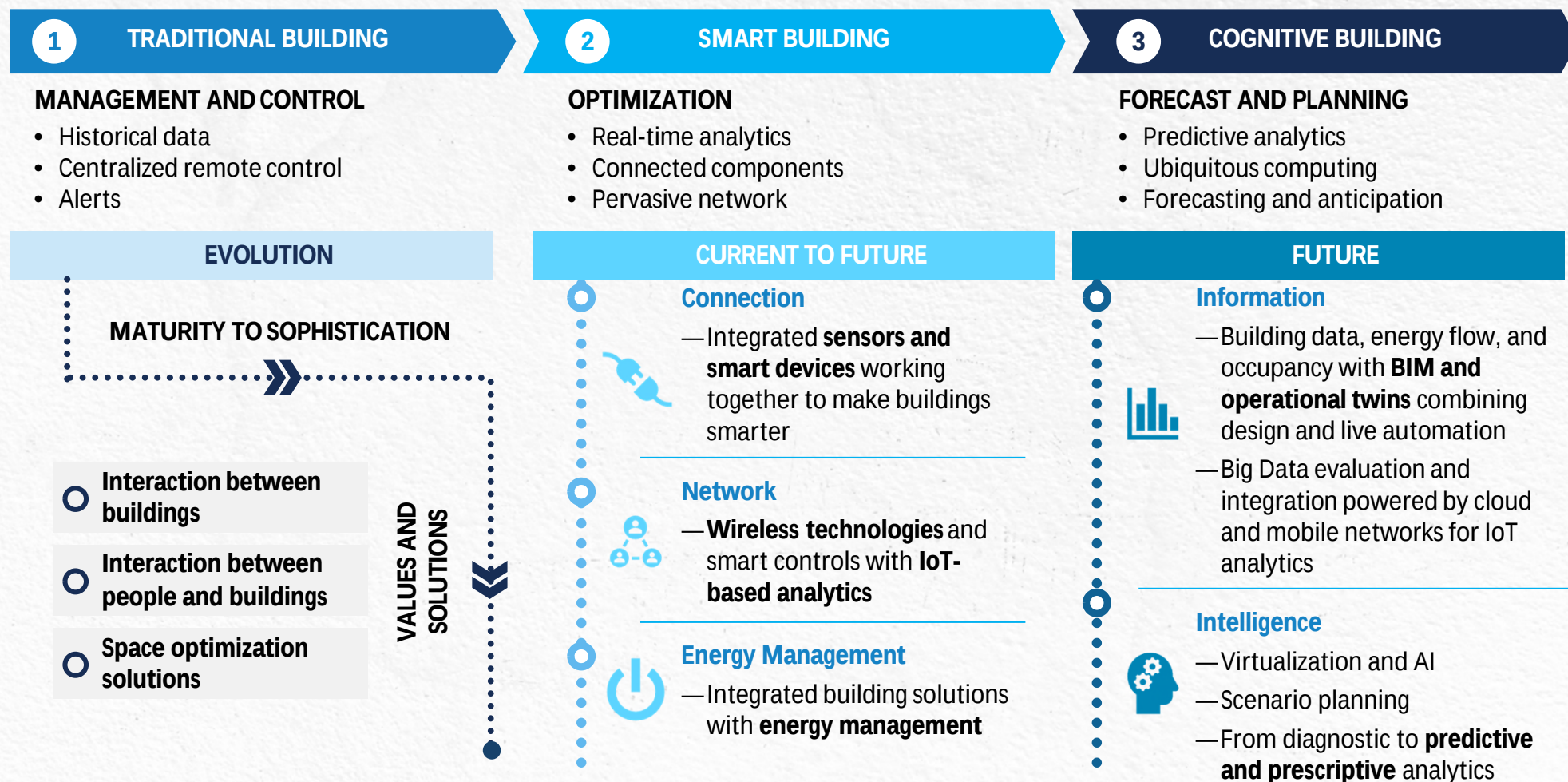
Other regions' growth rates:
ROW (8.2%)
North America (7.0%)
Europe (6.3%)

Fastest growing segment in 2025:
Construction Management

Other key segments for growth:
Smart Building Management
Critical Building Equipment



EVOLUTION FRAMEWORK OF BUILDINGS



TOP 10 STRATEGIC IMPERATIVES IN SMART BUILDINGS

The Top Transformations Impacting Future Growth Potential

Transformative Megatrends



1. Evolution of Decentralized Energy
for net-zero goals,
reducing grid reliance
despite cost challenges

Innovative Business Models



2. AI for Predictive Building Maintenance
uses IoT and digital twins
for real-time alerts and
equipment reliability

Industry Convergence



3. Cross-industry Partnerships
drive innovation and cost
savings, and BAS through
shared resources

Value Chain Compression



4. Mobile Platforms
simplify BAS, enabling
efficient control of HVAC,
lighting, and security

Geopolitical Chaos



5. Resilient Infrastructure
to withstand disasters,
geopolitical risks, and
health crises

Disruptive Technologies



6. Augmented Reality
improves training,
troubleshooting, and safety
with visual guidance

Internal Challenges



7. Data Privacy and Security
protect building data
without compromising
performance

Transformative Megatrends



8. Carbon-neutral Solutions
to drive buildings
sustainability and
efficiency

Internal Challenges



9. Digital Resistance
must be addressed via
training and phased
deployment

Competitive Intensity



10. AI Start-ups
drive innovation, pushing
traditional providers
toward partnerships

TOP 10 STRATEGIC IMPERATIVES IN SMART BUILDINGS

Highlights

Evolution of Decentralized Energy

- 40%** Buildings use 40% of global energy
- \$100B** Decentralized energy investment projected in next decade
- 70%** Solar and wind dominate decentralized energy mix
- 2050** Net-zero target year for many countries

Resilient Infrastructure

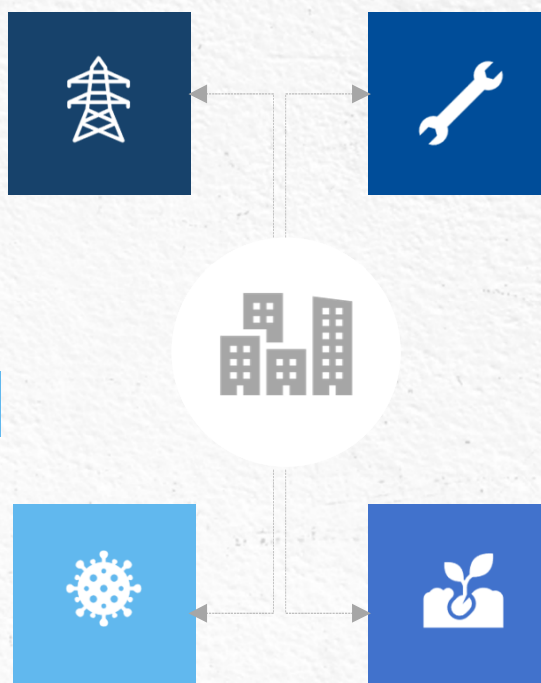
- \$300B** Global disaster-related losses in 2024
- 2 Weeks** Average supply chain disruption during major geopolitical events
- 40%** 40% of project delays are linked to geopolitical disruptions
- \$130B** Annual investment needed for climate-resilient infrastructure worldwide

AI for Predictive Building Maintenance

- 50%** AI reduces unexpected equipment failures by nearly 50%
- 3** Digital twins, IoT sensors, and generative AI are the 3 major technologies
- 70%** Up to 70% of HVAC issues can be prevented with predictive analytics
- 2X** 2X ROI vs traditional maintenance

Carbon Neutral Solutions

- \$1.5T** Estimated annual investment for global carbon-neutral infrastructure by 2050
- 1B** Buildings worldwide could integrate renewable energy by 2050
- 80%** Carbon-neutral policies cover 80% of global urban development plan
- 3** Renewable energy, efficient materials, and digital analytics are the 3 solutions



CHALLENGES PREVAILING IN SMART BUILDINGS

Rising Construction Costs and Projects Delay



Construction costs have jumped since 2020

20%++

Retiring Skilled Workforce for General Maintenance and Repairs



FM workers may retire by 2030

4 in 10

Increasing O&M Costs and Pressure towards ESG Compliance



O&M as percent of building lifecycle cost

70%

Data Integration Challenges in Multi-site Enterprises



Firms with fully integrated building systems

16%

Capital Risks in High Value Infrastructure Projects



Percent of mega projects go over budget

60%

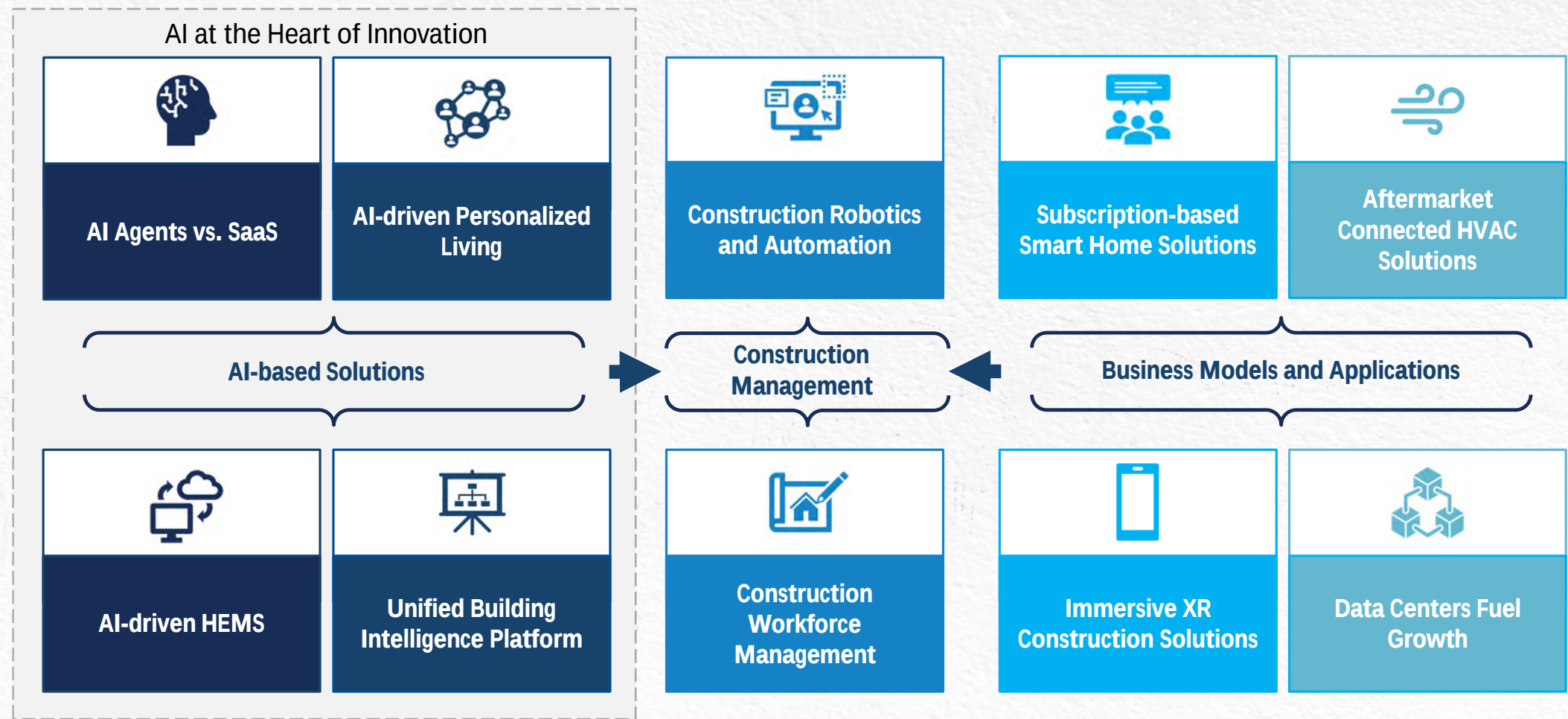
Lack of Integrated Approach in Equipment Maintenance



Unplanned downtime costs more than planned maintenance

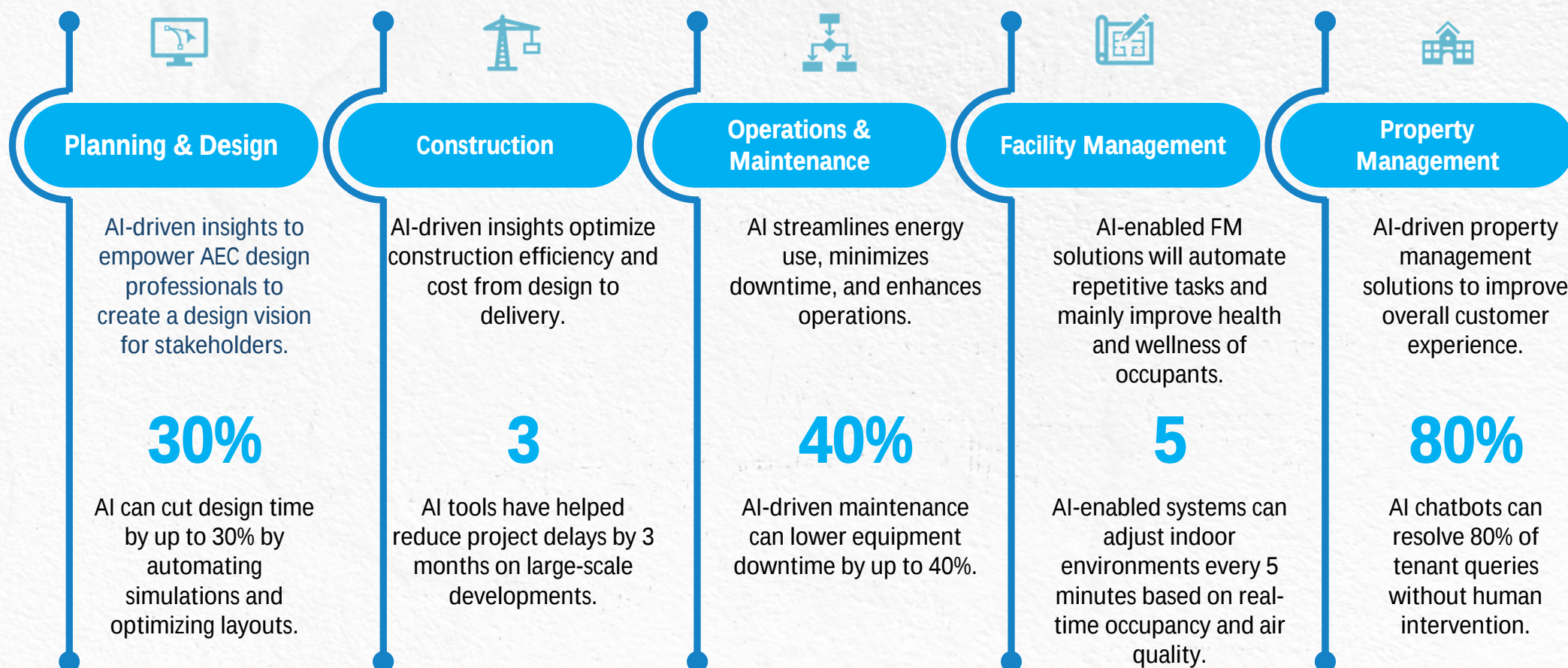
10x more

NEXT-GEN APPROACHES IN SMART BUILDINGS



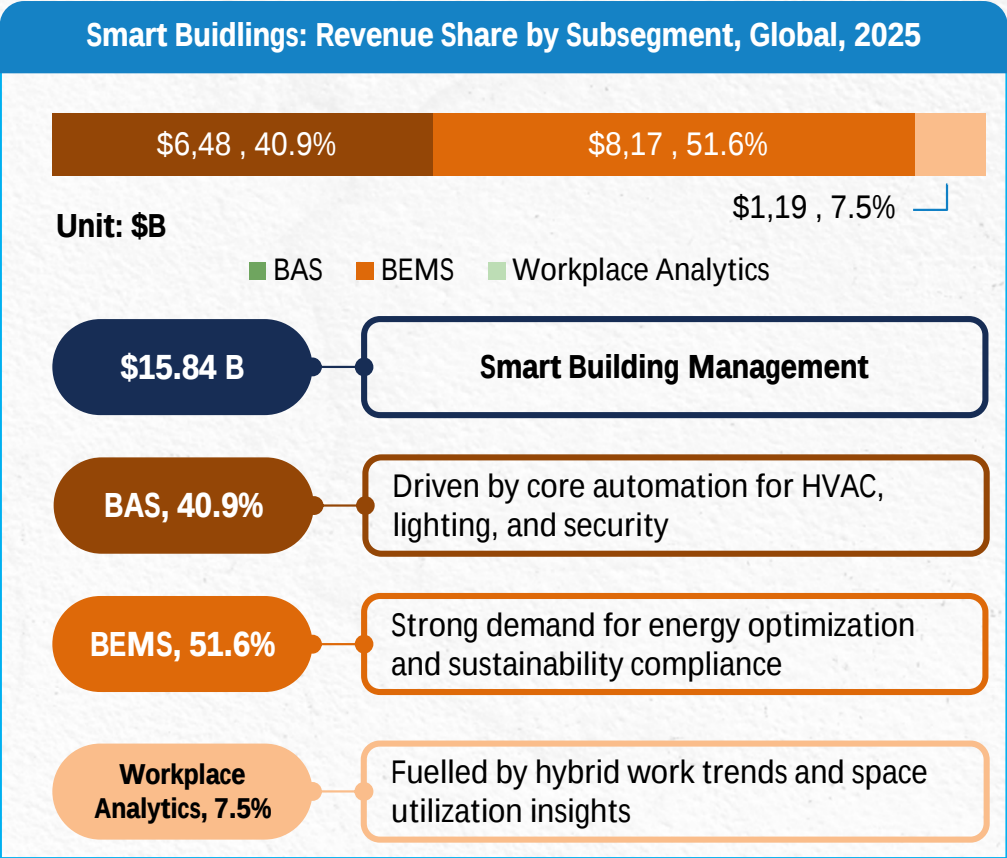
NEXT-GEN APPROACHES IN SMART BUILDINGS

AI Value Creation In Digital Lifecycle Management



NEXT-GEN APPROACHES IN SMART BUILDINGS

Metrics and Strategic KPIs



KPIs	Trend	Comments
AI and IoT-driven Solutions	↑	• AI-based smart buildings and infrastructure revenue to grow over 25% in 2025
Climate-smart Solutions	↑	• Climate-smart solutions revenue to grow by 12.5% in 2025
PropTech Innovation	↑	• PropTech market to register over 9% growth in 2025
AI Agents vs. Software-as-a-service	↑	• Vendors will build AI agents to automate tasks and link productivity tools with building OT
Energy Efficiency Policies	↑	• Energy efficiency policies are being updated and favouring BEMS solutions

NEXT-GEN APPROACHES IN SMART BUILDINGS

AI-Based Solutions and Growth Opportunities

As-built Verification during Construction

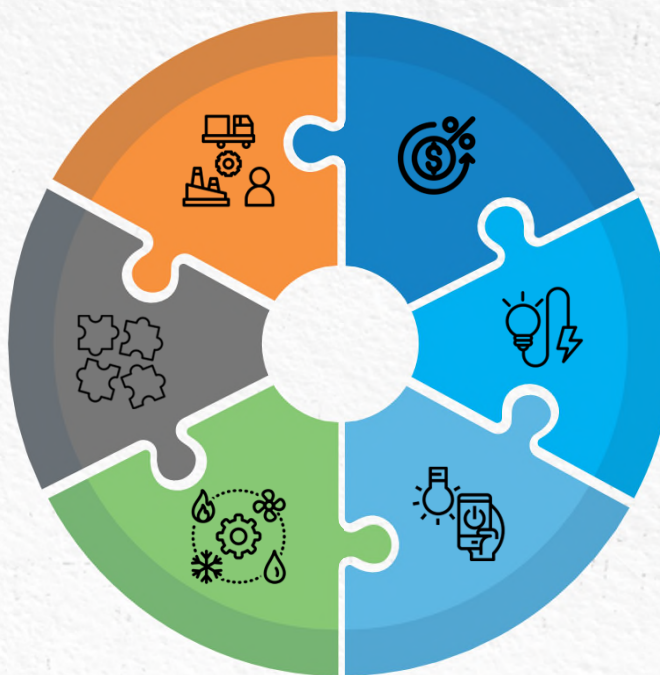
AI-enabled reality capture creates video documentation and supports as-built verification from pre-construction to handover.

Outcome-based BIM

AI simplifies design and unifies BIM workflows, shifting from traditional modeling to outcome-based design.

Data-driven Healthy Building Solutions

AI helps facility managers enhance occupant comfort and wellness through data-driven occupancy, cleaning, and pipe monitoring.



Cognitive Built Infrastructure

AI helps build low-carbon, cognitive mega-infrastructures by reducing capital risks through digital twin-enabled Metaverse platforms.

Building Energy Optimization

AI-driven energy optimization using deep reinforcement learning analyzes multiple factors to set optimal performance parameters.

Building Asset Maintenance

AI-driven digital maintenance transforms building operations with remote services and a proactive approach.

CALL TO ACTION FOR SMART BUILDING ADVANCEMENT

Invest in R&D



- Decentralized energy + AI predictive maintenance can cut costs by **20–30%**.
- These innovations accelerate smart building adoption and reduce reliance on traditional grids.

Cross-industry collaboration



- Partnerships improve BAS efficiency; **70% of firms** prioritize joint innovation.
- Collaboration fosters creativity and speeds up technology integration across sectors.

Boost Resilience



- AR-enabled BAS reduces downtime by **40%**.
- Resilient systems protect operations during disasters and geopolitical disruptions.

Secure and sustain



- Carbon-neutral tech can lower emissions by **40%**.
- Strong data protection builds trust and ensures long-term sustainability.

Drive digital adoption

- AI and mobile platforms deliver **2X ROI** vs traditional systems.
- Digital tools enhance user experience and streamline building operations.

THE EUROPEAN WAY FORWARD

In 2025, Europe's growth outlook is **moderate** compared to APAC and North America. While APAC leads in scale and speed, Europe stands out for **regulatory-driven sustainability** and **innovation in energy efficiency**.

Leverage ESG leadership

Turn compliance into competitive advantage by accelerating decarbonization and zero-emission building strategies.

Double down on digitalization

Expand AI, IoT, and smart building ecosystems to match APAC's tech adoption pace.

Service-based business models

Move beyond product sales to subscription-based offerings and data-driven platforms.

Health and wellness as driver

Position IAQ and adaptive HVAC as premium differentiators.



KEY TAKEAWAYS

1

ESG Leadership Drives Advantage

Compliance becomes a growth lever through decarbonization and zero-emission strategies.

2

Digitalization is Non-Negotiable

AI, IoT, and smart ecosystems are critical to match global tech adoption.

3

Service-Based Models Gain Traction

Shift from products to subscription and data-driven platforms.

4

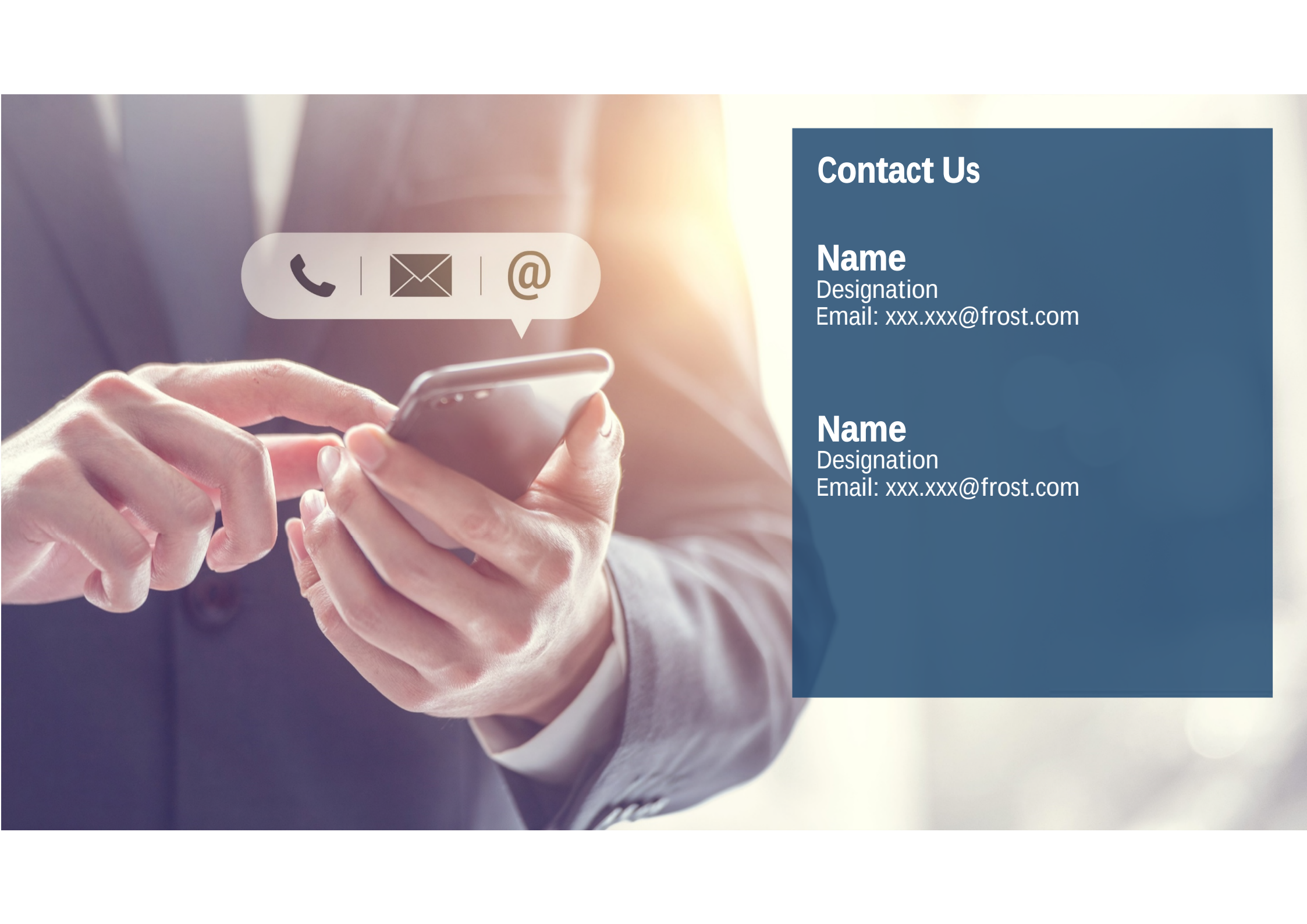
Health and Wellness as Differentiators

IAQ and adaptive HVAC remain premium features for occupant well-being.

5

Innovation and Resilience Secure the Future

R&D, collaboration, and carbon-neutral solutions ensure long-term competitiveness.



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