

Green Intelligent Homes: A Perspective on the Future of Smart Homes and their Implications

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Smart Homes

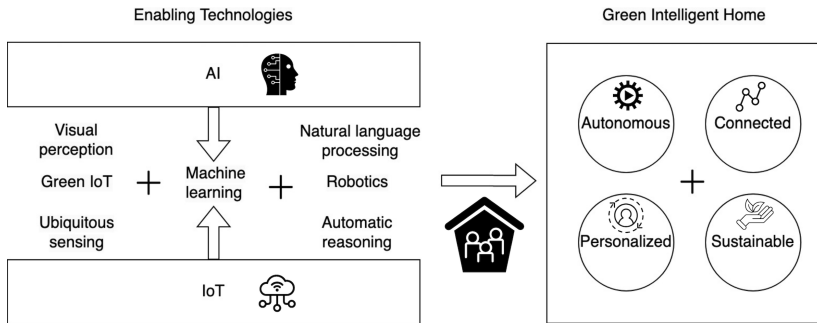
Smart homes allow the residents to remotely manage and control different aspects of their home

- ▶ 375.3M smart home devices in 2024 (Statista, 2023)
- ▶ ~20 connected devices in a US household by 2025 (Parks Associates, 2023)
- ▶ > 160% increase in publications from 2015-2020 (Dimensions, 2023)



The Green Intelligent Home

Green Intelligent Homes use IoT and AI to provide an optimal smart living environment for the residents







A conceptual representation of the Green Intelligent Home

The Implications of the Green Intelligent Home

- ▶ Privacy and security: vulnerabilities in devices/networks, intimate/personal data, and surveillance
- ▶ Energy consumption: energy costs, higher pollution, and power requirements
- ▶ Manipulation of people and inequality risks: targeted messages, profiling families, and high costs
- ▶ Lack of self-sufficiency: helplessness, social isolation, and anxiety

Smart home characteristic	Privacy and security	Energy consumption	Manipulation and inequality risks	Lack of self-sufficiency
Autonomous	●	●	●	●
Personalized	●	○	●	●
Connected	●	●	●	○
Sustainable	○	●	○	○

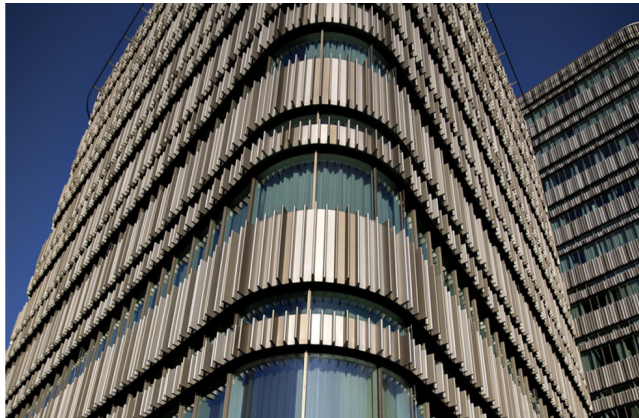





Concerns and characteristics of the Green Intelligent Home

Final Remarks

- ▶ Smart homes are a rapidly evolving technology
- ▶ The green intelligent home is an evolution of the smart home
- ▶ A framework for the responsible development of smart homes is suggested

Thank You for Your Attention!



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