










사물인터넷의 활용과 효과

[Week 6] 모든 것이 연결되는 세계, 사물인터넷

사물 인터넷 어디에 사용되나

부문	기본적인 설명	사례
인간생활(Human)	사람의 몸 안이나 바깥에 부착된 기기	- 사람의 건강이나 웰빙을 유지하고 모니터링하기 위한 장비: 질병관리, 건강유지, 생산성 증대
가정 (Home)	사람들이 사는 건물	- 가정 통제시스템 혹은 안전유지 시스템
소매 환경(Retail Environment)	소비자들이 상업 활동에 몰두하는 장소	- 상점, 은행, 식당 등 소비자가 물건을 사거나 고려하는 장소: 셀프 계산(self-check out), 상점 내 제안(in-store offer) 재고 관리
사무실(Offices)	지식노동자들이 일하는 장소	- 사무실 건물에서의 에너지와 안전관리: 생산성 개선 (이동중인 고용자를 포함)
공장 (Factories)	표준화된 생산환경 (Standardized production environments)	- 병원과 농장을 포함하여 반복적인 작업이 이루어지는 장소: 효율성을 증대시키고 장비사용과 재고를 최적화
직업장 (Worksites)	특정화된 생산환경 (Custom production environments)	- 광산, 기름과 가스, 건설: 효율성을 제고하고 유지관리를 사전에 계획하며, 직업장에서 일하는 사람들의 건강과 안전을 유지
운송수단 (Vehicles)	움직이는 운송수단 내부의 시스템	- 자동차, 트럭, 선박, 비행기, 기차 등을 포함하는 운송수단 각각의 조건에 최적화된 유지관리, 사용자 편의성을 담보한 디자인, 판매되기 전 상황에서의 다양한 분석(pre-sales analytics)
도시(Cities)	도시 환경	- 도시 환경에서의 공공 인프라와 공공장소: 환경에 적응하는 교통통제, 환경통제, 자원관리
기타(Outside)	도시환경과 기타 외부의 공간에 존재하는 것	- 기차 트랙(railroad tracks), 도시를 제외한 지역에서의 자율주행차, 항공네비게이션 실시간 도로관리(real-time routing), 연결된 네비게이션, 출하 추적(shipment tracking)

A “settings” lens helps capture all sources of value; we identify nine settings where IoT creates value

Setting		Description	Examples
	Human	Devices attached to or inside the human body	Devices (wearables and ingestibles) to monitor and maintain human health and wellness; disease management, increased fitness, higher productivity
	Home	Buildings where people live	Home controllers and security systems
	Retail environments	Spaces where consumers engage in commerce	Stores, banks, restaurants, arenas—anywhere consumers consider and buy; self-checkout, in-store offers, inventory optimization
	Offices	Spaces where knowledge workers work	Energy management and security in office buildings; improved productivity, including for mobile employees
	Factories	Standardized production environments	Places with repetitive work routines, including hospitals and farms; operating efficiencies, optimizing equipment use and inventory
	Worksites	Custom production environments	Mining, oil and gas, construction; operating efficiencies, predictive maintenance, health and safety
	Vehicles	Systems inside moving vehicles	Vehicles including cars, trucks, ships, aircraft, and trains; condition-based maintenance, usage-based design, pre-sales analytics
	Cities	Urban environments	Public spaces and infrastructure in urban settings; adaptive traffic control, smart meters, environmental monitoring, resource management
	Outside	Between urban environments (and outside other settings)	Outside uses include railroad tracks, autonomous vehicles (outside urban locations), and flight navigation; real-time routing, connected navigation, shipment tracking

SOURCE: McKinsey Global Institute analysis

자료 : McKinsey. (2015). “THE INTERNET OF THINGS: MAPPING THE VALUE BEYOND THE HYPE _ EXECUTIVE SUMMARY”. p. 1–24. <그림. 1> 인용.

냉장고와 사물인터넷, 인공지능의 결합 : 연결된 냉장고



자료 : 삼성전자 뉴스룸, <https://news.samsung.com/kr/>



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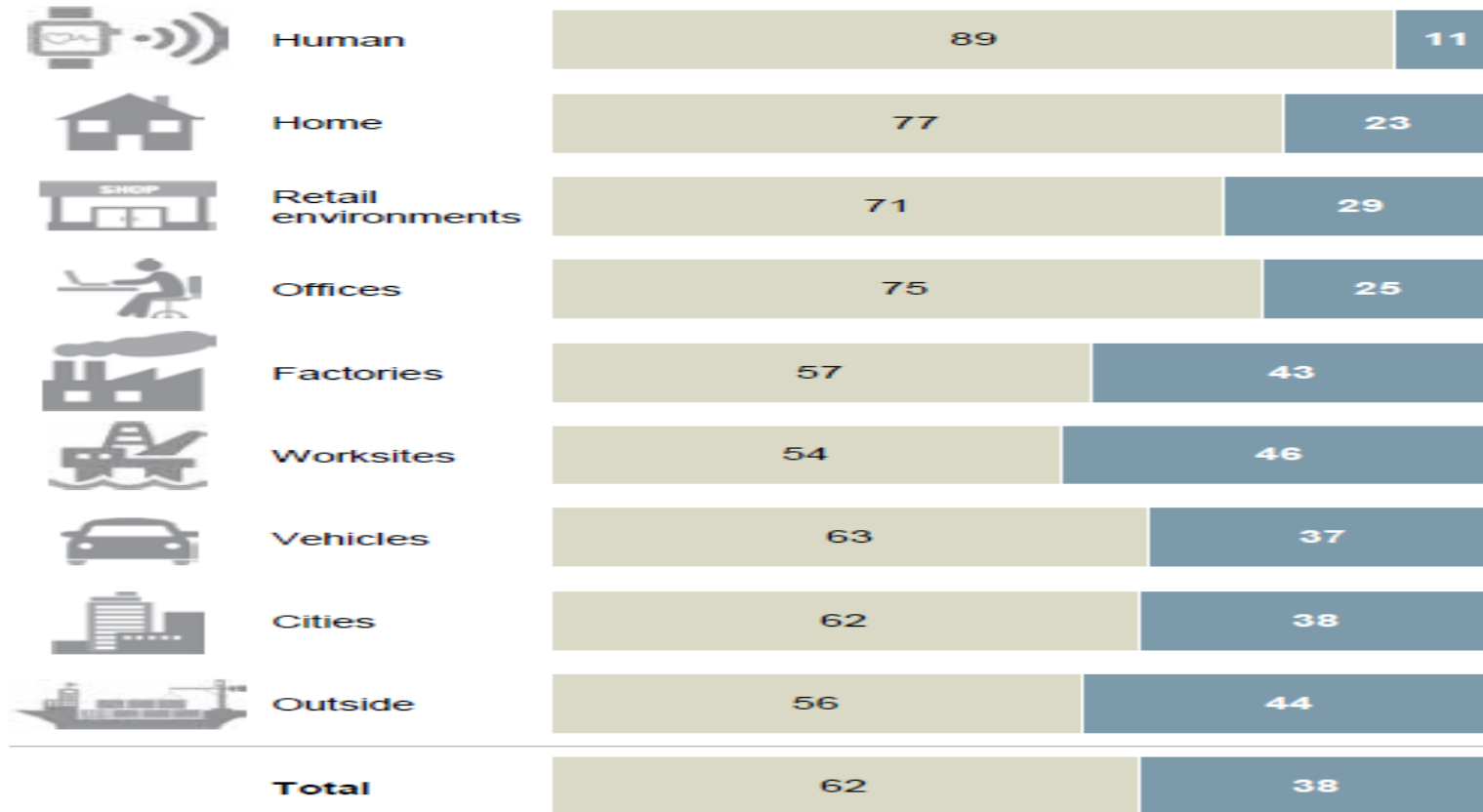
사물인터넷의 경제적 영향

- Michael Mandel의 예측
 - 사물인터넷은 미국의 GDP를 2025년까지 2-5% 정도 상승시킬 것임.
 - 이것은 이 기간 동안 매년 미국의 GDP를 0.2-0.4% 정도 향상시키는 효과를 가져옴.
- McKinsey의 추정
 - 사물인터넷은 전 세계적으로 2025년까지 세계의 GDP를 2.7조 달러에서 6.2조 달러 증가시킬 것임.
- Cisco
 - 사물인터넷을 효과적으로 활용하면 향후 10년 동안 이것을 활용하는 기업과 국가에 14.4조 달러의 혜택을 주게 될 것임.

More value from IoT could be created in advanced economies, but the number of deployments could be higher in the developing world

%

Settings



Reasons for different levels of impact

Health-care spending in advanced economies is twice that in developing economies

Higher values in advanced economies outweighs higher number of emerging market households

Higher adoption and values in advanced economies, but large number of retail settings in developing markets

Higher costs and wages in advanced economies raises value of impact

Larger investments in automation in advanced economies but large number of factories in emerging markets

Higher adoption in advanced economies outweighs larger number of developing economy deployments

Higher costs in advanced economies

More autonomous vehicles in advanced economies, but larger number of cities and populations in developing markets

Transportation/shipping spending higher in advanced economies

NOTE: Numbers may not sum due to rounding.

SOURCE: McKinsey Global Institute analysis

자료 : McKinsey. (2015). "THE INTERNET OF THINGS: MAPPING THE VALUE BEYOND THE HYPE _ EXECUTIVE SUMMARY". p. 1-24. <그림. 2> 인용.



자료 : 삼성전자 뉴스룸, <https://news.samsung.com/kr/>






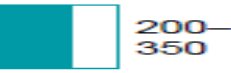



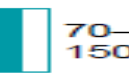





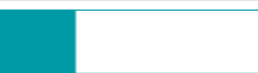




자료 : 삼성전자 뉴스룸, <https://news.samsung.com/kr/>

Potential economic impact of IoT in 2025, including consumer surplus, is \$3.9 trillion to \$11.1 trillion

Size in 2025¹

\$ billion, adjusted to 2015 dollars

■ Low estimate □ High estimate

Settings		Total = \$3.9 trillion–11.1 trillion		Major applications
	Human		170– 1,590	Monitoring and managing illness, improving wellness
	Home		200– 350	Energy management, safety and security, chore automation, usage-based design of appliances
	Retail environments		410– 1,160	Automated checkout, layout optimization, smart CRM, in-store personalized promotions, inventory shrinkage prevention
	Offices		70– 150	Organizational redesign and worker monitoring, augmented reality for training, energy monitoring, building security
	Factories		1,210– 3,700	Operations optimization, predictive maintenance, inventory optimization, health and safety
	Worksites		160– 930	Operations optimization, equipment maintenance, health and safety, IoT-enabled R&D
	Vehicles		210– 740	Condition-based maintenance, reduced insurance
	Cities		930– 1,660	Public safety and health, traffic control, resource management
	Outside		560– 850	Logistics routing, autonomous cars and trucks, navigation

¹ Includes sized applications only.

NOTE: Numbers may not sum due to rounding.

SOURCE: McKinsey Global Institute analysis

자료 : McKinsey. (2015). “THE INTERNET OF THINGS: MAPPING THE VALUE BEYOND THE HYPE _ EXECUTIVE SUMMARY”. p. 1–24. <그림. 3> 인용.

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