

Technologies for Smart Ageing City

November 17, 2016

Presented By

William Li

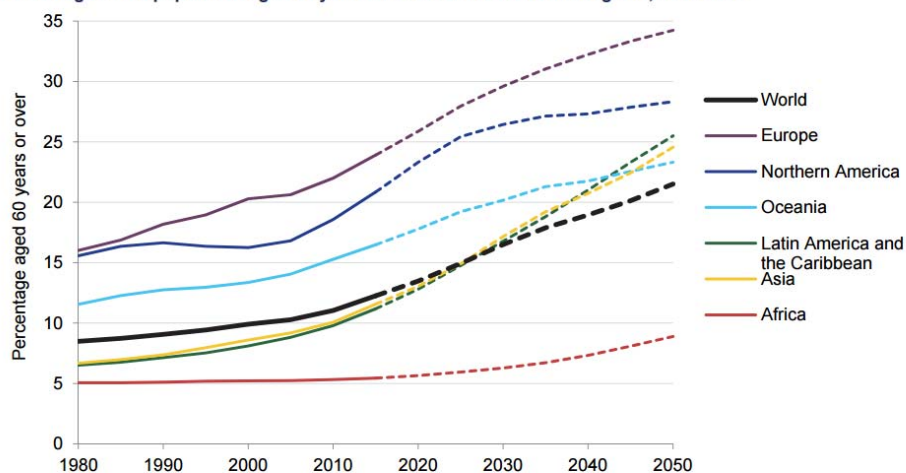
*Assistant Vice President
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HKT Limited*

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Global population aged over 60 years: **12.3%** (2015)
Projected to rise to **21%** (2050)

Figure II.18.
Percentage of the population aged 60 years or over for the world and regions, 1980-2050



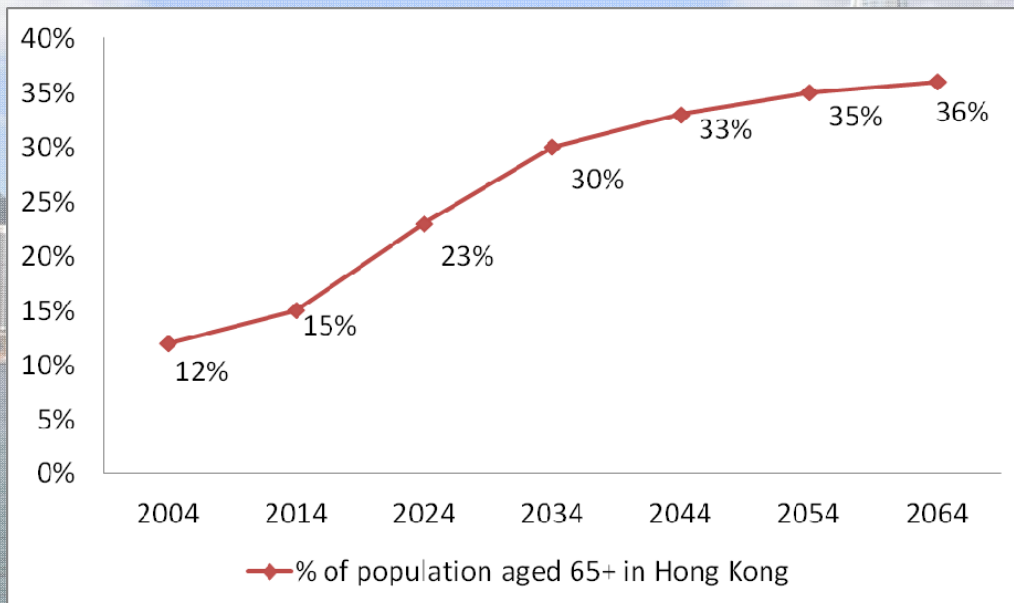
Data source: United Nations (2015). *World Population Prospects: The 2015 Revision*.

Source url: http://www.un.org/en/development/desa/population/publications/pdf/ageing/WPA2015_Report.pdf

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Ageing population in HK projected to **rise** steadily and will account for **36%** of total population in **2064**



*Census and Statistics Department's recent report - http://www.censtatd.gov.hk/FileManager/EN/Content_1170/pop_proj_14based_slide.pdf

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How technologies facilitate Smart Living?



**Health
& Wellness**



Home Safety



Lifestyle

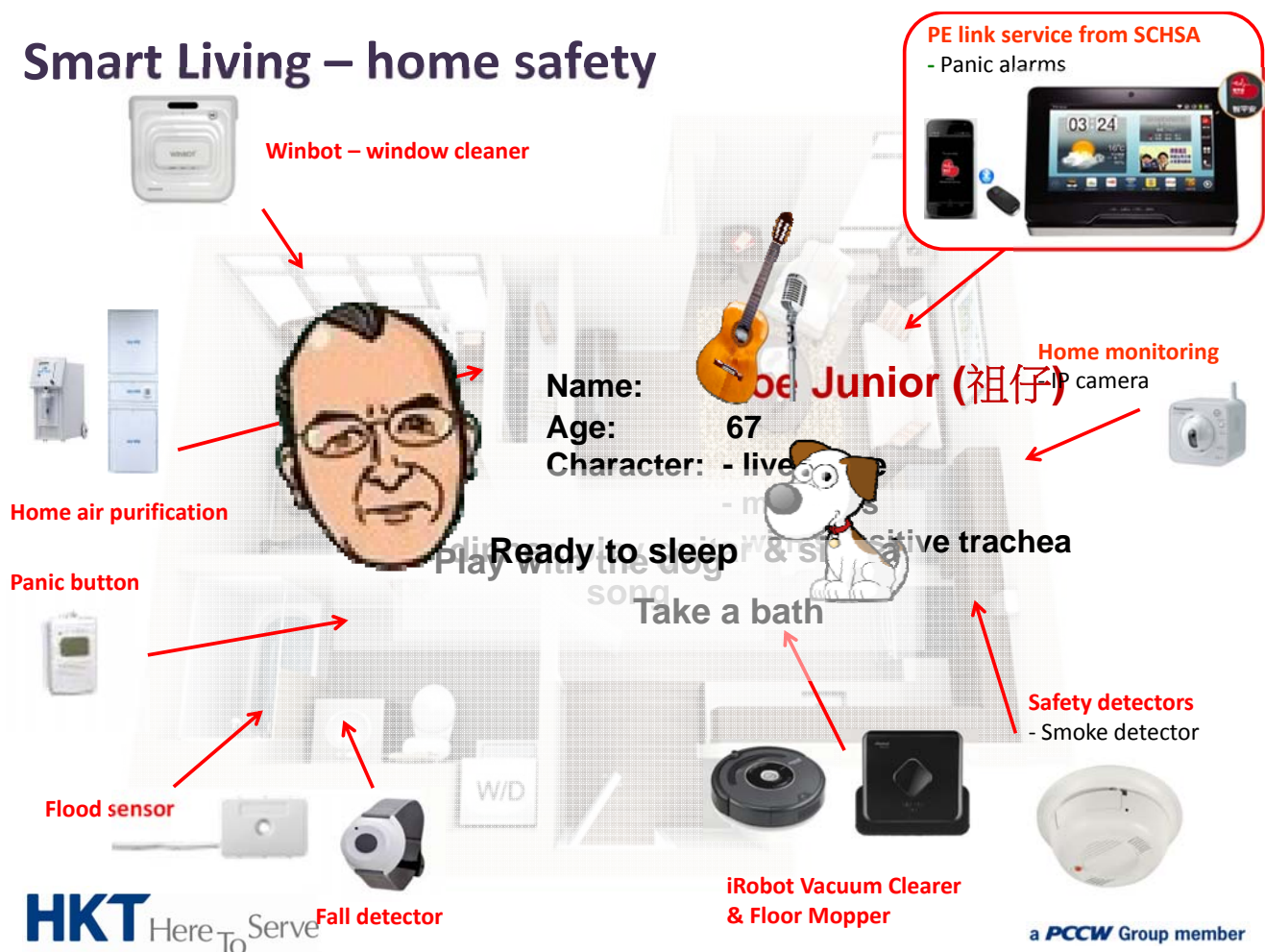
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Smart Living – health & wellness



Smart Living – home safety



Smart Living – Home Automation

Room controller

- Room AC control with temperature & presence sensor



Home Automation

- Sleeping mode
- Switch off all

AV system control & automation

- Theatre Mode



Automatic curtain control

Automatic window control



humidity sensor

Home Automation controller

- Central process unit supports wired & wireless home automation and apps control



Mirror TV

- anti-fog

Floor warming automation

- Room controller integrates with floor heating appliances

Motion detection & automation

- Motion
- Welcome mode

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Raining in the mid-night

Age: 78

Mr. Patrick Tse (四哥)

Go to sleep - home and opens the door

Watch a movie

On the way home

after playing mahjong outside

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Cloud-Based Health Data and Nursing Portal for Individuals



• Home eHealth Solution for Elderlies



BPM



BGM



Thermometer



Oximeter



Weight Scale

BLE Connection

Wi-Fi Connection *

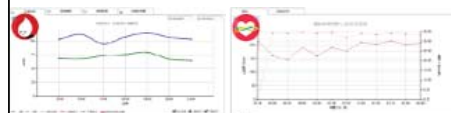


Auto Data Uploader (in Bind Mode)

Easy & Non intrusive set up @ home



www.eSmartHealth.com AND eSmartHealth App on Android & iOS



- Automatic wireless upload
- Secured data storage
- Professional charts for data analysis
- Personalized health alerts
- Share data with authorized family and/or medical professionals

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1

Start Operation

Members required to login eSmartHealth app on dedicated Android tablet at eSmartHealth station by own



2

User Identification

- scan own octopus card / NFC / barcode membership card
- Then take health measurement by supported health devices



3

Health Devices



4

Data upload & View Data remotely

- Members will then confirm and upload data by own to eSmartHealth cloud via tablet
- Members can view data via eSmartHealth website and smartphone. Charting, sharing, printing & alerts available
- Health Care Professionals can view authorized members' health records via secured & consolidated administrative portal



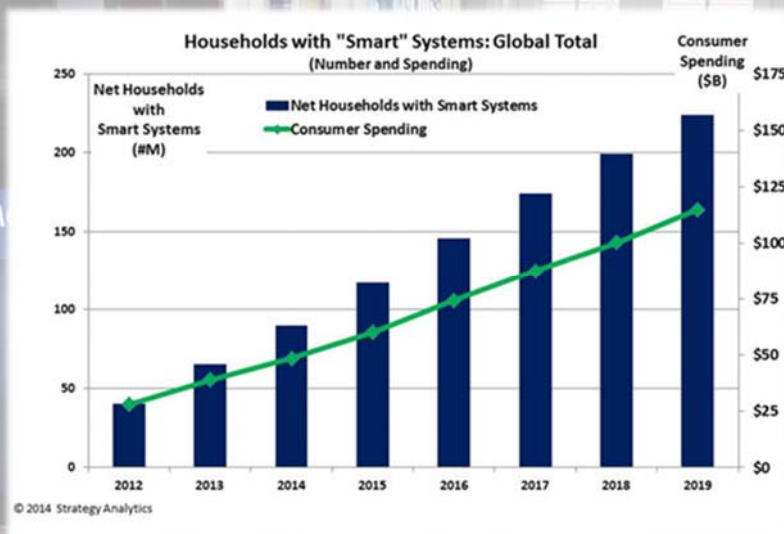
The Eco System with Stakeholders





Smart Home Global Trend

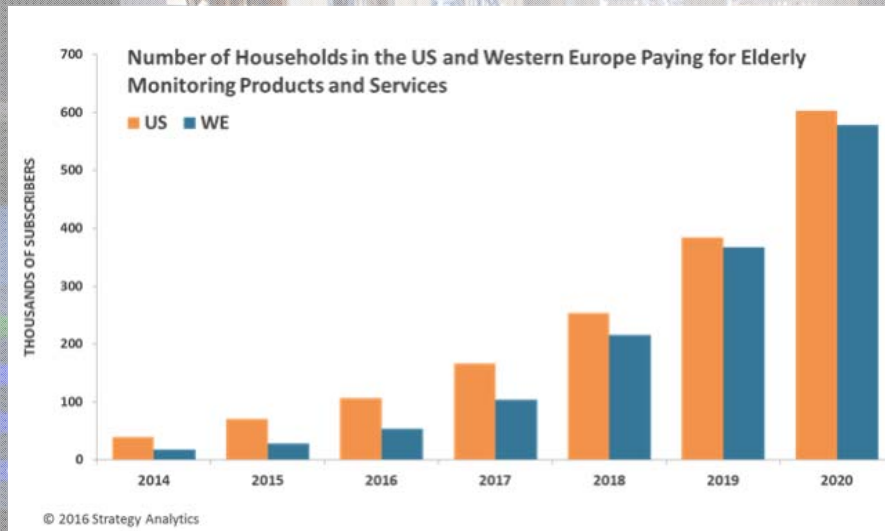
Global Net households with Smart systems: **90m** (2014)
Projected to rise to **224m households** (2019)



*Remarks: "Smart home" means a household with at least one type of smart system installed, such as interactive security, remote and entire home control, digital health care, entire home and remote entertainment systems and smart appliances.

Source url: <http://www.strategyanalytics.com/default.aspx?mod=pressreleaseviewer&a0=5548>

US/WE Net Households with Elderly Monitoring Services: **100k** (2015) Projected to rise to **1.2m households** (2020)



Source url: <https://www.strategyanalytics.com/strategy-analytics/news/strategy-analytics-press-releases/strategy-analytics-press-release/2016/06/08/strategy-analytics-smart-home-elderly-monitoring-opportunity-is-set-to-grow-more-than-600-by-2020#.WBGQdfPkjHc.email>

Singapore Housing & Development Board's Project LIFE



In a move to improve domestic conditions for senior citizens living alone, the Board has equipped various one-room rental apartments with elderly-friendly facilities.

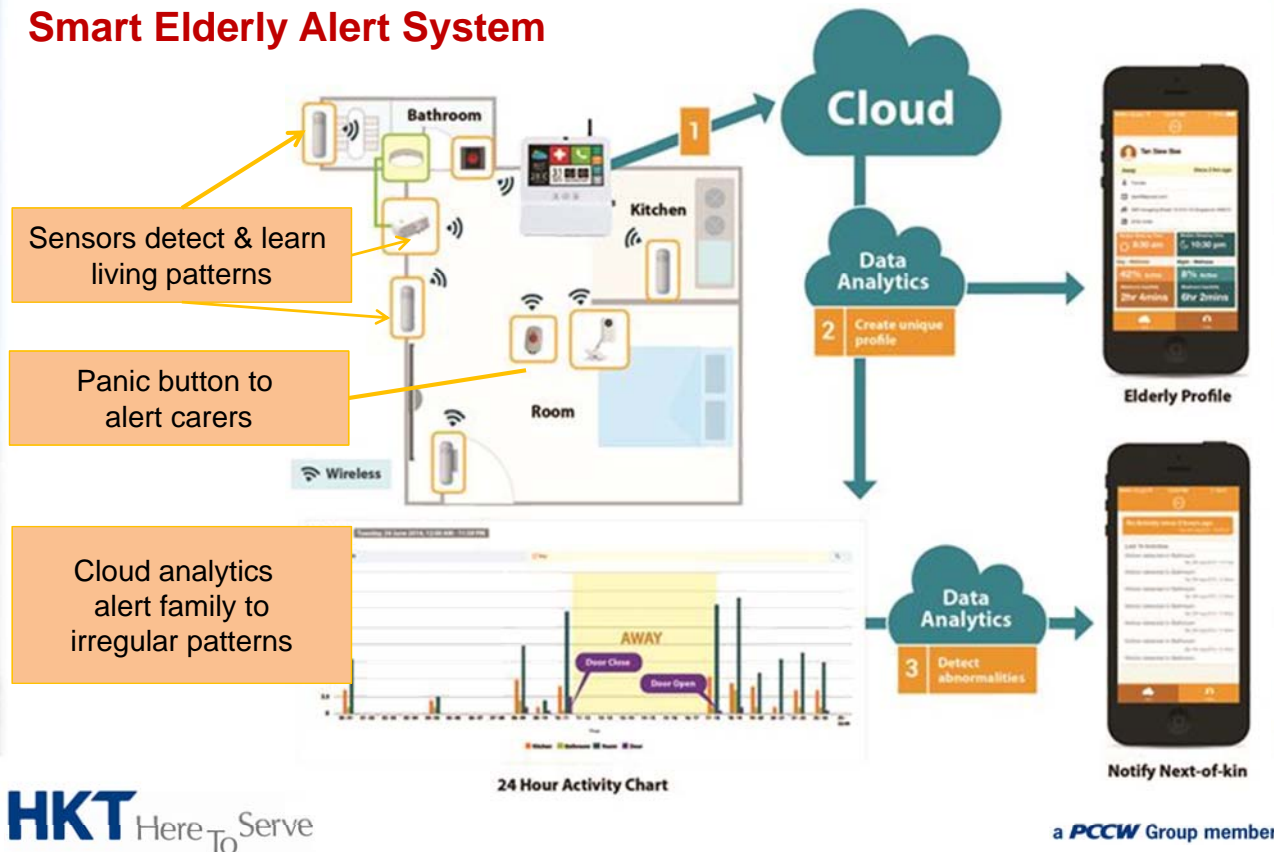
- Facility improvements for seniors
- Establishment of Voluntary Welfare Organization near or in blocks
- Implementation of a **Smart Elderly Alert System**



Pull cord panic alerts

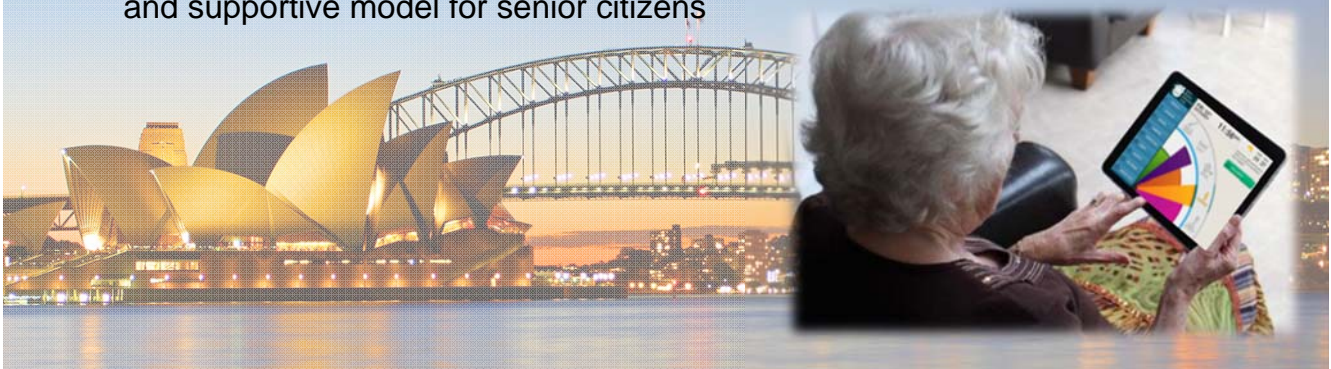
Project LIFE of Singapore Housing & Development Board (HDB)

Smart Elderly Alert System



Smarter safer homes for the elderly in Australia

- Organized by the Commonwealth Scientific and Industrial Research Organization (CSIRO), Australia's national science agency
- Enables the elderly to feel **safe** and **live longer at home independently**, while easing worries throughout families over unattended elderly parents
- Enables **self-management**, empowerment and community engagement such that senior citizens **live longer**
- Building **predictive models** for triage and well-being support provides timely and supportive model for senior citizens

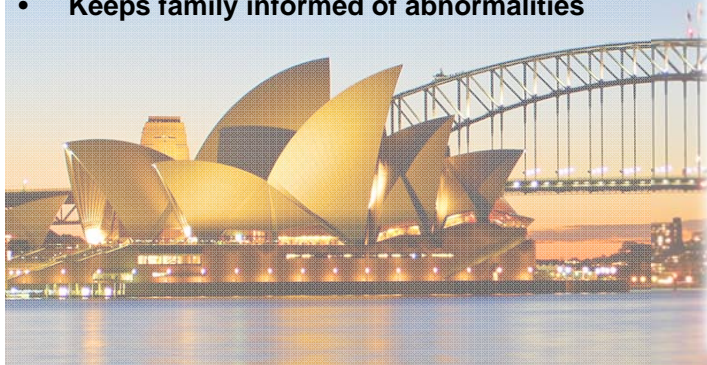


Smarter safer homes for the elderly in Australia

- Empowers people and their elderly parents to **share lifestyle information privately and securely**
- Strategically-placed sensors facilitate **non-intrusive** monitoring of **daily activity patterns**
- Correlates activity patterns with reported and recorded health events to **detect any decline** in **health** or critical situations based on change
- Keeps family informed of abnormalities



	Motion Sensor	- Presence & mobility level
	Accelerometer	- Mattress movements
	Power Sensor	- Power used by appliances
	Acoustic Sensor	- Water flows/speech
	Temperature	- Environmental
	Humidity	- Environmental
	Reed Switch	- Doors/windows opening
	Pressure Sensor	- Sofa/couch attended



Smart Living in Hong Kong



Local case (1)

遠晴
LE RIVIERA



Developer: Hip Shing Hong (Holding) Company Ltd
Address: 23 Shau Kei Wan Main Street East, Shau Kei Wan
Units: One court containing total of 98 units
1st occupancy: October 2014



Lighting control



Home network



Air-con control



Video door phone



eSmartHealth



Pedometer



Blood pressure monitor



Body composition monitor

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Local case (2)

玖龍山
DRAGONS RANGE



KERRY PROPERTIES
嘉里建設



信和集團
Sino Group



Developers: Kerry Properties Ltd
Sino Group
Manhattan Group
Address: 33 Lai Ping Road, Shatin
Units: Ten towers containing total of 973 units
1st occupancy: Q2, 2016



Home network



License plate recognition system



Video door phone system



Security System



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Local case (3)



PETERSON GROUP
培新集團

Developers: Henderson Land Development Company Ltd
New World Development Company Ltd
Peterson Group

Address: No.8 Wu Kai Sha Road, Ma On Shan
Units: Five towers containing total of 1,092 units

1st occupancy: Q1, 2016



Lighting control



Curtain control



Video door phone system



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**More Smart Ageing
Technologies are coming!**

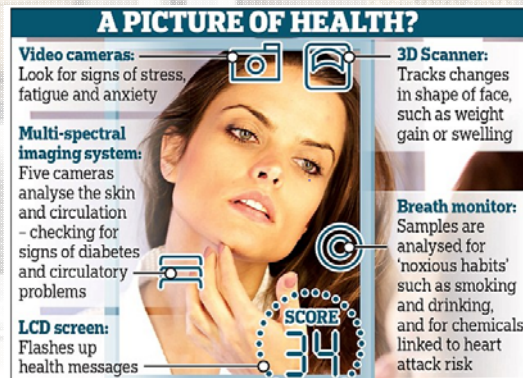
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Smart Mirror

WizeMirror

- Being developed by a consortium of 7 EU countries, with EU funding.
- WizeMirror can give you a check-up each time you visit the bathroom
- Uses scanners, cameras and sensors to measure the user's health level
- Can measure heart rate, changes in weight and facial expressions
- In one minute, WizeMirror can give users a rating and advice for the day

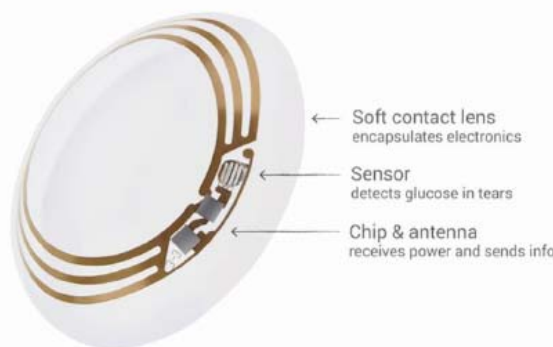


Source: <http://www.dailymail.co.uk/sciencetech/article-3176110/Mirror-mirror-wall-s-HEALTHIEST-one-Smart-gadget-uses-scanners-sensors-spot-early-signs-disease.htm>

Smart Contact Lens

Verily, a spinoff from Google[X]

- Focused on using technology to better understand health, as well as prevent, detect, and manage disease.
- Partnering a pharmaceutical company, Novartis, to develop a smart contact lens for people with diabetes to measures blood sugar levels directly from the tear fluid and transmits the data to a mobile device.

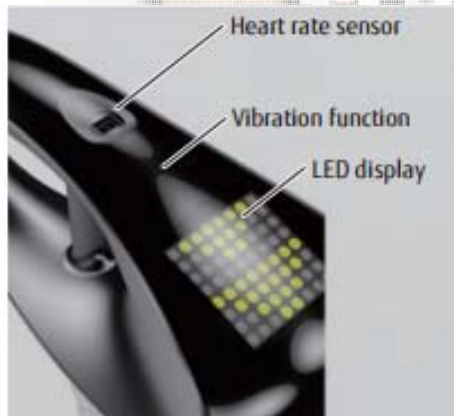


Source: <http://www.forbes.com/sites/leoking/2014/07/15/google-smart-contact-lens-focuses-on-healthcare-billions/>

Smart Cane

Next Generation Cane from Fujitsu

- For the elderly, to track location, heart rate, and temperature. It even send email alerts if it thinks the user has fallen down

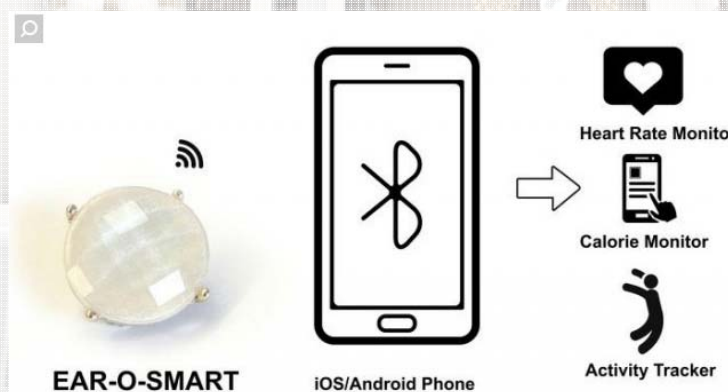


Source: <https://www.fujitsu.com/global/documents/about/resources/publications/fstj/archives/vol51-4/paper13.pdf>

Smart Earring

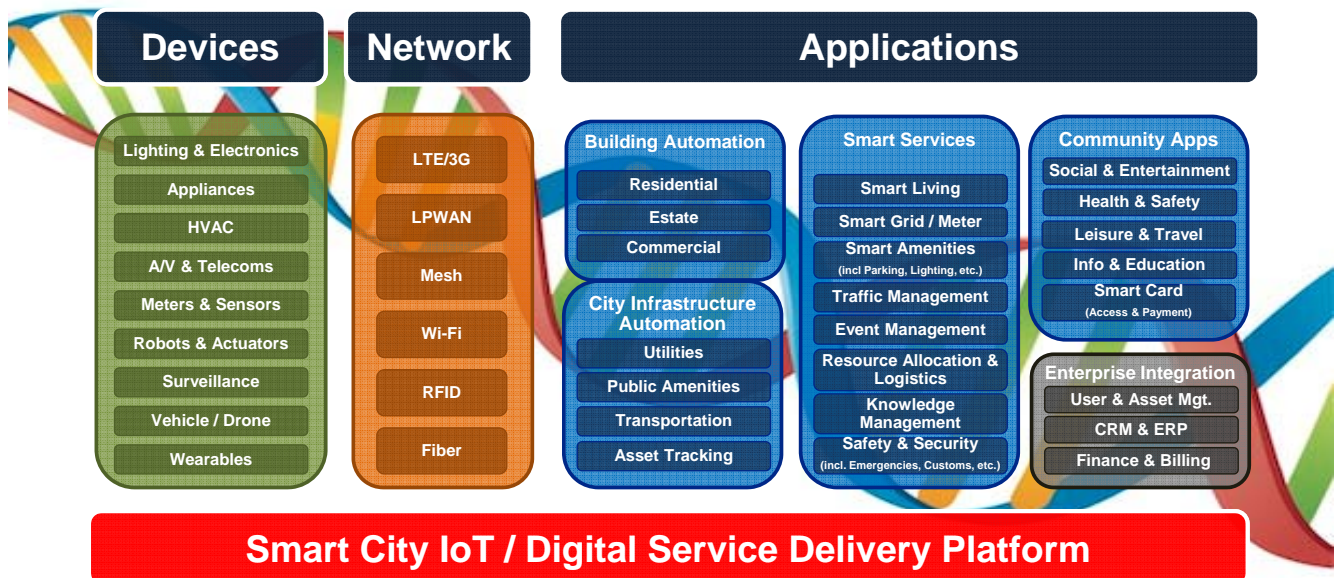
EAR-O-SMART

- The world's first smart earring which can monitor calorie burn, activity levels, and heart rate,
- Ear-o-smart connects to your smartphone and allows you to monitor a wide range of fitness data



Source: <http://www.wareable.com/smart-jewellery/ear-o-smart-ashlyn-bird>

Smart City - DNA



BUILDING FOR
TOMORROW,
TODAY.

Thank You!

