

Innovation for Resilient and Inclusive Societies: *Technology for Active Ageing*

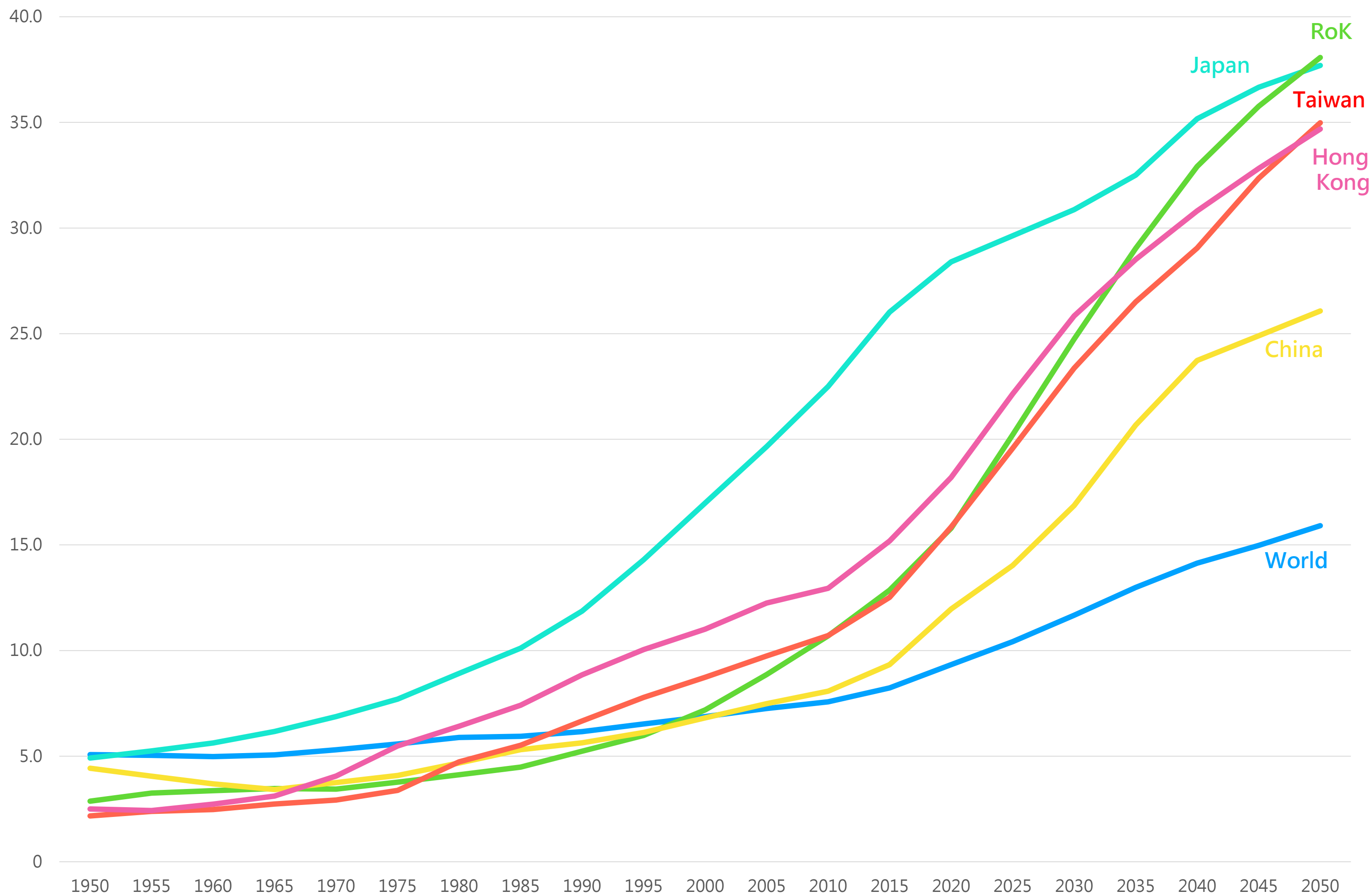
Mr. Stephen Wong, Deputy Executive Director and
Head of Public Policy Institute, Our Hong Kong Foundation

October 22, 2020



Introduction

Percentage of Population Aged 65 and Above



Source: United Nations. 2019 Revision of World Population Prospects.

© Our Hong Kong Foundation Limited. All Rights Reserved.

Why is technology for active ageing relevant to the region?

East and Northeast Asia is home to around **one third of all older persons** aged 65 and above in the world.

- China has the **largest population** of older persons in the world
- Japan has the **highest proportion** of older persons in the world
- Republic of Korea (ROK) has the **fastest rate of population ageing** in the world

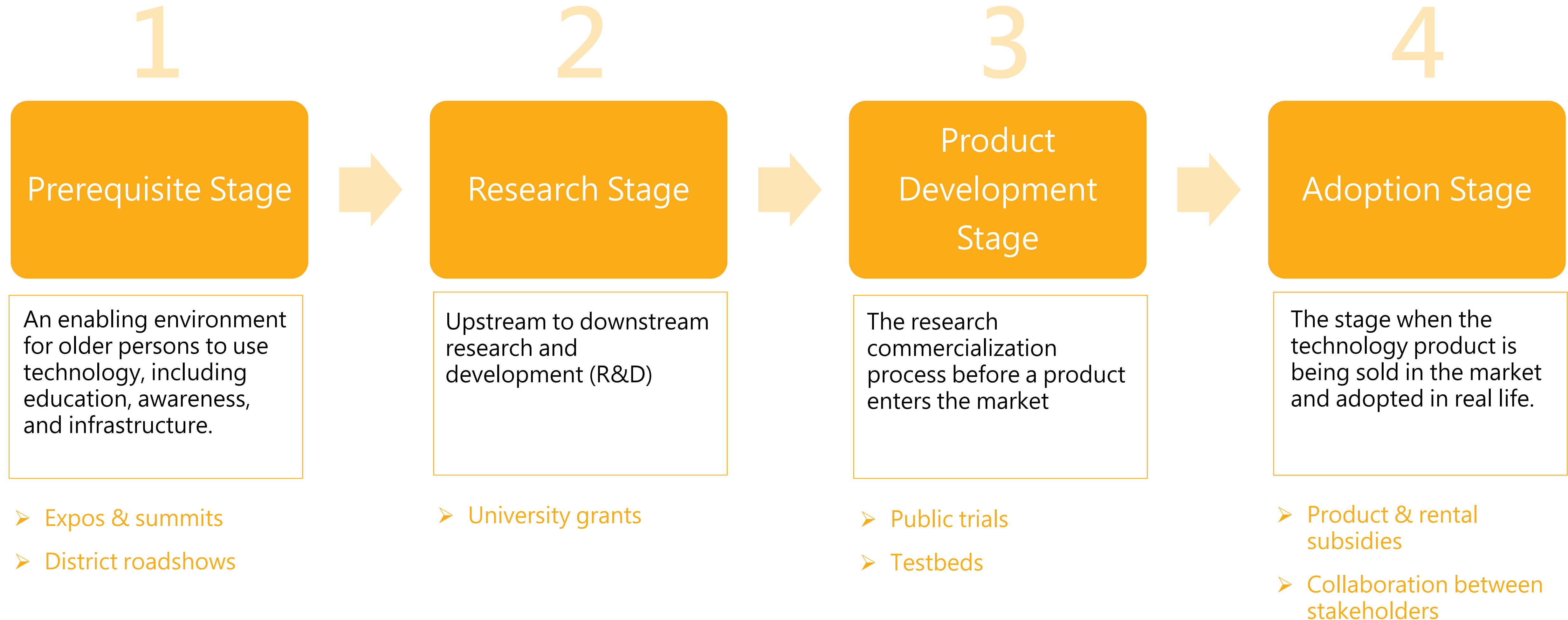
Our Hong Kong Foundation: Previous research



How can governments effectively promote technology for active ageing through policy?

**Best practices from Hong Kong
and the region**

Key stages of technology for active ageing ecosystem



1. Prerequisite Stage: Expos & summits



- ❖ Showcase of products, technologies, solutions and services
- ❖ Talks and workshops

- ❖ Showcase local and foreign products / ideas
 - ❖ Increase awareness
 - ❖ Engage stakeholders
- ❖ Initiate multi-stakeholders / multi-disciplinary collaboration



1. Prerequisite Stage: District roadshows



Wong Tai Sin, 20 – 21 January



Sham Shui Po, 10 March



Yau Tsim Mong, 20 April



Kwun Tong, 24 May



Central and Western, 23 June



Sai Kung, 21 July



Tuen Mun, 1 September



North District, 22 September

2. Research Stage: University grants

Midstream Research Program (2016 - Present)

Government subsidies for public universities to collaborate with leading research institutions worldwide in fields such as technology for active ageing.

- As of 2018, HK\$78 million (US\$10 million) was given to 18 projects.
- One of the funded projects at the Chinese University of Hong Kong developed a **robotic mobility augmentation system** that overcame the limitations of conventional rollators or active orthoses.



Article

Safe and Robust Mobile Robot Navigation in Uneven Indoor Environments

Chaoqun Wang ^{1,†}, Jiankun Wang ^{1,†}, Chenming Li ¹, Danny Ho ¹, Jiyu Cheng ¹, Tingfang Yan ¹, Lili Meng ² and Max Q.-H. Meng ^{1,*}

¹ Department of Electronic Engineering, The Chinese University of Hong Kong, Hong Kong, China

² Computer Science Department, University of British Columbia, Vancouver, BC V6T 1Z4, Canada

* Correspondence: max.meng@cuhk.edu.hk

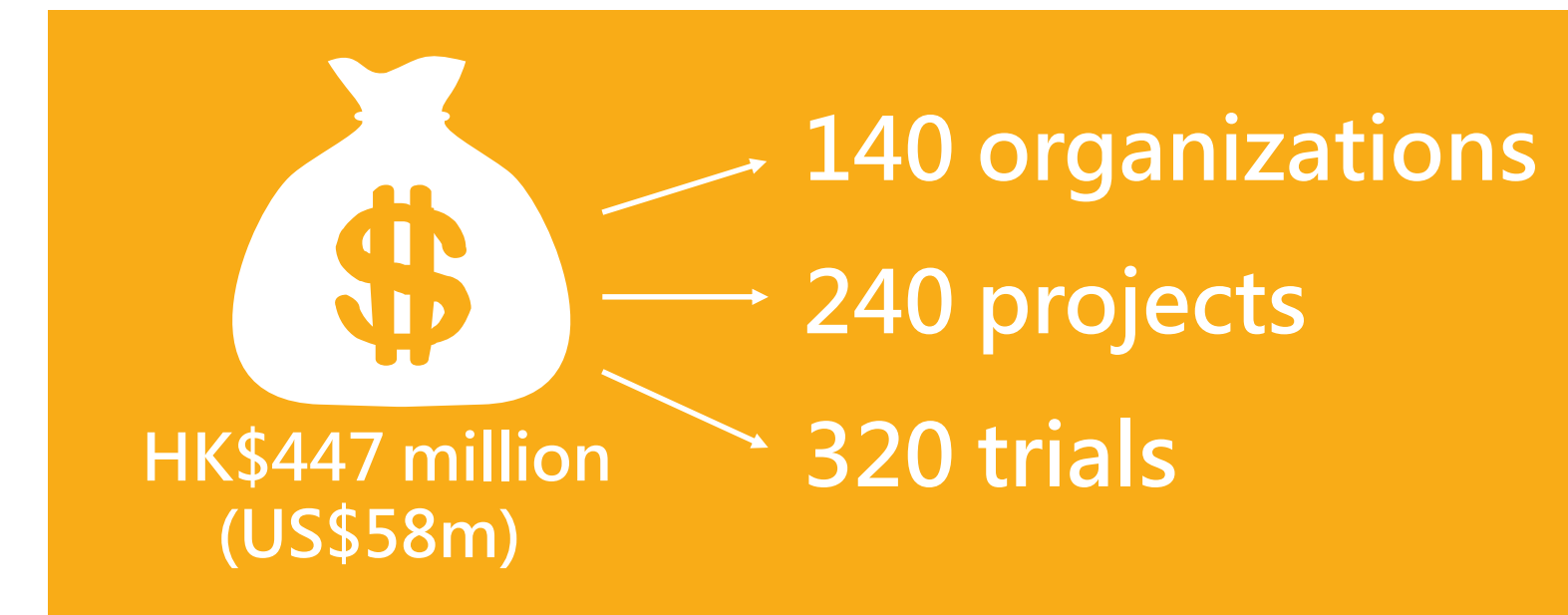
† Authors have contributed equally and names are in alphabetical order.

Received: 14 May 2019; Accepted: 3 July 2019; Published: 7 July 2019



Chinese University of Hong Kong: “Robotic Rollator-Orthosis System for Mobility Augmentation and Eldercare”

3. Product Development Stage: Public trials



Established in 2011, the **Public Sector Trial Scheme** funds the production of prototypes, samples, and trials in the public sector by Hong Kong tech companies conducting R&D activities.

Technology for active ageing applications:

- Cardiovascular monitoring devices for tele-care systems trialed in public hospitals.
- Senior and childcare hybrid geofencing technology trialed in local schools.

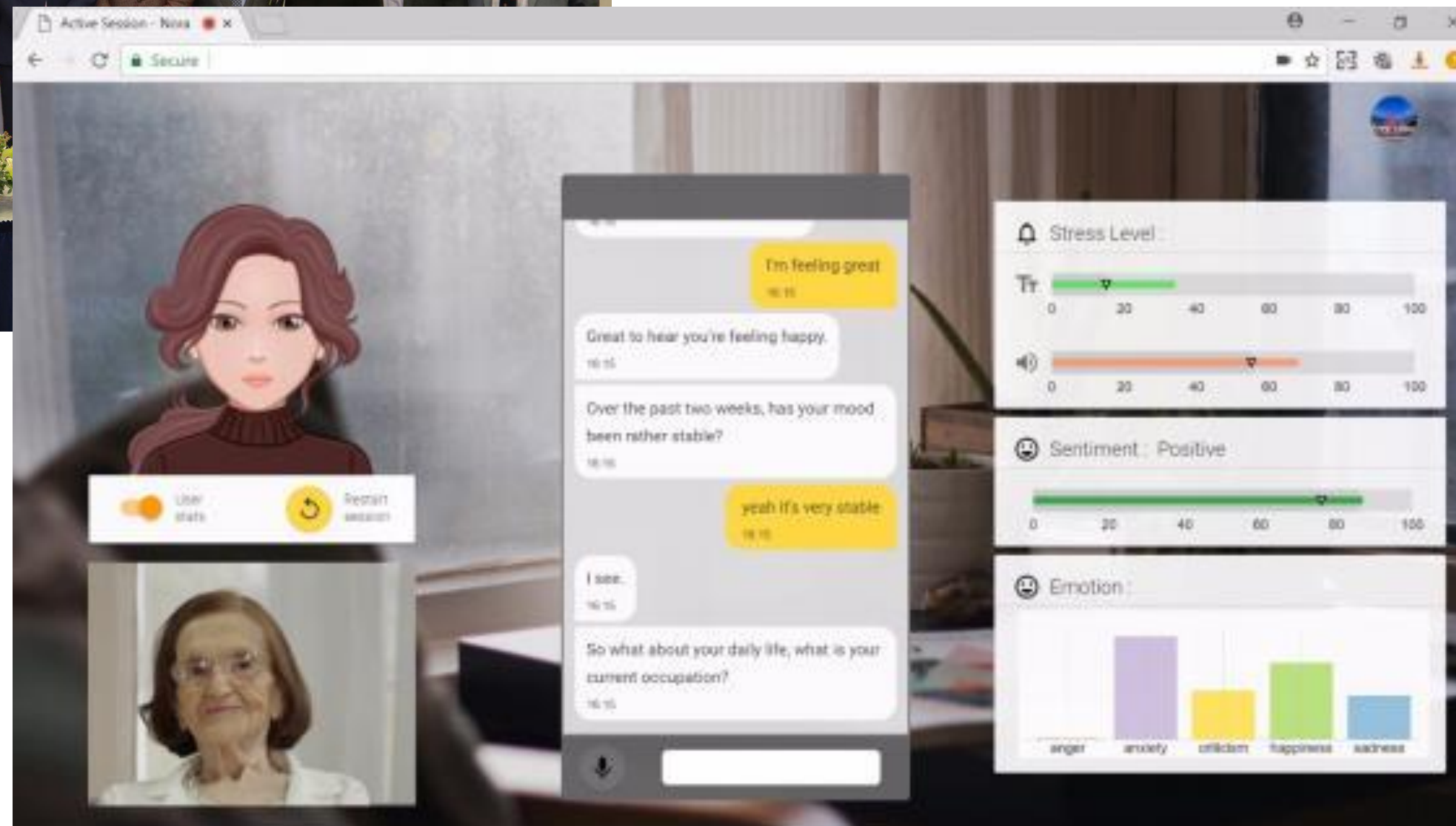
3. Product Development Stage: Testbeds



HKUST Signs MoU with Haven of Hope Christian Service to Forge Partnership and Collaboration on Research

MEMORANDUM OF UNDERSTANDING SIGNING CEREMONY

"INNOVATION FOR HEALTHY AGEING AND ELDERLY CARE"
6 DECEMBER 2018



Virtual therapist

HKUST x Haven of Hope Collaboration (2018 - Present)

The Hong Kong University of Technology (HKUST) will develop tailor-made solutions or products to meet the needs of Haven of Hope's service users. Haven of Hope will offer its older persons residences as a testing platform.

Seven projects are under discussion:

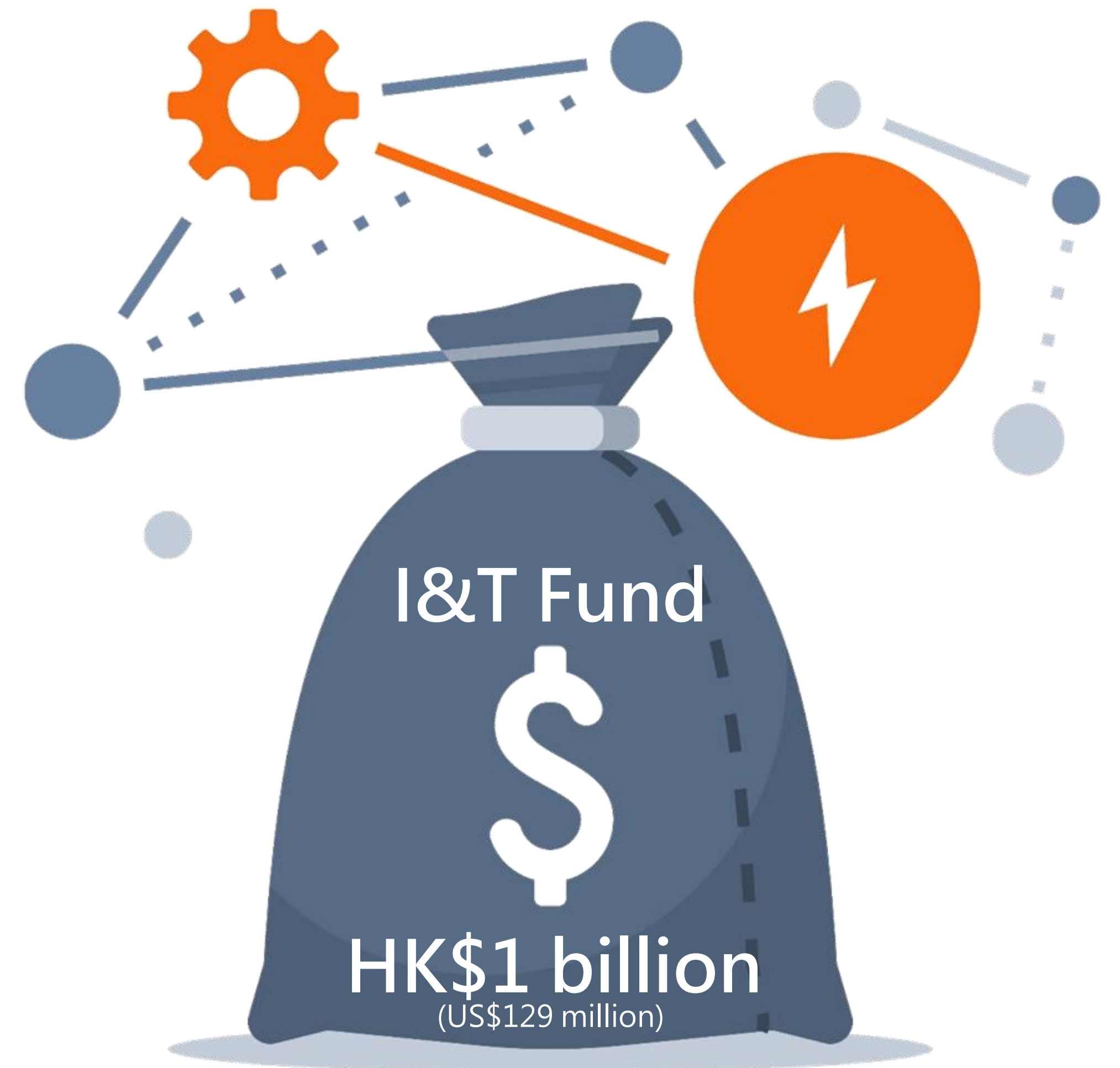
1. Study genetic risk factors for Alzheimer's in Chinese population
2. 3D facial recognition technology for early detection of mental and physical diseases
3. Virtual therapist
4. Study the therapeutic effects of gardening on older persons
5. Tap water disinfection
6. System to optimize HOHCS operations
7. Auto-guided wheelchairs

4. Adoption Stage: Product & rental subsidies

The I&T Fund for Application in Elderly and Rehabilitation Care has been set up in December 2018 to **subsidise elderly and rehabilitation service units** to procure, rent and trial use technology products



- ✓ Electric nursing/ wheelchair bed
- ✓ Exercise bicycle with physically activated screen
- ✓ Automatic bathing device
- ✓ Smart anti-wandering solution



4. Adoption Stage: Collaboration between stakeholders



Mak, an operator (back), lifts a stair climber and helps Ng Lai-kuen (center), 90, to visit her husband's grave on a hillside.

KATHY ZHANG / CHINA DAILY

One-year trial of Stair Climbing Service

Collaboration between:

- Charities Foundation
- The Hong Kong Council of Social Service
- Caritas Hong Kong
- St. James' Settlement
- Hong Kong Christian Service
- Evangelical Lutheran Church Social Service

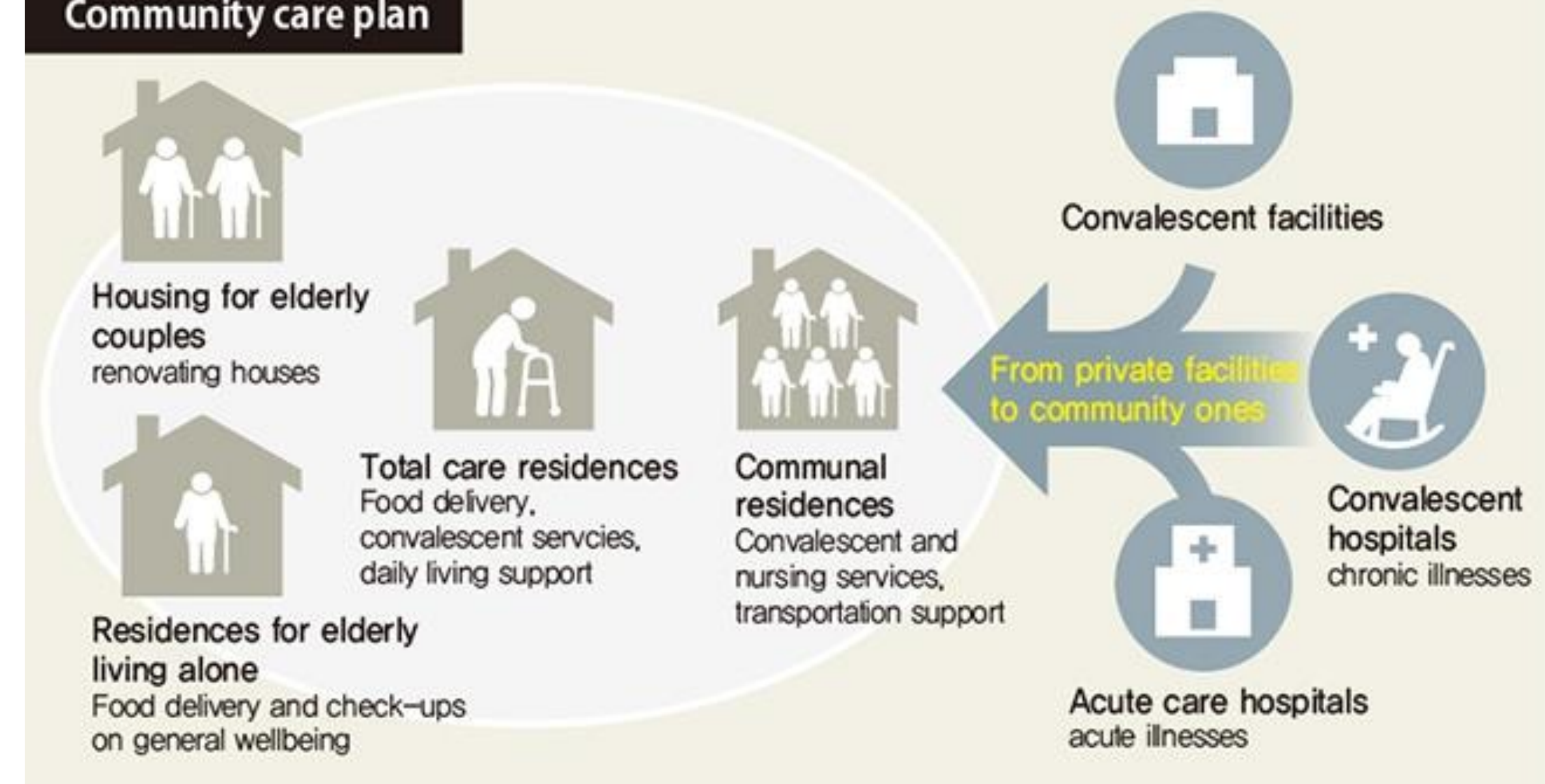
Other policies in the region

Prerequisite Stage: *Demonstration Zone in Shanghai, China*

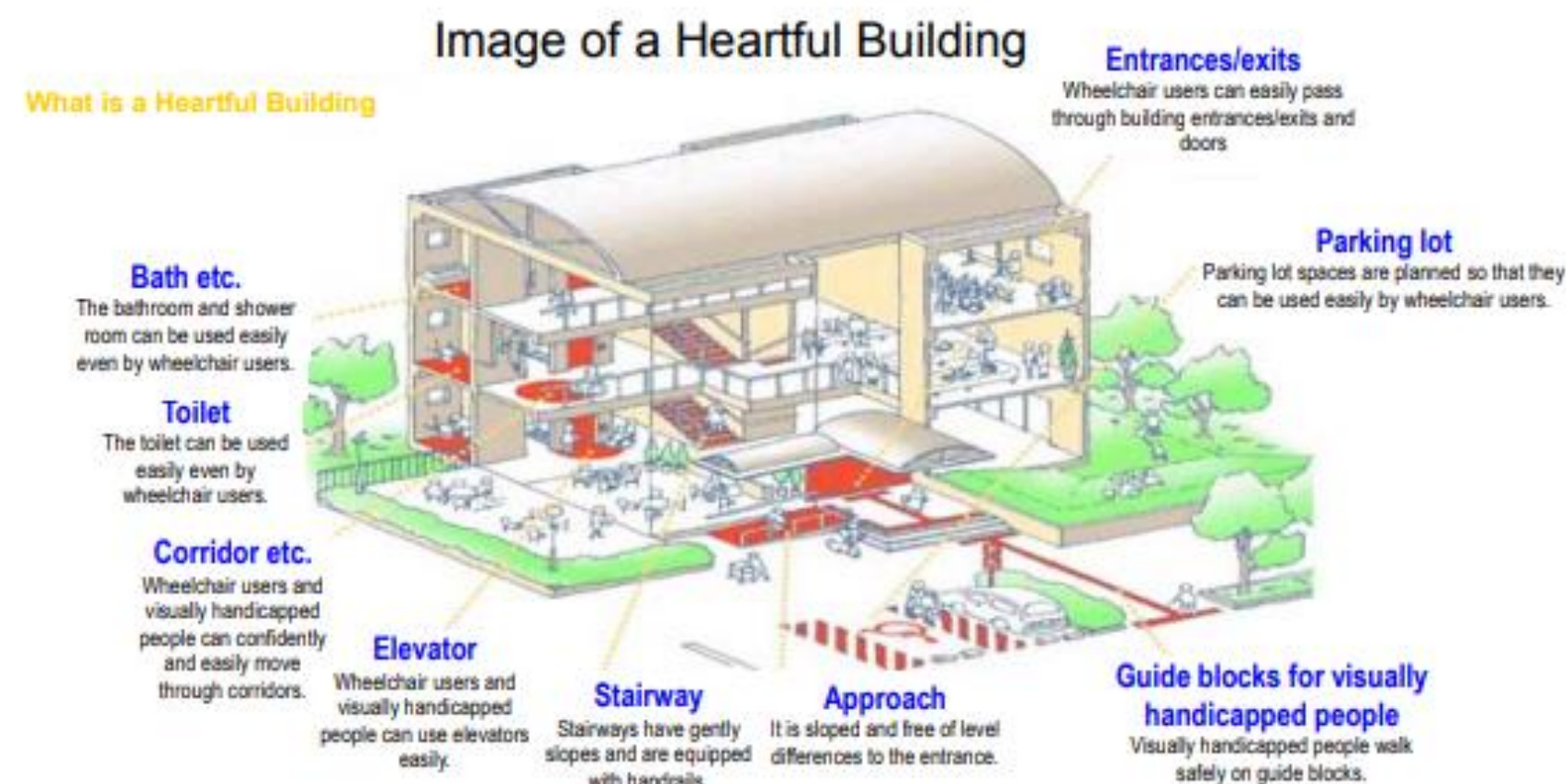


Adoption Stage: *Community Care Program, Republic of Korea*

Community care plan



Prerequisite Stage: *Principles for Universal Design, Japan*



Non-step busses ^{*4}

How can we collectively promote technology for active ageing?

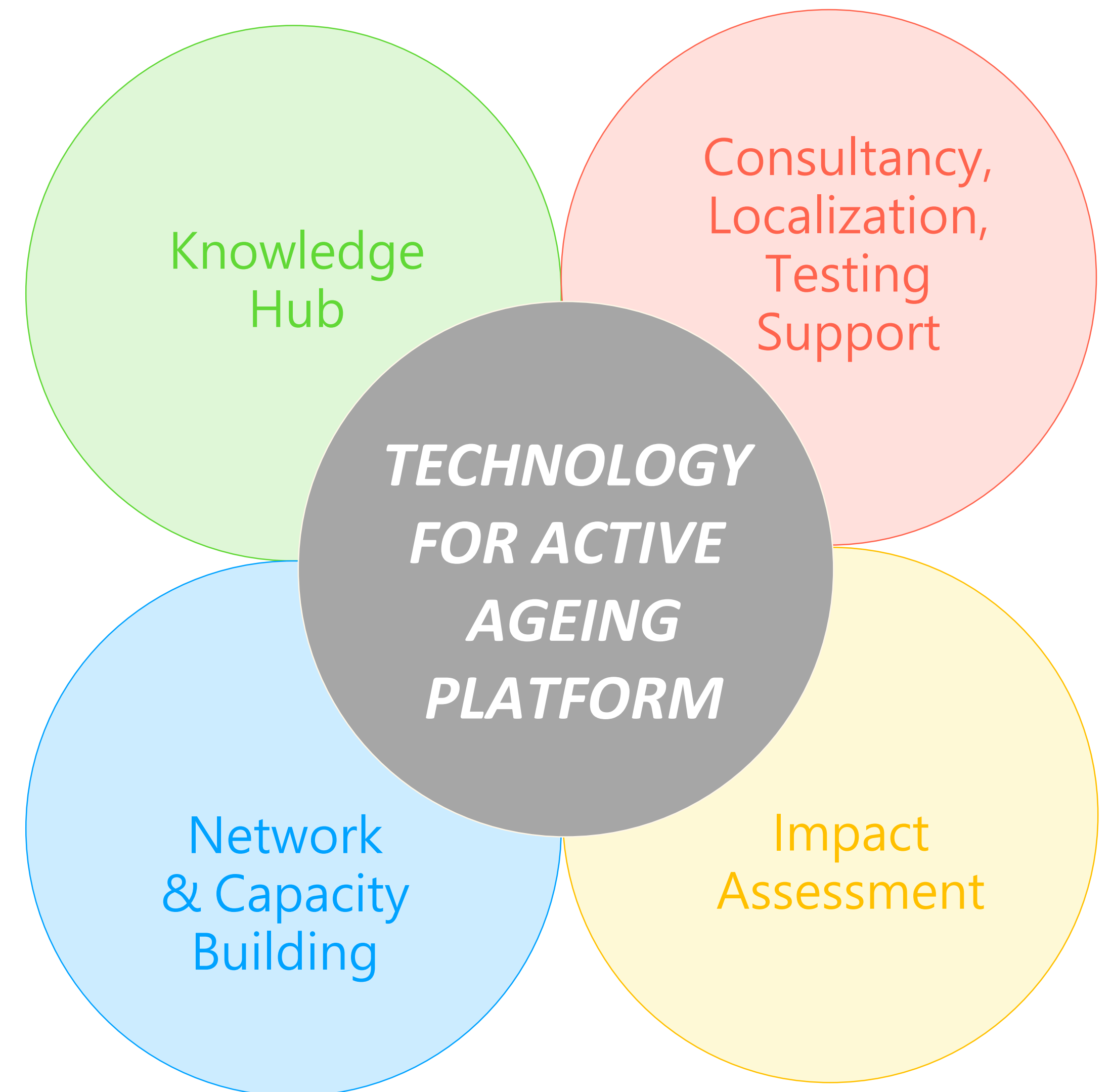
Possibilities for collaboration

Collaboration: Enable different parties to work together



Gerontechnology Platform in Hong Kong

The SIE Fund's second flagship project
to foster the gerontechnology ecosystem
development in Hong Kong



Common challenges in the technology for active ageing ecosystem

1

Prerequisite Stage

- How to increase the **awareness and willingness** of older persons to use tech products?
- How to make general society **more digitally and physically accessible** to older persons?

2

Research Stage

- How to obtain or train **expertise** on this relatively new and niche topic?
- How to procure sufficient **funds** to conduct relatively expensive hi-tech research?

3

Product Development Stage

- How to collect and disseminate **data** to further improve and develop prototypes?
- How to safely and ethically access **testbeds** for clinical trials?

4

Adoption Stage

- How to best **subsidize, situate, or integrate** products for older persons' actual use?
- How to help companies with established products **scale out**?

Building a multi-purpose regional platform

Product subsidies

- Offer specific product or general rental subsidies to particularly useful devices

One-stop website

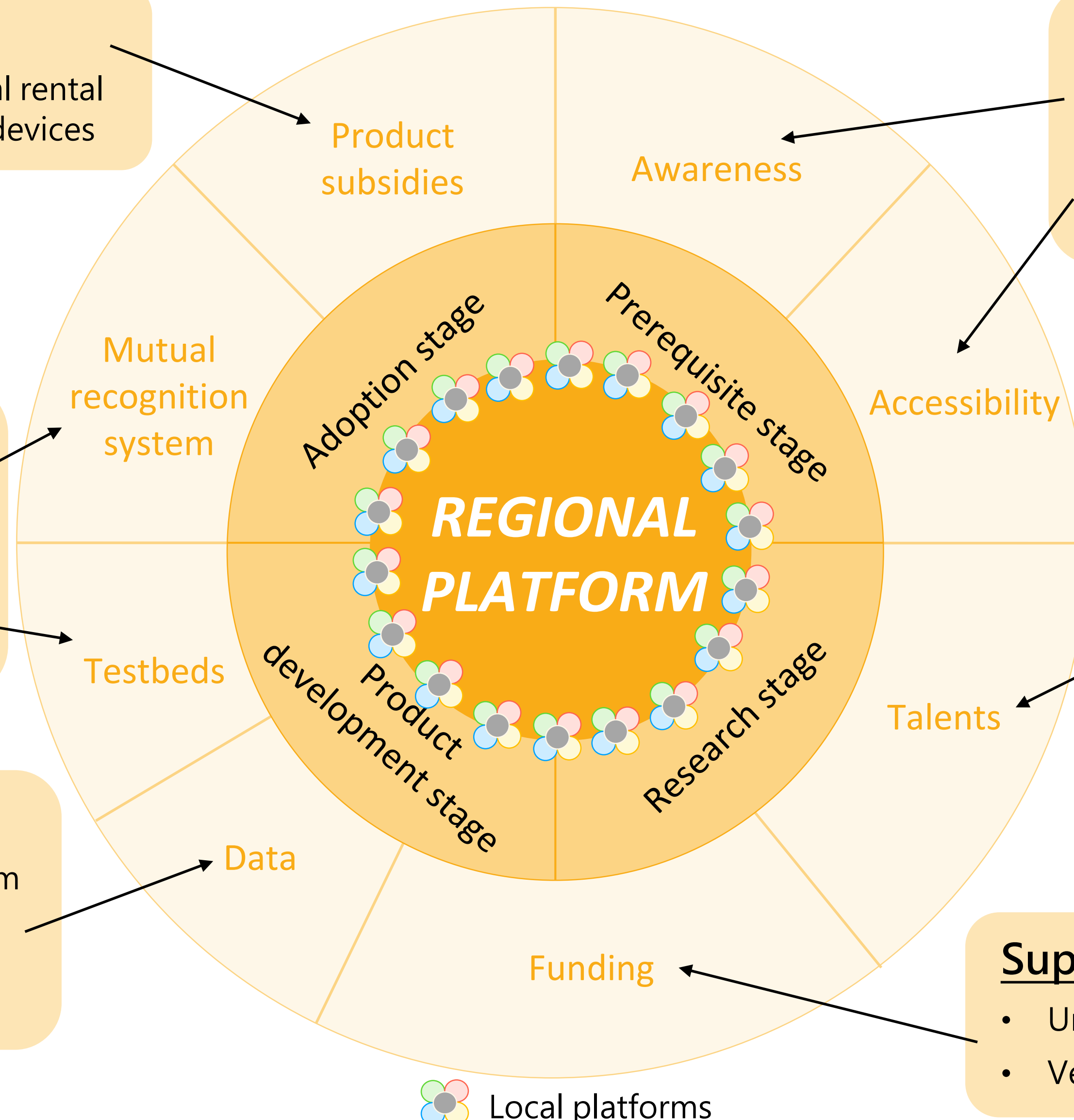
- Provides news and updates related regional developments
- Provides guidance on digital literacy, urban design, and web accessibility

Coordination

- Mutual recognition system to help tested products scale out
- Enhance and expand testbed facilities with more advanced systems and professional technicians

Shared database

- Share anonymous patient data from hospitals
- Share big data collected by technological devices



Capacity building

- Bring together experts and officials for knowledge sharing
- Host regional competitions for students

Supporting fund

- University grants
- Venture capital support for start-ups



Thank you
