

Demonstration for social implementation of the last mile mobility system by automated and connected vehicles in dedicated zone



Objective

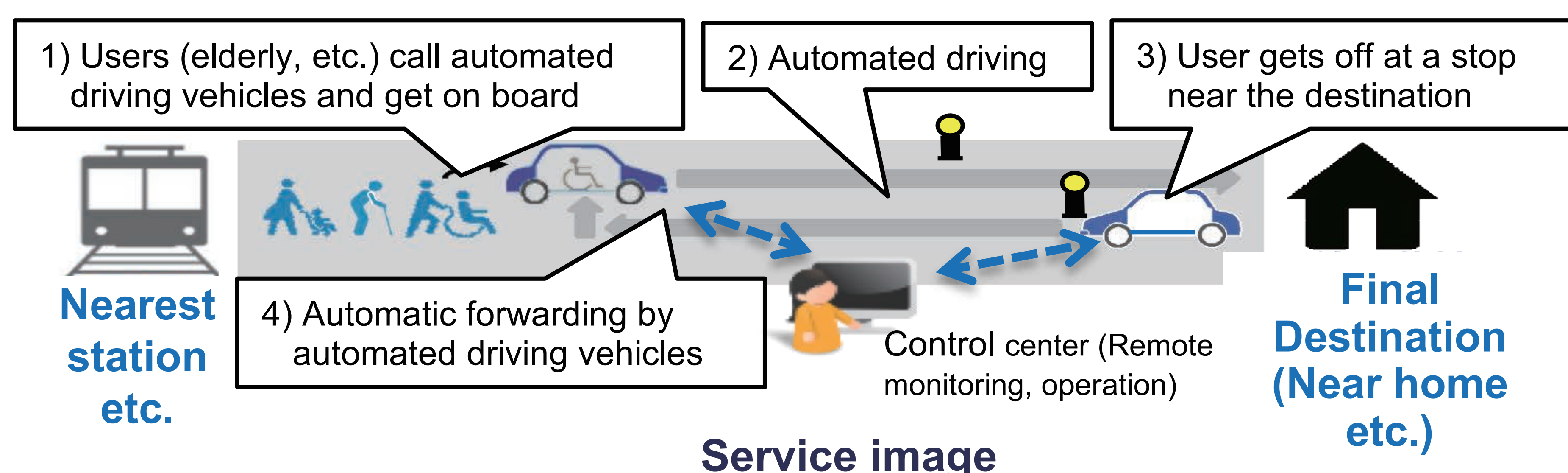
- Aimed at social implementation of new transportation system of public use by a small cart or bus using an automated driving technology in the last mile mobility.
- Complement short-medium distances such as the main transportation system (railway, bus, etc.), near the home or the destination, within the area
- Reduction of labor costs and drivers shortage
- Demonstrating transportation service as the last mile automated driving by the level 4 (SAE J3016) and a remote type in the automated driving systems



“Smart E Cart”



“Smart bus”
Experimental vehicles



Outline

- Demonstration of the model in the real areas balanced with the following four points
 - 1) Establishment of automated driving technology
 - 2) Clarification of business model (business feasibility)
 - 3) Establishment of social system
 - 4) Fostering of public acceptance

Progress

- Selected by the public offering of the four areas to conduct a demonstration evaluation in March 2017 (4 areas model, 3 areas use Smart E cart and 1 area use Smart bus).
- On December 18, 2017, Wajima-shi, Ishikawa Prefecture (City area model), Japan's first automated unmanned vehicle driving on public roads started.
- Start the acceptability evaluation of business on February 7 in Okinawa Prefecture Chatan-cho (Sightseeing area model).
- Started technical verification of automated driving of snow-covered road from February 26, 2018 in Fukui Prefecture Eiheiji-Cho (Depopulated area model).
- In Hitachi City, Ibaraki Prefecture (Community bus model), demonstration of automated driving of small bus using BRT (bus rapid transit) route started from October 19, 2018.



Demonstration in a completely unmanned vehicle (Wajima)



State of the remote monitoring and operation (Wajima)



Automated steering using electromagnetic induction cable (Wajima, etc)



State of automated driving demonstration (Chatan)



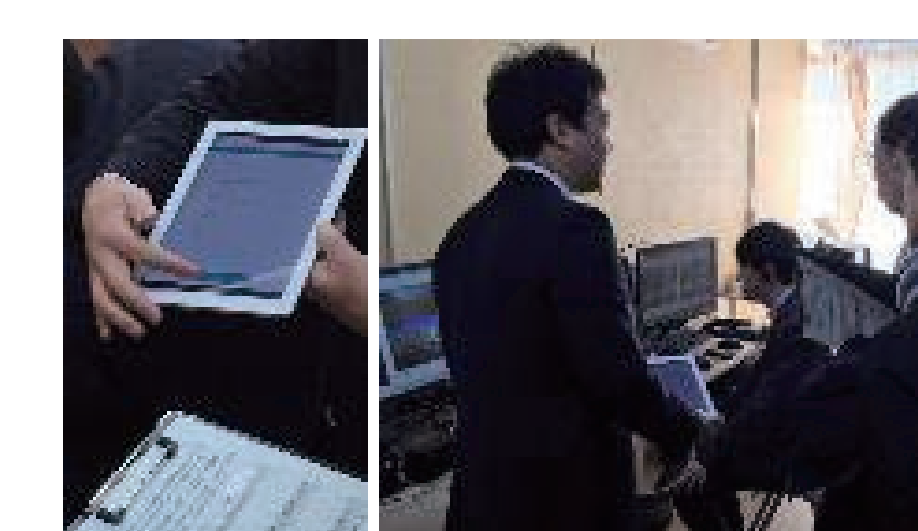
Verification of driving condition at snow-covered road (Eiheiji)

Full-scale demonstration evaluation in FY2018

- In some areas, the demonstration period will be extended to about 1 month maximum, local transport operators will evaluate the operation.
- Demonstration that a single remote operator operates multiple vehicles.
- Verification of not only vehicle technology but also cooperation with signals and roadside sensors, settlement system, and operation management system etc.
- Evaluation of not only users but also business operators as social acceptability



State of automated driving demonstration in BRT route (Hitachi)



State of explanation of dispatch reservation and operation management