



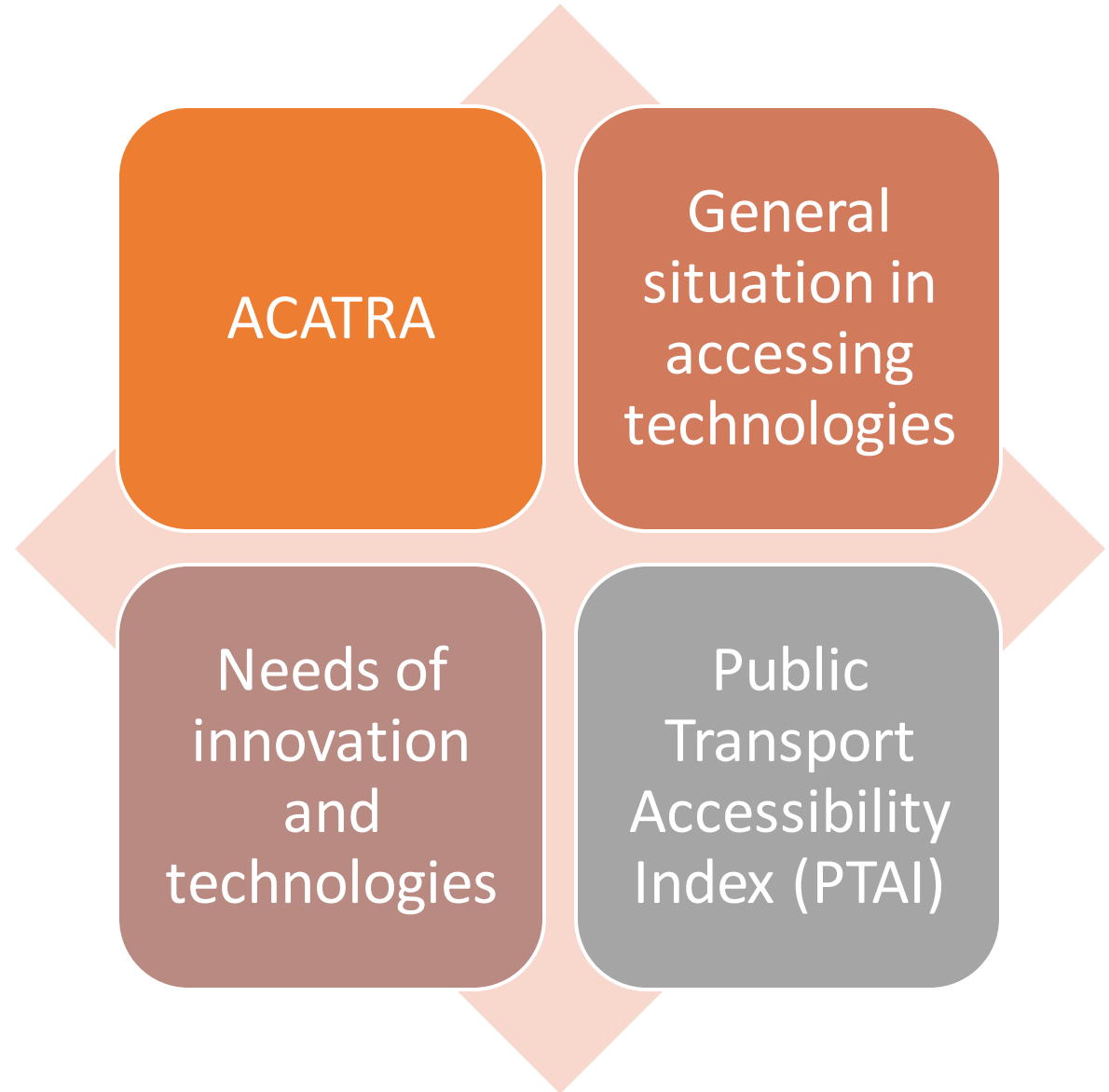
# Expert meeting on Disability-inclusive Technology and Innovation

Mr. Sawang Srisom, Programme Manager, Transportation for All (T4A)



# PART 1: Key challenges faced by persons with disabilities

# Outlines



# Purpose

Present some key challenges in accessing ACATRA and propose innovation or technology solutions (existing and future).

# What's it like to live in an inaccessible society?



I can't use the cup. It's designed for humans.



I can't use the staircase. It's also designed for humans.

Warning! Lots of opportunities ahead



What's it like  
to live in an  
inaccessible  
society?

I'm inspired  
by her.

Look! She's  
disabled!!!

She's great,  
Mommy.

The boat isn't  
accessible so I  
have to swim  
everyday to  
cross the river.



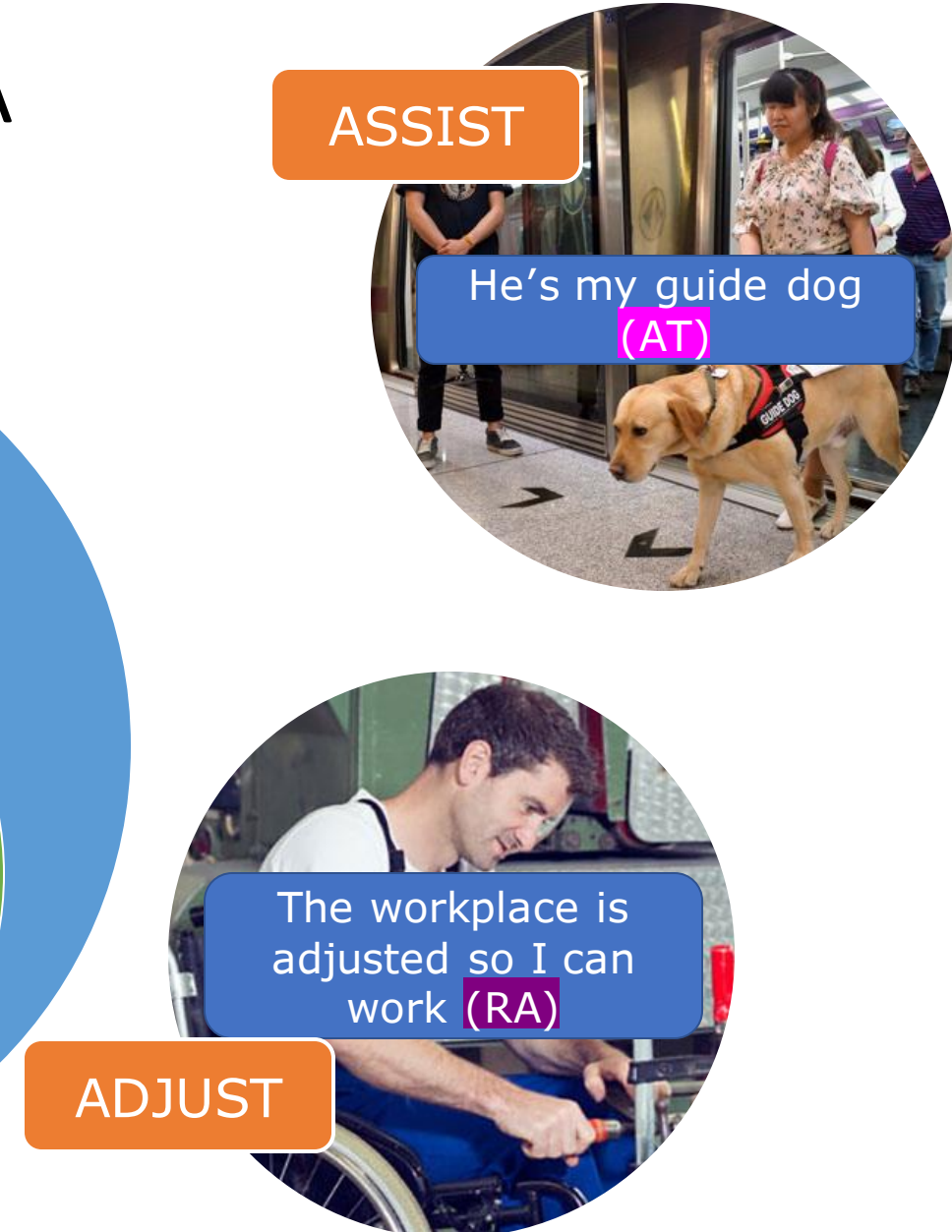
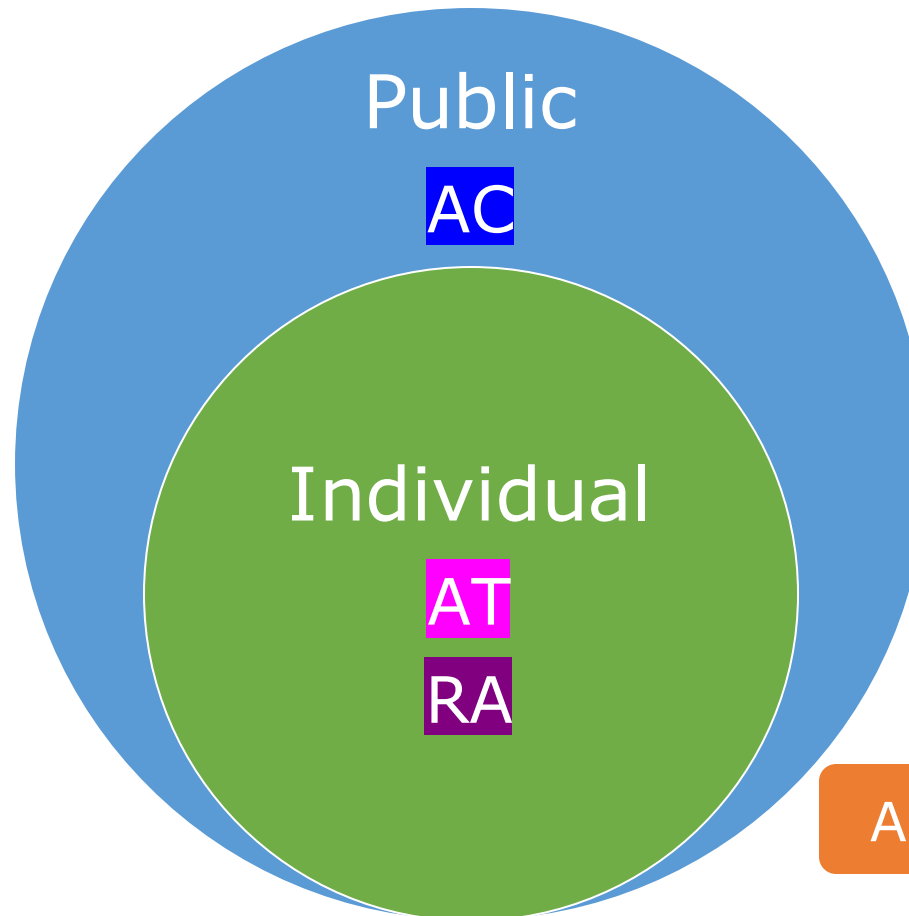


# ACATRA: everything we need.

- AC → Accessibility
- AT → Assistive Technology
- RA → Reasonable Accommodation



# Function levels of ACATRA





# Legal Support for ACATRA

- AC → Accessibility Regulations 2005
- AT → Ministry of Public Health → National Health Security Office (NHSO) → Universal Coverage Scheme (free of charge or subsidy)
- RA → Mentioned as 'Non-discrimination' in the Disability Empowerment Act 2007 (amended in 2013)





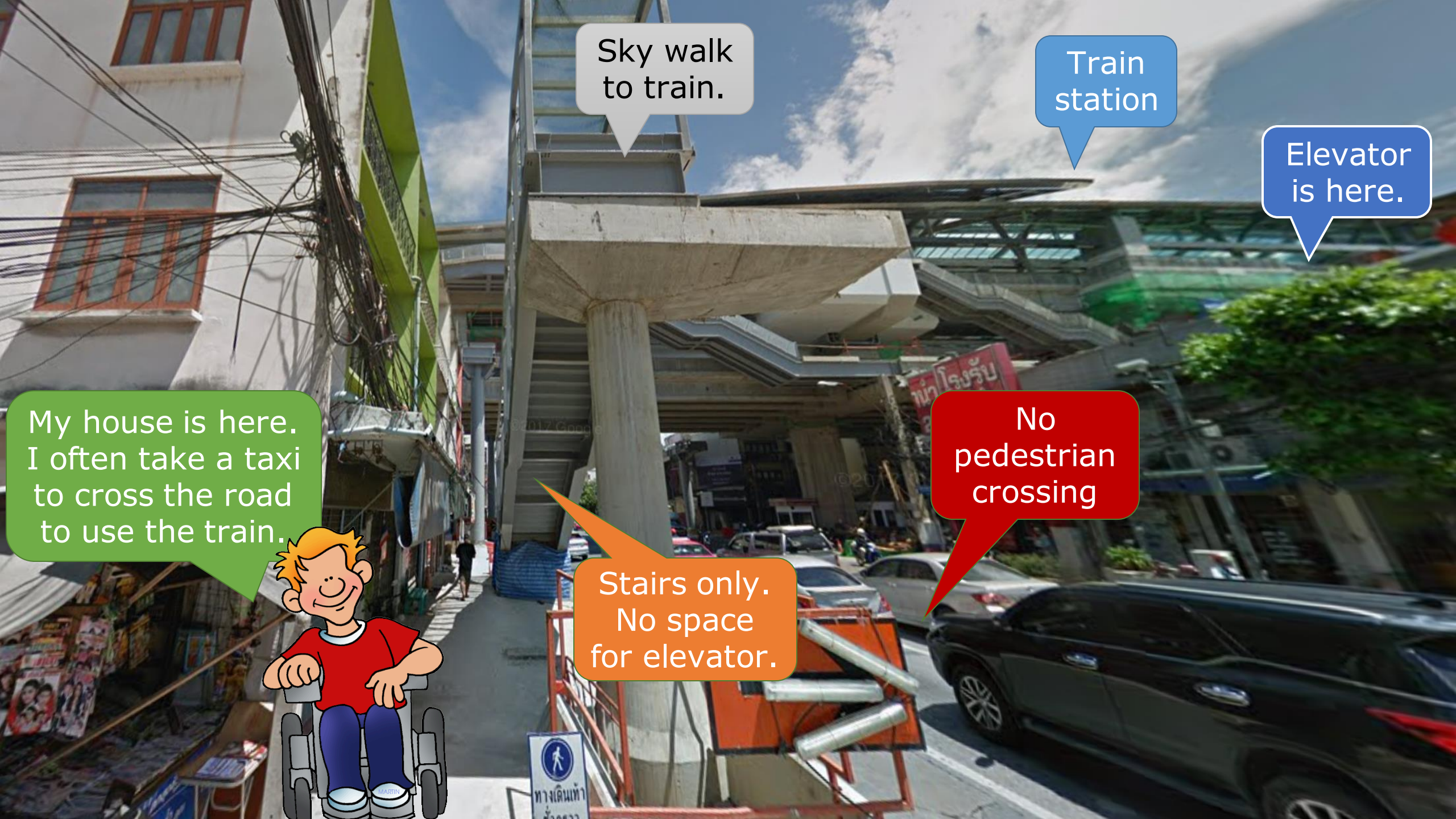
Let's see some problems and challenges





# AC – Accessibility Challenges





Sky walk  
to train.

Train  
station

Elevator  
is here.

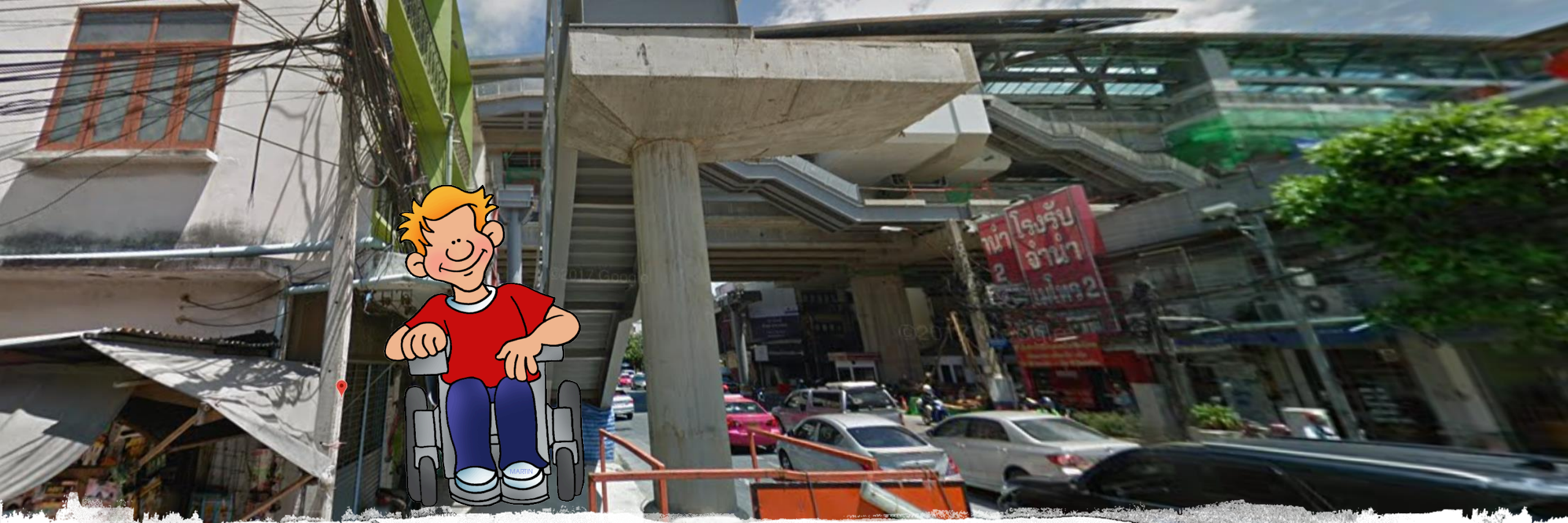
My house is here.  
I often take a taxi  
to cross the road  
to use the train.



Stairs only.  
No space  
for elevator.

No  
pedestrian  
crossing





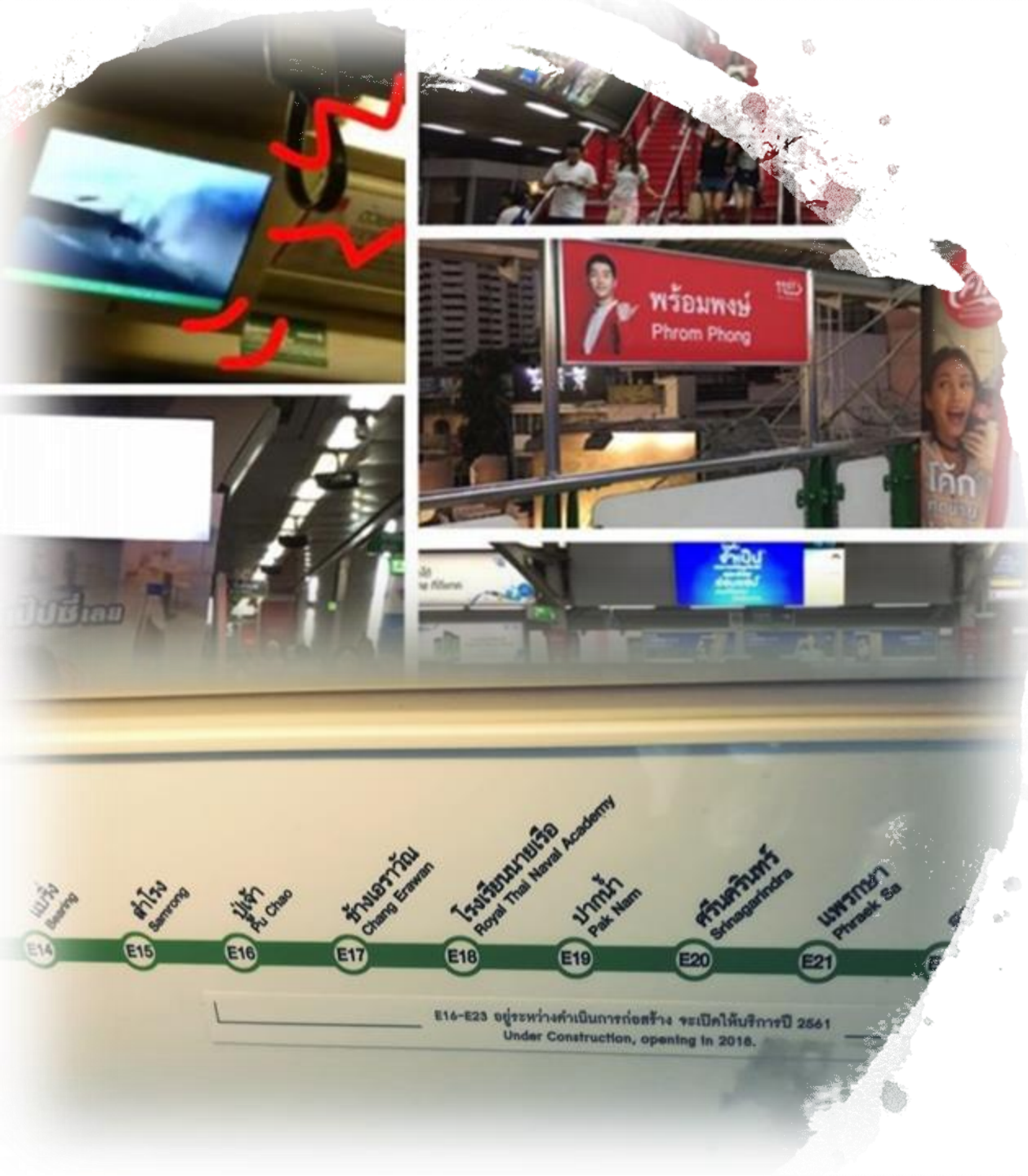
## Challenges

- Pedestrian right is weak (cars more important).
- When space is limited, accessibility is the first thing to cut (affect less people).



# NO ROUTE INFO FOR DEAF PASSENGERS IN TRAINS

I can't figure  
out where I  
am now.







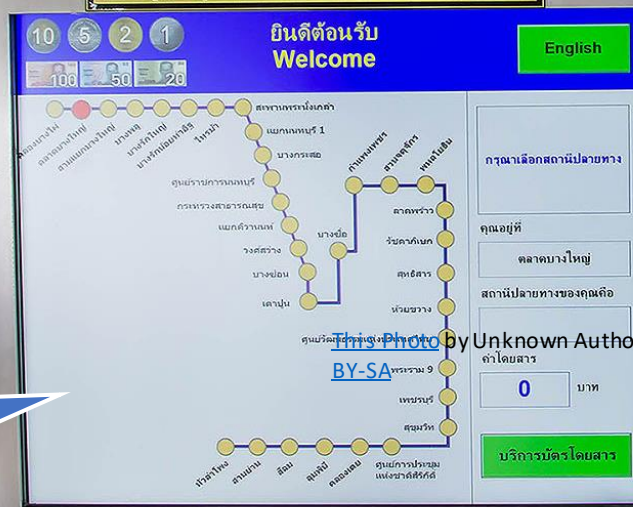
## Challenges

- Space in trains is dedicated for ADVERTISEMENTS.
- Some old trains have no digital route info.



In Service  
Ticket Machine

ผู้โดยสารสามารถออกเหรียญโดยสารข้ามสายได้  
Passenger can issue token traveling from  
Khlong Bang Phai Station - Hua Lamphong Station



I can never buy  
train tickets on  
my own.

Touch  
screen  
only.

2

โปรดสอดเหรียญ/  
บัตรธนบัตร  
Please Insert Cash







# Challenge

- Service providers insist that they can assist blind people to buy tickets.





They're  
pretending not  
to see me again.







Priority



Reserved

## Challenge

People don't respect the use of reserved or priority accessibility features.

# Please mind the gap between train and platform!

## Challenges

- Trains' gaps are unsafe for all passengers.
- Solutions for gap fillers proposed but rejected.







# AT – Assistive Technology Challenges

# Hearing Aids

## Challenges

Top reasons that people with hard of hearing stop using hearing aids

- Too much noise → 32%
- Uncomfortable → 22%
- Expensive battery/difficult to use → 13%
- Other → 33%

\*NHSO subsidizes approx. 380 USD/person

\*\*34% of people who use hearing aids stop using these devices.

*Source: Health Systems Research Institute Newsletter, Volume 1, January – March 2018*







## Thai Telecommunication Relay Service (TTRS)

**Challenge:** Not portable  
(kiosks to be installed).



## White canes

NSHO provides **retractable white canes** + **O&M training** for people with visual impairments.

**Challenge:** Some blind people **prefer to buy** a white cane on their own (lighter & stronger).



# Wheelchairs

## Challenges (rural areas)

- Indoor use.
- Not suitable for rural areas.
- Can choose only 1: tricycle or wheelchair.



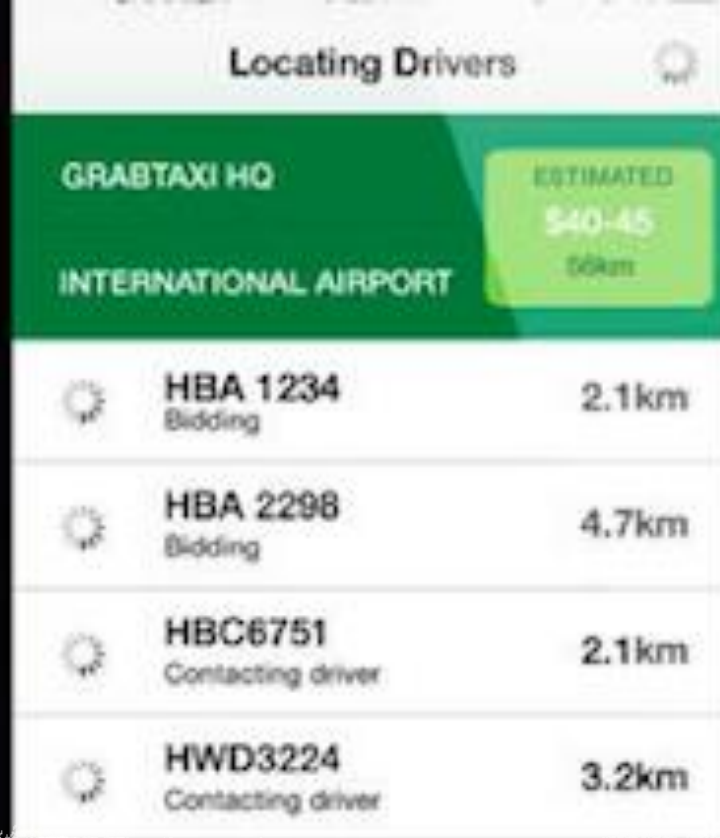
# Tricycle

## Challenges (rural areas)

- Outdoor only.
- Can choose only 1: tricycle or wheelchair.







## Transport App

### Challenges

- App not fully accessible and customizable (blind & deaf)
- Limited availability in some areas
- Drivers not trained (improper handling/assistance, intrusion)



PART 2: How can we promote the development and implementation of the identified priority public policy actions?





Unavailable



Not good



Available

Emoticons

# Innovation/ Technology for limited space

- Traverses vertically
- Uses less space
- Safe & durable
- Takes reasonably less time.





It takes me 40 minutes from the ground to the concourse.



But not this one!!!

Stair lifts are now banned or discouraged in many countries.



Pedestrian crossings will do.



# Innovation/ technology for rulebreakers

- AI to detect rulebreakers → social media apps for penalty (e.g. Facebook account locked).
- Smart elevator to detect rulebreakers (won't open if priority users are blocked out).
- Social media apps to occasionally promote campaigns or awareness raising.





## Innovation/technology for rural mobility

A versatile wheelchair that can be used both indoor and outdoor + short-distance and long-distance traveling

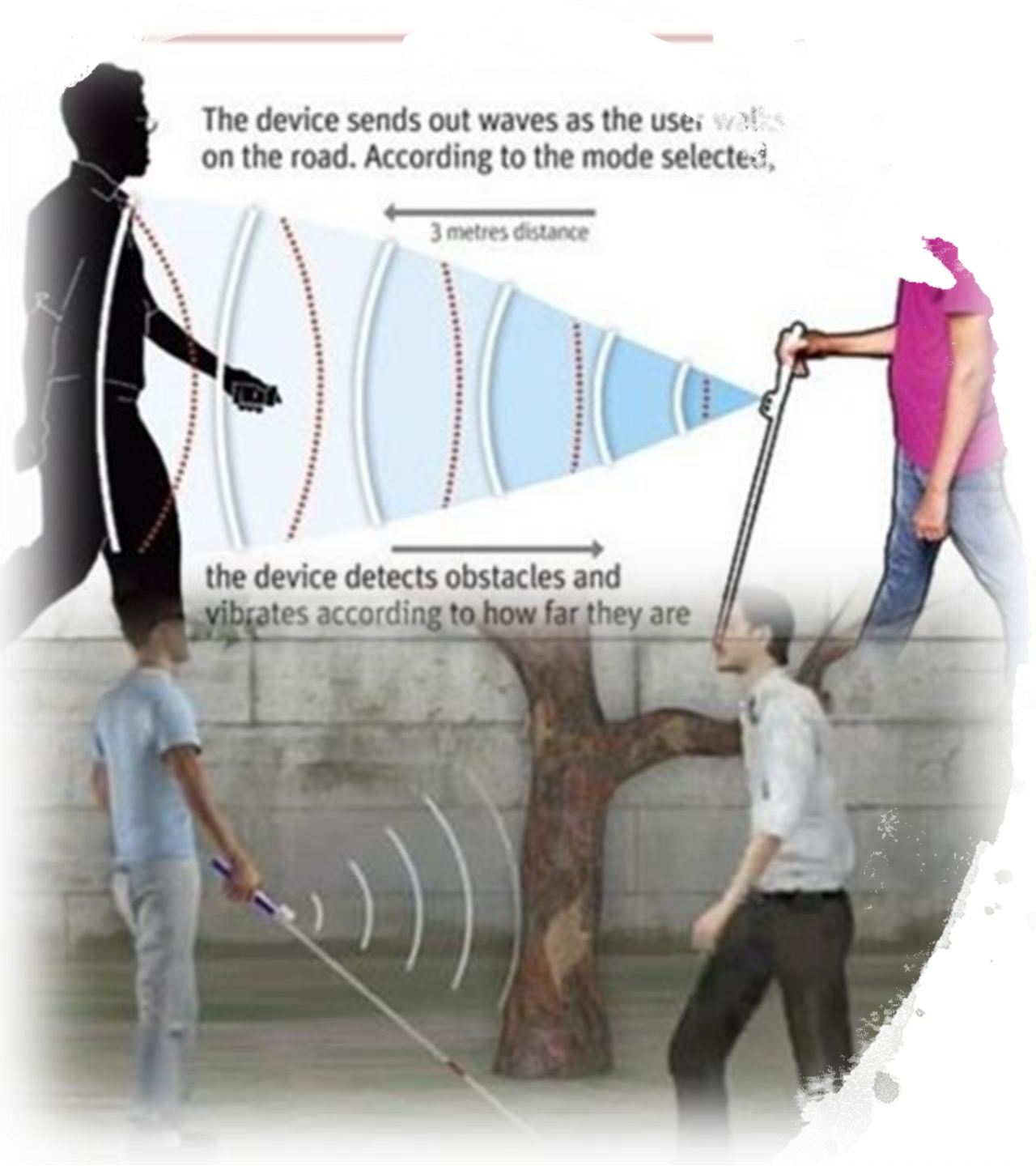




# Innovation/ technology needs

Mainstream  
innovation/technologies  
to become more  
inclusive.





Innovation/  
technology for smart  
navigation

Make white canes smarter.





# Innovation/ technology for sign language service

Mobile App

ให้เข้าไปที่การตั้งค่าเพื่อใส่อีเมล



# Innovation/technology for gap fillers

- Automatic gap fillers → <https://www.youtube.com/watch?v=RKd7NqsxFWo>

