



KAKEHASHI Project

Toyohashi University of Technology (TUT)

Seattle



Toyohashi

Agenda

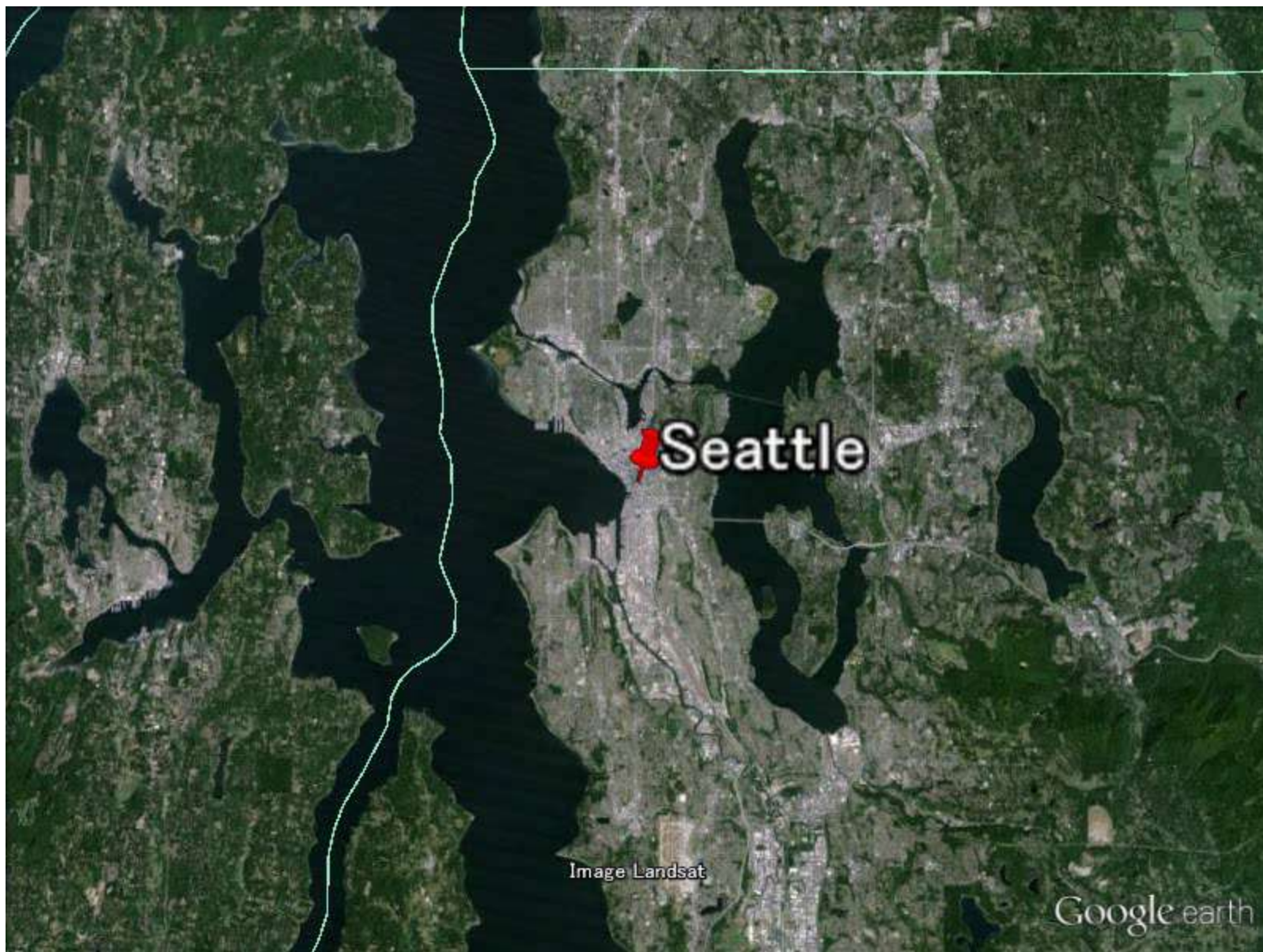
- i. Location**
- ii. About TUT**
- iii. Advanced Technology in Japan**

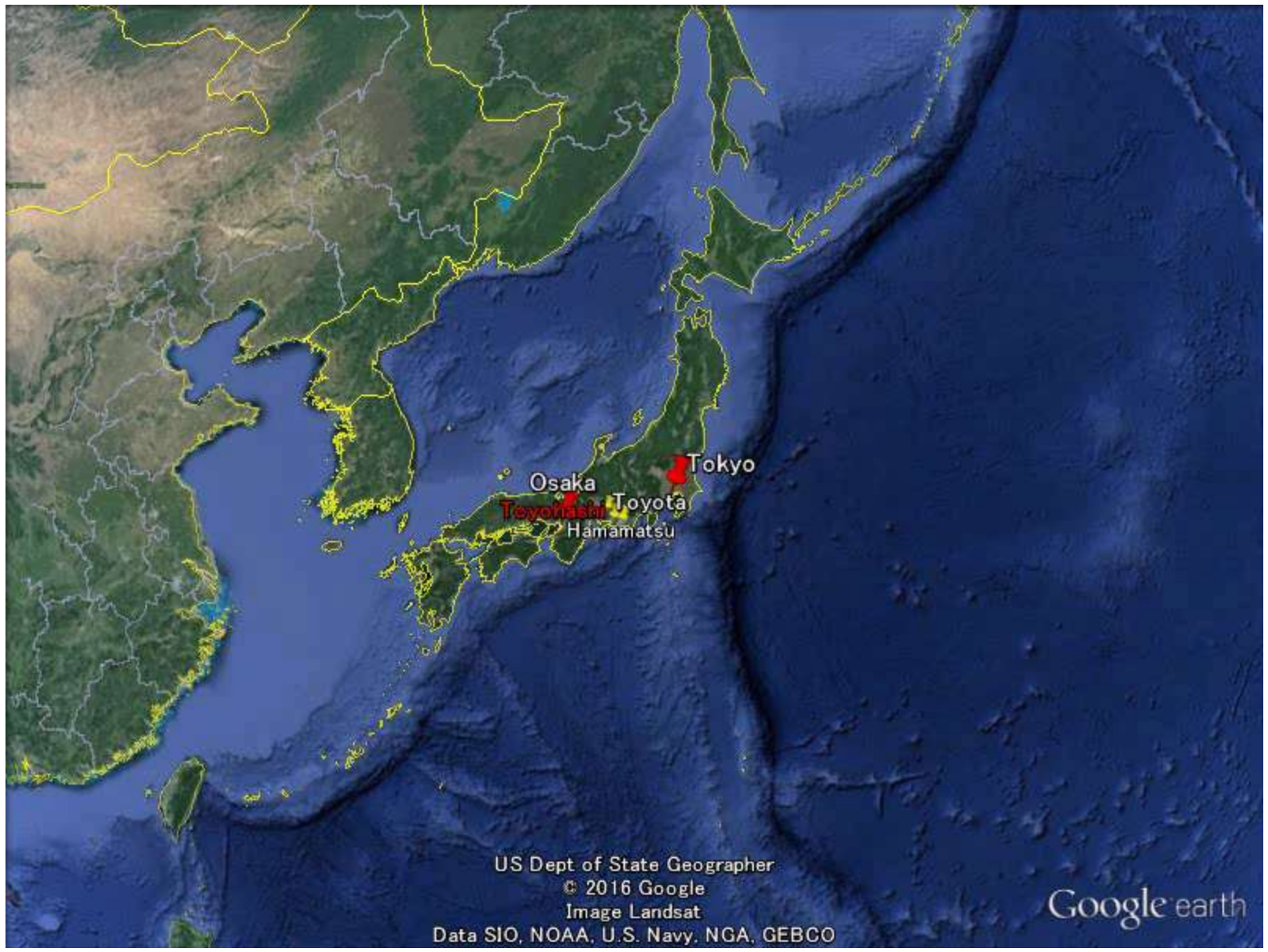


KAKEHASHI Project - Aichi Prefecture & Toyohashi City -



Let's GO!!!





US Dept of State Geographer
© 2016 Google
Image Landsat
Data SIO, NOAA, U.S. Navy, NGA, GEBCO

Google earth

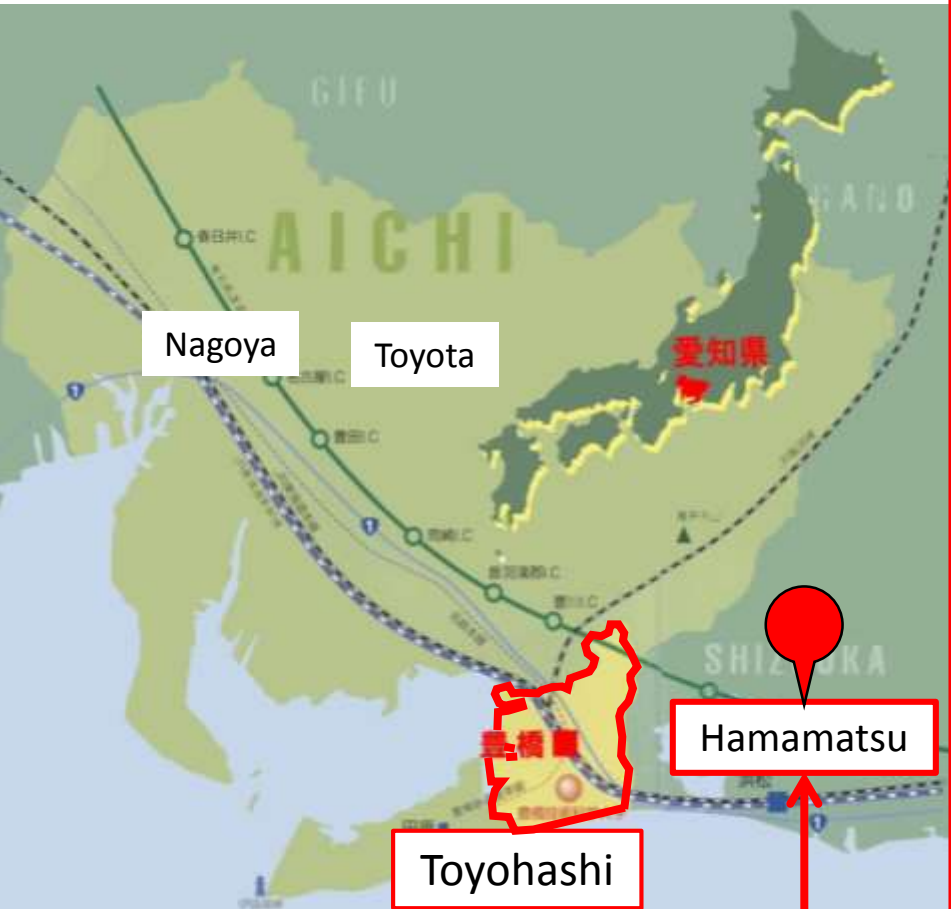


The head office of TOYOTA in Aichi pref.



★ : The birthplace of
TOYOTA's founder





A collage of three major Japanese automotive brands. At the top is the Honda logo, the name 'HONDA' in red, and a black Honda Civic Plug-in Hybrid car. In the middle is the Yamaha logo, the name 'YAMAHA' in red, and a black Yamaha XJR1300 motorcycle. At the bottom is the Suzuki logo, the name 'SUZUKI' in blue, and a red Suzuki Swift hatchback car.

Zero Waste Action

5 3 0

- **Go-mi (Waste) Zero in Japanese**
- **May 30th**



Tezutsu Hanabi

- **Since around 1610**
- **Toyohashi Gi-On Festival**



Tezutsu Hanabi



About TUT

Toyohashi University of Technology(TUT)



About TUT

◆ Established **40** years ago as a **National University**

I. Mechanical Engineering

**II. Electrical and Electronic
Information Engineering**

III. Computer Science and Engineering

**IV. Environmental and Life Sciences
Engineering**

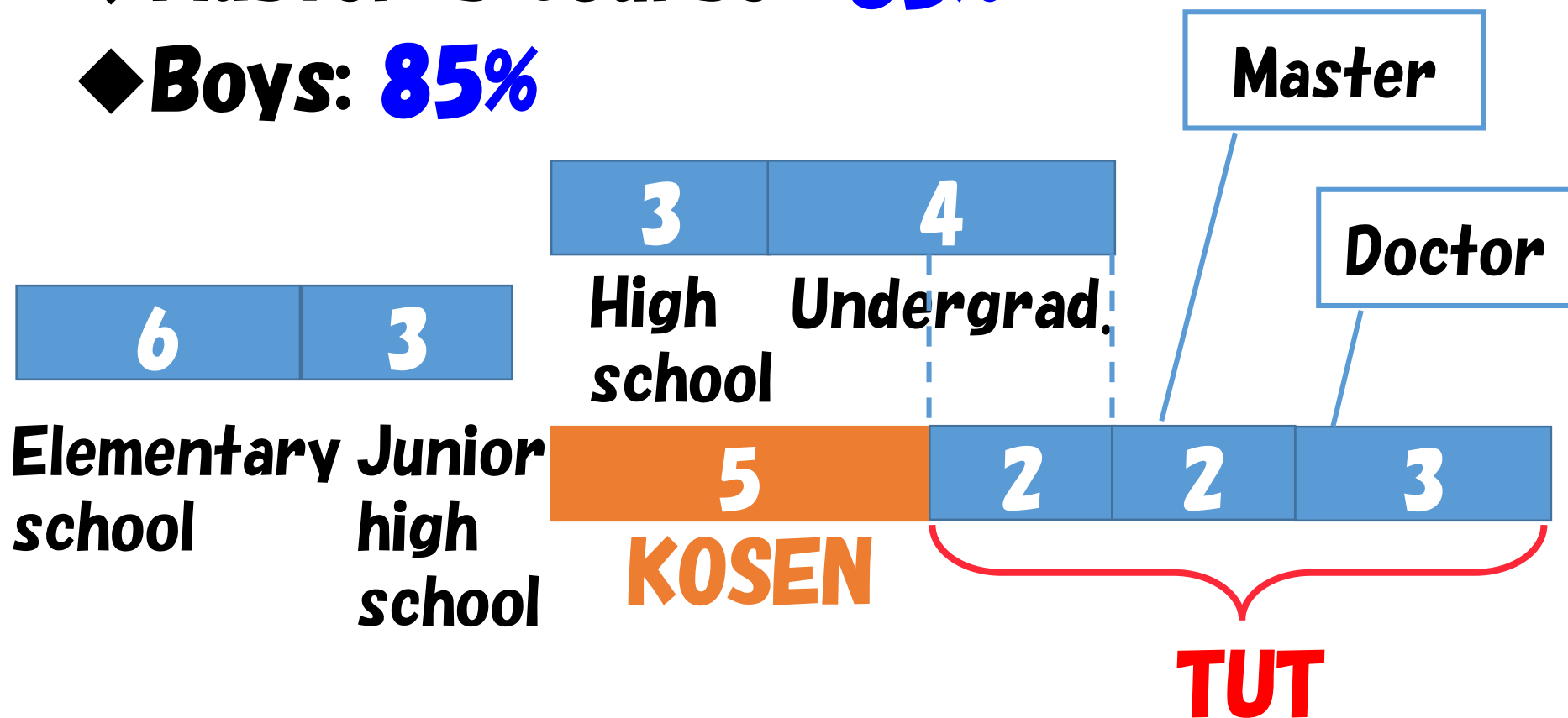
V. Architecture and Civil Engineering

◆ Students **2,240** (International Students: **8%**)

◆ FACULTY **230** • STAFF **143**

Education System

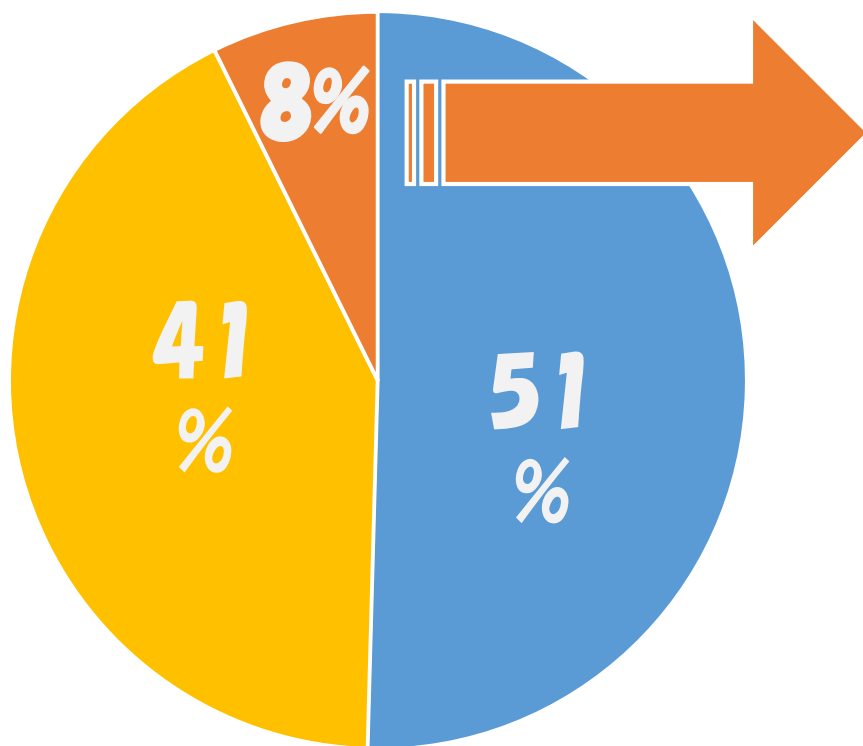
- ◆ **3rd graders from KOSEN: 80%**
- ◆ **Master's course : 85%**
- ◆ **Boys: 85%**



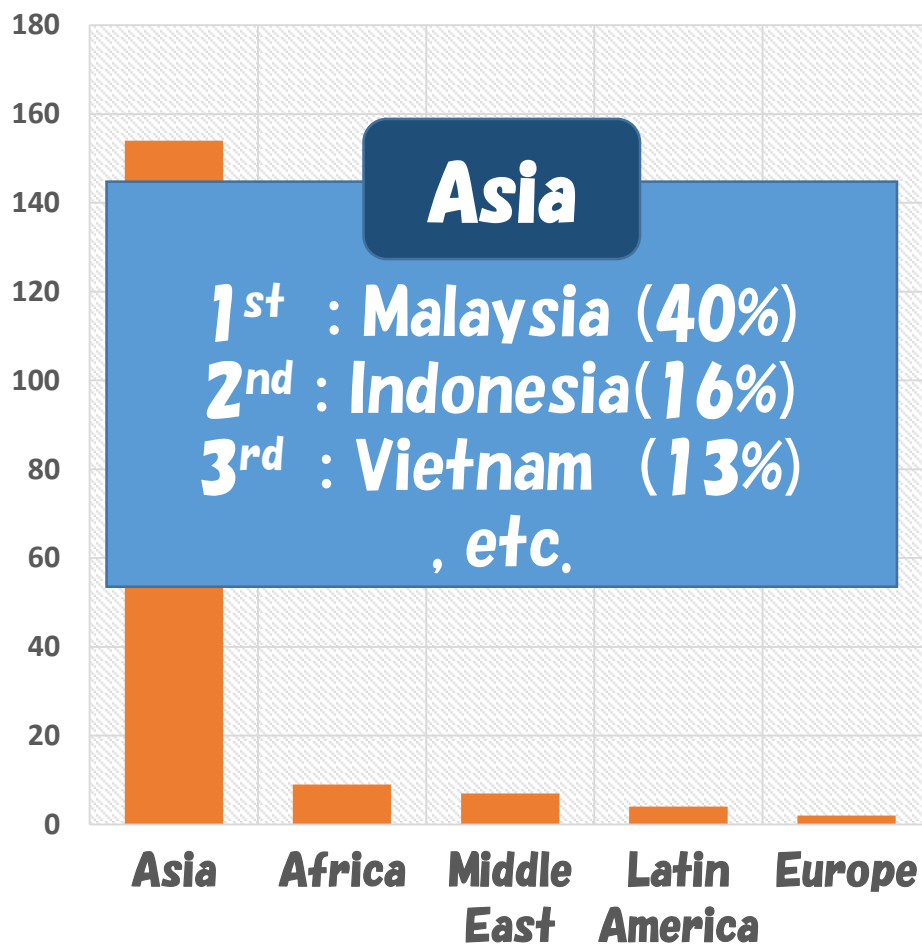
International Students

◆ Students in TUT

- Undergraduate : **1,215**
- Graduate : **1,018**
- International students : **167**

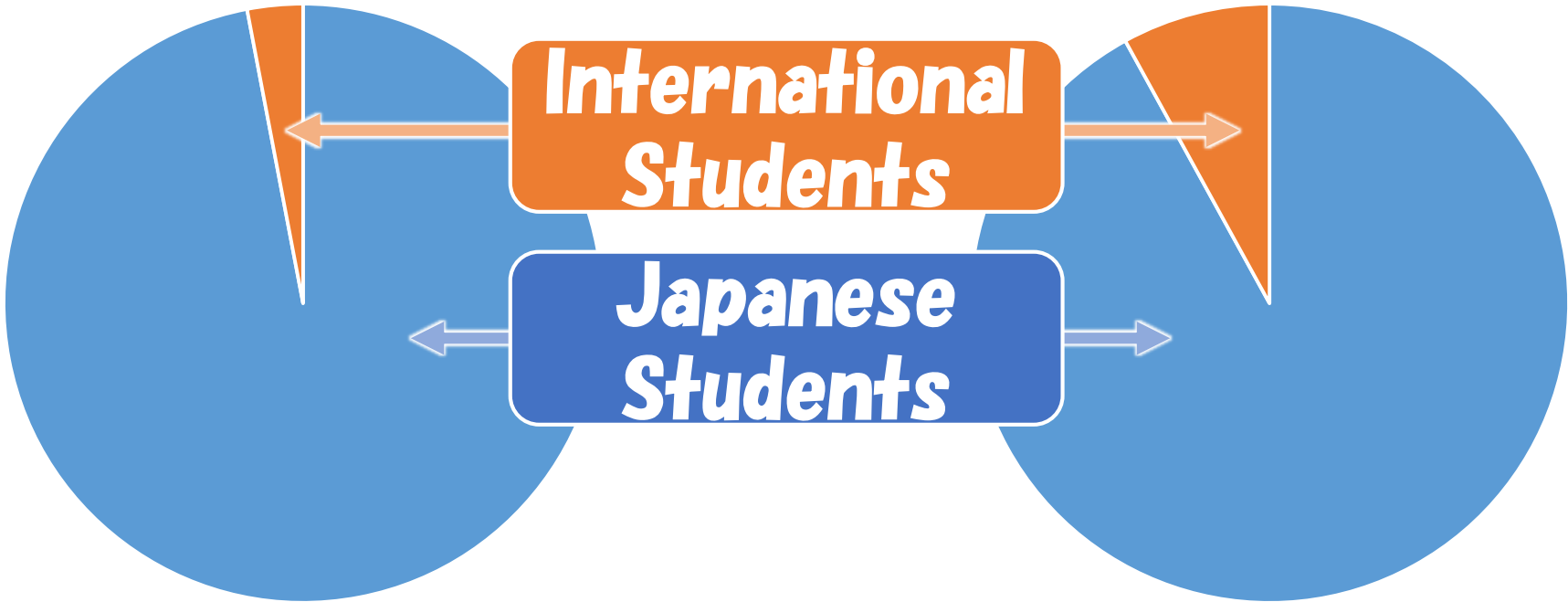


International Students

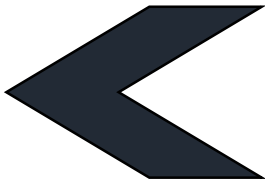


**General
Universities**

TUT

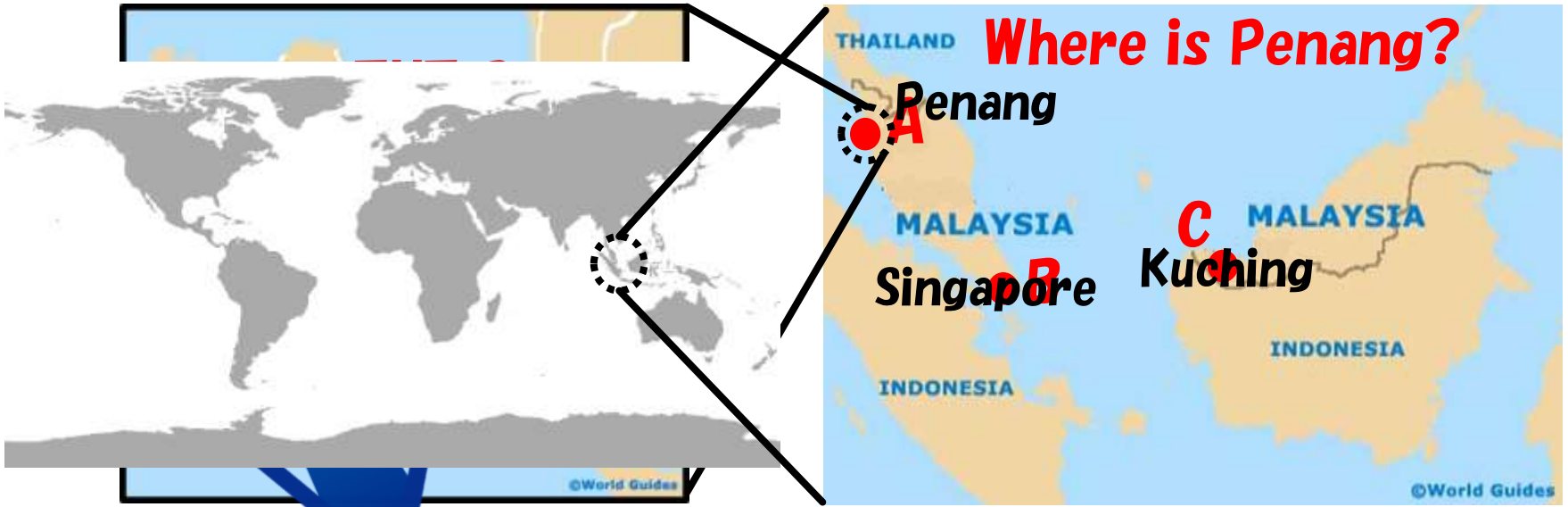


less than 4 %



8 %

Overseas campus: **TUT Penang**



Recent topics of TUT

2013 Excellent Research Universities

19 Universities / **800** Candidates

2014 Top Global University

37 Universities / **800** Candidates

Among local small university,

**Toyohashi University of
Technology**

**Nara Institute of Science and
Technology**

2 Universities / 800 Candidates

Advanced Technology in Japan

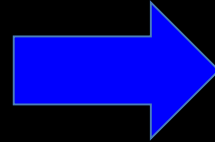
Japanese Old Robots



By Sota Ukeji

Q. How Many Electric Motors?

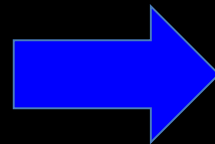
- a. Zero
- b. Seven
- c. Nineteen



a. **ZERO**

Q. When the Robot Was Made?

- a. 40 years ago
- b. 100 years ago
- c. 150 + years ago



c. **200 yrs ago**

Innovating Passion for the Future

- **Even 200 years ago, Japan produced great engineers**
- **These early inventions created a passion for high-tech innovation in modern Japan**



INTELLIGENT VENDING MACHINES

RYOTA KIKUCHI

TOYOHASHI UNIVERSITY OF TECHNOLOGY

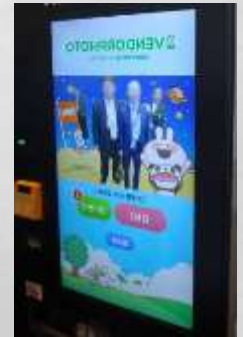


STREET OF JAPAN



Features

- **Touch panel monitor**
- **Electronic money system**
- **Camera**
- **Intel CPU inside**



MARKETING AI INSIDE



**Gender
Recognition**

**Age
Recognition**



Boy



つきたてのふっくらおいしいお米・24

毎日特売中!! 人件費と配達料を値引

有限会社

北海道産 令和3年産 3,000円 <small>税別</small>	北海道産 令和3年産 3,700円 <small>税別</small>	北海道産 令和3年産 4,000円 <small>税別</small>	北海道産 令和3年産 5,000円 <small>税別</small>
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And many others.....

Washlet

~ Japanese “Hi-Tech” Toilet ~

- Stylish atmosphere of restroom is **created by washlet.**
- In Japan, its penetration rate is **75%.**
- The main function is **washing our derriere.**
- Washlet has many sub-functions.



Warm water spray washes our derriere.

A Controller of Washlet

Please try Japanese “Hi-Tech” toilet.



Thank you for your attention.

Electric Cars



In Japan



Fuel Cell Vehicles



In Japan

Automatic Operation



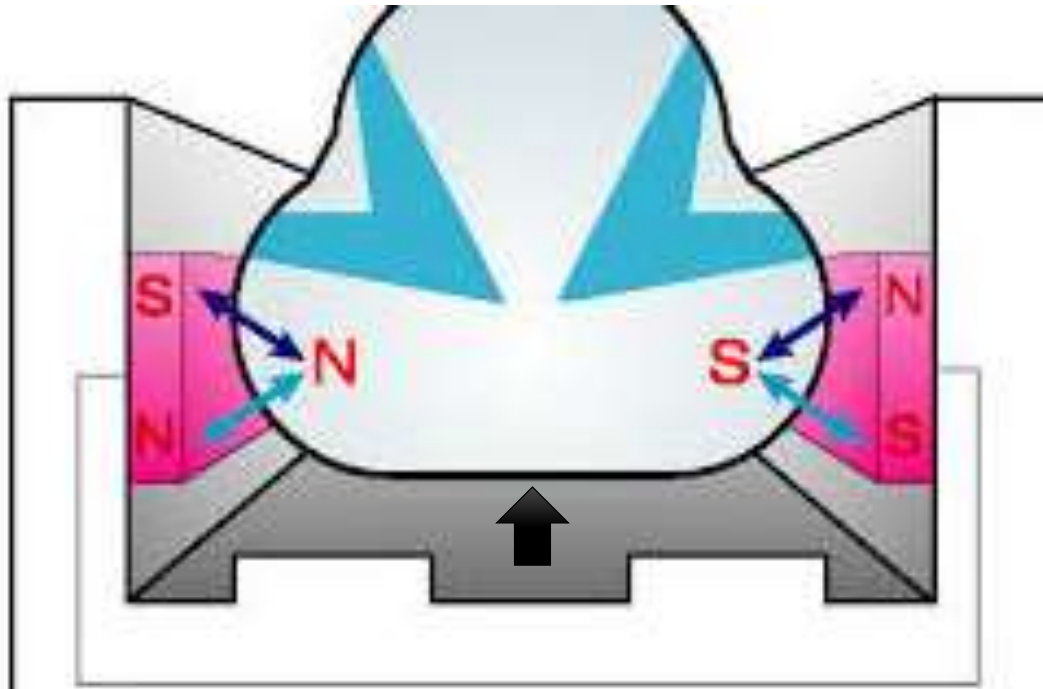
In Japan

This is common in Japan.



Maglev railways

To hang in the air by magnetic force!

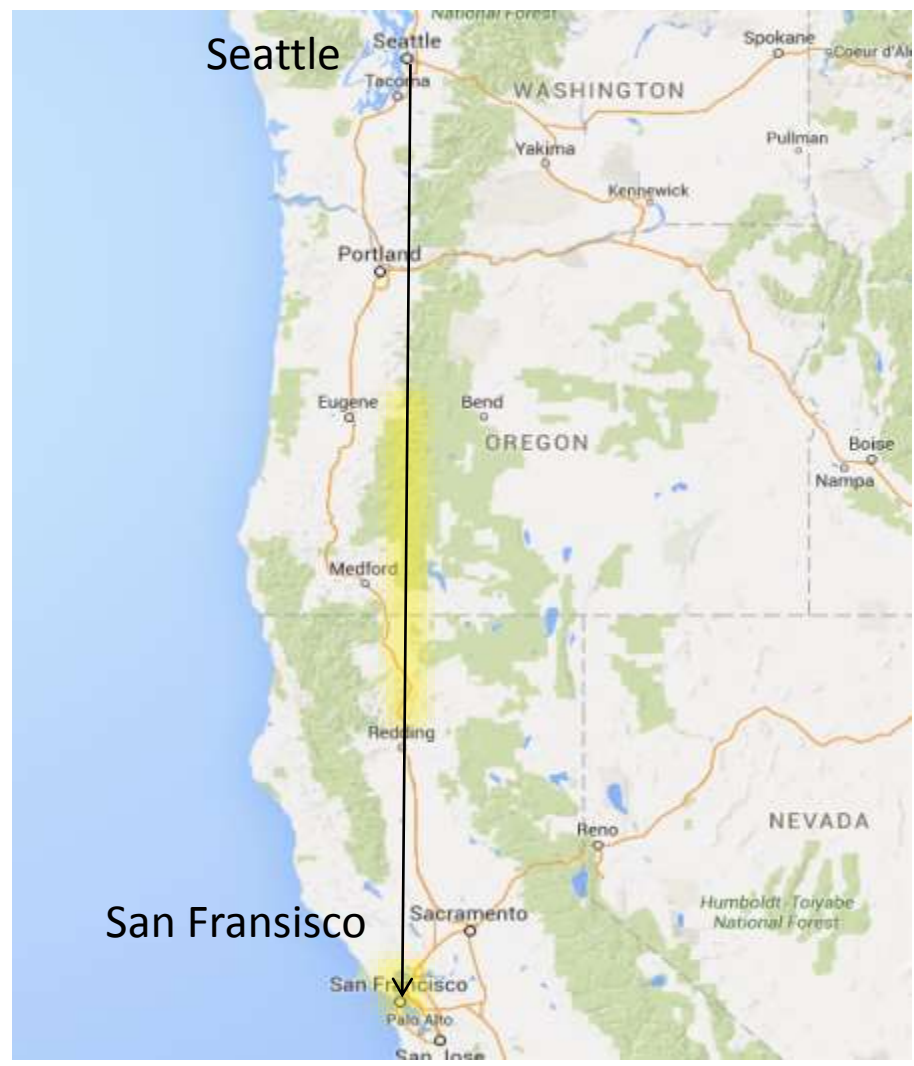


Maglev railways

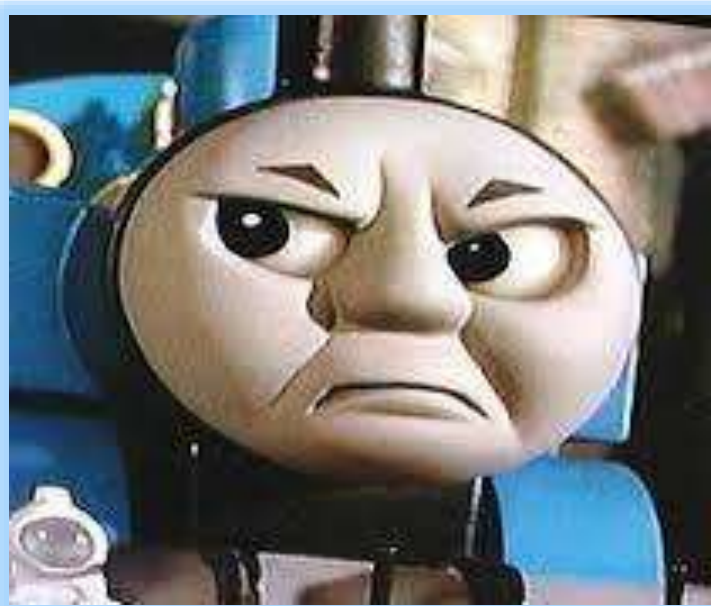
- **Max speed : 374.7 mile/h**



It only takes about 2 hours !!



**Please come to
Japan !!**





Hydrogen(H_2) Society

燃料電池

作成者: Daiki Yamamoto

Fuel Cell Vehicles



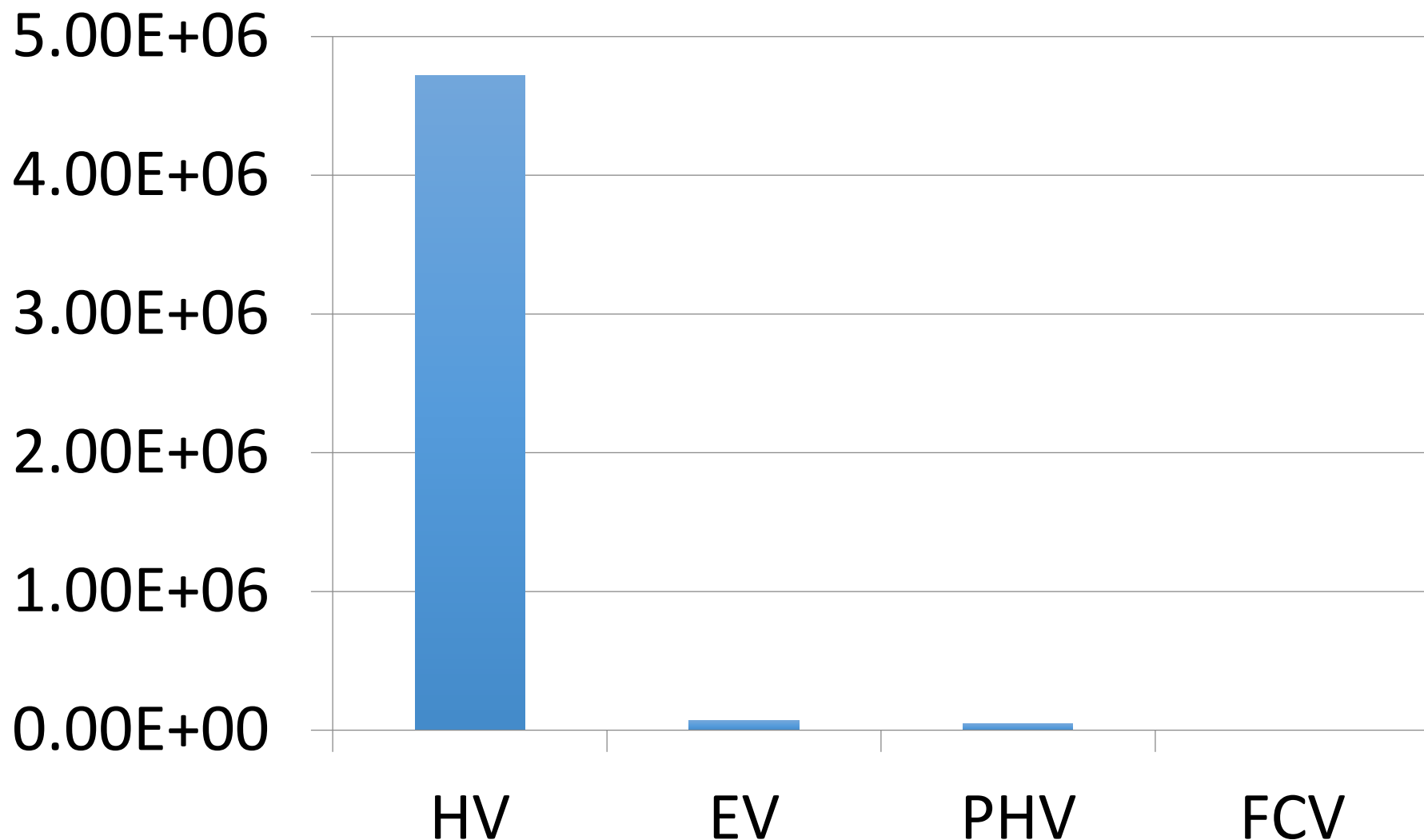
\$64,300



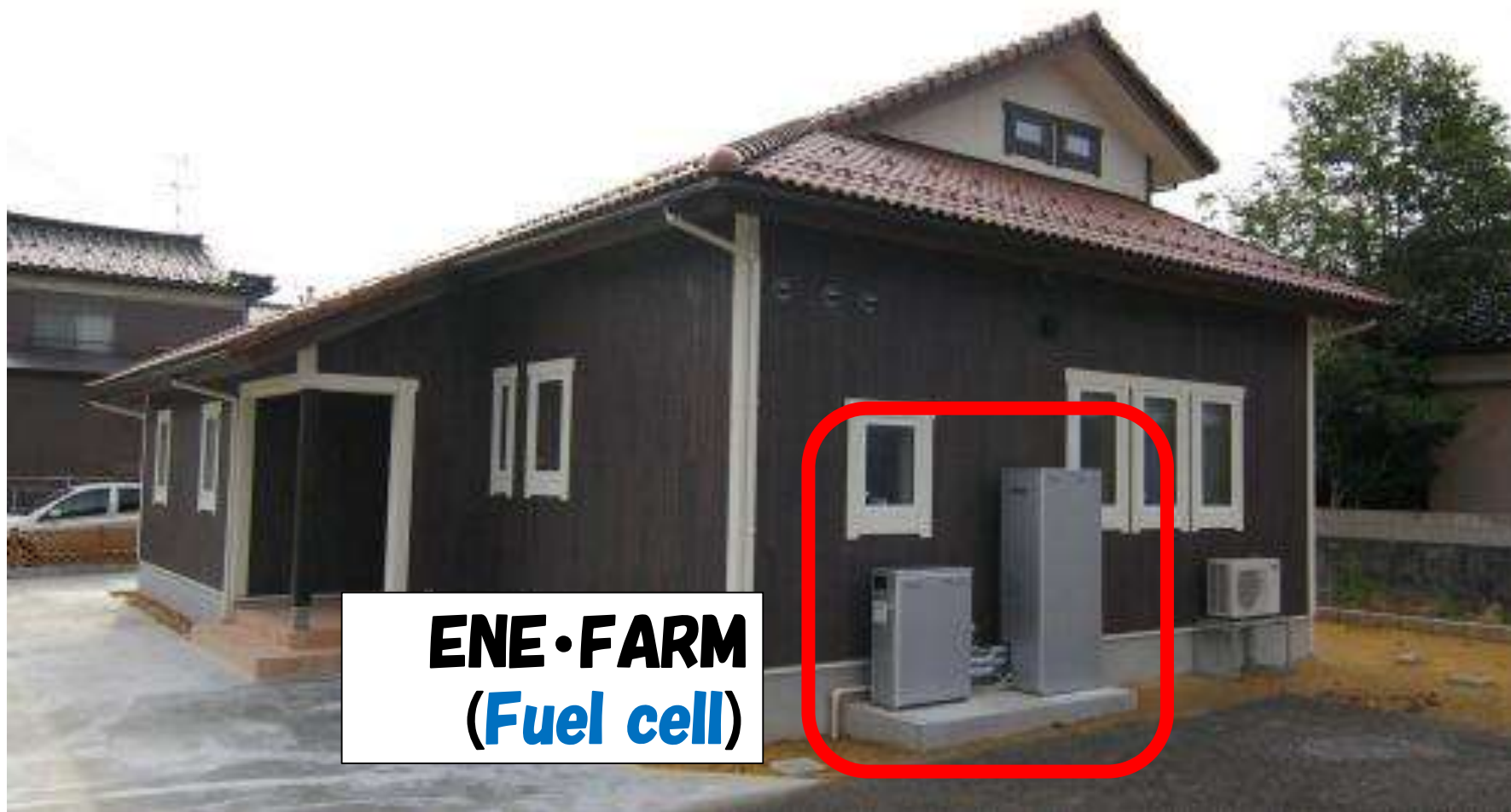
100 Hydrogen Stations



The number of cars



Fuel Cell for Household Use

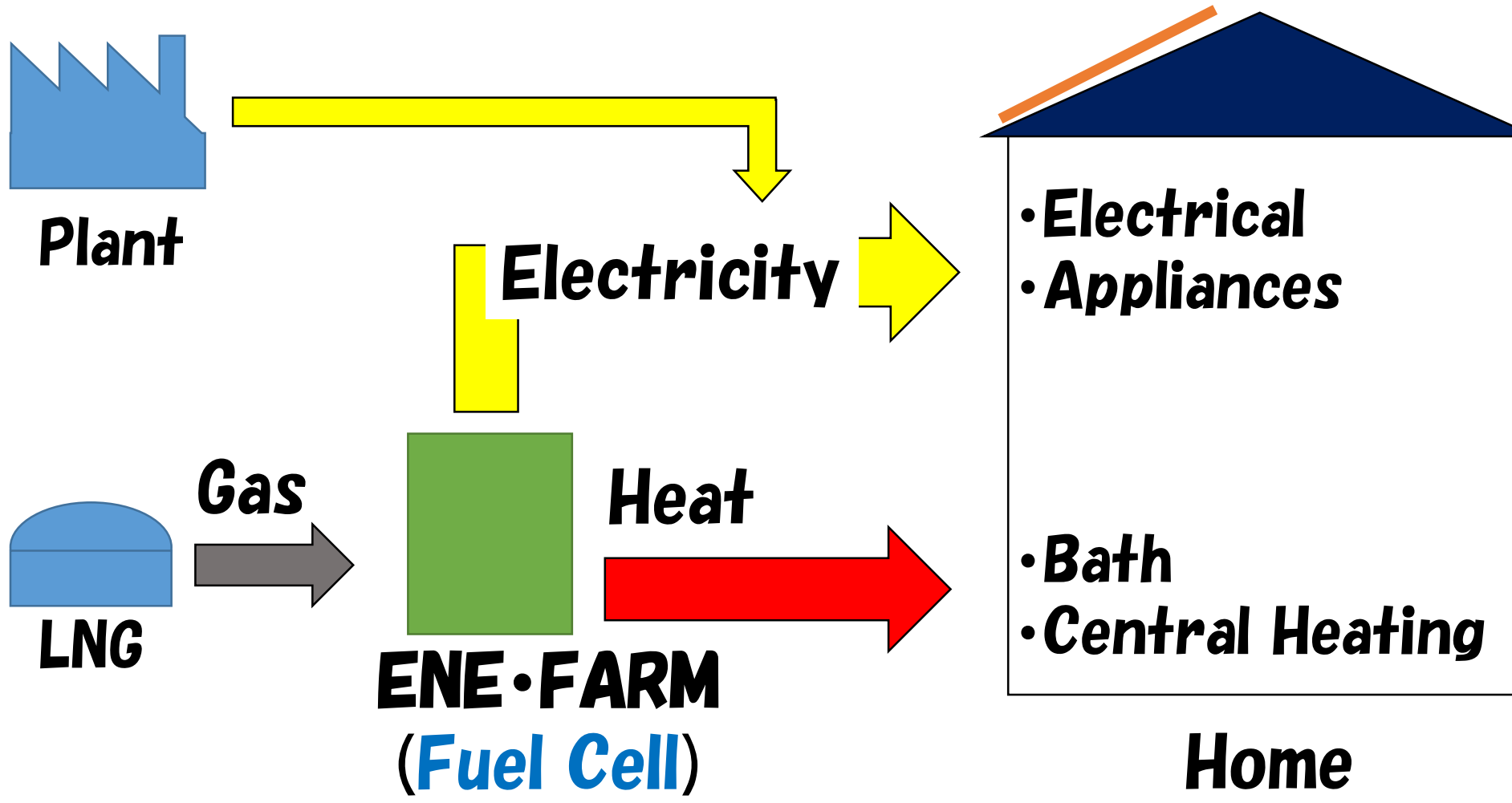


ENE-FARM
(Fuel cell)



ENE·FARM

(A *fuel cell* cogeneration system)



KAKEHASHI

Our t
Impo
we ca



we
ally,

We are

e of us

KAKEHASHI (Bridge for Tomorrow)

Air Conditioners



In Japan

➤ **Summer**

Hot!

[**High
humidity**]



➤ **Winter**

Cold!



We wanted to live comfortable...

***Japanese air conditioners
have been developed!***

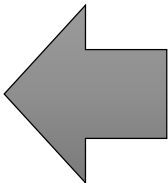
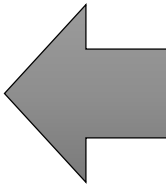
Performance in the summer



Temperature Sensor



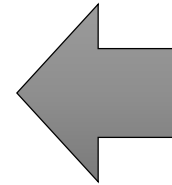
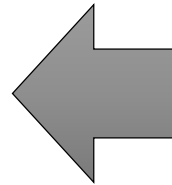
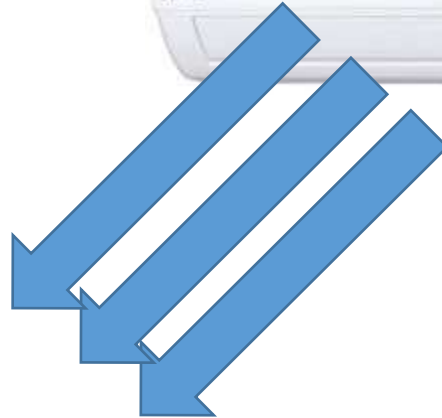
Cold air



Performance in the summer



Cold air



Performance in the winter



Hot air

Hot!

Cold!



Performance in the winter



**Getting
hotter!!**

Air conditioners make us happy!



Become a KAKEHASHI of LOVE

- 1. Fan coating with micro particles**
- 2. Removing the smell**
- 3. Cleaning automatically**
- 4. Saving energy**



Japanese air conditioners
contribute in the



Wanna have one??

Many robots in our life

This machine makes fried rice automatically



STB in our life



**Sociable
Trash
Box**

Previous cleaning robot



The machine cleans

Thank you!

Person can't mind a trash.

Recent cleaning robot



The machine call us

→ Person around robots get to catch a trash.

Previous cleaning robot



The machine cleans

Thank you!

I can't mind a trash.

This relations between

Recent cleaning robot

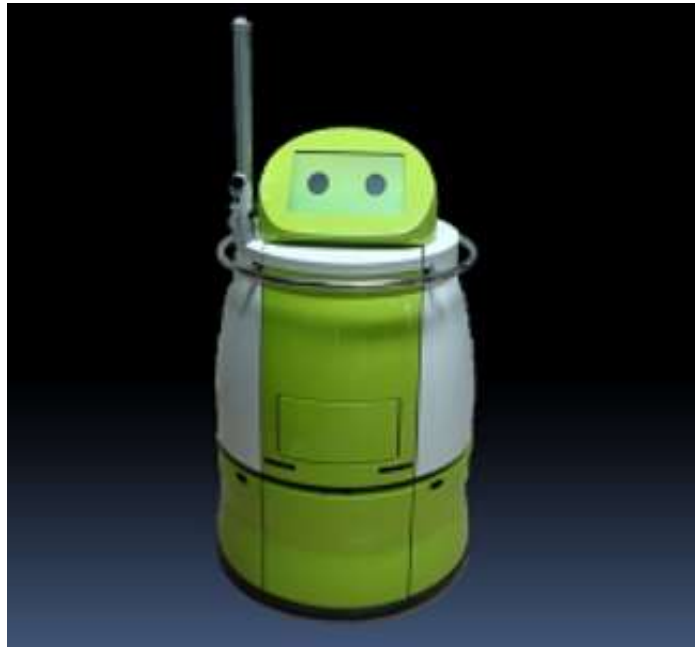
the machine and person will improve.



The machine call us

→ Person around robots get to catch a trash.

The robot helps in patient's life



At hospital

Body Height
Body Weight

Blood Type



ats

In an emergency



At home...

Emergency call



The shifting robot



Previously, waiter Robot (used in high speed)



Drink is splited !!

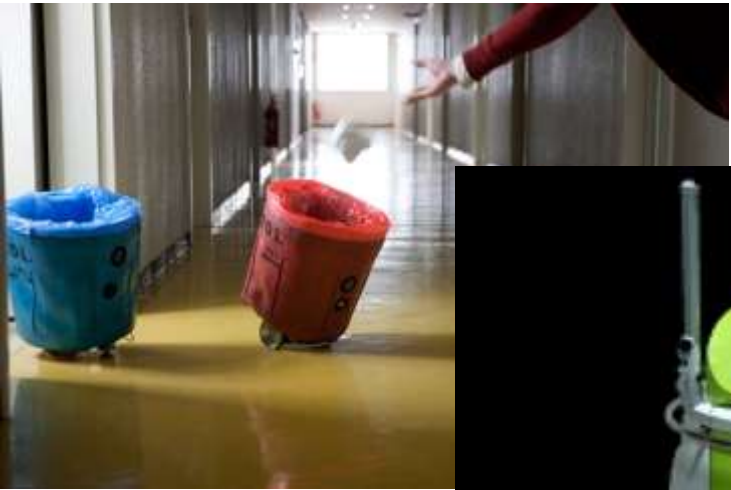
Recently, waiter Robot (used in high speed)



Drink is not splited !!

Suitable for the life of the human

Many robots in our life



***Thank you
for your kind attention***