

**Kawasaki Life Science &
Environment Research Center LiSE**





Haneda Airport (Tokyo International Airport)

Tonomachi 3-chome Life Science Zone

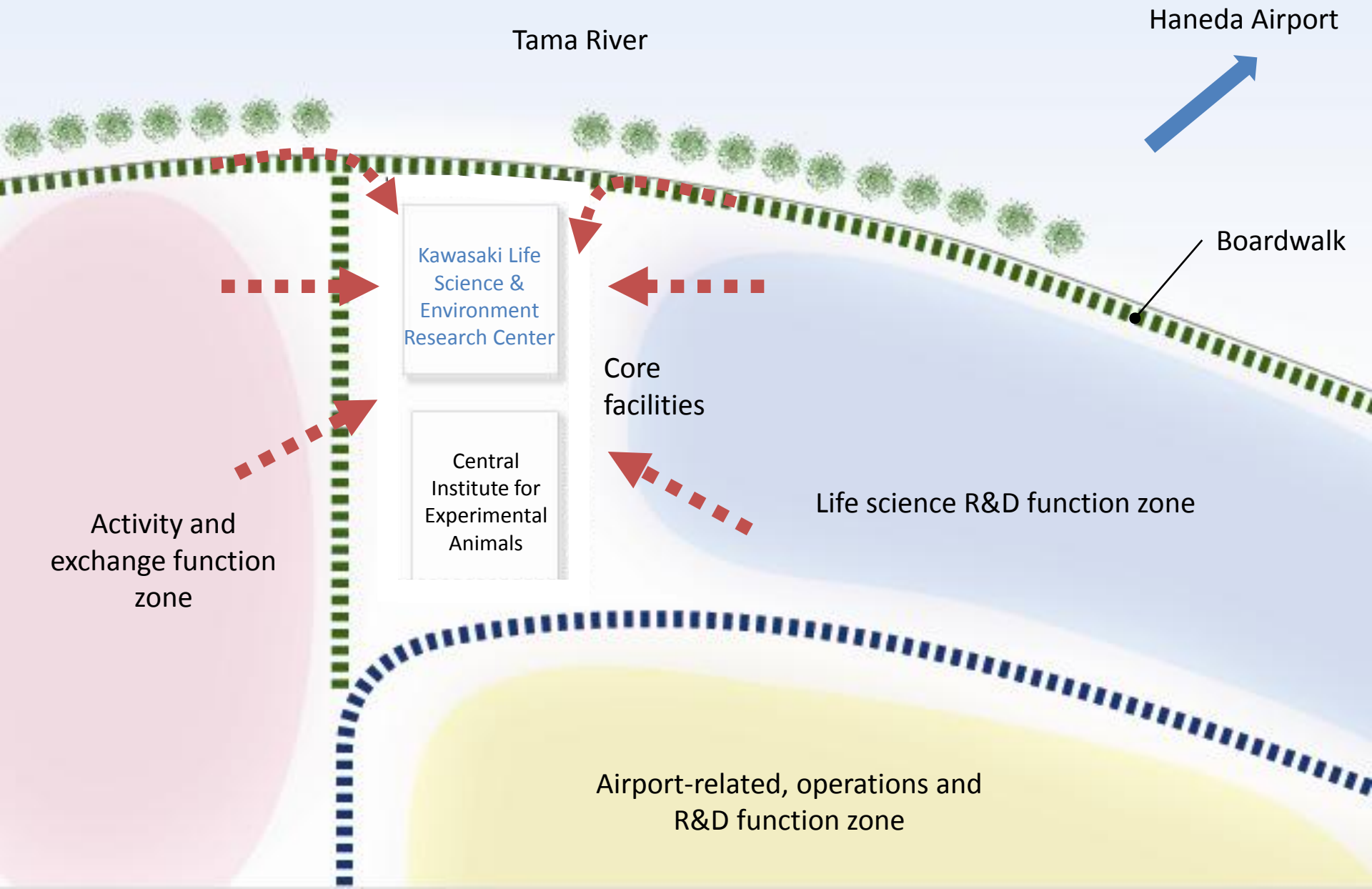
Tama River

International information dissemination base

Kawasaki Life Science & Environment Research Center LiSE

Central Institute for Experimental Animals

Core Facilities for International Information Dissemination; Advanced Research Facilities That Promote Exchanges among Researchers



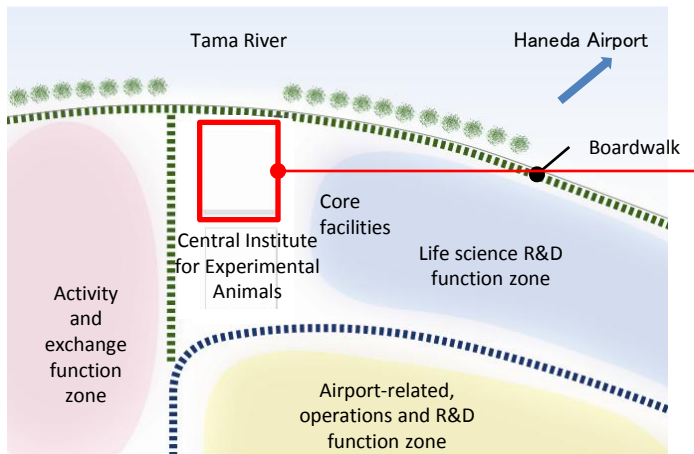
Core Facilities for International Information Dissemination; Advanced Research Facilities That Promote Exchanges among Researchers

Research facility:
a floating box of knowledge
(2nd to 4th floors)

➔ Haneda Airport

Research exchange space that connects
people (1st floor)
+
Area for regional information dissemination
through research

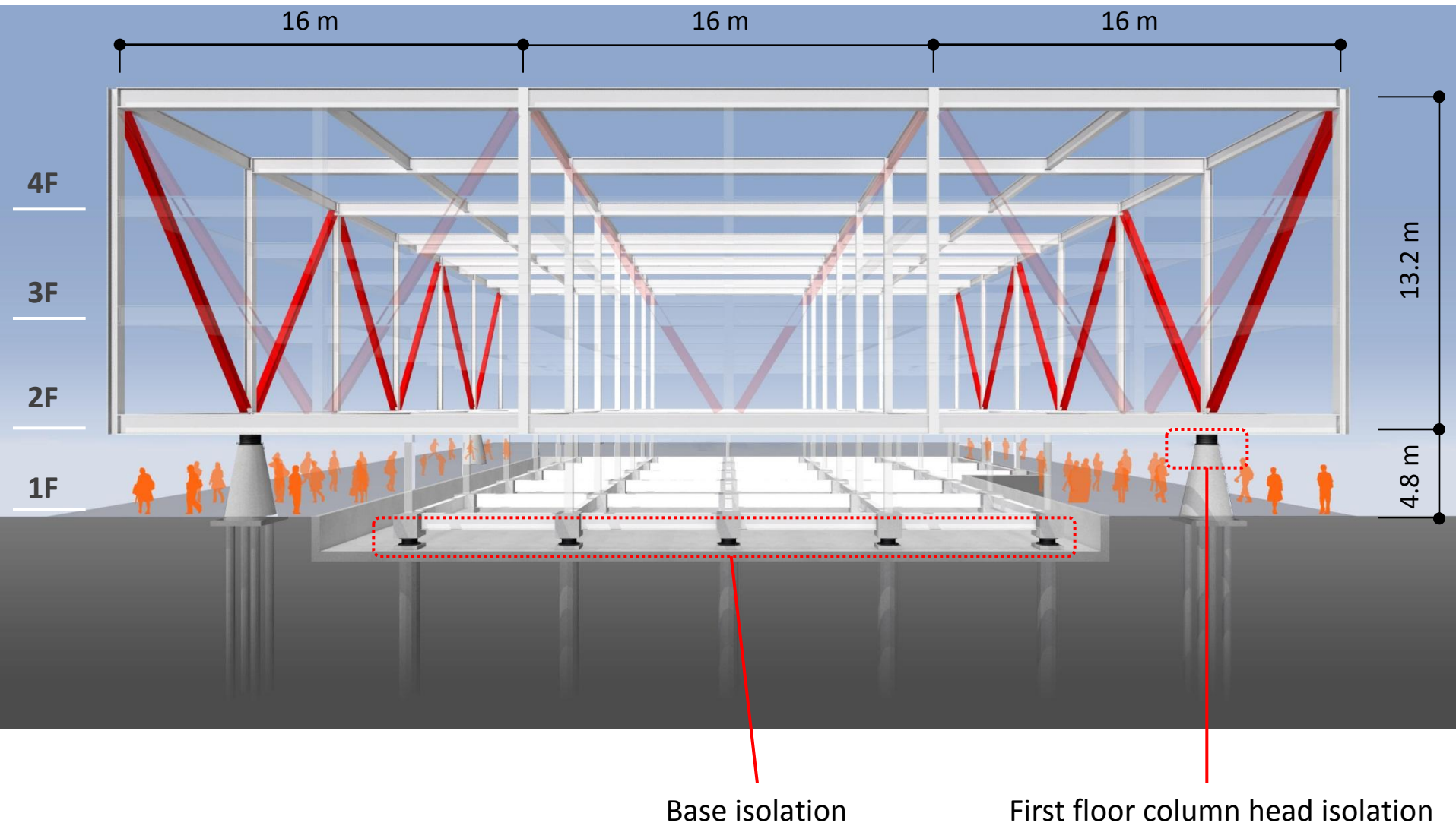
Tama River



**Kawasaki Life
Science &
Environment
Research Center
LiSE**



Seismically Isolated Structure for Protecting Everyone

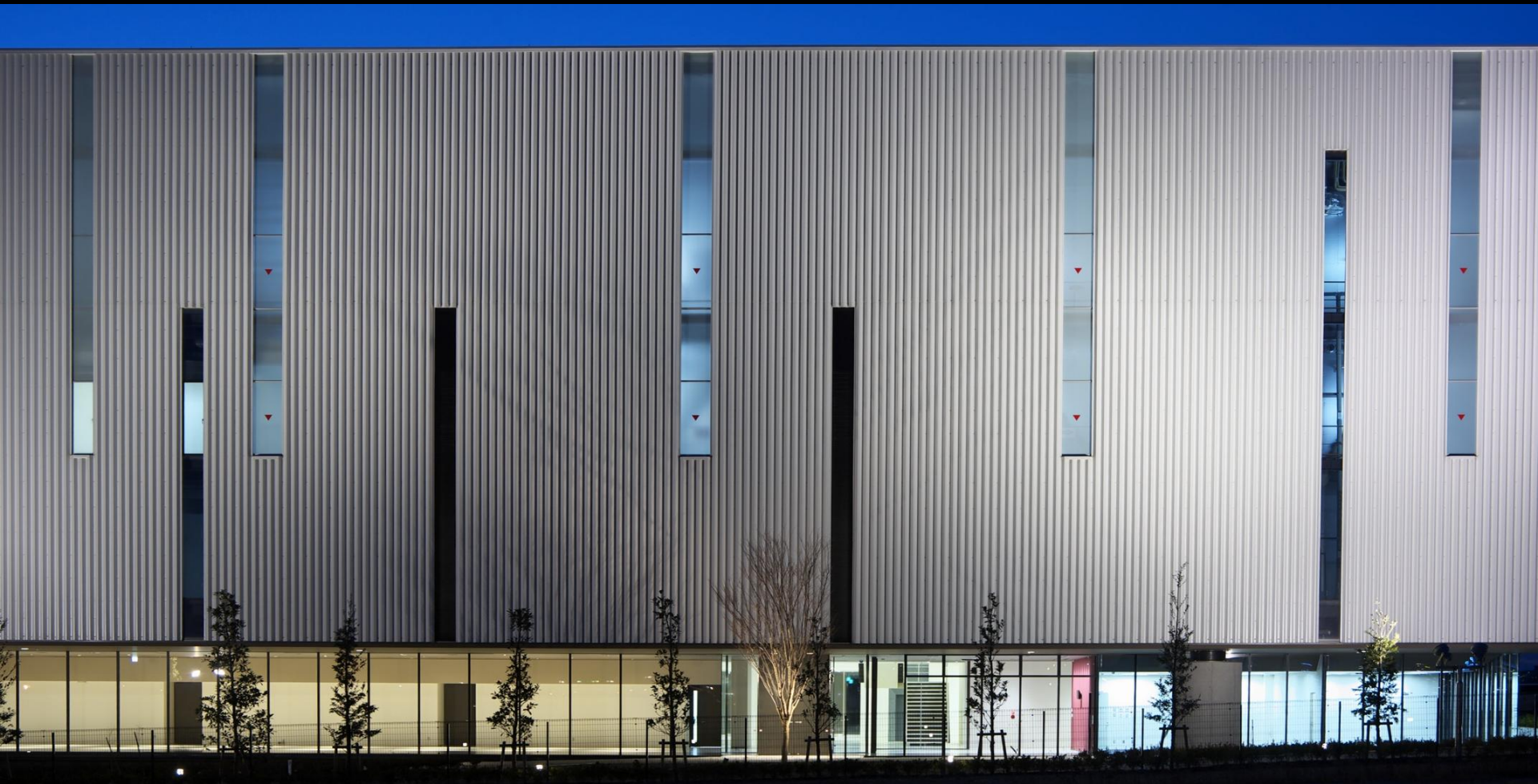




East side exterior

Science Design – Expressing LiSE’s Identity

Science Design – Image of Test Tubes

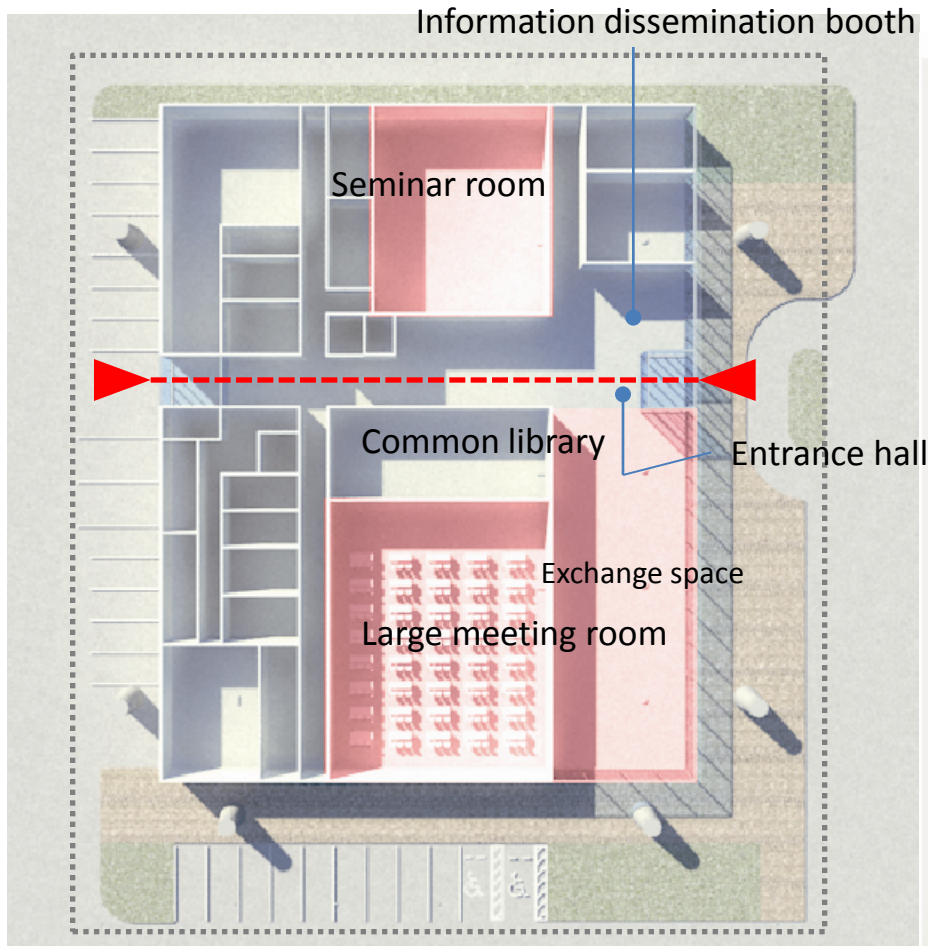


Science Design – Image of Medicine Chest

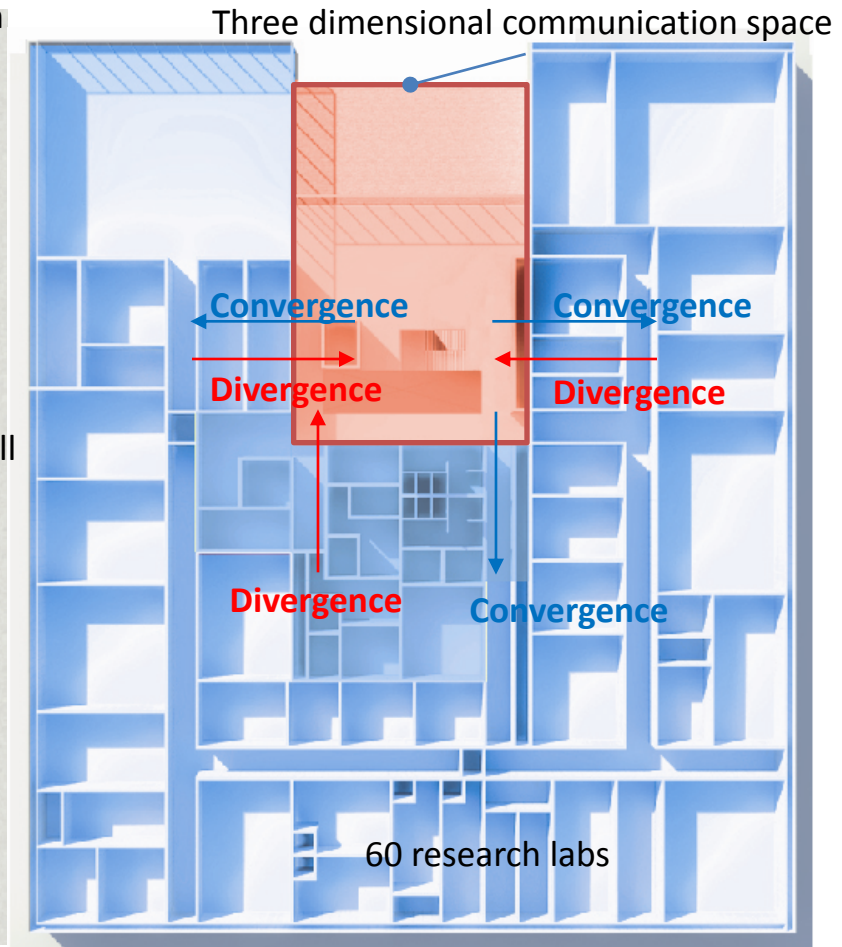


**Three Dimensional Communication Space Linking
Researchers from Government, Industry, Academia and
Citizen**

3D Communication Space Linking Researchers from Government, Industry, Academia and Citizen: Comfortable Environment Where Researchers Can Refresh



1st floor research exchange space



2nd to 4th floor research facilities

Legend

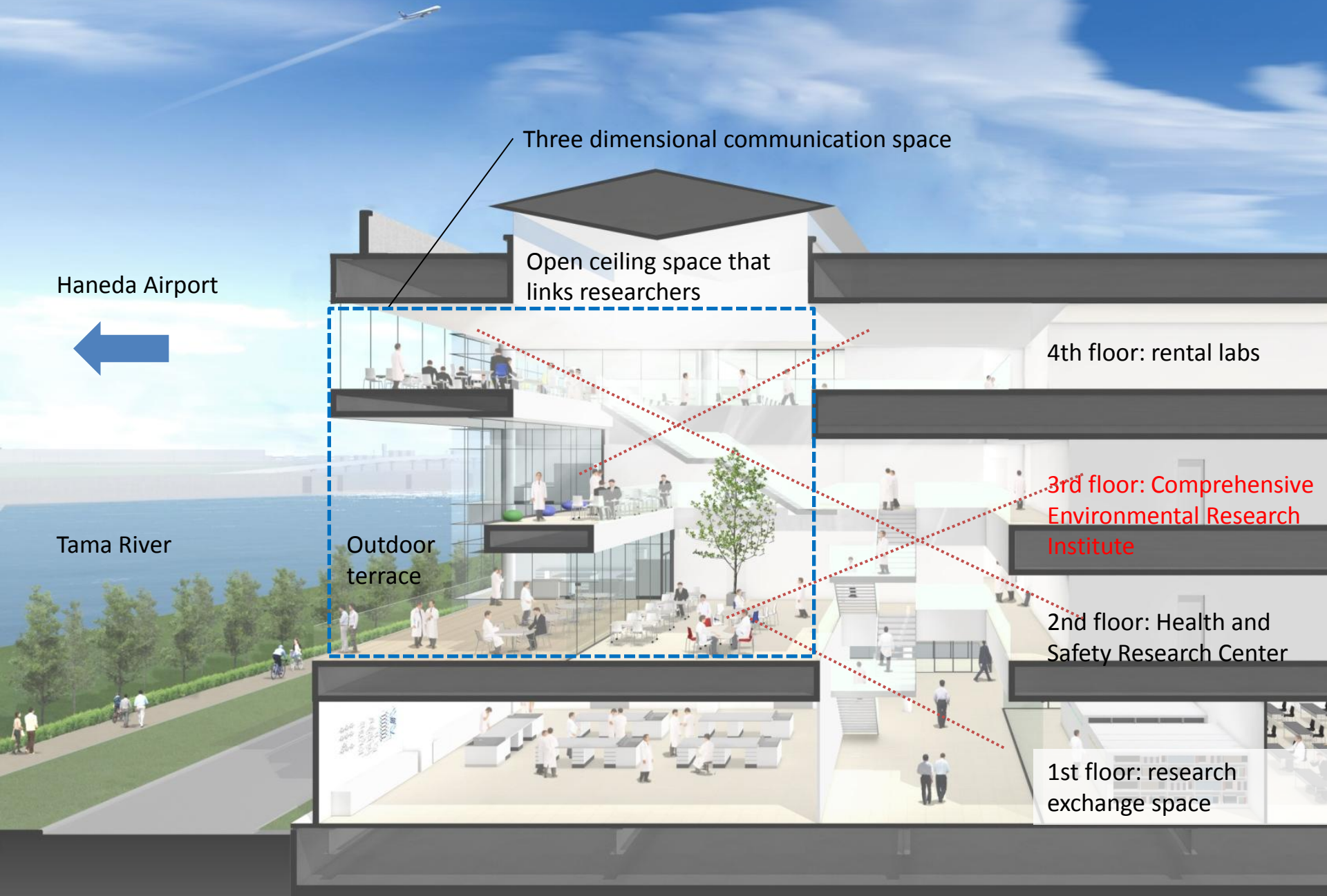


Research labs



Communication space

3D Communication Space Linking Researchers from Government, Industry, Academia and Citizen: Comfortable Environment Where Researchers Can Relax



Three dimensional communication space

Open ceiling space that links researchers

Haneda Airport



Tama River

Outdoor terrace

4th floor: rental labs

3rd floor: Comprehensive Environmental Research Institute

2nd floor: Health and Safety Research Center

1st floor: research exchange space



Three dimensional communication space



Three dimensional communication space



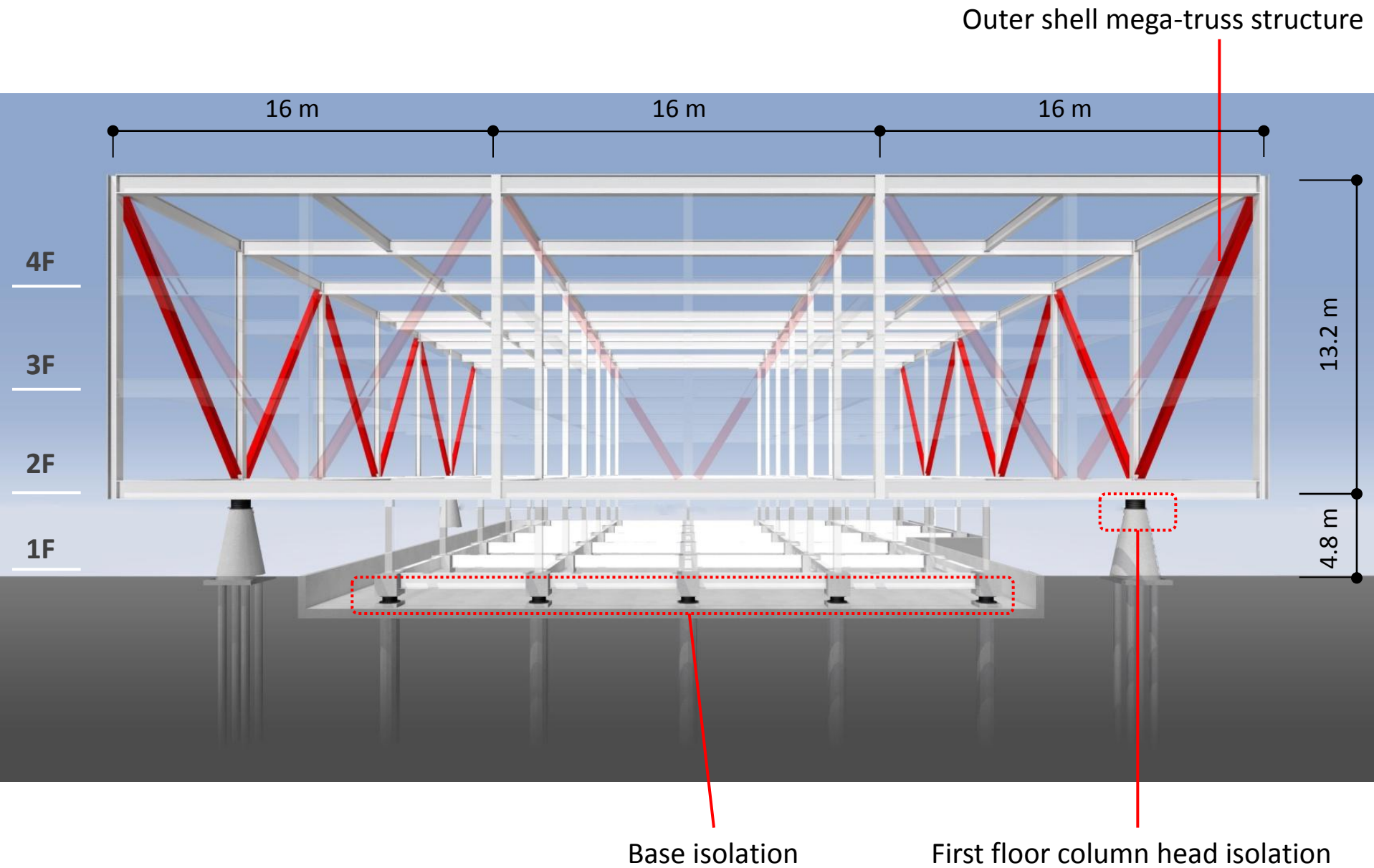
View Lounge with Tama River view



Second floor terrace

Seismically Isolated Structure Protecting Researchers and Research Outcomes

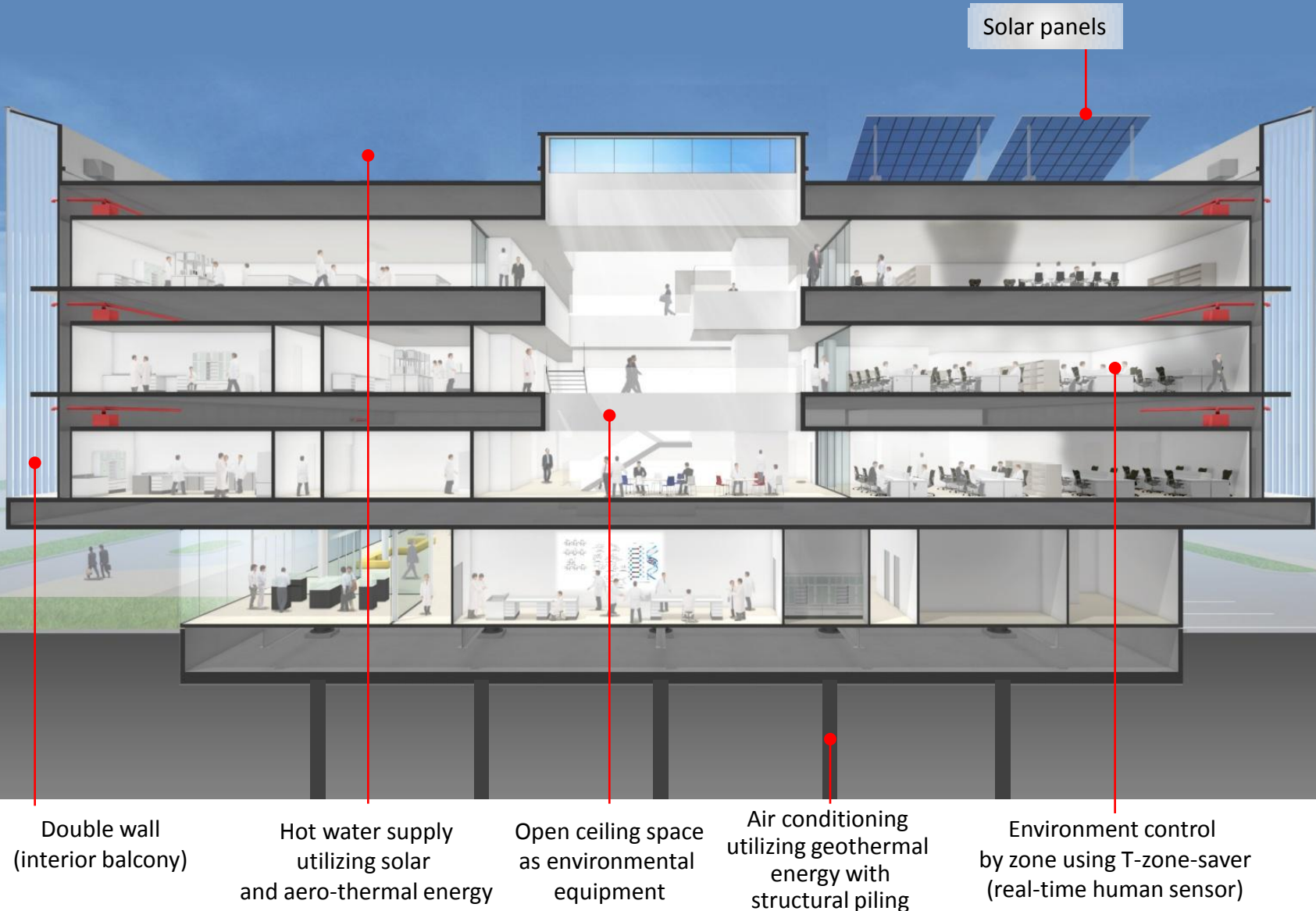
Seismically Isolated Structure Protecting Researchers and Research Outcomes



Gaining Kawasaki CASBEE Rank S – A Facility Appropriate for Environmentally Advanced Kawasaki City

Gaining Kawasaki CASBEE Rank S

Various environmental measures were taken to make it a facility that is appropriate for an environmentally advanced Kawasaki City

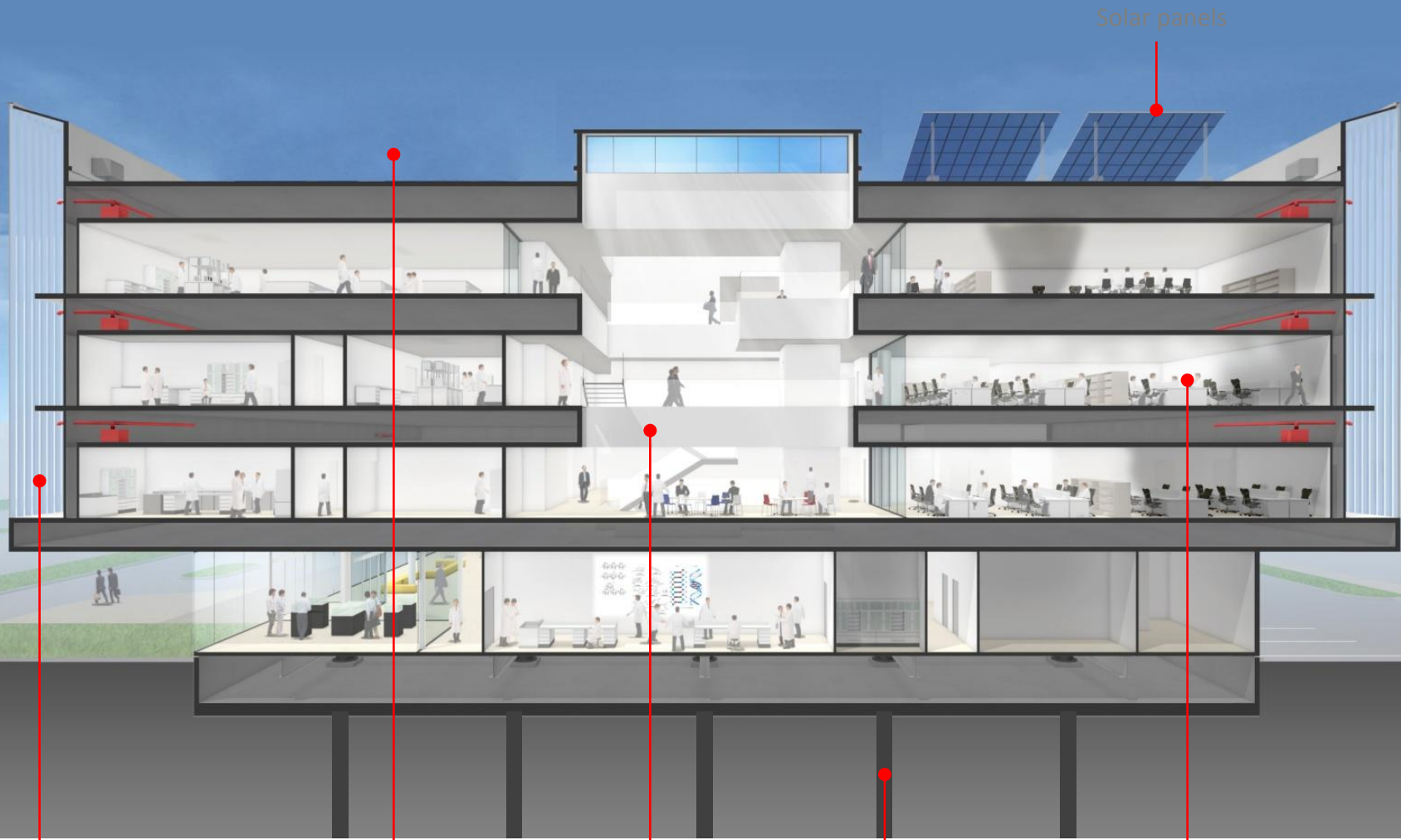


Solar Panels

Active utilization of renewable energy. 70 kw solar panels installed on the roof.



Gaining Kawasaki CASBEE Rank S



Double wall (interior balcony)

Hot water supply utilizing solar and aero-thermal energy

Open ceiling space as environmental equipment

Air conditioning utilizing geothermal energy with structural piling

Environment control by zone using T-zone-saver (real-time human sensor)

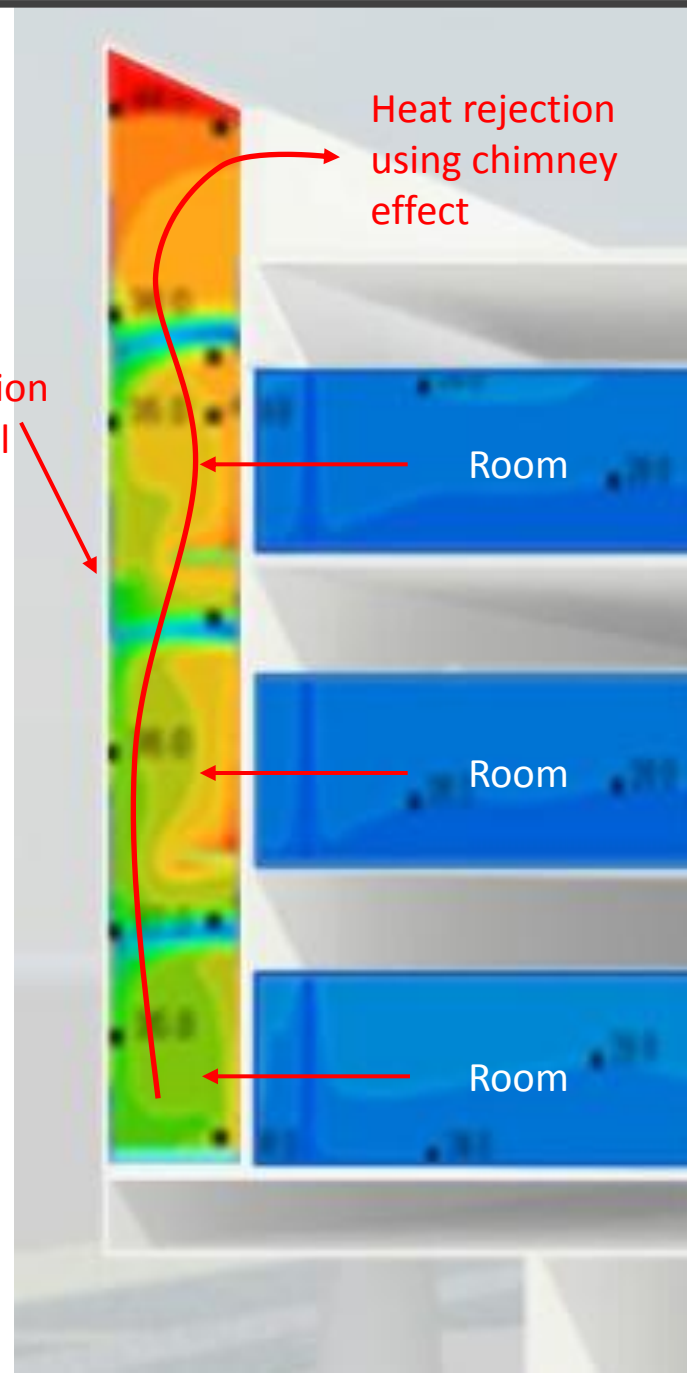
Gaining Kawasaki CASBEE Rank S

Built double walls on the building's outer periphery for use as facility shaft

- Upgraded ductwork and ease of maintenance
- Improved heat insulation with air layer
- Reduced insulation on rooms
- Exhaust heat from air conditioning raises air layer pressure and releases heat from the upper part

Insulation control

Heat rejection using chimney effect



Gaining Kawasaki CASBEE Rank S



Double wall
(interior balcony)

Hot water supply
utilizing solar
and aero-thermal energy

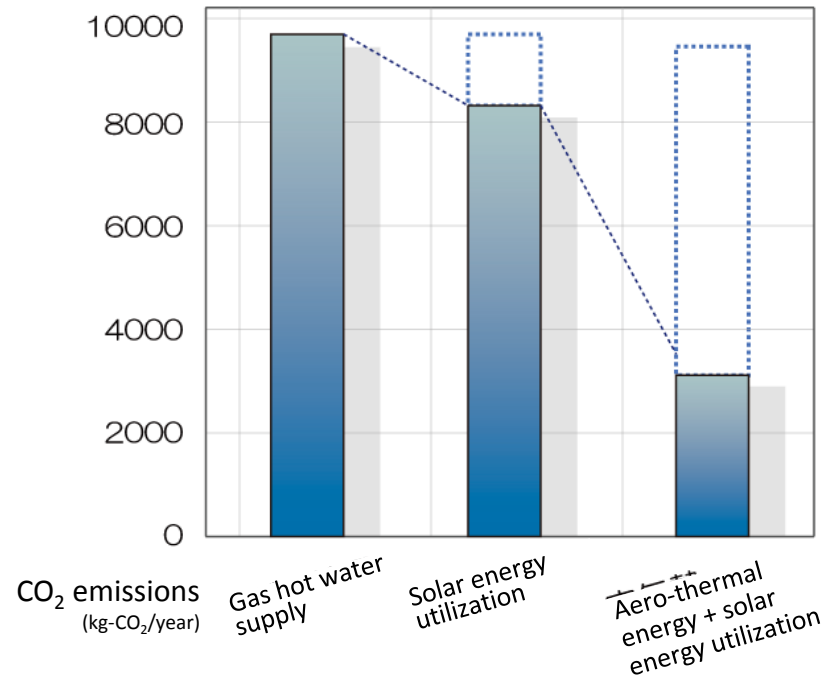
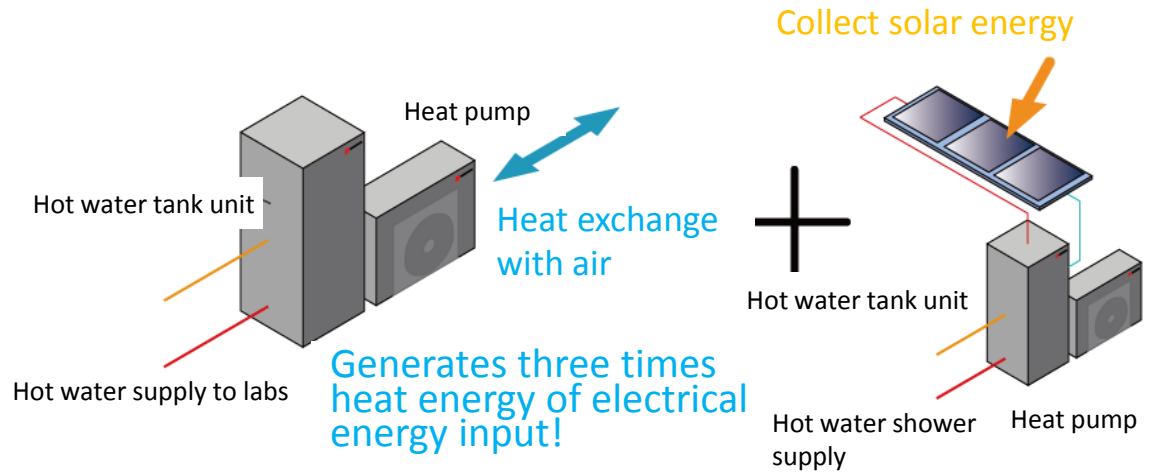
Open ceiling space
as environmental
equipment

Air conditioning
utilizing geothermal
energy with
structural piling

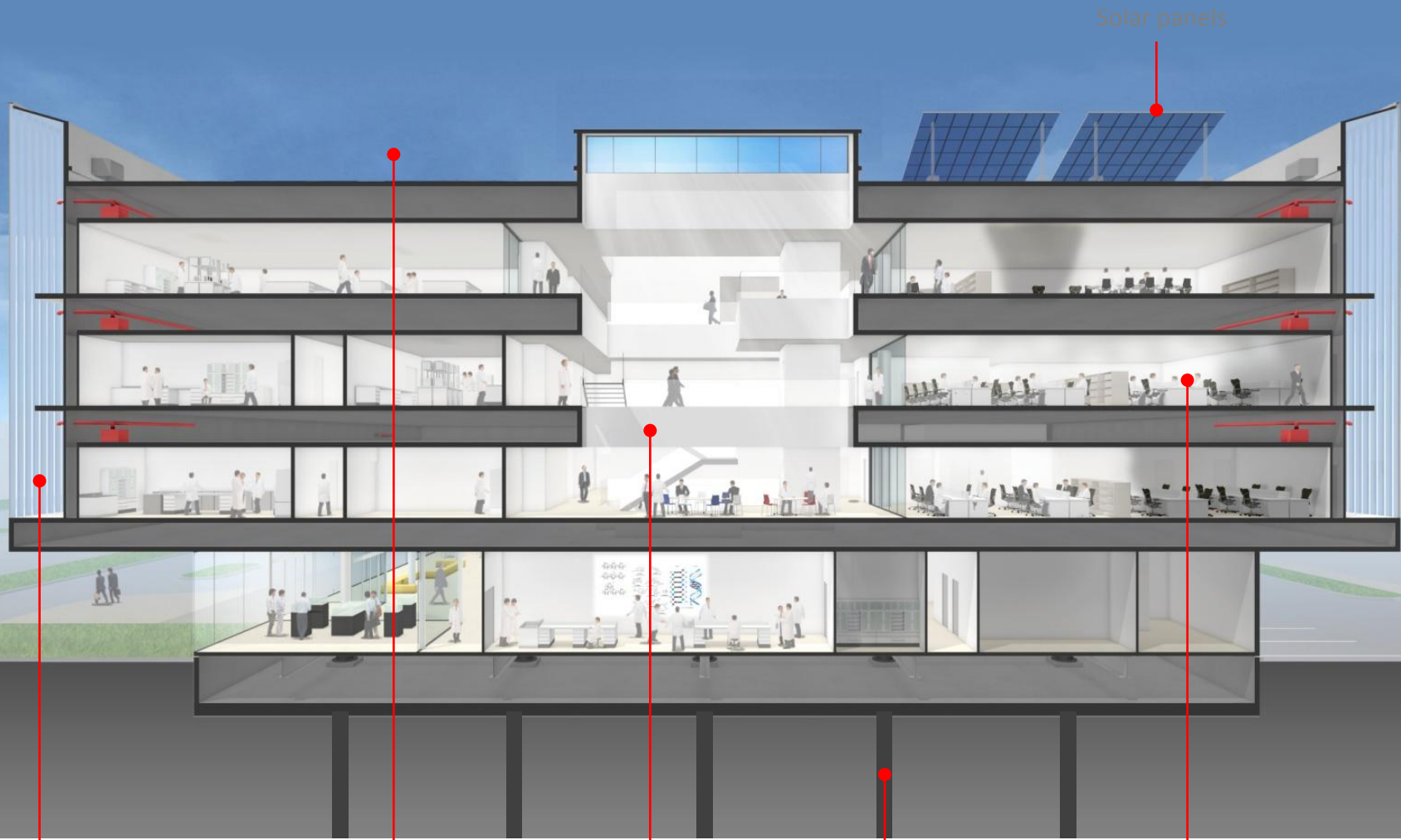
Environment control
by zone using T-zone-saver
(real-time human sensor)

Hot Water Supply Utilizing Solar and Aero-thermal Energy

Installed hot water shower facility on the second and third floors with a system that achieves the most ideal mix of solar and aero-thermal energy



Gaining Kawasaki CASBEE Rank S



Double wall
(interior balcony)

Hot water supply
utilizing solar
and aero-thermal energy

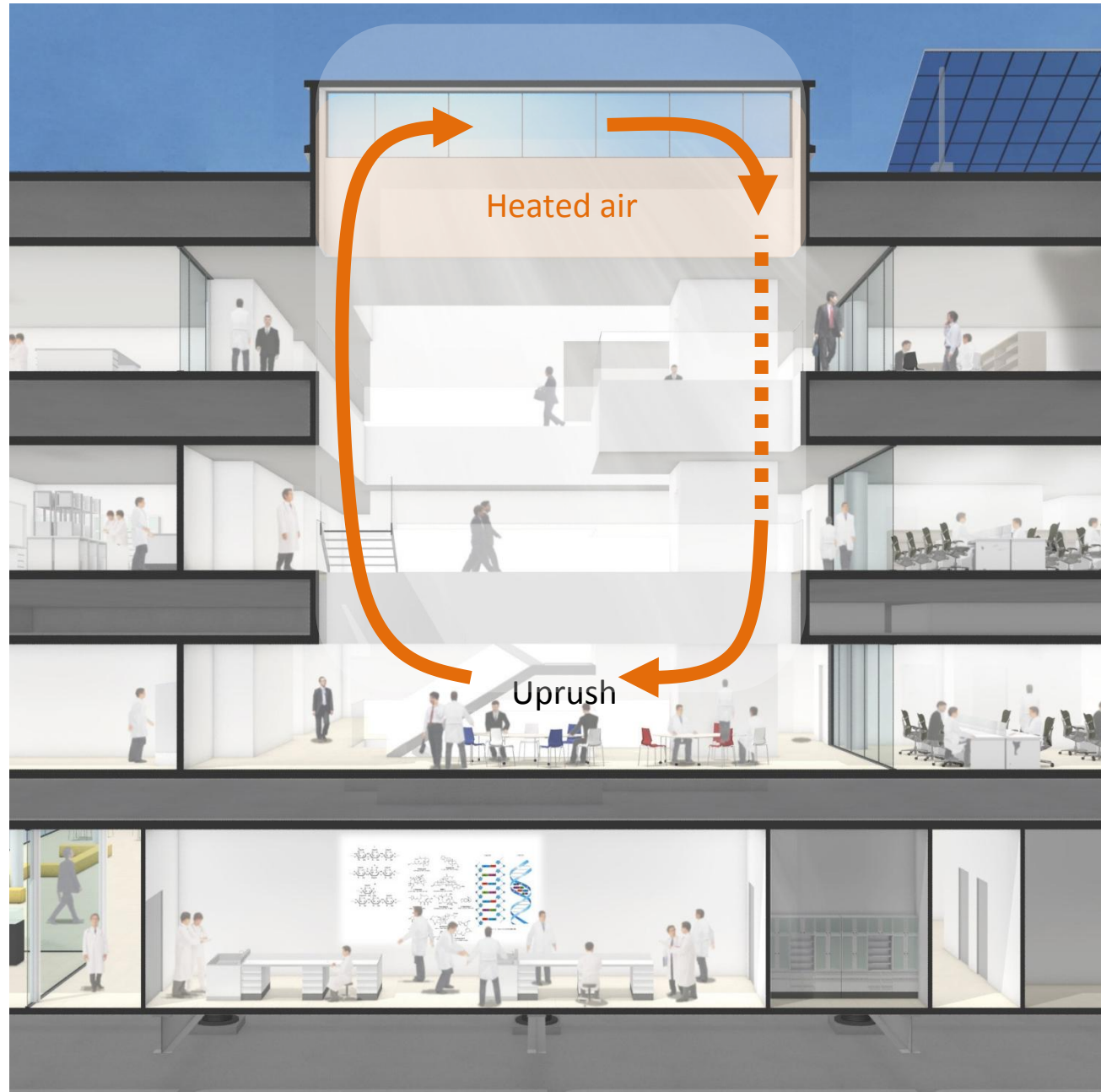
Open ceiling space
as environmental
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Air conditioning
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Environment control
by zone using T-zone-saver
(real-time human sensor)

Open Ceiling Space as Environmental Equipment

- Let in light from the glass windows vertically installed in the top portion of the open ceiling.
- In winter, collect hot air in the upper part and circulate the heat by blowing up the air from the bottom to improve efficiency of air conditioning.



Gaining Kawasaki CASBEE Rank S



Double wall
(interior balcony)

Hot water supply
utilizing solar
and aero-thermal energy

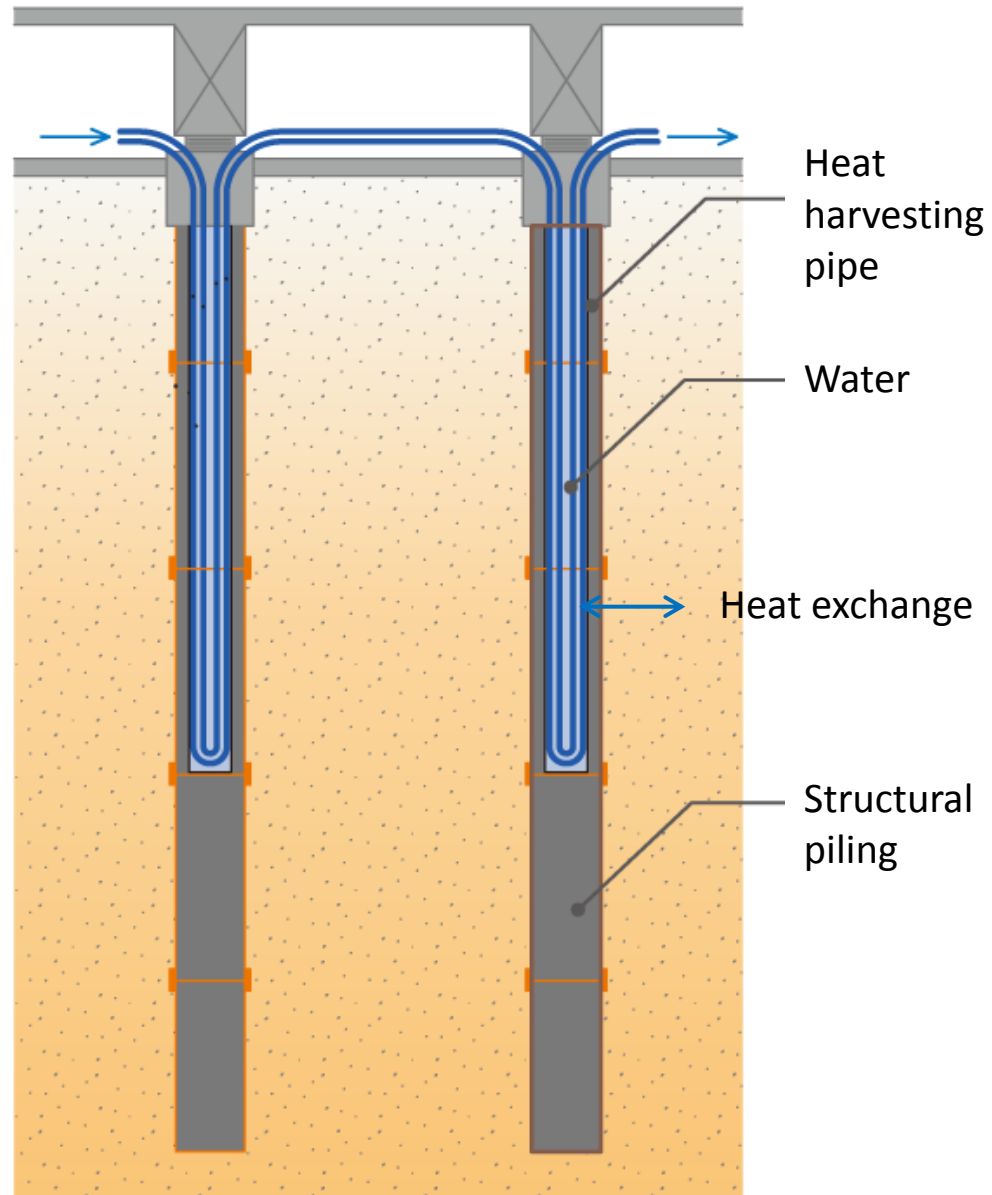
Open ceiling space
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Air conditioning
utilizing geothermal
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structural piling

Environment control
by zone using T-zone-saver
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Air Conditioning Utilizing Geothermal Energy with Structural Piling

Introduced water-cooled heat pump air conditioning that uses geothermal energy, which is stable throughout year (energy-saving air conditioning system enabled by heat exchange between geothermal heat and refrigerant)



Gaining Kawasaki CASBEE Rank S



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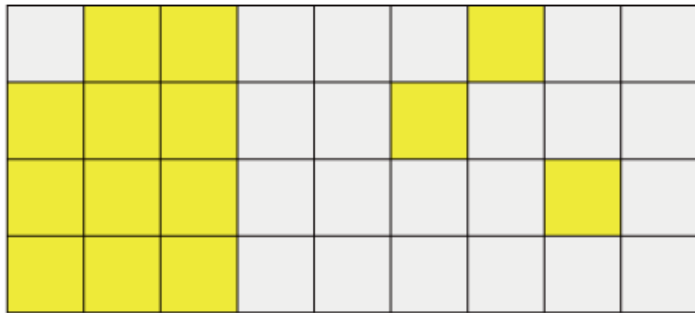
Environment control
by zone using T-zone-saver
(real-time human sensor)

Environment Control by Zone Using T-zone-saver (Real-time Human Sensor)

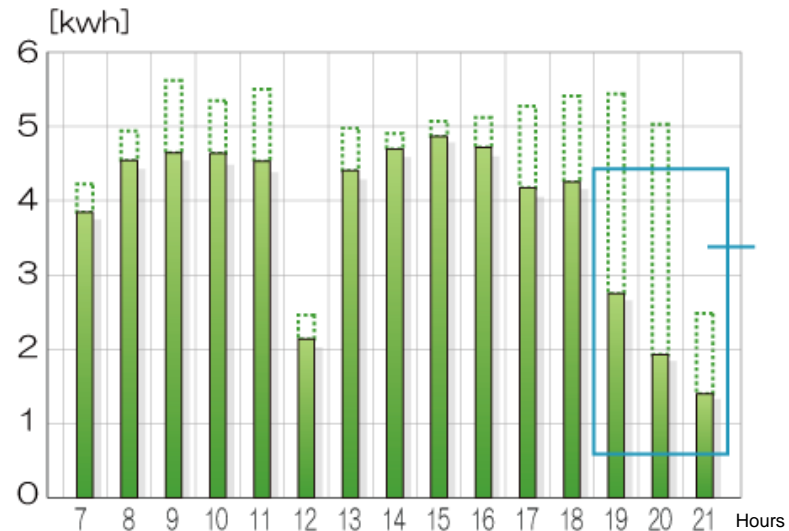
Detects presence of humans by zone and automatically controls lighting and air conditioning (introduced at offices in the second and third floors)



Image of environment control (control with focus on where people are)



Senses presence/absence of humans



Impact is especially high during overtime hours

Utilization of BEMS (for Realization of Smart City)

- Aim to raise energy-saving awareness by automatic analysis and visualization of data from BEMS
- Possible to build regional energy network in the future with accumulated data

