CONCEPT AND TECHNOLOGY OF NEXT GENERATION ELECTRIC VEHICLE

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Electric Vehicle Division
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Will 21st Century be

Good?

Bad?

World Trend

All people on Earth (7billion) can use natural resources as much as Americans do.

↓

All people on Earth can afford enough food, education. Free from poverty.

↓

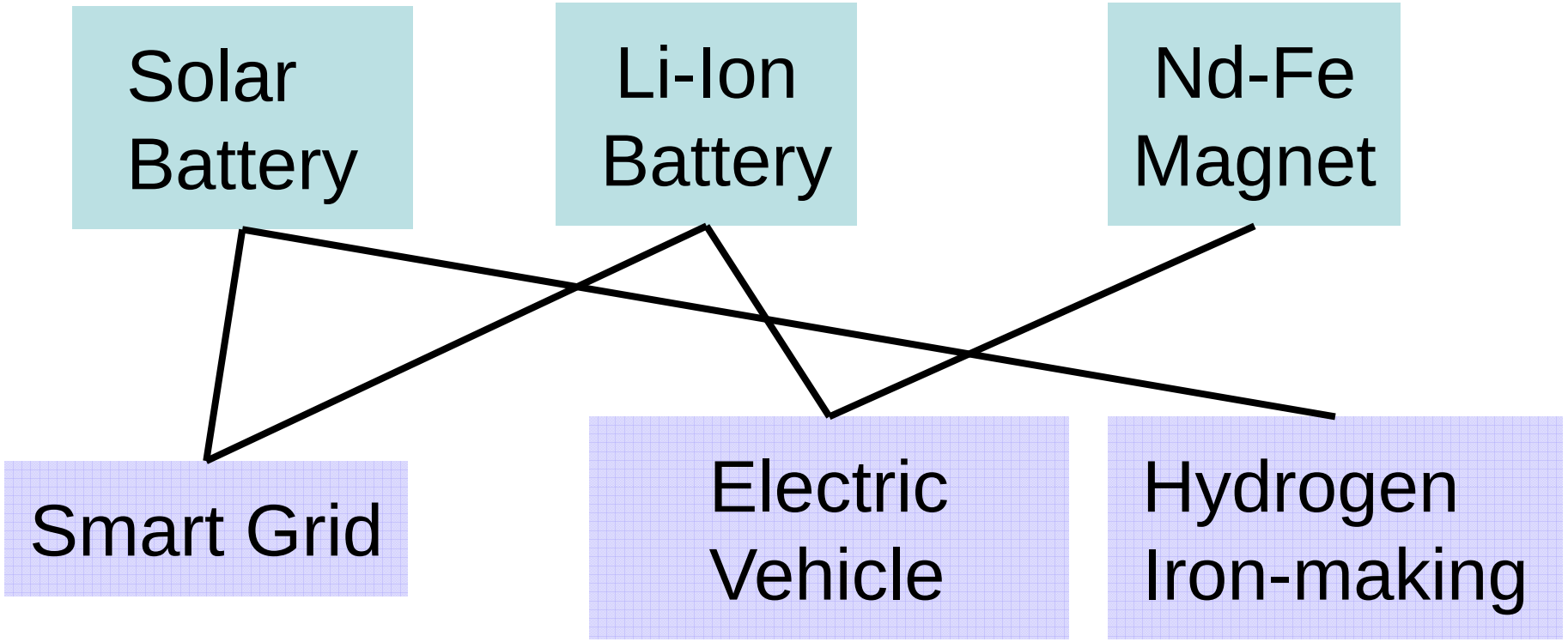
All people on Earth can get fruits of technologies, can enjoy services.

21st Century should be good days

- Because technologies born in 20th Century will change the Earth
- Some technologies were born in Japan.
- Japan made the technologies useful.

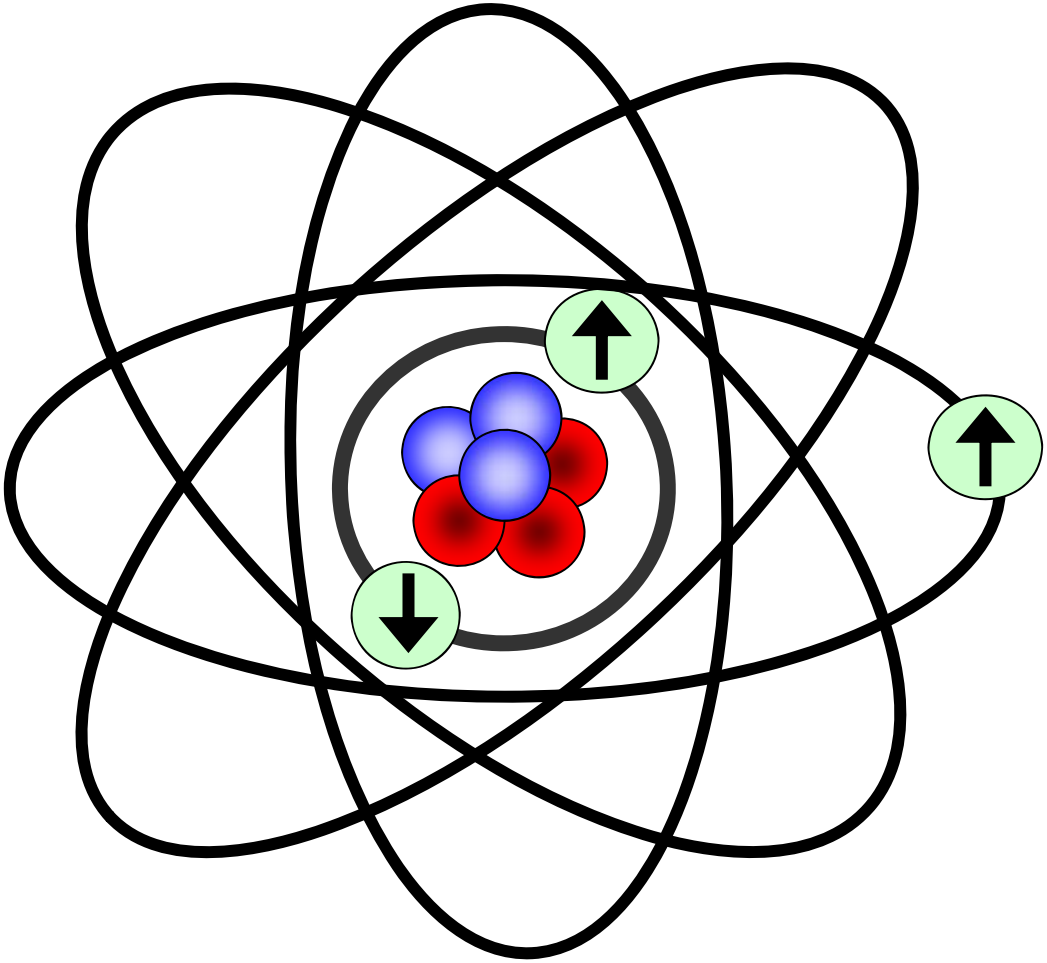
Now the time to spread them global.

What technologies change the Earth?



Based on Quantum Mechanics =
Watching inside of Atoms and Molecules

Atomic Model of Lithium



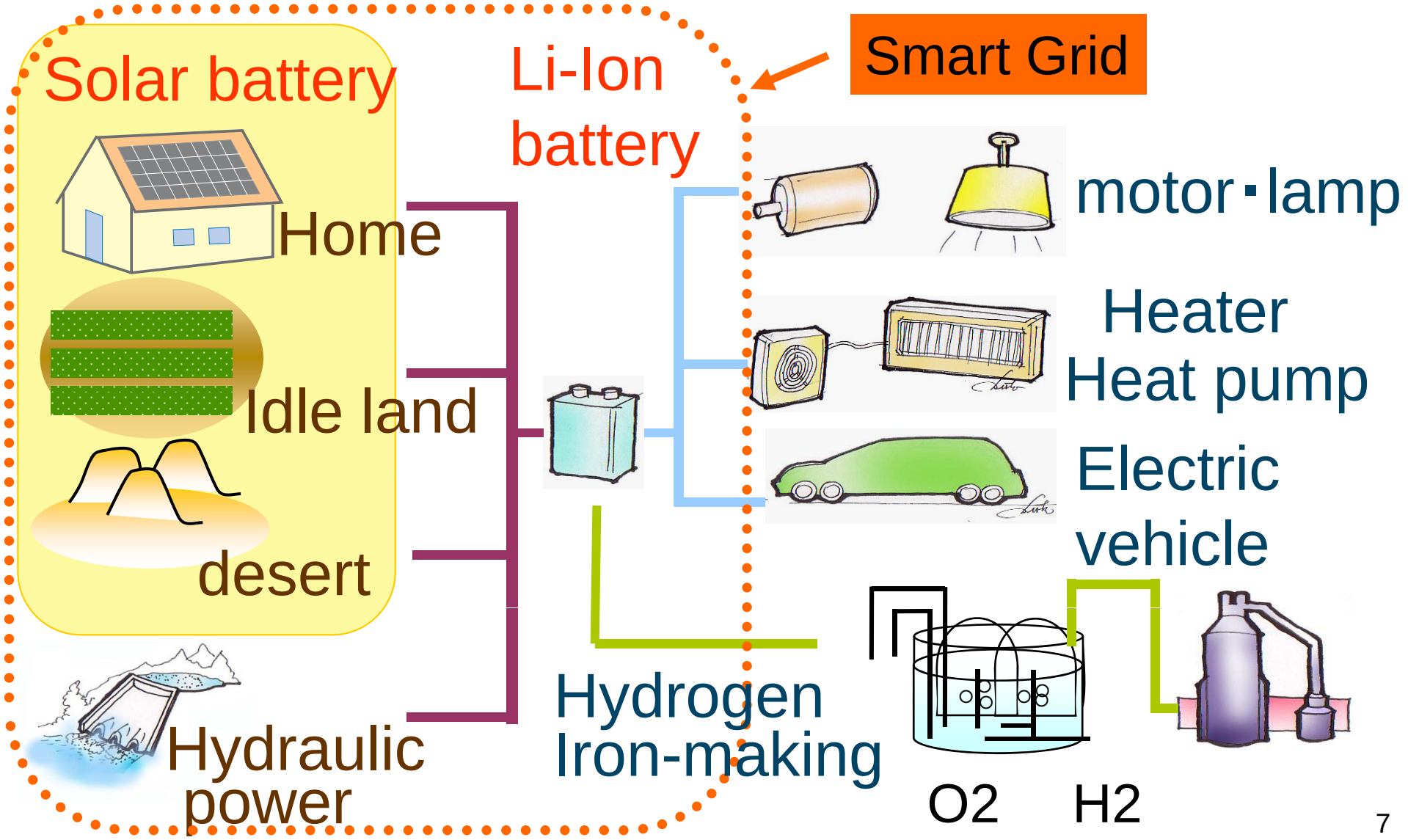
Electron

Proton

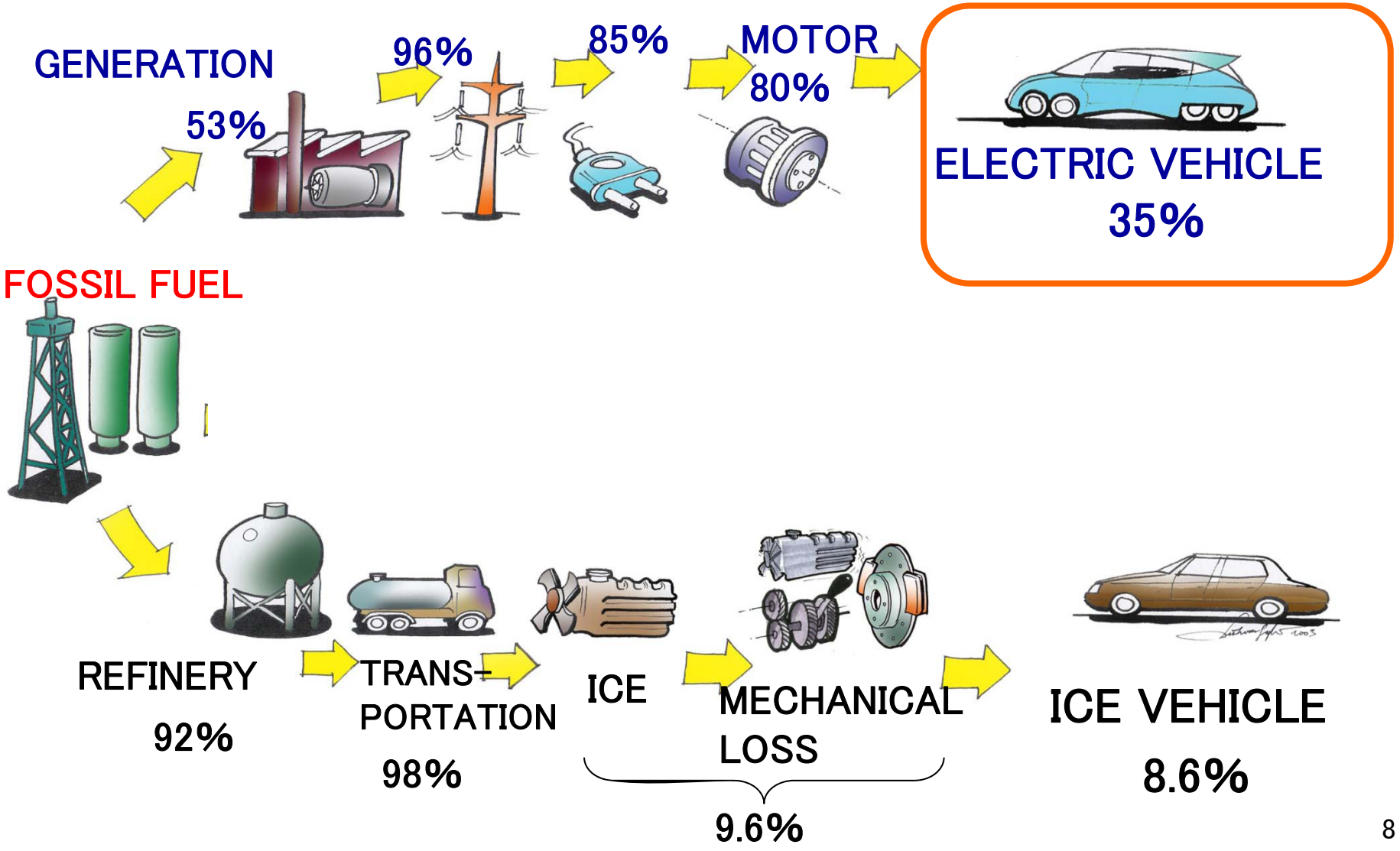
Neutron

Quantum Mechanics, born in early 20th Century became applicable on molecules in 21st century.

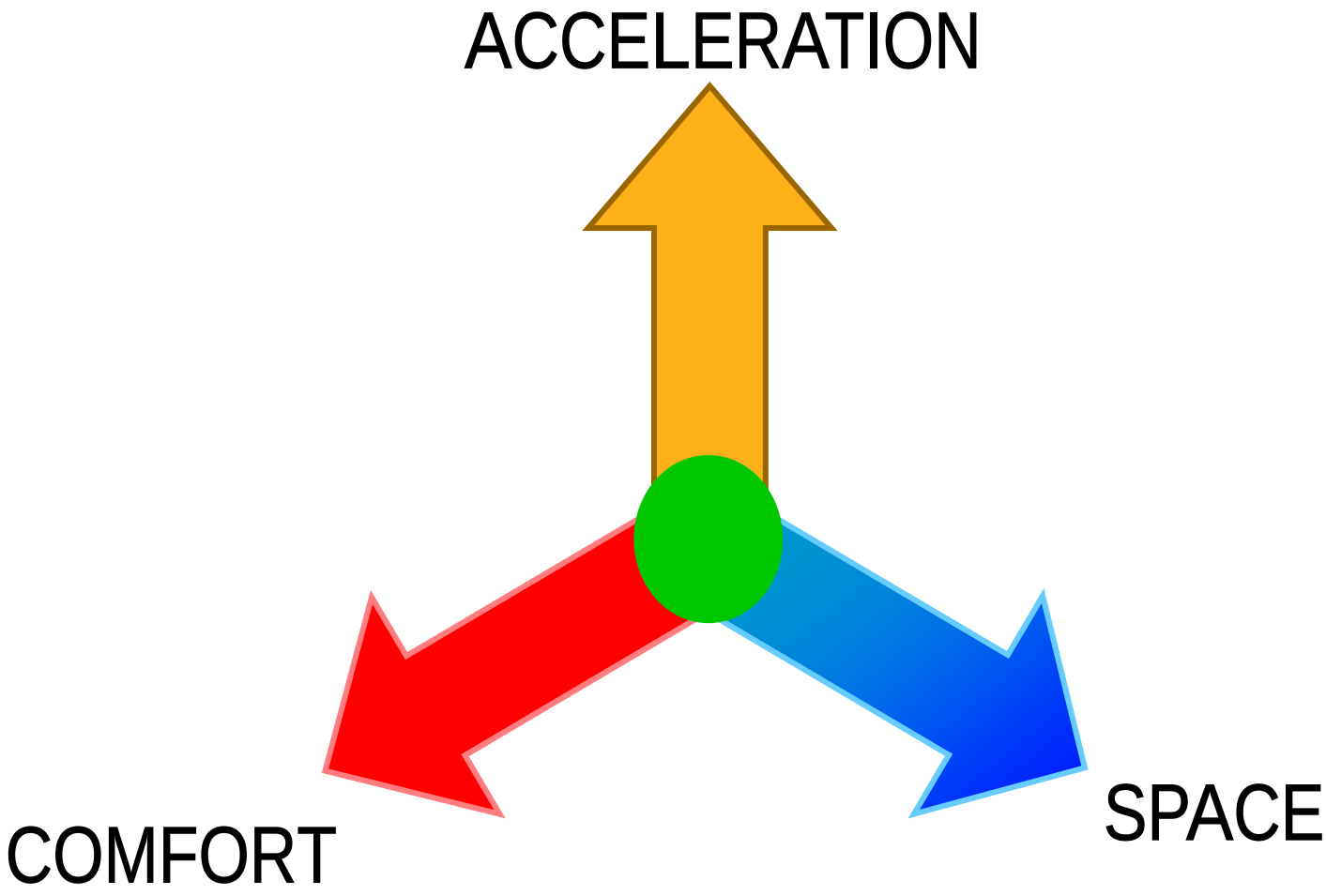
Energy system by major technologies



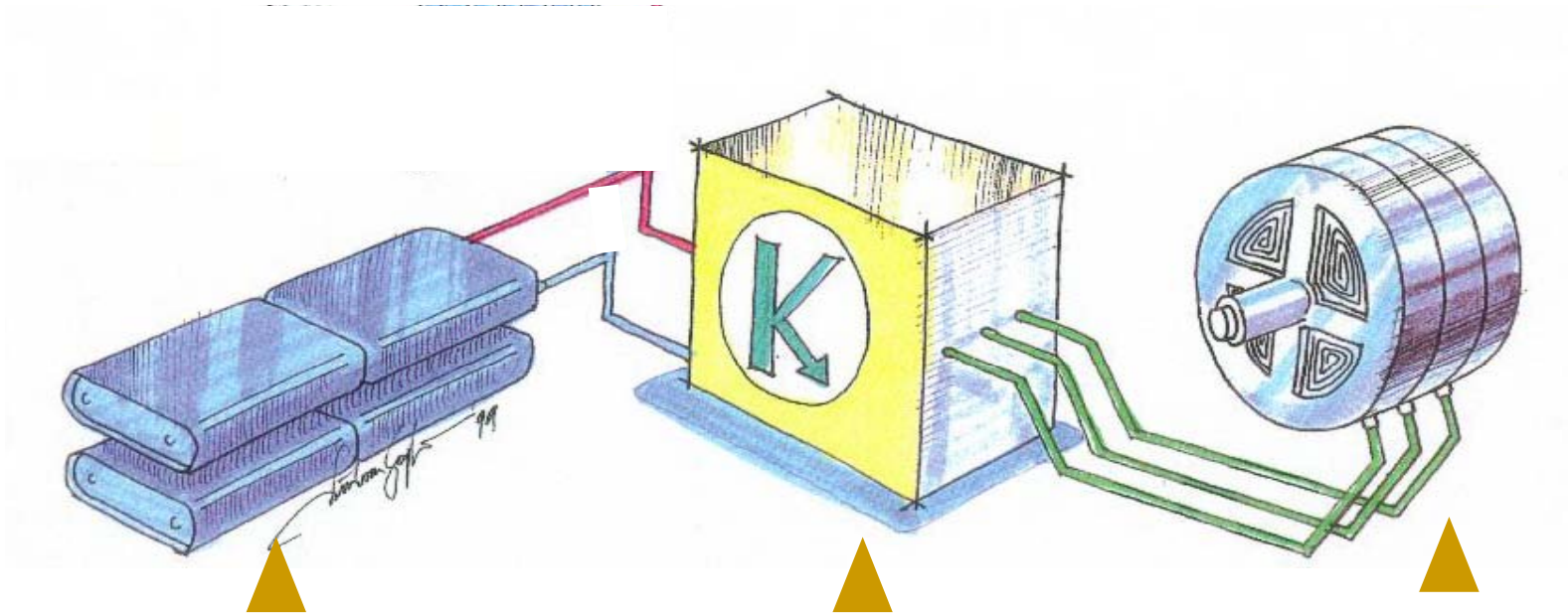
Efficiency of electric, and ICE vehicles

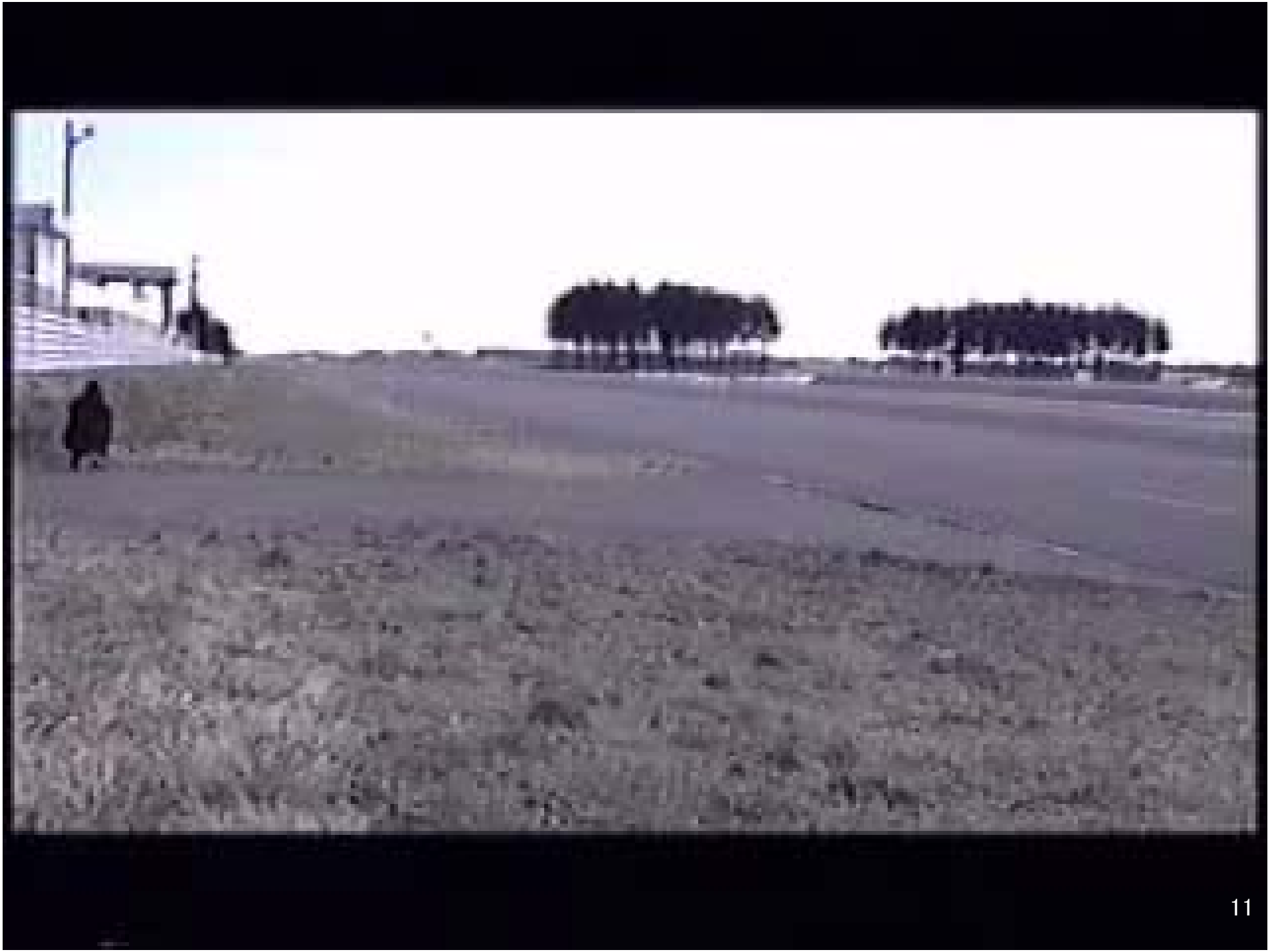


The value of automobiles



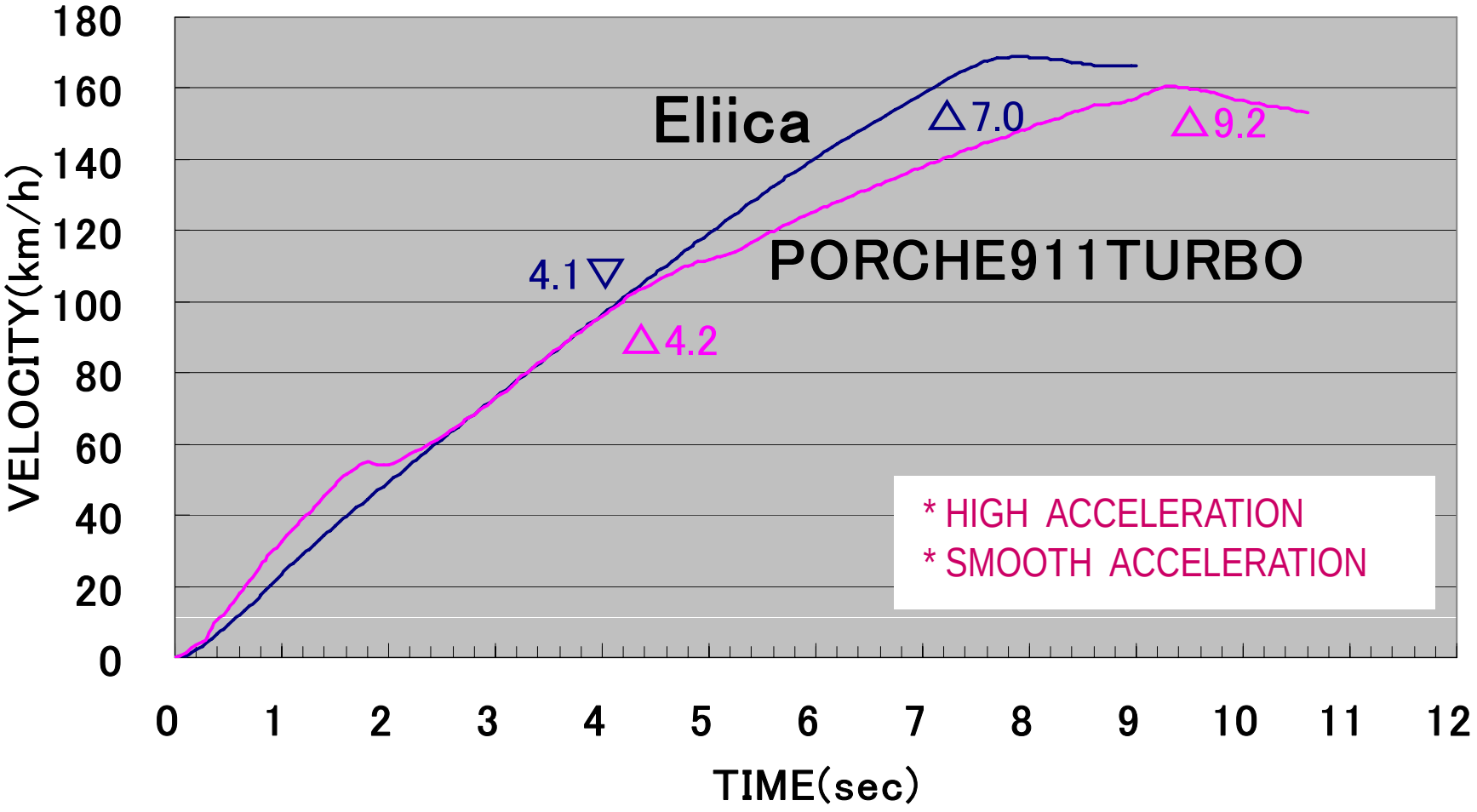
NEW COMPONENT TECHNOLOGY






環境！環境が環境
究極のエコカー
電気自動車VSポルシェ
栃木県那須塩原市
ブリヂストンプルービンググラウンド

ACCELERATION TEST



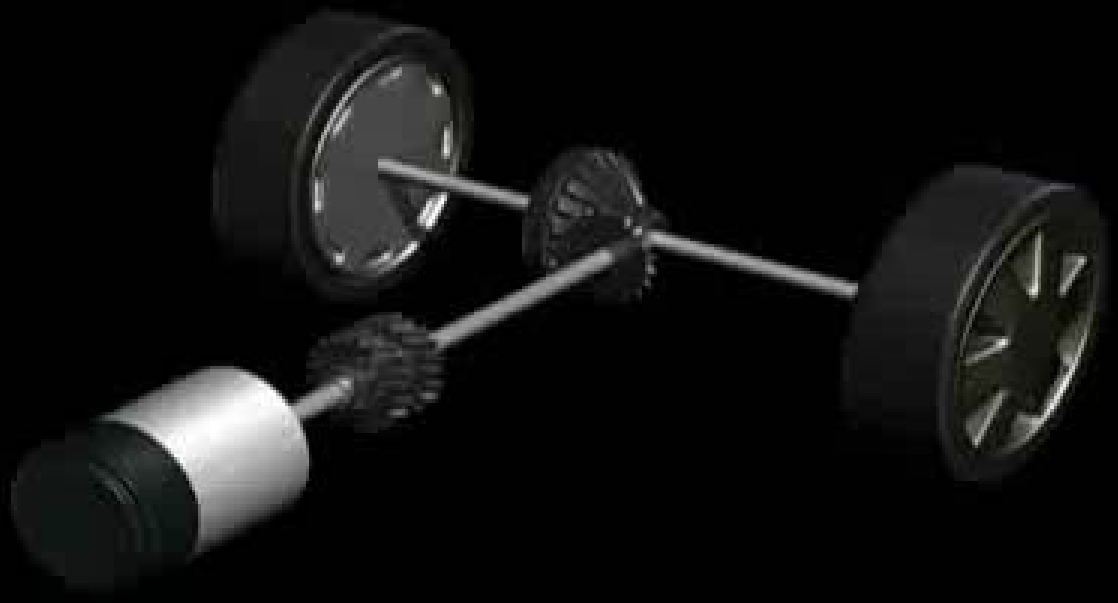
Core Competences

- In-wheel motor
- Component built-in frame
- Prototype development

In-Wheel motor

Traction motors are inside wheels

- Higher efficiency
- Lager cabin space
- Simpler body structure

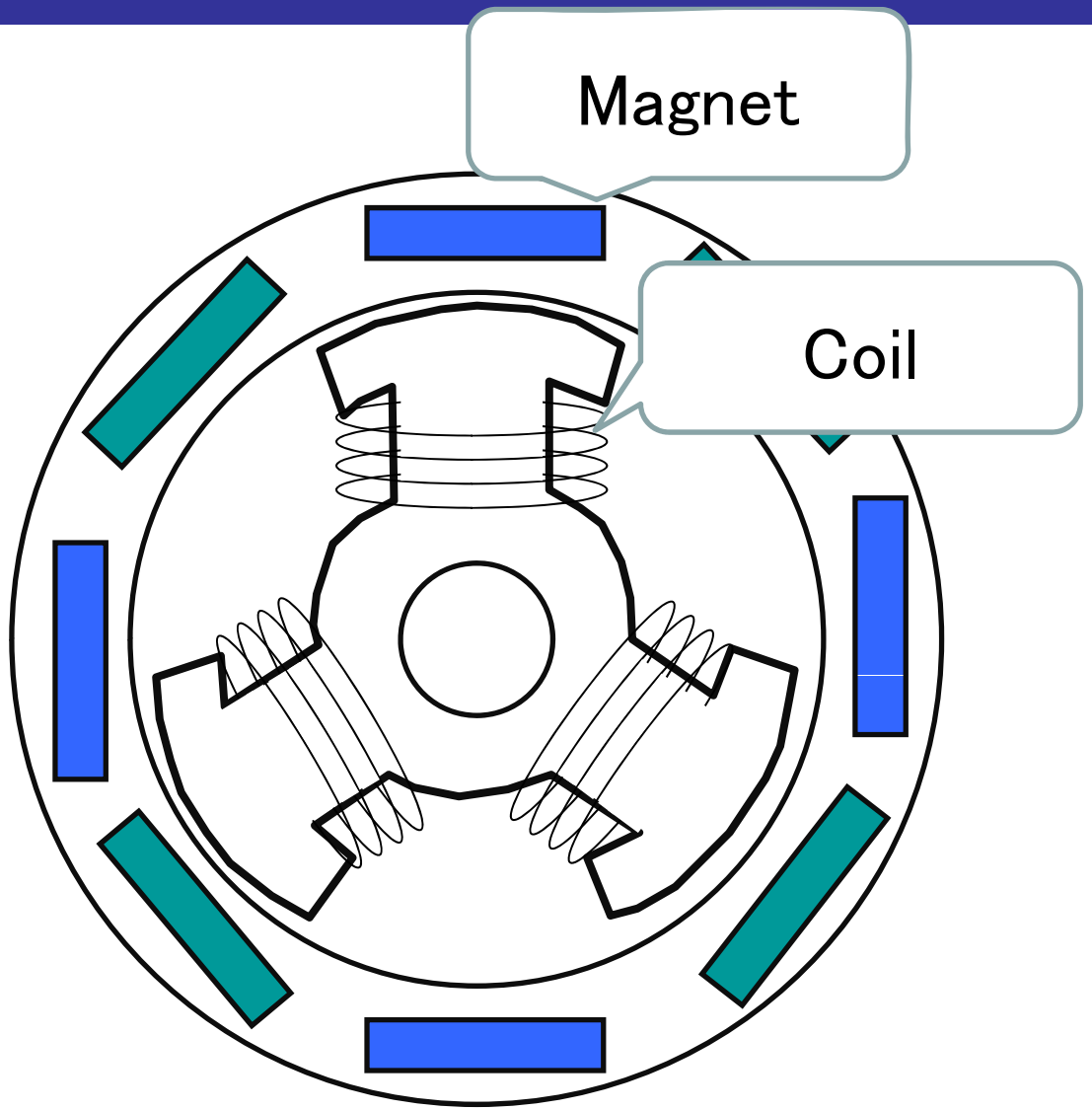


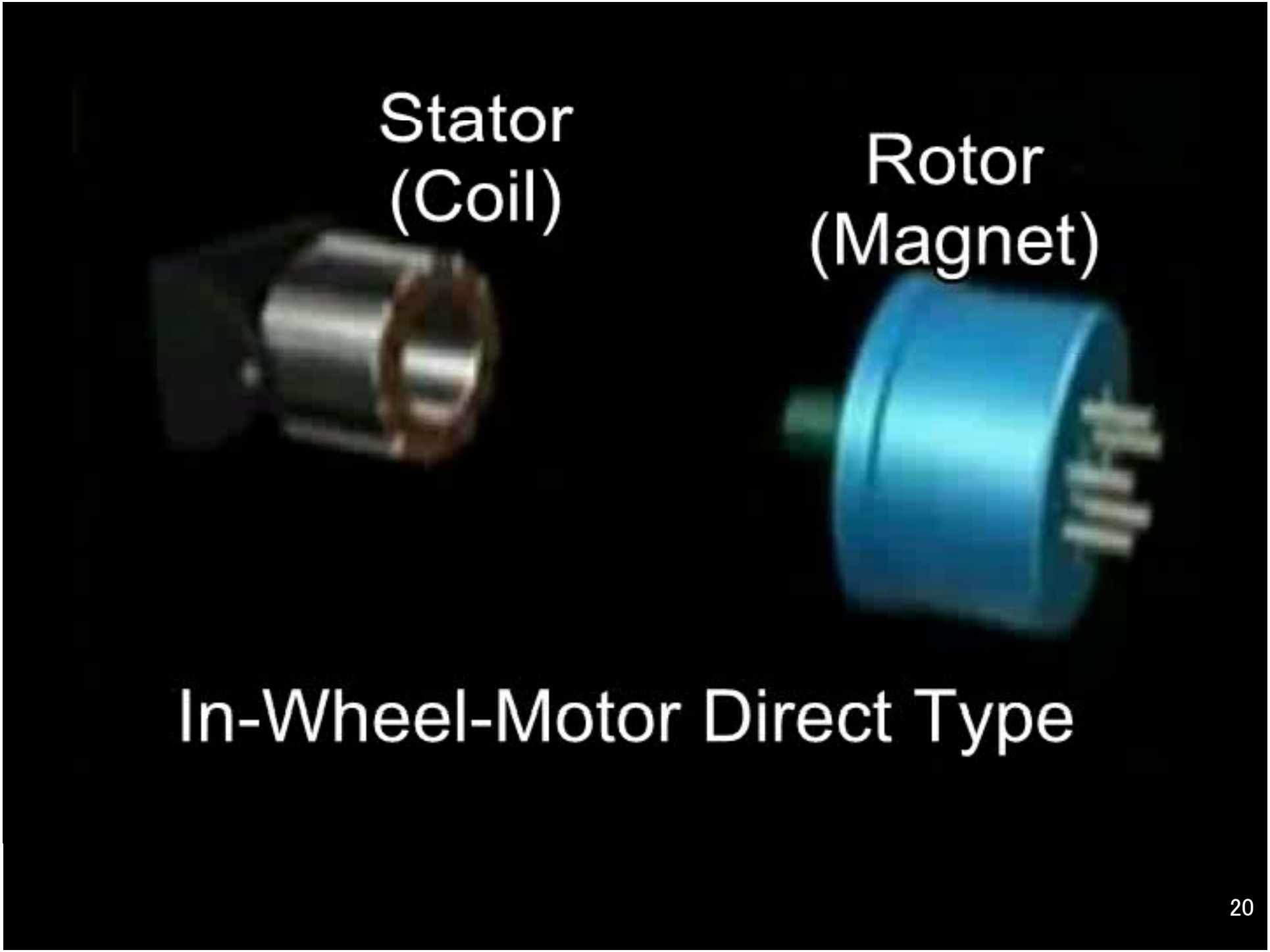
ON BOARD TYPE

In-Wheel-Motor with Gear Reduction

In-Wheel-Motor with Gear Reduction

Outer Rotor Motor

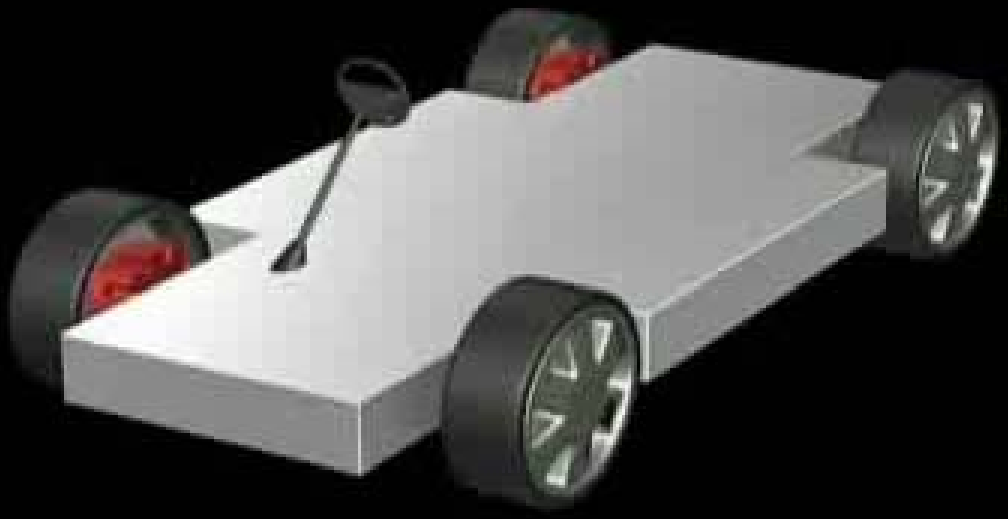



Stator
(Coil)
Rotor
(Magnet)
In-Wheel-Motor Direct Type

Component built-in frame

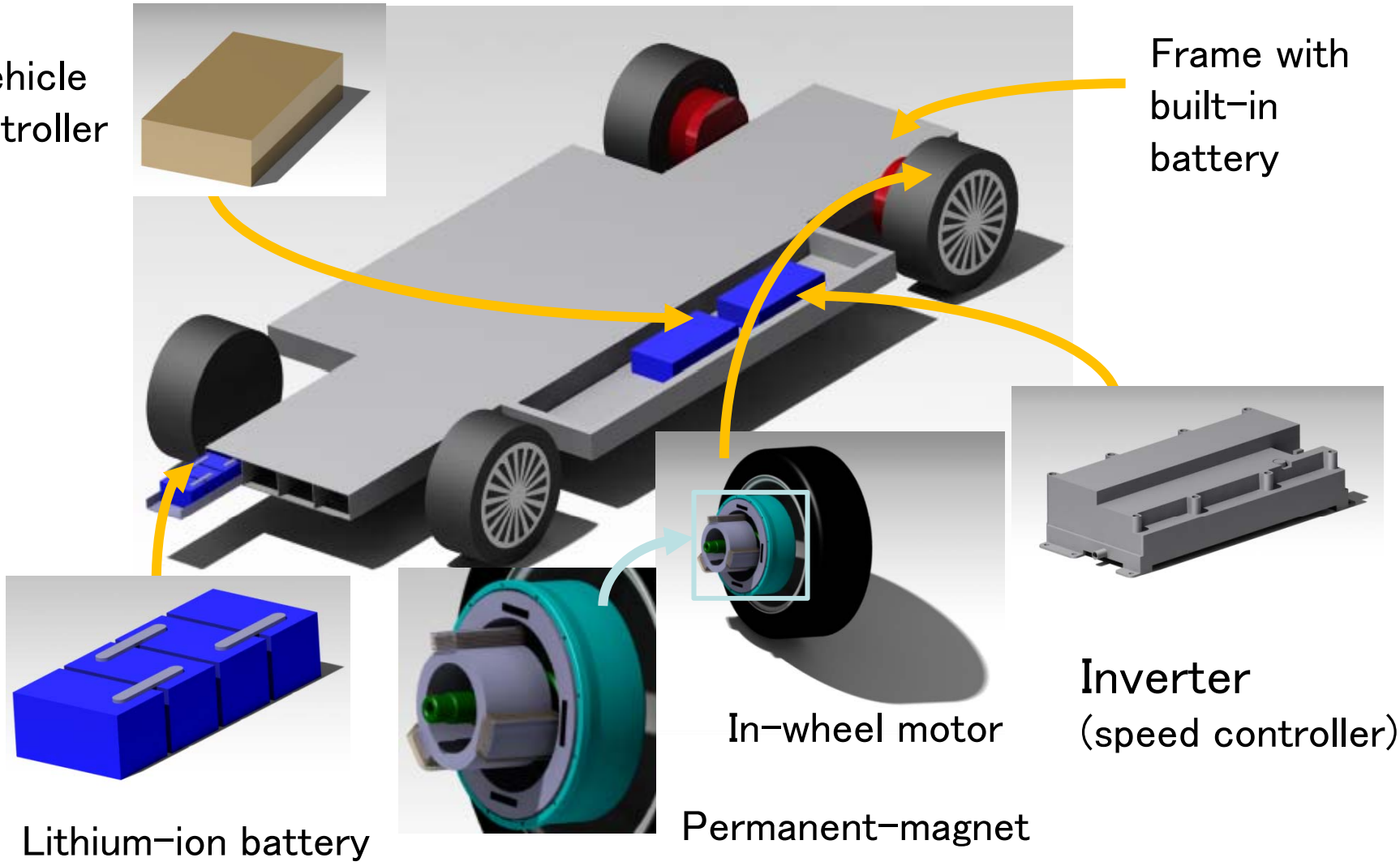
Major components are built-in frame

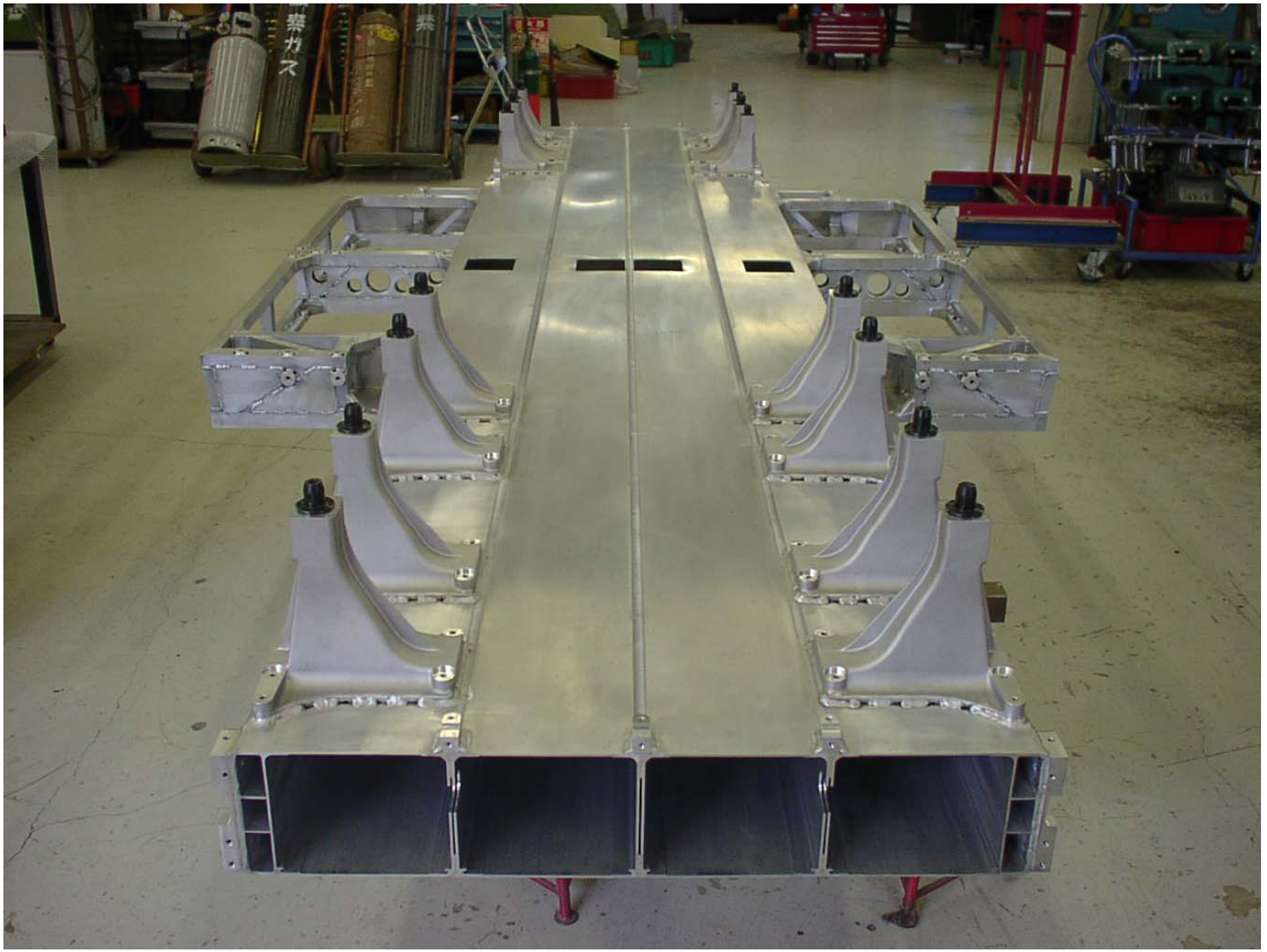
- Lighter body
- Larger cabin space
- Lower center of gravity



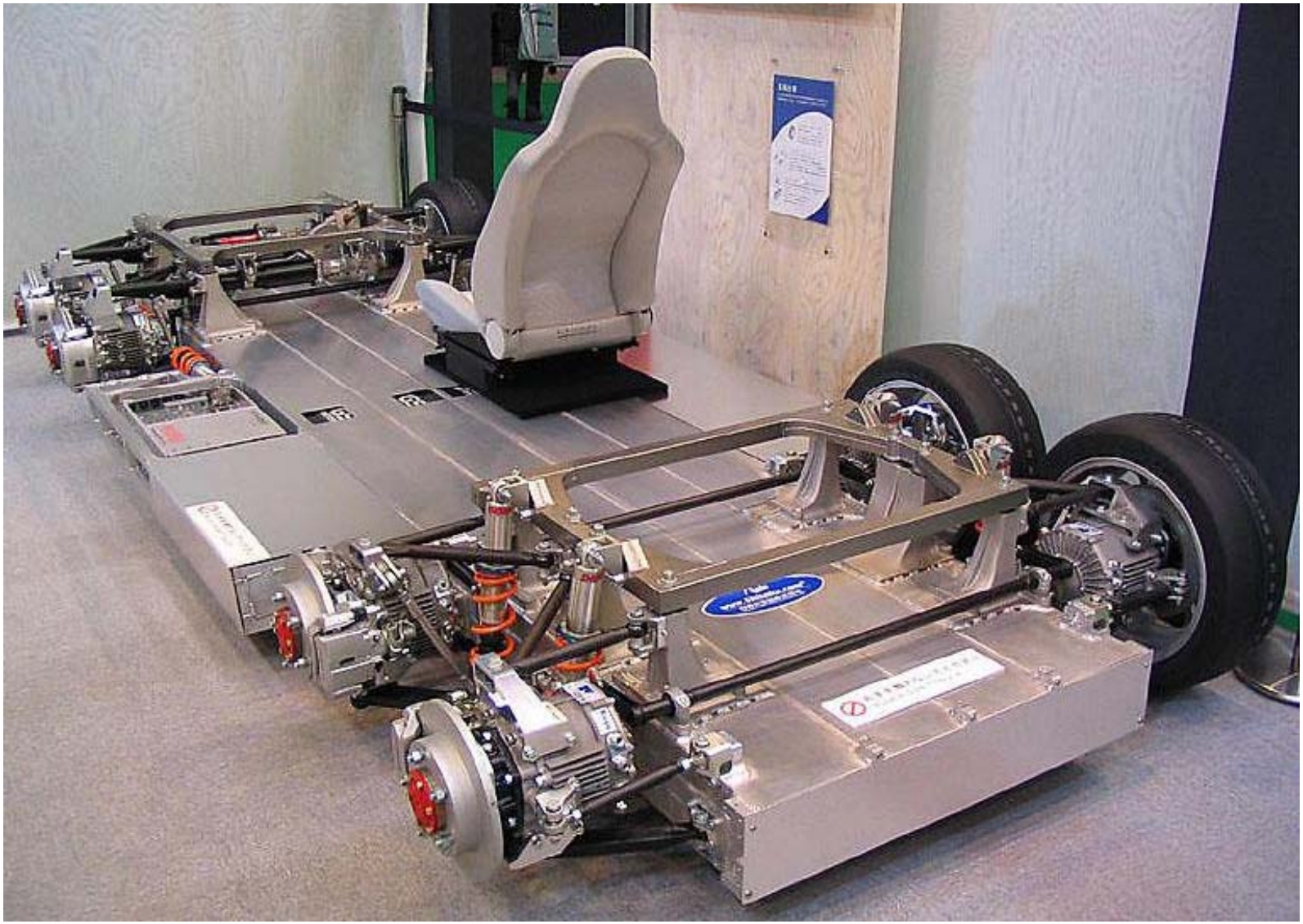
COMPONENT BUILT IN FRAME

Structural Elements

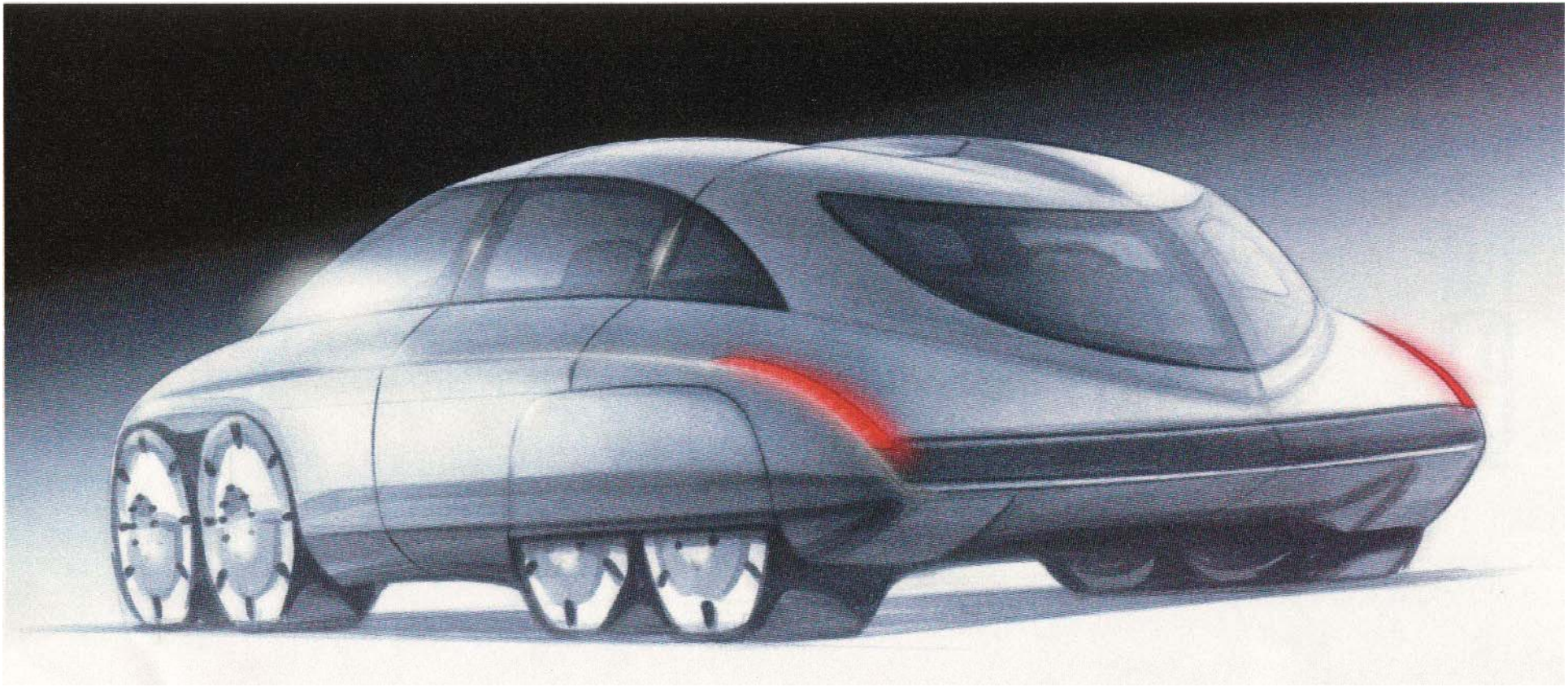




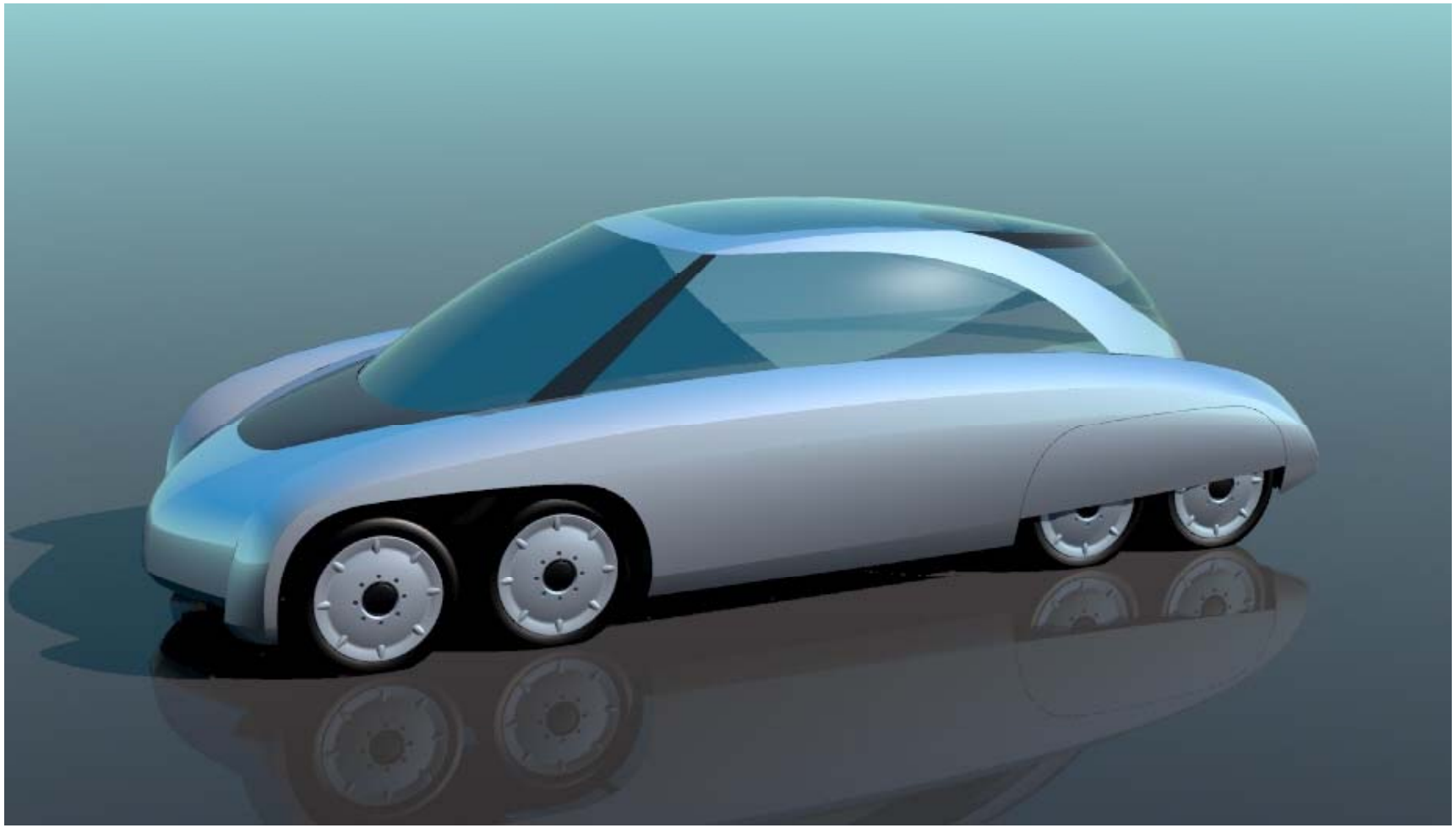
STRUCTURE OF MAN FRAME



INTEGRATED PLATFORM



ONE OF THE 1st SKETCH OF ELIICA



DIGITAL DATA TO CREAT 1/5 MODEL

WIND TUNNEL TEST

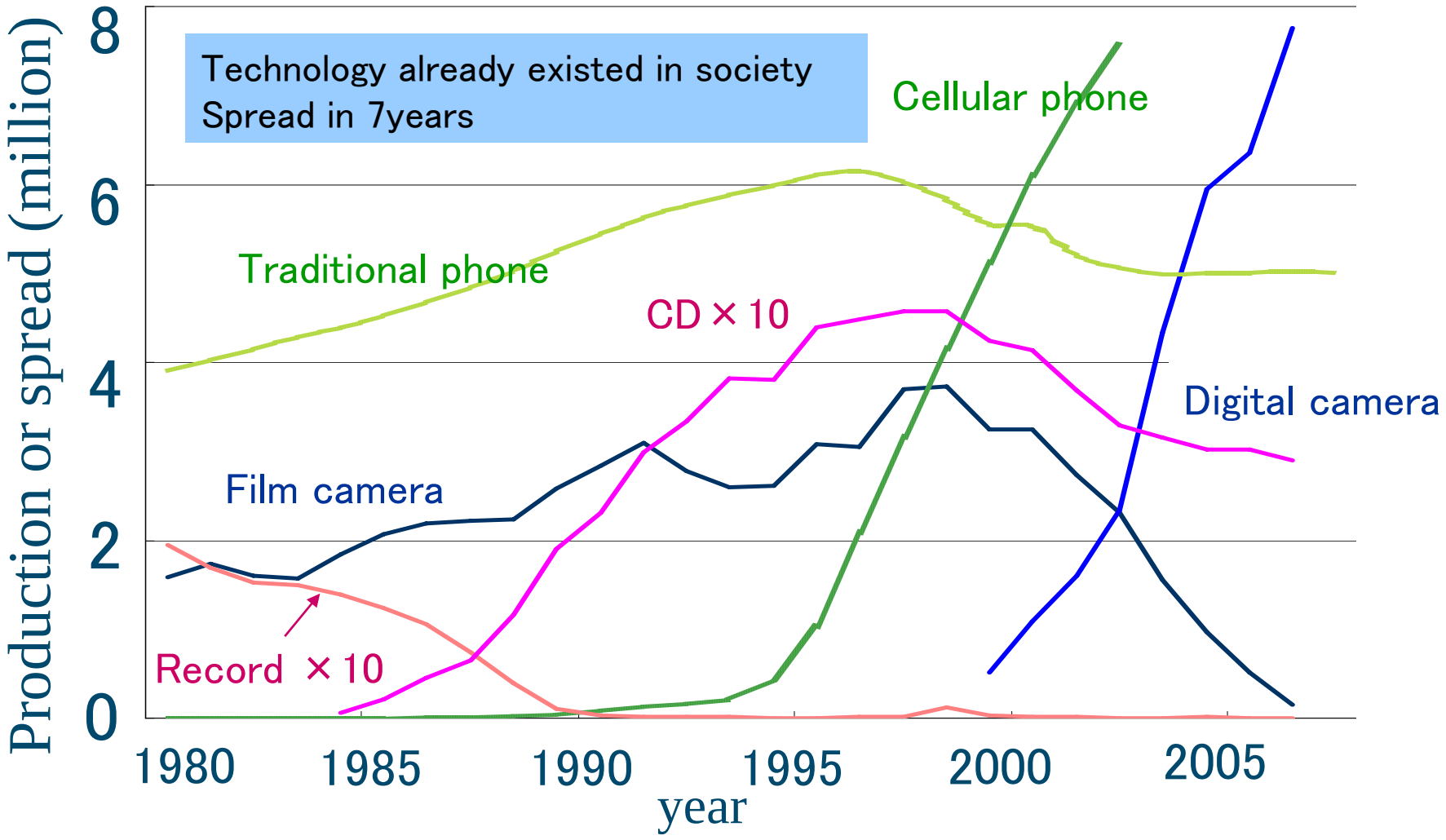
EXTERIOR OF ELIICA

INTERIOR OF ELIICA

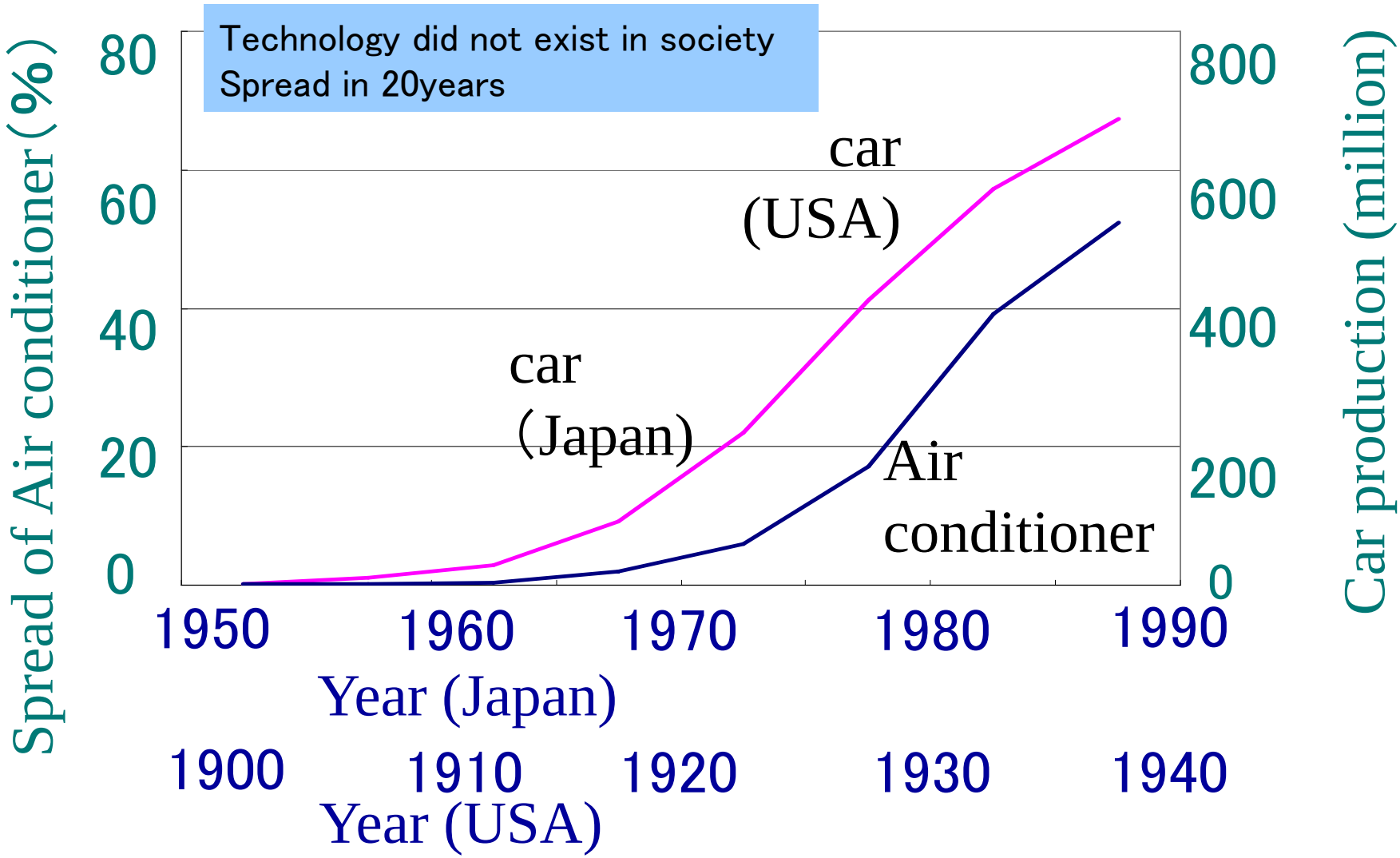
Eliica SPECIFICATIONS

SIZE	
LENGTH	5100mm
WIDTH	1900mm
HEIGHT	1365mm
PASSENGERS	4
MOTOR OUTPUT	640kW
PERFORMANCE	
MAX SPEED	370km／h
MAX ACCELERATION	0．68G
RANGE	300km
CHARGING TIME (70%CHARGE)	30min.

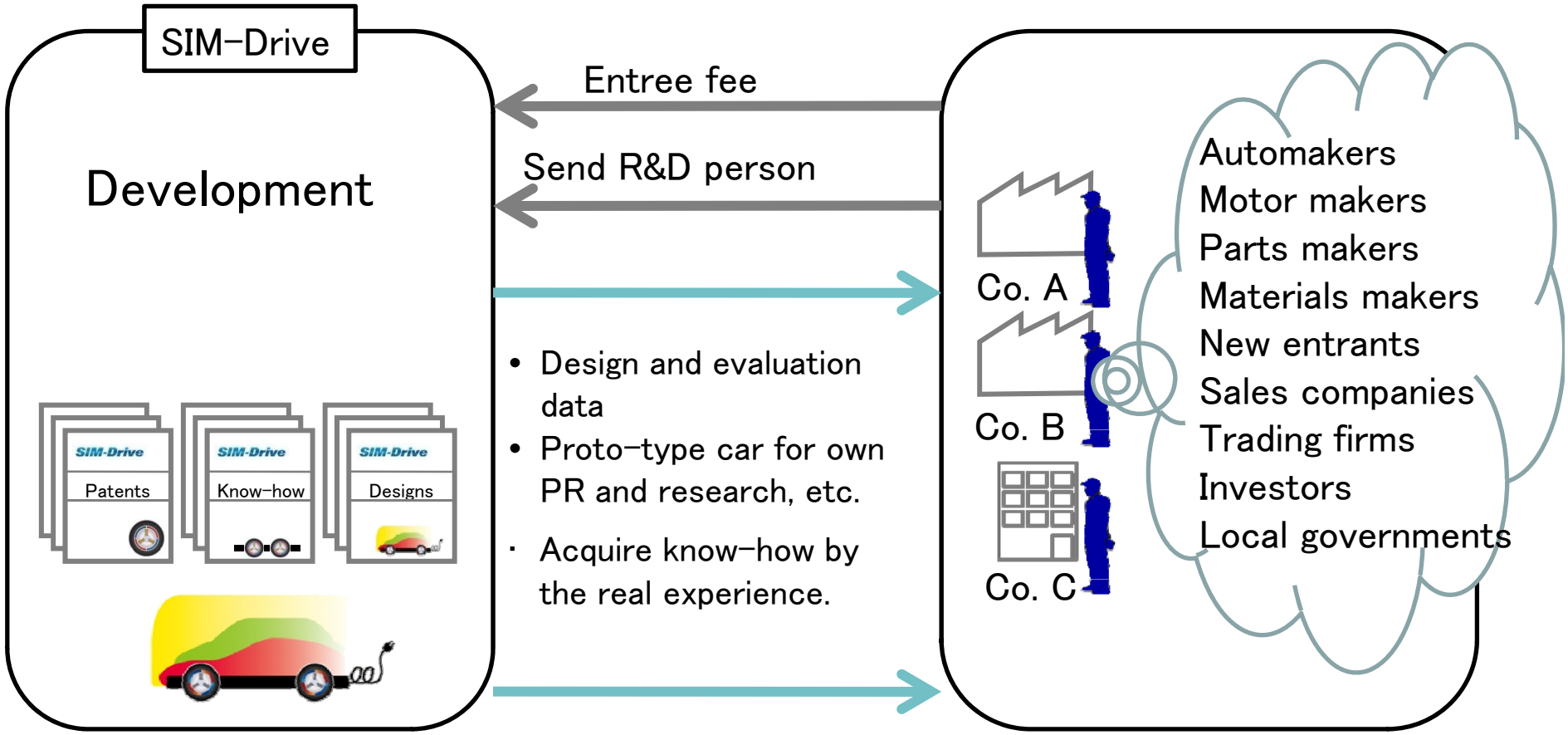
Displacement of new technology



Spread of new technology



SIM-Drive Prototype development business



Develop high performance prototype electric vehicle by using “open-source” method.

Car-oriented society should change

- To Electric Vehicle society in perspective of environmental, energy, efficiency, easy-to-use, technology
- It should need only seven years by experimental rule.
- 100 thousand car production is a breakthrough.

Local smart grid and EV manufacture

Nano-Optonics Energy established SIM-Drive.

Nano-Optonics Energy obtained plant facility in Yonago, Japan and is planing to manufacture EV there.

■Board member of SIM-Drive

Hiroshi Shimizu (Keio University professor)

Soichiro Fukutake(Benesse coorporation chairman)

Ken-ichi Hatori (Gulliber Intenational chariman)

Hiroshi Fujiwara(Nano-Optonics Energy president)

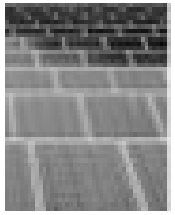
Microgrid =" local production for local consumption of energy and information"

recyclable energy

Wind electricity

Hydro power

PV



CATV

Energy Grid

office

home

medical

Univesity

tourist spots

EV

SS

store

Automation of buildigs/home. PV panel on home roof

Ocean

mountain

Weather

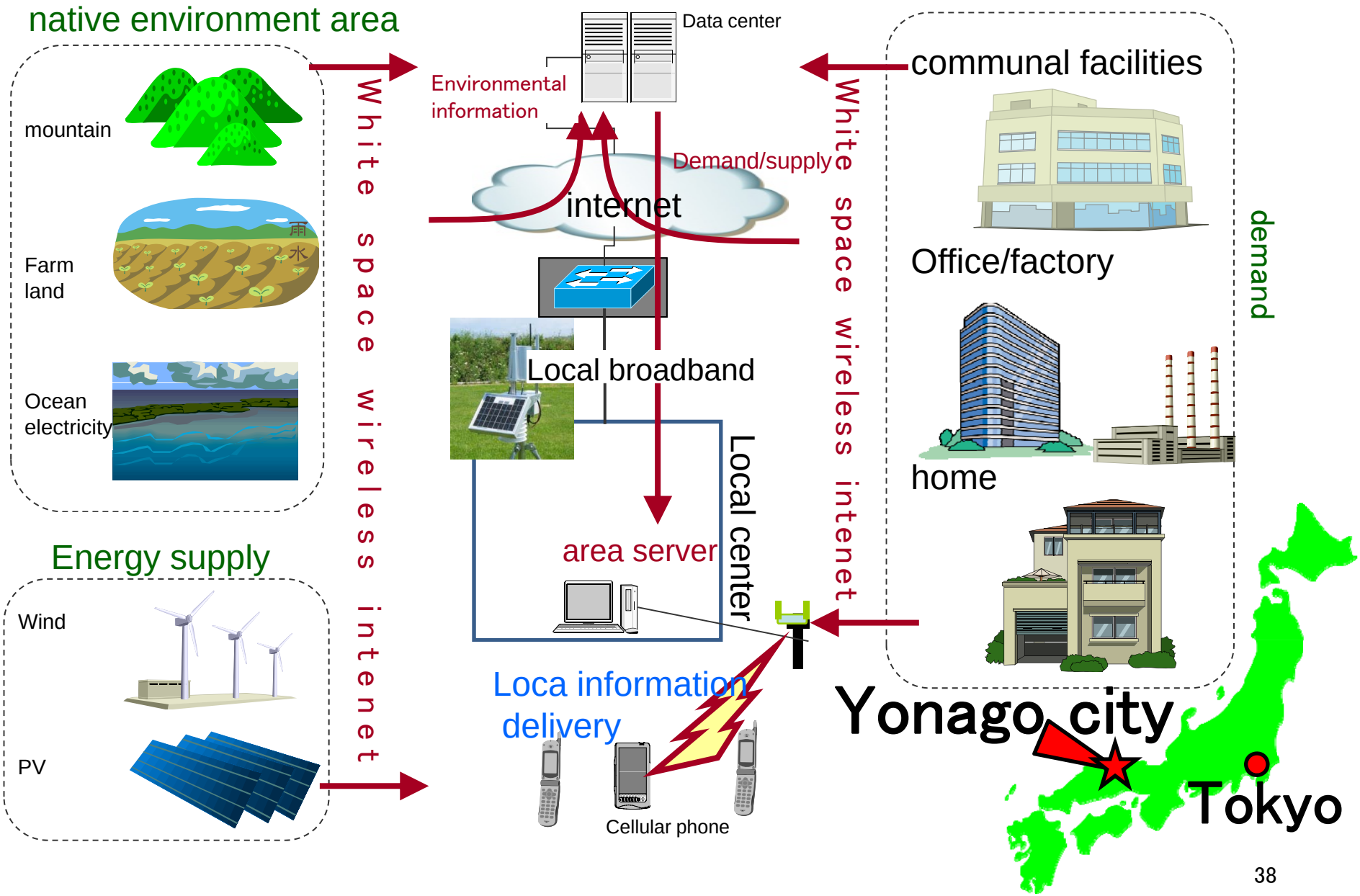
farm land

native environment area

Information Grid

White space Internet

Yonago Microgrid



Conclusion

- It is important that we overcome environmental, energy problem and all 7billion people on Earth can enjoy high-level life as advanced countries do now.
- We already have the technologies to realize this.
- Local Area community will take important rolus for this.