

The Second CHAdeMO Europe General Assembly



September 23rd, 2011
YAZAKI Corporation

Agenda

1. Yazaki Corporate Overview
2. Yazaki High Voltage Business
3. Investigation Of Our Current Connector
4. Introduction of New Designed Quick Charge Connector

1. Yazaki Corporate Overview

Automotive Products



Combination Meter



Wire Harness (Front End)



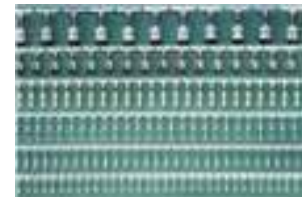
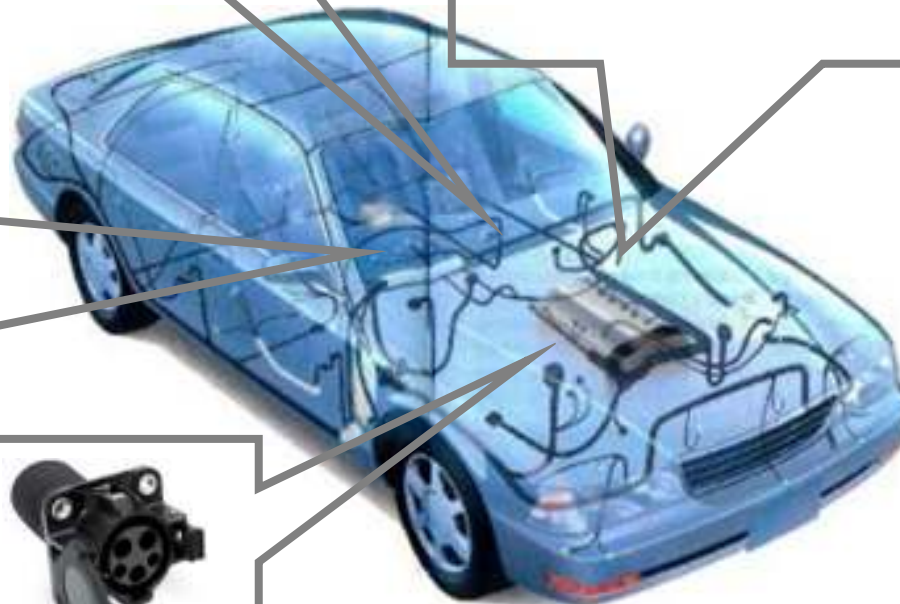
Wire Harness
for HV & EV



Taxi Meter



Drive Recorder



Connectors, Terminals



Connector on the Side
of a Charging Stand



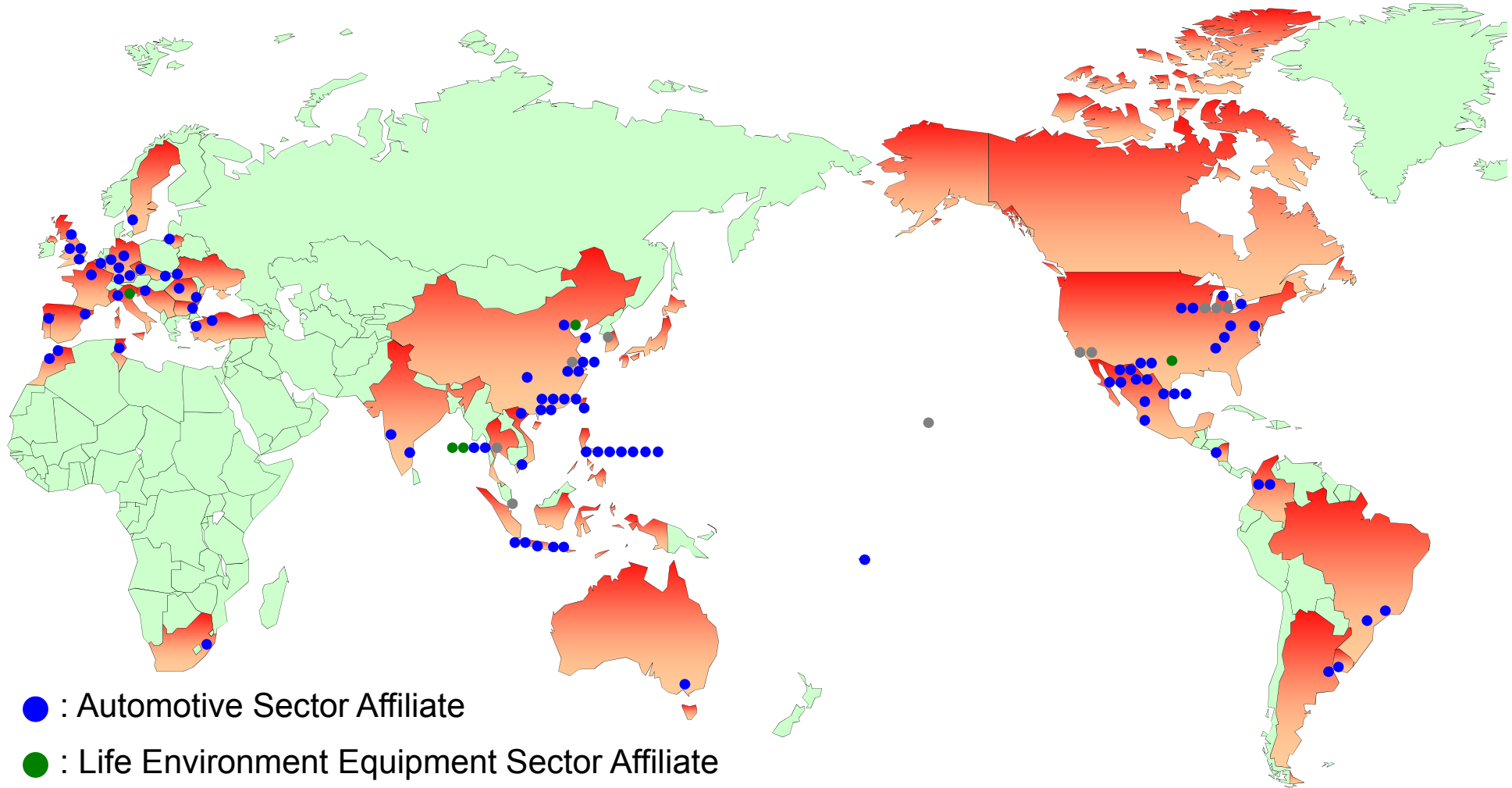
Vehicle-side
Charging Inlet

Distinguishing Characteristics

- **Top Global Wire Harness Market Share**
- **Global Business Operations**
 - 39 countries, 421 locations (incl. Japan)
(as of Jun. 20, 2011)

Yazaki Group Overseas Affiliates

(As of Jun. 20, 2011)



- : Automotive Sector Affiliate
- : Life Environment Equipment Sector Affiliate
- : Administrative Sector Affiliate

2. Yazaki High Voltage Business

Our Customers & Their Vehicles

PHEV

AC

Prius PLUG-IN HYBRID
concept
[TOYOTA]



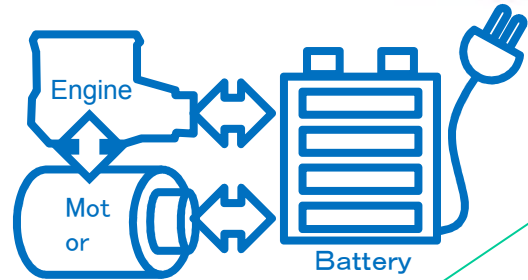
LEAF
[NISSAN]



EV

DC

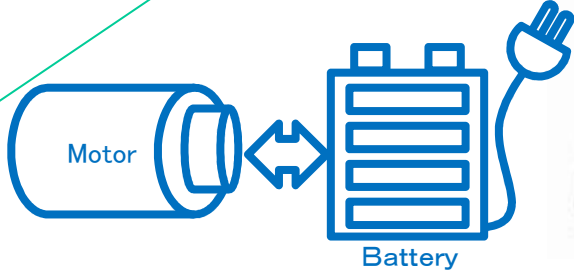
AC



i-MiEV
[MITSUBISHI]



iOn
[PEUGEOT]



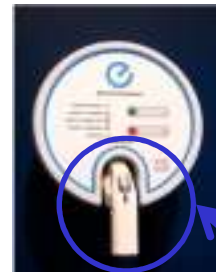
C ZERO
[CITROEN]

Our Product line-up

Car Manufacturer

Charger manufacturer

Portable Charging Set



Home Charging Equipment



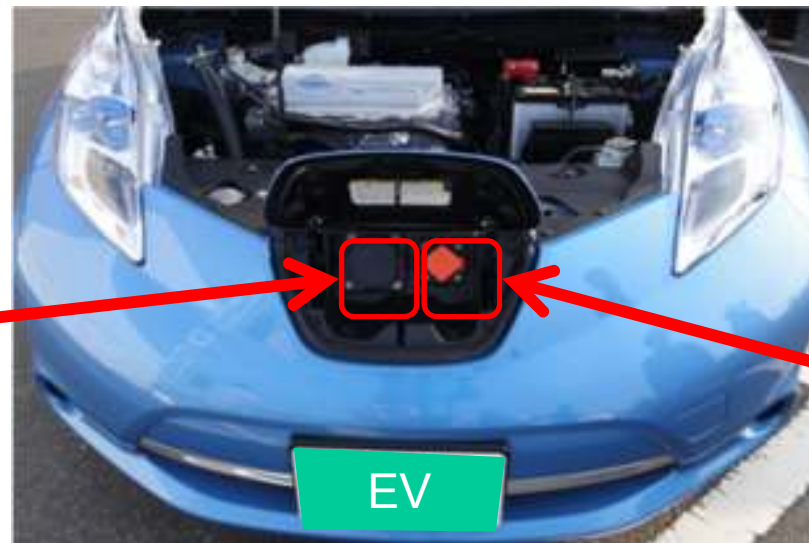
AC Charging Stand



AC Connector



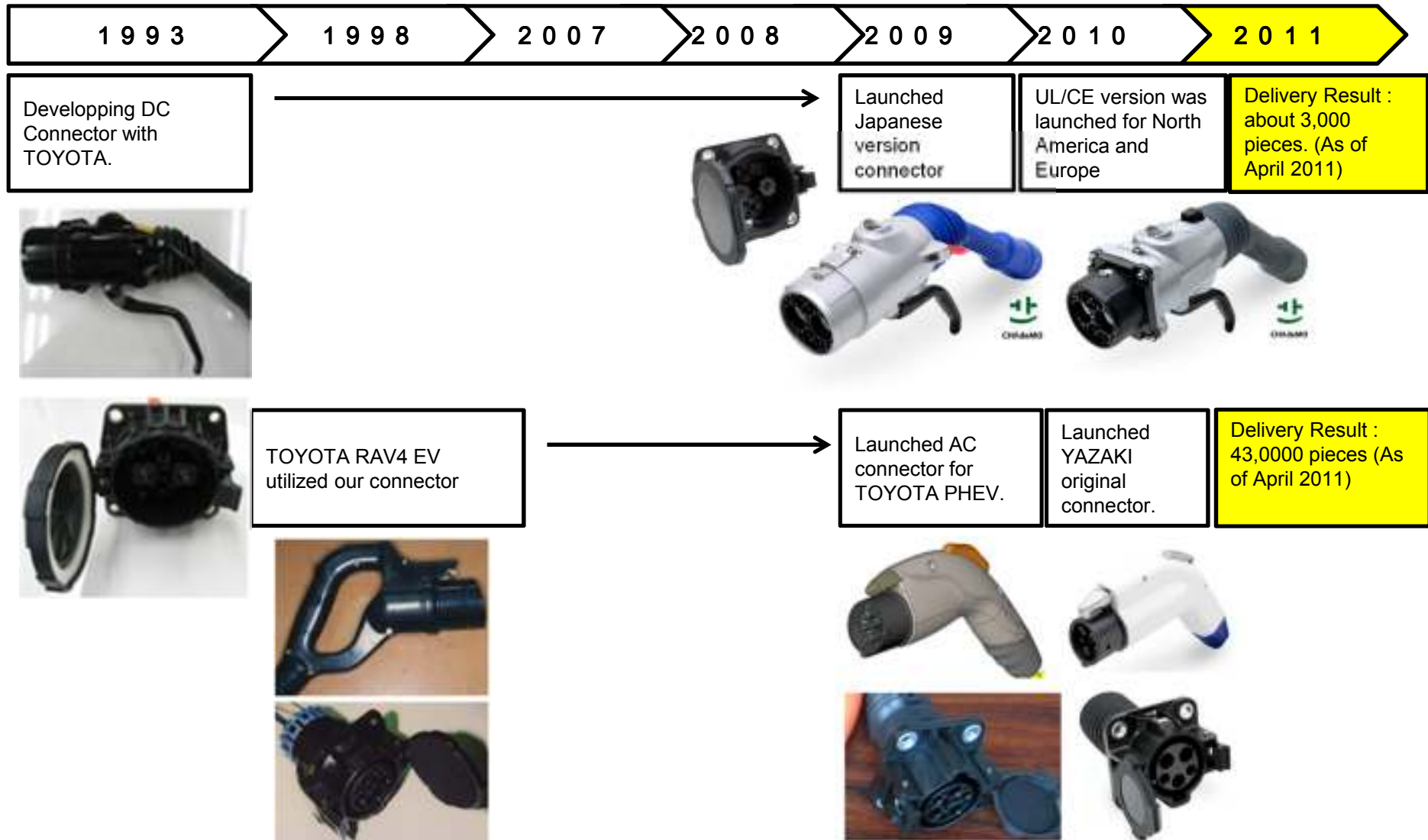
DC Charge Inlet



AC Charge Inlet

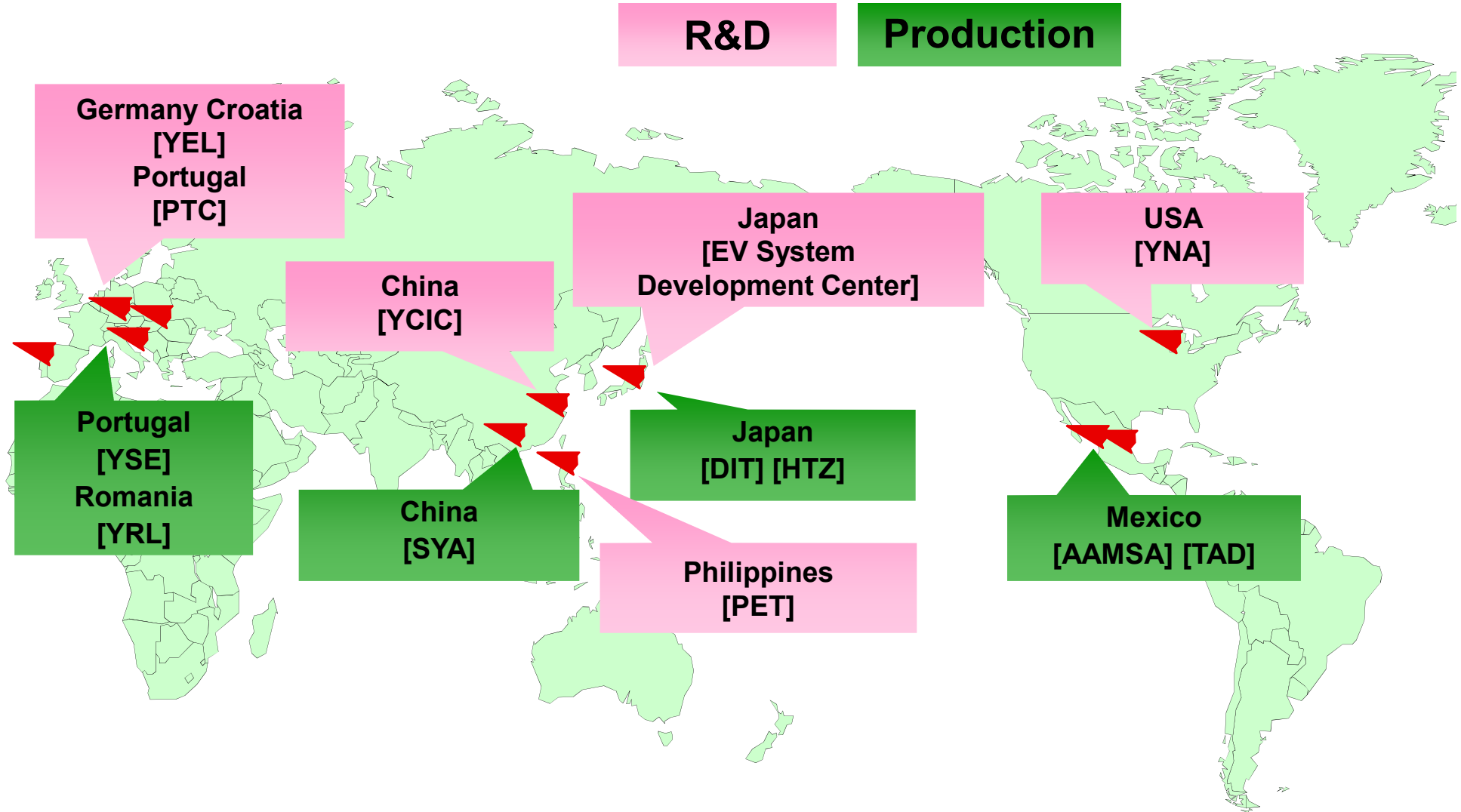


History of Our High Voltage Business



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High Voltage Business Global Operation



DC Charge Coupler



DC Vehicle Connector



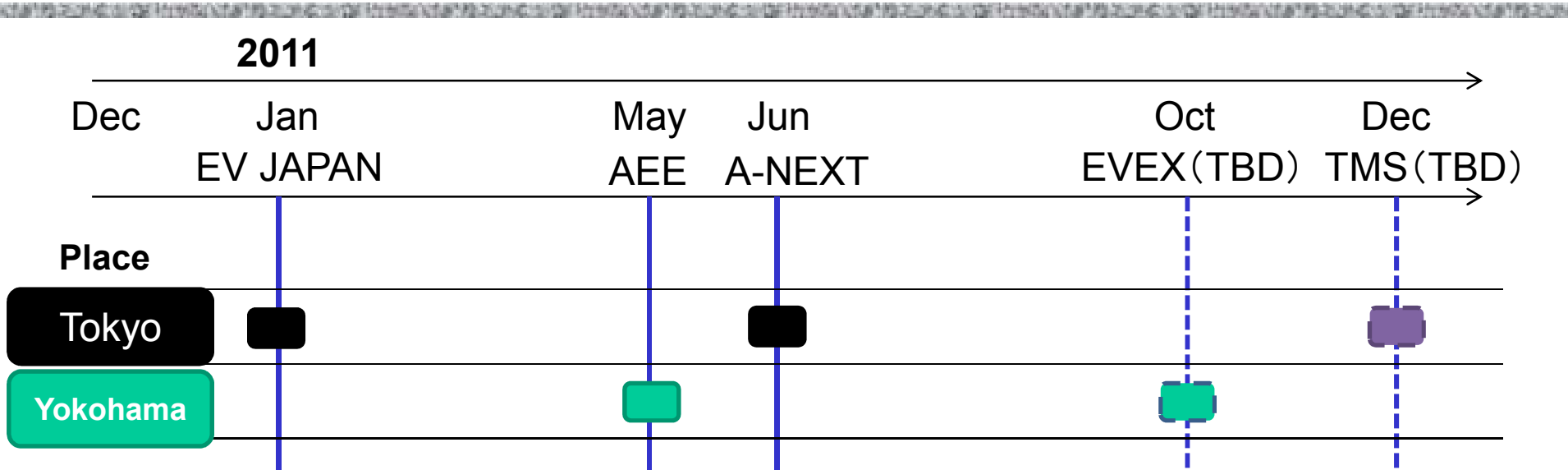
Vehicle Inlet Connector

Delivery Result (Vehicle Connector) *As of July 2011

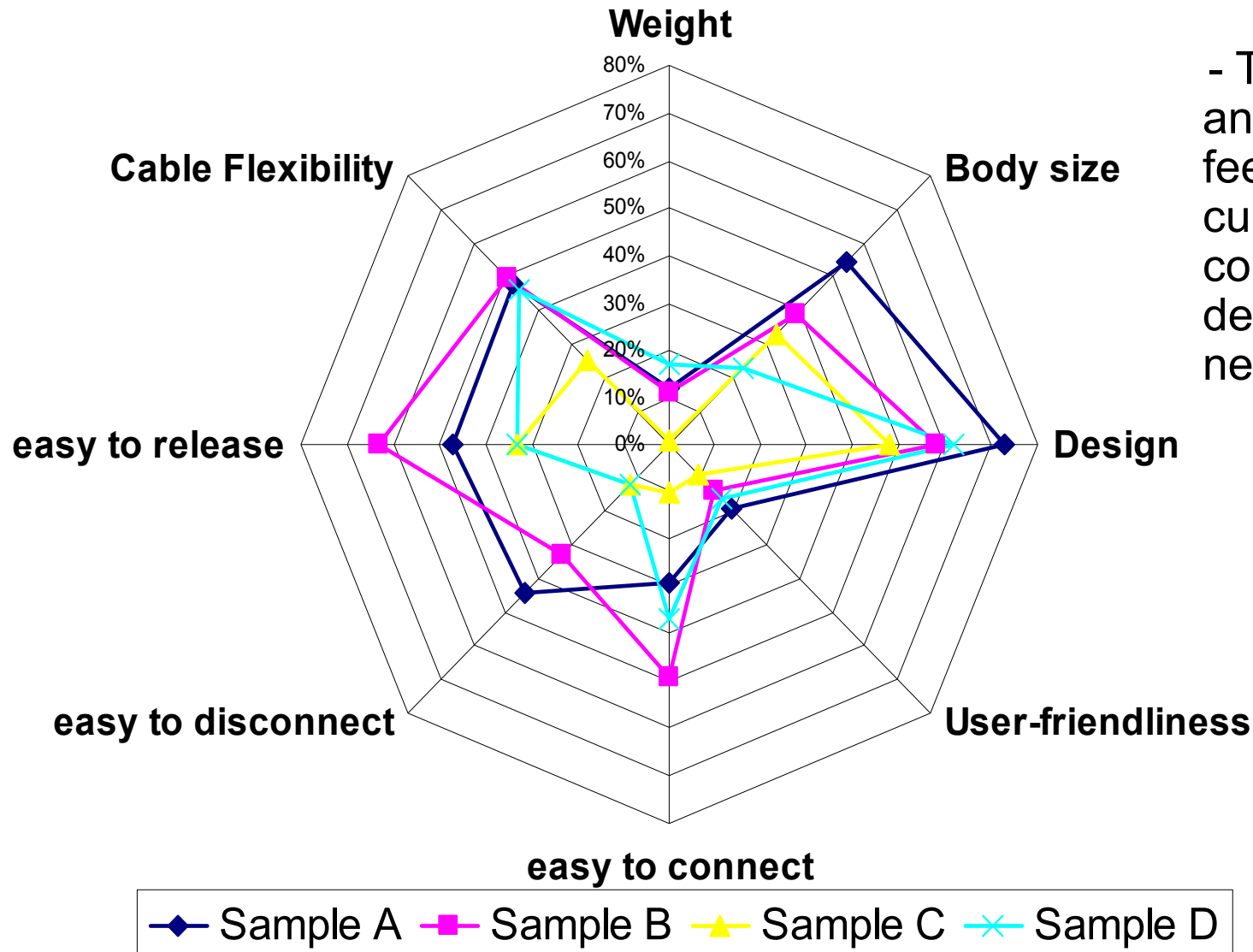
- Europe : 650 pieces
- North America : 740 pieces

3. Investigation of Our Current Connector

Testing Our Prototypes At Exhibitions



Usability Testing Result for Prototype Samples



- The testing result and many market feedbacks on the current model have contributed to the development of our new QC connector.

Our Feedback

Weight

Function

Design

Cost

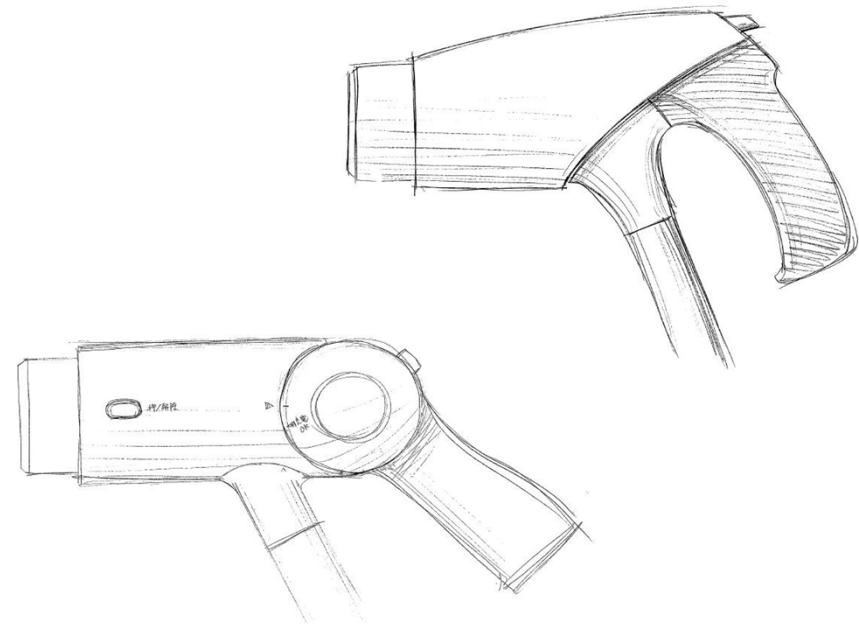
Our Issues & Feedback

➤ Weight

- Material change (Resin Body),
- Component reduction (Target : 20% Reduction)

➤ Design

- Usability,
- Instinctive shape,
- Ergonomic design



Our Issues & Feedback

➤ Function

- *Safety (Our Top Priority)*

- Easy to use
- Simplicity
- Insulation Capability (Metal-less Design Body)

➤ Cost

- Cost reduction (Resin Body, Component Reduction)

4. Introduction of New Designed Quick Charge Connector

Our Concerns About Safety

“Safety is Our Top Priority.”

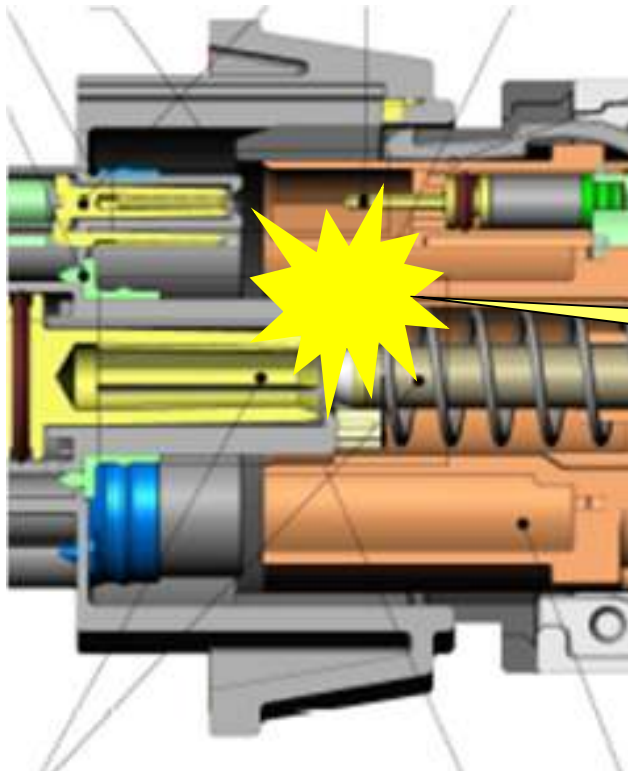
- “500V / 120A” is high current which ordinary people have never handled.
- If users handle it mistakenly, it can be a serious risk (arcing) for them.



Our Intention To Secure Safety

“Safety is Our Top Priority.”

1. Yazaki designs “2-action” mechanism in our connector to secure safety.



- Yazaki’s Disconnecting Process
[1st Action] - The terminals unmate inside the mated connectors.

Arcing can occur at 1st action.

- [2nd Action] - The connectors unmate.

- *Therefore “2-action” mechanism does not expose the users to arcing.*

Our Intention To Secure Safety

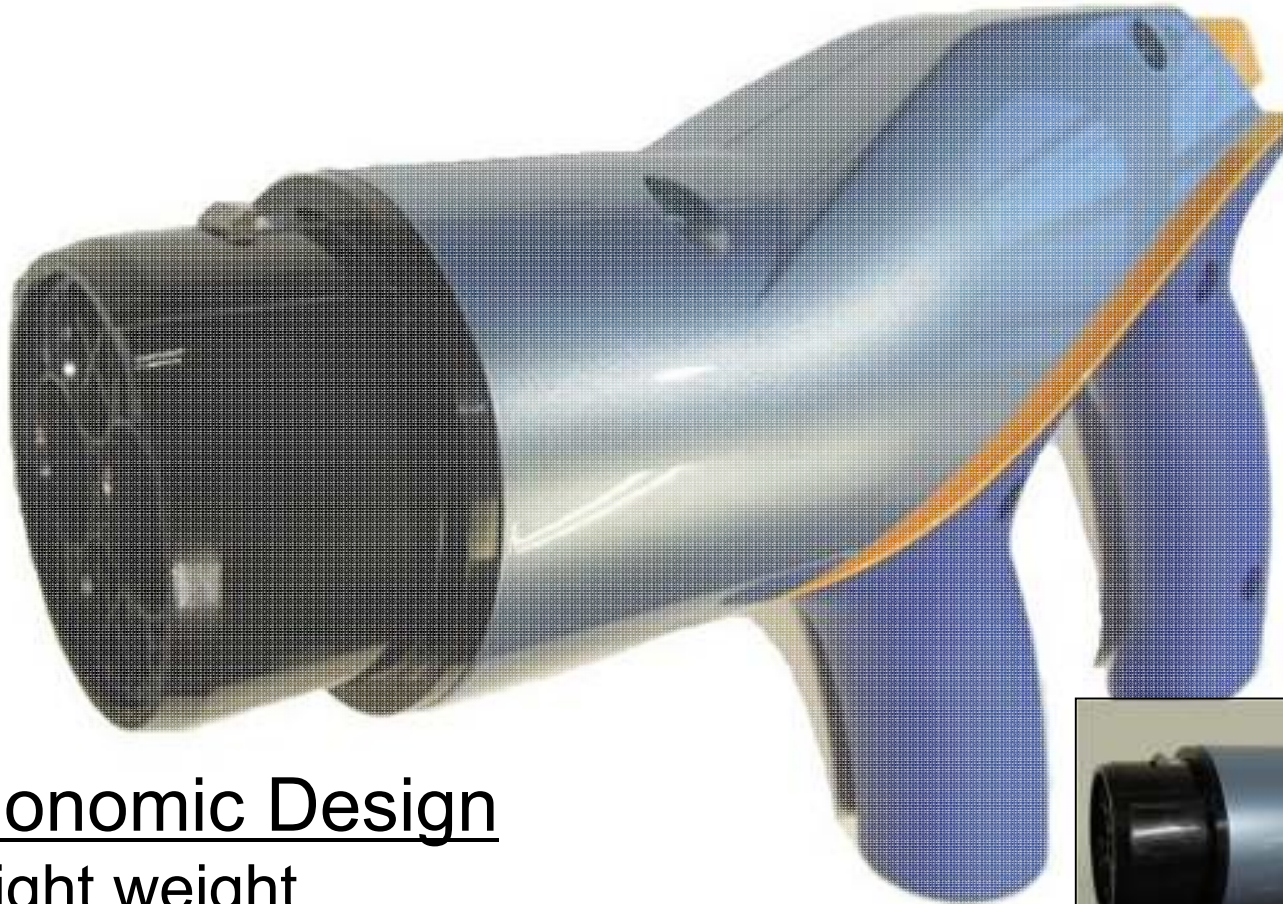
“Safety is Our Top Priority.”

2. Yazaki avoids “1-action” mechanism, even if it looks very easy to use.

- “1-action” mechanism can be dangerous because the connector can be disconnected by one step, in which arcing can occur.
- Therefore “1-action” mechanism can expose the users to arcing.



Appearance (Under Development)

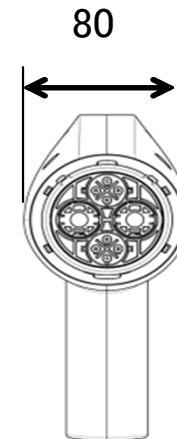
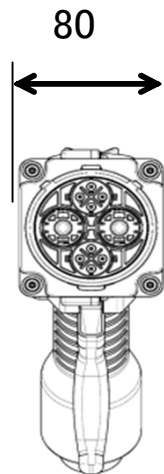
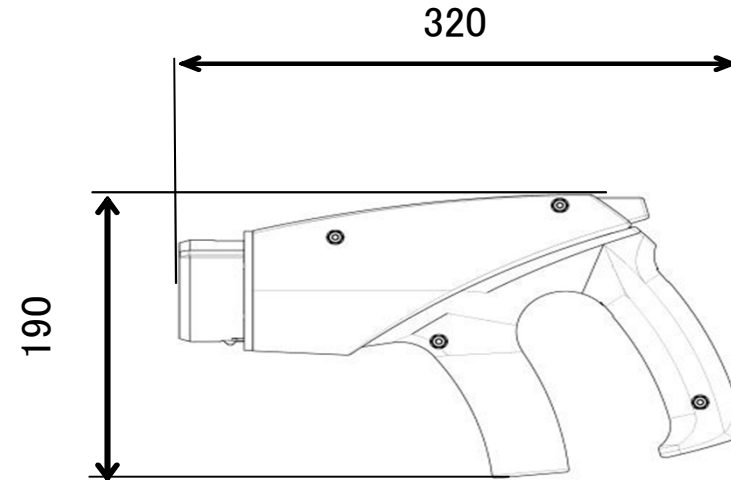
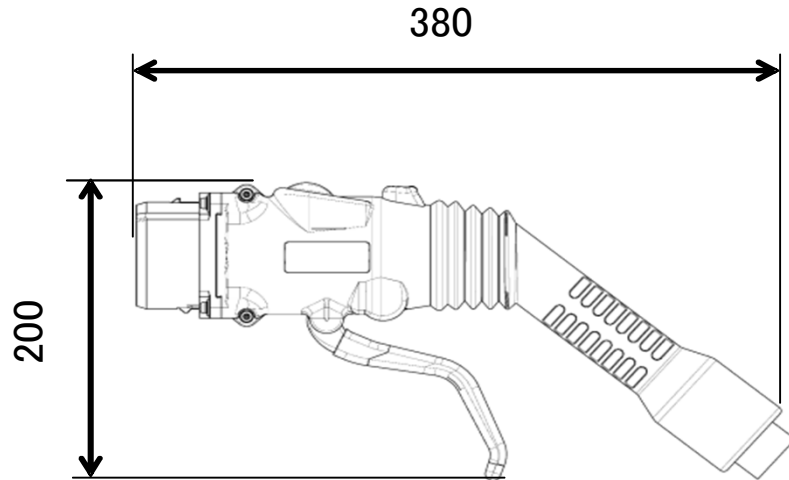


Ergonomic Design

- Light weight
- User friendly / Instinctive shape
- 2(1.5)-action mechanism (**Safety**)



Appearance / Size (Under Development)



**Weight reduction target:
20% less
(Current model : 1.6kg)**

Current Model

New Model



Station-side DC charging connector usable in Japan, America, and Europe.
Charging is done by inserting it into a vehicle-side inlet conforming to CHAdeMO specifications.

Connector on the side of a DC charging stand for EV

(conforming to CHAdeMO specifications)




CHAdeMO

Please Visit Our HV Homepage.

<http://charge.yazaki-group.com/english/index.html>

Thank you!

