

CHAdeMO EUR TWG



Updates and Plan 2019

MAY 2019

Yasuhiko Yamagishi,
on behalf of the chair Tomoya Imazu,
Nissan Motor Co., Ltd., Japan

Contents

- Tech WG activity overview after last TWG and 2019 plan

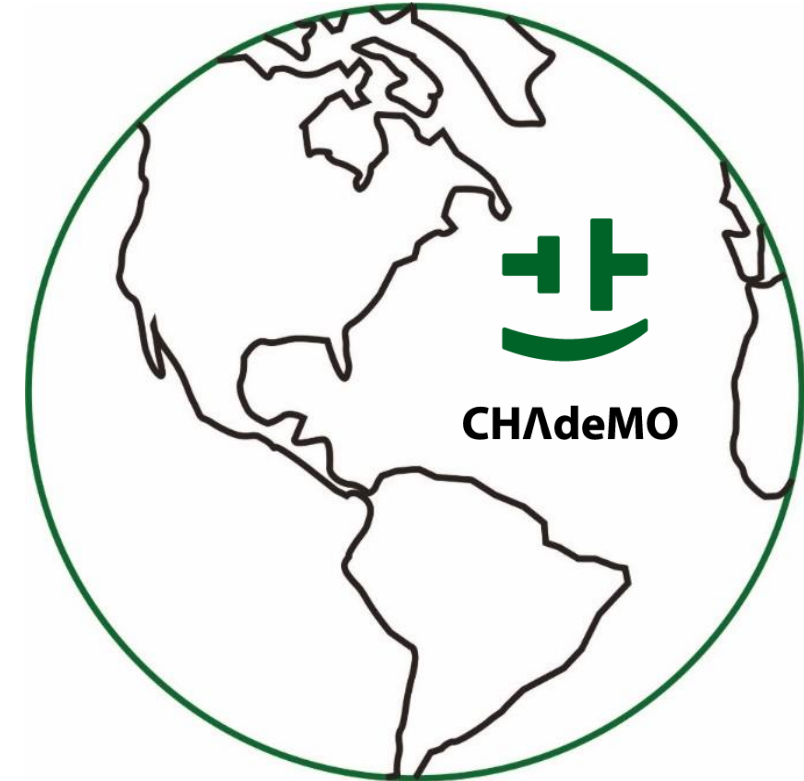
Hot Points

- CHAdeMO/ChaoJi 3.0 progress report and call for participation
- CHAdeMO EU Plug-and-Charge Task Force – Uwe Likar, Chair, PnC Task Force

Others

- Progress of ICAP* Activity

- Q&As



TWG Organization

○ Technical WG

○ Technical Specification WG

- High power SWG
- Connector SWG
- Requirement relaxation SWG
- PnC SWG
- External charging SWG

- **Motorcycle WG (started on October, 2018)**

○ V2H WG

○ Certification WG

○ EUR TWG

Activity Overview in each WG/SWG

WG/SWG	Overview
Tech. Spec. WG	<ul style="list-style-type: none">• Test Specifications Ver2.0 was published• Technical-Manual (Guide line) Ver2.0 was published• Technical Specification and Test Specification Ver2.0.1 are under discussion (revised points are EMC requirements based on IEC 61851-21-2 etc.)
High power SWG Hot point	<ul style="list-style-type: none">• Discussing “ChaoJi” coupler, shape with considering its strength, I/F, adopter, backward compatibility etc.• Planning prototype of new coupler and adopter in FY19• New coupler would be adopted as next CHAdeMO coupler at general assembly on May
Connector SWG	<ul style="list-style-type: none">• Joining China – Japan new coupler discussion• Considering safety aspects on 1500V/600A charging, connector dimension and strength, feasibility of adopter etc.

Activity Overview in each WG/SWG

WG/SWG	Overview
Requirement relaxation SWG	<ul style="list-style-type: none">• Reflected relaxation points at Specification ver 2.0 were reported at Technical Specification WG on December, 2018
PnC SWG	<ul style="list-style-type: none">• No specific discussion in Japan after publication of Specification ver 2.0 including new CAN ID for vehicle ID (See EUR TWG)
External charging SWG	<ul style="list-style-type: none">• Guideline of external charging ver 1.0 is under preparation
Motorcycle WG	<ul style="list-style-type: none">• WG was started on the 9th of October• Its scope is low power charging under 120V• Draft technical specification is under discussion based on technical specification ver 1.0 and 2.0, final document will be published the end of FY19• Discussing “Performance confirmation document for connector”

Activity Overview in each WG/SWG

WG/SWG	Overview
V2H WG	<ul style="list-style-type: none">• V2H guideline ver 2.1.1 was published on September, 2018• V2H Test Specification ver 2.0.1 was published on December, 2018 (the test procedure on systems with other DC power source like PV was added)• V2H guideline global ver, consists of 2.1.1 and supplements for oversea markets is under discussion (the description on input or output voltage will be revised)
Certification WG	<ul style="list-style-type: none">• Registration of the first HPC (over 50kW) charging station was completed• 2 test labs. were registered as CHAdeMO Certification body, see next page DEKRA / Netherland, TÜV SÜD / Japan (for global operation)
EUR TWG	<ul style="list-style-type: none">• EUR PnC Task Force meetings were held on January and March

Hot point

Certification bodies

- DEKRA Certification B.V. (The Netherlands) and TÜV SÜD Japan were registered as certification bodies.



Plan for 2019

- **China – Japan new coupler development (ChaoJi):**

1. Discussion on Technical specification as ver 3.0 after approval at General Assembly on 27th May
2. Prototyping coupler, charging station and vehicle
3. Technical discussion with China members adopter, mechanical strength of modified shape etc.

Details in later

- **V2H**

1. Publication of guideline for global market
2. Publication of V2H guideline ver 2.2

- **PnC**

1. Action in Japan will be considered based on the results of EUR T/F

- **Technical Specification for Motorcycle**

1. Publication of Technical Specification by the end of FY19

CHAdeMO/ChaoJi 3.0 progress report and call for participation

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4. Technology: key points

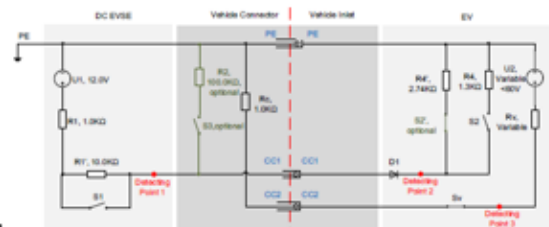
- ✓ **Mechanical strength** of the connector equivalent to CHAdeMO, to avoid breakage in the field.
- ✓ **Safety specification** identical or better than CHAdeMO.
- ✓ **Control-pilot circuit** harmonized with new GB/T and CCS (and IEC 61851-23-1)
- ✓ **Backward compatibility** with CHAdeMO, GB/T and (potentially) CCS.
- ✓ **Simple, light and compact** connector.
- ✓ **Future proof**, covering currents up to 600A with liquid-cooling.
- ✓ **V2G and PnC** ready.
- ✓ **Optional combo-style inlet** integrating AC type-1, -2 and GB/T-AC



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Strength ratio (Yazaki analysis)

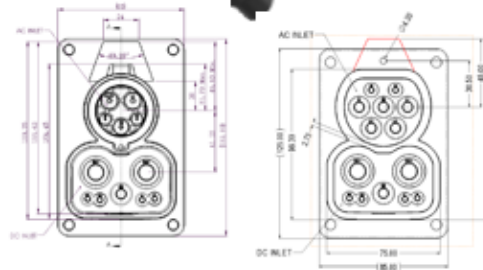
	Vertical	Horizontal
ChaoJi (M+2)	1.5	2.1
CHAdeMO	1.8	2.5



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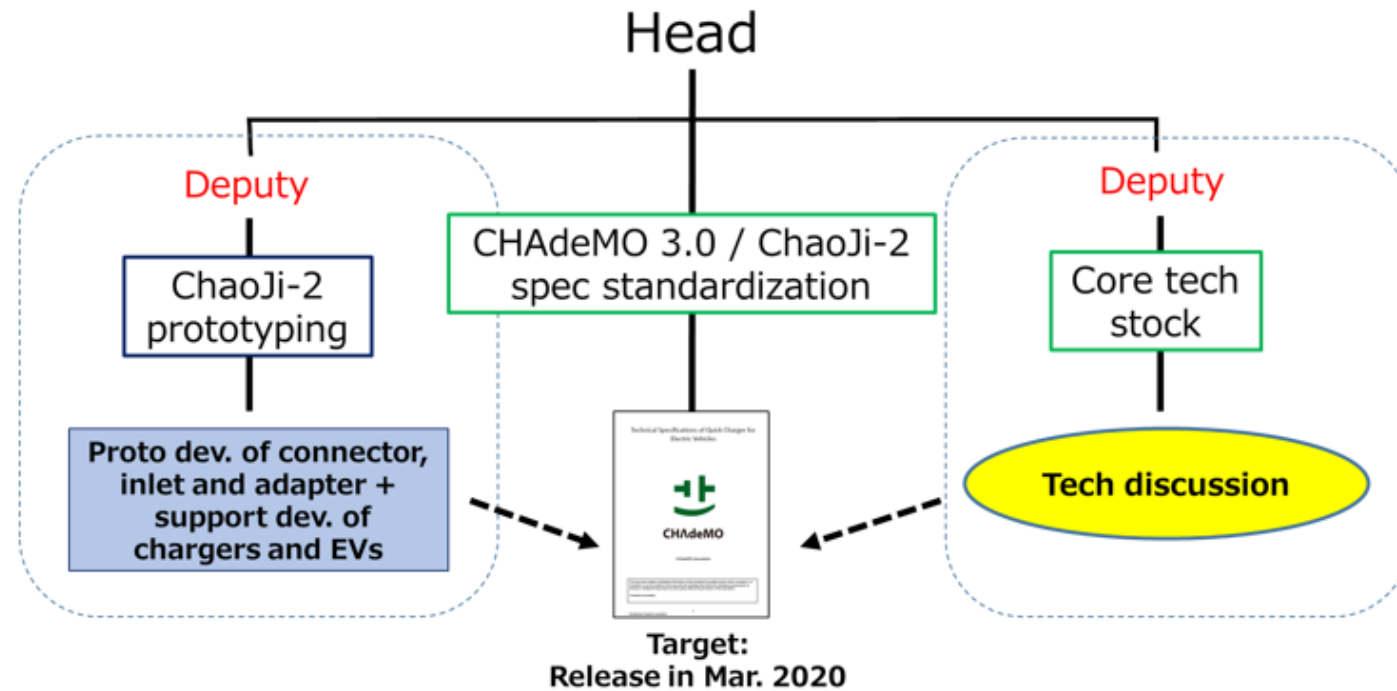
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CHAdeMO/ChaoJi 3.0 progress report and call for participation

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2. Report from the CHAdeMO High Power SWG meeting #8

FY19 organization



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CHAdeMO/ChaoJi 3.0 progress report and call for participation

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2. Report from the CHAdeMO High Power SWG meeting #8

FY19 plan

2019

2020

Mar.

Jun.

Sept.

Dec.

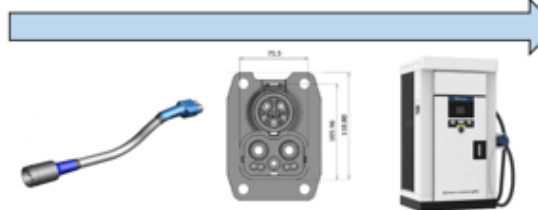
Mar. /Apr.

- 3/27
- Voting (Regular members)
- Judgment (General Assembly)
- F2F w/China #3 (@TEPCO)
- CHAdeMO Europe TWG
- F2F#4(@China)

Development of Specification 3.0 / ChaoJi-2
(TWG/SWG meetings to be held at regular intervals)

→ '20/3 CHAdeMO 3.0 release

Prototype development of 3.0 / ChaoJi-2 HPC couplers/cables, adapters, chargers and EVs



→ Prototype testing (in Japan TBD)

→ '20/3 CHAdeMO 3.0 / Chaoji-2 Prototype chargers and EVs unveiling

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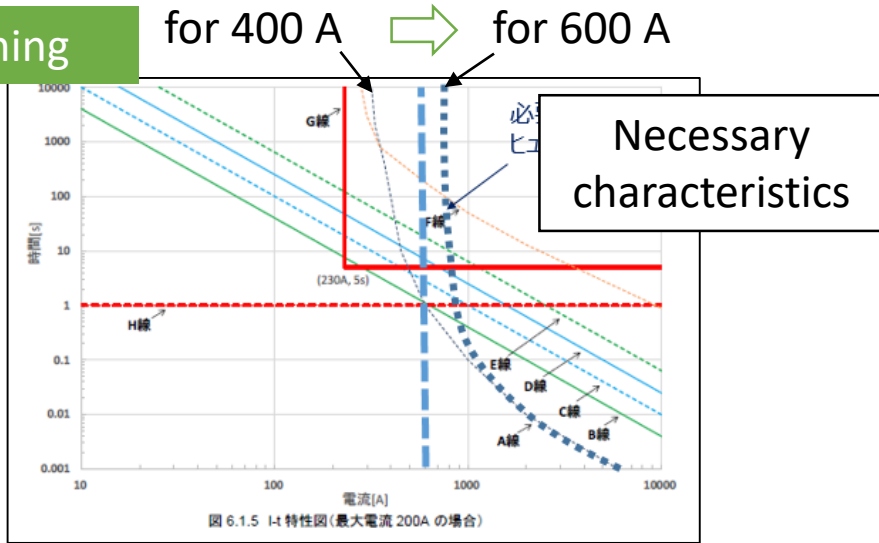
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Hot point

CHAdeMO/ChaoJi 3.0 progress report and call for participation

Discussion points in FY19

Fuse matching



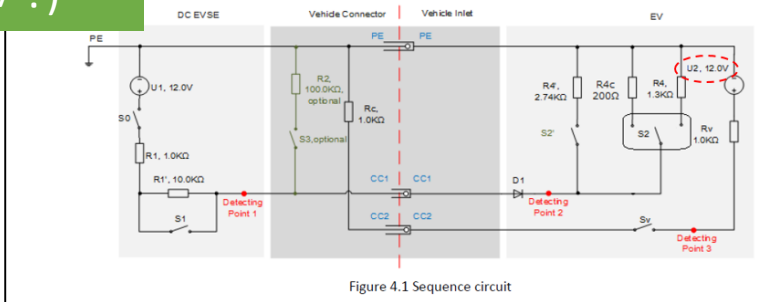
I²t requirement

Item	Necessary Information
Vehicle harness	Smoke emission characteristics for 50/70/95 sq.
Charging cable	Smoke emission characteristics for 35/50/70/95 sq.
Fuse on vehicle	Melting characteristics for 400/600/800A
Fuse on charging station	Melting characteristics for 400/600/800A
...	

Vehicle side control voltage (5V or 12V?)

電源U2電圧 (5 or 12V?)
 合わせる5Vになるが、12Vで良いか? (中国は12 or 24V)

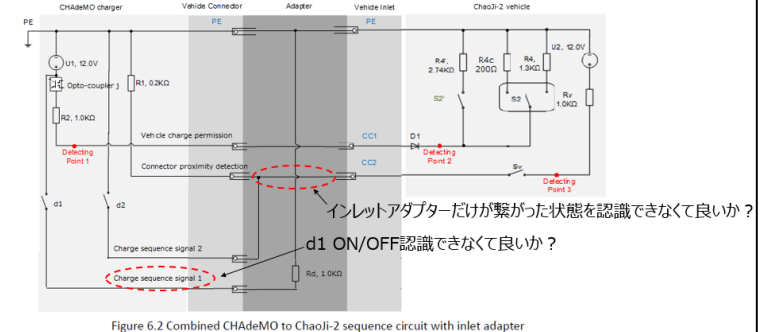
会議で決定



Backward compatibility with adpater

- 下位互換におけるd1入力未認識課題
- 下位互換におけるインレットアダプター単独嵌合検知不可課題

方針について審議



CHAdeMO/ChaoJi 3.0 progress report and call for participation

- Prototyping in FY19**

Board meeting has approved to make proto. of connector, inlet and adopter of ChaoJi-2

Item	Supplier	Note
Cable and connector assembly and cooling system (*1)	JAE, Fujikura	max over 400A
Inlet assembly with 95sq. Wire (*2)	JAE	max over 400A
Inlet adopter (CHAdeMO=>ChaoJi)	Fujikura	max 200A
ChaoJi-2 charging station (implementing *1 or purchase a connector from Chinese supplier)	under discussion	max over 180kW (450V x 400A), ChaoJi-2 protocol to be implemented
ChaoJi-2 vehicle (implementing *2 or purchase an inlet from Chinese supplier)	under discussion	max over 200A, ChaoJi-2 protocol to be implemented

CHAdeMO/ChaoJi 3.0 progress report and call for participation

- **Voting results**

- Agree to adopt ChaoJi as new CHAdeMO coupler**

- ✓ **Agree 22**

- ✓ **Disagree 0**

- ✓ **Entrust 25**

- **Decision will be made at General Assembly on the 27th of May**

CHAdEMO/ChaoJi 3.0 progress report and call for participation

Web conference on Tech. Spec. ver 3.0 / ChaoJi-2

- Every month or two by WebEx after the General Assembly meeting
- Participations need to reply to the following addresses
Ms. Tomoko Blech, Secretariat of CHAdEMO Europe, info@chademo.eu
Mr. Osamu Maruta, Secretariat of CHAdEMO Tokyo, info@chademo.org

The e-mail of call for participation from Mr. Kamishima, the chair of High Power SWG

As already informed in the number of past occasions, CHAdEMO High Power SWG would like to invite the Regular Members outside Japan to join the SWG for the discussion on the new CHAdEMO 3.0 / ChaoJi-2 specification. All members who are willing to contribute actively to the creation of the new standard are welcome, so if any of you are interested, please reply your name and affiliate to all in this mail.

The international High Power SWG meetings are planned to be held every month or two by WebEx after the General Assembly meeting in May 27, and there may be a chance to hold a F2F meeting in October.

- Presentation by Mr. Likar Uwe, Chair, PnC Task Force

Others: Progress of ICAP* Activity

- CHAdeMO Spec. (ver 1.0.1) is defined as IEEE 2030.1.1-2015
- CHAdeMO Association and some voluntary members have been discussing the test procedure based on CHAdeMO Certification test
- Now pilot testing is been preparing

See the material from IEEE

* ICAP : IEEE Conformity Assessment Program

Others: Q&A

Thank you for your attention

