



**Standardization of
Dynamic Wireless Power Transfer System**

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1. Japan National D-WPT Project (Overview and Goals)

Theme 1: Safety and interoperability

⇒ Establish metal foreign object detection method and interoperability of 70 % or more at rated power.

Theme 2: D-WPT

⇒ Develop basic technology that achieves a rated efficiency of 90 % with a 30 kW class power supply when driving at 60 km/h

Theme 3: Economic feasibility

⇒ Study the cost-benefit, and issues of introducing the D-WPT system by scenario and create business models



Evaluation equipment for metal foreign object detection and interoperability



D-WPT system
(The university of Tokyo)

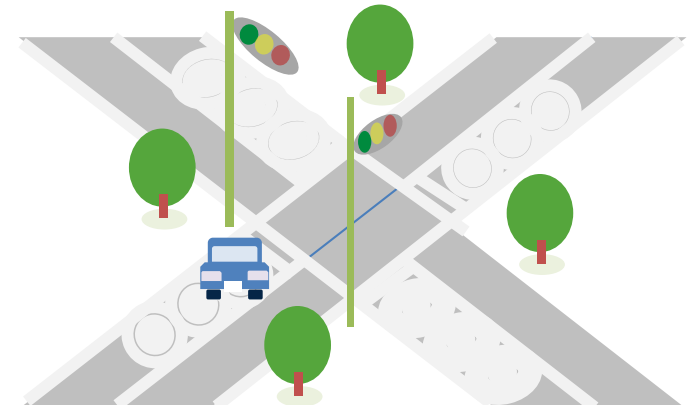


Image of D-WPT system installation at intersection

2. Current Status of WPT Standardization

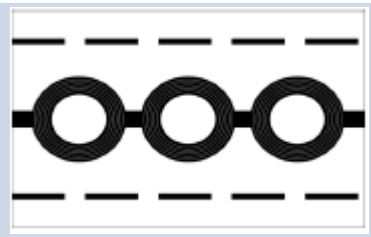
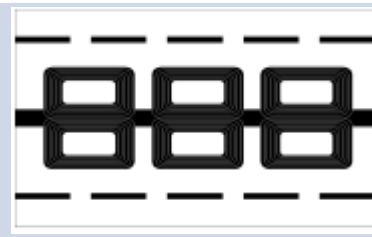
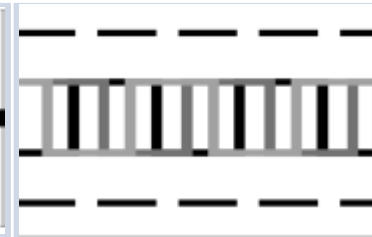
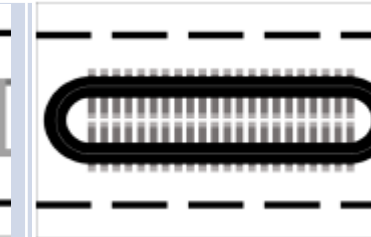
Static-WPT

- ◆ SAE: STD will be issued in the first half of 2020.
- ◆ IEC/ISO: Standardization scheduled to be completed in 2020.

D-WPT

- ◆ In November 2018, Korea proposed the new work for D-WPT STD (IEC 63243).
- ◆ Kick-off meeting was held in June 2019. Four systems shown below are described in the preliminary working draft.

Note: The second F2F meeting was scheduled to be held in China in March 2020, but will be postponed due to the coronavirus epidemic.

Type	A	B	C	D
	Individual Circular	Individual Double-D	Three Phase	Parallel Two Lines
Ground Coil Image				

No technical discussion has been started at IEC, yet.

3. For Standardization of D-WPT

Technical Issue

- ◆ **Safety**: health effects, foreign object detection, ...
- ◆ **Interoperability**: coil topology / position, communication protocol, interface, ...
- ◆ **Performance**: power, efficiency, vehicle driving speed, ...
- ◆ **Co-existence with existing services**: EMC / EMI, operating frequency

Requirements for standards

- ◆ **Defines the above** safety, interoperability, performance, and co-existence.
- ◆ **Also defines test procedure** that third parties can fairly evaluate.
- ◆ **Should not hinder future technology development.**
- ◆ First of all, **general requirements** of D-WPT should be clarified in conjunction with the discussion of the specifications.