ACEA'S UPDATE

DEMAND CONNECTION CODE REGULATION

REQUIREMENT FOR GENERATORS REGULATION

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European Stakeholder Committee

Brussels

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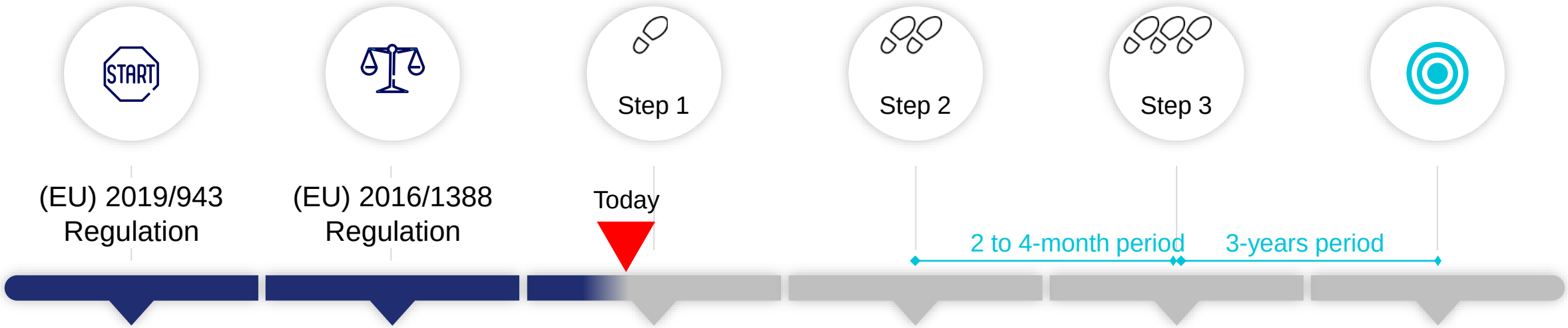
ABOUT THE EU AUTO INDUSTRY

- 13.0 million Europeans work in the automotive sector
- 11.5% of all manufacturing jobs in the EU
- €374.6 billion in tax revenue for European governments
- €79.5 billion trade surplus for the European Union
- Almost 8% of EU GDP generated by the auto industry
- €58.8 billion in R&D spending annually, 32% of EU total

KEY BOUNDARY CONDITIONS

LEGAL TIMING: the design stage for 2028 vehicles is nearing freezing in most OEMs but the application date of the regulation remains still unclear



ENTSO empowered to develop harmonized network codes

Dec 2023

ACER published the DCC/RFG **V1G electric vehicles shall be controlled via demand units**.

Q3 2024

Consultation phase on the new DCC/RFG regulation

End of 2024

EU Commission to **present the Delegated Act**

Q2 2025

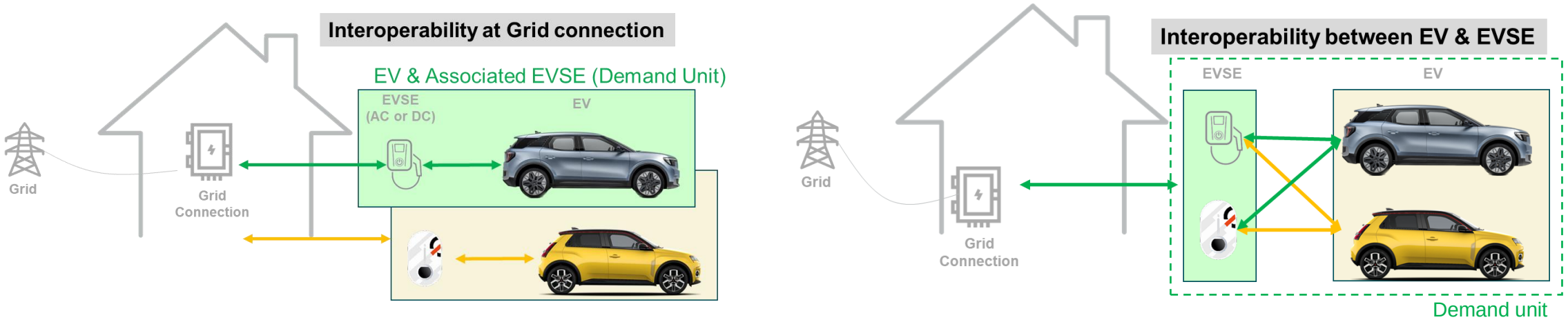
Approval of the the DCC/RFG regulation

Q2-2028

The **new DCC/RFG regulation will be applied**

INTEROPERABILITY CONFLICT

The simplification effort of grid code parameters by ACER and the TSO's is very much appreciated and supported by ACEA.



The EU regulations AFIR (EU) 2023/1804 and EPBD (EU) 2024/1275 set standards for the infrastructure (EVSE).

The DCC (EU) 2016/1388 and RfG (EU) 2016/631 regulations focus on interoperability between the electrical grid and the demand units.

TSOs, national rules, and countries outside the EU might have their own specific requirements for EVSE and EVs.

The issue is that ensuring interoperability between a fixed installed EVSE and a mobile EV is a significant challenge.

The DCC and RfG regulations call for independent certification of both the EVSE and the EV, but this hinges on the ability of the EVSE and EV to work together seamlessly.

Interoperability is based on Standards. Standards for interoperable V1G and V2G are not yet available and not accepted in every region.

How do we address this conflict?

Which rules shall be applied to develop an EV for Europe to meet customer satisfaction on charging experience?

LEGAL UNCERTAINTIES

- **Scope**

  While the documents sets forth requirements for V1G electric vehicles (DCC) or V2G electric vehicles (RFG), it does not explicitly mandate that newly registered electric vehicles within the European market must be of the V1G or V2G type.

  Is this intended?

- **Pre-requisition**

  The document outlines technical requirements but omits any specification of interoperability (function allocation between Electric Vehicle and associated Electric Vehicle Supply Equipment) & compliance testing procedures. In accordance with the introduction of AFIR EU 2023/1804, mandates for EU standardization have been issued prior to the new regulation's effective date. The enforcement of the legislation shall depend on the publication date of the new interoperability and compliance testing standard and provide sufficient time for development.

  Can the industry expect a similar procedure for DCC/RFG regulation?

LEGAL UNCERTAINTIES

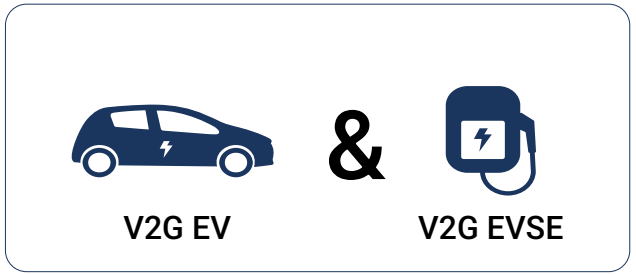
- **Mandate**
  The EN50549 standard has been developed for generic generators based on power capacity (type A,B,C classification). New EV1, EV2, EV3 requirement and testing procedures for independent certification of Electric Vehicle and associated Electric Vehicle Supply Equipment are not included in the actual compliance test specification.
  Will a mandate be given to the standardization bodies to ensure harmonized certification procedures?
- **Local requirements**
  The draft paper allows TSO‘s or national regulation to request for local requirements.
  EV vehicles are mobile and cannot be built for local requirements without significant efforts.
  Will the EU regulation enforce a single set of requirement for EV‘s?

DEMAND CONNECTION CODE REGULATION (DCC)

THE DCC DEFINES REQUIREMENTS FOR CHARGING OF ELECTRIC VEHICLES

1 **The legislation combines EV + EVSE**

V1G electric vehicles and associated V1G electric vehicle supply equipment



No differentiation between AC and DC charging, EV and EVSE are included as part of a demand unit (Article 2)

2 **Scope of the new regulation (Article 3)**

new V1G electric vehicles and associated V1G electric vehicle supply equipment, heat-pumps and power-to-gas demand units, with maximum consumption capacity of 0,8 kW or more at any voltage level.

Impact on all PHEV and EV vehicles is expected.

Unclear if the regulation is based on homologation or registration timing of vehicles.

3 **Equipment Certification required (Article 32 & XX+1)**
Demand Unit Certificate is unclear (Article 32)

- EV and associated EVSE shall have equipment certificate, showing compliance with regulation.
- Certification takes place at authorized certification center (e.g. TÜV)
- EVSE equipment certificate for installation

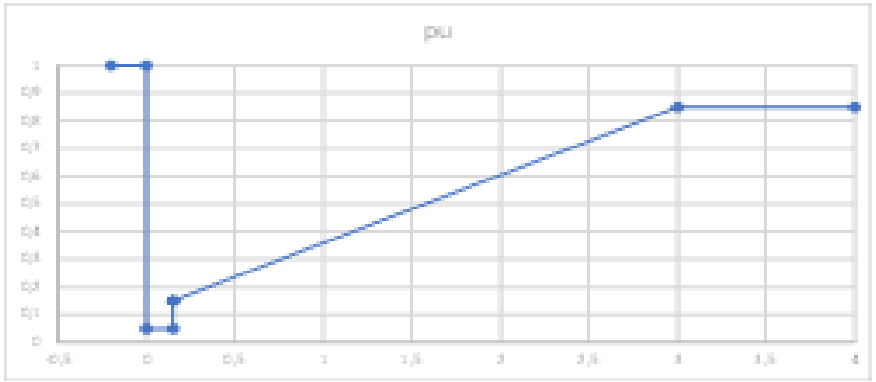
4 Summary of requirements → **details on the following slides**

- Limited frequency sensitive mode - underfrequency consumption (LFSM-UC)
- Rate of Change of Frequency (RoCoF) withstand capability
- Fault-ride-through (FRT)

The DCC Regulation is expected to be published in Q4/2024 with a transition period of 3 years.

SPECIFIC FEEDBACK ON DCC REGULATION

FURTHER INFORMATION IS SHARED AS PART OF A COMMENT SHEET

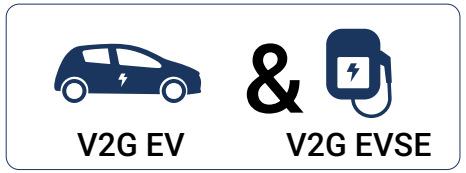
Clause / Subclause	Paragraph / Figure / Table	Comments	Proposed Change
Article XX	Point 3.(i)	The shape of the curve in the figure appears to be inconsistent with the values given in Table (1)X.1.1 and Table (2)X.1.2. The following curve is based on an interpretation of the time values as absolute time values after time 0: 	Clearly specify that all times are given relative to the start of the fault at t=0. Replace Figure (4)XX.d with a figure that shows the shape of the event.

REQUIREMENT FOR GENERATORS REGULATION (RFG)

THE RFG DEFINES REQUIREMENTS FOR V2G ELECTRIC VEHICLES

1 The legislation Scope apply to V2G EV + V2G EVSE

V2G electric vehicles and associated V2G electric vehicle supply equipment



with **specifics harmonized requirements** based on their **individual Capacity** (i.e not aggregated at connection point)

- EV1 between 0,8kW and 2,4kW (article 13a) – not relevant for EV
- EV2 between 2,4kW and 50kW (article 13a) – mainly AC charging
- EV3 between 50kW and 1MW (article 14a) – only DC charging

No differentiation between EV & EVSE, or AC and DC charging,

2 Unclear scope of application & EV Compliance principle

According article 42 compliance should be based on

- Type approval/Homologation platform for V2G EV like other EV regulation
- Certification for V2G EVSE like other electrical equipment.

In this case for V2G EV it should be clarified if when the regulation enter into force it apply to

- Newly Homologated vehicle (New type – ACEA proposal)
- Newly Registered vehicle (All existing / already homologated vehicle)

And how Electric Vehicle compliance is demonstrated in homologation process

The RFG Regulation is expected to be published in Q4/2024 with a transition period of 3 years.

3 Specific Interoperability concerns as regulation address 2 different equipment (EV & EVSE)

Many possible configuration as EV is moving from one EVSE to another :

Old V2G EV with New V2G EVSE and vice-versa

V1G EV with V2G EVSE and vice versa

Combined old / new and V1G / V2G services

V2G EV lifecycle should also be considered (repair, moving… EV is not a fix equipment)

4 Retro-compatibility of all existing V2G EV & V2G EVSE is impossible due to LFSM-UC more severe requirement

Most of the requirements are carry-over of today RFG or today EN 50 549-1/-10 simplified thanks to harmonization (less configuration to be tested)

Except for Limited frequency sensitive mode - underfrequency consumption (LFSM-UC) reaction time reduced from 2s (today) to 0,5s

This more severe requirement will make retro-compatibility of all existing V2G EV & V2G EVSE following today ISO 15 118-20 & EN 50 549-1/-10 impossible

This is particularly critical if scope of application is decided to apply to “all newly registered vehicle” (All existing type) => derogation for already homologated vehicle ?

5 For application, interoperability and independent certification/homologation mandate should be given to update all relevant standard according new RFG requirements

- EN 61 851 for V1G/V2G EVSE / ISO 5474 for V1G/V2G EV for interoperability & safety
- ISO 15 118-20 for grid code parameters/compliance communication
- EN 50 549-1/-10 for certification / homologation of V1G/V2G EV & EVSE EV1,EV2,EV3

SPECIFIC FEEDBACK ON RFG REGULATION

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Clause / Subclause	Paragraph / Figure / Table	Comments	Proposed Change
Article 3 **Scope of application** 2	Alinea 1	*1. This Regulation shall apply to **new power-generating modules**, which are considered significant in accordance with Article 5, unless otherwise provided in this Regulation.* The definition of “New power generating module” is unclear for the case of V2G Electric Vehicle is it - **New Homologated Vehicle** (new type approval) - **New Registered vehicle** (all existing type approval) ACEA underscores the importance of restricting the scope of the regulation to newly homologated vehicles (New type approval), reflecting the industry's commitment to compliance and effective implementation.	We propose to update article 4 For V2G Electric Vehicle” only newly homologated vehicle (New type approval) are considered as New Power generating modules. As a consequence, existing V2G electric vehicle (i.e already homologated vehicle at enter into force date) are exclude of the application scope and should still be allowed to do V2G under Regulation (EU) 2016/631 as describe in article 4

Note: ACEA has prepared a comprehensive document outlining inconsistencies in the RfG regulation.

SPECIFIC FEEDBACK ON RFG REGULATION

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Clause / Subclause	Paragraph / Figure / Table	Comments	Proposed Change
Article 4a 3	Significant modernisation	ACEA recommend that "**significant modernization**" be clearly defined and harmonized for all the events that could occur during V2G EV and V2G EVSE lifecycles (new, replace by similar equipment, upgrade, 2nd hand market, moving to a new place,..) taking in consideration potential customer complaint and unnecessary administrative workload.	*4. A change of components/assets of an Electric Vehicle and/or its associated EVSE is not considered as significant modernisation in the following cases:* • *maintenance and repair activities and spare parts, whether or not those parts are purchased new at the time of their incorporation in the electric vehicle and/or associated electric vehicle supply equipment.* • *Replacement of the existing equipment by identical one.* • *Replacement of the existing equipment by new equipment of same power capacity and compliant with the new Regulation.*

NEXT STEPS

KEY MESSAGES FROM ACEA

Timely Regulation

The upcoming regulation must be finalized with urgency to align with the design freeze for new upcoming vehicle platforms.
Immediate confirmation is required to ensure that the regulation's scope is limited to newly homologated vehicles only.

Interoperability Focus

All future regulations should prioritize interoperability as a core objective to enable charging at any charging location. Today's vehicles are not designed to be upgraded to meet future regulations. Their technical limitations prevent them from being modified to comply with upcoming standards.

Standardization Mandate

A mandate for alignment across key standardization groups is needed before entering into force, including:

- EN 61851
- ISO 5474
- ISO 15118
- EN 50549

Technical Working Group

A dedicated technical working group should be established to monitor progress, provide regular feedback, and ensure effective implementation of these standards on a regular basis.

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