

EV CERTIFICATION PROCESS TO SUPPORT INTEROPERABILITY

Grid Connection European Stakeholder
Committee

Brussels

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The logo for ACEEA, featuring the lowercase letters 'a', 'c', 'e', 'e', 'a' in a dark blue, rounded font. Each letter has a small teal dot above it, and the 'e's have a teal dot on their right side.

WHO WE REPRESENT

 <p>BMW GROUP</p>	 <p>DAF</p>	<p>DAIMLER TRUCK</p>	
 <p>Ford</p>	<p>HONDA</p>	 <p>HYUNDAI</p>	<p>IVECO • GROUP</p>
<p>JLR</p>		 <p>NISSAN</p>	<p>Renault Group</p>
 <p>STELLANTIS</p>	<p>TOYOTA</p>	<p>VOLKSWAGEN GROUP</p>	<p>V O L V O</p>

ABOUT THE EU AUTO INDUSTRY

- 13.2 million Europeans work in the automotive sector
- 10.3% of all manufacturing jobs in the EU
- €383.7 billion in tax revenue for European governments
- €106.7 billion trade surplus for the European Union
- Over 7.5% of EU GDP generated by the auto industry
- €72.8 billion in R&D spending annually, 33% of EU total

IMPLEMENTING ACT NEEDED TO DEFINE EV CERTIFICATION PROCESS

Interoperability between EV and EVSE is crucial for Mobile Distributed Energy Resources (DER)

EV charging can be implemented through:

- **DC Power Exchange:** The EVSE must meet the requirements outlined in the DCC & RfG
- **AC Power Exchange:** The **EV and EVSE**, when **combined**, **must meet the requirements** outlined in the DCC & RfG

Both scenarios require a stable communication between EV and EVSE (e.g.: ISO15118-20).

For **AC Power Exchange**, a **consistent implementation** within the EV and EVSE is needed. An implementing Act as part of the RfG and DCC could guide the following key aspects:

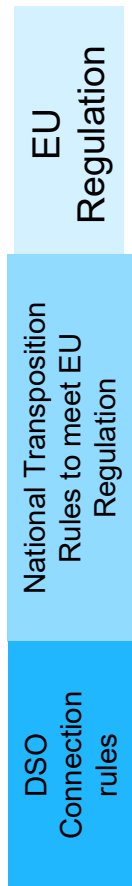
- **Function Allocation** between the EV and EVSE in line with international product standardization
- **Certification Scheme for V2G AC EV** based on harmonized & exhaustive requirements including a reference implementation.

All aspects must be:

- **verifiable** through testing,
- **certifiable** by an accredited body,
- and **meet** the necessary **homologation requirements for market approval**.
(A cross-reference in Annex 2 of (EU) 2018/858 towards 2016/631 is needed)

National guidance documents on Requirements for Generators (RfG) allows Distribution System Operators (DSOs) to define regional requirements fostering proprietary non interoperable solutions.

ACTUAL IMPLEMENTATION OF THE RFG & DCC CAUSES EV TO FOLLOW REGIONAL RULES



Actual setup for RfG

**Regulation EU 2016/631
Requirements for Generators**



Comply with

National Standards

GER VDE-AR-N-4105
UK G99/G98
ES NTS-Generators
IT CEI-0-16 & 0-21
BE C10/11



Comply with

**Regional Implementation to the
National Standards**

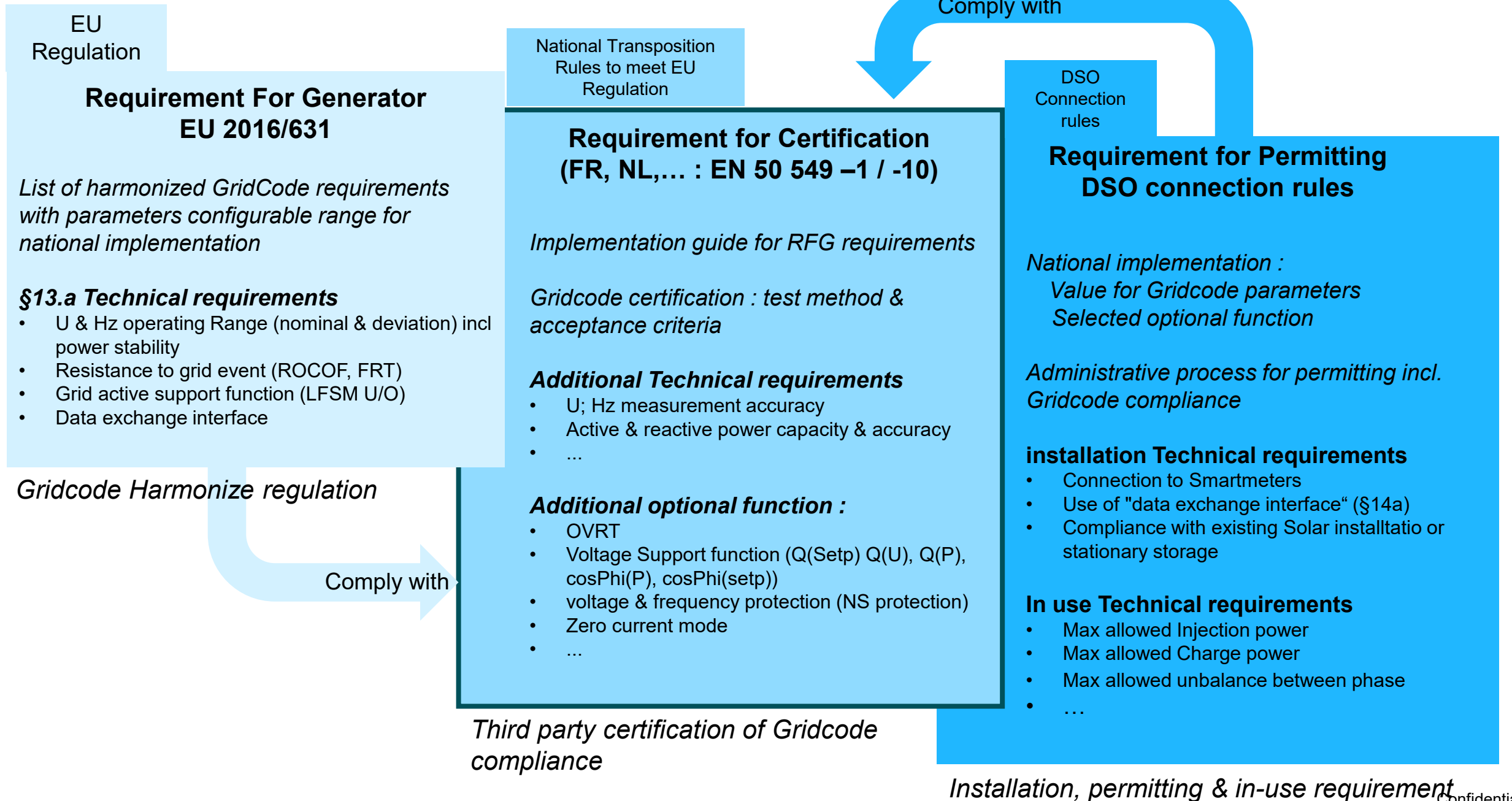
The actual draft allows

1. DSO's to define national implementation & additional requirements for the EV & EVSE
2. EV and EVSE manufacture are urged to develop proprietary solution's.

The VDE FNN (Germany) offers an example based on VDE-AR-N-4105 of a guidance document illustrating how to implement functional allocation for bidirectional charging, to allow independent certification of AC V2G EV and AC V2G EVSE.

Customers face a significant challenge determining, which EVSE and EV combinations are compatible for bidirectional charging.

GRIDCODE FULL PICTURE FROM REGULATION TO PERMITTING

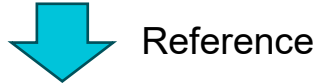


COMPARISON TO THE ACTUAL VEHICLE REGULATION

Vehicle Emission Regulation

Unified EU Process for Vehicles

**Unified EU Process for
Vehicles**



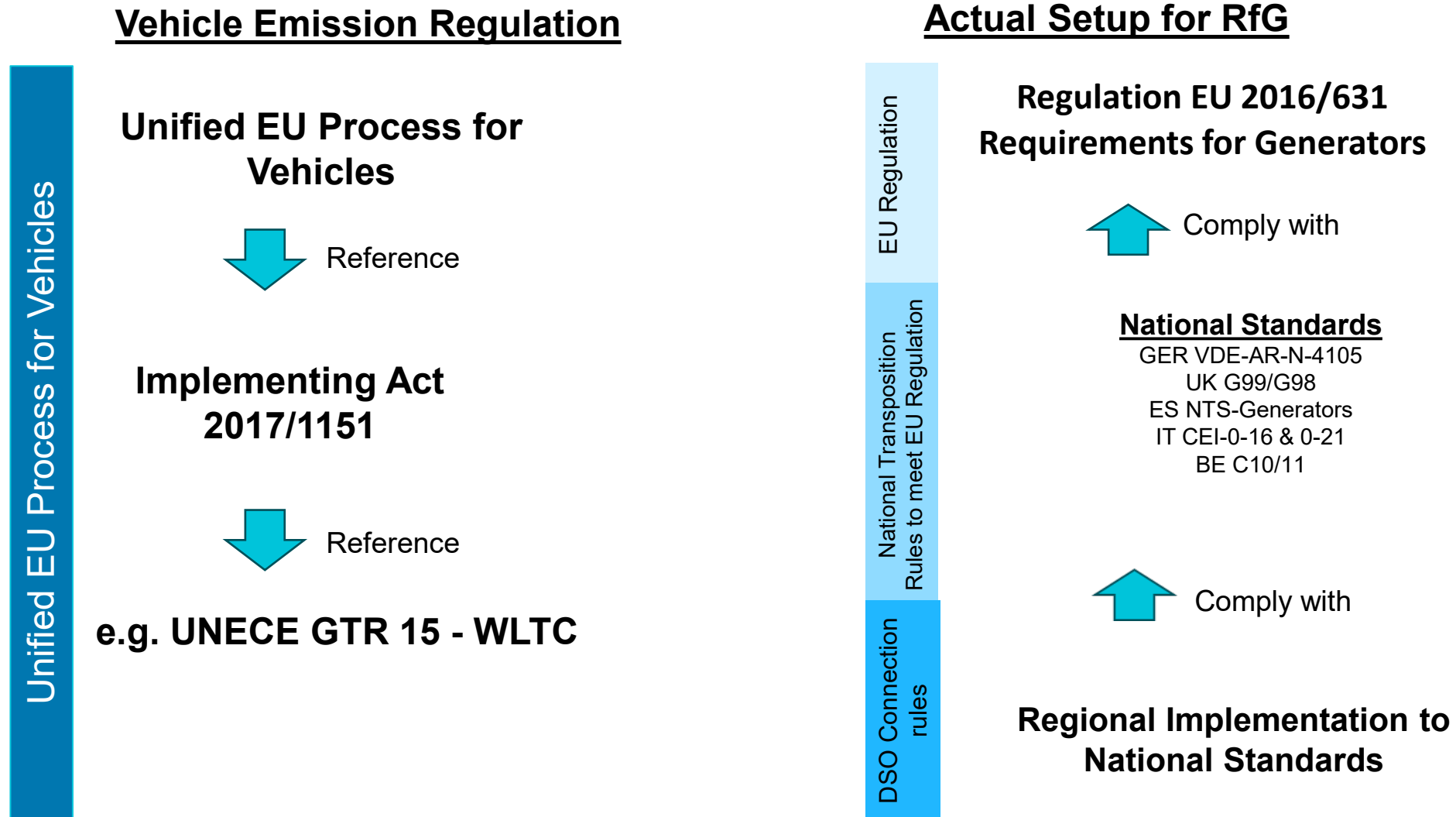
**Implementing Act
2017/1151**



e.g. UNECE GTR 15 - WLTC

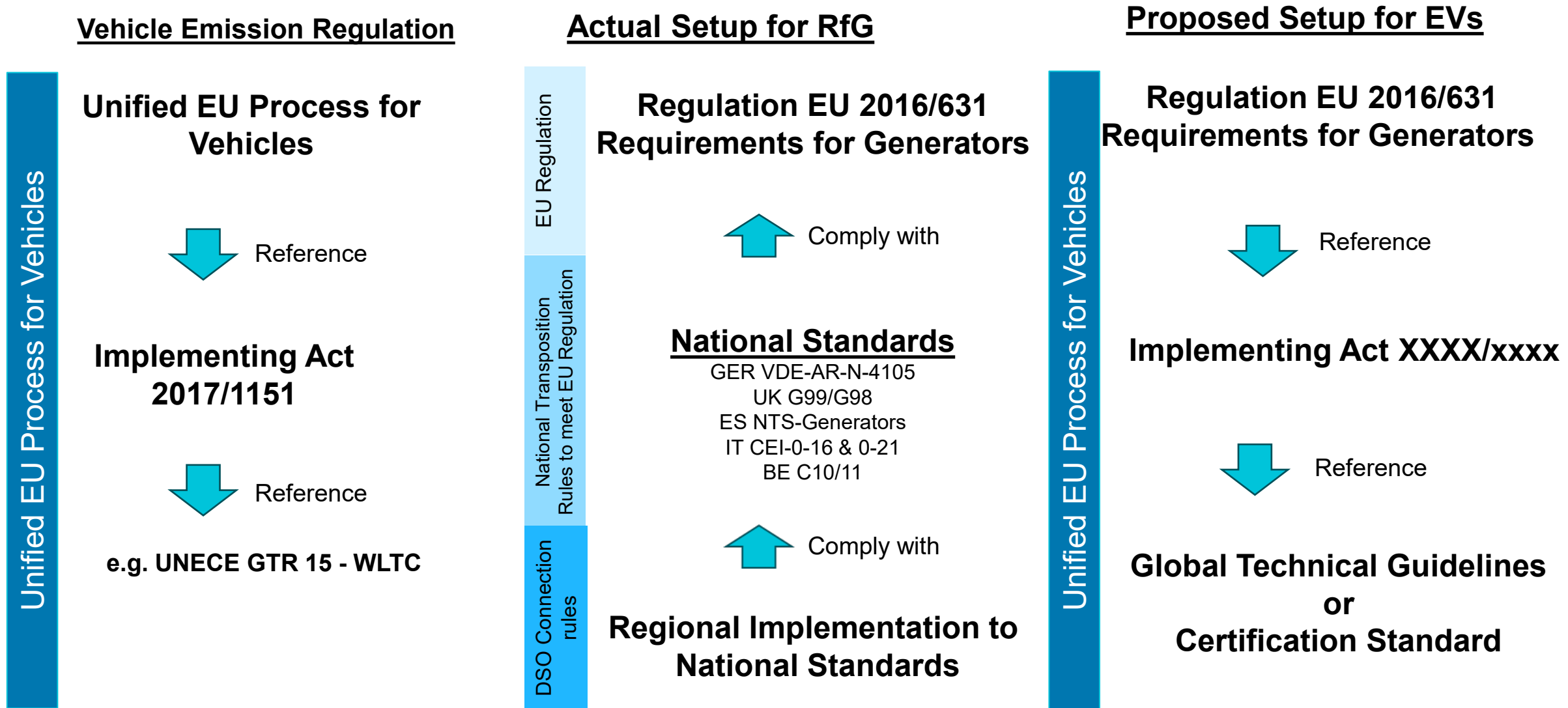
The certification to EV homologation standards ensures market approval in all EU member states and more.

COMPARISON TO THE ACTUAL VEHICLE REGULATION



EV homologation addresses mobile device requirements, while RfG establishes a framework for regional compliance.

COMPARISON TO THE ACTUAL VEHICLE REGULATION



The actual proposal follows the Vehicle Emission regulation scheme.

The scheme is a proposal to support customers to buy an interoperable system in an open market.



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REPRESENTS EUROPE'S 16 MAJOR CAR, VAN, TRUCK AND BUS MANUFACTURERS

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