

### Deutsche Gesellschaft für Sonnenenergie e.V.

International Solar Energy Society, German Section

# Selbstregelung ... und die Aktivitäten von IEC TC 69

Tomi Engel

ETG Fragerunde – 18.01.2022

# Was ist "Selbstregelung"?



Tomi Engel – Fachausschuss "Solare Mobilität"



## Was ist "Selbstregelung"?





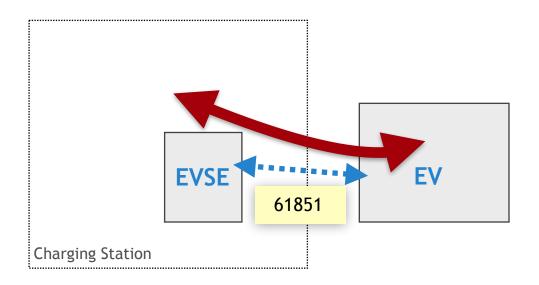
Hamsterkäufe verhindern ... in Zeiten von akutem Mangel





- Fachausschuss "Solare Mobilität"

**IEC 61851** ... Analoge Basis-Kommunikation und elektrische Sicherheit



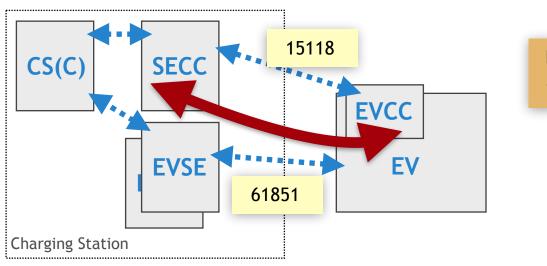




**IEC 61851** ... Analoge Basis-Kommunikation und elektrische Sicherheit

ISO 15118 ... Digitale High-Level-Kommunikation ... u.a. mit:

- "Grid Forming" für Microgrids
- PV-Eigenstromoptimierung (z.B. via Dynamic Mode)



Responsible for: - High Level EV Com.



### 2021 - Vehicle-2-Load goes Massenware





VW 1D.5 - MEB (2022)

Notstrom to Go!



### 2021 - Vehicle-2-Load goes Massenware





VW 1D.5 - MEB (2022)

Notstrom to Go!

Kommunikation zwischen Wallbox und E-Auto 150 15118-20 (ab ca. 2023) bringt ... grid following, grid forming





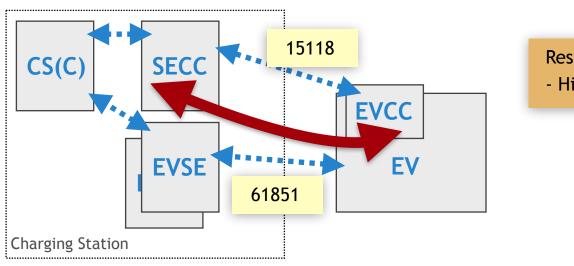
- Fachausschuss "Solare Mobilität"

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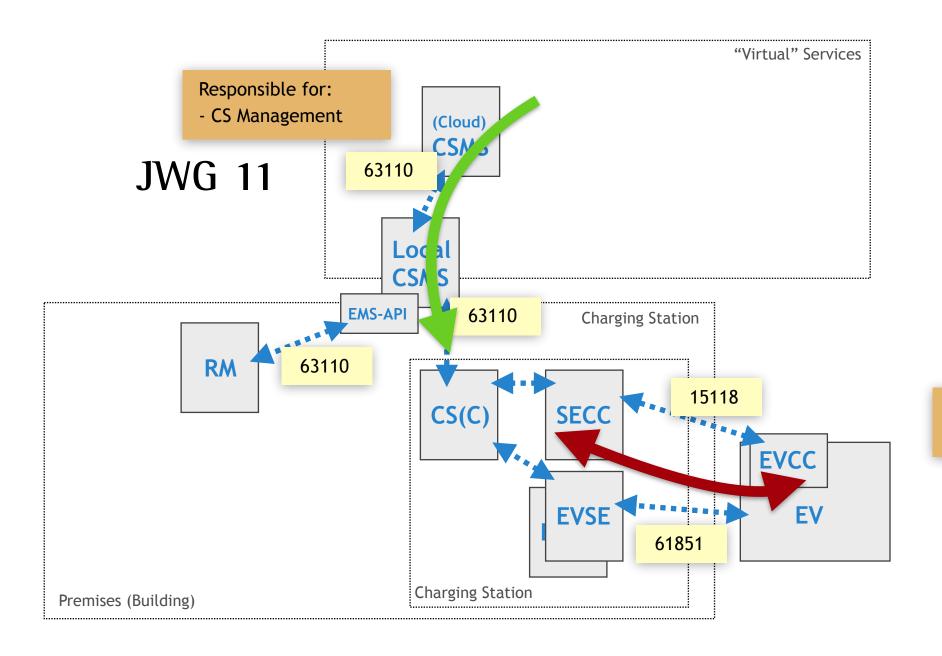


Responsible for: - High Level EV Com.





**IEC 63110** ... Management von (x-Mio?) Ladesäulen

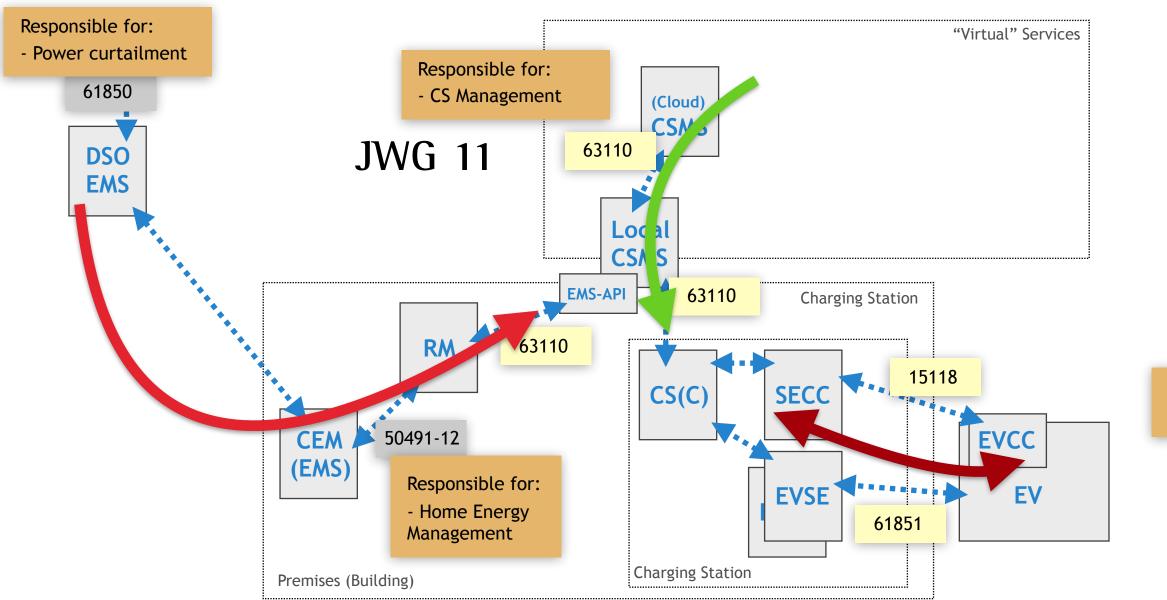


Responsible for: - High Level EV Com.





**IEC 63110** ... Management von (x-Mio?) Ladesäulen und Integration in das Gebäudeenergiemanagement



Responsible for: - High Level EV Com.

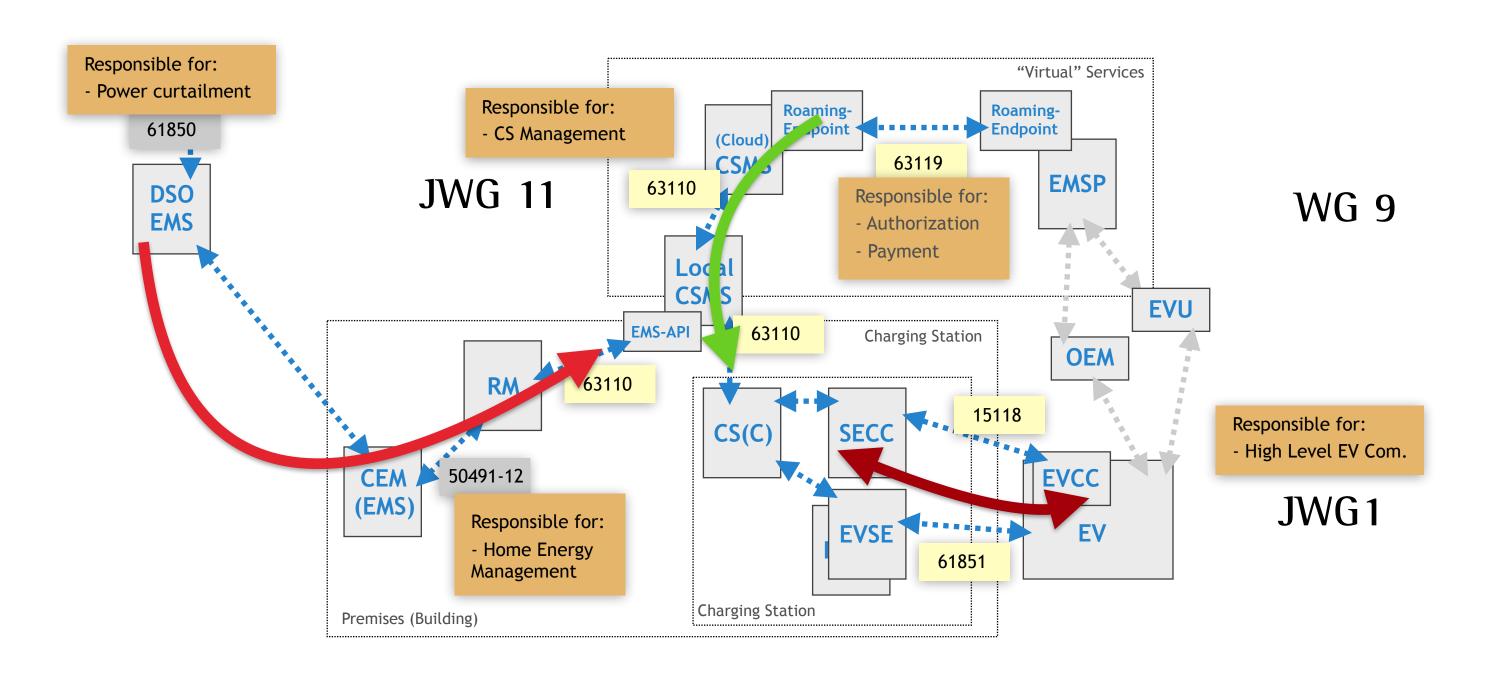




- Fachausschuss "Solare Mobilität"

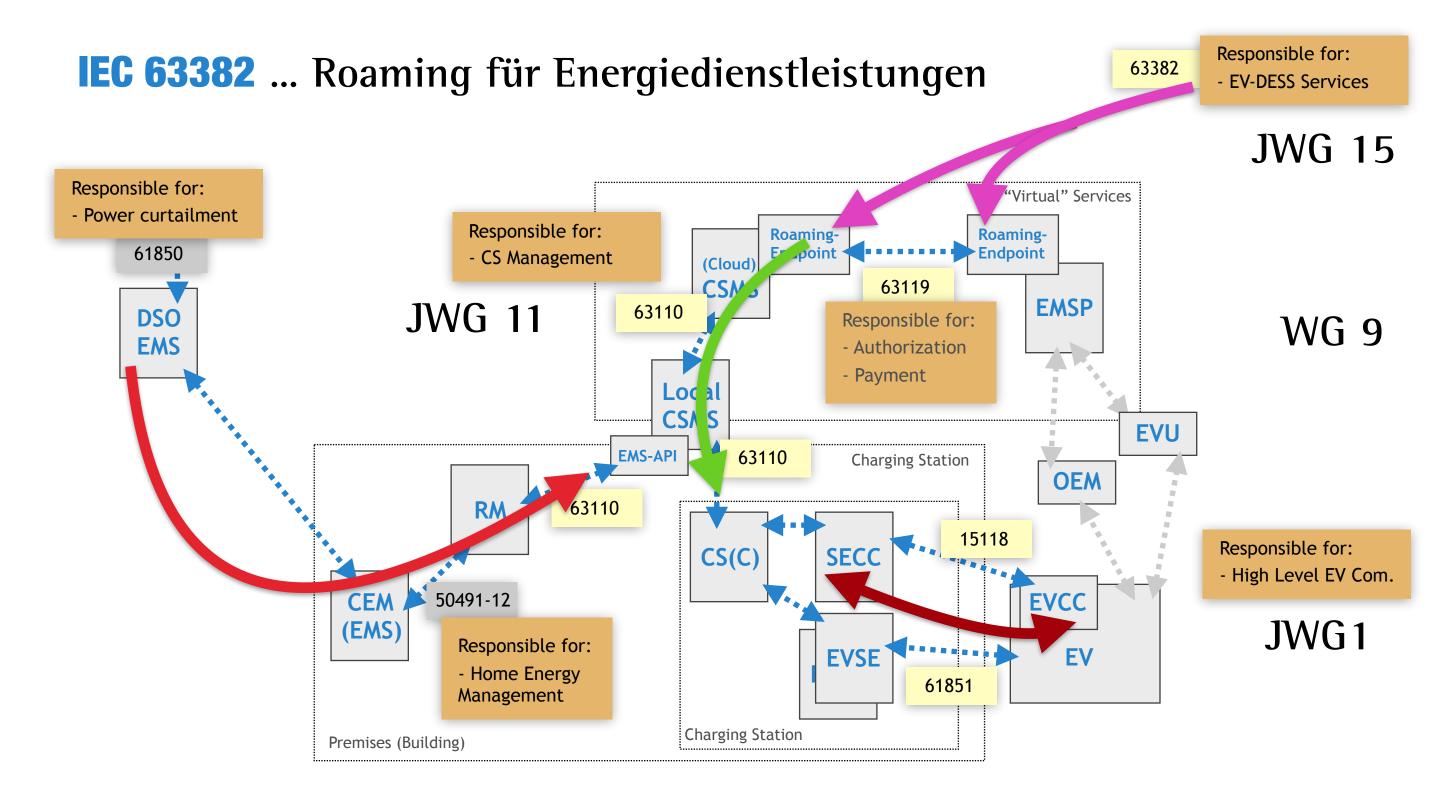
Tomi Engel

### IEC 63119 ... Roaming für Mobilitätsdienstleistungen







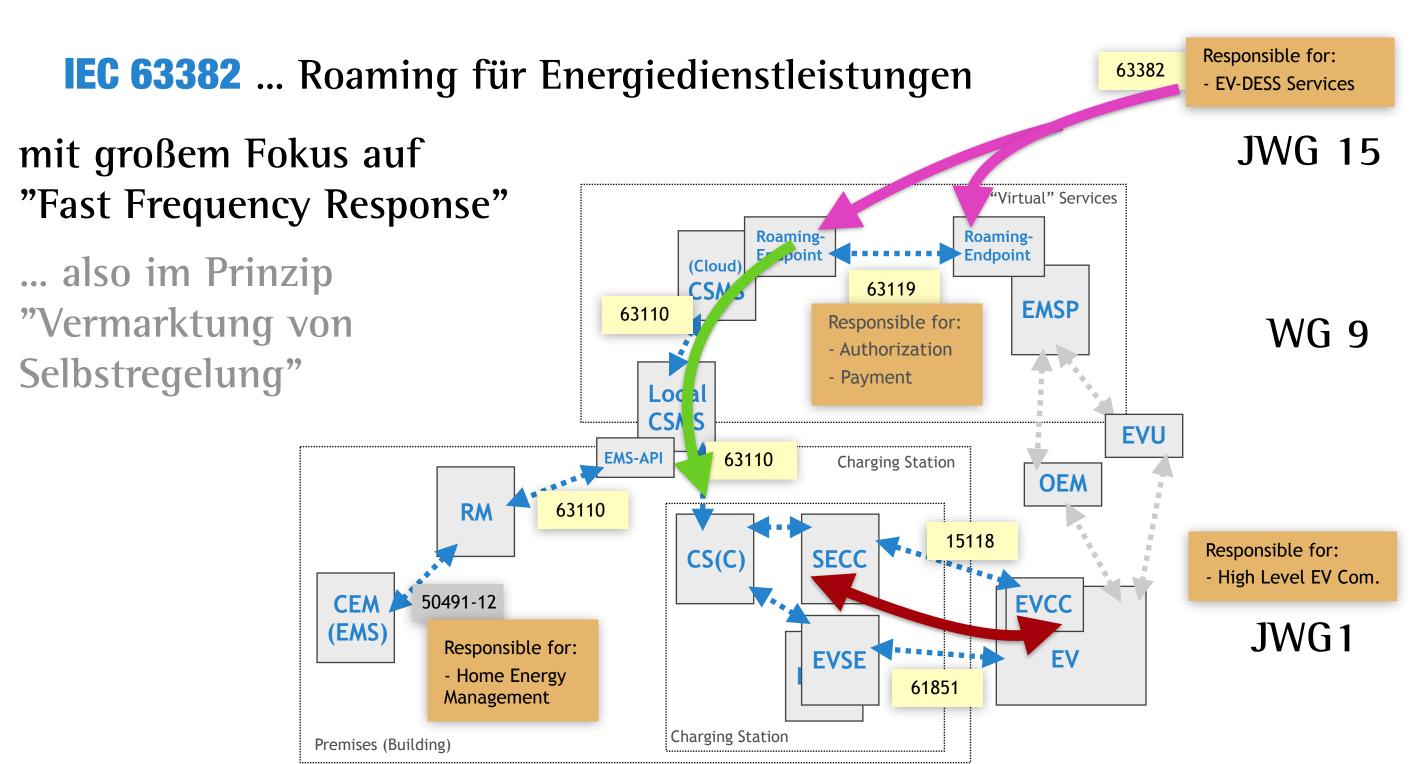






- Fachausschuss "Solare Mobilität"

Tomi Engel





# 2021 - AEMC Fast Frequency Response





Melbourne VIC 3001

F 03 9609 8080

1 July 2021

Ms Victoria Mollard Executive General Manager, Security and Reliability Australian Energy Market Commission Sydney South NSW 1235

Dear Ms Mollard

### Fast Frequency Response – indicative implementation costs

AEMO has conducted an impact assessment of the implementation of the draft ESB post-2025 reform initiatives. This includes identification of core business processes and systems impacted and an indicative estimate of the establishment costs involved in implementing the reform

Fast frequency response is one of the initiatives on the Energy Security Board's reform pathway. I provide details of the impact assessment for the AEMC's use in the rule change process, noting that this is a planning-level estimate and detailed planning is still required, which may alter the work involved and the ultimate costs of implementation. AEMO also notes that these only cover AEMO's impacts and costs and do not include costs by market participants or others that may

The assessment assumed that the new service would be similar to existing contingency FCAS, requiring IT changes (mainly to the dispatch suite and settlement systems) and business changes, including the creation of new constraint equations to define the FFR product quantities, and re-working existing FCAS constraint equations to accommodate. It would also require creation of the technical specifications and inclusion into the Market Ancillary Services Specifications (MASS). Registration fees will be charged directly, and so these are excluded.

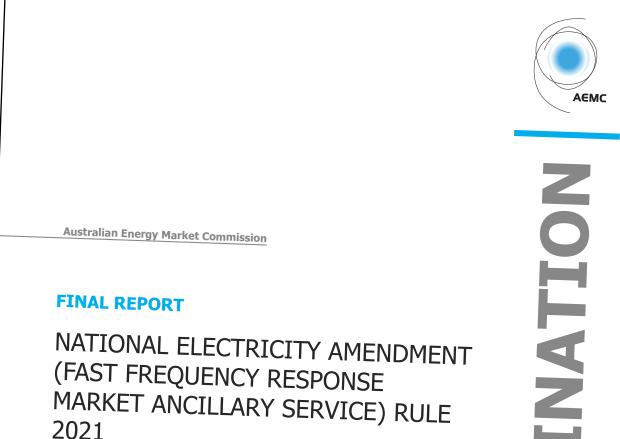
On these assumptions, AEMO has estimated the indicative establishment costs to be between \$4 million to \$6.5 million. There may be ongoing operating costs, which will be determined once detailed planning has been undertaken.

I would be happy to discuss further.

Yours sincerely

Violette Mouchaileh Chief Markets Officer

# ... uups ... Leistungselektronik hat keine Massenträgheit





"Solare Mobilität" Fachausschuss Tomi Engel

# 2021 - AEMC Fast Frequency Response



"Solare Mobilität"

Fachausschuss

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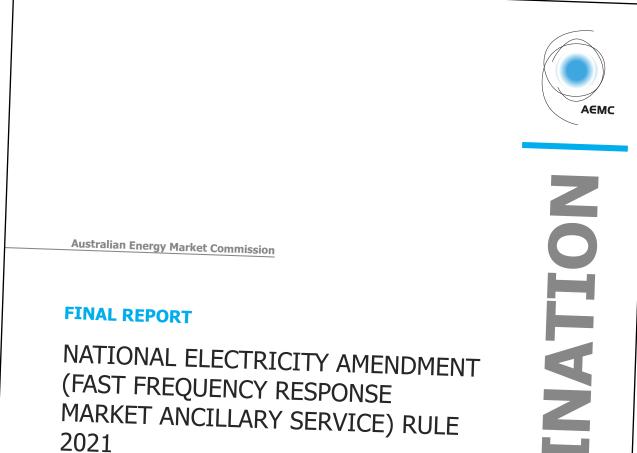
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### Fast Frequency Response ... Droop ohne Inertia



# Tomi Engel – Fachausschuss "Solare Mobilität"

### 2021 - IEC TS 62898-3-3



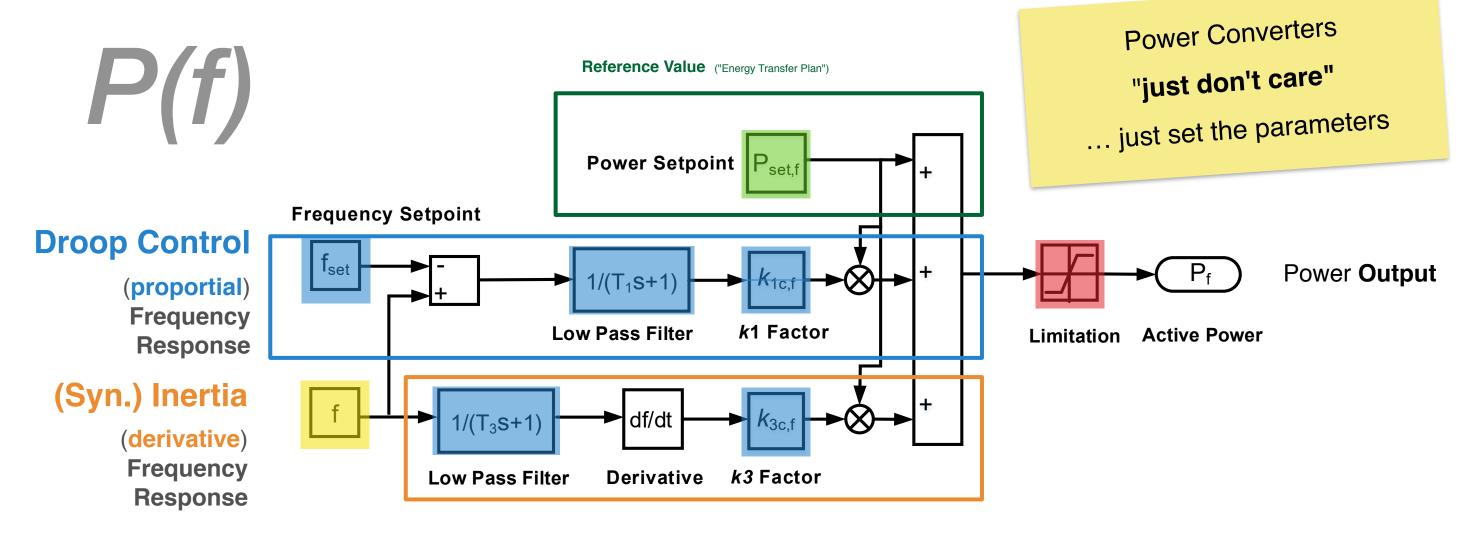


Figure 6 – Function diagram of a combined frequency control function for continuously controllable dispatchable load





### 2021 - IEC TS 62898-3-3





### 8B/105/CD

COMMITTEE DRAFT (CD)

PROJECT NUMBER: IEC TS 62898-3-3 ED1		
EC 18 62090-0 3 == 1	CLOSING DATE FOR COMMENTS:	
DATE OF CIRCULATION:	2022-02-04	
2021-11-12		
SUPERSEDES DOCUMENTS:		
8B/77/CD, 8B/88A/CC		

IEC SC 8B : DECENTRALIZED ELECTRIC	CAL ENERGY SYSTEMS		
SECRETARIAT:	SECRETARY: Mr Wenpeng LUA		
China  OF INTEREST TO THE FOLLOWING COM	IMITTEES:		
TC 8,SC 8C,SC 22E,SC 22F,TC	57,TC 69,TC 120		
FUNCTIONS CONCERNED:	IVIRONMENT	QUALITY ASSURANCE	☐ SAFETY
□ EMC	•	1.600	reference nurposes.

This document is still under study and subject to change. It should not be used for reference purposes.

Recipients of this document are invited to submit, with their comments, notification of any relevant patent rights of

Microgrids - Part 3-3: Technical requirements - Self-regulation of dispatchable loads

This document (4CD) has been prepared by JWG1 SC8B (Microgrids). It is intended to be the last CD before the DTS, which is planned to be circulated in Q2 2022. Major changes in regard to the last CD

- clearer introduction of the damping characteristic,
- de-synchronisation strategies to cope with rebound effects, and
- additions and modification of terminology

"Microgrids - Part 3-3: Technical requirements – Self-regulation of dispatchable loads"

CD ... published 2021-11-12

DTS ... planned for 2022-Q2

### Scope is limited to

### **Microgrids**

which are

... forming a local electric power system at distribution voltage levels ...



"Solare Mobilität" - Fachausschuss Tomi Engel



IEC 63382 ... Roaming für Energiedienstleistungen

Responsible for:

- CS Management

Responsible for: 63382 - EV-DESS Services

**JWG 15** 

63119 **JWG 11** 63110 **WG 9** 

Roaming-

(Cloud)

63110

CSA

**EMS-API** 

point

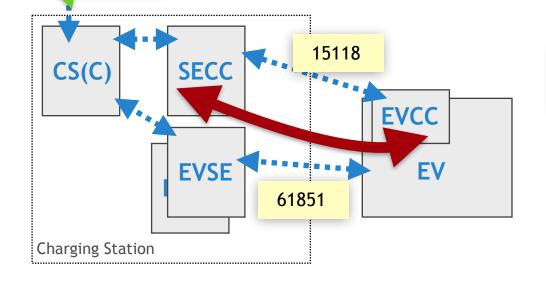
"Virtual" Services

Roaming-

**Endpoint** 

mit großem Fokus auf "Fast Frequency Response"

... also im Prinzip "Vermarktung von Selbstregelung"



**Charging Station** 

Responsible for: - High Level EV Com.

JWG1

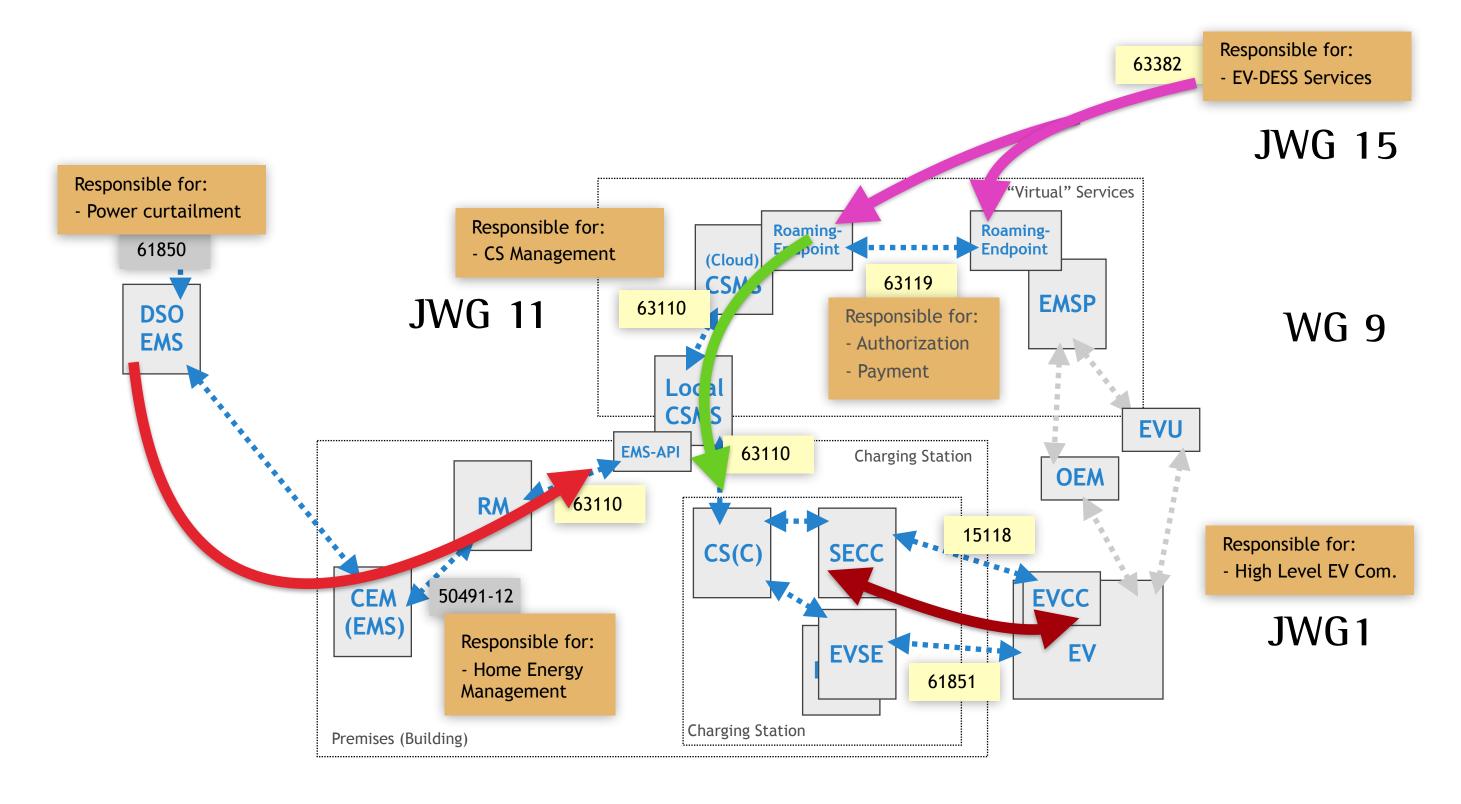


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International Solar Energy Society, German Section

# www.dgs.de

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tomi@objectfarm.org