



Weiss Technik Nederland B.V.

Hoe krijg je een compleet test lab in een 40ft container



Power Electronics & Energy Storage event
27 juni 2023 | 1931 Congrescentrum 's-Hertogenbosch

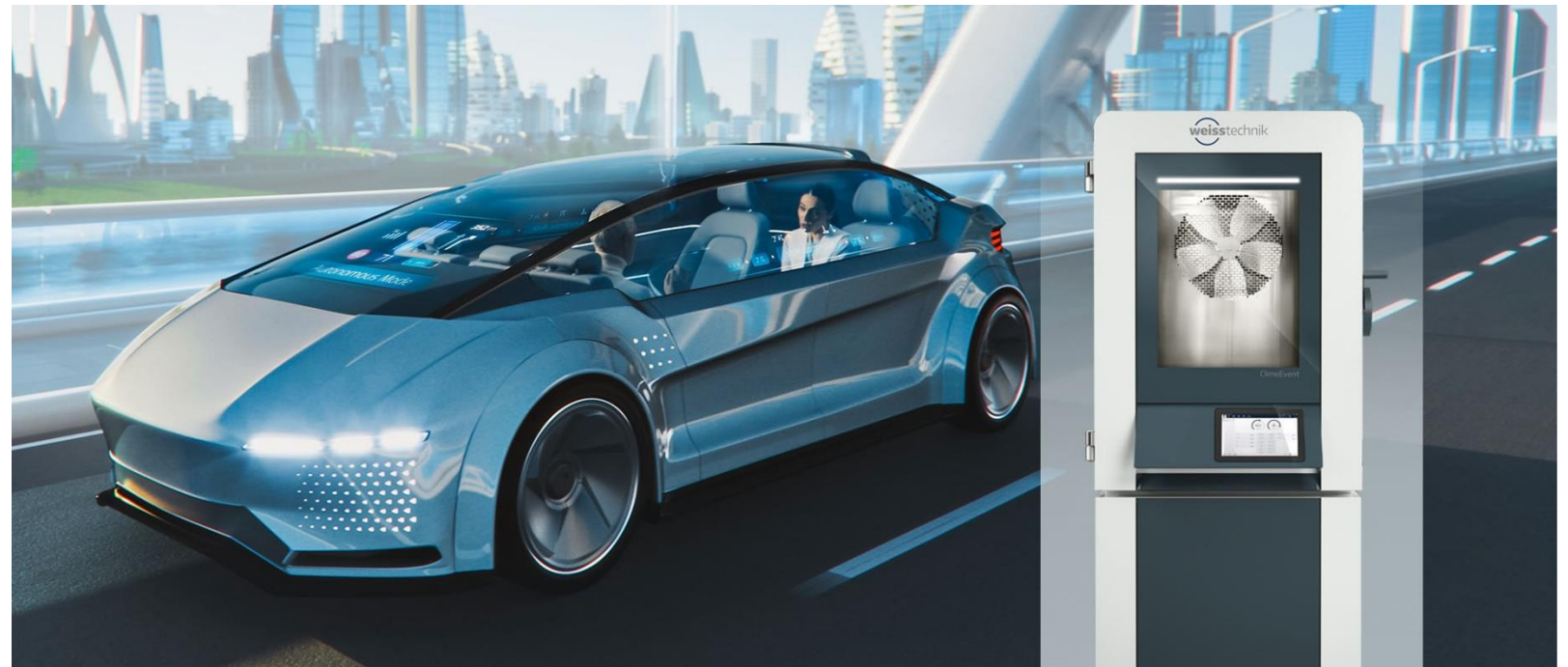
ENERGY STORAGE



Klimaat- & Oven technologie

Toepassingen

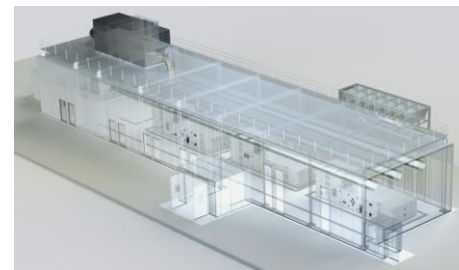
- Automotive
- Electronica
- Pharma
- Luchtvaart
- Biology
- Algemene industrie



Klimaatkamers & -kasten



Turn-key cleanrooms



Dry-Rooms



Industriële-ovens

The Weiss Technik logo is displayed at the top, with the tagline "a schunk company". Below it, there is a banner for a "Power Electronics & Energy Storage event" featuring "POWER ELECTRONICS" and "ENERGY STORAGE". The event date and location are listed at the bottom: "27 juni 2023 | 1931 Congressentrum 's-Hertogenbosch".

Hoe krijg je een compleet test lab in een 40ft container

- Waarom
- Basis-componenten
- Safety Concepts
- Voorbeeld

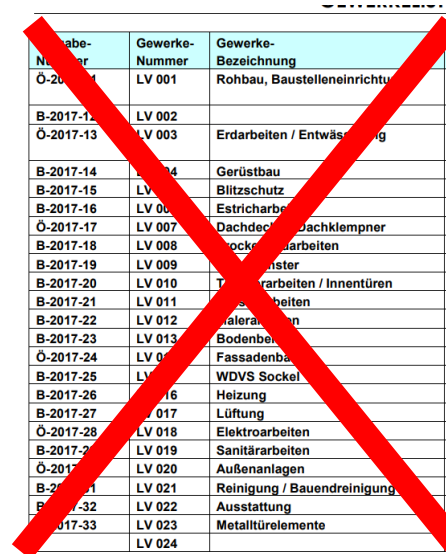
Waarom

- Enorme toename aan batterij leveranciers
- Ontzorgen
 - Geen pand nodig
 - Geen uitloop bouw van het pand
 - Geen brand risico
 - Interface coordinatie
 - Geen claims met een opdracht functie garantie
- Ervaring van Weiss Technik



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Objekt-Nummer	Gewerke-Nummer	Gewerke-Bezeichnung
Ö-2017-01	LV 001	Rohbau, Baustelleneinrichtung
B-2017-12	LV 002	
Ö-2017-13	LV 003	Erdarbeiten / Entwässerung
B-2017-14	LV 004	Gerüstbau
B-2017-15	LV 005	Blitzschutz
B-2017-16	LV 006	Estricharbeiten
Ö-2017-17	LV 007	Dachdeckungsarbeiten / Dachklempner
B-2017-18	LV 008	Stoßarbeiten
B-2017-19	LV 009	Fenster
B-2017-20	LV 010	Türenarbeiten / Innentüren
B-2017-21	LV 011	Türenarbeiten
B-2017-22	LV 012	Malereien
B-2017-23	LV 013	Bodenbeläge
Ö-2017-24	LV 014	Fassadenbau
B-2017-25	LV 015	WDVS Sockel
B-2017-26	LV 016	Heizung
B-2017-27	LV 017	Lüftung
Ö-2017-28	LV 018	Elektroarbeiten
B-2017-29	LV 019	Sanitärarbeiten
Ö-2017-30	LV 020	Außenanlagen
B-2017-31	LV 021	Reinigung / Bauendreinigung
B-2017-32	LV 022	Ausstattung
B-2017-33	LV 023	Metalltürelemente
B-2017-34	LV 024	



Power Electronics & Energy Storage event

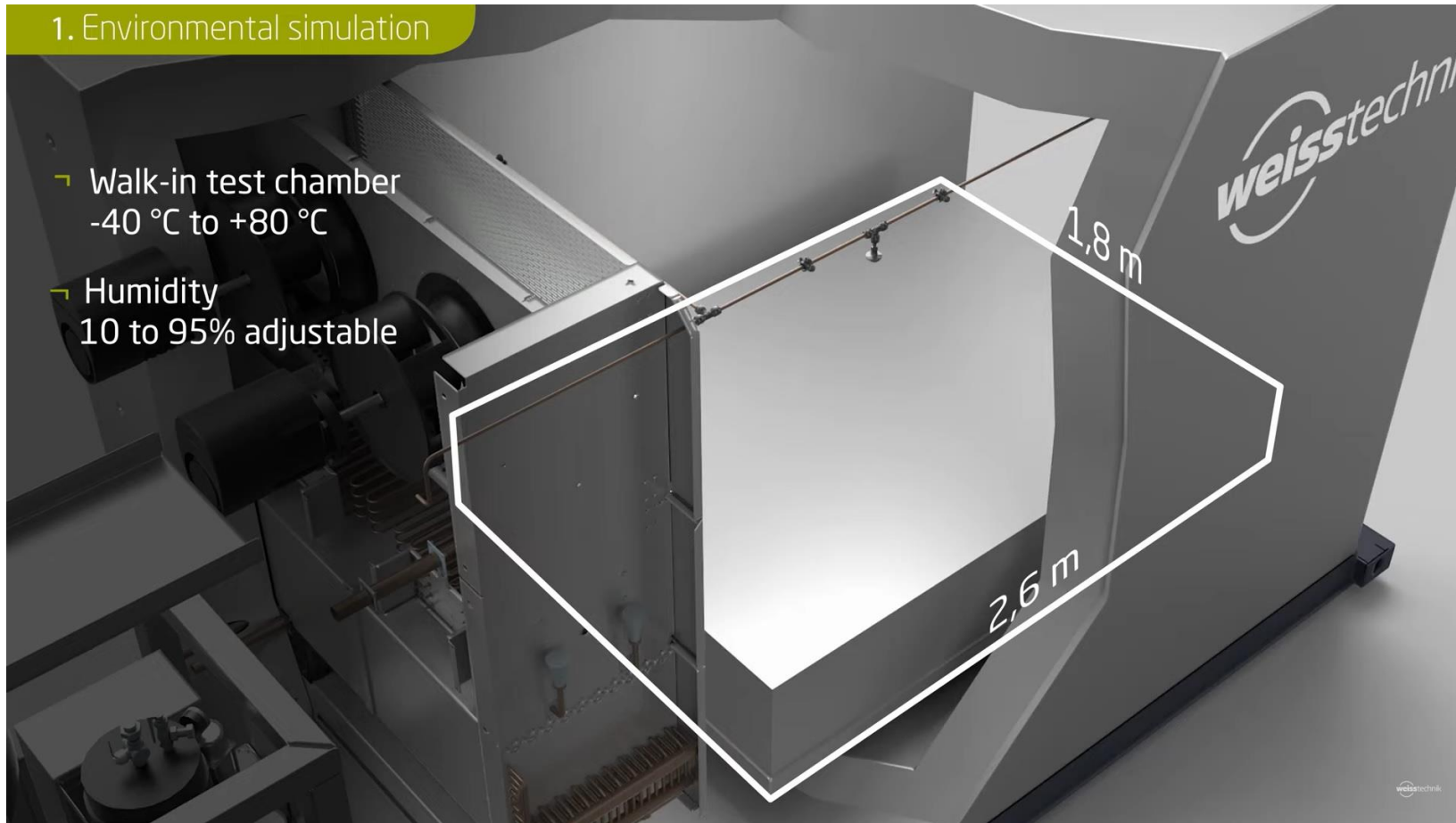


ENERGY STORAGE

Basis componenten

- Klimaatkamer
- Media conditionering van de pack
- Charging & discharging stations
- Koelcircuit & indoor climate control
- Automation system and typical high voltage battery tests
- Safety controller

Klimaatkamer



Klimaatkamer

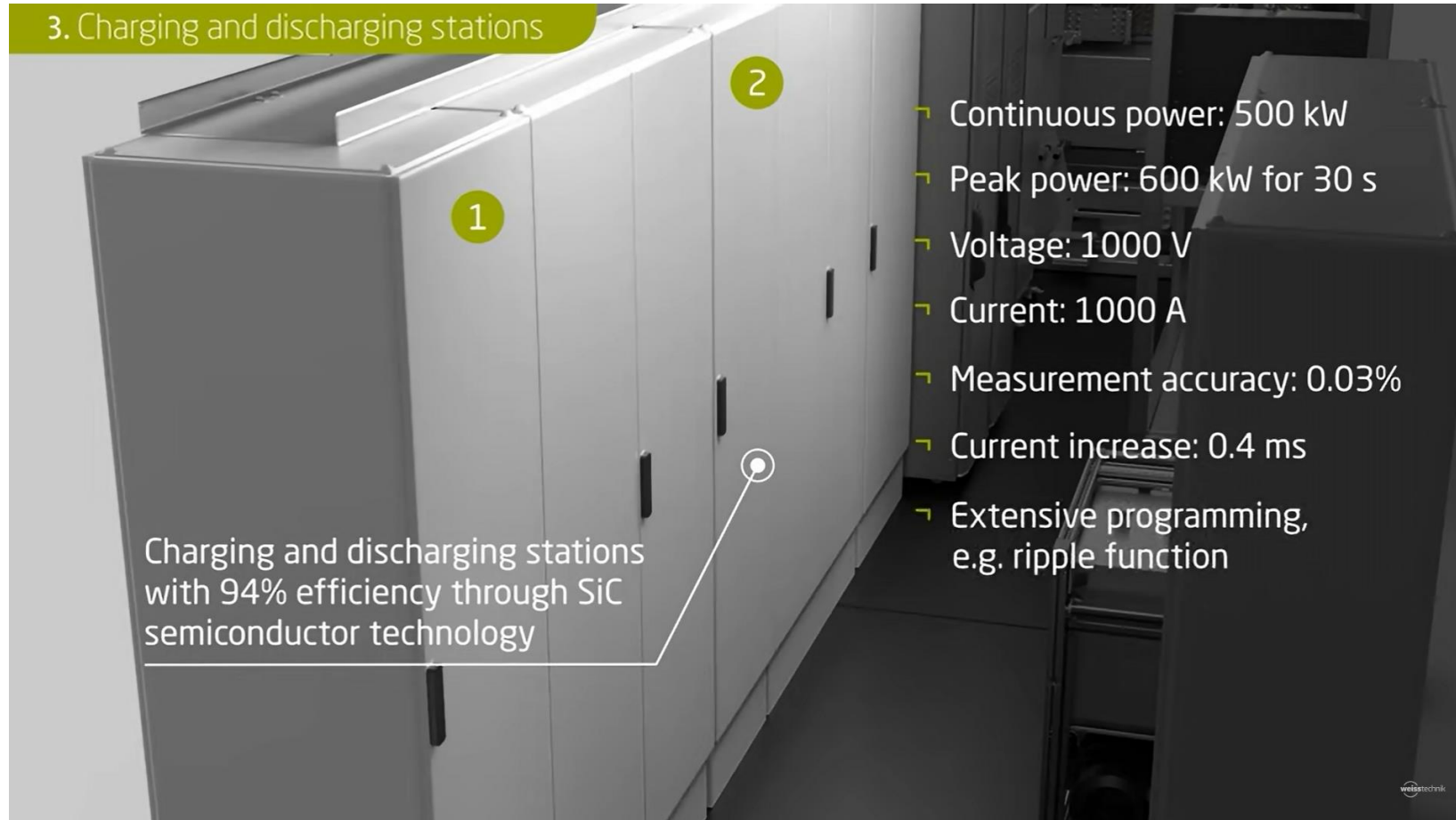


Media conditionering van de pack

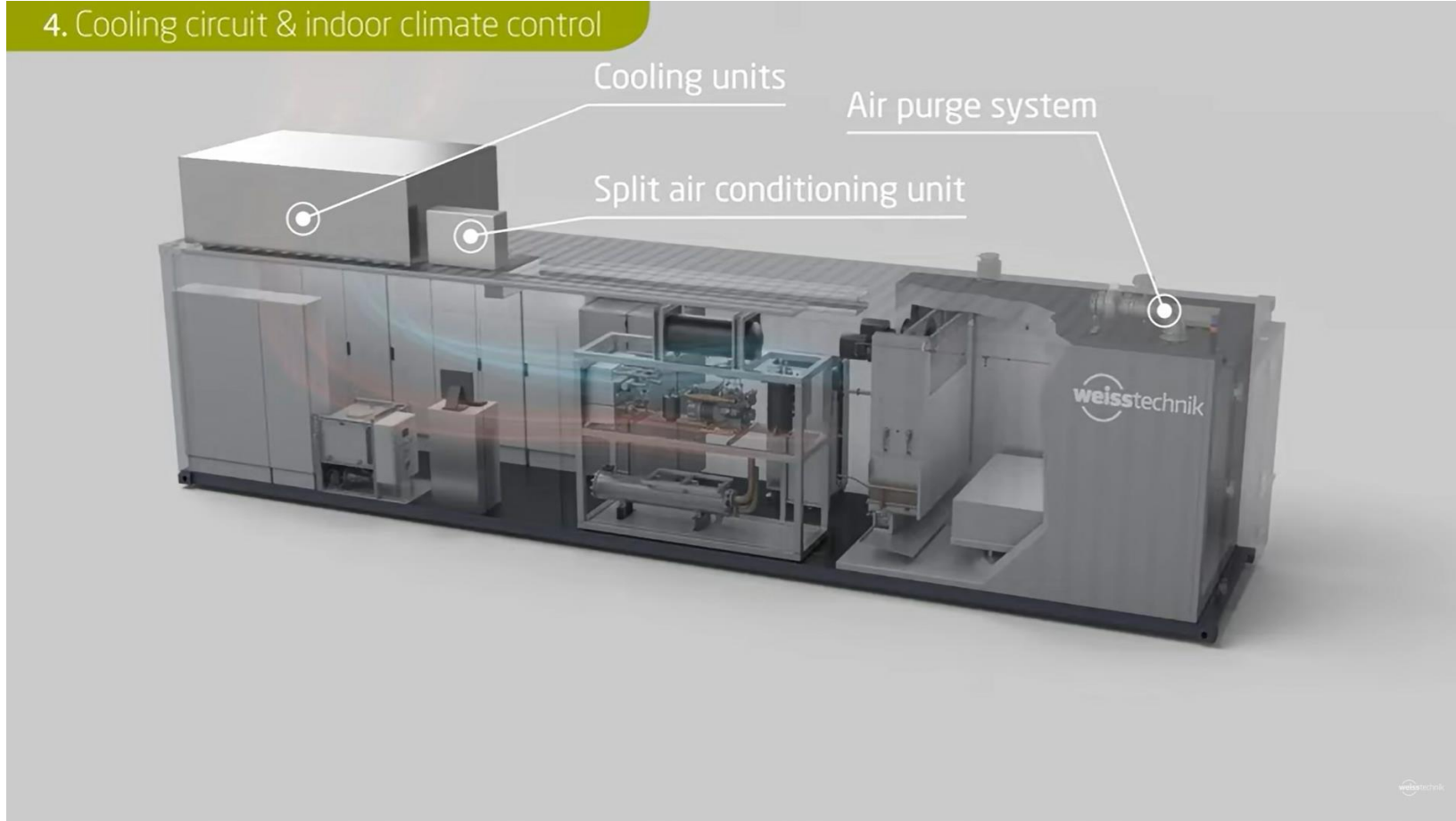


Charging & discharging stations

3. Charging and discharging stations



Koelcircuit & indoor climate control



Automation system and typical high voltage battery tests

Automation System

OVERVIEW

- Control, Regulate all components to Automate Battery Testing
- Based on NI BTS3.0
- HW: cRIO, cDAQ Extension Chassis, FieldDAQ, analog & digital I/O modules
- SW: Veristand, Teststand, BTS Web Server, SystemLink
- Customized Driver to 3rd party components (Cycler, Climate Chamber, Media Conditioning)
- Vehicle communication (Ignition, Crash, HVIL)
- BMS communication (CAN; MCD3-MC)
- Real-Time automation w/ TSN & Fast Can



Automation System

MEASUREMENT TECHNOLOGY

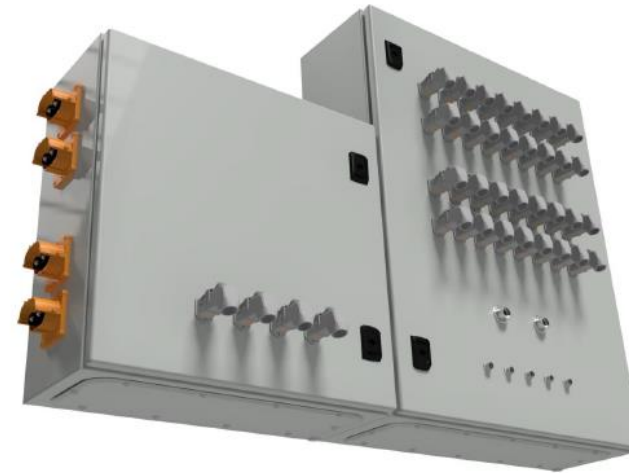
- Physical measurements [V], [A], [°C], [bar]
- Dedicated sensors / transducers
- Up to 1000 V, 1000 A
- Data Acquisition of
 - Physical measurements
 - BMS signals (CAN; MCD3-MC)
 - Vehicle signals (Ignition, Crash, HVIL)
- 1kHz time synchronized
- Scalable number of channels
- HW: cDAQ Extension Chassis, analog & digital Modules, FieldDAQ,
- SW: Veristand, Teststand,



Automation system and typical high voltage battery tests DUT Contacting

OVERVIEW

- Application fields inside climate chamber
- Interfacing between Plug&Test Lab and DUT
- Contacting of
 - HVDC
 - Automation System
 - Measurement Technology
- Easy accessible when doors are open
- Applications fields are hard wired to machinery room
- Small dimension & weight to reduce impact on climate simulation
- Purpose built materials
- Separated in HV/LV and Communication



Automation system and typical high voltage battery tests

5. Automation system

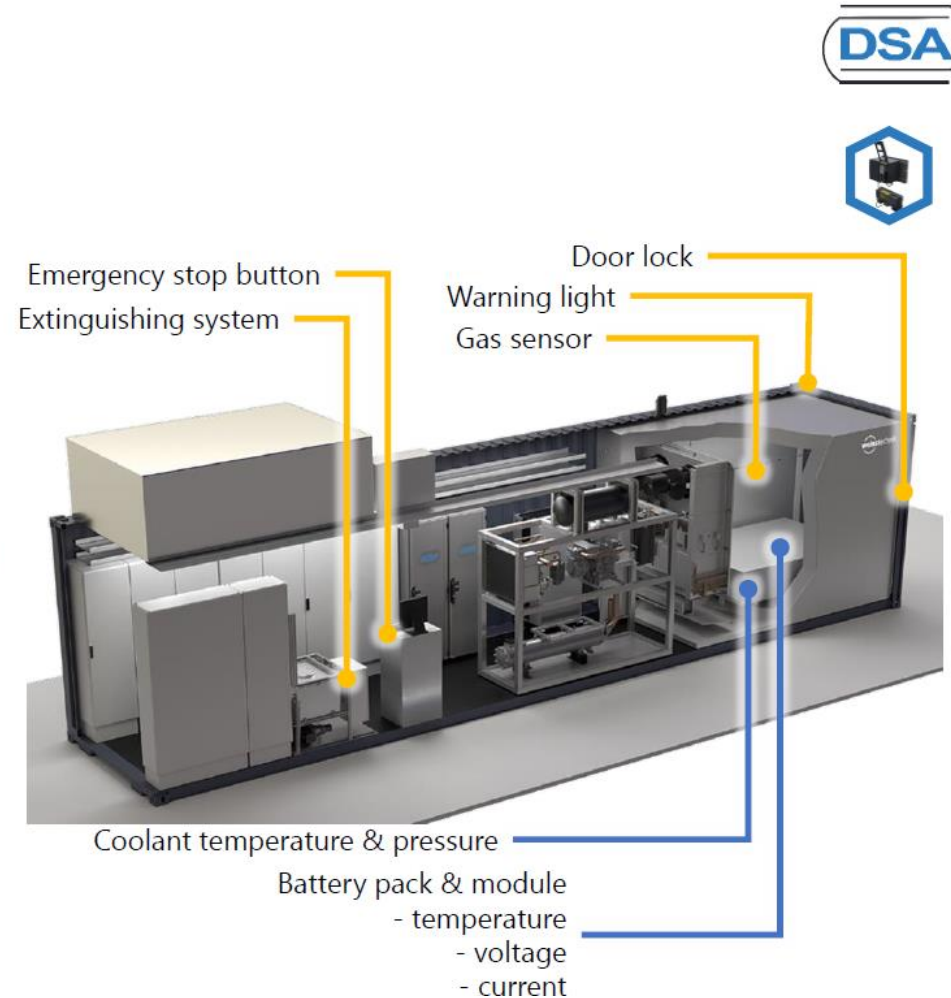
- Charging and discharging cycles
- Driving and load profiles
- Insulation and leakage tests
- Climatic Conditions / Seasons



Safety controller Safety Concept

OVERVIEW

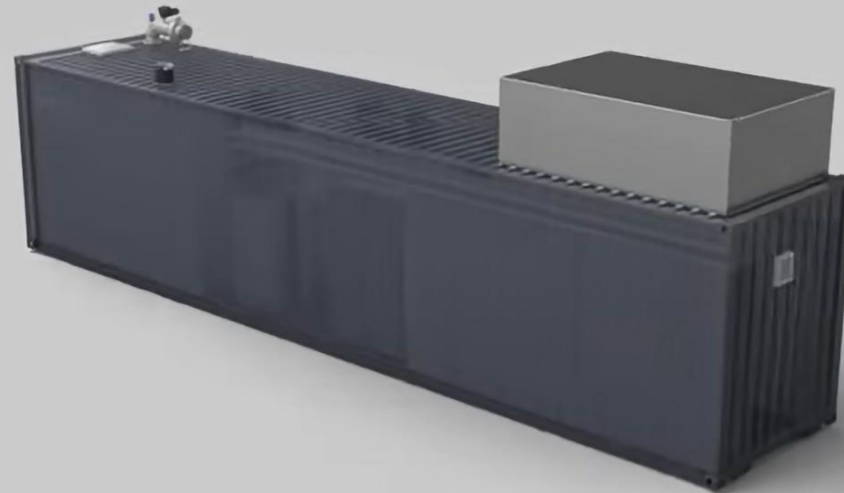
- Monitoring through **Safety PLC**
 - Guarantee human & machine safety
 - Prevent, detect hazardous situation
 - Monitoring of component & system limits
 - Monitoring of safety related sensors & actuators
 - Trigger hard component & system shutdowns
 - Activate counter actions
- Monitoring through **Automation System**
 - Guarantee DUT safety
 - Monitoring of DUT specific limits
 - Trigger soft component shutdowns
 - Activate counter actions



Safety controller

6. Safety controller

- Monitoring through safety PLC
- Designed to withstand pressure
- Pressure relief valves
- Hazard Level 6





weisstechnik[®]
a schunk company

Power Electronics & Energy Storage event

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<https://www.weiss-technik.com/battery-testing/factory/en>



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