

BYD BATTERY-BOX

EFT-Systems GmbH



Build Your Dreams
Global Leader of Renewable
Energy Technology



EFT-Systems GmbH

*Official Partner of BYD – Responsible of Battery-Box Systems
Official BYD Battery-Box After-Sales-Service*

BYD BATTERY-BOX



BYD



LITIO FOSFATO DE
HIERRO



FLESSIBILITÀ

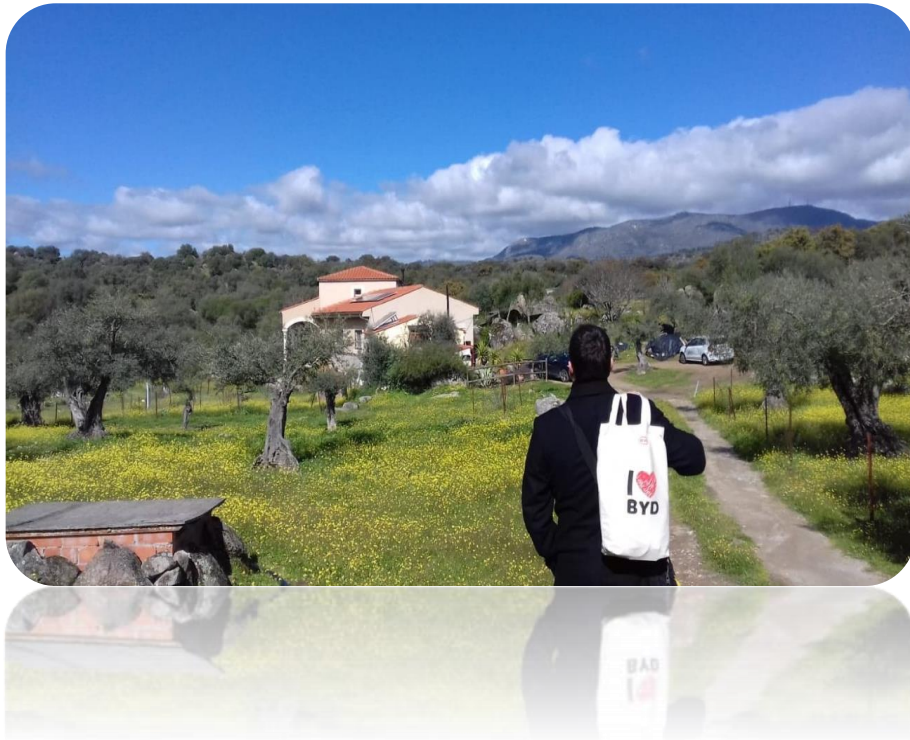


PIÙ VANTAGGI

BYD



BYD



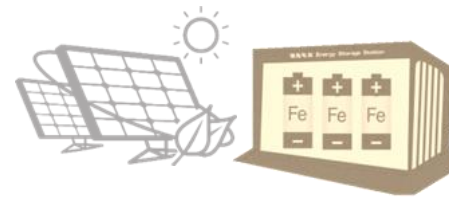
BUILD YOUR DREAMS



IT
dal 1995



AUTO
dal 2003



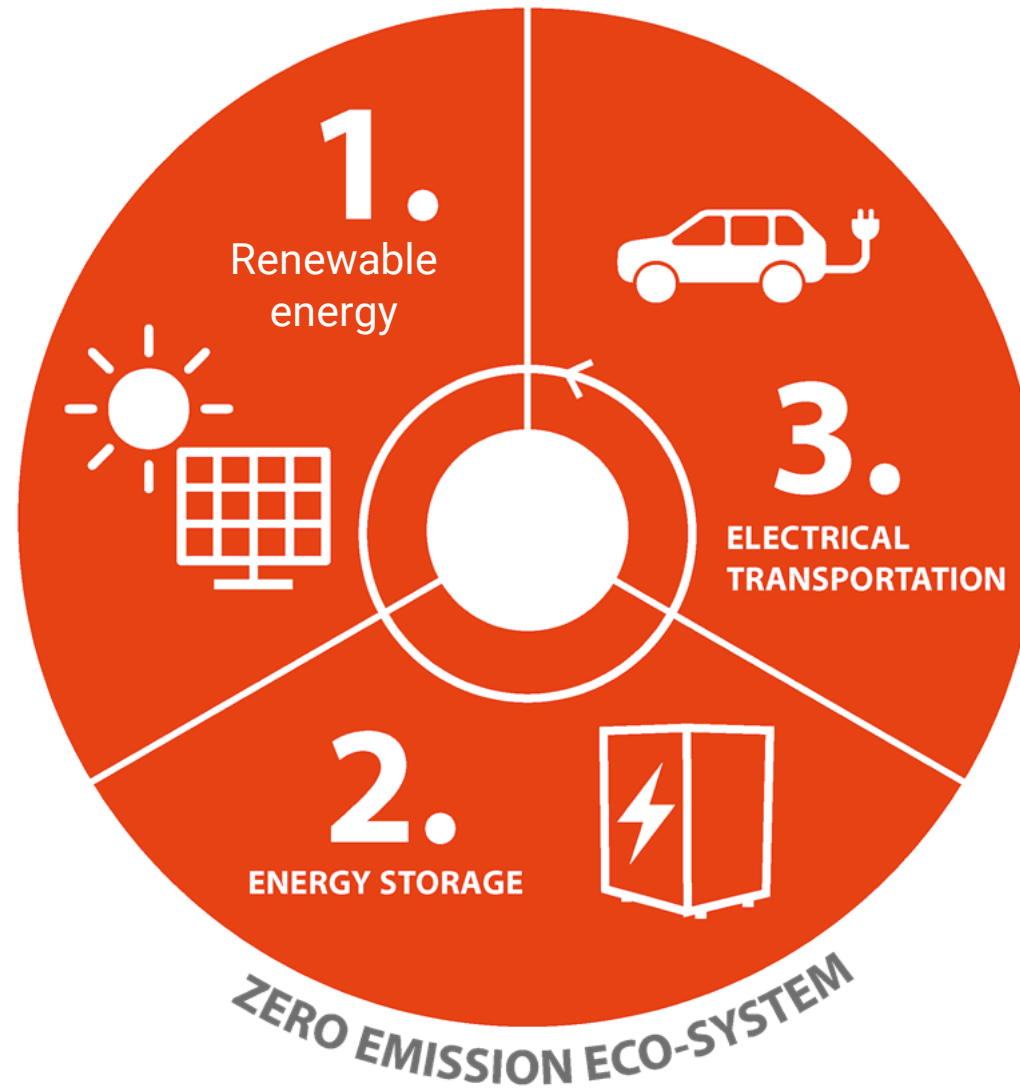
NUOVE ENERGIE
dal 2008



SKYRAIL
dal 2016



ENERGIA RENOVABILE & DESCENTRATA



CORE BUSINESS – PRODUZIONE DI CELLE



Ultima tecnologia di produzione e 100% Automatico

- Alta velocità y efficacia
 - Ogni 2s una cella 25Ah
 - Ogni 5s una cella 270Ah
- Controllo rigoroso
 - +/- 2C



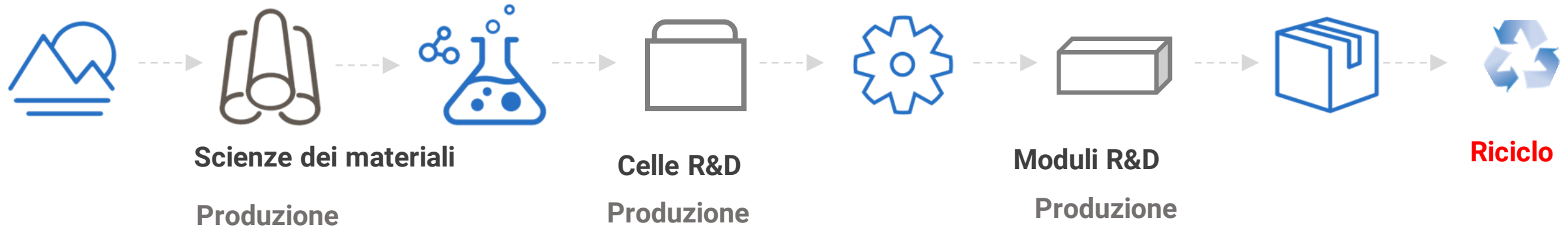
INTEGRAZIONE VERTICALE

Risorsi minerarie

Sviluppo di processi

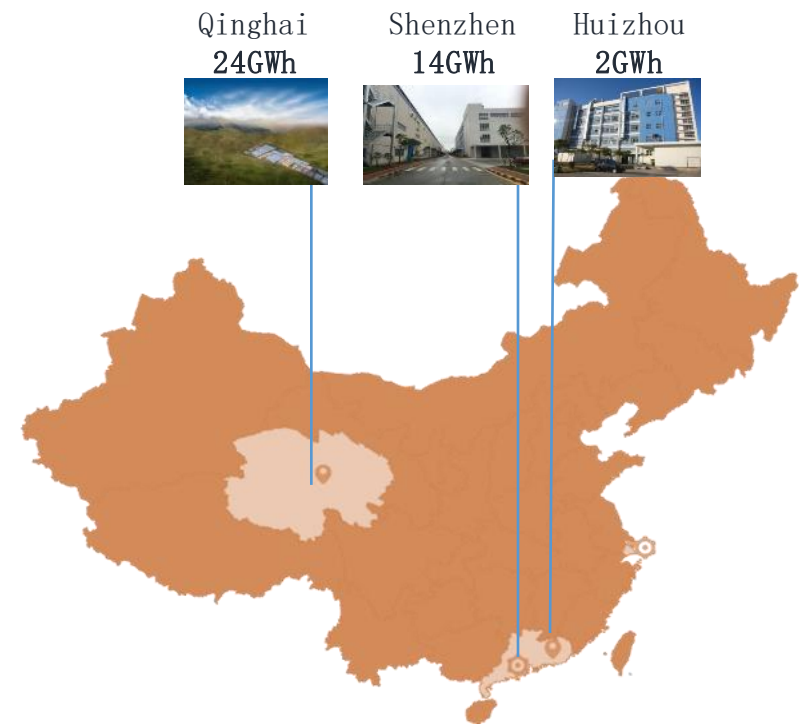
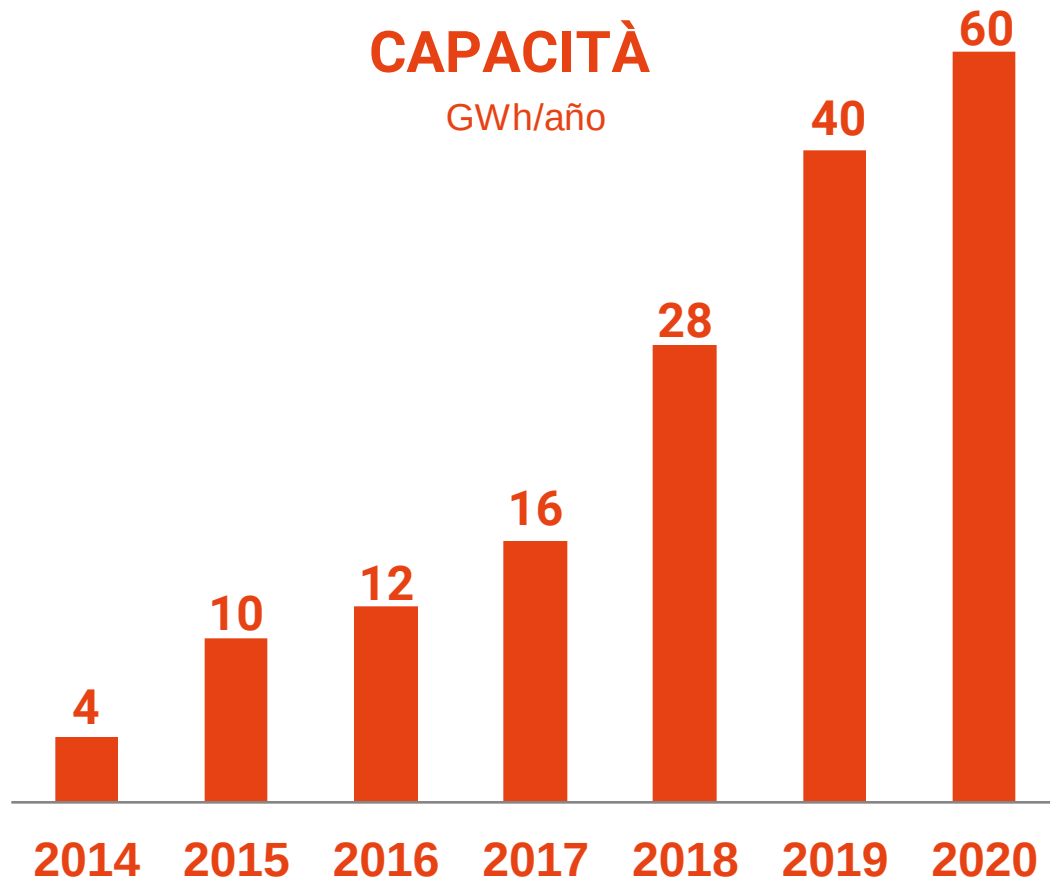
BMS R&D
Produzione

Pacco R&D
Produzione



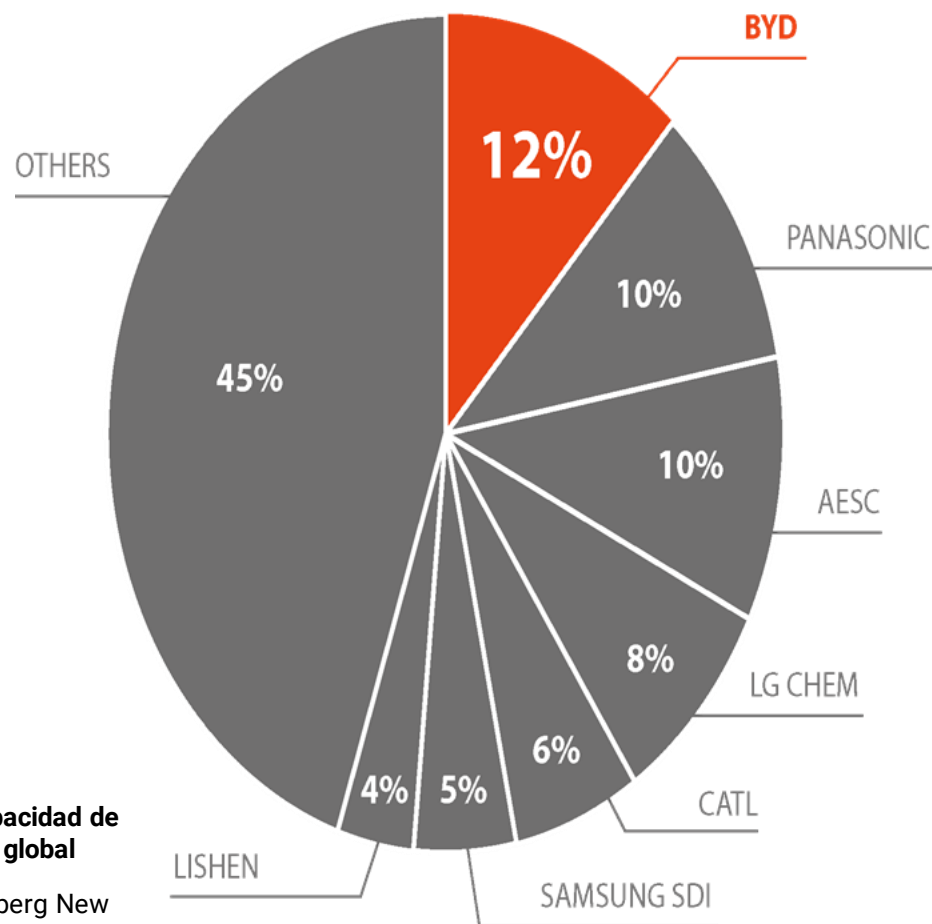
Dall'investimento in principali aziende per risorse minerarie , ricerca in materie prime per sviluppo/produzione, sviluppo delle celle e fabbricazione, progettazione/fabbricazione modulo batteria, design/fabbricazione di BMS, progettazione e la fabbricazione del pacco, batterie, riciclo e recupero

CAPACITÀ DI PRODUZIONE



TOP PRODUTTORE DI BATTERIE AL LITIO

>20 ANNI DI ESPERIENZA in produzione e disegno di batterie



2016 Li-Ion capacità di produzione globale

Fuente: Bloomberg New Energy Finance

CRESCITA RECORD

Da 20 fino più 230.000 dipendenti

Più di 2000 dipendenti per ricerca e sviluppo di celle

2018 il turnover atteso è di più di 22.000.000.000 \$



APPLICAZIONI



BYD E-MOBILITÀ



BYD E-MOBILITÀ



BYD E-MOBILITÀ

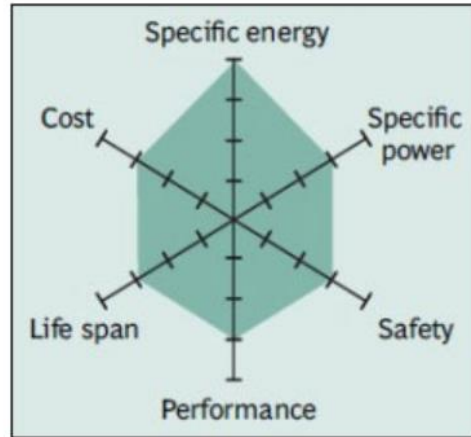


CHIMICA LiFePO_4

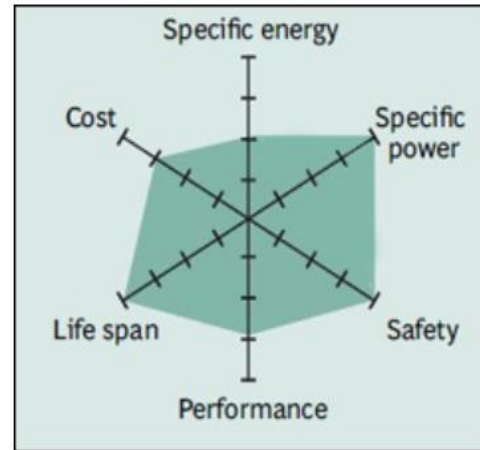
Iron-Phosphate battery 1,000°C roasting tests



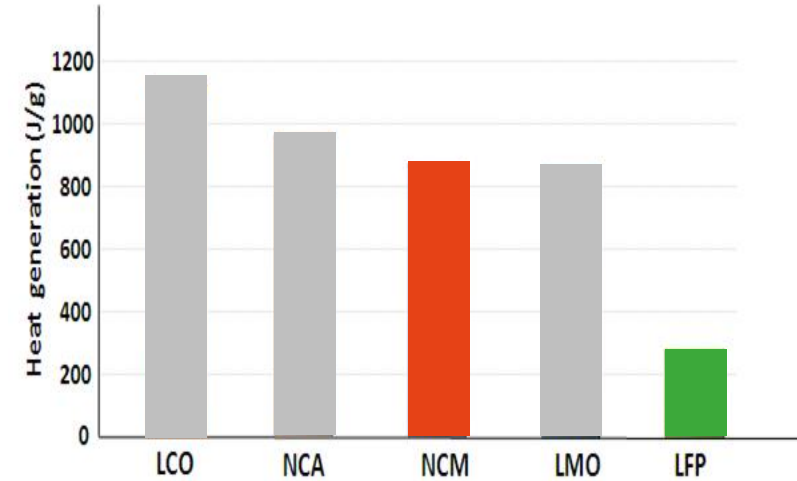
IDEALE PER STOCCAGGIO



Snapshot of NMC.



Snapshot of a typical Li-phosphate battery.



SICUREZZA



POTENZA



VITA



RAFFREDDAMENTO
NATURALE



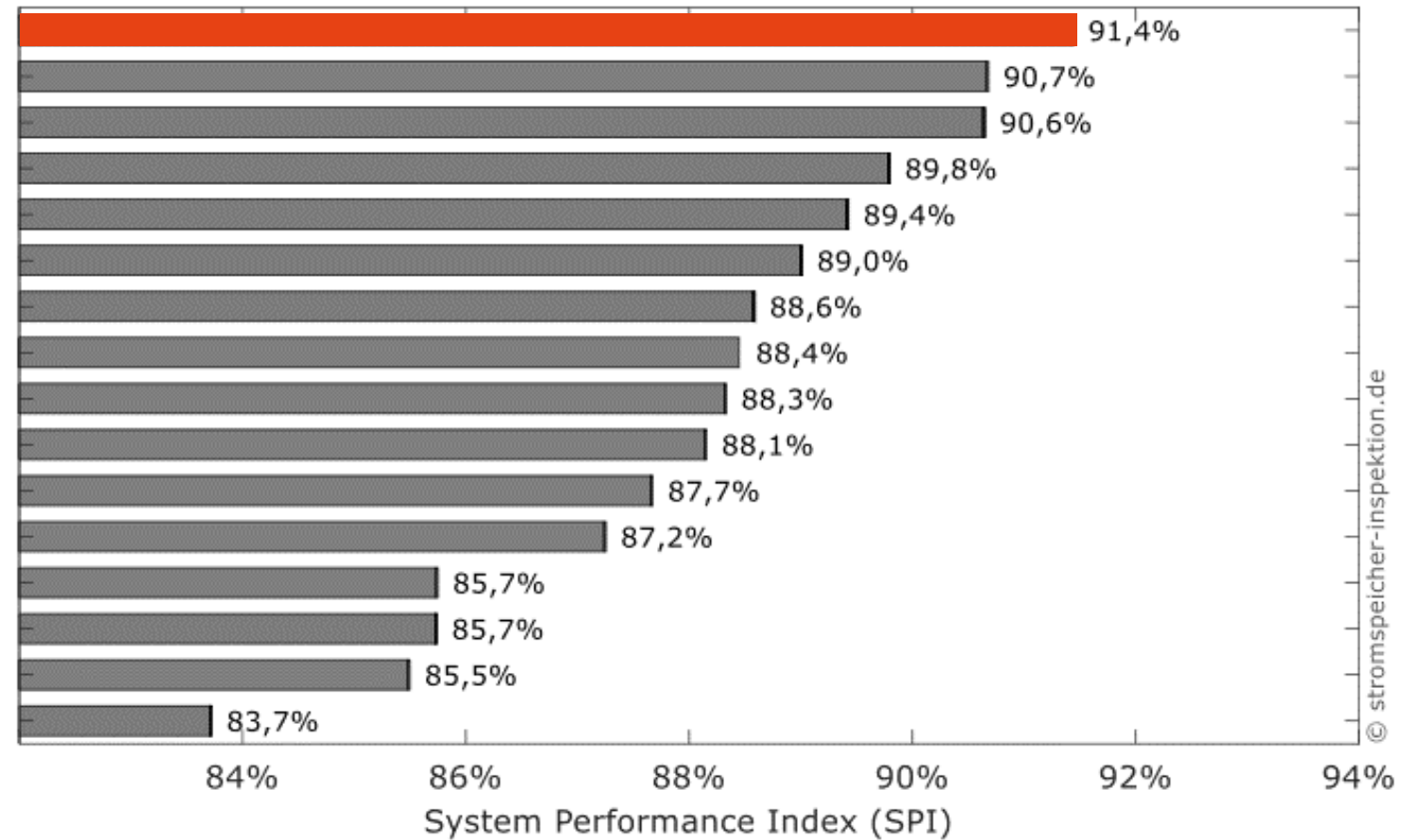
RISPETTOSA
DELL'AMBIENTE

SPI TEST – HTW BERLIN

BYD Battery-Box HV



“BYD’s HV Battery-Box achieved top ranking in energy storage test”



<https://pvspeicher.htw-berlin.de/inspektion/>

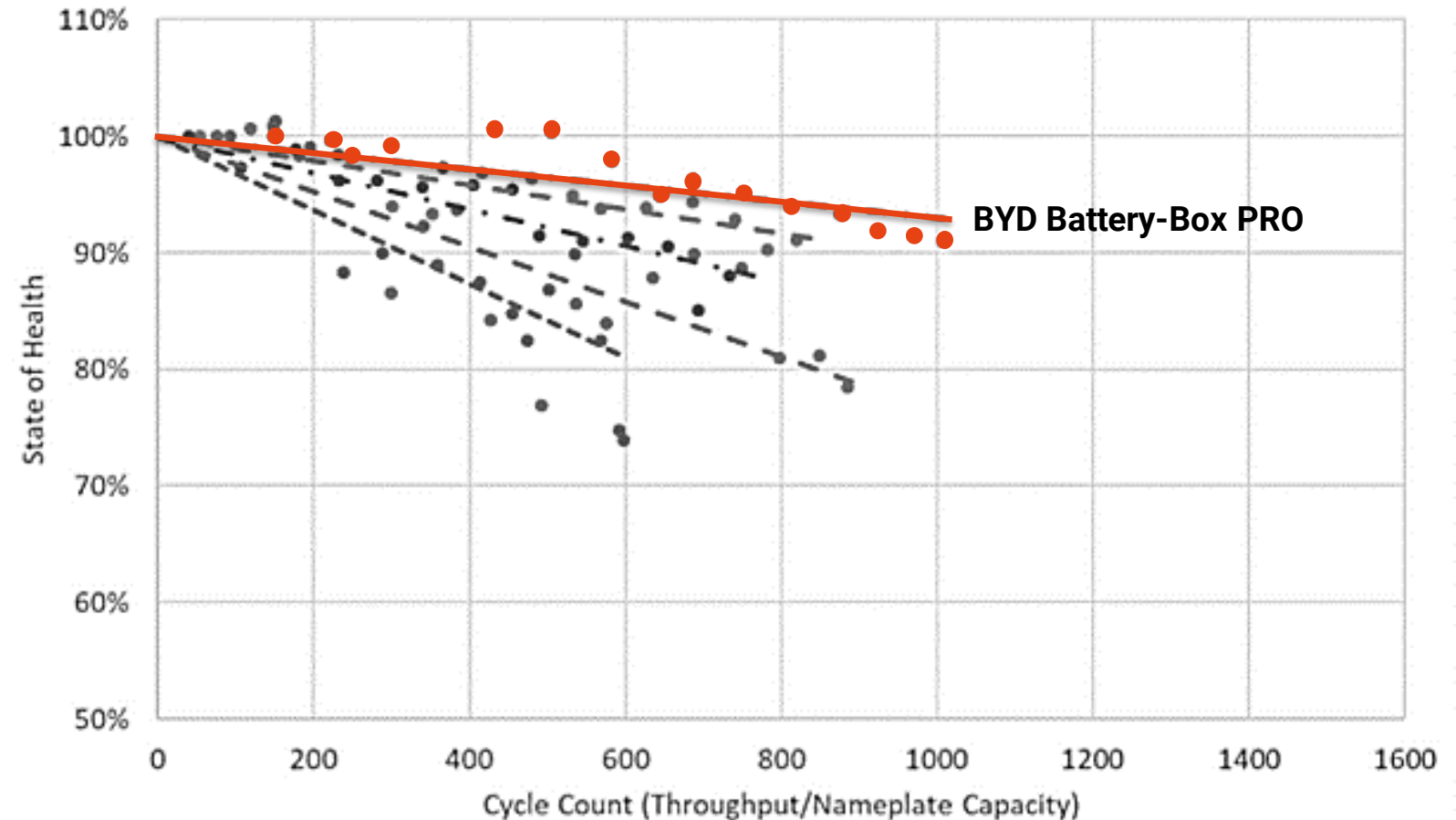
LIFE CYCLE TEST – ARENA

ARENA



Australian Government
Australian Renewable
Energy Agency

“The BYD Battery-Box has completed the most cycles and demonstrates the lowest rate of capacity fade, suggesting both reliability and longevity”



<http://batterytestcentre.com.au/wp-content/uploads/2017/07/Battery-Testing-Report-September-2018.pdf>

FLESSIBILITÀ



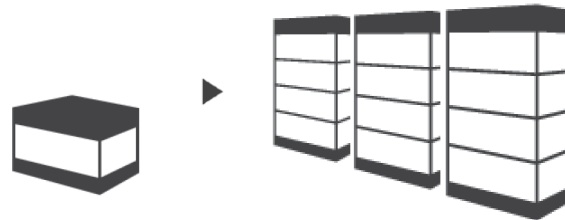
BYD BATTERY-BOX

HV
250-450V



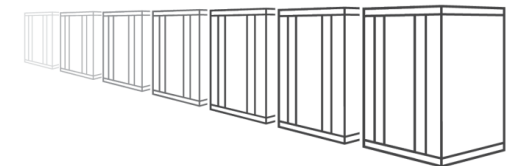
Da **1,28 kWh** (minimo) **5,1 fino 11,5 kWh**
(Possibilità di collegare 3 x Battery-Box HV
per raggiungere 34,5 kWh:
presto disponibile)

LV
48V



Da **3,5 kWh** fino a **42 kWh**

PRO
48V



Da **13,8 kWh** fino a **442 kWh**

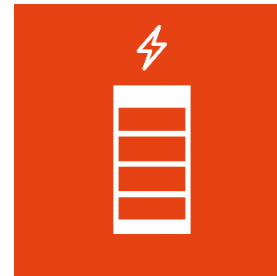
SEMPLICE. FLESSIBILE.



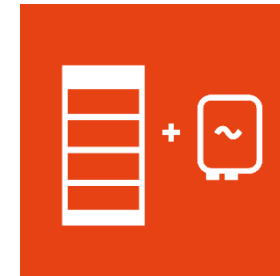
SEMPLICE
ESTENSIONE



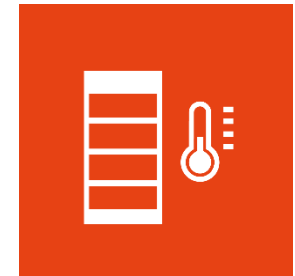
SEMPLICE
MONTAGGIO



SEMPLICE
POTENTE

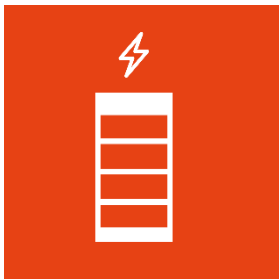


SEMPLICE
COMPATIBILE

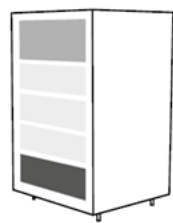


SEMPLICE
AFFIDABILE

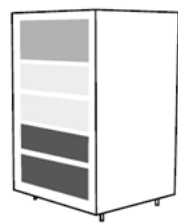
POTENTE PER OGNI APPLICAZIONE



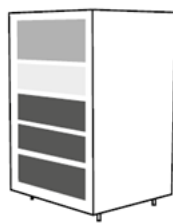
IDEALE PER PROGETTI INDUSTRIALI E ISOLATI



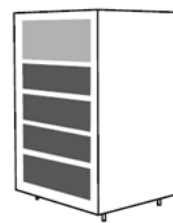
2.56 kWh



5.12 kWh



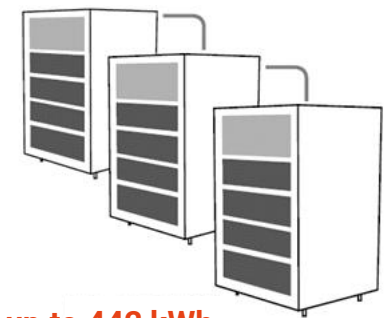
7.68 kWh



10.24 kWh



13.8 kWh



up to 442 kWh

EVOLUZIONE PER RESIDENZIALE

2015



2018



2019

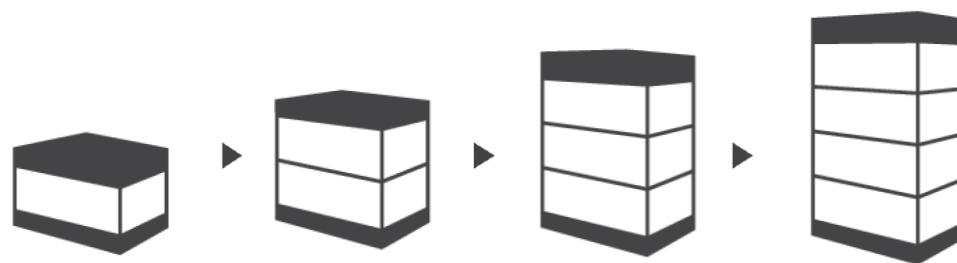


INSTALLATORI



- ✓ Flessibilità
- ✓ “Instalabilità”
- ✓ Servizio

IDEALE PER PROGETTI RESIDENZIALI E COMMERCIALI

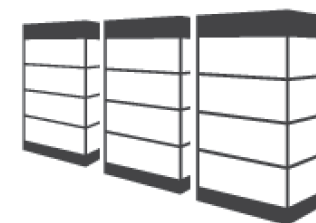


L 3.5

L 7.0

L 10.5

L 14.0



x3

Da 3,5 kWh en paralelo hasta **42 kWh**



6.4 kWh



7.7 kWh



9.0 kWh

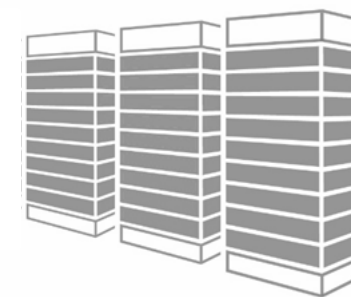


10.2 kWh



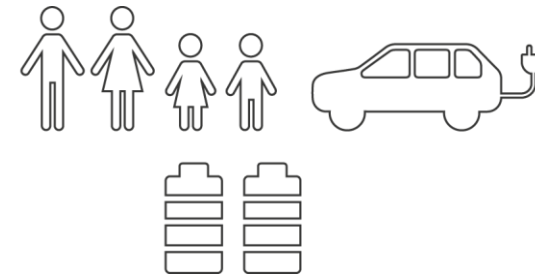
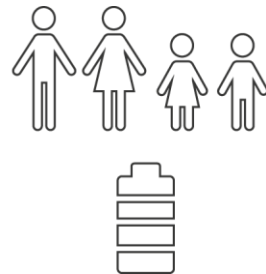
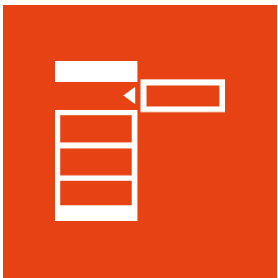
11.5 kWh

Disponibile en 2019

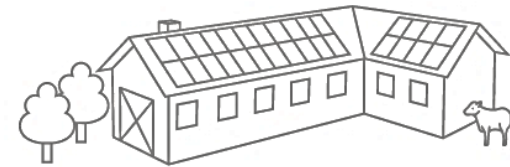


De 6,4kWh hasta a **34,5 kWh**

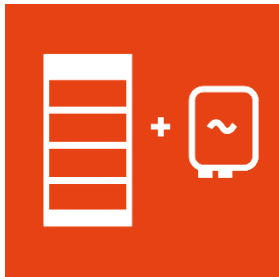
PREPARATA PER ADATTARE AI CAMBIAMENTI



DISEGNO E CAPACITÀ PARA I CASI INDIVIDUALE



COMPATIBILE CON I MARCHI LEADER



KOSTAL

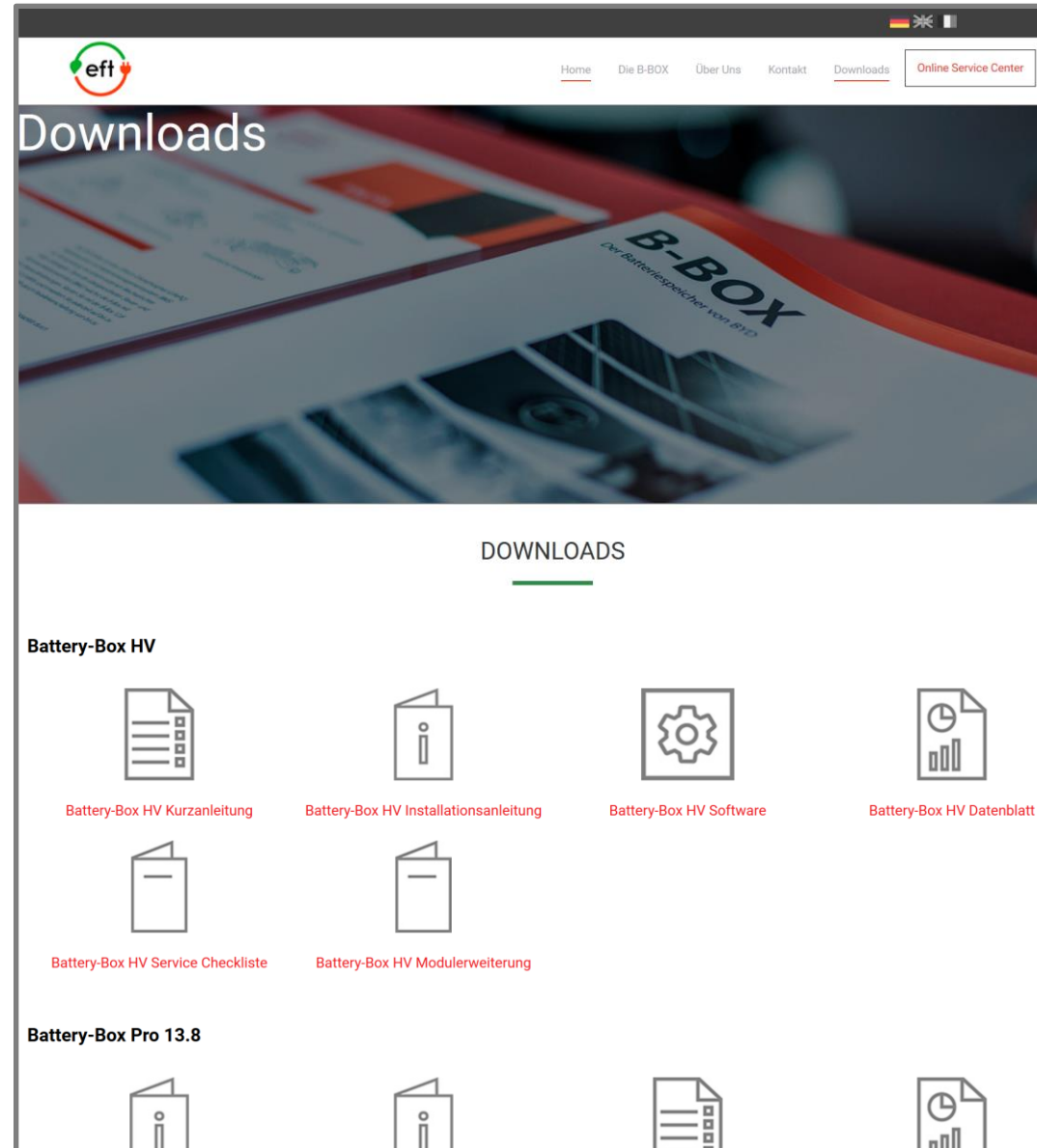


solaredge

SERVIZIO
ECCELLENTE



WWW.EFT-SYSTEMS.DE → DOWNLOADS



The screenshot shows the 'Downloads' page of the EFT-Systems website. The header includes the EFT logo, navigation links (Home, Die B-BOX, Über Uns, Kontakt, Downloads, Online Service Center), and a language selector. The main heading is 'Downloads' over a background image of a 'B-BOX' battery unit. Below this, the 'DOWNLOADS' section is titled and underlined. It lists two main categories: 'Battery-Box HV' and 'Battery-Box Pro 13.8'. Under 'Battery-Box HV', there are six download links with corresponding icons: 'Battery-Box HV Kurzanleitung' (document icon), 'Battery-Box HV Installationsanleitung' (document with 'i' icon), 'Battery-Box HV Software' (gear icon), 'Battery-Box HV Datenblatt' (document with bar chart icon), 'Battery-Box HV Service Checkliste' (document icon), and 'Battery-Box HV Modulerweiterung' (document icon). The 'Battery-Box Pro 13.8' section is partially visible at the bottom with four icons.

Downloads

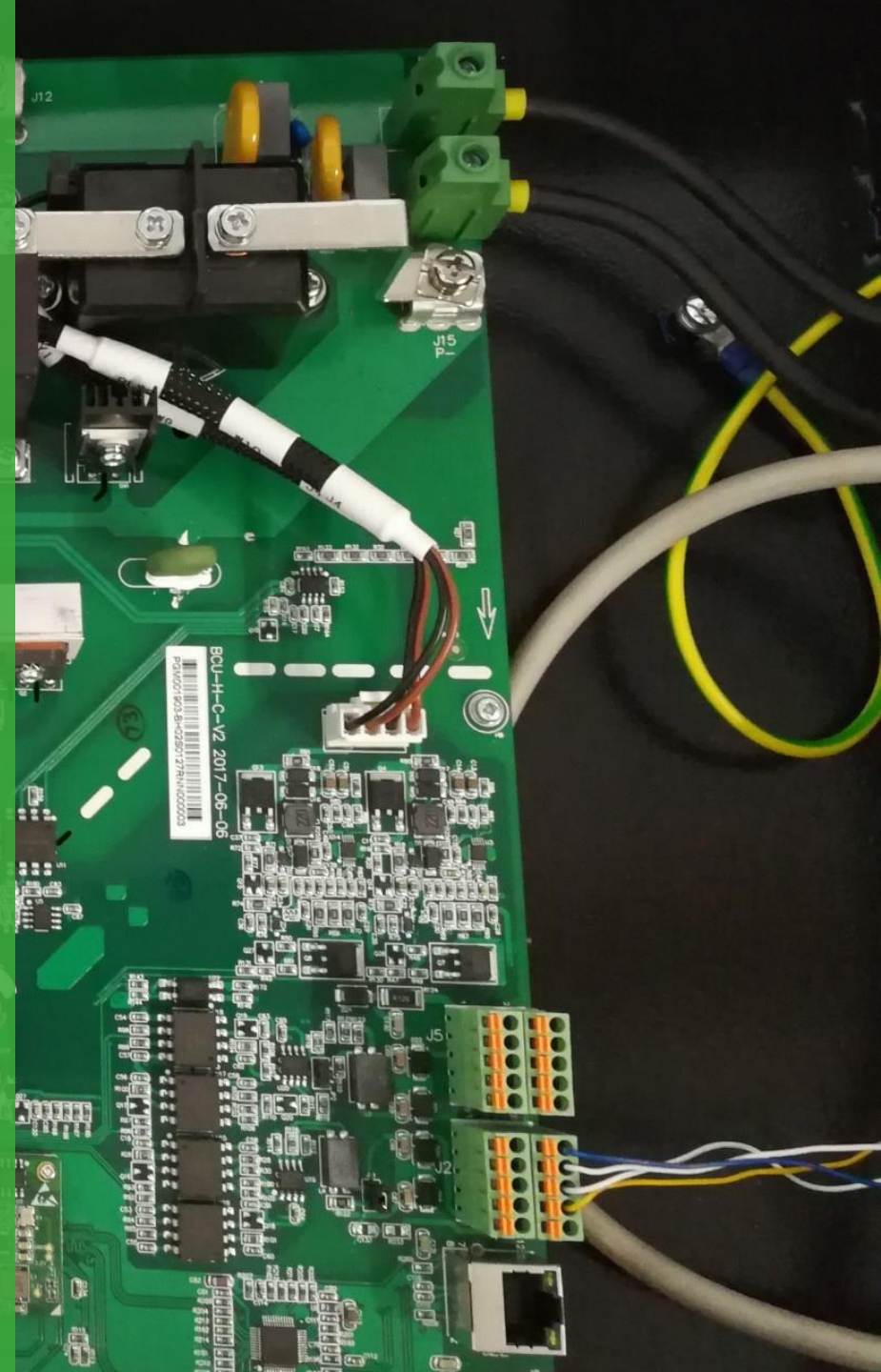
DOWNLOADS

Battery-Box HV

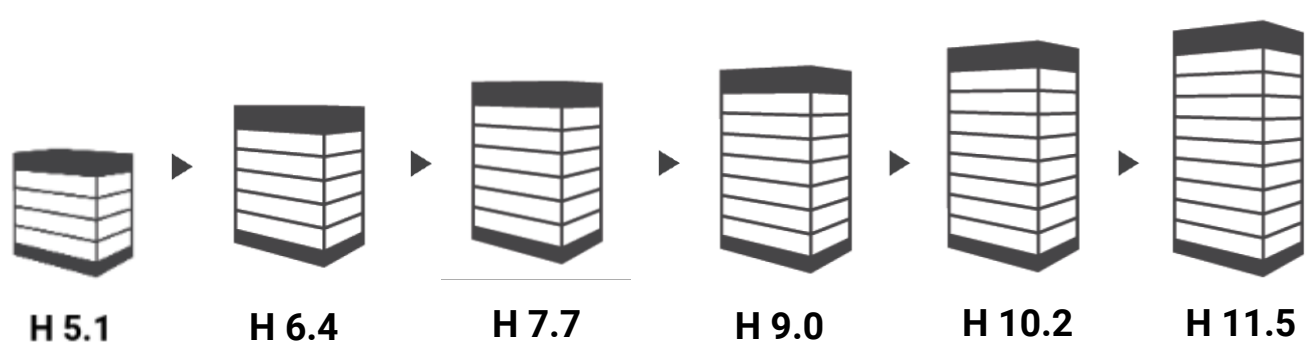
- Battery-Box HV Kurzanleitung
- Battery-Box HV Installationsanleitung
- Battery-Box HV Software
- Battery-Box HV Datenblatt
- Battery-Box HV Service Checkliste
- Battery-Box HV Modulerweiterung

Battery-Box Pro 13.8

DETTALI TECNICI BATTERY-BOX HV



BYD BATTERY-BOX HV



×3

Moduli da 1.28 kWh fino a **34.5 kWh**
Disponibile próximamente



BYD BATTERY-BOX HV

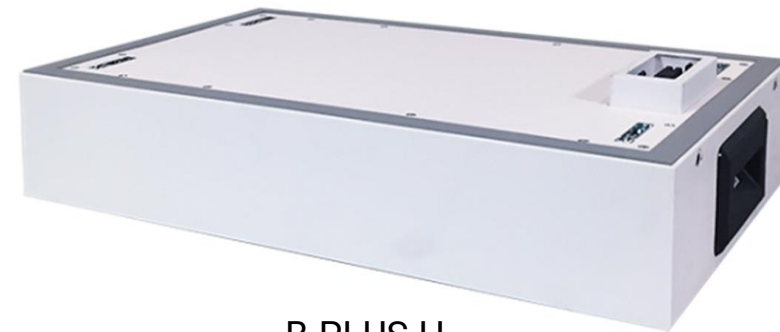
BCU



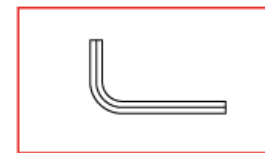
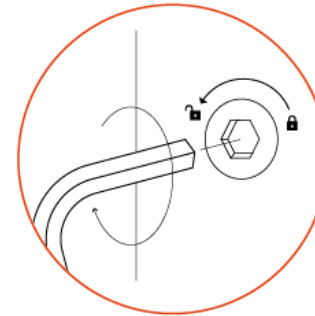
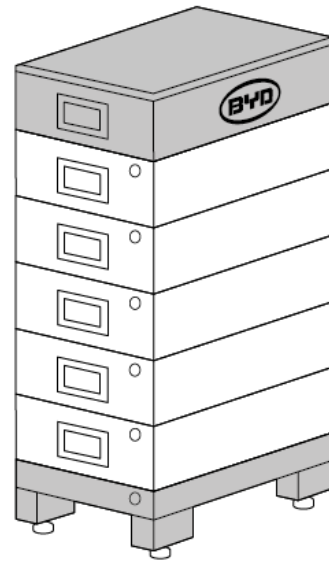
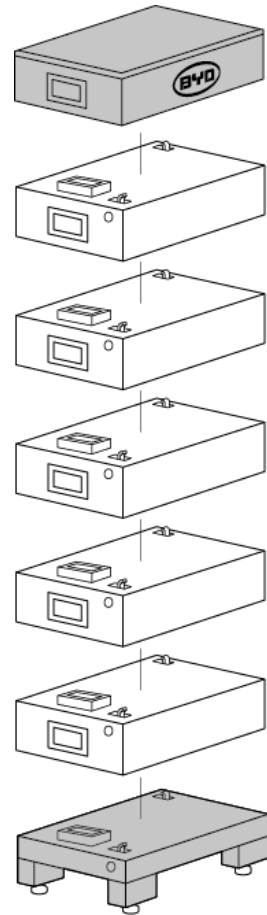
STAND



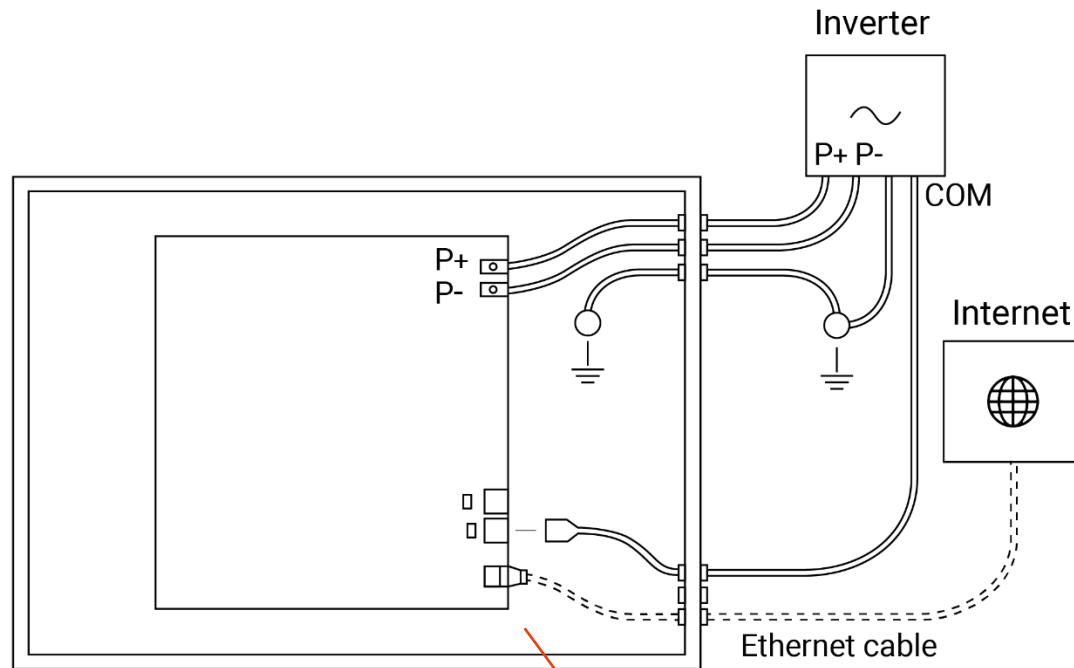
B-PLUS H



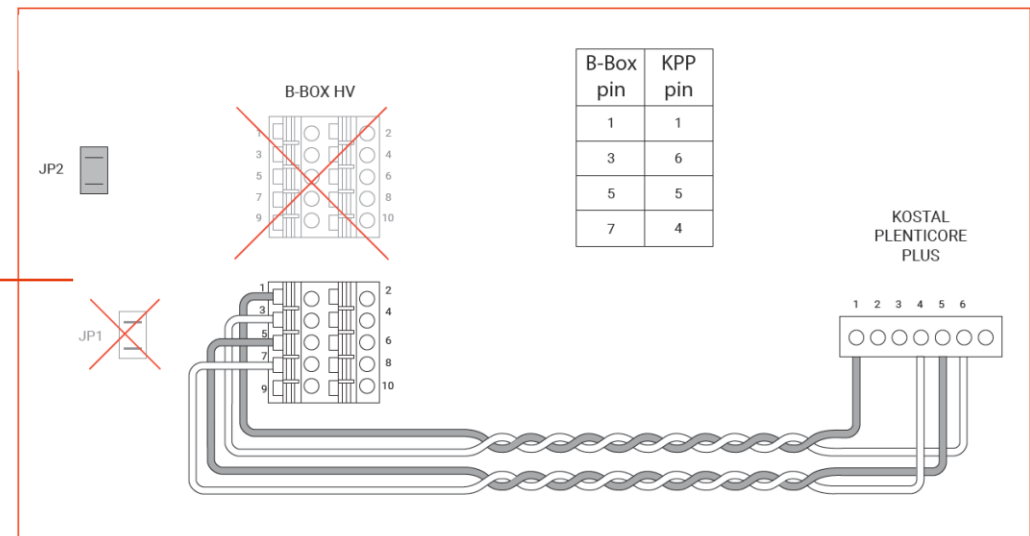
BATTERY-BOX HV - MONTAGGIO



BATTERY-BOX HV - CONNESSIONI ESTERNE

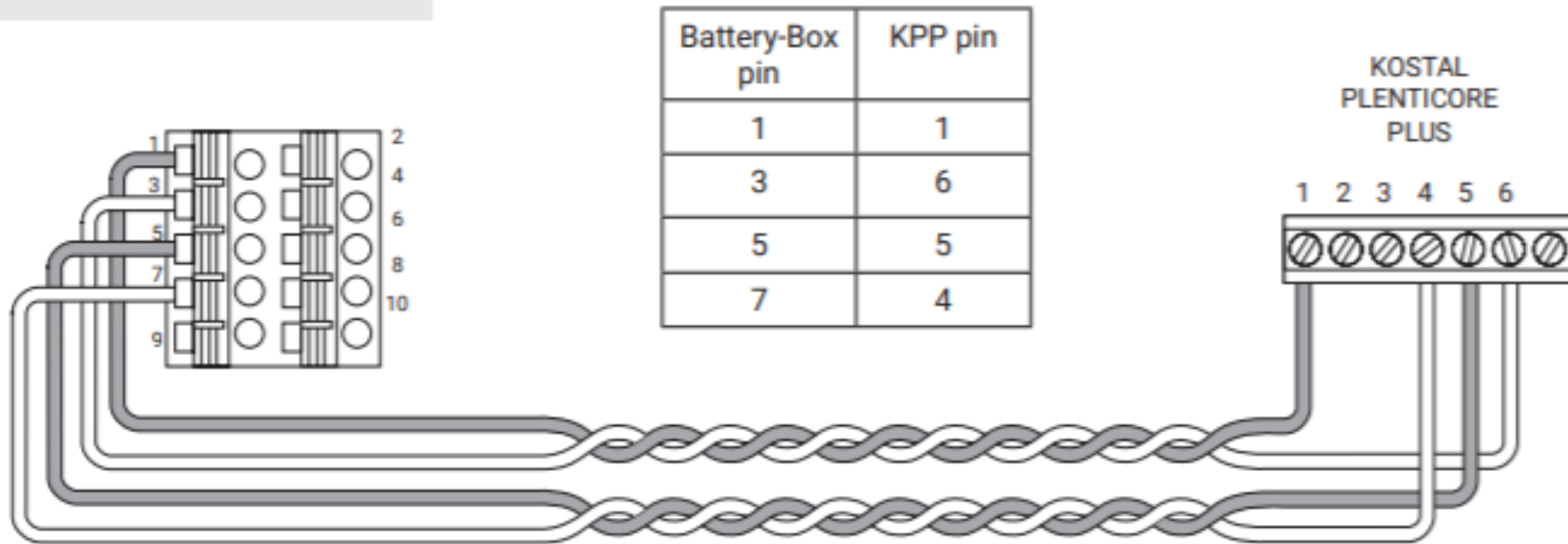


La connessione Internet non è necessaria o obbligatoria ma è consigliata. Permette di fornire assistenza remota alla batteria e aggiornare con i miglioramenti del software.

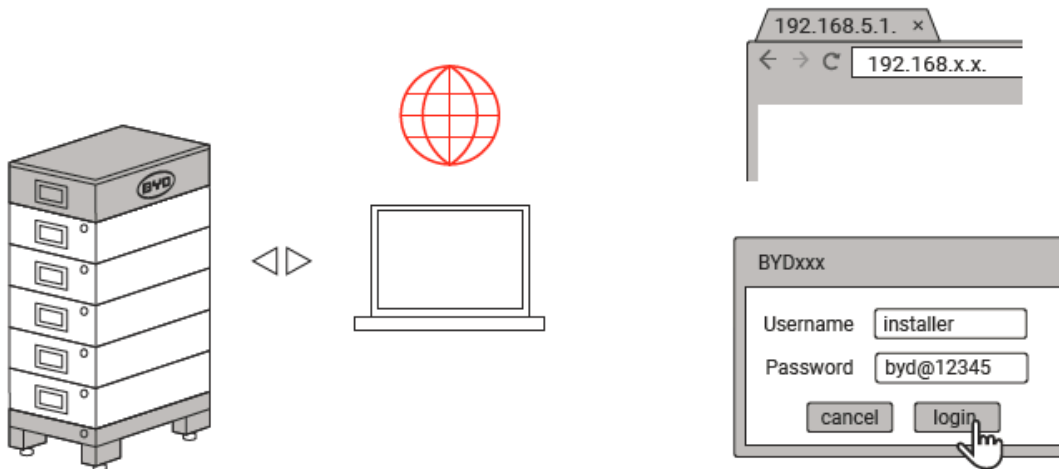
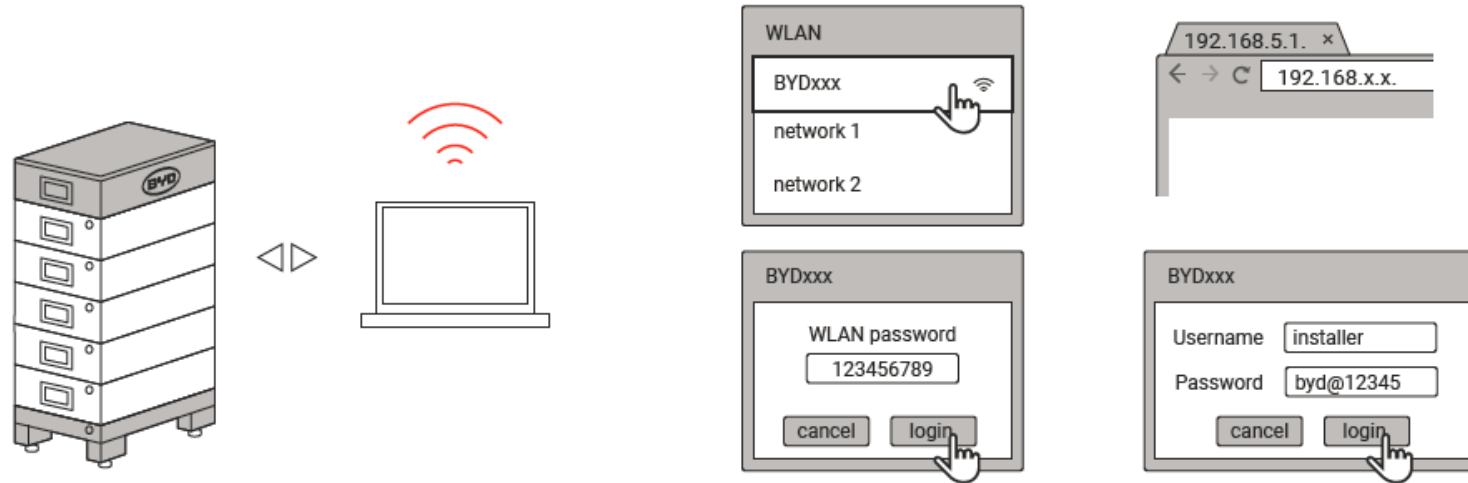


BATTERY-BOX HV – CAVO COM KOSTAL

KOSTAL PLENTICORE Plus



BATTERY-BOX HV - SYSTEM SETUP



BATTERY-BOX HV - SYSTEM UPDATE



Build Your Dreams



B-Box H

- Home
- Device Information
- Statistics Information
- Current Alarm
- History Alarm
- Run Data
- Set Password
- User Information
- Update**
- Reboot and Restore
- Manage Parameter
- BMS Parameter
- Debug

Update

Please input the file: Keine Datei ausgewählt.

If there is any new version on the server, clicking will update the system.

BATTERY-BOX HV - SYSTEM SETUP V3.012

- Battery-Box HV
- Privacy Policy
- Installation**
- Home
- Device Information
- Installation Config
- Statistics Information
- Current Alarm
- History Alarm
- Run Data
- Set Password
- Update

1
STEP 1
2
STEP 2
3
FINISH & REBOOT

Time and Date * Hour : Min : Day : Month : Year :

Next

1
STEP 1
2
STEP 2
3
FINISH & REBOOT

Server IP Address *

Serials Battery Conts *

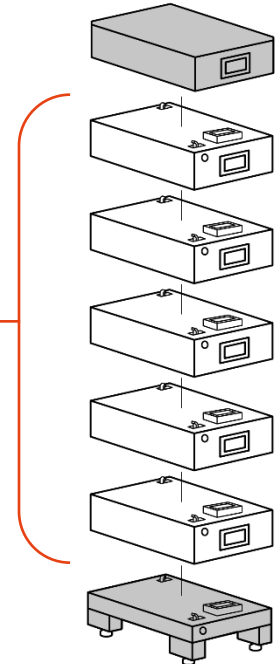
Inverter *

Country *

Asterisk(*)Indicates required fields

Last Next

1
STEP 1
2
STEP 2
3
FINISH & REBOOT



BATTERY-BOX HV - SYSTEM INFO

*Build Your Dreams*

Clean Energy Change Life

B-Box H

- Home
- Device Information**
- Statistics Information
- Current Alarm
- History Alarm
- Run Data
- Set Password
- User Information
- Update
- Reboot and Restore
- Manage Parameter
- BMS Parameter
- Debug

Device Information

Machine

SN: 100321708-000

Factory time: 2017-8-11 13:54:16

Version: V2.004 B

Board

SN: BH03S0130RNN000146

Factory time: 2017-7-31 14:38:7

Network

wlan0 192.168.5.1

eth0:2 192.168.6.1

CheckOnline

Change Log

V1.000R --- 12.07.2017

V1.008S --- 21.08.2017

V1.008S --- 21.08.2017

QUIK-START GUIDANCE HV



B-BOX HIGH VOLTAGE INSTALLATION SHORT INSTRUCTION V1.2

- 1.** BMU + Base
n=5-9 Module
- 2.** [Diagram showing module placement]
- 3.** [Diagram showing module placement]
- 4.** [Diagram showing module placement with dimensions: 170, h, n, 5, 6, 7, 8, 9, h, 788, 908, 1028, 1148, 1268]
- 5.** [Diagram showing module placement]
- 6.** [Diagram showing module placement]
- 7.** [Diagram showing module placement]
- 8.** [Diagram showing module placement with Inverter, Internet, Ethernet cable, and B-Box HV]
- 9.** [Diagram showing module placement]

10a. ON

[Diagram showing module placement]

192.168.1.1
network 1
network 2

BYDBox
WLAN password
123456789

BYDBox
Username
installer
Password
byd@12345

10b. ON

[Diagram showing module placement]

192.168.x.x
192.168.x.x

BYDBox
Username
installer
Password
byd@12345

11.

History Alarm
Run Data
Set Password
User Information
Update
Reboot and Restore

Server Ip Address: 192.168.1.1

Series Battery Count: 5

n=5-9 Module

12.

Run Data
Set Password
User Information
Update
Reboot and Restore

Please input file: [File Selection]

Updated

Update software: www.eft-systems.de (Support -> Downloads)

13a. SMA Sunny Boy Storage 2.5

[Diagram showing module placement]

B-BOX HV

JP2

JP1

B-Box pin	SBS pin
2	B
4	C
6	E
8	D

No	SMA SBS Parameter	
1	Battery - Areas of application - Area width for conserving battery state of charge	3%
2	Battery - Areas of application - Lower limit deep-charge protect area prior shutdown	2%
3	Battery - Areas of application - Minimum width of deep-discharge protection area	3%
4	Battery - Areas of application - Minimum width of own consumption area	100%

SMA Sunny Boy Storage 2.5 software version ≥ SB52.5-V2.04.23

13b. KOSTAL PIKO BA

[Diagram showing module placement]

B-BOX HV

JP2

JP1

B-Box pin	KPB pin
1	3
2	1
3	4
4	2
5	5
7	6

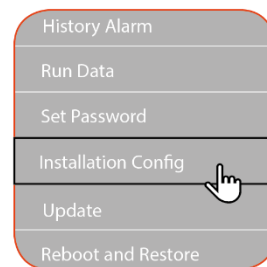
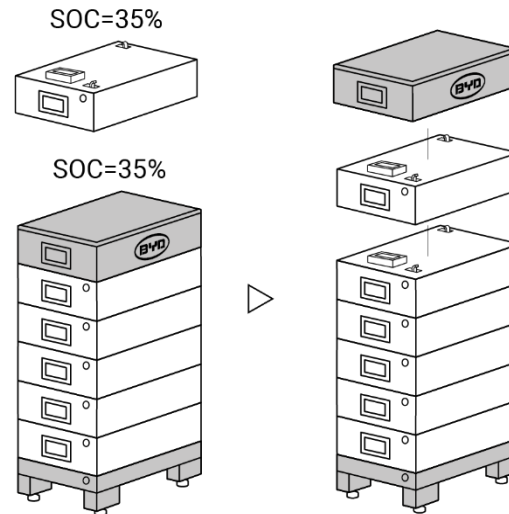
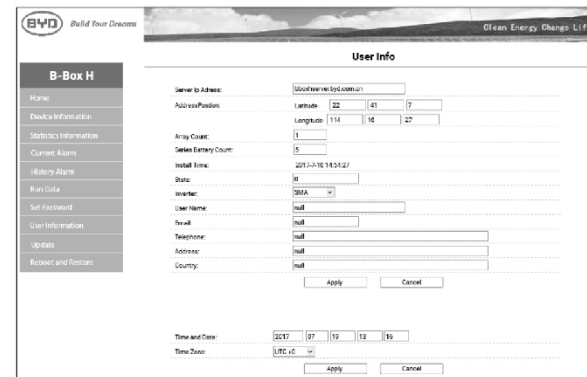
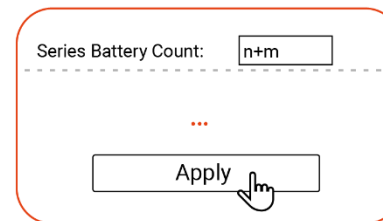
KOSTAL PIKO BA
RS485 - EM-Typ 4

KOSTAL PIKO BA software version ≥ xxxxxxxxxxxxxxxx

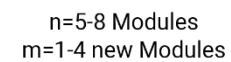
Diese Anleitung stellt eine verkürzte Aufbauhilfe dar, und ersetzt nicht die original Anleitung der B-Box, erhältlich auf www.eft-systems.de oder www.byd.com. Installation darf nur von Fachleuten durchgeführt werden. Achtung! Unsachgemäße Handhabung kann Gefahr für Leib und Leben entstehen. Für weitere Informationen oder Kontakte: www.eft-systems.de

This manual is a shortened assistance for the installation of the B-Box High Voltage and does not replace the original manual, which can be found on www.eft-systems.de or www.byd.com. The installation must be carried out by a qualified expert. Attention, High Voltage Storage! Improper handling can cause danger and damage.

BATTERY-BOX HV - ESTENSIONE

n=5-8 Modules
m=1-4 new Modules



COMPATIBILITÀ HV

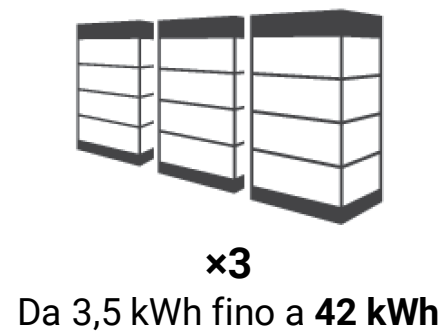
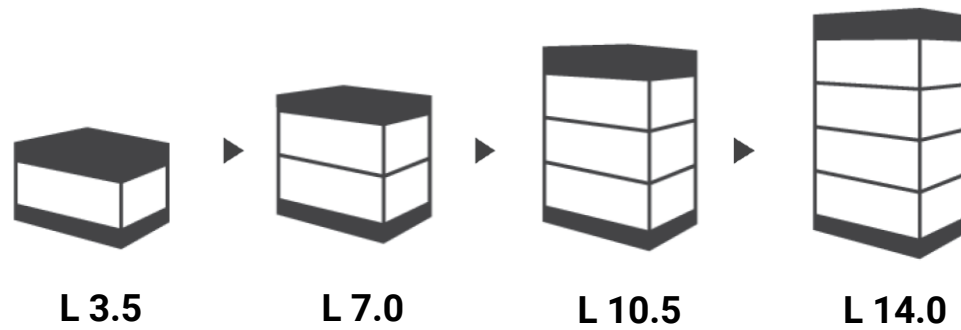


BATTERY-BOX
2018 NEW ENERGY PARTNER EVENT

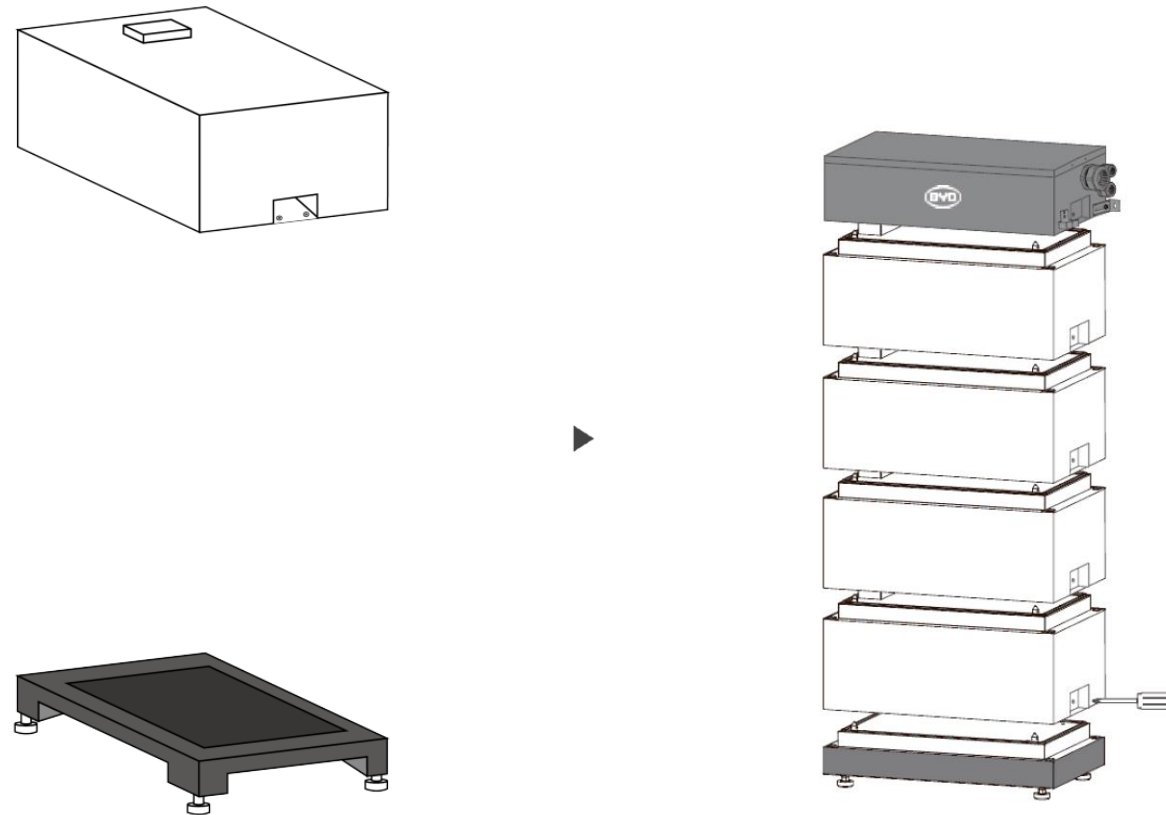
DETTAGLI TECNICI BATTERY-BOX LV



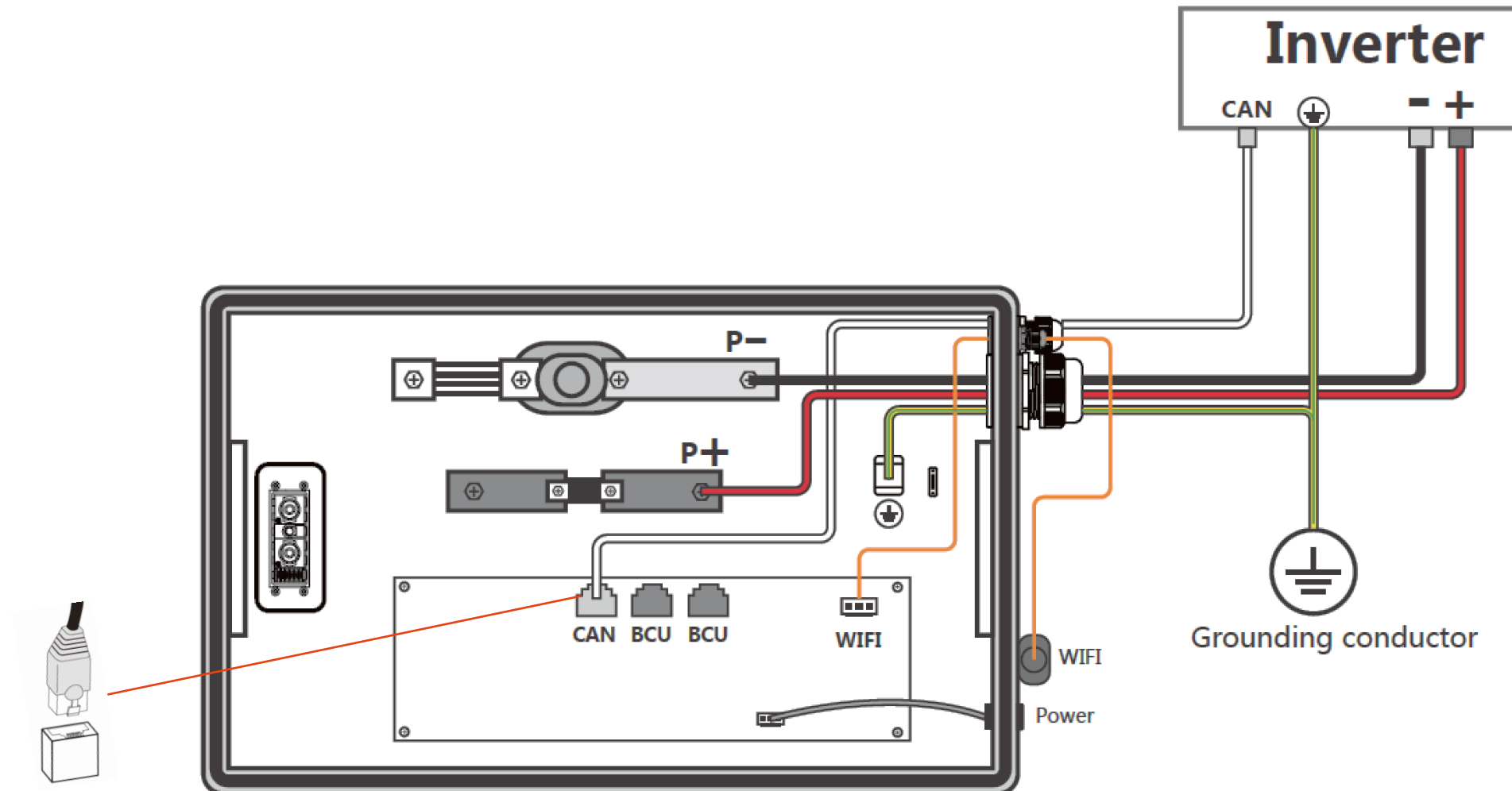
BATTERY-BOX LV



BATTERY-BOX LV - MONTAGGIO

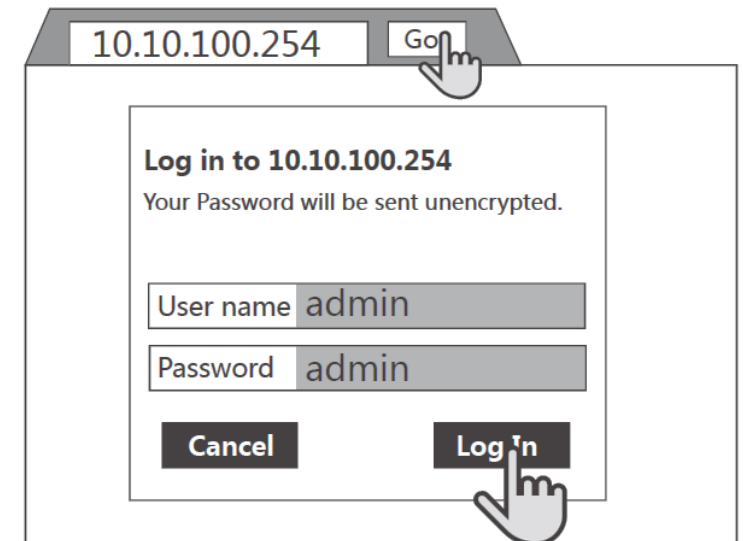


BATTERY-BOX LV – CONESSIONI ESTERNE

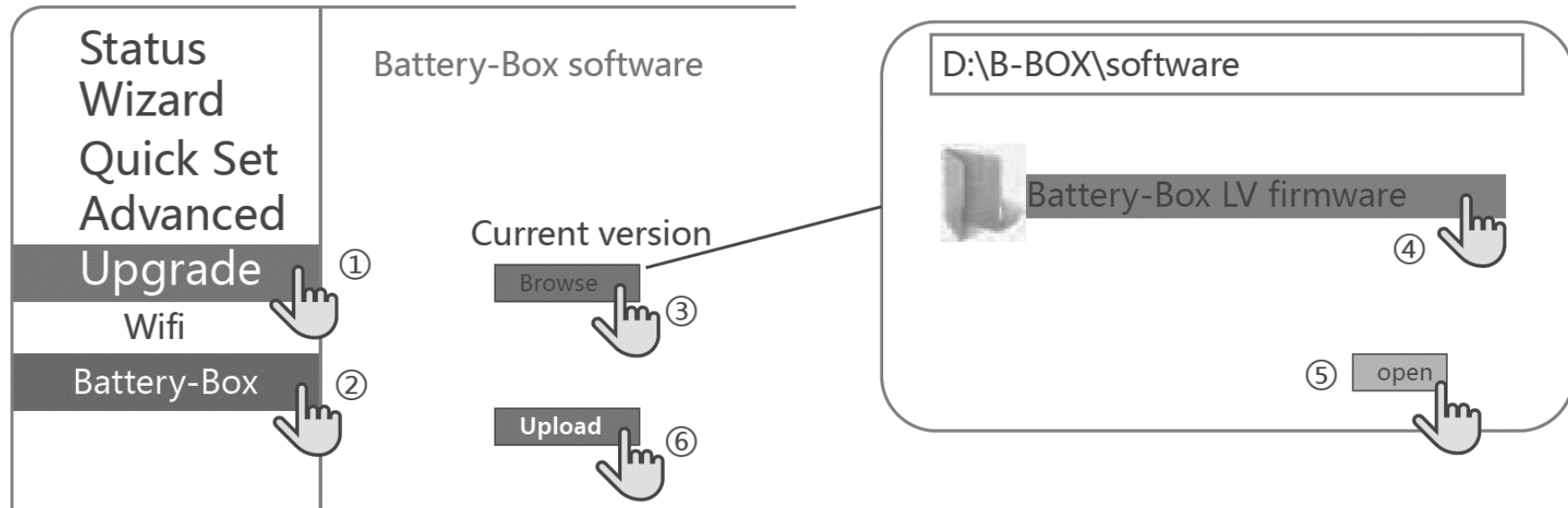


BATTERY-BOX LV – LOGIN & SETUP

Power



BATTERY-BOX LV - UPDATE



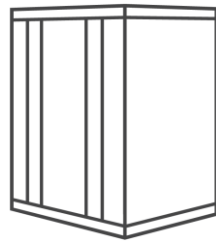
BATTERY-BOX LV - COMPATIBILITÀ



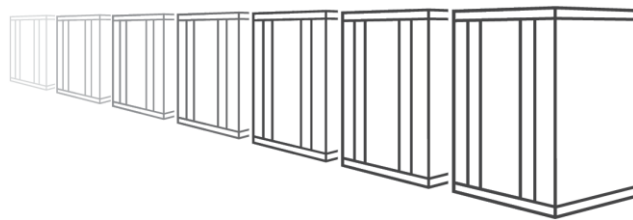
DETTAGLI TECNICI BATTERY-BOX PRO 13.8



BYD BATTERY-BOX PRO 13.8



PRO 13.8

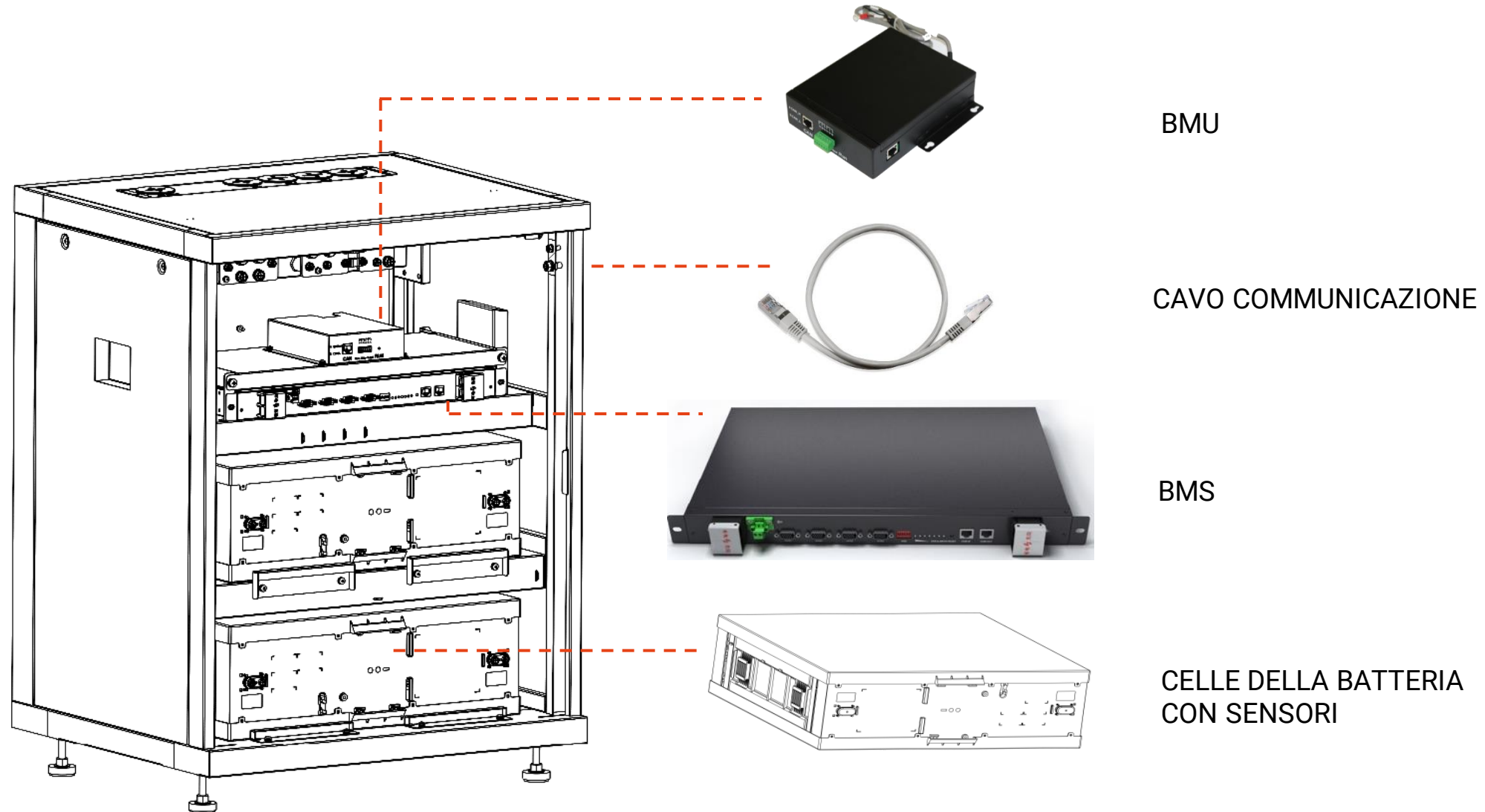


×32

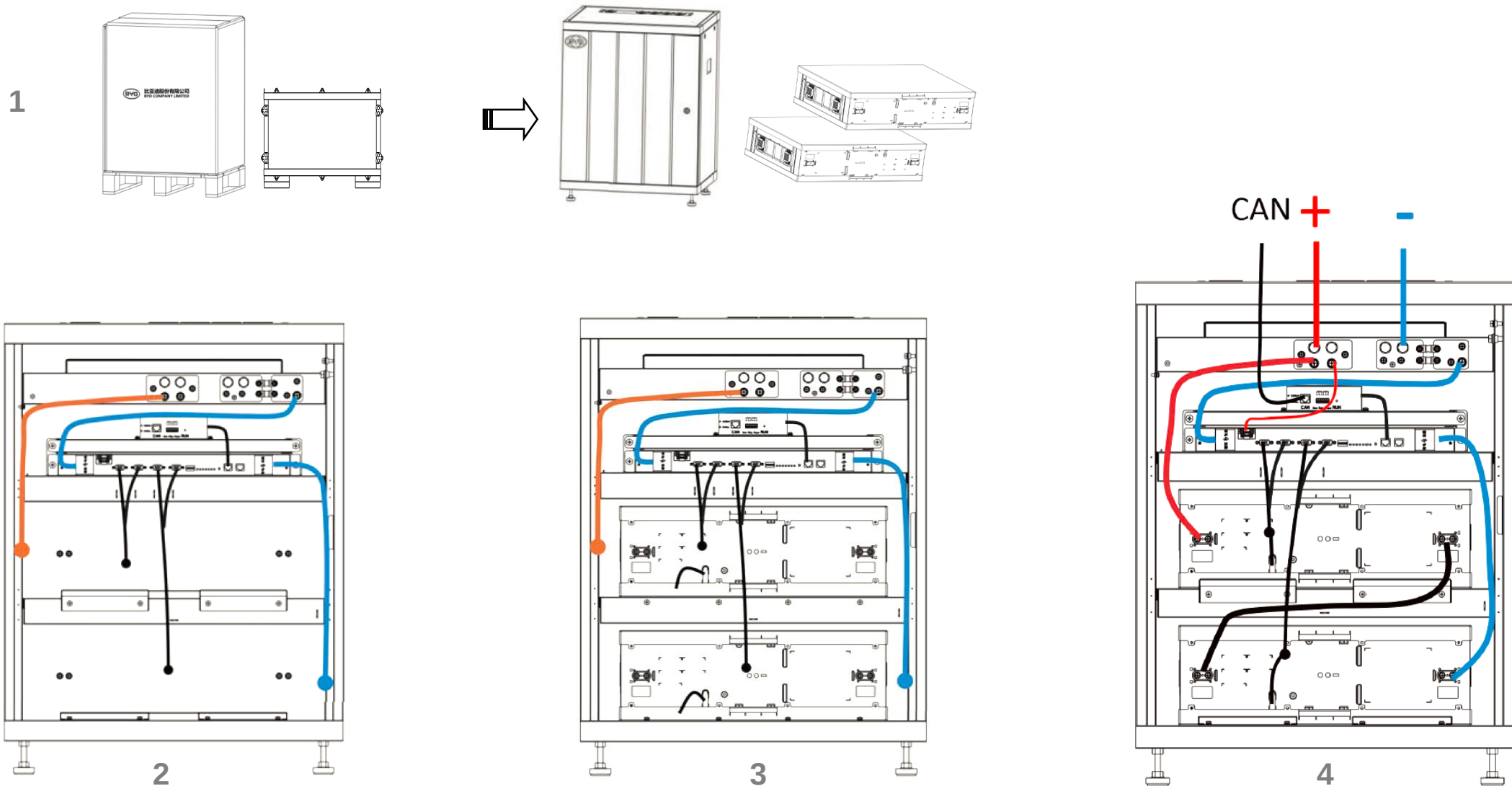
In 13,8 kWh fino a **442 kWh**



BATTERY-BOX PRO - MONTAGGIO



BYD BATTERY-BOX PRO - INSTALLAZIONE



BYD BATTERY-BOX PRO - COMPATIBILITÀ



APPLICAZIONI



BATTERY-BOX PRO – RESIDENZIALE E INDUSTRIALE



BATTERY-BOX PRO - 10 KWH OFF-GRID



BATTERY-BOX PRO - 5 KWH OFF-GRID – “SOLAR KITCHEN”



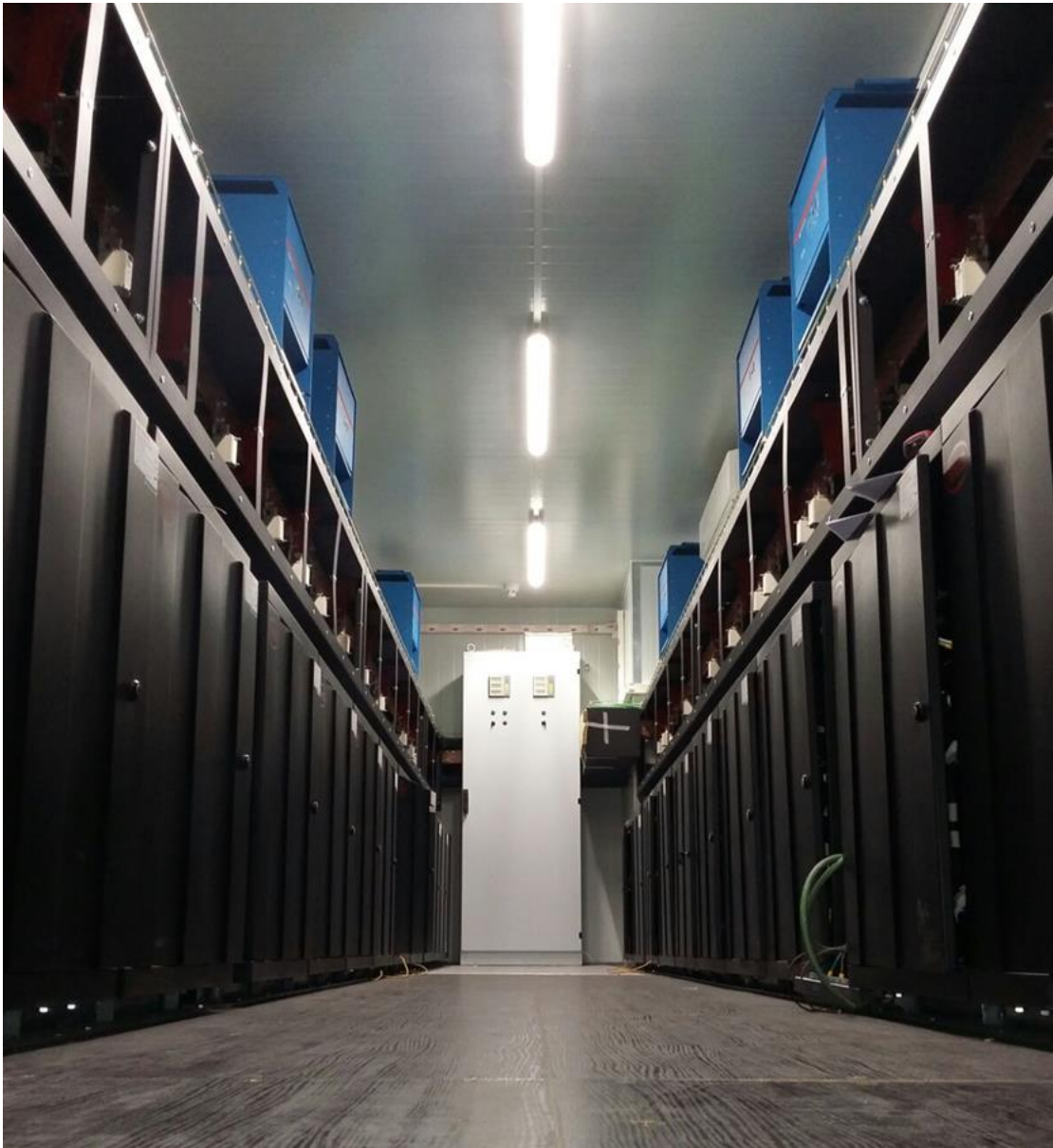
BATTERY-BOX PRO - 28 KWH - COMMERCIAL - 55 KWH



BATTERY-BOX PRO - 414 KWH 200 KWP SOLAR



BATTERY-BOX PRO - 400 KWH - CONTAINER – PROGETTO UN



70 KWH - INDUSTRIAL



60 KWH / 30 KWP - UGANDA – AISLADA



RESIDENCIAL GERMANIA

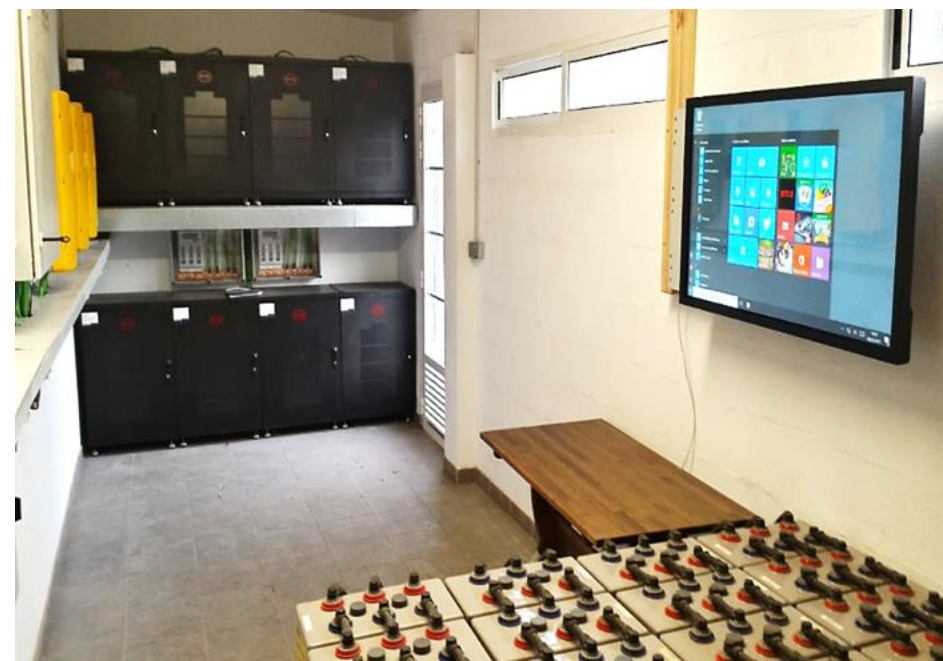
97 KWH – RESIDENCIAL – 110 KWH



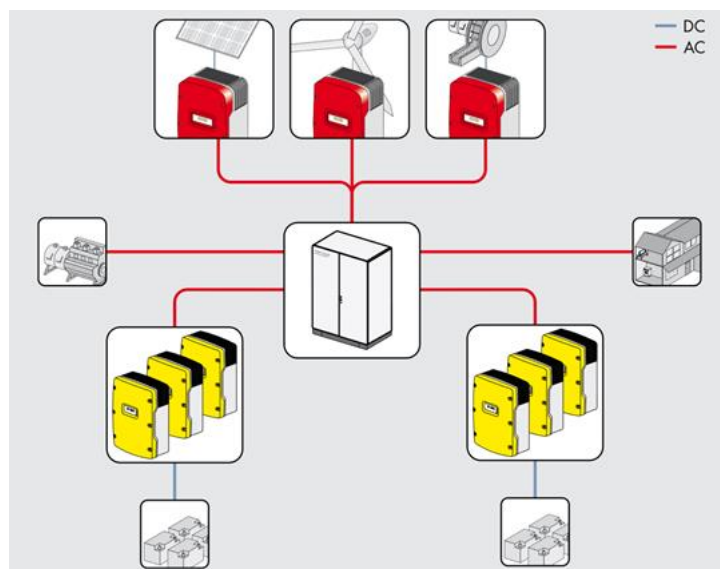
ONG PROXECTO HOMBRE – 80 KWH



ONG PROXECTO HOMBRE – 80 KWH



160 KWH – MULTICLUSTER– ISOLA



BATTERY-BOX LV



BATTERY-BOX HV & SMA SBS



**SISTEMA PIÙ EFFICIENTE DEL
MERCATO 2017/18**

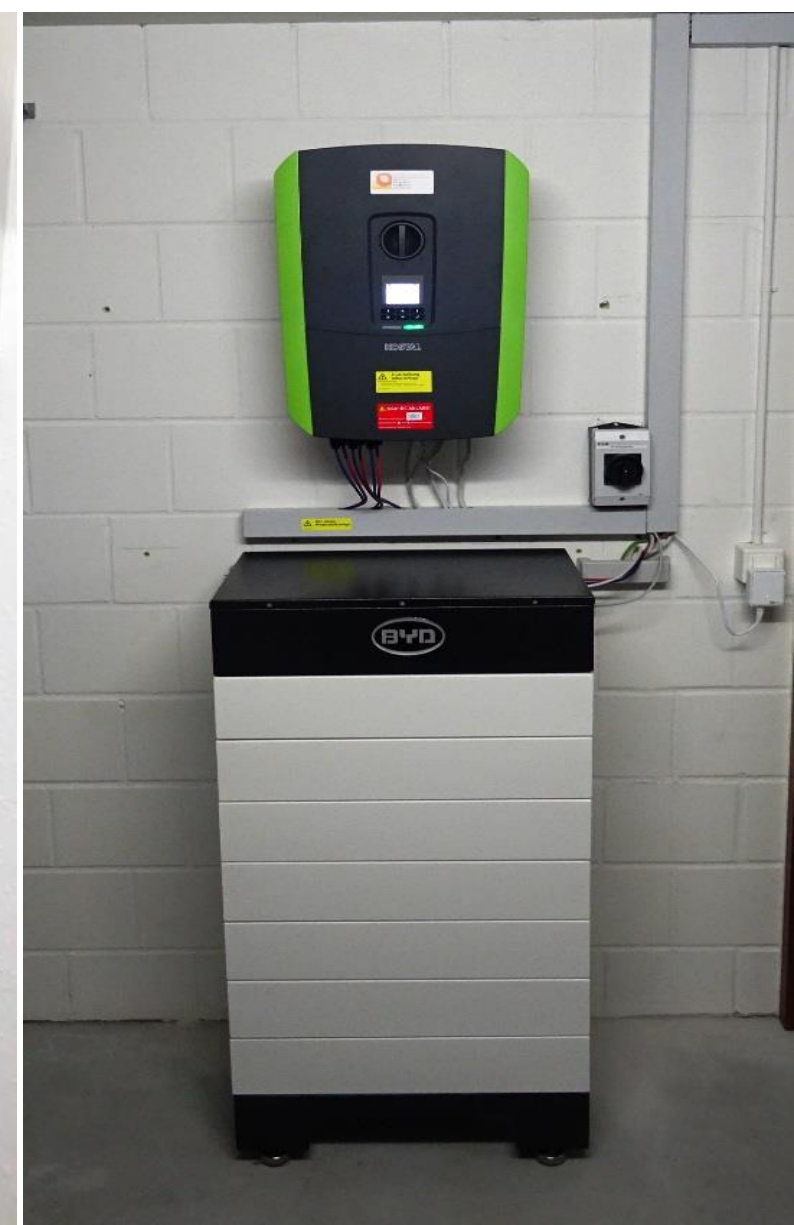
SPI (HTW Berlin)



BATTERY-BOX HV & KOSTAL PLENTICORE

**SISTEMA PIÙ EFICACE DEL
MERCATO 2018/19**

SPI (HTW Berlin)



"Energy For Tomorrow"

*Impegnati nell'idea di contribuire alla generazione
di energia decentralizzata e rinnovabile per il
futuro della società e dell'ambiente*



Build Your Dreams
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Energy Technology



EFT-Systems GmbH

Official Partner of BYD – Responsible of Battery-Box Systems
Official BYD Battery-Box After-Sales-Service