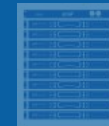
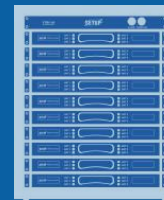
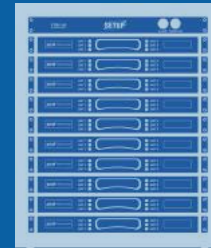
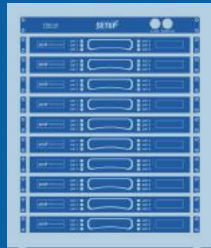
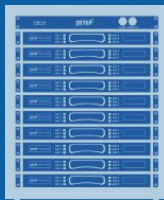
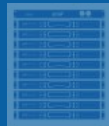
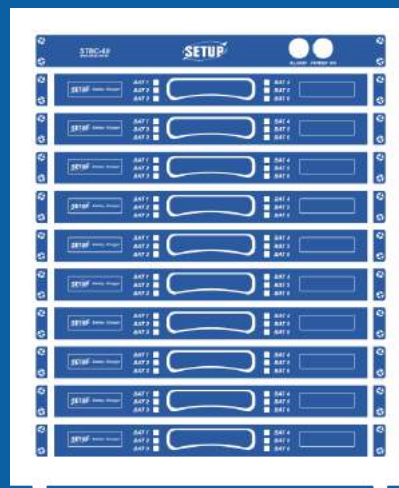


SETUP



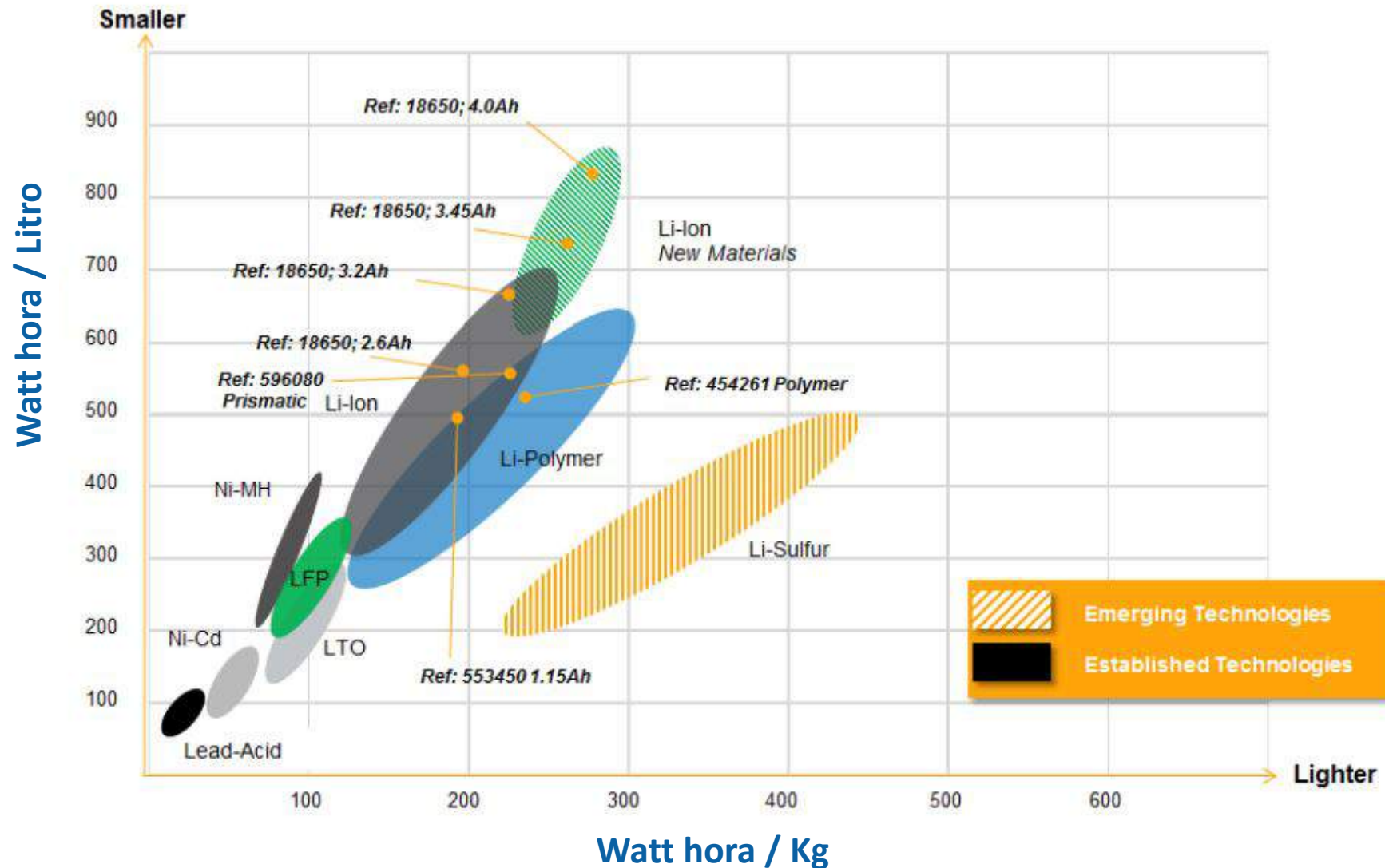
SCAN ME



Solução para o Mercado de Baterias Li-Ion

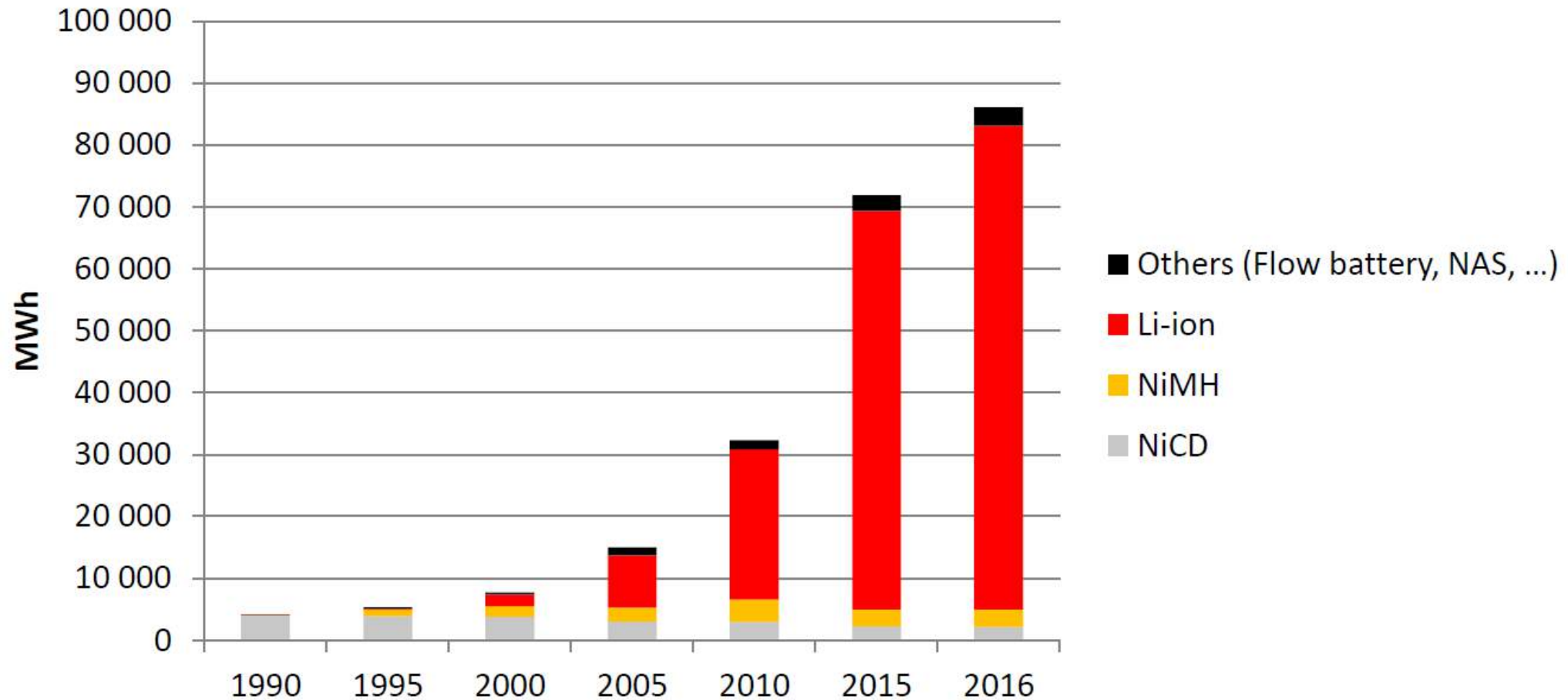
Mercado de Baterias Li-Ion

Overview de Tecnologias x Capacidade x Peso x Volume:

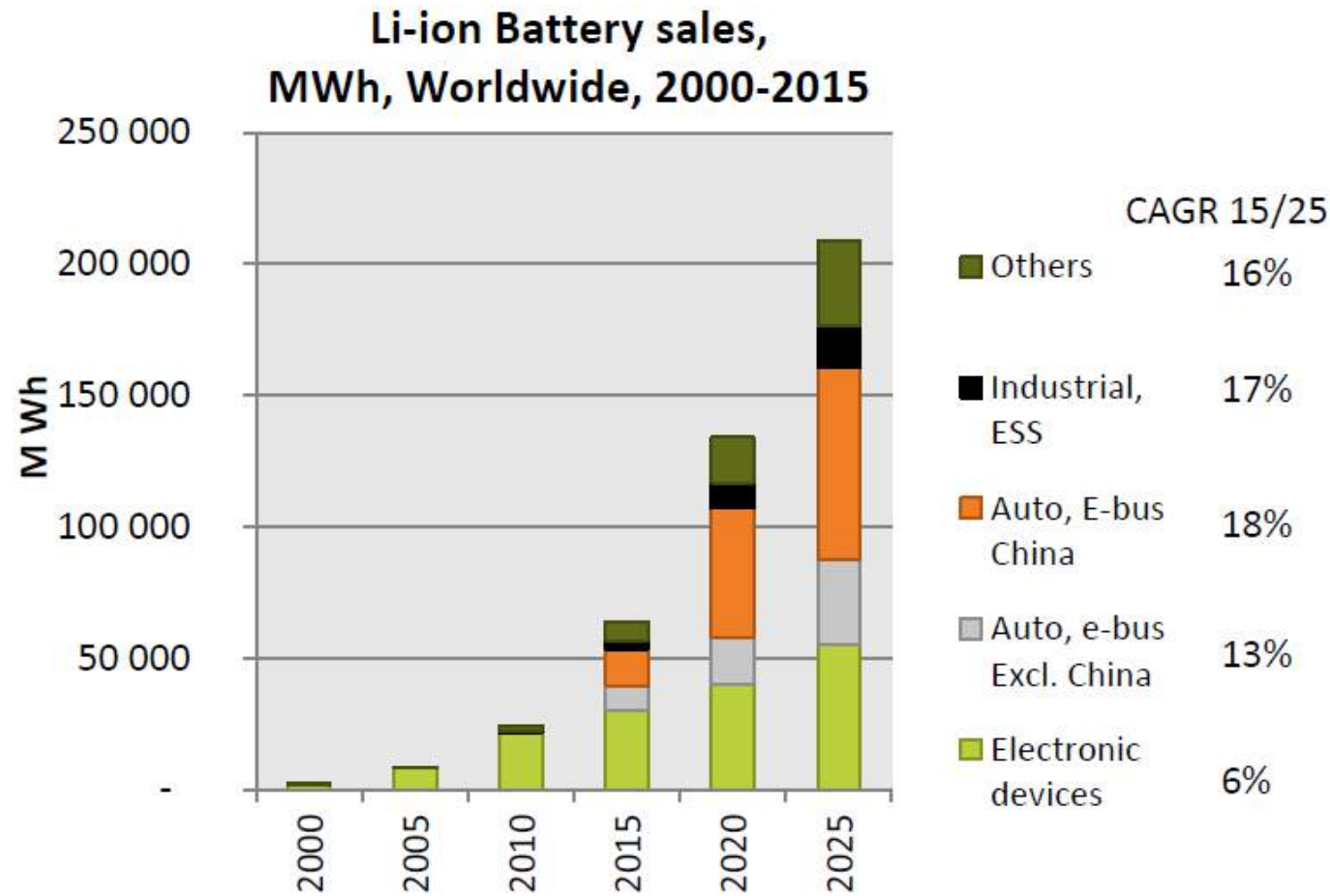


Fonte: <http://inventuspower.com/wp-content/uploads/2017/01/Annual-Update-on-Lithium-Ion-Battery-Technology.pdf>

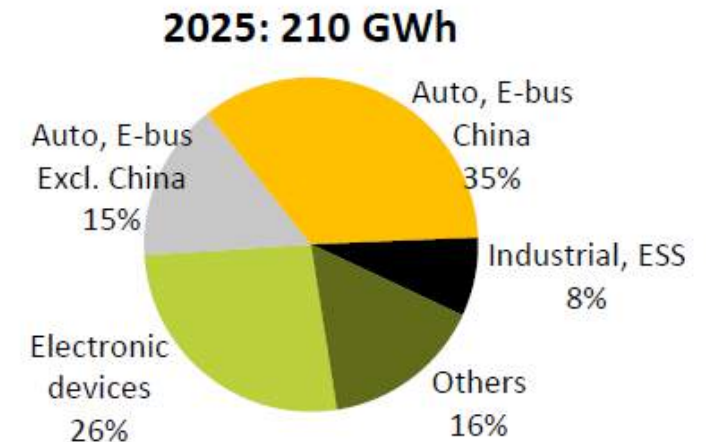
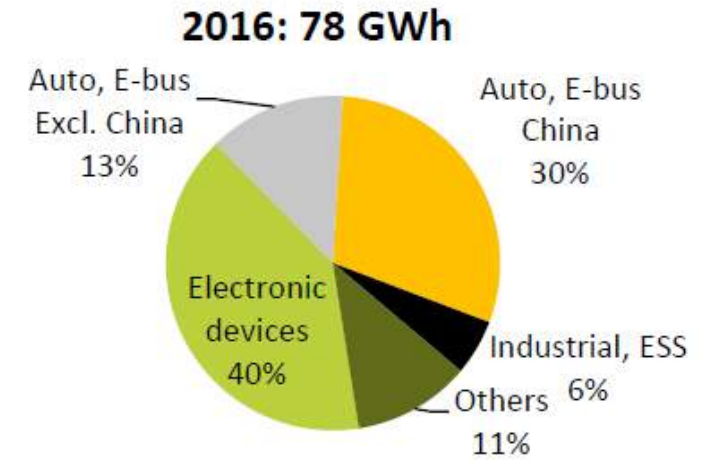
Mercado global de baterias Li-Ion (1990 até 2016)



Forecast do mercado de baterias Li-Ion (2000 até 2025)



Others: medical devices, power tools, gardening tools, e-bikes...



O desafio

Nova regulamentação da *International Civil Aviation Organization*

2018 Lithium Battery Guidance Document

*Transport of Lithium Metal and Lithium Ion Batteries
Revised for the 2018 Regulations*



ICAO

<https://www.icao.int/Pages/default.aspx>



The **ICAO Council (International Civil Aviation Organization)** has confirmed the recommendation of the ICAO Air Navigation Commission (ANC) that prohibits, on an interim basis as of **1 April 2016**, lithium ion batteries (UN 3480, PI 965 only) as cargo on passenger aircraft. Download the Lithium Batteries as Cargo in 2018 Update (pdf).

<http://www.prba.org/wp-content/uploads/IATA-Lithium-Battery-Guidance-Document-2018.pdf>

Qual a nova regra?



ICAO

<https://www.icao.int/Pages/default.aspx>

Lithium-ion batteries (sometimes abbreviated Li-ion batteries) are a secondary (rechargeable) battery where the lithium is only present in an ionic form in the electrolyte. Also included within the category of lithium-ion batteries are lithium polymer batteries. Lithium-ion batteries are generally used to power devices such as mobile telephones, laptop computers, tablets, power tools and e-bikes.



Figure 2 - Example of Lithium Ion Cells and Batteries

△ **Note:**

Lithium ion batteries packed by themselves (Packing Instruction 965) (not contained in or packed with equipment):

- (a) *must be shipped at a state of charge (SoC) not exceeding 30% of their rated capacity. Cells and/or batteries at a SoC of greater than 30% may only be shipped with the approval of the State of Origin and the State of the Operator under the written conditions established by those authorities, see Special Provision A331; and*

<http://www.prba.org/wp-content/uploads/IATA-Lithium-Battery-Guidance-Document-2018.pdf>



Brasil: ANAC – Segue a Determinação da ICAO



ICAO

<https://www.icao.int/Pages/default.aspx>



31/03/2016 às 18h00

Anac proíbe transporte de baterias de íon lítio como carga em aviões

Por João José Oliveira | Valor



SÃO PAULO - A partir desta sexta-feira, 1º de abril, fica proibido o transporte de baterias de íon lítio como carga em aeronaves de passageiros em todo o território nacional, informou a Agência Nacional de Aviação Civil (Anac). Segundo a Anac, a proibição segue determinação da Organização de Aviação Civil Internacional (OACI), que também impôs restrições para o transporte do material em aeronaves cargueiras.

<http://www.valor.com.br/empresas/4506354/anac-proibe-transporte-de-baterias-de-ion-litio-como-carga-em-avioes>

STBC 60 – Battery Charger

Carregador de baterias Li-Ion Industrial

Junho 2018 – V0



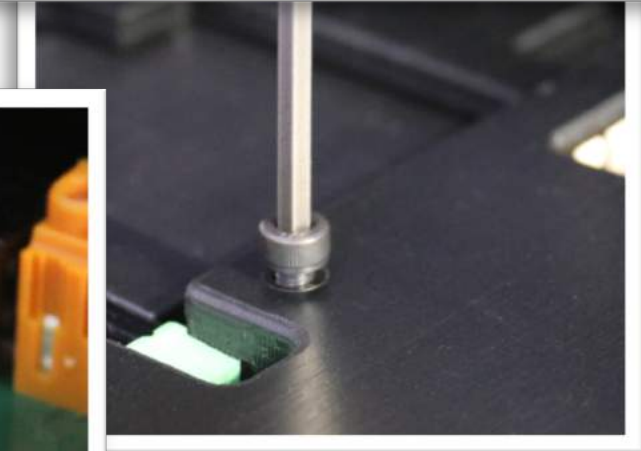
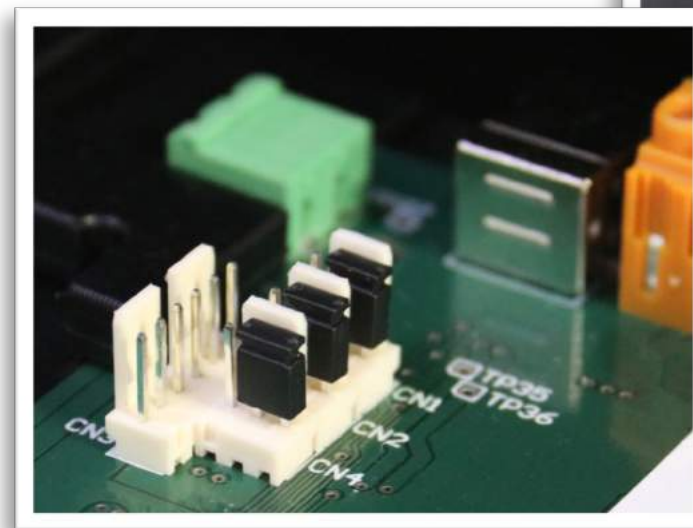
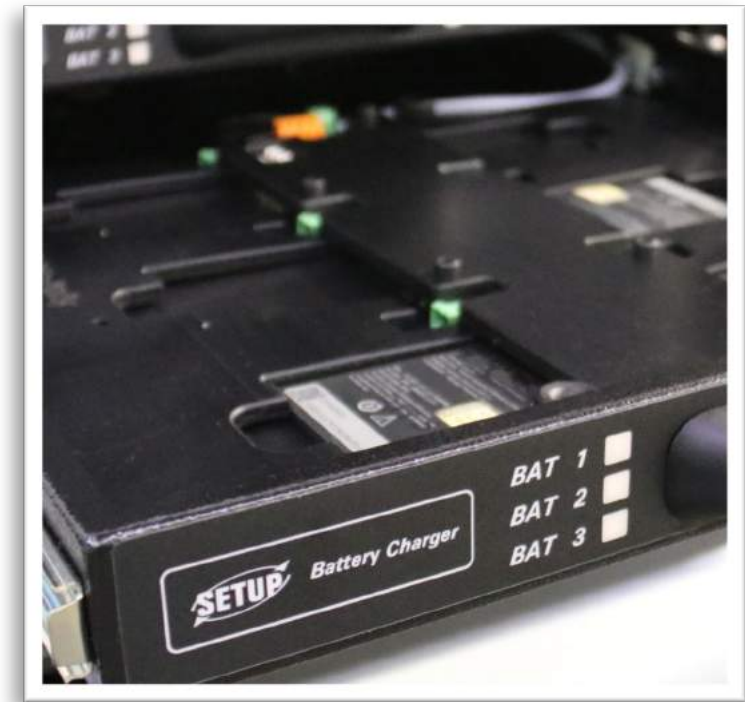
Carregador de baterias Li-Ion Industrial

- Corrente de carga até 5 Amperes;
- Controle de carga individual;
- Datalogger de tensão e corrente por canal;
- Carga de 60 baterias simultaneamente;
- Software de visualização para até 50 racks em rede;
- Relatórios automatizados das cargas das baterias;

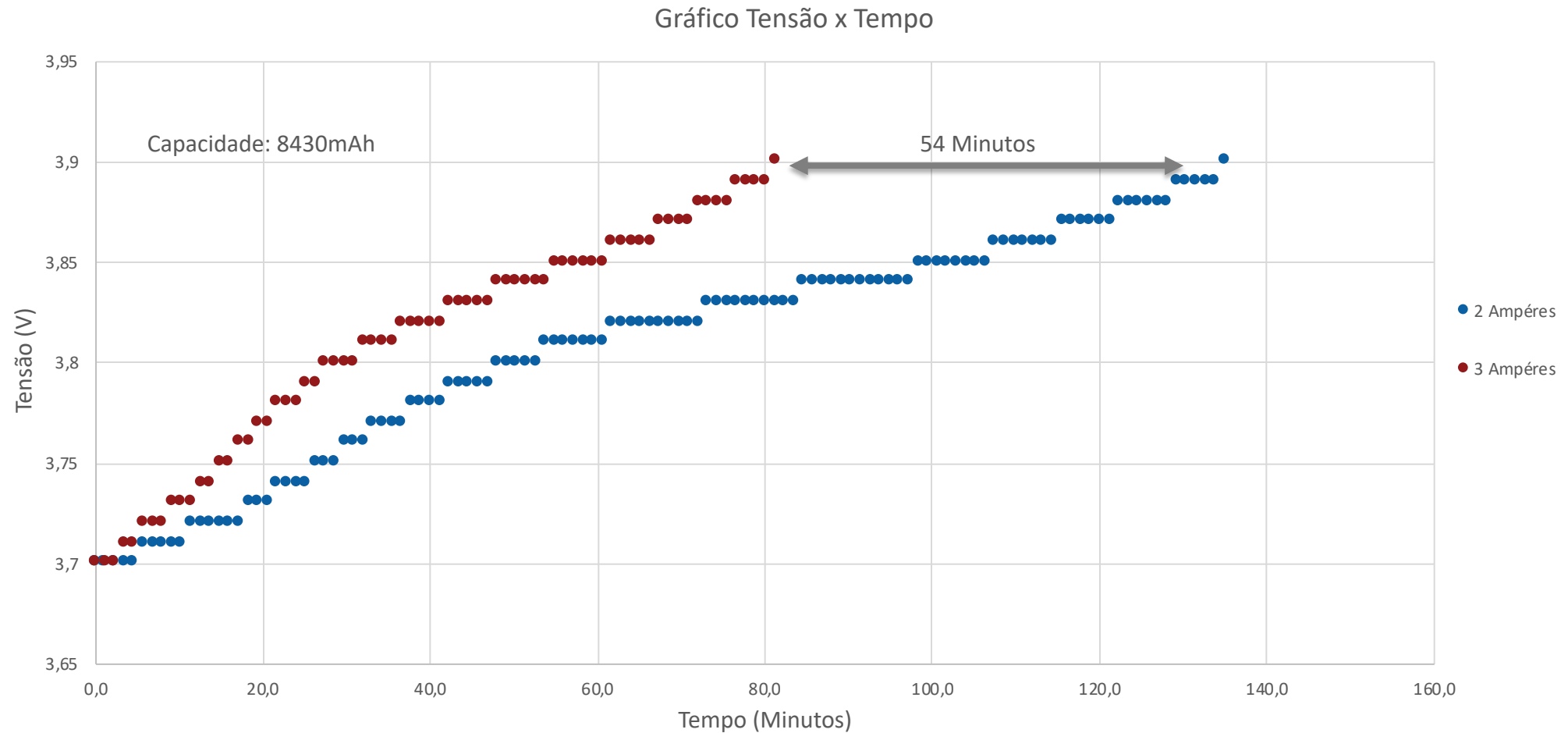


STBC-60: Características Elétricas

- Proteção elétrica por canal (tensão e/ou corrente);
- Proteção por excesso de temperatura;
- Diagnóstico individual por canal, com indicação luminosa;
- Slots para baterias confeccionados em plástico de engenharia com dissipação de ESD.
- Canais configuráveis;

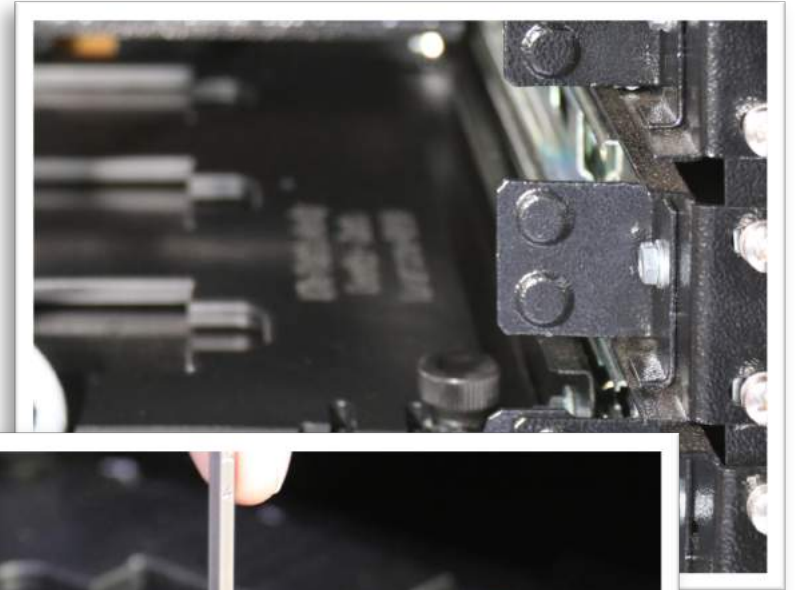


Curva de Carga - Análise com bateria de grande capacidade. (STBC-60)



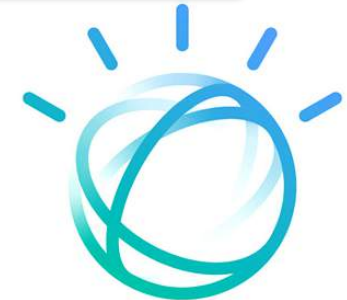
STBC-60 : Características Mecânicas

- Gavetas deslizantes com trava magnética;
- Mascaras para acomodação mecânica intercambiáveis;
- Alças para transporte;
- Ideal para baterias de gadgets, smartphones, tablets, notebooks e dispositivos móveis em geral.

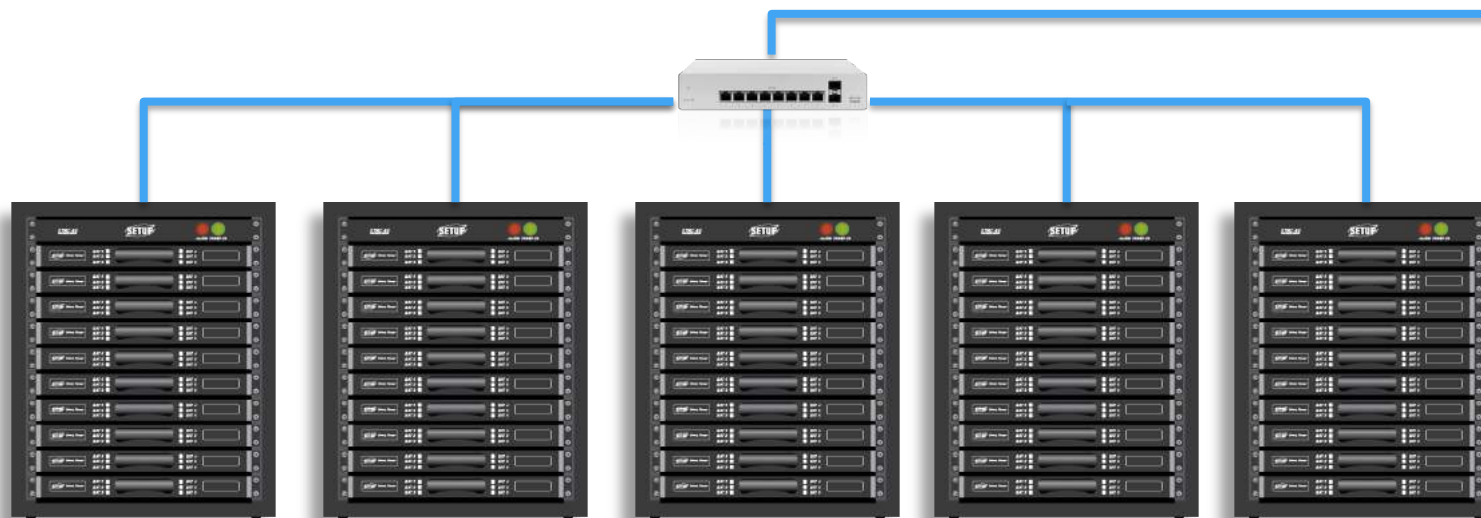


STBC-60: Software de Monitoração

- Monitoração de canais, slots e racks;
- Diagnóstico remoto;
- Overall Equipment Effectiveness;
- Integração em nuvem;
- Banco de dados;



IBM Watson





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