

# SELF-HEALING BATTERIES: Where are we today?

## HIDDEN & BAT4EVER Final event

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BATTERY  
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# Marketing aspects: achievements and drawbacks to match the smartphone market

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## Introduction

### The current market for smartphone batteries

- Value of 21.59 billion USD in 2022 billion with a CAGR of 6.4percent according to Global newswire
- 1.39 Billion mobile phones sold in 2022
- The major smartphone battery players are BYD, DESAY,Samsung,LG Chem, ATL,TWS,Boston power, BAK Battery and Sunwoda electronic.
- Current state of the art smartphone batteries have capacity range from 3000 to 6000 mAh with an upward trend
- Many smartphones use battery stacks to meet the required capacity e.g. the upcoming iphone 16 for autumn 2024

# Smartphone battery trends

## BAT4EVER battery specifications

Parameter	Units	BAT4EVER pouch cell
Cell Chemistry type	-	NMC/SH
Capacity	Ah	2
Nominal Voltage	V	3.7
Max Voltage	V	4.5-5
Min Voltage	V	2.5
Nominal Current	A	4
Max Discharge Current	A	4
Max charge current	A	2
Max discharge current	A	4

# Smartphone battery trends

## Current smartphone battery comparison

Key battery characteristics for state of the art smartphones

Smartphone model	Battery Chemistry	Battery Capacity (mAh)	Charging Power (W)
Honormagic5	Si/C	5450	66
i-Phone 15 Pro	Li-Ion	3095	30
Motorola G52	LiPo	5000	30
Nokia C32	LiPo	5050	10
OnePlus Nord 2 5	LiPo	4500	80
Realme 13GT	LiPo	4600	240
Xiaomi	LiPo-solid state	6000	67

## Conclusion

- Wide range of battery capacities on the market from 3 to 6 + Ah
- Various types of Li-Ion chemistry currently on offer
- Chargers are becoming more powerful/ Rapid
- Battery cell stacking required for performance, capacity and space constraints e.g. new iPhone 16 2024
- SH battery with longer cycle life and fast charging has a future in smartphones
- Pricing of SH battery to be equal to or lower than current state-of-the-art cells



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# Thank you for your attention

