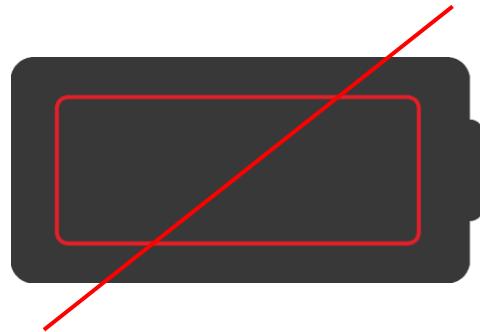
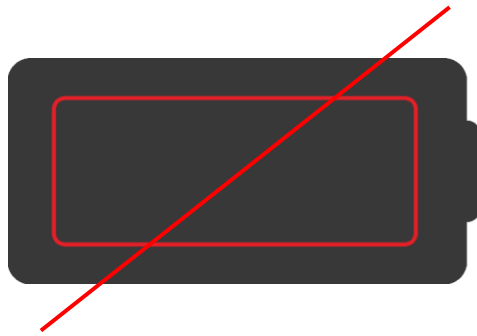


**Remember the last time your battery died  
at the moment you really needed it?**



# Malfunctioning batteries can cause huge damage



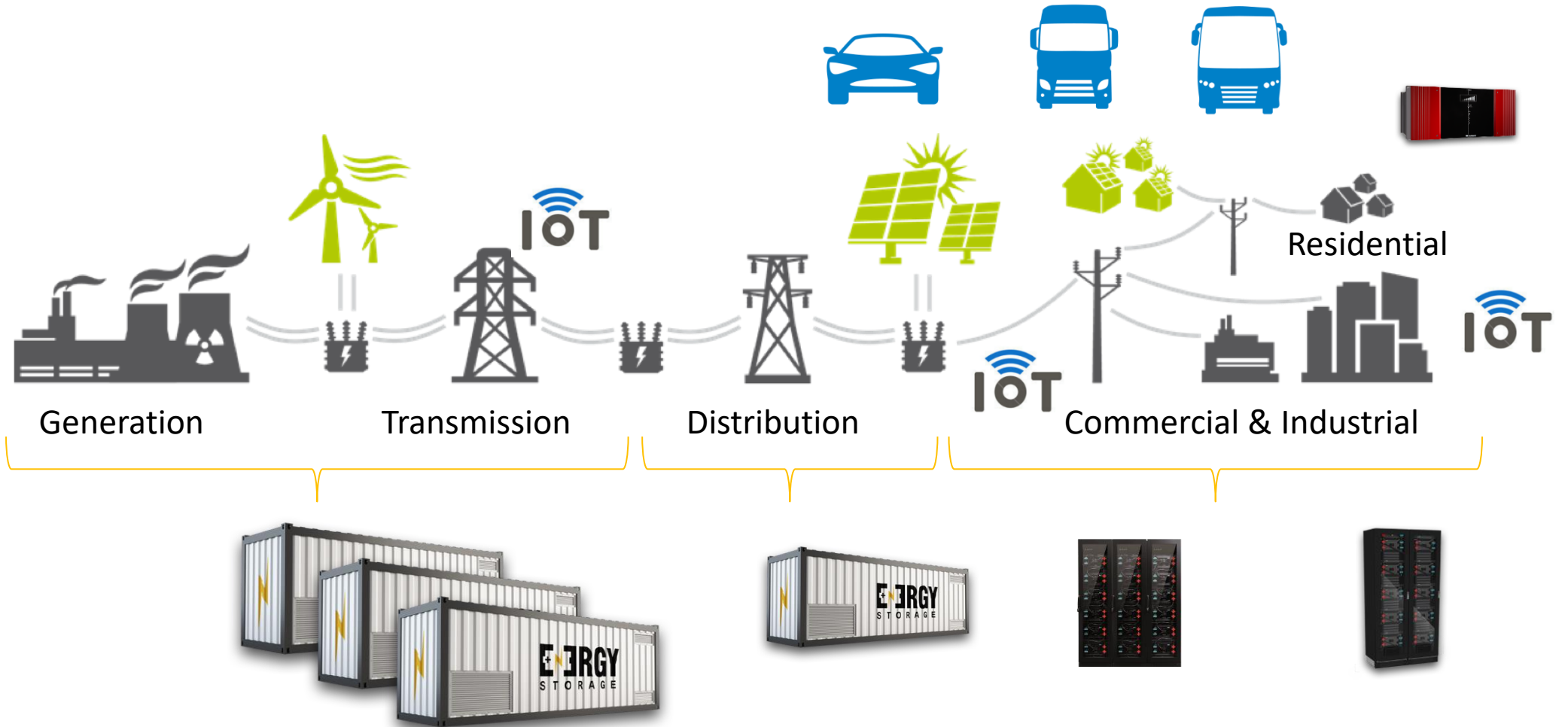
# Batteries are dangerous black boxes



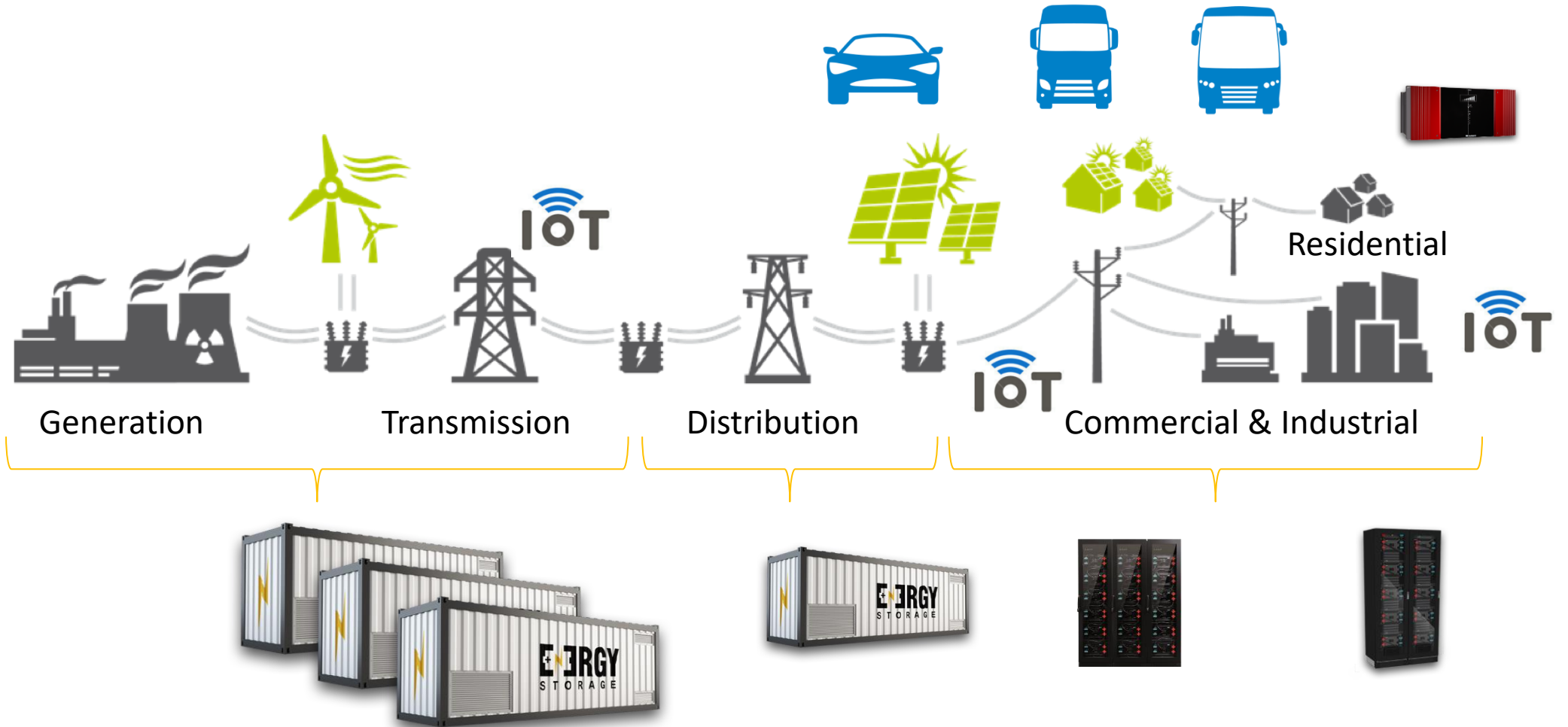
# Batteries are dangerous black boxes



# Batteries are everywhere



# Batteries are everywhere



# Battery aging drivers

## Battery cell

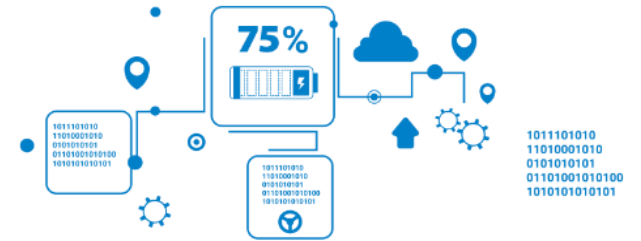
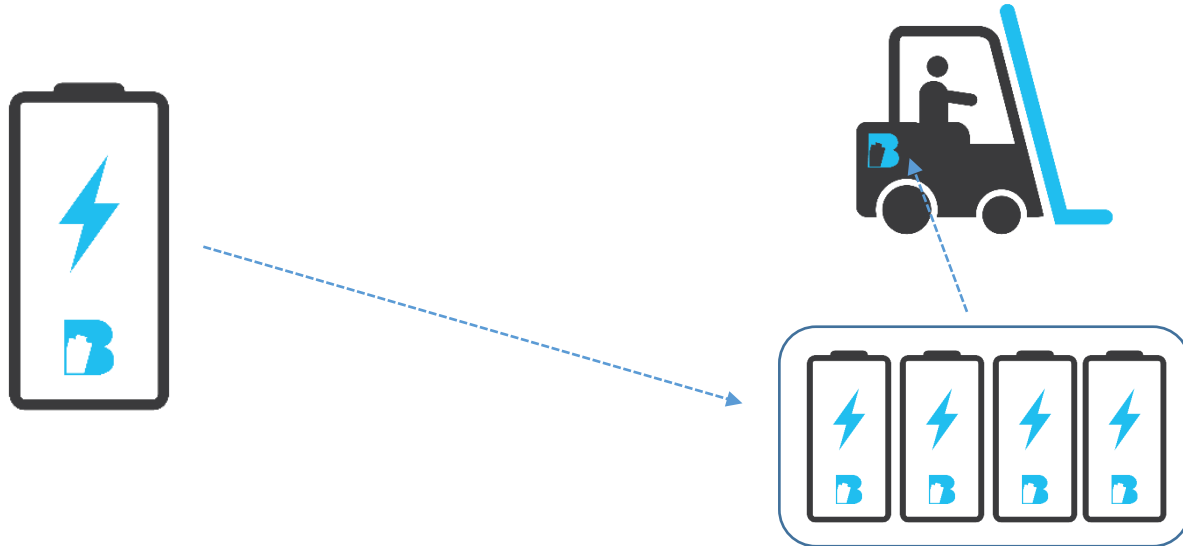
Right type, chemistry, parameters

## Battery-powered device

Battery pack design, battery management system, proper battery integration, thermal management, position inside of the device

## Real life operations

Usage, idle time, misuse, environment, user



Device manufacturer's choice

← feedback/consulting



# Battery aging drivers

## Battery cell

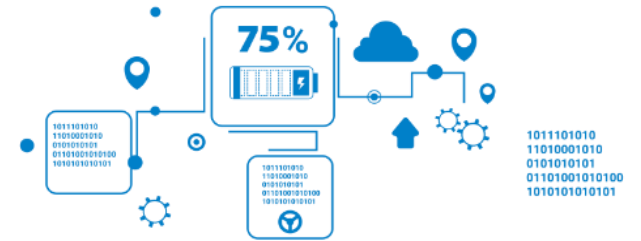
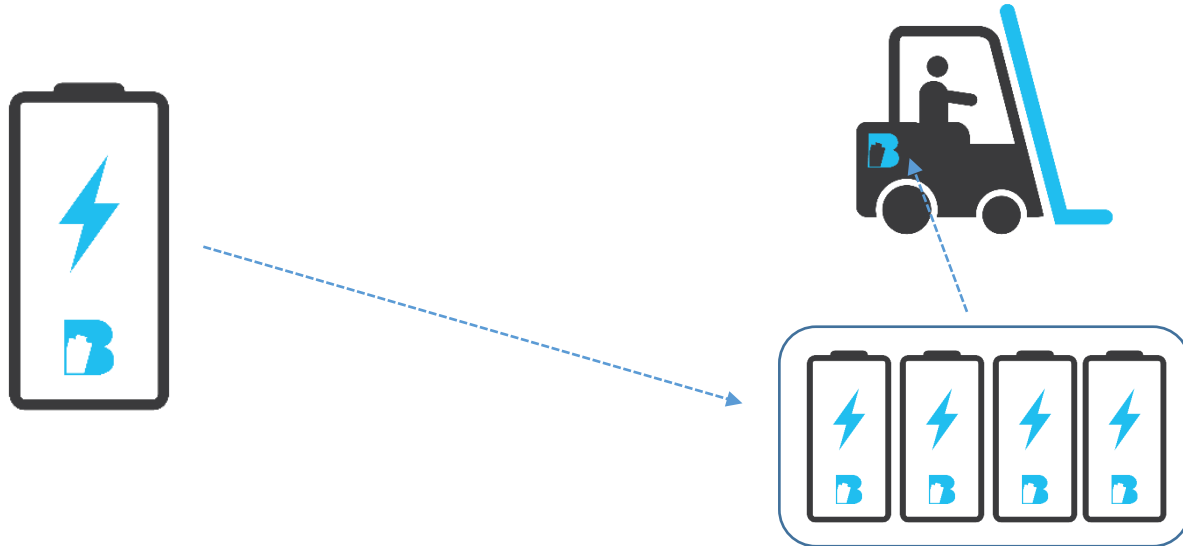
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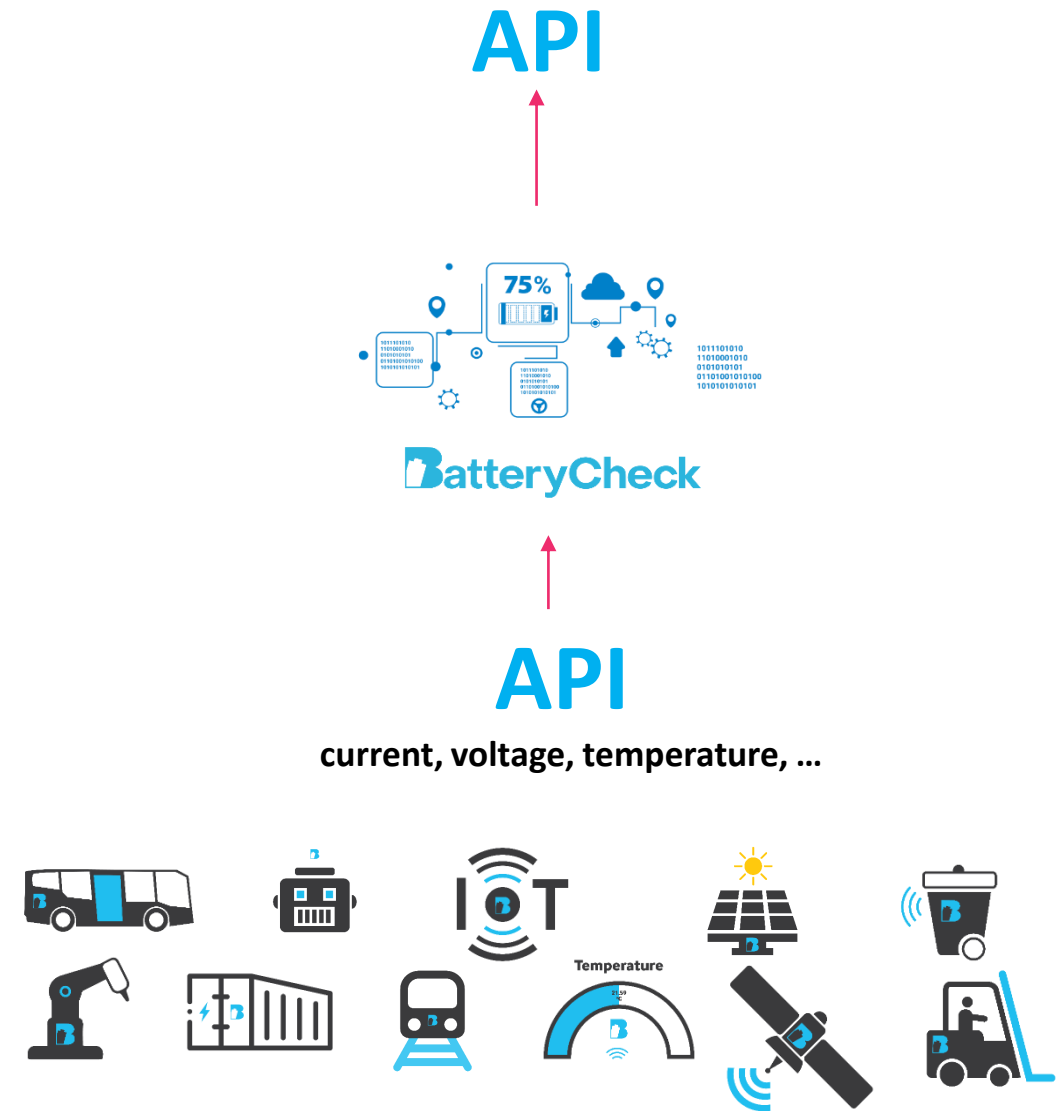
# Our solution – battery life cycle management

## Innovative Technology

Pure software (no hardware), fueled by big data science, cloud computing and blockchain.

## Innovative Process

Easily integrable API-in & API-out solution, applicable on *any connected* battery-powered device, operating in *whatever* industry and conditions with *any battery type and chemistry*.



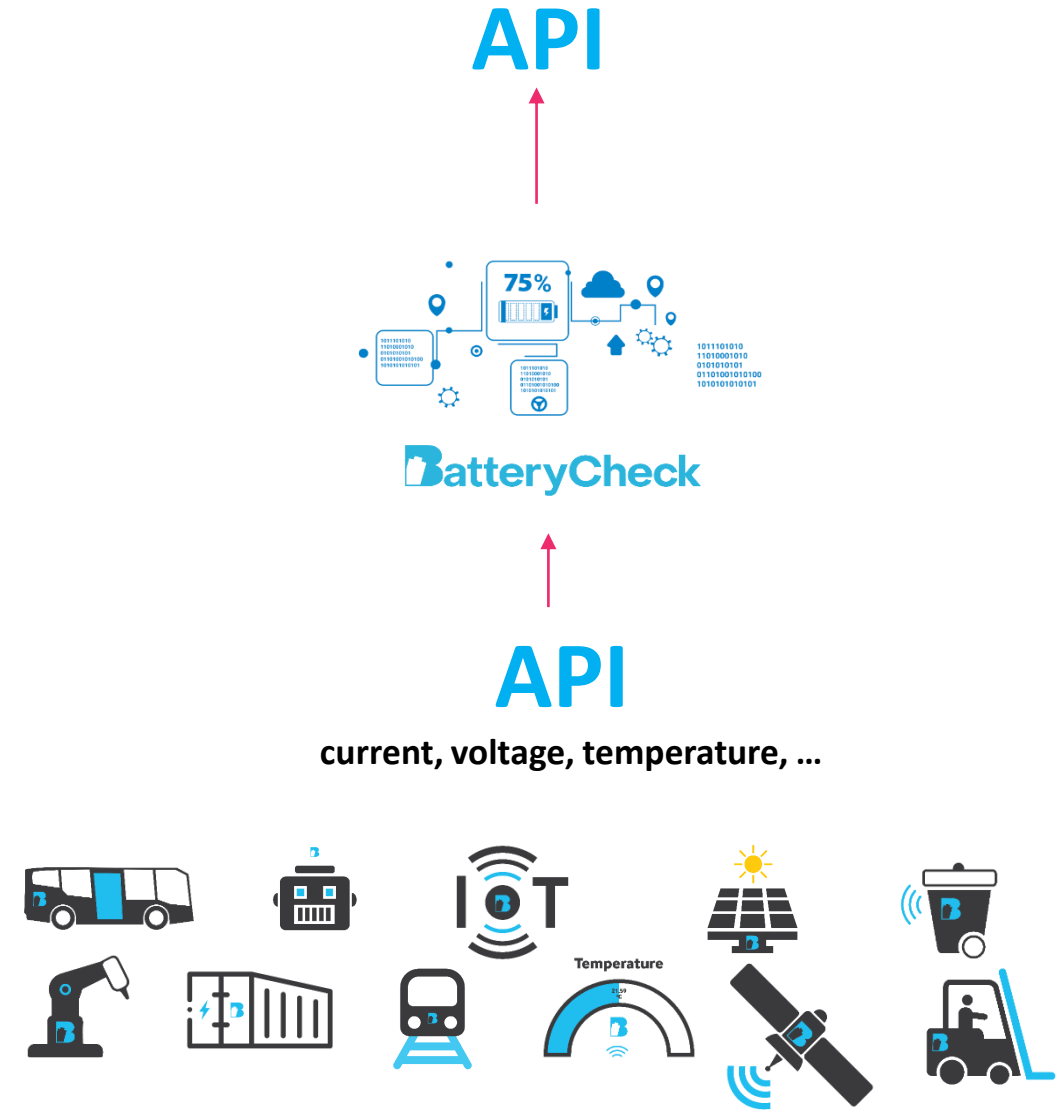
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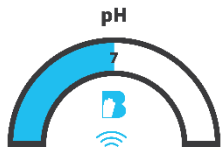
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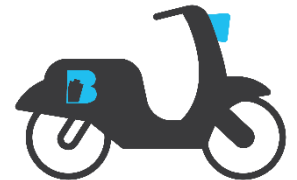
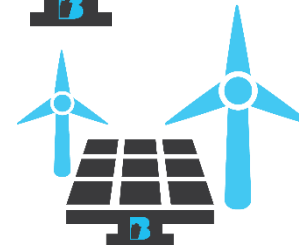
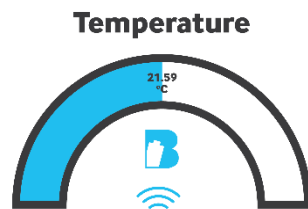
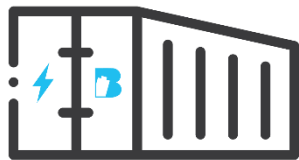
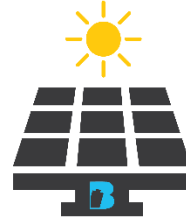
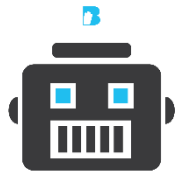
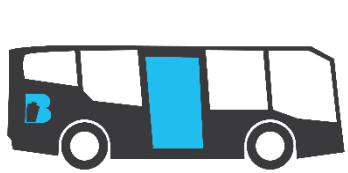
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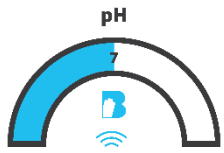
# We need “IoT connected device”



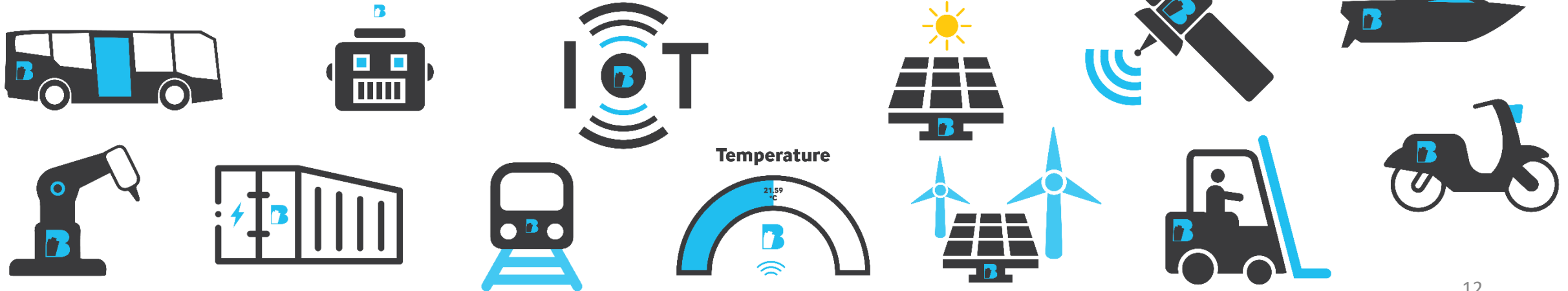
- ✓ Capable of measuring & collecting battery telemetry data – temperature, current, voltage, energy throughput etc.
- ✓ Capable of sending telemetry data directly or via management platform.



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# Battery analytics as a service



**BMS**  
Static information from battery management system.

**Evotchi**  
Anomaly detection in data stream with alerts.

**ABEL**  
Battery remaining useful life predictions.

**CIRCLE**  
2<sup>nd</sup> life and recycling recommendations.

**Trusto**  
Blockchain based data immutability and certificates.

**EBA**  
Edge battery analytics.

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# “Battery monitoring in any device”



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[www.BatteryCheck.com](http://www.BatteryCheck.com)

<https://youtu.be/HcdExuRaNqs>



*Certificate delivered by the European Commission,  
as the institution managing Horizon 2020,  
the EU Framework Programme for Research and Innovation 2014-2020*

The project proposal  
970754, BatteryCheck

**BatteryCheck takes the mystery out of the battery life from the  
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submitted under the Horizon 2020's SME Instrument (grant only and blended finance)  
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