

Passaporto digitale delle batterie: una soluzione circolare per la transizione ecologica

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Bosch | Who we are

Our company in figures

In 2023



91.6

billion euros
sales revenue



4.8

billion euros EBIT
from operations



429,416

Bosch associates
worldwide



470

subsidiaries and regional
companies in more than
60 countries

Figures for the 2023 business year.

Bosch | Where we want to go

Our research and development

In 2023



7.3

billion euros
invested in research
and development



8%

as percentage of sales



90.100

associates work
in R&D, including

48,000
software developers



136

R&D locations
worldwide

Figures for the 2023 business year.

Bosch Group Business Sectors



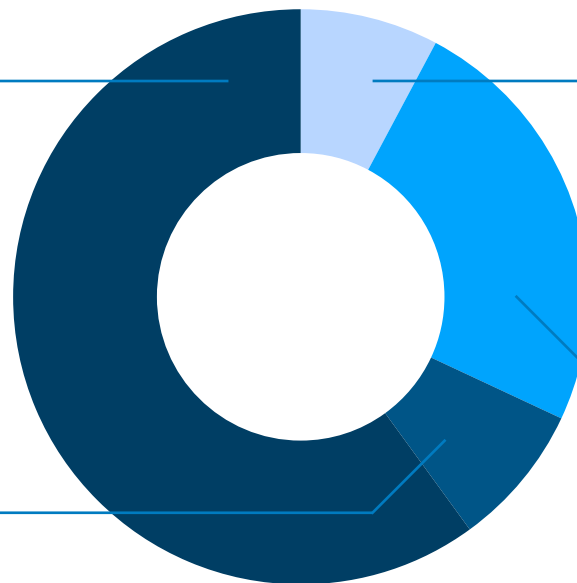
€56.2bn

Mobility
60%



€7.7bn

Energy and Building Technology
8%



€7.4bn

Industrial Technology
8%



€19.9bn

Consumer Goods
24%



A futuristic car, possibly a self-driving vehicle, is shown on a city street. The car is surrounded by a glowing blue and white digital overlay that resembles a complex network or data stream, symbolizing data processing and connectivity. The background shows a typical urban environment with trees, buildings, and pedestrians. The overall scene is bathed in a warm, golden light, suggesting a sunset or sunrise setting.

It's all about DATA

 **BOSCH**

Digital Battery Passport

A Circular Solution

20

CARBON NEUTRALITY FOR THE EU

The **European Green Deal** is the EU's strategy to combat climate change & environmental degradation

50

Central to this initiative is the **circular economy act**

MORE PRODUCT TRANSPARENCY

From **1st February 2027** all EV and industrial batteries over 2 kWh sold into the EU market will require a **battery passport**

20

27

MAIN GOALS

ENHANCING
TRANSPARENCY

TRANSITIONING TO
CIRCULAR ECONOMY

ECONOMIC GROWTH
& INNOVATION



BOSCH

Battery in the Cloud

Bosch has the right expertise on electric vehicle batteries DATA

Best in class on battery analytics
Algorithms capturing the behavior of EV batteries

Unique combination of AI and physical battery models
Deep & precise insights on EV batteries in the field



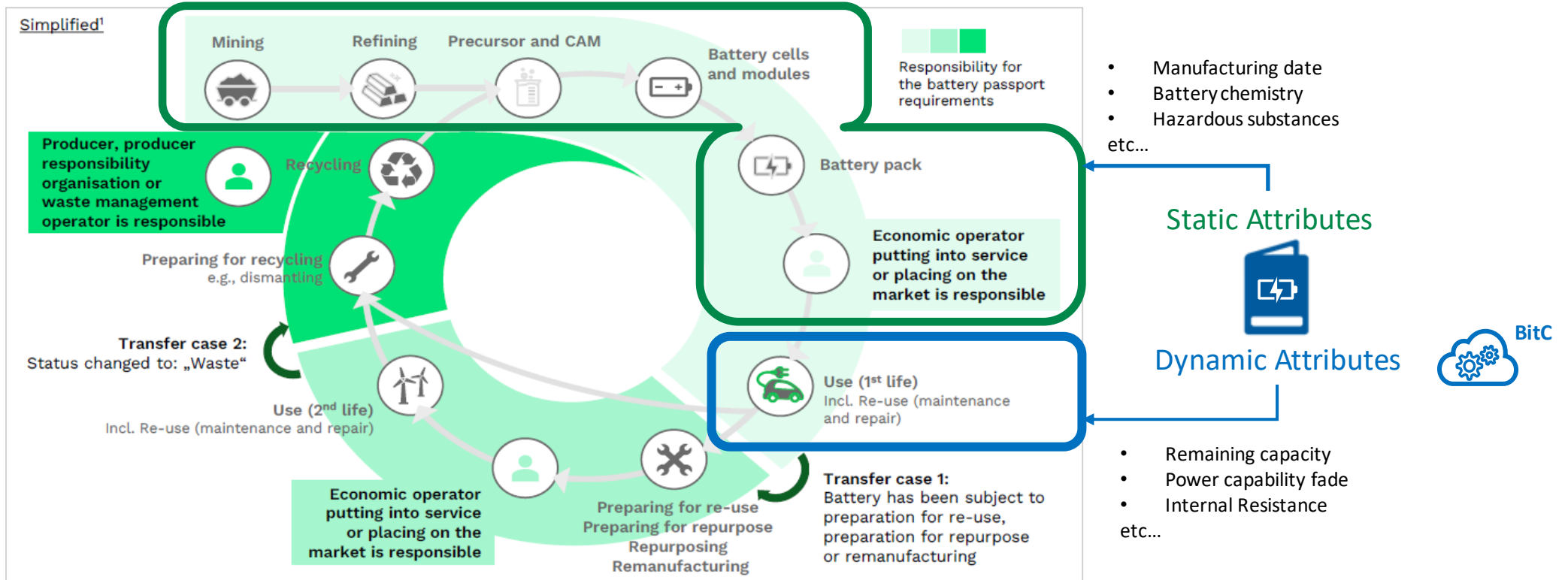
Extensive experience in automotive sector
Long track record in EV application and vehicle integration

Flexible approach
Battery in the Cloud available for all types of batteries

Battery in the Cloud

Empowering the EU Battery Passport with Bosch Battery in Cloud

Responsibility periods and transfer cases for the battery passport



DA .- Dynamic Attributes BP.- Battery Passport

Bosch Digital Battery Passport

Key requirements for software solutions

DISPLAY OF ATTRIBUTES | DIGITAL TRANSCRIPT



General Battery and Manufacturer Information



Compliance, Certificates, Labels



Battery Carbon Footprint



Supply Chain Due Diligence



Battery materials and composition



Circularity and resource efficiency



Performance



Durability

HANDLING COMPLEXITY | LEGAL REQUIREMENTS

Interoperability with other Systems

Data exchange via Organizations

Fraud Protection

Security of data

Unique identifier on instance level

System flexibility in case of legal adj. etc.

Rights and roles concept

Transferability, Eraseability etc.

...

VALUE PROPOSITION & FUNCTIONAL SCOPE

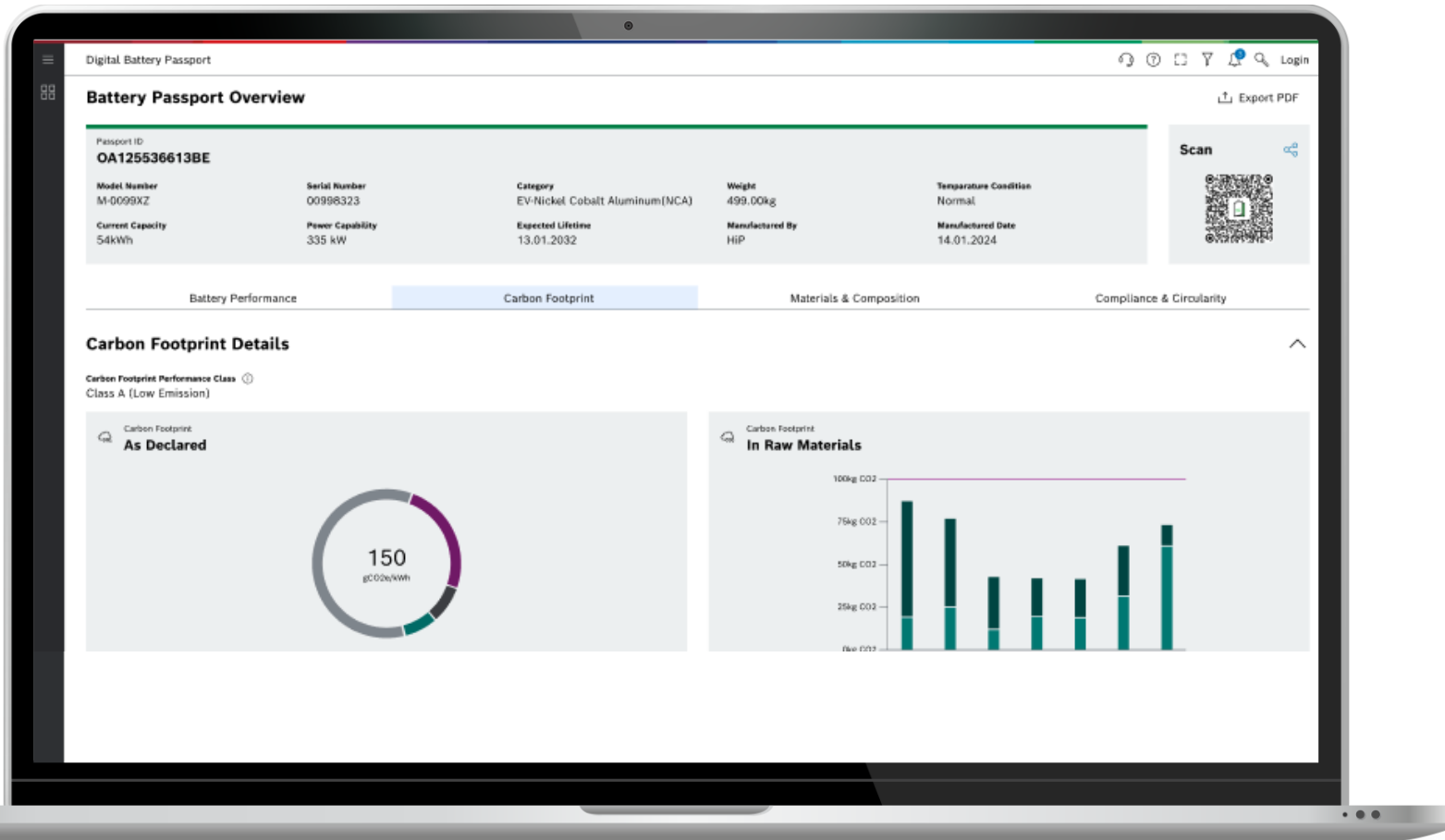
Leverages the power of digital twins

Ensures compliance with European law

Fosters circular economy

Bosch Digital Battery Passport

A tangible solution towards a sustainable growth



- DATA
- Digital Twins
- Transparency
- Circularity
- Compliant
- Opportunities

Grazie per l'attenzione!

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