

# A dozen full of energy.

Case study with  
The Bristol Port Company



**TENSOR**<sup>®</sup>

## The case

**Project:**

Exide Technologies installs a total of 12 Tensor batteries across the port's fleet of forklift trucks

**Customer/Project:**

The Bristol Port Company, Avonmouth Bristol, Great Britain

**Installed system:**

12 Tensor batteries

**Installation date:**

February 2023

**Installed battery capacity:**

80V 990 Ah

**Exide Technologies recently collaborated with The Bristol Port Company, a key hub for shipping and logistics in the UK, to electrify its material handling equipment fleet.**

Bristol Port, privatised since 1991 and directly employing 600 staff, handles millions of tons of cargo annually, requiring robust and reliable equipment for its day-to-day operations.

## The scenario

Bristol Port recognised the need to transition from diesel-powered material handling equipment to electric alternatives to reduce emissions and enhance sustainability. Additionally, the port sought to improve operational efficiency and reduce maintenance costs associated with traditional diesel engines.

## The solution

After careful evaluation, Bristol Port opted for Tensor batteries, renowned for their durability, extended runtimes, and ability to operate efficiently in challenging environments. Exide Technologies, a leader in energy storage solutions, spearheaded the project, installing a total of 12 Tensor batteries across the port's fleet of forklift trucks. This also included Exide Weatherproof Chargers (IP54 rated), which charge batteries in six hours.

A total of  
**12**

Tensor batteries across the port's fleet of forklift trucks



**6** hours

needed to charge batteries with weatherproof chargers



Reducing CO<sub>2</sub> emissions by transitioning from diesel-powered material handling equipment to electric alternatives

The Tensor batteries deployed included 80V-990Ah units equipped with advanced features, such as fast charging capabilities and robust construction suitable for the demanding environment. These batteries provided Bristol Port with extended runtimes, reducing the need for frequent battery changes and optimising operational uptime.

Exide's battery management system (BMS), Motion+, was also installed. BMS is assisting Bristol Port in selecting the appropriate battery, either online or through its cloud-based platform.

It allows users to identify any issues with a battery, whether it has been selected incorrectly or prematurely. Additionally, they can monitor the CO<sub>2</sub> emissions produced by the charger, which is crucial for sustainability efforts. This feature enables Bristol Port to make informed decisions regarding their environmental impact.

The system also includes a call forwarding mechanism that automatically selects the next available fully-charged battery in line. For instance, if Battery (A) has just begun charging while Battery (B) is fully charged, the system will prioritise Battery (B) for selection.





## User benefits



Z-profile powerful  
fast charging regime



Three shifts, one battery: No  
need to change batteries during  
shifts for many applications



Full recharge  
in 4 hours



Outperforms at lower  
temperatures



Developed for highest  
efficiency and performance  
chargers from **€** /



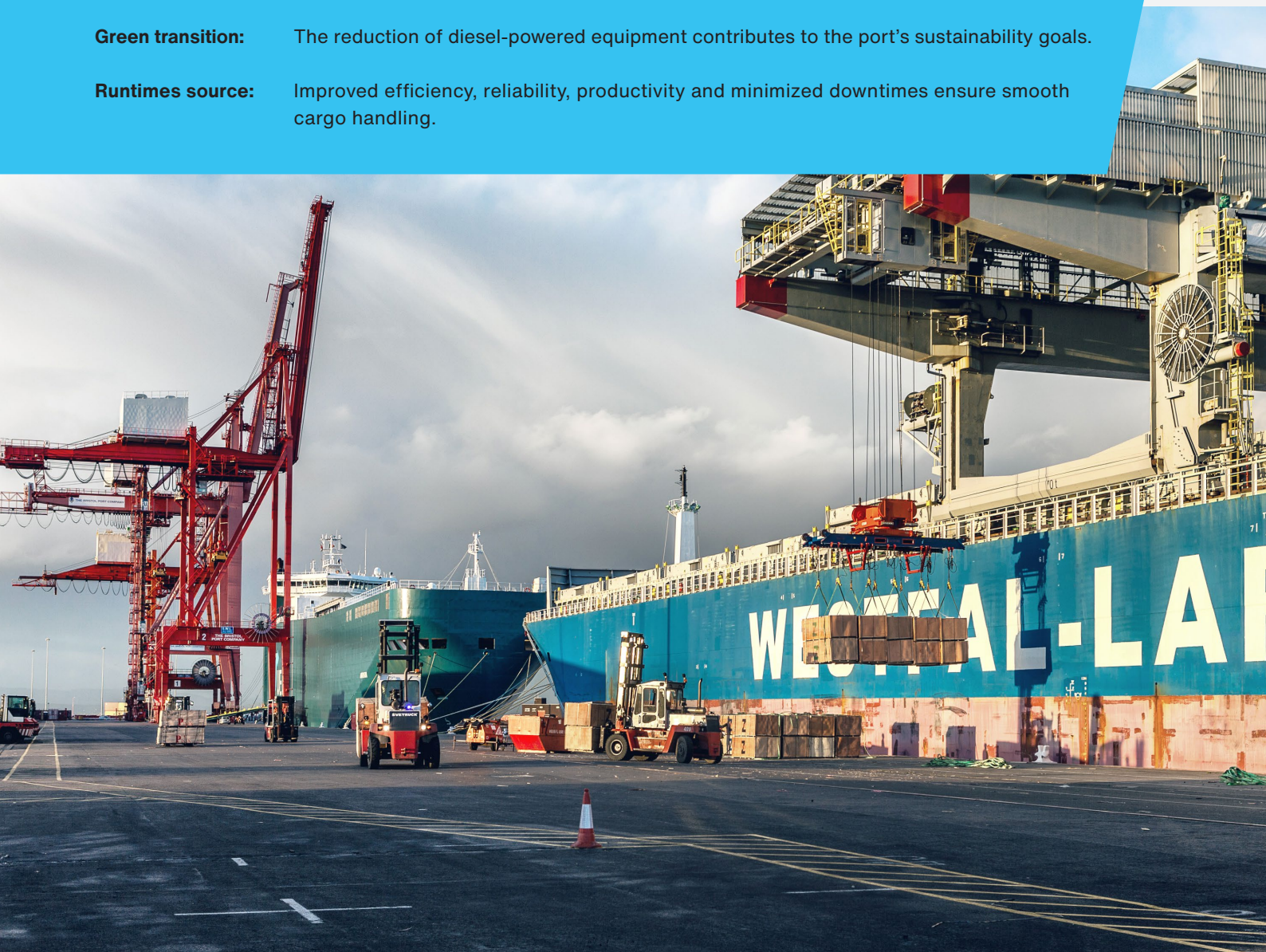
Seasonal business /  
Activity peaks

## The results

**Increased efficiency:** 12 Tensor batteries has made a significant impact on Bristol Port's operations.

**Green transition:** The reduction of diesel-powered equipment contributes to the port's sustainability goals.

**Runtimes source:** Improved efficiency, reliability, productivity and minimized downtimes ensure smooth cargo handling.



# A perfect match

## About Bristol Port

Reflecting on the project, both parties recognise the importance of thorough research and planning when transitioning to electric equipment. The collaboration with Exide Technologies ensured a seamless transition, highlighting the value of strategic partnerships in implementing innovative solutions.

### Bristol Port Project Engineer, Lucy Ellis, said:

“With the successful deployment of Tensor batteries, Bristol Port remains committed to sustainability and efficiency in its operations. The partnership with Exide Technologies emphasises the port’s dedication to embracing technologies that contribute to a greener and more sustainable future without compromising service our customers expect and deserve.”



In summary, the electrification of Bristol Port’s material handling fleet with Tensor batteries represents a significant step forward in the journey towards sustainable port operations. It demonstrates the efficacy of advanced energy storage solutions in challenging industrial environments.

## About Exide Technologies

Exide Technologies ([www.exidegroup.com](http://www.exidegroup.com)), headquartered near Paris, France, is a leading provider of advanced energy storage solutions for the automotive and industrial markets. It designs, manufactures and markets today’s and next-generation battery technologies used across a wide range of applications, from automotive and off-road to material handling, stationary, rail and defense. Exide Technologies serves the global markets with leading battery technologies, know-how & added-value services under many well-known brands.

As an original equipment manufacturer to leading automotive and industrial equipment manufacturers, Exide Technologies has been involved in many of the significant breakthrough energy-storage developments that are enabling innovation across the markets. With two R&D facilities, 10 production plants and three recycling plants in Europe, Exide is committed to high quality engineering, manufacturing and recycling, and energizes the world with the most efficient energy solutions, helping customers maximize productivity and performance. Exide Technologies is serving the markets with products and services of an annual value of ~1,5bn Euro.

### Creating the future – the Exide Technologies way:



Innovation



Reliability



Sustainability



High Performance