



THE BRAVE NEW WORLD OF THE GLOBAL BATTERY ECONOMY

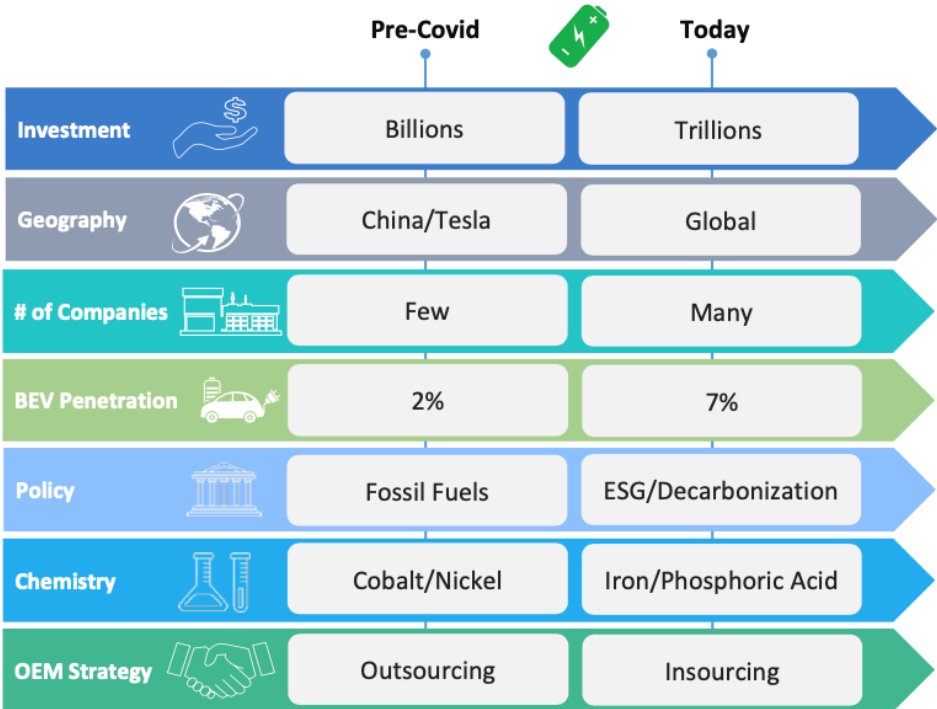
Software-defined batteries:
A new era in sustainable and accessible green tech

The State of the Global Battery Market

Morgan Stanley’s 110-page research report “The New Oil: Investment Implications of the Global Battery Economy” projects that the global battery economy will exceed \$500 billion by 2040.

Between 2019 and 2021, investments in the battery economy increased by as much as 20x as technology, climate-oriented stimulus policies, and ~\$2 trillion of capital converged. We saw 5 if not 10, years' worth of progress in 2 years.

We have reached the tipping point where electrification is a fact of life.



Source: Morgan Stanley Research

A pivotal moment in the battery economy

The increase in battery efficiency is like compound interest — just a few percent of improvement builds upon itself over time to create an exponential leap in progress.

Meanwhile, the flurry of environmental, social, and governance (ESG) mandates and government climate policies made adopting green technologies and reducing carbon footprints not an option for corporations in every sector.

Maturing battery technologies along with the policy and ESG drivers create an industrial flywheel that accelerates capital formation, lowers costs, and supports implementation at commercial and industrial scales.

We're now seeing this trend in electric vehicles (EVs) for the consumer market. But that's just the tip of the iceberg.

The technological advancement, capital injection, infrastructure upgrades, and manufacturing scale will create a virtuous cycle to drive the electrification of everything from industrial autonomy and robotics to defense and more. In fact, Tanktwo has been working with a prominent defense manufacturer for a few years to develop cutting-edge battery solutions.

But there's a plot twist...

Will everything be fine and dandy if you put your money in a battery manufacturing company that pumps out more cells faster and cheaper?

Not so fast. Existing battery solutions can't support electrification responsibly and sustainably. Lithium battery production has vast environmental and social impacts (we'll explore that in the next section.) A wave of massive reset will hit the sector to address electrification's direct and indirect consequences.

Morgan Stanley also predicts that "structural batteries or super-capacitors may carry the future of the global green economy rather than today's widely used lithium-ion battery. A structural battery can be an airplane wing, car body, or phone case with a thin sheet of woven glass that separates the two electrodes."

But today's battery packs are, for all intents and purposes, non-serviceable. A single failed cell often brings down the entire system.

The concept of a structural battery isn't even theoretically feasible with current technologies — when cells make up the structure of a vehicle or piece of equipment, repair becomes impossible. You'd be scrapping a durable asset just because a few deteriorating wear items (i.e., the cells) fail. So much for sustainability!

Not to mention, you'll need a technology that can adapt to any form factor without reinventing the wheel every time to achieve the economy of scale. Again, not possible with the current approach to battery pack development.

Additionally, the report warns against obsolescence risks from technological breakthroughs. For example, today's battery pack solutions are chemistry-specific, and operators can't mix cells of different compositions — restricting companies' ability to switch to new (e.g., less costly and more environmentally friendly) chemistries without making essential changes to their designs.

The report also analyzes the many unknowns and variables regarding battery chemistries. But those concerns are based on old assumptions. Tanktwo's technology, which can use battery cells of any chemical composition (including solid-state batteries mentioned in the report), allows companies to eliminate this big question mark.

Lastly, we must resolve issues related to commoditization, which is inevitable when any technology matures. The scale will create supply chain challenges, and we need a battery solution to help manufacturers and operators mitigate the impact of supply chain fluctuations. (We'll explore the supply chain implication later in this white paper.)

But wait... isn't commoditization a risk?

Commoditization is tied to industrialization and deflation. But it won't become the enemy of profits if we look beyond hardware to create a new dimension of value — as the PC or smartphone industry does.

For example, out of a \$100 value of an Apple device, only \$2 to \$5 goes to Foxconn in China — even though it handles 99.99% of the parts and labor and 100% of the manufacturing process.

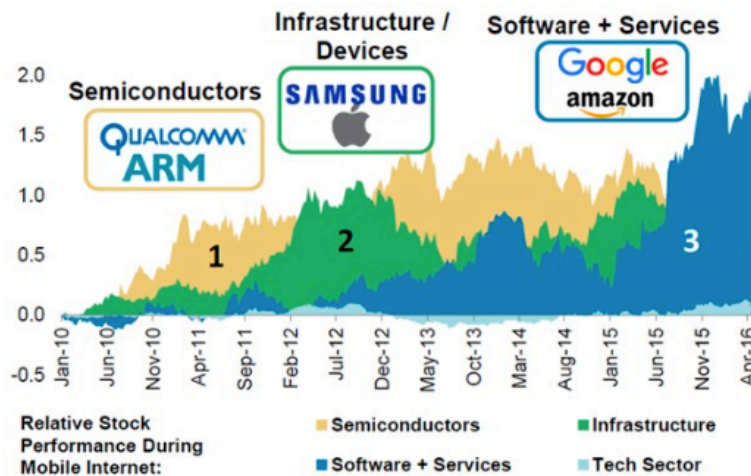
Meanwhile, \$95 to \$98 of the value (and with this, a profit opportunity) stays within Apple. How? Although the smartphone is a commodity, Apple adds value by providing the operating system (i.e., the software) and the ecosystem to make the hardware deliver a customized experience that can evolve with market demand at the drop of a hat.

All industry giants like Microsoft, Oracle, IBM, Adobe, and Google have always run on this business model. The commoditization of hardware is inevitable. Instead of fighting it, the key to profitability is to continue value creation — 90%+ of these companies’ operating profits come from advancing software solutions and services.

Look beyond the battery pack: The money is in the data + software

Google and Amazon are successful not because they sell Pixel Phones or ship stuffed animals for Valentine’s day.

Exhibit 50: We compare the battery industry to tech innovation cycles in which (1) the enabler performs first (battery), followed by (2) the infrastructure/hardware, and then (3) services at the end. This normally takes place over a decade in tech.



Source: Eikon, Morgan Stanley Research

Google democratized information and content. Airbnb changed the hospitality sector. Uber disrupted the transportation industry. Amazon redefined retail, starting with “you may also like.” Their business models are built on the algorithmic disintermediation of inefficient middlemen.

Software, data, and services are where the profit lies as any technology matures. Tanktwo Battery Operating System (TBOS) will have the same catalytic effect on anything that runs on electricity.

Is Electrification Really Sustainable? A Deep Dive into the Environmental Impact of Electrification

Electrification is positioned as the savior of the climate and environmental crisis. But can we electrify at a global scale without consequences?

How we produce and utilize lithium-ion batteries today isn't sustainable.

Electrification doesn't equal sustainability if we don't change how we do things.

Toxic chemicals leaked from the [Ganzizhou Rongda Lithium mine](#) in Tibet killed fish in the Liqi River and animals that drank the contaminated water. Researchers found that chemicals from a lithium processing operation in Nevada impact fish as far as 150 miles downstream. Meanwhile, it takes 500,000 gallons of water to extract one ton of lithium.

A recent [Guardian](#) article proclaims that "... by 2050, the US alone would need triple the amount of lithium currently produced for the entire global market, which would have dire consequences for water and food supplies, biodiversity, and indigenous rights."

Revealed: how US transition to electric cars threatens environmental havoc

By 2050 electric vehicles could require huge amounts of lithium for their batteries, causing damaging expansions of mining



The rush to meet the world's appetite for lithium-ion batteries has already created many environmental issues that will worsen as governments tighten industry regulations and emission standards.

The environmental impact of lithium-ion batteries isn't limited to the mining and production processes. We must address issues throughout the lifecycle to prevent lithium batteries from becoming the next fossil fuel.

Lithium mining has high environmental costs

Like any mining process, lithium extraction is invasive. It scars the landscape, destroys the water table, and pollutes the air, land, and water. Additionally, most lithium mining occurs in dry, hot, and mountainous regions, further exacerbating the impact of water shortage on the local flora, fauna, and human populations.

Here are the top environmental impacts of lithium mining:

- **Pollute water sources:** Lithium mining in South America salinize the freshwater locals rely on. The harmful minerals also contaminate water basins, poisoning the local ecosystem and causing many health problems.
- **Impact farming activities:** Lithium mining consumes 65% of water in Chile's Salar de Atacama region, affecting its ecosystem and the livelihood of local farmers.
- **Promote waterborne diseases:** The mining process's high water requirement can cause acute water shortage in arid areas and lead to the prevalence of waterborne diseases such as dysentery and cholera.
- **Increase carbon dioxide emissions:** The lithium extraction process and heavy machinery (often run on fossil fuels) release carbon dioxide and other greenhouse gases.
- **Remove local vegetation:** Lithium miners cut down all the trees, which produces oxygen and removes carbon dioxide from the air. Plus, the plants act as a habitat for local fauna, and their removal often causes irreversible damage to the ecosystem.
- **Release toxic chemicals:** Toxic substances (e.g., hydrochloric acid) leak from evaporation pools into the water supply, killing animals and causing health issues among humans.

- Produce massive mining wastes: The separation of usable lithium from the core (called gangue) results in tailings, which contain sulfuric acid discharge, radioactive uranium byproducts, lime, magnesium wastes, etc.
- Reduce water table: Lithium mining destroys the soil structure, leading to unsustainable water table reduction. It depletes water resources and exposes the ecosystem to irreversible damage and even extinction.
- Disrupt the water cycle: Lithium extraction causes surface water contamination, destroys water sources, and leads to toxic rain. Vegetation removal also disrupts the natural water cycle and reduces rainfall in arid regions.

Cobalt and nickel mining adds insult to injury

Batteries consist of minerals besides lithium, including cobalt and nickel, that carry even more severe potential environmental and societal impacts.

Cobalt is concentrated in central Africa, particularly in the Democratic Republic of Congo (DRC), and almost nowhere else. It's produced mostly from artisanal mines where it's extracted by hand, often by child labor with no access to protective equipment.

Wastes from these mines aren't treated before disposal, polluting rivers and drinking water. The dust from the pulverized rock causes respiratory issues, while toxic chemicals result in miscarriages and deformities in infants.

Nickel mining also has a significant environmental impact on land and water resources. The process releases pollutants such as sulfur dioxide, cancer-causing dust, and heavy metals into the air. It can also lead to deforestation, habitat destruction, and erosion.

Processing nickel ore generates large amounts of harmful waste while using heavy machinery and the improper disposal of mining waste can contaminate water sources for human and wildlife populations.

For instance, the Arctic branch of Norilsk Nickel emitted 1,883,000 tonnes of air pollution in 2015, most of it sulfur dioxide, which harms the respiratory system and kills plants and trees.

Does redemption lie in “reuse, reduce, recycle”?

Yes, we can reduce the use of lithium and other resources through the good old “reuse, reduce, recycle” maxim. But until now, we don’t have the battery management technology to turn theory into reality.

I once tested a batch of used batteries switched out from retail scanners during routine maintenance. 95% of the cells still held more than 98% of their designed capacity. Why were they discarded instead of getting a second life in other less critical applications?

Most of today’s battery management systems can’t measure and collect telemetries and state of health (SoH) values to understand the characteristics and remaining life of used batteries. Without the data, it’s impossible to tell which cell is suitable for what application.

Moreover, you can’t mix old and new cells or ones with different chemistries in the same pack with today’s battery technology. Doing so results in uneven charging and discharging — the older batteries can overheat, potentially leading to leakage or damage to other cells in the pack.

Unfortunately, battery manufacturers are very secretive about their “recipes.” They don’t disclose their cell chemistries, and cells from the same brand could have different makeups. The lack of information makes it almost impossible to identify cells that’d play nice with each other.

How software-defined batteries can alleviate the environmental impact of electrification

Software-defined batteries promotes the efficient use of resources. Here’s how our technology helps organizations reduce their environmental footprint:

We provide SoH metrics to support second-life applications.

SoH is a critical metric for supporting second-life usage, but most battery management systems don’t measure it because of its complexity. Our advanced algorithm calculates it continuously using various parameters such as capacity fade, cycle count, and variations in impedance to provide the data required to inform how a cell can be repurposed.

We allow the mix and match of cells of different ages and chemistries.

Our software allows operators to set parameters with a few clicks on the screen. Then, the algorithm activates the most suitable cells based on their chemistry, construction, age, and other characteristics to meet the requirements. The system also continuously monitors the cells' SoH and put them through different charge/discharge cycles to balance the aging effect.

We make it possible to change one cell instead of tossing out the whole battery.

Since you can mix and match cells of different ages and chemistries, you can easily replace only the broken ones when you discover a weak link without discarding the entire battery pack. This capability dramatically reduces waste while lowering the demand for battery materials because you can make the most of the existing resources.

We reduce the weight of battery packs, so it takes less power to move them.

Our technology eliminates internal cabling within a battery pack — you get the same amount of power with a smaller, lighter unit with the same chemistry. Equipment will need fewer battery cells to perform the same amount of work, reducing the raw materials required to make batteries.

We reduce wastage caused by just-in-case maintenance.

Remember the 95% of cells that have 98% of design capacity left when they got tossed out? Our predictive analytics capabilities eliminate these just-in-case, wasteful maintenance activities and replace them with just-in-time ones without compromising reliability. Operators no longer have to throw the baby out with the bathwater just because they don't know which cell will fail.

We future-proof equipment and battery systems.

Scientists are working hard to develop batteries that use accessible and environmentally-friendly materials to replace cobalt and lithium. Since our technology can use any battery chemistry, you don't have to bat an eye when the switch happens.

Software-Defined Batteries: An Insurance Against Supply Chain Crisis

Everybody is talking a good game about electrification, but for many critical applications, implementation is still lagging. Why?

The problem lies in the product-specific approach to battery solutions. In practice, only lithium batteries (which can easily weigh a few hundred pounds) can power industrial and commercial applications. We need technologies more robust than the double-A batteries in a TV remote control to drive electrification at scale.

Yet, all too often, product manufacturers must conduct lengthy and costly R&D to custom-design battery packs for each application. Only builders with deep pockets can afford the upfront investment and get in the game.

Imagine diverting the budget for battery packs (currently a necessary evil) to product innovation — everyone can do more with less. The lower barrier to entry also allows smaller companies to throw their hats in the ring and accelerate the development of electrification applications.

Democratizing access to battery solutions is key to realizing the promises and potential of electrification. It starts with the concept of commoditization and software-defined battery solutions.

Commoditization and its importance

The commoditization process turns goods of economic value into generic and interchangeable resources. The market can treat instances of the good as nearly equivalent no matter where they come from or who produces them.

It creates a liquid and efficient market for easy trading of the commodity in question. The more transactional and straightforward production and purchasing processes increase trade volume, injecting more cash into the market.

Buyers can benefit from the economies of scale — accessing higher quality products at a lower cost. Compared with specialized solutions, the supply chain of a commodity is more transparent and less risky. Since supply and demand are more predictable, manufacturers can gain better control over their inventory KPIs (e.g., turnaround time.)

The commoditization of battery solutions

Batteries for commercial and industrial applications aren't commodities yet. Most packs are engineered for specific purposes, while cells come in a wide range of form factors and chemistries. Builders must commit to large sums upfront before production can start, even though battery packs are just a means to an end — to power their products.

The commoditization of batteries allows product builders to buy an off-the-shelf solution and customize it to meet their specific requirements. They can use a flexible software system to achieve last-mile customizations at the implementation or delivery stage.

This approach disconnects the product design and manufacturing process from an application-specific mindset. Product builders no longer need to invest heavily in battery pack R&D. They can instead buy plug-and-play solutions, apply them to their equipment, and configure the batteries to meet various requirements.

Most importantly, the commoditization of battery solutions democratizes the development of electrification applications. Smaller companies building innovative and experimental products can easily access a safe and scalable battery pack without investing in R&D, which many often can't afford.

Optimizing the commoditization of battery solutions

Commoditization is the first step in making electrification viable at a global scale. The market becomes more fluid, and manufacturers no longer need to rely on a single supplier for custom battery packs. But with it comes new supply chain challenges if we stick with the old way of doing things.

For example, companies still need to stock the shelf with numerous battery packs if each SKU uses a different battery solution — requiring more space and inventory and making the business more susceptible to supply chain hiccups (more on that shortly.)

So what does the new way of doing things look like?

Instead of stocking multiple types of battery packs, you'd only stock a few models but more of each. These packs are modular, and their functionalities are software-defined (instead of built into the hardware) — you can combine and configure generic modules on the fly to meet the requirements of various applications. Additionally, you can combine different types of cells in the same application so you aren't constrained to just a handful of suppliers.

Here's an example:

Did you know that Dell only makes around ten types of laptops? How does it meet the many different requirements of corporations in various industries?

Companies buy the hardware from Dell and have an IT provider or internal tech team burn a customized version of the Windows operating system (OS) into the hardware with a unique set of security features, intranet access keys, preinstalled software, and more.

As a result, Dell manages a supply chain of a limited number of SKUs. It doesn't have to invest in meeting end-user requirements because the functionalities are driven by software and can be configured right before delivery.

Moreover, the ability to configure functionalities and characteristics (e.g., output voltage, redundancy, resiliency) late in the implementation process is a powerful insurance against supply chain crises.

Here's an example:

The surge in investment into AI-powered applications coincides with the crash in demand for crypto-mining gear. Since the hardware for mining cryptocurrencies is mostly generic — their functionalities are defined by software — a lot of the equipment can be quickly repurposed for AI farms without the manufacturer even considering those use cases.

On the other hand, the recent supply chain crisis amplified the semiconductor industry's fragility. The complex and diverse supply chain took a hit during the pandemic when demand for cars and computers skyrocketed. Stock for some chips was so depleted that cars were sitting in lots to wait for one purpose-built chip to arrive (with a 6- to 12-month lead time.)

Software-defined battery solution: An insurance against supply chain fluctuations

Software-defined battery solutions leverage generic and interchangeable underlying assets to achieve supply chain fluidity.

Suppliers don't need detailed information about the final product to know what to produce. The software will determine the specifics and behaviors of the hardware to make it fit for purpose at the point of implementation.

Manufacturers and operators only need to stock a limited number of SKUs to streamline inventory management. They can also repurpose excess stock quickly across geographic borders (e.g., without worrying about input and output voltage or varying safety standards.)

As such, product builders aren't dependent on one single cell supplier, or even a single type of cell. If lithium-ion cells are in short supply, they can easily substitute that cell type with alternatives such as lithium iron phosphate (LFP) cells.

So why aren't manufacturers already doing that? The different cell voltages (3.7V for Li-ion cells and 3.3V for LFP cells) mean that these cells aren't interchangeable in a traditional battery solution. But the Tanktwo battery operating system (TBOS) uses software to reconfigure the topography and compensate for the difference automatically.

Product builders can buy cells at the most favorable price, mix and match different types and chemistries, and service existing packs without needing to match existing chemistries. No other solution comes close to providing such flexibility.

For manufacturers and operations, the unprecedented agility and flexibility mean they don't have to sit on multi-million dollars of inventory. The forecast for future demand is much more forgiving, which helps lower financial risks. Meanwhile, turnaround time and other supply chain KPIs become easier to manage.

How Predictive Analytics For Battery Management Drives Operational Efficiency and Profitability

Predictive analytics is everywhere. Advanced car computers can tell you when something will likely go wrong so you can fix it before getting stranded on the side of a highway. Netflix can show you what you may like based on what you have watched. Amazon makes product recommendations based on your past purchases and browsing behaviors.

But that's just the tip of the iceberg. Predictive analytics is used in many industrial applications. For example, IoT devices on factory floors gather data, which is analyzed in almost real-time to identify machinery that will require service or replacement to prevent costly downtime.

Predictive analytics is the linchpin of modern resource/asset management and optimization. Any application that uses finite resources, including electrification solutions (which uses lithium batteries, an expensive asset,) can benefit from this powerful capability.

What is predictive analytics?

Predictive analytics is a discipline that uses artificial intelligence (AI) and machine learning technology to derive insights from historical data to understand patterns, identify trends, foresee potential problems, and predict future behaviors.

The software can further interpret the insights to provide recommendations for improving processes, inform immediate actions, optimize resource usage, and maximize performance.

Predictive analytics in battery management

Predictive analytics can help operators monitor each battery's real-time behaviors (or "health") to know which cell needs to be replaced and when.

They can eliminate the need to preventively replace cells at fixed intervals (often long before the battery can no longer perform,) a costly and wasteful practice simply because operators don't have data to know which cell has deteriorated.

The Tanktwo Battery Operating System (TBOS) uses software to analyze telemetry and create a heat map (like a weather radar map) to show the health of each cell in a battery pack. It flags those with declining performance, so operators can replace them to prevent costly downtime without the cost of preemptively replacing every cell frequently.

The importance of predictive analytics in battery solutions and management

Predictive analytics identifies patterns to predict performance in real-time. It allows operators to optimize the performance and usage of expensive and finite resources, such as lithium, used in most batteries. The optimization helps them lower the total cost of ownership, minimize costly downtime, and increase efficiency while reducing wastage.

The data can also help operators identify usage trends, pinpoint issues, and take the guesswork out of resource management to increase profitability. Additionally, companies can avoid the labor cost and operational disruption of changing a battery not due for replacement.

The improved cost-efficiency and ease of maintenance make it commercially feasible to electrify more applications. The increased visibility reduces the complexity of power management, further streamlining many processes.

Predictive analytics for battery solutions: Turning insights into action

A software-driven battery solution is a foundational element for applying predictive analytics to support commercially viable electrification applications. Yet, battery management software in today's battery packs doesn't have the capabilities to achieve the level of insights and optimization we need to realize the promise and potential of electrification.

A battery solution must be able to perform the following to support predictive analytics in power management:

Collect granular data in real-time

First, you need the ability to access data to understand the behavior of each cell at any moment in time to make the right decision. Each battery pack must be able to collect telemetry and communicate the data to an operating system where the software can collate and interpret the information.

Analyze data and forecast behaviors

You need software that can analyze the telemetry in real-time, interpret each cell's behavior, and understand how it affects the battery pack's performance. The software should also include

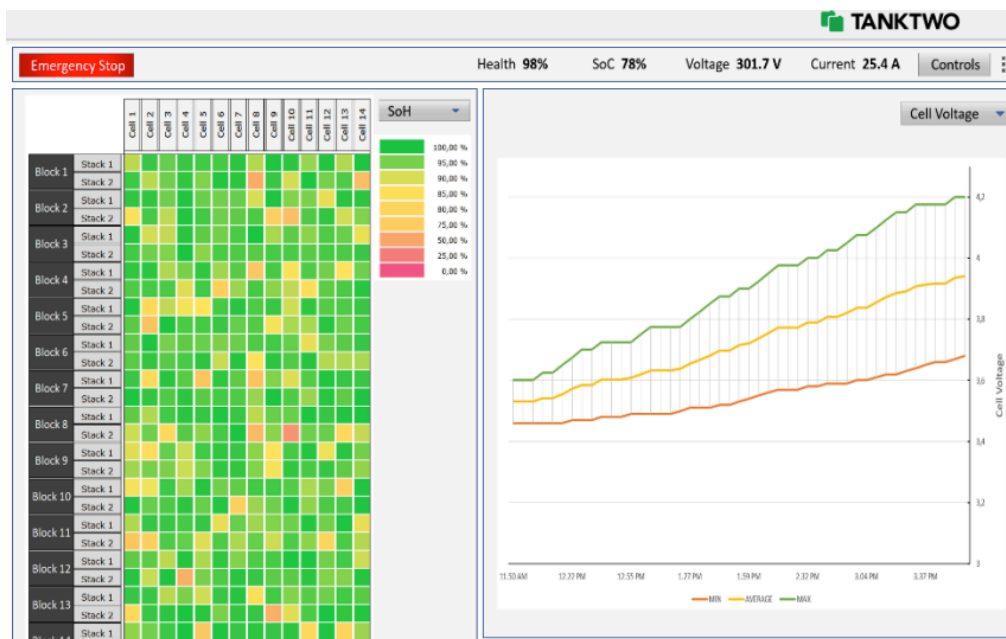
a predictive model to forecast what will likely happen to each cell based on usage patterns and specific applications.

Turn insights into action

The last piece of the puzzle is a user interface that can show field personnel which cell will likely experience issues and provides recommendations on the next step. With sufficient lead time, operators can schedule maintenance activities to achieve the highest operational efficiency while minimizing waste.

It's like when a car tells you when it needs an oil change. The light goes on early enough so you can schedule maintenance when it's most convenient. And you don't need to be a specialist in lubricant deterioration to know that you need an oil change.

Using TBOS, operators can receive a warning (yellow flag) with sufficient lead time before a cell may experience issues to optimize operational scheduling based on insights and performance standards. Plus, our software takes care of the analytics behind the scene — you don't need data experts in the field to perform deep analysis to determine the best course of action.



Who can benefit from predictive analytics for battery solutions?

Any operator of electrified equipment at a commercial or industrial scale can benefit from efficient resource usage, the lower total cost of ownership, just-in-time maintenance, and ongoing optimization. Here are some use cases and examples:

Battery solutions for the aviation industry

Due to the sector's high safety standards, most aviation systems are triple redundant. But having three identical batteries may not provide the desired redundancy because they're likely to deteriorate at the same rate.

Predictive analytics supports these systems by pinpointing the likelihood of failure — not only when but also on a "sliding scale" (i.e., between 100% capability and complete failure) so operators can make accurate redundancy determinations.

Battery solutions for medical equipment

Did you know that 50% of the ventilators in the national stockpile could not be used when COVID hit because the batteries deteriorated to the point where they failed to hold a charge? A system that can proactively flag cells needing maintenance could help ensure every piece of equipment stays functional.

Battery solutions for commercial EV fleets

Fleet operations must account for maintenance and replacement schedules based on vehicles' age and mileage. Today's EV battery solutions can't tell operators when failure may occur. As such, companies often replace and discard batteries long before they start to deteriorate.

However, replacing expensive battery packs at regular intervals based on statistical information instead of actual deterioration leads to (1) massive wastage and (2) unexpected downtime from "outlier" battery packs that deteriorate faster than normal.

With predictive analytics and Tanktwo's modular battery system, operators can replace cells and battery packs as required without risking unwanted downtime — reducing operating costs and lengthening a fleet's lifespan.

Battery solutions for the retail industry

Battery packs in retail barcode scanners deteriorate at different rates based on usage. Retailers preventively replace all batteries every 12 months to avoid the high cost of failure (e.g., loss of business because customers can't check out.) But most batteries are thrown out while having most of their capacities almost intact.

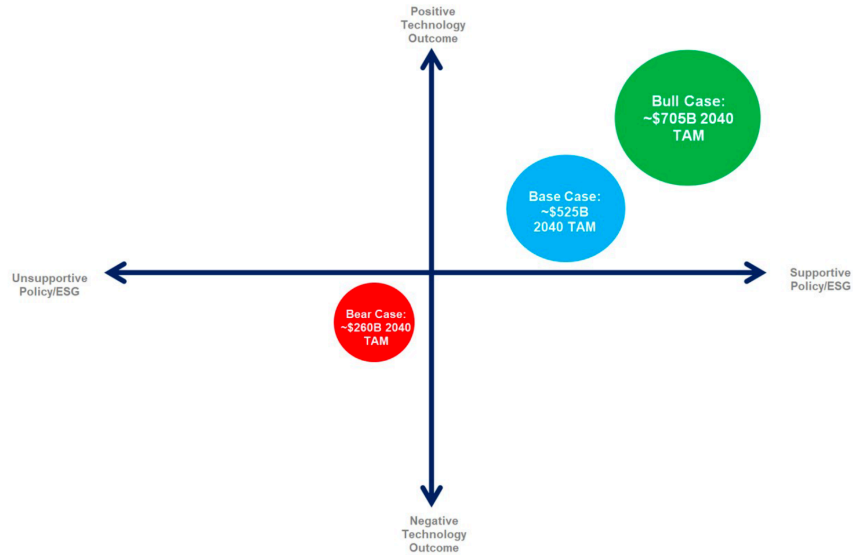
With predictive analytics, operations only need to replace deteriorated cells — reducing wastage and expenses significantly without any loss in uptime.

These use cases and examples are just the tip of the iceberg. As companies in every vertical becomes more adapt in applying predictive analytics to support business decisions, more will seek out our technology to help improve their operational cost efficiency.

How confident are you about the \$500+ billion market?

The Morgan Stanley report offered three projections for the total addressable market (TAM) size by 2040: ~\$260B for the bear case, ~\$525B for the base case, and ~705B for the bull case.

Exhibit 30: Technology and Policy/ESG are likely to drive outcomes in the global battery industry.



Source: Morgan Stanley Research; Note: this orthogonal shows our EV Battery TAM forecasts

The upside for a software- and algorithmic-driven model is that there's no bad scenario because it's substantially more scalable and flexible than a hardware-focused one. Even with a \$260B TAM, the opportunity is so vast that taking just 0.1% of the market will be more than enough for any company to thrive.

Tanktwo and the software-defined, data-driven TBOS position us at the final phase of the evolution of battery technology, where software and services are the keys to profitability. More importantly, our 28 patents encompass technologies that will allow us to address the various concerns and predictions mentioned in the Morgan Stanley report:

- Our technology is vertical-agnostic. Any high-value equipment that runs on electricity can benefit from our data-driven approach to battery management.
- Our solution alleviates electrification's pressure on the environment by increasing operational efficiency and maximizing the lifespan of each cell.

- Our modular battery solution can take on any shape and form to make structural batteries a reality.
- Our battery systems can use cells of any chemistry, eliminating obsolescence risks related to the introduction of new (more environmentally friendly) cell compositions.
- Our technology can minimize supply chain fluctuations to make the commoditization of batteries possible so businesses can focus on value creation.

Like the MS-DOS and Windows operating systems laid the foundation for personal computing to thrive in businesses, TBOS will become the backbone for the electrification ecosystem — pushing the global battery economy to its logical conclusion: Providing a platform for software and services to create value.

If you're interested in a closer read of "The New Oil: Investment Implications of the Global Battery Economy" report and exploring an investment opportunity in the \$500B TAM, get in touch to see how Tanktwo can position you at the pivotal moment of electrification history:

Bert Holtappels, Founder
212.321.0630
b@tanktwo.com