

Solutions Business

Bridgestone E8 Commitment

- Energy
- Ecology
- Efficiency
- Extension
- Economy

The solutions business aims to be attentive and supportive of customer problems to solve them.

» Value Creation through Bridgestone’s Mobility Ecosystem

Bridgestone’s solutions business aims to be attentive and supportive of social and customer issues and solve them. By combining Bridgestone’s “real” capabilities developed on-site with “digital” capabilities, the Group will amplify the value of Dan-Totsu products and create social value and customer value.

The Group will reinforce both tire-centric solutions and mobility solutions to amplify the value of Dan-Totsu products in the tire “use” phase by enhancing synergy with the premium tire business. Tire-centric solutions provide services such as making proposals to customers regarding better use of tires based on tire wear and durability predictions, which is achieved by collecting tire data from vehicles and then leveraging digital capabilities and our knowledge of tires to analyze them. Mobility solutions provide fleet management leveraging mobility data.

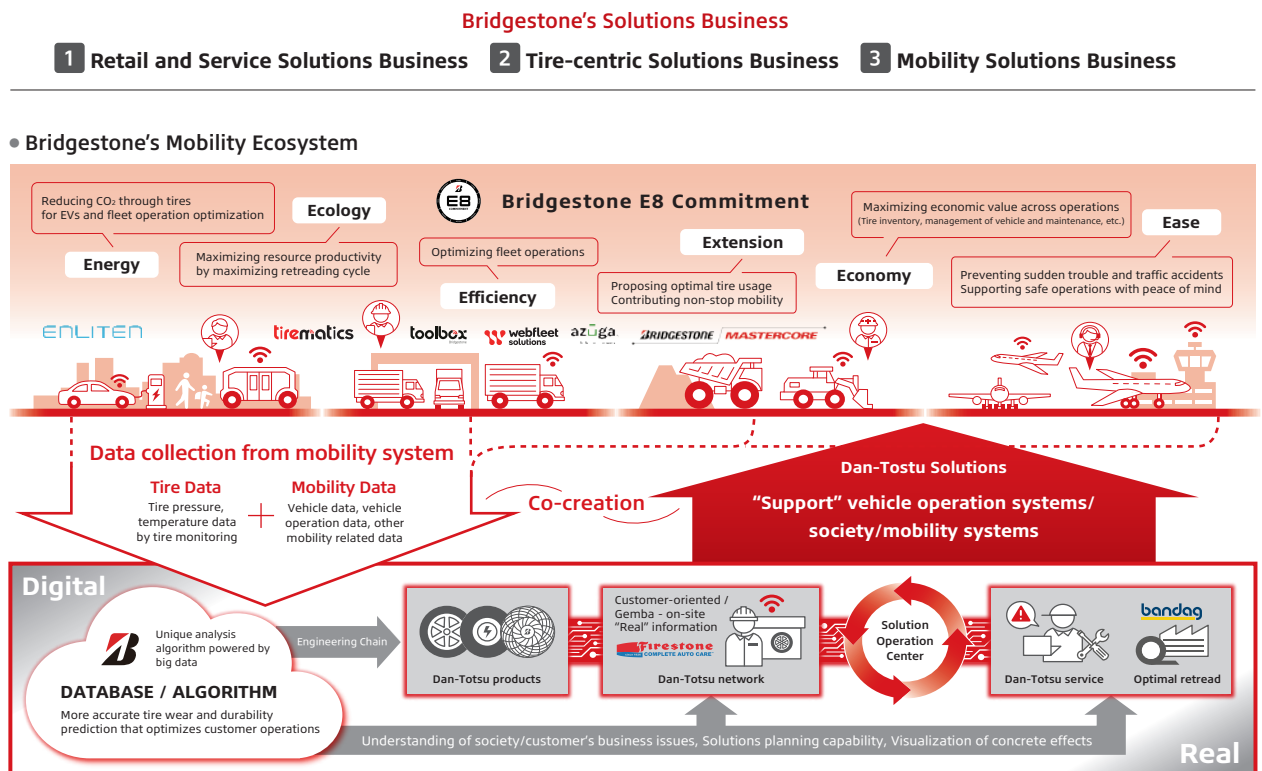
In addition to supporting vehicles, the Group will take on the challenge of supporting vehicle operation systems, society and mobility systems to generate both social value and customer value through co-creation with society, partners, and customers. Our Dan-Totsu products and

amplifying trust will lead to further co-creation and ultimately establish Bridgestone’s mobility ecosystem.

» New Organization: Bridgestone Mobility Solutions

To achieve growth in the solutions business, the Group started with a focus on North America and Europe where the mobility markets are mature. The Group integrated solutions organizations in North America and Europe and established Bridgestone Mobility Solutions (BMS), in order to maximize Bridgestone WEST synergy between North America and Europe. The new organization will oversee solutions businesses in North America and Europe (excluding the retail tire business) and will account for approximately 25% of total global solutions revenue.

The Group created the structure needed to facilitate agile business execution under the Joint Global COO, who oversees business in North America and Europe. This will facilitate operational integration and efficiency as well as strengthen the Group’s customer-focused approach. In addition to determining the potential for each solution, the Group will scale up operations in North America while positioning Europe as its strategic starting point.



1 Retail and Service Solutions Business

The Group will expand retail and service solutions as a business while also enhancing functions as a retail and service solutions network—customer touchpoints providing Dan-Totsu products and services tailored to customer needs.

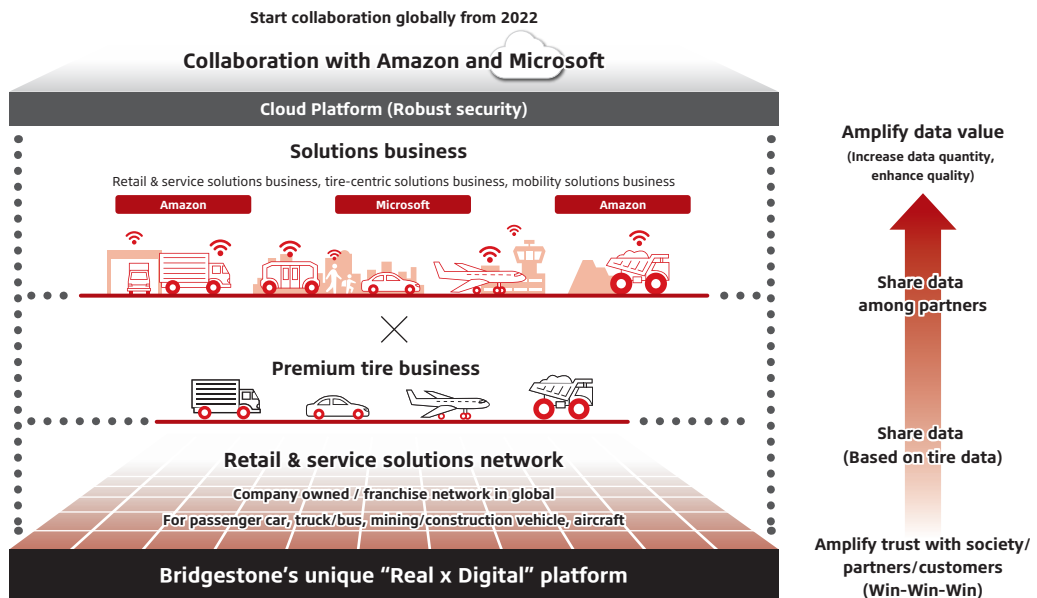
The Group will establish its unique platform combining real and digital capabilities, based on its service solutions network of approximately 18,400 sites for passenger cars, 7,100 sites for trucks and buses, and 130 sites for mining vehicles.

Collaboration with Cloud Platforms

Furthermore, as an enabler to amplify the value of data and gain a new competitive advantage, the Group announced collaboration with Microsoft and Amazon in 2022. Linking the Group's worldwide retail and service solutions network with cloud platforms, the Group will further evolve Bridgestone's unique "real and digital" platform.

Collaboration with Microsoft is centered on tire-centric solutions. For example, the Group uses Microsoft's cloud platform to monitor the status of customers' tire usage in detail in real time. By storing higher quality and more extensive tire data and by analyzing them using proprietary algorithms, we aim to achieve accurate tire wear and durability predictions and propose safer and more efficient tire maintenance to customers, ultimately leading to further retread opportunities.

• Bridgestone's Unique "Real x Digital" Retail & Service Solutions Network



Passenger Car Network

Approx. **18,400** sites



Truck & bus Network

Approx. **7,100** sites



Mining Vehicle Network

Approx. **130** sites

As of June 30, 2022

Enhancement of the User Experience (UX) in the Tire “Use” Phase

In the retail and service solutions business for passenger cars, the Group is expanding tire and vehicle maintenance services tailored to each customer, mainly in the United States where we boast a Dan-Totsu network of around 2,200 company owned stores including Firestone Complete Auto Care. The Group will also expand business in Japan, Australia, and Thailand.

» Expanding EV Charging Services in Europe and North America

To give an example, the Group is expanding its EV charging network in the mature mobility markets of Europe and the United States to accommodate the accelerating shift to EVs. The Group has partnered with the EV charging solution provider Blink Charging in the United States and is enhancing charging solutions in Europe as well.

Through these initiatives, the Group is improving UX while contributing to the realization of carbon neutrality throughout the value chain by combining ENLITEN, the “new premium in the EV era”, with the mobility solutions business that supports the electrification and optimal operations of fleets.

» Deployment of New Network “B-select” in Japan

The Group intends to expand its B-select retail and service solutions network throughout Japan, providing optimal high-quality service solutions nationwide based on a thorough understanding of each customer’s issues on-site.

For B-select, the Group will first partner with company owned stores and special contract tire dealers. In the future, the network will be expanded to include new partners that share the Group’s vision and direction. Around 700 stores selling passenger car tires are currently participating in the program, and we aim to boost this number to 1,000 going forward. For truck and bus tires, the Group will establish a network of around 400 stores this year and 500 stores in the future. By doing so, the Group plans to achieve its goal of expanding its Dan-Totsu network nationwide. This will make it more convenient for passenger car customers to purchase tires while ensuring that customers use tires with safety and peace of mind. It will also contribute to maximizing operations and realizing efficiency, including through workload reduction for logistics industry customers. Moreover, B-select will create both social value and customer value by reducing environmental impact.

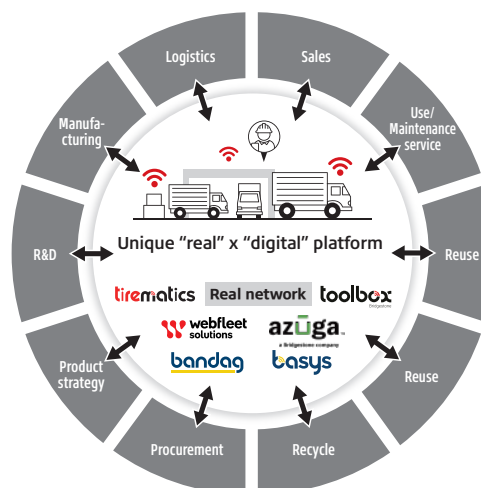
2 Tire-centric Solutions Business

Establish a Circular Business Model for Truck and Bus Tires

In its tire-centric solutions business for trucks and buses, the Group is taking on the challenge of establishing a circular business model that maximizes tire value by fully using each tire asset until the end of its life through the integrated approach combining Dan-Totsu products and retreads. The first element is to expand the Group’s lineup of products equipped with ENLITEN the “new premium in the circular business era”. Based on these competitive new tires with enhanced durability and wear resistance, the Group will increase the number of retreads for each tire, thus contributing to improved resource productivity and reduced CO₂ emissions. For this purpose, the Group is investing in retread reinforcement, mainly in the United States and Japan. In addition, the Group will provide advanced tire models with features such as tire wear and durability prediction by integrating tire data businesses that utilize digital technologies including Tirematics, a tire monitoring system, and Radio Frequency Identification (RFID)*, which enables individual tire management throughout the product lifecycle. By deepening the link between the “produce and sell” and “use” phases, the Group will promote the establishment of a circular business model that amplifies the value of its Dan-Totsu products and expand social value and customer value. In Mid Term Business Plan (2024-2026), the Group will expand its business mainly in North and Latin America where it has a competitive advantage, as well as in Japan and Australia.

* Automatic recognition technology for contactless reading and writing of information from IC tags, etc., using wireless communication such as electromagnetic fields or radio waves.

• Circular Business Model (For truck and bus tires): Aspiration in 2030



Enhancement of “Strong” Real Capabilities

» New Tires

The starting point for everything is our Dan-Totsu products that pursue high durability and wear resistance, are adapted to customer usage conditions, and take retreading into account. In 2022, the all-round studless W999 was launched in Japan. It is Bridgestone's first truck and bus tire equipped with ENLITEN—the base technology for product design to realize “ultimate customization”. This tire boasts exceptional balance between ice and snow performance and wear life, and also achieves enhanced performance against irregular wear. As a Dan-Totsu product, it serves as the starting point for the Group's circular business model, with benefits such as extending the tire replacement cycle and consequently improving resource productivity.

» Retreads

The Group is investing to reinforce its retreading production capabilities, mainly in the United States and Japan where it has a strong business foundation for truck and bus tires. In the United States, the Group has made investments to enhance production of retread materials at its Abilene and Joliette plants. The Group provides high-quality retreaded tires to many fleet companies through Bandag, LLC, a leading retreading company that it acquired in 2007. In Japan, the Group is making strategic growth investments aimed at enhancing equipment and manpower at its retread manufacturing sites. In both the United States and Japan, the Group is building a strong foundation for providing solutions linked with its nationwide service solutions network.



Enhancement of Digital Capabilities

» Radio Frequency Identification (RFID)

The Group promotes equipping truck and bus tires with RFID tags, which allow individual management of tires across their lifecycle from new products to retreading and maintenance. RFID-tagged tires were first launched in Europe in 2019 and the technology is now being rolled out globally, with plans for almost all truck and bus tires used in Europe, the United States, and Japan to be equipped with RFIDs by 2030.

In addition, the Group intends to develop next-generation RFID tags through co-creation with TOPPAN Edge Inc. Through the integration of Bridgestone's tire development and manufacturing technology with the RFID technology of TOPPAN Edge, the Group aims to develop next generation tags that can communicate accurately from even greater distances as well as to establish technology for mounting the tags onto tires. This will improve the safety of tire management and maintenance operations and substantially reduce on-site workload. It will also enable faster and easier management of various data for each tire, including production date, factory inspection details, shipping date, vehicle installation date, and other tire inspection details. Based on this information, the Group aims to achieve both social value and customer value by providing retreads, services, and solutions according to each customer's operations.

» Tire Monitoring System: Tirematics

Tirematics is a digital tool for monitoring tire pressure and temperature. Rollout of this service started in Europe in 2012 and it is now offered globally with enhanced service content. Tirematics contributes to safe driving and stable vehicle operation as well as to reduction of environmental impact, including reducing CO₂ emissions during vehicle operation by preventing deterioration in fuel efficiency due to low tire air pressure. Tirematics was introduced in the Japanese market in 2020 and the Group started a real-time remote monitoring service for tires in 2022.

In addition to helping to prevent tire-related troubles by improving the accuracy of day-to-day tire inspections, this service also enables the sending of real-time alerts to vehicles, fleet managers, and drivers in the event of any abnormal tire conditions detected while driving. Additionally, the ability to remotely verify tire condition and vehicle location facilitates agile maintenance services leveraging the approximately 900 sites in Bridgestone's domestic tire service and solutions network.

Mining Solutions Based on the “New Premium” Dan-Totsu Product Bridgestone MASTERCORE

In its mining solutions, the Group will reinforce expansion of Dan-Totsu product Bridgestone MASTERCORE as well as reinforce solutions combining its strong “real” capabilities mainly at on-site service locations with its “digital” capabilities. As the core of the Group’s mining solutions, the new Dan-Totsu product Bridgestone MASTERCORE realizes ultra-high durability based on the combination of its unique new technologies including steel cord manufactured in-house. Bridgestone MASTERCORE can be customized to each customer’s needs and the operating condition of each vehicle by improving durability and other desired tire performance without sacrificing performance in other areas. Based on customer recognition of their value, Dan-Totsu product Bridgestone MASTERCORE expanded to 88 mines as of the end of 2022. The Group plans for MASTERCORE to account for around 90% of ultra-large 63-inch mining tires in 2023 and to reach nearly 100% by 2030.

In the tire “use” phase, the Group proposes better ways of using tires to contribute to the optimization of mining operations leveraging the Group’s digital capabilities to analyze tire and vehicle data. This is based on the strong, real capabilities of the Group’s approximately 130 solutions sites which provide services, mainly centered on Otraco acquired in 2021, and through the trust built with customers on-site. The Group will enhance monetization through benefit sharing by enhancing data analysis and customer value verification for our mining customers on-site. Currently, the Group has approximately 70 long term contracts that combine Dan-Totsu products and solutions, and the Group will promote further expansion.

I think Bridgestone MASTERCORE is one of the core products in Bridgestone’s premium tire business. The first product launched was one of the world’s largest tires, the 59/80R63 MRPS/MVRF, designed for the world’s most severe market in terms of durability.

The larger the mining tire, the harder it is to ensure its durability, and the higher the difficulty in developing them. Faced with the daunting task of meeting extremely high performance requirements in a short period, we gathered the most innovative technologies for tire durability at the time and took on the challenge of mass production within a limited time frame. Evaluation of tires under development is typically conducted near the final product stage. However, because of the tight schedule, we had to assess each technology individually, with team members doing their best to distinguish the good from the bad. Some were even sent to mining sites overseas on short notice to cut the tires for analysis.

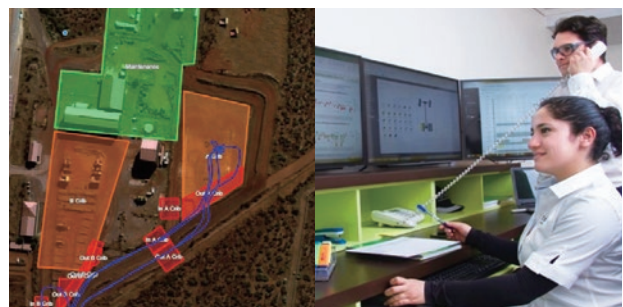
While staying close to customers on-site to understand their issues, we got through it with hard work and perseverance. To sum up my reflections on our development in one word, I believe the Japanese phrase *ungaisoten* (there is always light beyond the clouds) is most appropriate. With the entire development team sharing our target of contributing to the optimization of mining operations by providing value to customers as a “new premium”, we were able to overcome on-site difficulties and dedicate ourselves to development.



Junya Asari
 Manager, Mining, Industrial and Construction Tire Design Section I, Tire Development Division II



Real



Digital

Strategic Starting Point of the Solutions Business: Aviation Solutions

Premised on safety and peace of mind above all, aircraft tires are required to be able to withstand harsh conditions in areas such as load, speed, and heat/cold. This is therefore a domain where Bridgestone's core competencies in "mastering rubber" and "mastering road contact" can be leveraged to the fullest. The Group has already established a circular business model that maximizes the value of each tire through multiple retreads.

By promoting co-creation with customers and system vendors, the Group will provide tire wear and durability prediction using digital technologies, management of each tire that is indispensable for flight operations with peace of mind and safety, and efficient tire inventory plans. Through these initiatives, the Group will amplify data value, maximize tire asset value, and contribute to sustainability.

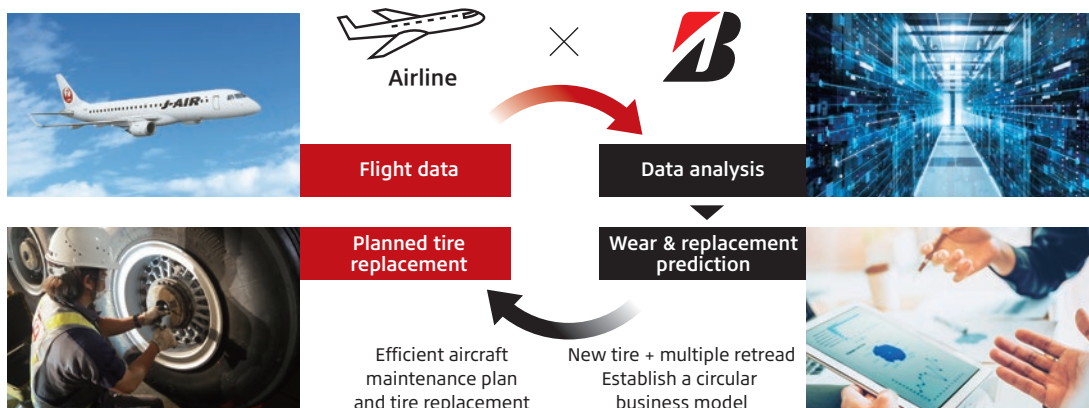
As its pioneering circular business model, the Group will enhance aviation solutions based on the trust with aircraft manufacturers, airlines, and system vendors.



Kohei Hara
Aviation Tire Solutions Sales & Business Planning Department

I am responsible for promoting and planning aviation solutions and predicting tire replacement timing based on data. To co-create value with customers, I tried to understand not only on-site work processes but also the perspectives and ideas of those who carry out the work. This has involved accompanying maintenance workers on night shifts and visiting sites multiple times to ensure that I share an understanding with everyone involved in the maintenance planning process. Although it was a major challenge that required me to go beyond my usual duties, in the end I felt I was able to build a friendship-like relationship with shared goals. Maintenance personnel have told me that our solutions have enabled them to plan and schedule their work more efficiently, giving them more time for other maintenance besides those for tires, which in turn contributes to improving the overall quality of aircraft equipment and ensuring its safe operation. They have also explained that it is now easier to plan for securing tire stock prior to weekends and holidays. I am committed to working with customers to create a new way of working in the aviation industry so that planned periodical tire replacements become the norm.

• Framework for Co-creation with Airlines in Aviation Solutions



Aviation Solutions Enhancement Based on the Trust of Aircraft Manufacturers, Airlines, and System Vendors

3 Mobility Solutions Aiming to Establish a Mobility Tech Business in North America

The Group's mobility solutions business amplifies the value of tire data and mobility data by connecting with approximately one million contracted vehicles mainly through Webfleet Solutions in Europe and Azuga in North America. While pursuing growth as a stand-alone business, mobility solutions is also expanding synergies with the premium tire business and other solutions businesses with the aim of establishing a mobility tech business.

» Launch of New Service "Fleetcare"

As a first step toward expanding synergies, Bridgestone started a new "Fleetcare" service in Europe in 2022. The service offers everything in a single contract as a package covering fleet management in mobility solutions, premium

tires, tire management, and maintenance. As a model that ensures safety, peace of mind, and efficient operations for fleet operators and drivers, the Group will expand the concept from Europe to North America where we have strong foundation for solutions such as retreading.

» Building Bridgestone's Mobility Ecosystem: One-stop Service that Supports the Transition to Electric Fleets

In 2022, Webfleet Solutions entered into a partnership with the German startup Charylize to support fleets in their transition to EVs. Through its use of vehicle data analysis for proposals of the best-suited EV models for customers, and support for optimal operations in areas such as electric fleet management and EV charging solutions, the Group will strive to support a carbon neutral mobility society from the ground up.



Mariska Matadin

Manager, Business Development EV, Fleet Management Solutions, Bridgestone Mobility Solutions

We've created a holistic ecosystem to support the EV journey of our customers. Built with carefully selected partners, such as Charylize, and BIA Power for smart charging, we accelerate our customer's EV transition in a safe and sustainable way. Once up and running, our datasets ensure the EV fleet runs economically. In this way, Bridgestone is the catalyst that enables the customer to have a positive societal impact.