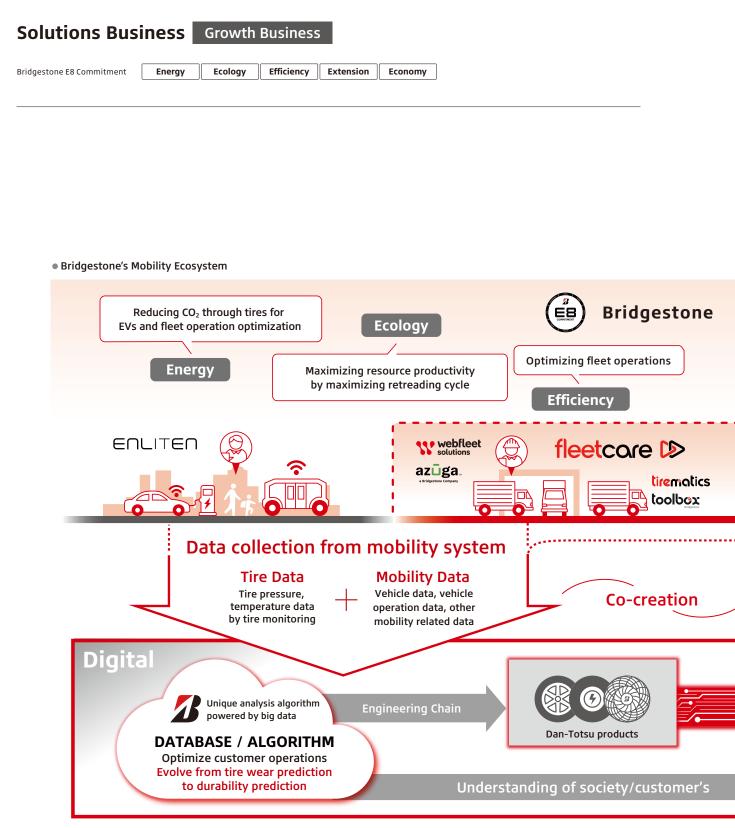


The fourth business shaping scenario is to "create new business sowing good seeds for the future". Bridgestone will sow good seeds beyond the 24MBP and create new business which generates social value and customer value.

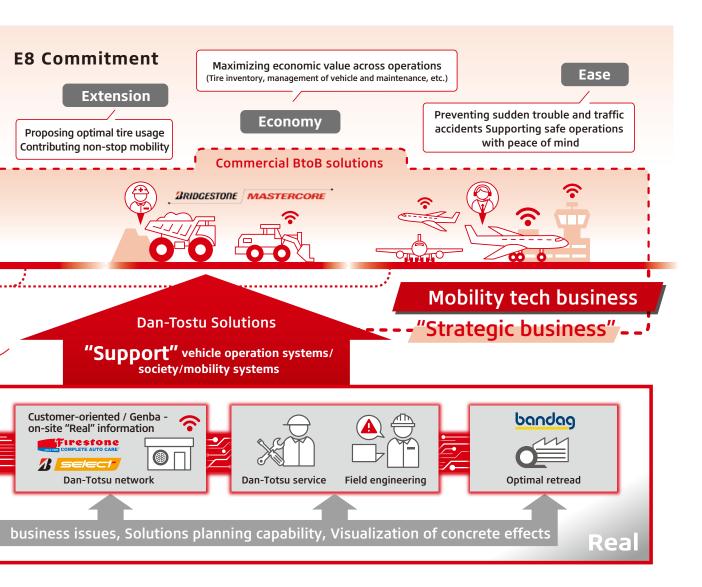


## **Build Bridgestone's Mobility Ecosystem**

In solutions business, which is positioned as our growth business, we take a challenge on amplifying value at the stage where customers use tires and providing new value that includes solving customer pain points and contributing to sustainability, in line with the Bridgestone E8 Commitment. We amplify the value of Dan-Totsu products and use them as the basis for amplifying the trust of society, partners, and customers. By building these relationships of trust, we will expand solutions provided with both real and digital by having customers and partners share the data and amplifying its value. Through these efforts, we aim to build Bridgestone's mobility ecosystem.

## Creating social value linking with business

The solutions business will create sustainability value throughout the tire value chain, from "produce and sell" to "use". In the 24MBP, we will contribute to reducing CO<sub>2</sub> emissions, at the stage of tire use, in truck and bus solutions in North America and OR/AC solutions, which are positioned as strategic businesses, while continuing to reinforce retread, which significantly contributes to improving resource productivity. Through these activities, we will commit to advancing sustainable tire technologies and solutions that preserve the environment for future generations - Ecology in the Bridgestone E8 Commitment.





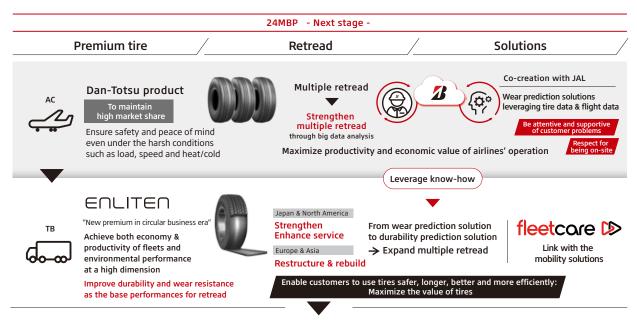
# **Accelerate Value Creation Centered on Retread**

First of all, the foundation to expand the solutions businesses is retread business, which bridges premium tires as Dan-Totsu products with solutions. Among them, aviation tire business is the strategic starting point for the retread business, for which we already provide Dan-Totsu products, multiple retread, and tire wear prediction solutions leveraging digital capabilities. We will utilize the expertise acquired here for the TB retread business. In addition to strengthening Dan-Totsu products by improving durability and wear resistance as base performance looking ahead of retread, we aim for maximizing the tire value by increasing the number of retread and deepening the linkage with fleet operation management to use tires safer, longer, better and more efficiently.

Retread is the business model which also contributes to sustainability. With an assumption that each customer will use Bridgestone tires three times, one new tire with fuel efficiency that will retread twice, in comparison with three new tires, can reduce to the half of the amount of raw materials at a stage of production, can increase



approximately twice of resource productivity, and can reduce to the approximately half of CO<sub>2</sub> emissions.



Value creation by linking with sustainability business model: Carbon neutrality & Circular economy

\* TB: Truck & bus tires, AC: Aircraft tires

# Mobility Tech Business "Strategic Business"

Bridgestone expands the solutions business by focusing on commercial BtoB solutions which have Dan-Totsu products, solid service foundation developed on site and strong real such as retread.

Commercial BtoB solutions mainly consist of three parts; truck and bus solutions, mining solutions, and aviation solutions, and we will build as mobility tech business which creates new value as strategic business by the fusion of strong real and digital. In particular, our mining and aviation solutions leverage our strong real such as Dan-Totsu products utilizing our strong R&D and manufacturing capability and field engineering being close to Genba (on-site), based on which we have built strong foundations of trust with our customers and partners. By sharing data from them and analyzing it with digital capability and building unique algorithms, we will evolve tire wear prediction into tire durability prediction solutions. We are continuously reinforcing our efforts to ensure that customers can use tires safer, longer, better, and more efficiently.



## **Commercial BtoB solutions**



Truck & bus

Establish mobility tech business in North America — Especially "Fleetcare" program Reinforce logistics solutions for the last mile — an area of demand growth

Premium Tire 🗙

Mobility Solutions



Mining solutions

Expand solutions based on new premium "MASTERCORE"

Build value creation through real x digital — new challenge

Tire-centric

solutions

"Strategic business"

Establish mobility tech business



Aviation solutions

Strategic starting point to establish

solutions business model including retread

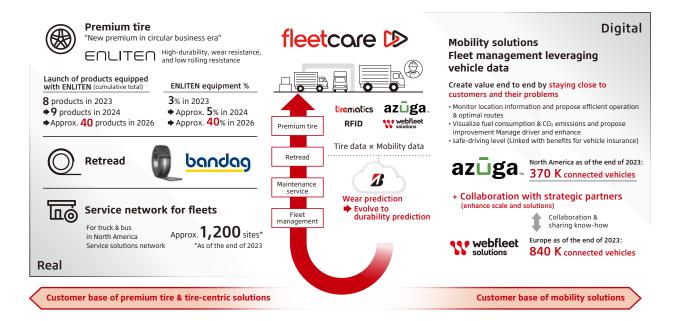
# Truck and Bus Solutions: Mobility Tech Business in North America —"Fleetcare"

In North America, by strengthening linkage between, premium tires, retread, and mobility solutions, we will enhance the "Fleetcare" program that provides solutions in a package tailored to their pain points through staying closer to customers. By doing so, we will build the mobility tech business.

Bridgestone has been working to improve the synergy between its mobility solutions business, which amplifies the value of tire data and mobility data, and its premium tire business and other solutions businesses. As a first step, we began offering the "Fleetcare" program, which provides premium tires, retread, maintenance services, and fleet management in one package, at Webfleet solutions in Europe from 2022, and have accumulated the expertise and have tested aiming for establishment of business model.

In the 24MBP, we will expand the "Fleetcare" program in North America, where we have a strong TB business foundation such as Dan-Totsu products, retread, a service network for fleets, and a fleet customer base, while also leveraging the expertise fostered in Europe. By combining such strong foundation with Azuga, a digital fleet solutions provider acquired in the U.S. in 2021 and with mobility solutions that offers in collaboration with strategic partners, we will promote value creation with both real and digital. Furthermore, we will reinforce solutions for last-mile logistics in North America, an area of demand growth. Last-mile logistics, where light trucks move through urban areas, undergoes repeated stop-and-go, causing significant burden on tires and premature wear. As unexpected tire replacement and maintenances are required frequently, decreasing vehicle utilization and not being able to level maintenance cost are some pain points that customers face.

We will solve this by offering the "Fleetcare" program tailored to the unique problems of last-mile logistics, while being attentive to customers on-site (Genbutsu-Genba) mainly through field engineering. In the second half of 2024, we plan to launch a new ENLITEN equipped product, which has been customized for last-mile logistics with improved wear resistance performance and case durability looking ahead of retread. Based on this Dan-Totsu product, we will contribute to maximizing the productivity of last-mile logistics operations by offering retread, highquality tire inspection and maintenance services as well as an efficient fleet management leveraging the Azuga's platform, as one package to customers. In addition, we will maximize the economic value for our customers by adopting a payment scheme based on mileage. We will gradually introduce this offering and establish our business foundation during the 24MBP period.



## **Mining Solutions**

In mining solutions, we take on the challenge of expanding tire durability prediction solutions by building unique algorithms leveraging AI, with Bridgestone MASTERCORE as Dan-Totsu product at the core and focusing on "co-creation" based on trust with customers.

As the core of our mining solutions, Bridgestone MASTERCORE as Dan-Totsu product realizes ultra-high durability based on the combination of our new unique technologies including steel cord manufactured in-house. Bridgestone MASTERCORE enables us to provide the optimal performance customized to each customer's need and the operating condition of each vehicle by improving durability and other desired tire performance without sacrificing other performances. Based on customer recognition of their value, MASTERCORE tires are being used in approximately 90 mines as of the end of 2023. Also at the stage of "use" tires, on-site field engineering activities that deeply understand customers' pain points, we have also strengthened our "real" capabilities by expanding the network sites for mining solutions to 130, mainly on Otraco, which was acquired in 2021.

By combining such strong "real" capabilities with digital, we continue to evolve mining solutions that contribute to the optimization of mining operations. As a new challenge in the mining solutions, we are strengthening tire wear prediction and evolving it to tire durability prediction solutions by building unique algorithms leveraging the fusion of extensive experience and knowledge of tires cultivated

BRIDGESTONE MASTERCORE





on-site (Genbutsu-Genba) and digital such as AI.

In order to prevent tire damage due to heat, which is a major pain point for mining companies, we offer the optimal maintenance timings and operation routes by predicting tire durability with our unique algorithm leveraging AI. This algorithm is built by shared vehicle information based on trust with customers and data including tire temperature, tire pressure, vehicle location information and driving speed and history of tire fittings, which can be obtained from Bridgestone iTrack, a nextgeneration of tire monitoring system for mining vehicles. In this way, we contribute to maximizing the productivity and economic value of mining operations by reducing tire costs and vehicle downtimes. Moreover, we contribute to sustainability by improving resource productivity, since using tires safer and longer reduces the number of tires used. We began offering this new mining solutions services starting in July 2023 at the Spence copper mine (Pampa Norte operation) where BHP Group Limited owns in Chile.

In the 24MBP, we contribute to maximizing productivity and economic value of mining operations as well as sustainability, thereby amplifying trust with customers and expanding business.



We are promoting solutions initiatives at Genbutsu-Genba (being on-site) that contribute to enhanced social and customer value at the Spence mine owned by the BHP Group Limited in Chile. By supporting the provision of optimized tire maintenance and ensuring appropriate tire pressure, we have not only helped our customers to use their tires safer and longer, but have also contributed to sustainability in addition to reducing vehicle downtime. Although there were difficulties to overcome in this project, we were able to achieve it through thorough discussion and co-creation between a variety of internal departments and the Spence mine. Moreover, this project gave me many insights regarding on-site mining operation. Going forward, I will continue to promote solutions initiatives, valuing the trust we have with customers.

### Sven Ermter

Mining Solutions Development & Engineering Director Bridgestone Mining Solutions Latin America

# **Aviation Solutions**

In aviation solutions, the strategic starting point of solutions business, Bridgestone reinforces multiple retread with Dan-Totsu product power as an axis, and expand the deployment of solutions such as tire wear and durability prediction that combine real and digital capabilities, based on co-creation with customers. By doing so, we contribute to maximizing productivity & economic value of airlines' operations, as well as sustainability. Premised on safety and peace of mind above all, aviation tires are required to be able to withstand harsh conditions in areas such as heavy load, high speed, and a wide range of temperatures from high to low. This is therefore a domain where Bridgestone's core competences in "mastering rubber" and "mastering road contact" can be leveraged to the fullest.

By combining multiple retread with such Dan-Totsu products, we have already established a circular business model that maximizes tire value per unit and contributes to sustainability, however we now face the challenge of further improving the number of retreading. In efforts to meet this challenge, we were able to improve the number of retreading as a result of pursuing both steady improvement for working and business quality at on-site and manufacturing DX. This initiative has been shared at the Global TQM Conference as a good example of working & business quality improvement, which is the top priority in the 24MBP.

In addition, we reinforce contribution to sustainability across the entire value chain, including efforts to realize carbon neutrality and a circular economy. These efforts were recognized by Airbus, a pioneer in the domain of



aerospace, as well, and in 2023 we received the Sustainability Award, which is presented to suppliers that have made significant achievements in the field of sustainability. We continue to expand the deployment of solutions, based on the foundation of the solutions business built up until 2023.



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Enhancement of manufacturing accuracy ⇒Further improvement of the number of times that can be retreaded



As an important initiative which contributes not only to business, but also to sustainability, we have been promoting improvements in the number of retreading of aircraft tires. In the project, we installed sensors in the building process to measure production data for each tire, and analyzed the data by linking to the inspection data of each returned tire. By making the tacit knowledge of the craftsperson skill into explicit knowledge, and by improving the accuracy of the parts that have a large impact on the number of retreading of aircraft tires, we were able to further improve this number. We will contribute to creating further value for aviation tires from the production standpoint.

### Akihiro Ichikawa

OR/AC Production Technology Department (Winner of the TQM Conference Grand Prix)

# Build Mobility Ecosystem that Responds to New Mobility

Bridgestone E8 Commitment

Extension Empowerment

In order to respond to new mobility such as EVs and automated driving, we take on the challenge including strategic investments through coordination and co-creation with various partners and advance the building of a mobility ecosystem.

As part of these initiatives, we invested in TIER IV, Inc., a leader in open-source automated driving software aimed for an automated driving society, in 2022, and have been moving forward with co-creation in the two areas of "automated driving technology" and "solutions services that support driving". Regarding "automated driving technology", we are promoting activities at "B-Mobility", a mini-test course within the BIP (Bridgestone Innovation Park in Kodaira, Tokyo).

Regarding "solutions services that support driving", we started demonstration tests concerning the safe driving of automated vehicles from February 2024, on public roads in Shiojiri City, Nagano Prefecture. We are installing "Tirematics," a digital tire management tool that is one of the solutions Bridgestone offers, on Japan's first mass-produced automated EV buses, which are currently undergoing technological verifications by TIER IV under driving conditions equivalent to Level 2, with a view to obtaining Level 4 automated driving certification. Through this implementation, we aim to verify the value of solutions services that support the safe and efficient driving of automated vehicles in addressing issues such as safe driving, expense reduction, extension of driving distances and improvement of electricity consumption, and reduced downtimes and predictive management. In the future, we will expand demonstration tests to include co-creation related to research and development of

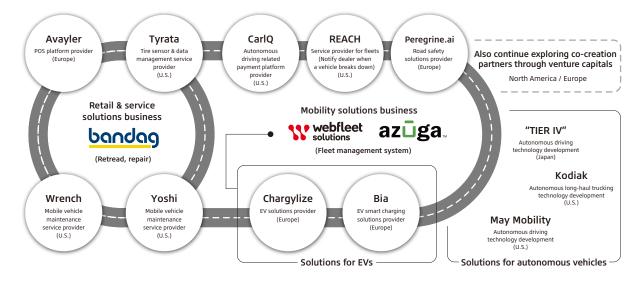
"automated driving technology", and promote the development of tire technology and next-generation of mobility solutions that contribute to improved safety and productivity of mobility that incorporates automated driving technology and expertise. By accelerating these efforts, we will build a mobility ecosystem that responds to new mobility.



Automated Driving Demonstration Tests at B-Mobility



Automated Driving Demonstration Tests on Public Roads



### • A Mobility Ecosystem that Responds to New Mobility