

## 24MBP Business Shaping Scenario: **Further Focus on Value Creation**



### Create **Good Business Quality** “Passion for Excellence”

- Respecting being on-site (Genbutsu-Genba), perform steady and agile PDCA while sticking to
- New & true glocal management structure focused on Genbutsu-Genba—“Maximize effectiveness &
- Have a healthy business risk sensitivity
- Tackle past negative legacies squarely / From volume-oriented to quality & value oriented – Next stage
- Talent investment—“Enhance talent creativity” / Culture change based on the “Bridgestone E8
- Accelerate DX: Enhance use of generative AI ➡ **Improve productivity and creativity** (Incl. expanding AI
- Technology & innovation: Reinforce co-creation activities leveraging BIP ➡ **Reinforce creativity** /



### Create **Good Tires**

- Realize “ultimate customization” that sharpens “ENLITEN” especially for “EV tires” – 24MBP:
- Start “BCMA” + shift to Green & Smart –



### Create **Good Business**

- Create corporate value through balancing
- Reduce business cost: BCMA, Green & Smart,
  - New premium tire business model: Channel,
  - Evolve the sustainability business model:



### Create New Business **Sowing Good Seeds** for the Future

- Truck & bus solutions: Establish mobility
- Mining solutions: New value creation
- Aviation solutions: Strategic starting point
- Sowing new seeds: Evolve AirFree, etc.

## (Management, Working & business quality improvement)



basics / Combination of continuous improvement and innovation / Pursuit of operational excellence efficiency”

Commitment”

algorithm use in business)

Reinforce IP strategy

### Improve management and working & business quality

- Japan: Reinforce training at each level (management / executive / managerial / staff)
- Global: Conduct training from the management & executive level in each region ➔ Expand to managerial & staff levels

edge in performances that not only meet the needs & wants of market/customers but inspires them.

**Expand Generation 1 ➔ Build technology to launch Generation 2 in 27MBP**

R&D and manufacturing transformation / Support “ultimate customization”

**social value and customer value creation and gaining competitive advantage**

steady on-site productivity improvements, global procurement, global SCM logistics transformation

retread, building a sustainable premium brand

Toward the realization of carbon neutrality & circular economy and nature positive

tech business in North America – Especially “Fleetcare” program

through real x digital – New challenge

to establish solutions business model including retread



# Create **Good Business Quality**

## **Feature** Improve Management Quality and Working & Business Quality —Bridgestone DNA / Unique Deming Plan

In the 24MBP, Bridgestone further focus on value creation in accordance with our business shaping scenario, which consists of the following four scenarios: “create good business quality”, “create good tires”, “create good business”, and “create new business sowing good seeds for the future”. The top priority issue in 2024 as the first year of the 24MBP, is to create good business quality. We are striving to improve management and working & business quality globally. What forms the foundation for this is Bridgestone DNA “focus on quality” and the mission “Serving Society with Superior Quality.”

### Bridgestone’s Unique Deming Plan

In reaffirming Bridgestone DNA, returning to origins, we have begun by reaffirming and re-enhancing understanding of Bridgestone’s unique Deming Plan. The Deming Plan is the activities which we promote toward improvement of management and working & business quality aiming for the “Deming Prize” since 1960s. The Deming Prize was established in 1951, to honor Dr. Deming who was a statistician in the U.S. and greatly contributed to the quality control movement in Japan. Dr. Deming’s idea was that the quality is created not only in the plant but is a matter of overall management, and is deeply related to management

philosophy. The prize is recognized in the industry as the highest honor given to a company whose quality control activities are company-wide and comprehensive. We introduced this method in the 1960s when promoting the modernization of management and enhancement of quality management activities, and in 1964, we independently named the activities as “Bridgestone’s unique Deming Plan”, established an organization which was



Receiving the Deming Application Prize (1968)

dedicated to promote and drove the plan toward the Deming Prize. Bridgestone received it in 1968, and today, we have continued our initiatives lead by “TQM Promotion Department” under Global CQMO (Chief Quality Management Officer). The basic thought of Bridgestone’s unique Deming Plan is “good company quality makes good quality of products and services”. Based on this, we reaffirm and re-enhance understanding of 5 concepts - “PDCA,” “5W1H (use why why why analysis),” “Promote rational standardization,” “Explain by using accurate data,” and “Control important points”.

### Re-enhancing Understanding of Bridgestone DNA and Bridgestone’s Unique Deming Plan

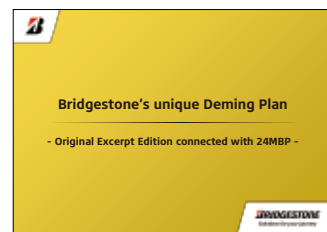
In order to reaffirm and re-enhancing understanding of the Deming Plan, we are initiating our training in all regions, functions and job layers, from management to all employee in global. As a starting point, the Global Executive Committee (Global EXCO) was held in March 2024 in Kurume City, Fukuoka Prefecture, which is the birthplace of Bridgestone. Visiting footsteps of the founder, all members of the global management team reaffirmed Bridgestone DNA based on Genbutsu-Genba (respect for being on-site). Also, we had workshops to reaffirm and re-enhance understanding of “Bridgestone’s unique Deming Plan” and discussed specific management issues with PDCA and why why why analysis, as well as visited on-site to see and learn on-site improvement activities based on Genbutsu-Genba (respect for being on-site). Conveying Global CEO’s message to employees

### Bridgestone’s Unique Deming Plan

Basic thought  
5 concepts

**Good company quality makes good quality of products and services**

- ① Master PDCA
- ② Use 5W1H (WHY-WHY- WHY analysis)
- ③ Promote rational standardization
- ④ Explain by using accurate data
- ⑤ Control important points



for the improvement of management quality on our 93<sup>rd</sup> anniversary of founding, we are working on disseminating “Bridgestone’s unique Deming Plan” globally and conducting workshops for all functions and job layers in global operations. Through these activities, we improve management and working & business quality by deepening understanding of all global employees on the thoughts of founder Shojiro Ishibashi toward its founding which are our origin, Bridgestone DNA that has been cultivated since our founding, and the intention and history of the Deming Plan.

**Improve Management Quality and Working & Business Quality:  
Strengthen Global TQM Activities Steady**

Bridgestone values TQM (Total Quality Management) activities and the Bridgestone Group Awards, our highest-ranking employee recognition program, important as global asset to re-enhance understanding of Bridgestone DNA and the Deming Plan at actual business and on-site initiatives. In particular, since the promotion of “Bridgestone’s unique Deming Plan” in the 1960s, TQM activities have been our global asset and inherited as our culture to pursue continuous improvement and innovation strongly reflecting Bridgestone DNA. We have held the "Group Global TQM Conference" every year from 2010 with the aim for encouraging innovation and continues

improvement by sharing excellent practices of TQM activities from each site of the world and evolving quality of working & business. In 2023, the 13<sup>th</sup> conference was held in person for the first time in four years after the COVID-19 pandemic. Sixteen out of more than 2,000 improvement cases submitted from regions and offices around the world were presented as excellent initiatives, followed by exchanges of opinions among management and award-winning teams.



The 13<sup>th</sup> Bridgestone Group Global TQM Conference

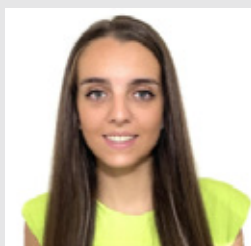
● **Group Global TQM Conference: Awardee**



Under the Bridgestone DNA “focus on quality,” we have a responsibility to deliver good tires to our customers at the timing when they want. In order to fulfill such responsibility, we tackled the improvement to prevent malfunctions in the 6-kilometer conveyor through which tires flow. By running the conveyor with tires equipped with acceleration sensors, we were able to collect and visualize data on roller rotation defects that were previously invisible, leading to predictive management. I will continue to support our customers’ everyday lives by persistently practicing the “5 concepts of the Deming Plan”, going forward.

**Shinichiro Kondo**

Supervisor, Inspection, Quality Assurance Department, Kurume Plant



We introduced automated visual inspection machine in the inspection process to improve customer value for further quality stabilization. This project was complicated and took a long time for its implementation, however, we achieved it by meticulously conducting the PDCA cycle and monitoring its situation on a weekly basis. Also, the participation in Group Global TQM Conference gave me a lot of good practices. I will leverage this experience for future improvement activities.

**Patricia García**

Final Inspection, Bridgestone Burgos Plant



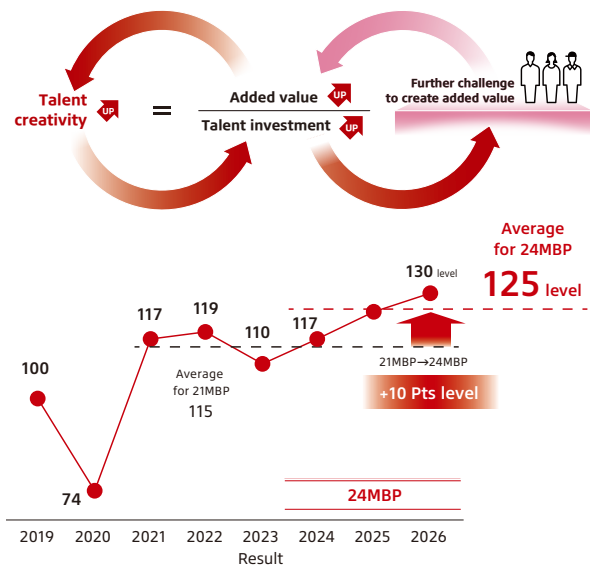
## Talent Creativity Enhancement / Creation of New Corporate DNA Linked to the Bridgestone E8 Commitment

### Improving Productivity and Creativity (Talent Creativity) of Every Individual

In order to promote a talent strategy linked to business strategies, the core of the Bridgestone's talent strategy is based on the idea of providing opportunities for diverse talent to shine through the spread of individual success and confidence. At the same time, this aims to enhance corporate value by creating added value linked to business strategy. In order to realize our 2030 Long Term Strategic Aspiration and improve the quality of our management and working & business, which is a priority issue in 24MBP, we need to hire talent uniquely suited to Bridgestone who share and embody the Bridgestone DNA, and then improve the productivity and creativity of each and every one of these employees. We are undertaking various initiatives to ensure that the corporate growth and the growth of each and every employee go hand in hand.

As an indicator of these efforts, "talent creativity" was first tested in 2023 and introduced as a global management indicator starting from the 24MBP. The basic concept of "talent creativity" is to strengthen investment in human capital, increase added value, and create a virtuous cycle of value creation. We define the "talent creativity KPI" as adjusted operating profit (added value) divided by talent investment (sum of labor, training, and benefits costs), and use this as a common global measure to monitor global trends and address issues in each region and country.

#### ● Talent Creativity KPI



### Specific Efforts to Enhance Talent Creativity

#### ■ Talent Development

Bridgestone undertakes talent development based on a talent strategy aligned with its business strategy. In addition to strengthening the Bridgestone DNA, we are expanding learning and challenging opportunities to support talent who are keen to take on challenges and grow on their own to create further value. This will help ensure both the company's growth and each employee's growth can be realized. Through these efforts, we aim to create a virtuous cycle of value creation while increasing employee engagement.

#### ■ Genba (On-site) 100-Day Challenge Program

In April 2023, we launched the "Genba (On-site) 100-Day Challenge Program", in which employees take the initiative to engage in investigating and verifying any issues or hypotheses they have formulated on their own about their respective operations. This initiative would be conducted for 100 days at Japanese or overseas worksites, thereby promoting awareness and behavioral change. In 2023, 15 people from diverse functions and departments, including safety and procurement, took part in the program. From 2024 and beyond, the program will be expanded globally to encourage even more employees to take up the challenge.

"Genba (on-site) 100-Day Challenge Program" was a valuable opportunity for me, as a member of the Quality Division, to collaborate with my teammates in Japan and overseas involved in the growth business of TB retread tires, and to drive PDCA cycle and improvements on Genbutsu-Genba. I have gained valuable knowledge from activities such as improvement activities analyzing each individual tire and identifying the cause of failures through the actual product review meetings in Japan, data-driven market analysis tools in the United States, and activities to strengthen recurrence prevention using the Process QA Reference List. I was also able to build a wide network of global connections. Moving forward, I will make efforts to improve the working & business quality based on the



original five concepts of the Deming Plan, with a focus on strengthening the Retread QA system.

#### Takuma Nishida

CQO/Quality Division  
G-Material & Evaluation  
QA System Section

### ■ Digital Skill Enhancement (Digital 100 Days of Training)

We have introduced the “Digital 100 Days of Training” as an opportunity for our employees to choose a program that suits their level of ability and challenges them to learn. The program covers a wide range of skill levels, including beginner training in basic digital literacy compiled by the Digital Literacy Council, and in-depth training in which participants learn digital technology related to their own field. In 2023, a total of over 700 employees worked to strengthen their digital skills. We believe that creating social value and customer value through the fusion of the real and the digital is indispensable to achieving the goals of 24MBP and realizing our 2030 Long Term Strategic Aspiration. We will continue to globally expand our foundation of digital talent, promoting their ongoing development and acquisition.

### Creating an Environment where Diverse Talent can Shine

#### ■ Creating a Place for Diverse Talent to Shine

Based on the belief that the success of diverse talent leads to the creation of value as expressed in the Bridgestone E8 Commitment, Bridgestone has created a workplace environment that allows our diverse workforce to shine. Positioning the improvement of employee engagement as one of the key issues in promoting global culture change in line with the Bridgestone E8 Commitment, from 2023, we have transitioned to monitoring through a globally standardized engagement survey. While respecting the differences in culture and characteristics of each country and region, we will deepen and evolve our efforts using a shared global evaluation and framework for activities.

The Bridgestone is active across a broad range of business areas, including premium tires, solutions, diversified products, and a value chain that extends from upstream (raw materials) to downstream (sales and services). In all business areas and across the entire value chain, we believe it is essential to be

proactive and willing to take on challenges in order to provide greater value to stakeholders. Through multiple initiatives, we continue to support the challenge and growth of numerous employees. In addition to creating a place where diverse talent can shine and take on diverse challenges, we are promoting the creation of a new corporate culture, corporate DNA, and culture change linked to improving employee engagement and creating value through the Bridgestone E8 Commitment.

#### ■ Establishing a Pleasant Working Environment

At Bridgestone, we make ongoing improvements to create workplace environments that are inclusive to diverse personnel. These include on-site improvement activities and the use of FemTech programs to help resolve women's health issues through technology.

As part of our on-site improvement activities, we make investments that generate immediate results based on feedback from employees at the foremost front lines of our business. We are also working to enhance benefits, improve the workplace environment and reduce employee workloads. In particular, safety is the very foundation of corporate management, and as such each and every employee strives for “Safety First, Always”, as stated in our Safety Mission Statement, by promoting safety activities throughout the value chain, thereby ensuring we can all work with peace of mind in a safe workplace. As we work toward an environment where diverse talent can flourish, we update our safety and disaster-preparedness standards taking into consideration a variety of changes in conditions, including ergonomic risks, regulatory changes, the changing performance of machinery and equipment over time, and the introduction of new technologies. Furthermore, all our employees take the development of safety awareness seriously. We will continue to develop workplaces where a diverse range of people can work easily and with high motivation.



**Anisara Tisamee**  
General Manager  
Safety and Disaster  
Prevention, Bridgestone  
APIC

The Fundamental Area Safety team within Global Quality Management Committee, has been developing a comprehensive roadmap to build a Strong Safety Culture, aiming to achieve globally ‘Perfect Safety’ as stated in our Safety Mission Statement. For this goal, our team promotes safety from Awareness, Engineering and System aspects such as implementation of fundamental activities (3S, KY, RA, Safety rules), development of safety technologies and establishment of global safety standards. Also ‘Safety Maturity Assessment’ is utilized for continuous improvement in the PDCA cycle. Viewing safety as the foundation of corporate management, we contribute to the entire value chain by fostering a safety culture that protects our teammates and creating safe and worker-friendly working environments.





## Bridgestone's DX

Bridgestone E8 Commitment

- Energy
- Ecology
- Efficiency
- Extension
- Economy
- Empowerment

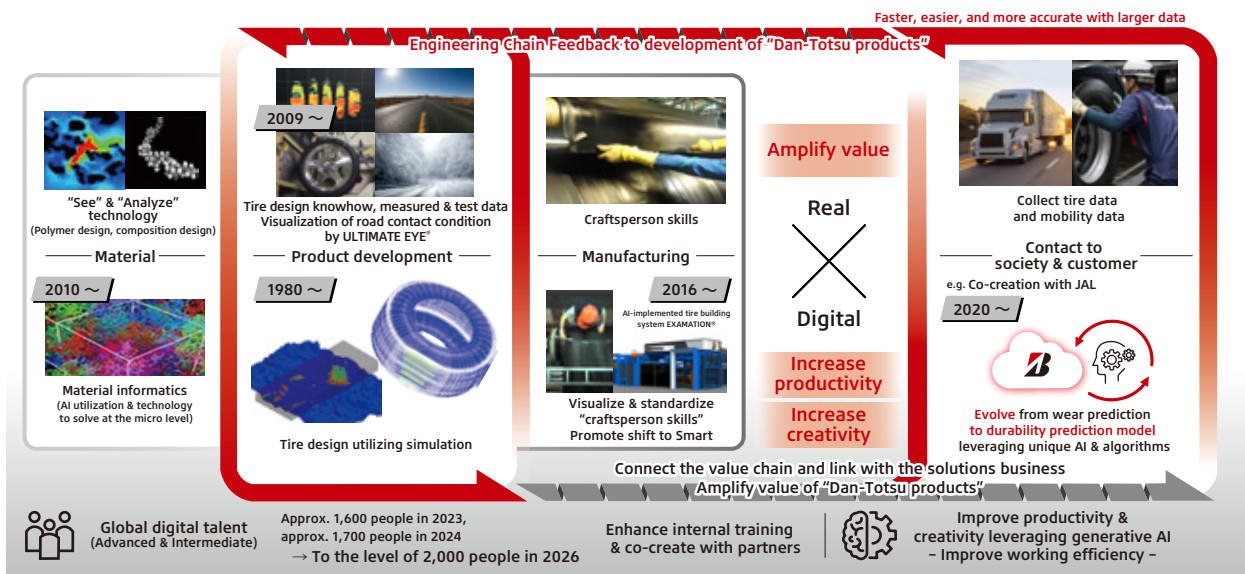
Linked with talent creativity enhancement, Bridgestone evolves DX (Digital Transformation) that supports value creation and productivity & creativity improvement.

The theme of Bridgestone's DX is "Faster, easier, and more accurate with larger data." Utilizing our unique simulations and algorithms, we aim to accelerate innovation by combining our strong "real", such as market and customer data obtained through our field engineering activities, technology and development data cultivated through empirical experiments and demonstrations, with "digital".

Since the 2000s, we have gradually introduced digital power (digital capabilities) into our R&D and manufacturing, including the introduction of material informatics in the material domain, simulation technology in product

development, and introduction of the tire building system "EXAMATION", which is equipped with AI. These initiatives have contributed to the development of Dan-Totsu products by linking data to the engineering chain. While further developing these initiatives, Bridgestone is promoting DX to create social and customer value by connecting throughout the value chain and amplifying value of Dan-Totsu products such as by providing solutions through building our unique algorithms utilizing AI.

What supports this DX is global digital talent. We plan to increase the headcount of global digital talent from approximately 1,600 in 2023 to the level of 2,000 in 2026 on a global basis, through the expansion of in-house training, including reskilling programs, and co-creation with partners such as universities.



We have been planning a digital talent development program with the aim of enabling all employees to understand the meaning of data and the characteristics of digital technology and apply them to their work to create new value. We have built level-based training programs that allow people who have not been exposed to digital technology to initiate their learning, systematically learning from beginner to advanced levels. This training program incorporates Bridgestone's unique issues and data as case studies, so that participants can view the training content as their own studies, so that participants can better connect training content to their everyday work and enhance matters and enhance the learning effect.

**Yasushi Hanatsuka**  
Director  
Digital Solution AI/IoT Planning and Development Division

## Co-creation Leveraging Bridgestone Innovation Park “From Interaction with Empathy to Co-creation”

Bridgestone E8 Commitment

Energy

Ecology

Efficiency

Extension

Empowerment

For future value creation, “co-creation” is essential, connecting with employees, society, partners, and customers to create new value. Bridgestone’s R&D facility in Kodaira, Tokyo, was redeveloped as “Bridgestone Innovation Park (BIP)”, a global hub for innovation. Its full-scale operation commenced in 2022. BIP consists of three main facilities designed to promote interaction with empathy and cultivate relationships through co-ideation and co-R&D to realize co-creation. First, “Bridgestone Innovation Gallery” aims to acquire empathy by showcasing our history, DNA, business activities, and future initiatives. Second, “B-Innovation” is an innovation center composed of “Bridgestone Open Innovation Hub”, where people can view and engage with core Bridgestone technologies and products with the aim of giving rise to new ideas, the “Rough Prototyping Studio”, where machine tools are used to give shape to ideas, and the “Co-creation Office”, which is open to external partners. Third, “B-Mobility” is a proving ground that can be used to quickly experience and verify the performance and potential of prototype mobility technologies and products with actual vehicles.

We are promoting joint research with industrial, governmental, and academia partners to create social and customer value starting with BIP. In 2023, approximately 2,200 people visited the Open Innovation Hub, and 17 cases have evolved into joint research.

As one of the examples, Bridgestone is accelerating joint research with Nippon Telegraph and Telephone Corporation (“NTT”) since there are many areas in which we can collaborate with NTT given the high compatibility between the visions of both companies. This joint research is based on the strengths of both companies in three areas: “Digital Twin”, “Sustainability”, and “Creating environmentally and people-friendly cities through tires”. Co-creation with TIER IV, Inc. is also being promoted, aiming for contribution to the evolution of mobility, such as R&D and commercialization of autonomous driving technology. In addition, we are expanding co-creation activities through collaboration with industrial, governmental, and academia partners that leverage our core competencies. This includes joint research with Tohoku University, that promotes materials development in the next-generation synchrotron radiation facility, “NanoTerasu”, and collaboration with Kyushu University, that promotes comprehensive initiatives such as joint research and talent development.

With BIP at the core, working together with the global technical centers as our innovation sites in 3 regions including the U.S. (Akron, Ohio) and Europe (Rome, Italy), we are initiating technology development based on role-sharing reflecting the geographical advantages and strengths of each center, and are promoting co-creation activities globally to achieve it.



**Bridgestone  
Innovation  
Park**

Opened April 2022






**Accelerate “from interaction with empathy to co-creation” based on the Bridgestone E8 Commitment**

**2023**  
(cumulative total from 2022)

**Customer & partner visits**  
(Open Innovation Hub)

**Approx.**  
**2,200** visitors

**Evolved into**  
**joint research**

**17** cases

**2024**

**Develop as business base for Japan tire business**  
**—promote co-creation activities through integration of R&B (research and business)**



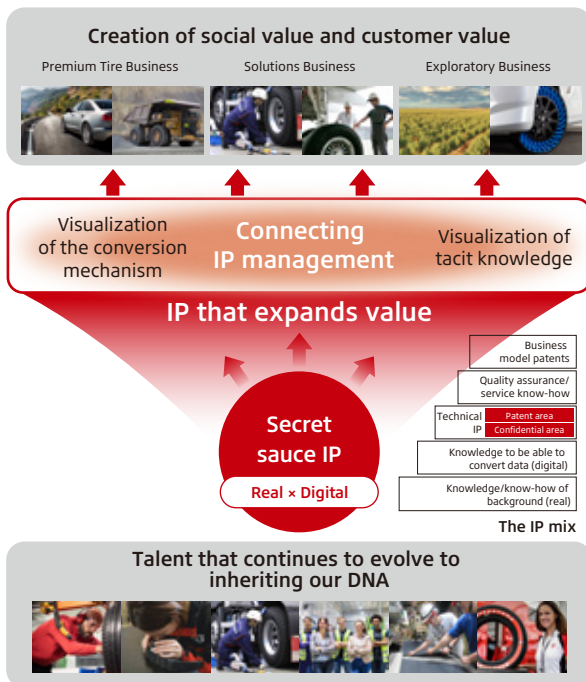


## Intellectual Property Strategy

### Innovating the Tradition of Utilizing Intellectual Property

Bridgestone is striving to manage intellectual property (IP) in a way that enhances corporate value by visualizing mechanisms to convert IP into social value and customer value. It is also managing IP by verifying the effectiveness of IP investment from an ROIC perspective, thereby increasing the certainty of investment.

Our IP activities are based on the creation, succession, and development of our unique “IP secret sauce” as a fundamental aspect to all our businesses. Based on this fundamental approach, we strategically undertake IP management to amplify social value and customer value by understanding and visualizing diverse IP such as knowledge, expertise, and patents generated on-site (Genbutsu-Genba) throughout the value chain. Then we effectively combine them as an IP mix tailored to the business model.



### Toward Translating Intellectual Property into Social Value and Customer Value

In order to translate IP into social value and customer value, we utilize two methods of visualization—“mechanism visualization” and “tacit knowledge visualization”—to increase the certainty of the IP investment’s contribution to business. In concrete terms, mechanism visualization allows us to grasp the characteristics of each business portfolio and work toward IP management linked to business strategy. The “IP secret sauce” that is the starting

point for value translation is our true strength, and forms the core of our IP portfolio from both real and digital perspectives. The real perspective, for example, includes our ability to gain insight into dormant needs that our customers are not yet even aware of, and to offer solutions based on our ability to see and know the market and other phenomena on-site—an ability we have prioritized ever since our founding. Much of our “IP secret sauce” emerged from motorsports activities—effectively, our “mobile laboratory”—which has been passed down to the present day. On the other hand, in terms of digital, our ability to decipher big data and convert it into knowledge that leads to solutions for customers serves as the foundation of our DX-based business such as aviation solutions and mining solutions. This “IP secret sauce”, which combines both real and digital aspects, is converted into new IP, including not only the IP cultivated through manufacturing but also in the domain of business models through our unique IP mix. By strategically combining IP—including not only patents but also peripheral knowledge and expertise—we can amplify and expand value in efficient and strategic ways.

In addition, in the area of tacit knowledge visualization, we identify and extract “craftsperson skills” as the tacit knowledge that is crucial in differentiating our manufacturing and solutions business from our competitors—not only on the manufacturing floor (Genbutsu-Genba) but also through communication with all departments, including development, production, logistics, sales, service, solutions, and more. We are expanding and strengthening our IP mix to link our unique strengths to creating business value. By visualizing a mechanism for translating value across the entire value chain with the IP mix as its axis, we connect our strengths to the fusion of tradition and innovation.

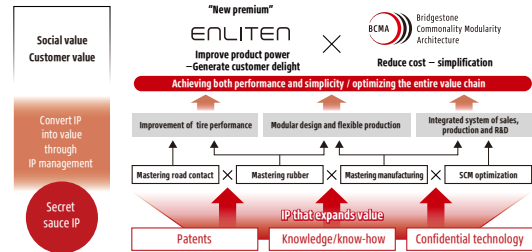
In both real and digital terms, it is talent that creates this “IP secret sauce” and develops it into true value. The Bridgestone E8 Commitment and the organizational capability to cultivate talent that keeps evolving and passing on our corporate culture and DNA are also key elements of our IP management.

We are also using amplification of value through IP visualization in co-creation activities with partner companies. In achieving IP management through open innovation, we strive to create synergies that generate value for both parties by organically combining our IP with that of our partners, based on the fundamental premise of respecting the IP of partner companies. By visualizing each other’s IP and through transparent and fair IP contracts that clearly identify the ownership of intellectual property, we establish an “IP safe zone” where both parties can share intellectual property with peace of mind, thus contributing to fair communication, free and open-minded win-win co-creation activities, and building relationships to that end.

## Mechanisms for Visualization in ENLITEN, Bridgestone's Unique Base Technology for Product Design and BCMA

In ENLITEN/BCMA, we hypothesize the relationship between the fundamental technology and the business model to be pursued, and visualize the mechanism by which intellectual property is converted into value, as shown in the diagram to the right. Our "secret sauce" of proprietary technologies, consisting of patents, knowledge and expertise, is linked to "mastering rubber", "mastering road contact", and "mastering manufacturing" of technology innovation and our strengths in supply chain management. Furthermore, this will be converted into value through the expansion of total performance of tires, modular design/flexible production, and an integrated system of sales, production, and development, lead to forming the

### ● ENLITEN×BCMA IP Influence Diagram



business model of ENLITEN and BCMA. Since visualization has enabled mutual understanding between us and our R&D and business divisions in the field, prioritization of IP investment has been decided through close communication. This enables us to achieve IP management that increases the certainty of value amplification.

## Leveraging Intellectual Property in Co-Creation Activities

Our IP division has been involved from the initial stages of our co-creation activities with TIER IV, Inc. helping to establish an IP safe zone that ensures a win-win for both parties by preparing IP agreements. The combination of our unique IP in tire manufacturing and TIER IV's unique IP in innovative autonomous driving technology creates IP that could never be realized alone, and can be expected to

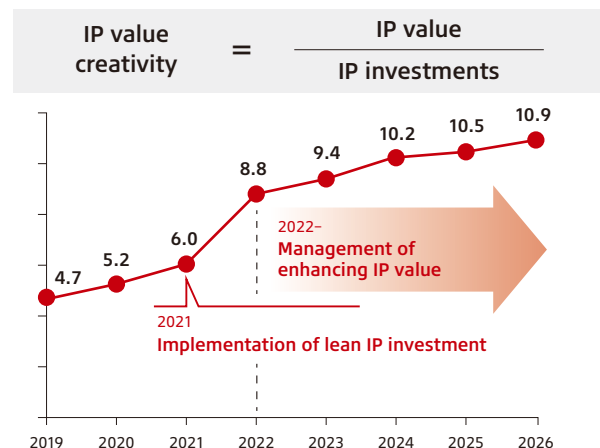
enhance the IP value and corporate value of both parties. For Bridgestone, there is a huge advantage in being able to conduct co-creation activities based on free and open communication in order to utilize TIER IV's technologies and expertise in autonomous driving, which is a new technological field, in developing tires and solutions. For example, we have gained insight into key factors of basic tire performance previously not visible to us, which has led to the creation of new IP.

## Verifying Return on IP Investment Using ROIC

We verify the effectiveness of IP management by implementing the concept of ROIC, our key management indicator. Specifically, we set "IP value creativity" as a results-driven KPI that measures the contribution to sales generated by leveraging IP and IP revenue. We also set factor-oriented KPIs that measure management efforts. The quality of IP operations is improved by verifying overall IP management with results-driven KPIs, and by implementing the PDCA cycle for management measures with factor-oriented KPIs.

Bridgestone's IP value creativity nearly doubled in 2023 compared to 2019, thanks to our thorough implementation of lean IP investment, improving the quality of our IP mix, and the efficient and strategic use of IP mix tailored to business models. As of the end of 2023, the number of IP mix units, which is one of our factor-oriented KPIs, was 15 units currently being utilized and 26 units under preparation. Having set

multiple KPIs from both inward-looking and outward-looking perspectives, we will continue to strive to continuously improve our IP management and enhance quality of operations by verifying the effectiveness of IP investment.





In the second business shaping scenario, “create good tires,” Bridgestone accelerates value creation through the fusion of ENLITEN, the base technology for product design, positioned as Bridgestone’s unique “new premium,” and BCMA, the base technology for R&D and manufacturing that reduces business cost.

## From Volume to Value—Accelerating Focus on Premium

Bridgestone E8 Commitment

Energy	Ecology	Efficiency	Extension
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### Strategic Direction from a Mid-long-term Perspective: Why Does Bridgestone Need to Create “New premium”?

Currently, the demand growth for high rim diameter tires as the premium segment becomes a tailwind for PS (passenger car) tires. This tailwind is expected to continue during the 24MBP period, however, may slow down after 2030 or possibly a little earlier.

First, during the 24MBP period, we will seize the tailwind in demand to the fullest extent. To overcome “decrease in tailwinds” after 2030 and keep growing, Bridgestone will create its own “new premium” starting from the 24MBP period.

### Strengthen Existing Premium Segment “From Volume to Value”: Accelerating Focus on Premium

Focusing on PS tires, where a tailwind in demand continues, Bridgestone is accelerating its focus on premium, “from volume to value” in all product types, and is driving sales and is aiming to increase market share in the premium segment.

For PS tires for replacement, we improve the sales mix, increasing the sales ratio of premium tires including premium tire brands to 70% in 2026. For high rim diameter tires, we also focus on ultra-HRD tires 20 inch and above and further expand sales and market share. Particularly, in North America, the most important market, we aim to continue to strengthen sales expansion and market share increase and improve the sales portion of high rim diameter tires to 65% and the sales portion of premium tires to 80%. In Europe, we aim to increase our market







share with high rim diameter tires, and thoroughly pursue our focus on premium in other regions also.

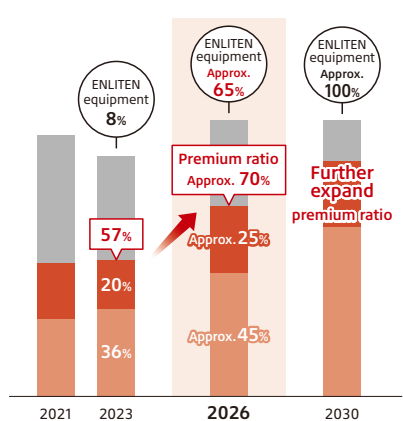
Regarding TB (truck and bus) tires for replacement, we plan to expand sales and increase market share globally, and by strengthening retread tires mainly in North America and Japan, Bridgestone will increase the portion of retread tires in the entire TB business to 50% globally in 2026. Particularly in North America, where we have a strong

business foundation, we promote to expand sales and increase market share in the entire TB business for new and retread tires.



For OR (off-the-road for mining vehicle) tires, where all tires are ultra premium, we expand sales and increase market share with Bridgestone MASTERCORE at our core, as a Dan-Totsu product.

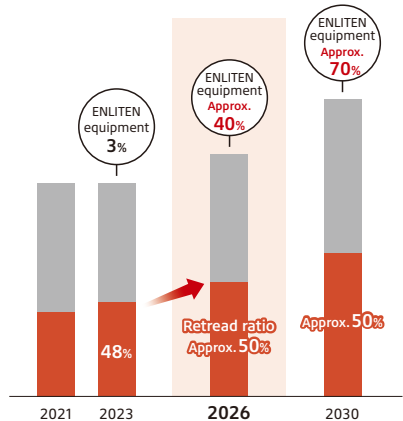
 **PS premium tires (replacement)**  
**Accelerate shift to premium**

-  High rim diameter tires  
U.S., Europe, Middle East: 18 inch & above Other regions: 17 inch & above
-  Premium tire brand + premium tires in each region
-  Other tires





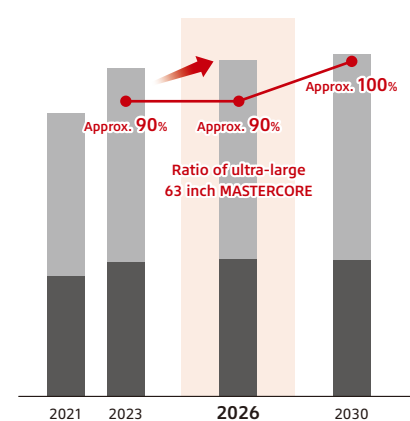
 **TB (replacement)**  
**Increase sales & market share for new tires + retread**

-  New tires
-  Retread tires



 **OR Ultra-large & large**  
**All ultra premium tires Reinforce sales & market share increase**

-  Large tires (OE + REP)
-  Ultra-large tires





## Premium Tires for Passenger Cars—ENLITEN as New Premium in the EV Era

Bridgestone E8 Commitment

- Energy
- Ecology
- Efficiency
- Extension

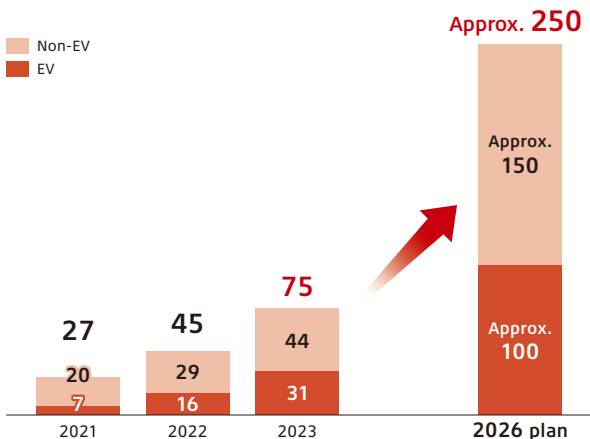
Based on the foundation of reinforcing existing premium, Bridgestone creates its own unique “new premium” through the expansion of ENLITEN, the base technology for product design. ENLITEN is a technology that evolves environmental performance while expanding basic performance and elevating all conventional performances. It also pursues “ultimate customization” to sharpen edge in a performance which not only meets the apparent needs and potential wants of the markets and customers, but also further inspires markets and customers by creating new value that they may not have imagined, according to the characteristics of diverse vehicles and usage conditions. Particularly for PS tires, we respond to changes and diversification of desired tire values on the back of the adoption of EVs, etc., as “new premium in the EV era”.

### ENLITEN Expansion — OE/REP Linkage: Premium Tires for Passenger Cars — OE

For original equipment (OE), the starting point of expanding ENLITEN, we strengthen our approach to premium vehicles/OEMs, prestige OEMs, and premium EVs. By developing “ultimate customization” with ENLITEN technology and proving its value, we aim to expand the number of new car models that come fitted with ENLITEN OE-produced tires from 75 models at the end of 2023 to approximately 250 models at the end of 2026 including emerging EV manufacturers (global cumulative total). Also, through strengthening approach to prestige OEMs, we will link this with building a sustainable premium brand.

Premium EV users in the initial stage of EV adoption have a high tendency for recursion from OE to REP tires. We steadily capture REP recursion demand, starting from the expansion of OE fitment.

● Number of car models with ENLITEN OE fitment (global)



### Create Value in REP Tires by Leveraging “Retail & Service Network” as a Touchpoint with Customers and Vehicles

Based on the retail & service network, which serves as a touchpoint between Bridgestone and its customers and vehicles, we create new demand by ourselves through strengthening value creation in REP tires. By being attentive to customers, providing high-quality services and listening to the voice of customers at retail sites, we meticulously understand the value desired of tires by car and by market. In addition, through end-of-life tire surveys by field engineers on-site (Genbutsu-Genba) we identify challenges and promote tire product planning and development to pursue “ultimate customization”, starting from customer pain points.

In 2023, Bridgestone launched the TURANZA EV, our first tire specifically designed for EVs, reflecting customer feedback from the U.S. West Coast and addressing the issues of enhancing sustainability and early tire wear on EVs. In Europe, we have also launched TURANZA 6, which is EV ready and has enhanced wet-handling performance and wear, etc. required in the European market. In Japan, we launched the REGNO GR-X III in February 2024, the first ENLITEN-equipped tire for REP use in Japan. This has also improved handling performance, sharpening our edge in quietness, and enhanced the environmental performance by using renewable resources as raw materials. From 2024, we plan a full-scale expansion of the number of ENLITEN-equipped REP tires for the global market, aiming for a cumulative total of 45 products and 65% ENLITEN-equipped products by 2026, and 100 products and 100% ENLITEN-equipped products by 2030.


The 24MBP is the “1<sup>st</sup> stage of the new premium” that offers new value to customers by expanding the first generation of ENLITEN technology. The 27MBP will be the “2<sup>nd</sup> stage of new premium” where we launch the 2<sup>nd</sup> generation of ENLITEN in the market, expanding value together with the evolution of brand power which aims to establish a sustainable premium.

**Creating social value linking with business**


Through the expansion of ENLITEN, the “new premium in the EV era”, we commit to the realization of a carbon neutral mobility society—Energy in the Bridgestone E8 Commitment.

● Value creation in REP tires, leveraging retail & service network

Strengthen approach to premium & prestige OEMs  
Expand OE fitment including for EVs (OEMs in Japan / Europe / U.S. / China, etc.)



ICE



EV


Hardware-defined vehicle  
\* Internal combustion engine

Original Equipment

Improvement in driving range / Low electricity consumption

Reduce environmental impact / Long-life

Increased severity on tires



Software-defined vehicle

←

ENLITEN

Replacement

1

Customer touchpoint

Retail & service network

① Touchpoint with customers & cars  
- Be attentive to & deeply understand customer problems -

② High-quality service & maintenance through the retail network





Support from the ground up even during product use phase.  
Improve customer experience value, gain trust.

2

Customer touchpoint

Field engineering

End-of-life tire survey on-site (Genbutsu-Genba), identification of issues




Gather insight from Genbutsu-Genba observations & interviews with users

Dan-Totsu products

Tire product planning & development with customer problems as the starting point

➔ Solve with "ultimate customization"



Generate customer delight with Dan-Totsu products

● ENLITEN - equipped REP products

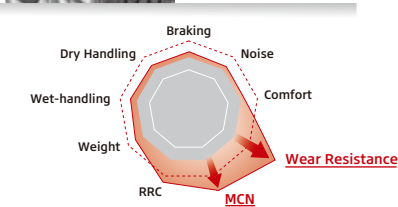
North America

**TURANZA EV**



ENLITEN

Bridgestone's first EV specialized product for replacement equipped with ENLITEN  
Launched May 2023



Provide **new value** with improved wear resistance (+50% vs. Bridgestone's conventional product), an issue for EVs and increased renewable & recycled material ratio to 50%

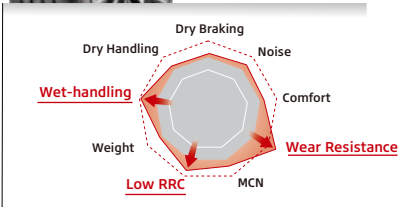
Europe

**TURANZA 6**



ENLITEN

OE-REP linked product anticipating EV expansion  
Launched Sep. 2023  
2024: Expand to India & Asia  
2025: Expand to China



More than **20% higher wear resistance** vs. Bridgestone's conventional product.  
**Significantly improved wet-handling performance and rolling resistance**, important performances in the European market. Balanced in every performance at a high dimension.

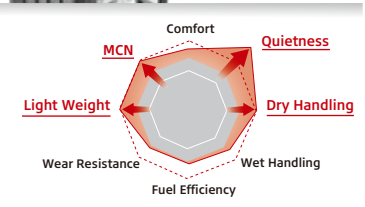
Japan

**REGNO GR-XIII**



ENLITEN

The first ENLITEN product for replacement in Japan  
Launched Feb. 2024



Comfort achieved from **superior quietness**, and driving performance refined with **highly responsive handling**. Contribute to the **realization of sustainability** through reduced weight and use of recycled & renewable materials.



Our team worked on developing "TURANZA EV", Bridgestone's first EV specialized tire equipped with ENLITEN technology, to realize our vision "Sustainable solutions company".

We aimed to offer the performance which contributes to sustainability to customers, and also listening to the voice of customers, mainly from the West Coast where the shift to EV is advancing, cooperation with Bridgestone retail channel network to capture clearly the pain points on EV such as premature wear.

After many co-creations with diverse departments to realize our vision, ENLITEN technology was first installed in North America. We also achieved to provide customers EV-specialized tire with improved wear resistance by 50% versus conventional product and with recycled & renewable material of 50%.

**Jeff Cook**

Executive Director  
Product Strategy and Portfolio Planning, Bridgestone Americas



## R&D and Manufacturing Transformation: BCMA (Bridgestone Commonality Modularity Architecture)

Bridgestone E8 Commitment



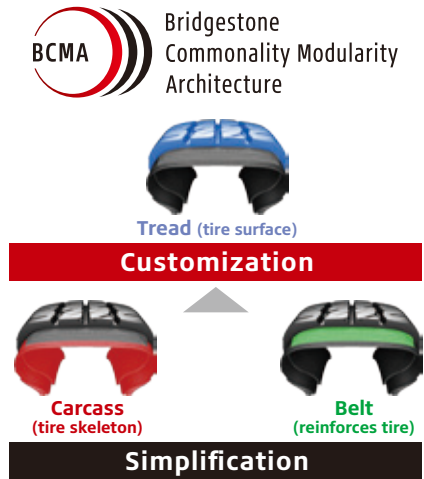
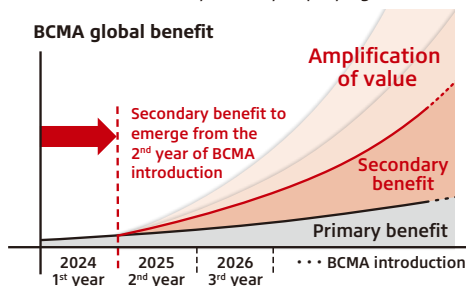
BCMA, supporting “ultimate customization” consolidates tire parts into three modules and shares them among different products, simplifying the supply chain including development and production. It is Bridgestone’s base technology for R&D and manufacturing which shortens development and production lead times to agilely provide value to customers while also aiming to reduce business cost including environmental impact.

In promoting BCMA during the 24MBP, we pursue the essence of R&D and manufacturing based on Genbutsu-Genba (respect for being on-site) to start creating benefit, focusing on value creation. Direct benefits, or the primary benefits from BCMA are generated from the first year of BCMA introduction in 2024. These consist of manufacturing cost down related to reducing changeover in production by sharing parts between products, and development cost reduction due to module sharing. Secondary benefits plan to be created mainly from the second year of BCMA introduction in 2025, in which we expect the reduction in direct material cost and in conversion cost from productivity improvement. These include benefits from the evolution of R&D and manufacturing such as improved capacity in production process and reduced workload at production sites in BCMA deployment.

These benefits will be adjusted according to each plant’s R&D and manufacturing power. Plants in the EAST regions (Japan and Asia), that already have high R&D and manufacturing power and have high productivity, tend to have smaller room for improvement through BCMA. On the other hand, plants in the WEST regions (U.S. and Europe), that face challenges in manufacturing, tend to have greater room for improvement. We lead to create value by specifying the benefit in each plant according to the roles and responsibilities of each of the 45 new tire plants clarified in 2023. Four tire plants globally, two each from Bridgestone EAST and WEST, have been designed as model plants and lead benefit creation. (Model plants: Burgos plant in Spain; Joliette plant in Canada; Nong Khae plant in Thailand; Tochigi plant in Japan.) During the 24MBP period, we will switch approximately 50% of our global PS tire production to BCMA.

### ● BCMA global benefit amount

Accelerate value creation by steadily deploying BCMA in each plant



### Link Steady Productivity Improvement and Shift to Green & Smart

Linked with BCMA deployment, we drive steady productivity improvement as well as the shift to Green & Smart to amplify value and reinforce earning power. In terms of steady productivity improvement, we are pursuing streamlined production based on Genbutsu-Genba (respect for being on-site). In addition, we accelerate this spiral up of “standardizing craftsperson skills that have been cultivated on-site over many years by leveraging digital capabilities, and reinforcing the entire R&D and manufacturing power by ensuring and improving the standards, and then evolving the standards as craftspeople enhance their own skills.” Combining this with automation leveraging smart technology will accelerate productivity improvement. We concretize and execute improvement in each plant, aiming to improve productivity by more than 10% level in 2026, compared to 2023.

Moreover, when it comes to the shift to Smart, we aim to connect the entire production process through digital sensing, AI, and automated control to achieve highly accurate and efficient R&D and manufacturing. In the 24MBP, we plan to introduce MES (Manufacturing Execution System) as a digital platform that digitally captures the production process and to automate the inspection process. We will also promote technological development, looking ahead to implementation in the 27MBP. Regarding the shift to Green, we reduce energy Gentan-i (energy consumption per unit) continuously.

In each target goal of driving the shift to Green & Smart, we steadily move forward with the 2030 Long Term Strategic Aspiration as our North Star.

● Shift to Green & Smart: Targets

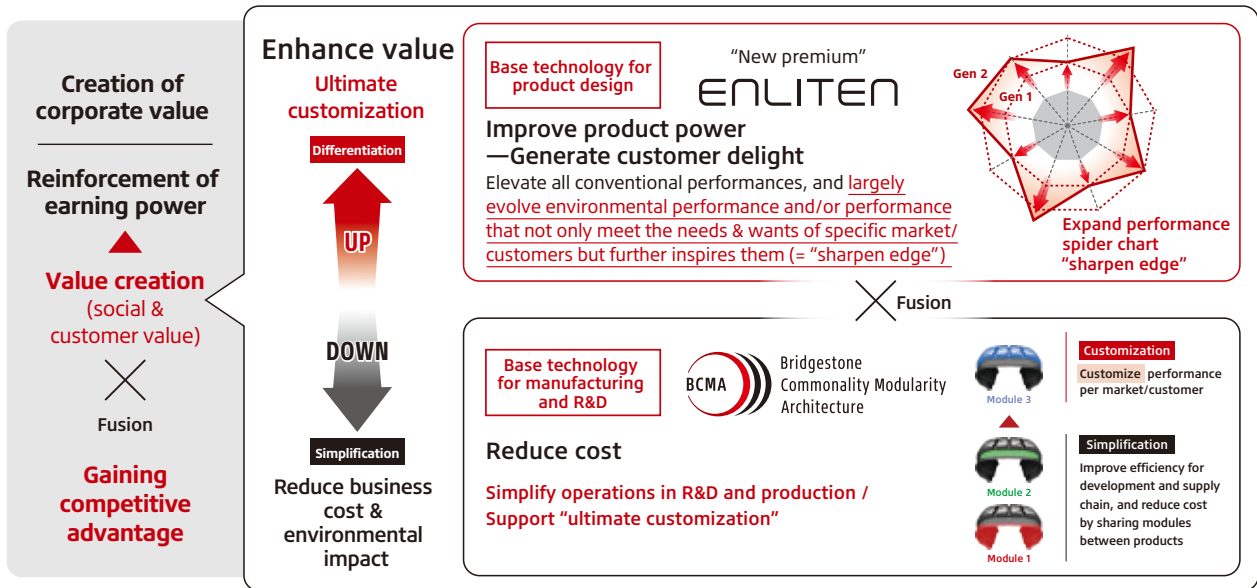
		2026 targets	2030 targets
<b>Green</b> Maximize value with minimum sustainable resources	CO2 emissions	50% over reduction (vs. 2011) (Scope 1, 2)	50% reduction (vs. 2011) (Scope 1, 2)
	Renewable energy (electricity)	Over 70%	Aim for 100%
<b>Smart</b> "Strong" real (Takumi) x digital mastering manufacturing	Deployment ratio of ultimate "circle" technology (Deployment ratio for technology applicable machine)	Approx. 50%	100%
	Less skills/High efficiency labor productivity	Above 110%	130%

Value creation fusing ENLITEN and BCMA gradually starts in 2024 and will expand in 2025-2026 as the true next stage, to reinforce earning power. In the 27MBP, we will build a foundation to further reinforce business quality and expand earning power.

**Creating social value linking with business**

Bridgestone contributes to driving carbon neutrality by reducing its environmental impact through simplifying the value chain with BCMA and by reducing energy Gentan-i (energy consumption per unit) with the shift to Green.

● Accelerate value creation through the fusion of ENLITEN and BCMA



As we roll out BCMA globally, we have discussions with many teammates from each SBU, at Genbutsu-Genba (being on-site), and promote initiatives on a daily basis by performing the PDCA cycle. Although regions and positions may differ, our passions for creating good tires remain the same. We will evolve R&D and manufacturing to a new stage, supporting ENLITEN to realize ultimate customization while reducing our business costs. Through BCMA, we will also transform the individual mindset to R&D and manufacturing as well as organizational culture, which will create good business quality.

**Kosuke Yukitake**  
Executive Director  
Global BCMA and Technology Strategy





Feature

# Global CTO Message: Bringing ENLITEN to the Next Stage with Technology Innovation and R&D and Manufacturing Transformation

Bridgestone E8 Commitment

- Energy
- Ecology
- Efficiency
- Extension
- Emotion

## Bridgestone’s Technology Innovation

Bridgestone is taking on the challenge of continuously creating new value by fusing digital power with strong real capability such as extensive experience & knowledge, know-how, data of tires that we have gained from staying close to customers on-site over 90 years of our history. Especially in our premium tire business as core business, Bridgestone is promoting technology innovation based on three axes of “master”—“mastering rubber”, “mastering road contact”, and “mastering manufacturing”—with the evolution of ENLITEN technology at its core. While leveraging new technology from internal and external co-creation, we amplify the generated value and expand its value to solutions business as growth business or exploratory business. By doing so, we aim to become a company that keeps providing social value and customer value as a sustainable solutions company, which is our vision.

## In Pursuit of “Thinner, Lighter, and Rounder”—“Ultimate Customization”

By creating tires “thinner, lighter, and rounder”, we can expand the performance spider chart. Creating them “thinner and lighter” enhances environmental performance including resource productivity and higher rolling resistance, while creating tires “rounder” improves driving performance such as handling stability and ride comfort. ENLITEN, which Bridgestone positions as a new premium, not only responds to diverse needs and wants of diverse markets and customers, but also provides new value and improves the performance spider chart by pursuing “thinner, lighter, and rounder”. In other words, this is a base technology for product design that sharpens edge in performances that further inspires them. However, if we simply create tires thinner and lighter, tires generally become weak, fragile, and easily distorted, which leads to reducing their performance. ENLITEN technology pursues “ultimate customization” that can be tailored to each market and customer, by assembling more robust and flexible materials accurately, which will resolve contraventions and expand the performance spider chart. We will continue to evolve ENLITEN technology to the next stage by further advancing our three technological foundations—mastering rubber, mastering road contact, and mastering manufacturing—while keeping in mind of



Bridgestone’s DNA of “Genbutsu-Genba (respect for being on-site)” and “being attentive and supportive of customer problems.”

## Mastering Rubber

Bridgestone’s strengths in seeing, analyzing, and managing rubber lead to the development of innovative materials to realize thinner and lighter. First of all, we are evolving our “seeing” technology so that the structure of rubber and molecular can be observed more clearly, by utilizing collaborations with external partners. Furthermore, we will enhance our “analyzing” technology and rapidly identify molecular structure of polymer complexes by accumulated extensive knowledge about tires and rubber over our history, enhancement of introduction of state-of-the-art digital technology in material informatics, which we have been leveraging for a long time, and material analysis combined with unique simulation technology, thereby linking it to “managing” technology. Evolution of these seeing, analyzing, and managing technologies leads to more agile development of higher-performance rubber.

In the 21MBP, we not only evolved raw materials such as polymers, fillers, resins, and chemicals, but we also developed robust, high strength network rubbers by making full use of compounding technologies and processing techniques to maximize the potential of each raw material mentioned above, thus achieving significant improvement in wear performance for products such as TURANZA EV. Furthermore, we are making efforts to develop a double network rubber that combines two different rubber networks, one for robustness and another for flexibility, in a single rubber structure by evolving our “managing” technology. We will complete development of this double network during the 24MBP, and plan to implement it into new products in the 27MBP.

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## Mastering Road Contact

Leveraging Bridgestone's unrivaled knowledge of the world's roads, we have further evolved Bridgestone's unique tire development technology "ULTIMATE EYE", born from our experience in F1®, enabling to visualize ground contact conditions on a variety of road surfaces. Furthermore, by combining our original tire simulation with vehicle simulations, we have optimized the tension distribution of ply cords, which serve as the framework material for tires, to achieve uniform ground contact with thinner and lighter tires. This technology is incorporated in the REGNO GR-X III launched in Japan in February 2024. We will keep evolving our simulation technology toward mastering road contact by fusing of strong real and digital.

## Mastering Manufacturing

The tire production process consists of two parts: a front-end process of mixing rubber, then preparing and processing it into components of the desired dimensions, and a back-end process of assembling the processed components into the shape of a tire, vulcanizing it, and inspecting the finished product. To create tires thinner, lighter, and rounder, high-precision preparation, processing, and assembly are required at each process. As such, the evolution of our manufacturing technology is essential.

By utilizing the sensing technology and big data that were developed through our AI-implemented tire building system, "EXAMATION" which has been in practical use since 2016, and linking the data from the front-end and back-end processes, all components of a single tire can be precisely assembled. This autonomous control technology in these processes enables us to create tires that are thinner, lighter, and rounder, leading to improved product uniformity. This autonomous control technology has already been introduced at our plants. We also plan to introduce it at 20 factories globally during the 24MBP period to drive the shift to Smart.

## BCMA Supports "Ultimate Customization" by ENLITEN

The starting point for value creation in BCMA is on-site R&D and manufacturing. We evolve R&D and manufacturing to the next stage by approaching the essential issues of R&D and manufacturing at Genbutsu-Genba (being on-site), improving productivity, and further promoting the shift to Green &

Smart. By fusing ENLITEN, a base technology for product design and BCMA, a base technology for manufacturing and R&D, we aim to achieve both ultimate customization and business cost reduction. This will create social value and customer value, leading to reinforce earning power and create corporate value.

## From Circuit to Street Mobile Laboratory—Refining ENLITEN Technology Using Sustainable Global Motorsports

For Bridgestone, motorsports are our origin as a tire manufacturer as well as a "mobile laboratory". Through the development of motorsports tires that face extreme conditions, we have refined diverse technologies becoming a foundation of our technology innovations of today. Moving forward, we will leverage sustainable global motorsports to promptly demonstrate the next stage of ENLITEN technology and to reflect it to the development of tires for the markets. Most recently, we are driving technology development to supply motorsports tires equipped with next-generation ENLITEN technology for the 2025 Bridgestone World Solar Challenge (BWSC).

## Leading to Drive Sustainability / Accelerating Technology Innovation

We are also taking on the challenge of leading to drive sustainability across the entire value chain of motorsports tires as a "mobile laboratory." By applying our technologies of "seeing," "analyzing," and "managing" rubber, which support development of the innovative materials as mentioned above, Bridgestone is promoting diversification of resources and development of sustainable materials utilizing recycled and renewable materials. For example, in the NTT INDYCAR® SERIES in 2022-2023, we introduced tires made with natural rubber derived from guayule to some races. In the 2023 BWSC, we supplied tires that achieved recycled & renewable material ratio to be 63%. Looking ahead to the future, Bridgestone will accelerate the development of sustainable tire technology, while leading to build a carbon-neutral production structure from motorsports tires through co-creation with partners. Furthermore, we will take on the challenge of evolving Bridgestone's technology innovation at an even faster pace, from R&D and manufacturing for motorsports tires as a starting point.



24MBP Business Shaping Scenario

## Create **Good Business**

In the third business shaping scenario of “Create good business”, we take on the challenge to balance social value and customer value creation, gain competitive advantage and create corporate value by reducing business cost across the value chain, developing a new premium tire business model with channel power reinforcement, and establishing sustainable premium brand.

### Reduce Business Costs Across the Entire Value Chain

Bridgestone E8 Commitment

- Energy
- Ecology
- Efficiency
- Economy

In the 24MBP, Bridgestone aims to reduce business costs by a total of approximately 100 B JPY through five activities, including BCMA, shifting to “Green & Smart”, steady productivity improvements mainly at production sites linked with “create good tires”, in addition to global procurement in the upstream of the value chain and global SCM (supply chain management) logistics transformation in the downstream.

#### ● Overall picture of business cost reduction



#### Shift to Green & Smart

#### Steady on-site productivity improvements

#### Global procurement

#### Global SCM logistics transformation

**24MBP (2024-2026)**



- Streamline development and supply chain by sharing modules
  - Primary effect: Reduce changeover of materials, parts, and equipment by product and streamline development by sharing of modules
  - Secondary effect: Benefit from evolution of R&D and manufacturing by BCMA deployment such as improved capacity in production process and reduced workload at production sites
- 
- Shift to Green: Reduce energy Gentan-i (energy consumption per unit)
  - Shift to Smart: Improve productivity by promoting automation
- 
- Improve productivity by reducing direct material losses and equipment-induced losses benefiting from thorough streamlined production, also maximizing production capacity of existing equipment.
- 
- Raw material: Reinforce global approach
    - Global strategic partners: Build trust based on empathy – To co-create value (Win-Win)
    - Promote global procurement – Streamline supply chain and pursue benefit from its scale merit
    - Value creation linked with initiatives for sustainability and BCMA
- 
- Streamline supply chain: Inventory reduction and producing close to where products are (linked with BCMA)
  - Streamline through co-creation with customers: Improve warehouse footprint, increase direct delivery from plants to customers
  - Promote automation: Introduce warehouse automation equipment and improve efficiency of loading and unloading operations

**Over 100 B JPY level in total**

## Global Procurement

In global procurement, we pursue streamlining supply chain and benefits from our scale merit based on building relationships of trust and co-creation of value (win-win) with our global strategic partners. Furthering our collaboration with global strategic partners in terms of sustainable procurement in addition to reducing business cost, we will strengthen our comprehensive partnerships for sustainable value creation.





## Sustainable Procurement

Bridgestone is striving to realize a sustainable society and to build foundation of sustainable value creation across the value chain simultaneously. We are focusing on sustainable procurement of natural rubber, in light of its impact on society and business. Natural rubber is a key raw material in tire manufacturing and is an essential renewable resource for producing high-quality tires. Also, it is a renewable resource that provides livelihood opportunities for millions of people around the world. It is said that more than 6 million people are involved in the cultivation of natural rubber. Therefore, efforts toward sustainability of natural rubber are recognized as our crucial management issue for business continuity.

Most natural rubber is cultivated by farmers in Southeast Asia, where rubber trees are planted on small farms and large plantations. Demand for natural rubber has been steadily increasing globally over the years, and we believe that sustainable procurement requires increasing yields and improving the livelihoods of small farmers while protecting forests.

In 2022, Bridgestone formed the Capacity Building Task Force, bringing together relevant functions to strengthen capacity building initiatives for smallholders. Leveraging the techniques and knowledge accumulated from our experience in managing our own natural rubber farms, in 2023, we provided trainings and technical support to smallholders, reaching 5,640 smallholders, and other projects organized in support of increasing production volume as well as income diversification. In order to accelerate the corporate initiatives, we have set the global strategy with a medium-term goal, which is to provide support for 12,000 smallholders aiming to increase yields and the livelihoods of small farmers and protect forests by 2026. The goal is in line with [Global Platform for Sustainable Natural Rubber \(GPSNR\)](#) standards.

Our sustainable procurement initiatives are grounded in our [Global Sustainable Procurement Policy](#) and aligns with our goal of using 100% sustainable materials<sup>1</sup> by 2050 and beyond. We established the goal and KPI of 100% of Tier 1<sup>2</sup> suppliers will have acknowledged the revised Global Sustainable Procurement Policy. (As of March 31, 2024, 87% of Tier 1 tire material suppliers had done so.)

1. Bridgestone defines sustainable materials as materials “1) that come from resources with a continual supply, 2) that can be used as part of our business over the long-term, and 3) that have a low environmental and social impact over the lifecycle from procurement to disposal.” For details on sustainable materials, see below

Website [Long-term environmental vision \(2050 and beyond\): Towards 100% sustainable materials](https://www.bridgestone.com/responsibilities/environment/resources/)  
<https://www.bridgestone.com/responsibilities/environment/resources/>

2. Suppliers that supply materials directly to Bridgestone

Taking into account the changing business environment, Bridgestone has placed an enhanced focus in procurement activities on the creation of new value, including ESG, in addition to conventional value centered on QCD (Quality, Cost, Delivery). We believe it is important to reinforce dialogue with our suppliers and co-create new value, with the “Bridgestone E8 Commitment” as the axis.

For example, regarding natural rubber, one of the raw materials for which there are high social demands for sustainability, we are working collaboratively with our suppliers to improve traceability and are actively working to solve social issues throughout the supply chain, including smallholder farmers. We will continue to deepen our cooperation with our suppliers to enhance sustainability.



**Masashi Omae**  
 Director  
 Global Procurement Division

## Capacity Building Projects with WWF

In 2024, Bridgestone, in partnership with [WWF Japan](#) and Indonesia, launched a project to provide technical training towards that contributes to improved yields of natural rubber smallholders in Riau and Jambi provinces in Indonesia, with a view toward medium-term cooperation. We plan to conduct a series of technical training sessions in 2024, ranging from land preparation and nursery to natural rubber latex coagulum collection by cup lump. In the first quarter of 2024, experts from our natural rubber farm in Indonesia and Technical Center in headquarters trained 10 smallholders from Kuantan Singingi Rubber Farmers Association (APKARKUSI) in Riau province and five smallholders from Jambi province on tapping techniques, fertilization and pruning, and disease control. With the aim of further expanding the impact of activities, Bridgestone will standardize yield improvement techniques tailored to various farm conditions, train these 15 trainees as instructors, and establish an arrangement to disseminate these techniques to more smallholders. Through these efforts, we will contribute to the sustainability of natural rubber.

Most of our member farmers are conventional and have not had an opportunity to learn the relevant skills to produce natural rubber, including taking care of young rubber trees, tapping, coagulating and collecting cup lumps, and fighting disease.

I really appreciate Bridgestone and WWF for providing the training for the farmers to learn such skills. It gives us understanding in Good Agricultural Practices of natural rubber production.

With regular, continuous and comprehensive follow-up training in efforts to maintain the existence and development of natural rubber, we expect the training will ultimately increase the income and livelihood of rubber farmers as well as sustainable natural rubber production in Kuantan Singingi Regency.



**Syoffinal**  
Advisor of APKARKUSI  
(Kuantan Singingi Rubber  
Farmers Association)



Training scene of tapping techniques and medicine application

## Global Platform for Sustainable Natural Rubber

GPSNR, a multi-stakeholder organization serves as an effective platform for collaboration, sharing resources and knowledge, and uniting Bridgestone's efforts in enhancing sustainability of the natural rubber industry with other tire makers, automakers, smallholders, processors, and producers, civil society.

Bridgestone donated 60,000 USD to GPSNR to support initiatives led by GPSNR for smallholder capacity building to be conducted in 2023. In addition, Bridgestone plays multiple roles in GPSNR including being a founding and

executive committee member, taking part in the Capacity Building and Smallholders Working Group, being actively involved in the discussion around GPSNR's Shared Responsibility Framework, and also GPSNR's Assurance System. Our active contribution will lead to help the industry tackle the vast and complicated issues in ensuring a sustainable natural rubber supply chain.

## Preparation for EUDR Compliance

Bridgestone has set up a global structure in order to respond timely and swiftly to the EU Deforestation Regulation (EUDR) requirements and is also actively engaging with industry networks, such as GPSNR and [European Tyre and Rubber Manufacturers' Association \(ETRMA\)](#), to clarify and compile a common industry view on the content of regulations and support smallholders who support production.

## Enhancing Traceability of Natural Rubber Supply Chain

Our commitment to the continuous improvement of our natural rubber supply chain's traceability is unwavering. Since 2019, we have closely collaborated with suppliers to foster a deep understanding of the significance of supply chain mapping, particularly down to the smallholder level. By 2023, we achieved a significant milestone: 34% of our natural rubber supply chain was traceable to smallholders based on supplier self-declarations. By integrating digital tools, we aim to gain a more comprehensive and accurate understanding of our supply chain.

[Global Platform for Sustainable Natural Rubber \(GPSNR\)](https://sustainablenaturalrubber.org/)  
<https://sustainablenaturalrubber.org/>

[Global Sustainable Procurement Policy](http://www.bridgestone.com/responsibilities/social/procurement/pdf/Policy_English.pdf)  
[www.bridgestone.com/responsibilities/social/procurement/pdf/Policy\\_English.pdf](http://www.bridgestone.com/responsibilities/social/procurement/pdf/Policy_English.pdf)

[WWF Japan](https://www.wwf.or.jp/eng/)  
<https://www.wwf.or.jp/eng/>

[European Tyre and Rubber Manufacturers' Association \(ETRMA\)](https://www.etrma.org/)  
<https://www.etrma.org/>



## Global Supply Chain Management / Logistics Transformation

Bridgestone E8 Commitment

- Energy
- Ecology
- Efficiency
- Economy

In Bridgestone’s global supply chain management, Bridgestone focuses on premium production in response to the expansion of ENLITEN and PS HRD tire sales. While promoting local production for local sales in PS and TB tires as our principle, we are building a structure which aims for global optimization by adapting with agility and flexibility to changes and geopolitical risk. Within the 24MBP, the ratio of local production for local sales is planned to be 90% for PS and 80% for TB globally.

Based on this premise, Bridgestone EAST contributes to our global business as global premium tire supply sites. In particular, Japan plays the role of supporting the premium tire business in global as core of manufacturing, producing PS and TB premium tires and tires for aircraft and mining, which require high technological capability.

### ● Focus on Premium—Promote Building Supply Chain Management which Responds to Premium Focus and Change

24MBP	PS	TB
Ratio of local production for local sales (global)	<b>90%</b>	<b>80%</b>
Ratio of premium tire production (global)	ENLITEN ratio (PS) 2023: 4% → 2026: <b>40%</b>	ENLITEN ratio (TB) 2023: 5% → 2026: <b>35%</b>
	HRD ratio (PS) 2023: 45% → 2026: <b>55%</b>	



Aim for global optimization by **ensuring agility & flexibility** capable of adapting to changes and geopolitical risks, while keeping “local production for local sales” as our basic principle

Aim for optimal sourcing with Bridgestone EAST (Japan & Asia) as the core  
Global contribution as global premium tire supply sites  
Bridgestone EAST -  
**Responds to growing market**  
▪ Reinforce production capacity for India PS premium tires  
⇒ Strengthen position as a market leader

Place Japan as the **“core of manufacturing”**  
Support the premium tire business globally

#### Main export products

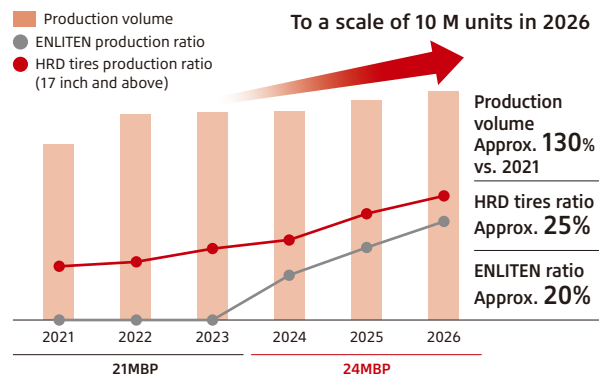
- High-difficulty specialties tires that require technological & comprehensive capabilities: AC & OR tires
- PS & TB premium tires

## Growing Market: India Premium Tires

In India, a growth market, as part of the 24MBP, we will invest in expanding production capacity to 10 million tires by 2026, to strengthen our market leader position based on expansion of premium tire sales volume, sales mix, and market share of PS premium tire.

Bridgestone established our Indore Plant in 1996 and Pune Plant in 2013, and has built a strong business foundation based on Genba (on-site) and local production for local sales. We continue to focus on PS premium tires and maintain and reinforce our market leader position through strengthening our lineup of Dan-Totsu products by introducing new ENLITEN products in 2024, strengthening our sales channels, especially family channels and strategic partners, and strengthening our brand power linked with sustainable global motorsports activities.

### ● India PS Premium Tire Production (Indore + Pune Plant)



## Global Supply Chain Logistics Transformation: B-Direct

Through global supply chain logistics transformation, which we have named B-Direct, we promote to reduce business cost and create social value and customer value. This will be done by realizing production close to where products are sold, lean inventory, increased ratio of direct delivery, and Green & Smart logistics, linked with BCMA and DX.

### Supply Chain Efficiency (Inventory Reduction/ Local Production)

Link between the expansion of BCMA deployment and improvement of manufacturing flexibility

- Promote in producing tires close to place of demand
  - Efficient production planning linked to sales timing through improvement of manufacturing flexibility
- ⇒ Reduce inventory

### Customers and Factories Directly Connected with Data and Products

Strengthening the SCM platform through DX

- Direct connection with customers' system and inventory data to realize timely supply (direct delivery) from Bridgestone's plants to customers

### Promote Green & Smart Logistics

#### Green Logistics:

- Introduce EV trucks, warehouses with solar power generation
- Reduce CO<sub>2</sub> emissions through more efficient marine transport

#### Smart Logistics:

- Promote introduction of automated equipment in warehouses ⇒ Improvement of safety and efficiency of warehouse operations

Through these efforts, we plan cost improvements of approximately 10% in 2026 from 2023.

## Spread the Benefits Upstream and Downstream in the Supply Chain —Maximize Effectiveness and Efficiency Across the Entire Supply Chain

In addition to logistics transformation, we are pursuing maximization of effectiveness and efficiency across the entire supply chain, including enhancing global procurement in upstream of the supply chain while improving sales forecast accuracy by strengthening sell-out management in downstream of the supply chain. We will create value globally, however particularly in Japan, including through new challenges such as maximizing sales opportunities and strengthening links with production through improved demand forecasting for winter tires using AI.

### Creating social value linking with business

We contribute to sustainability, including becoming carbon neutral, by streamlining the supply chain and promoting green logistics through B-Direct.





## New Premium Tire Business Model: Strengthen Channel Power

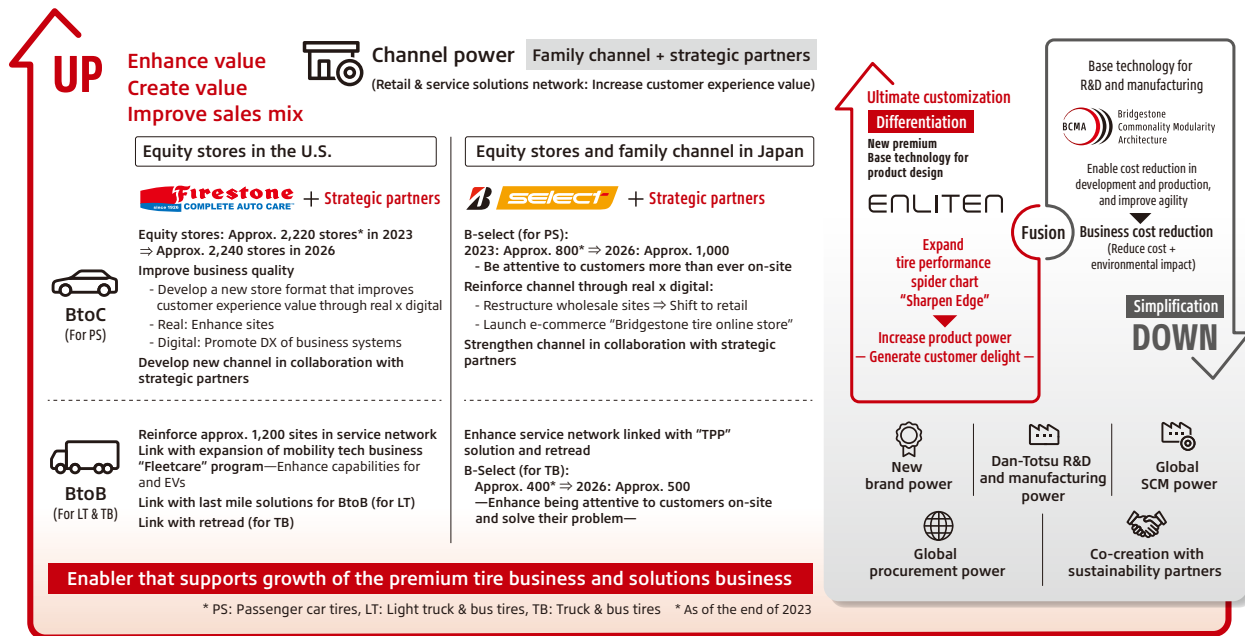
Bridgestone E8 Commitment



The key to “create good business” is channel power. As part of the new premium tire business model, we are focusing value creation by expanding our retail & service solutions network, which combines family channels and strategic partners, mainly in North America and Japan, linked with “create good tires” with a focus on fusion of ENLITEN and BCMA.

We aim to amplify the value of our Dan-Totsu products during customers’ tire use, enhancing customer experience value (UX) by staying close to them and recommending better tires and better use of tires, and enhancing retail sites as the important touchpoints with customers.

- Strengthen Channels which Create Social Value and Customer Value, being Attentive to Customers and Markets: Realize Reinforcement of Earning Power



### U.S. Retail Equity Stores Business: Take on the Challenge of a New Store Format Evolving by Real x Digital

In the U.S. retail equity stores business, we are taking on the challenge of developing a new store format evolving by the combination of real and digital capabilities, strengthening to provide premium customer experience value and to contribute to sustainability. First, in 2024, we conduct an initial trial. We are enhancing digital service which completes the entire customer experience from proposal of optimal products & services, order, operation appointment, payment, to after service, seamlessly on the app. We are also promoting to strengthen premium tires and service specialized for EVs through such initiatives:

enhancing EV maintenance, and charging service, and conducting EV maintenance training for store technical staff, linked with ENLITEN, “New premium in the EV era”. We are also reinforcing our sustainability efforts by introducing



New store format in the U.S.

solar power panels and advanced LEDs, optimizing energy use such as air conditioning, and recycling end-of-life tires and oil at retail stores. We identify services that can provide value to our customers through conducting the PDCA cycle and are gradually expanding to 2,200 equity stores in the U.S. in 2025 and 2026, leading to improve the quality of our services.

### Creating social value linking with business

For the new store format in the U.S., in addition to adding value to the customer experience we provide, we are also strengthening our provision of sustainability and social value, such as by installing solar panels.



At Bridgestone Retail Operations in the U.S. we continue to drive innovation in the automotive aftermarket. Our next-generation retail experience will elevate end-to-end customer satisfaction through efficient, digital solutions and a modern, physical store environment. Trust will be built through the transparency, reliability, and expertise of our 20,000 retail teammates. As we look ahead to an exciting retail future, we will evolve our service with customers at the center.

#### David Nientimp

Vice President  
Marketing, Merchandising and Retail Transformation, Bridgestone Retail Operations

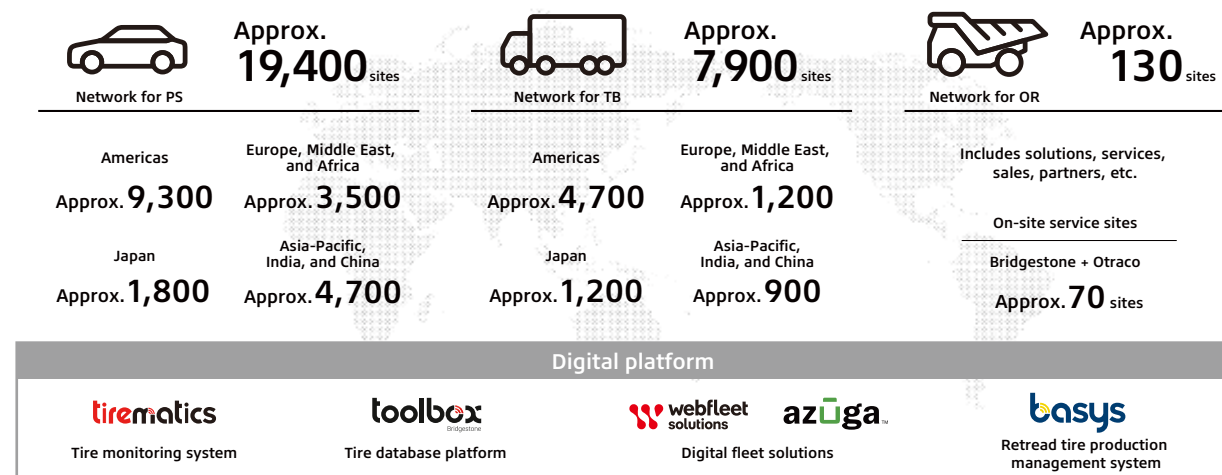
### Strengthen Japan Retail Business:

In Japan, we are expanding B-Select, a new network of stores accompanying each customer on-site and providing the high-quality services and solutions. We are also strengthening our efforts to provide optimal proposals and high-quality services through connecting directly with customers through the Bridgestone tire online store, leveraging "real" and "digital" capabilities.

### Global Expansion of Our Retail & Service Solutions Network

Globally, we are expanding our retail & service solutions network by real x digital. We are improving the quality of business in the retail & services business while strengthening our contribution as an enabler of growth for the premium tire business and the solutions business.

#### ● Global Expansion of our Retail & Service Solutions Network



\* PS: Passenger car tires, TB: Truck & bus tires, OR: Off-the-Road tires

Data as of the end of 2023. Number of stores include equity stores, franchise, voluntary chains and special contract dealers



## Build Sustainable Premium Brand: Reinforce Sustainable Global Motorsports

Bridgestone E8 Commitment

Energy

Ecology

Emotion

Our motorsports activities are positioned as our “origin” as a tire manufacturer. Our motorsports activities started with our participation in the first Japan Grand Prix in 1963, expanded globally through our challenges in a wide range of races such as participation in Formula 1®, and marked our 60<sup>th</sup> anniversary in 2023. What we refined through such challenges—our “Passion for Excellence”, our tire development expertise, monozukuri (R&D and manufacturing) power, brand power and talent—make up the foundation of our premium tire business to this day. The contribution to the brand has been particularly significant, becoming the driving force that enables Bridgestone to be recognized as a global premium brand.

In the 24MBP, linked with the reinforcement of sustainable global motorsports activities, we will support value enhancement by evolving Bridgestone from a premium brand to a “sustainable premium” brand built with Bridgestone and ENLITEN. Bridgestone will continue to empower each and all to achieve their best and aim to be essential to the future of mobility.

### Towards a Sustainable Premium Brand: “Passion to Turn the World”

In marking the 60<sup>th</sup> anniversary of our motorsports activities, we reaffirmed our passion for motorsports, and expressed our determination to evolve these activities placing sustainability at the core with our new message, “Passion to Turn the World”. The phrase encapsulates Bridgestone’s passion to race, passion to win, “challenge

for excellence,” and accelerating innovation, as well as our passion to support a sustainable mobility society together with our partners, through motorsports. By demonstrating our challenge and pursuit of excellence, including our efforts towards sustainability, we strive to foster empathy and trust among our stakeholders. By proving our value as sustainable premium, and being recognized for it by our stakeholders, we enhance our brand value in alignment with the business strategies in each region.

Passion to race.  
 Passion to win.  
 Passion to wake up tomorrow and start over again.  
 Passion to face the best.  
 Passion to be the best.  
 Passion to embrace the ultimate challenge.  
 Passion to exceed records, barriers and beliefs in limits.  
 Passion to pursue excellence in every moment.  
 Passion to be an inspiration.  
 Passion to undertake new journeys together.  
 Passion to make Earth a better home for all.

Committed to empowering each and all to achieve their best.  
 Committed to being essential to the future of mobility.

Motorsports is Bridgestone’s passion. Always has been. Always will be.

**PASSION  
 TO TURN THE  
 WORLD**

**BRIDGESTONE**

## Leading to Drive Sustainability

We aim to transform the entire company by leading to drive sustainable value creation starting from sustainable global motorsports. We will first drive sustainability across the entire value chain of motorsports tires all at once, from raw material procurement to recycling.

### Value Chain Initiatives across Motorsports Tires

- Raw material procurement:
  - Recycled and renewable material ratio:  
Aim for 65% or more
- Production and Logistics:
  - Take the lead in promoting carbon neutrality
  - Production using 100% renewable energy
  - CO<sub>2</sub> reduction through green logistics (in land and sea)
- Recycling:
  - "Renew" tires to raw material
  - Strive to realize chemical recycling

## Contribution to the Technological Development of ENLITEN Generation 2 as a "Mobile Laboratory"

Leveraging sustainable global motorsports as a "mobile laboratory", we will drive development of ENLITEN Gen 2 technology, which is scheduled to be launched in the market from the 27MBP. In the Bridgestone World Solar Car Challenge, an event featuring solar-powered cars that Bridgestone supports as the title sponsor, we plan to introduce motorsports tires equipped with ENLITEN Gen 2 technology in 2025. Meanwhile, in the Bridgestone FIA Eco Rally Cup, where ordinary drivers participate in zero-emission vehicles, we are not only supporting EVs but also taking this as an opportunity to listen to the voices of our tire users, linking the event to development of ENLITEN products and technology. Furthermore, we will refine the sustainable technology through our participation in the ABB FIA Formula E World Championship, which will start from the 2026-2027 season, as sole tire supplier.

## Bridgestone World Solar Challenge



As a forerunner in Bridgestone's efforts toward sustainable global motorsports, Bridgestone has been the event's title sponsor since 2013. In the event held in October 2023 in which we marked 10 years of our sponsorship, we introduced ENLITEN-equipped tires for the first time in motorsports. Staying close to participating teams to deeply understand the harsh conditions of driving across approximately 3,000 km from Darwin to Adelaide in Australia with limited electricity from solar power as well as the characteristics of solar cars, we empowered the best performance of the teams who fitted our tires, by customizing the performance that sharpens edge in high rolling resistance, wear resistance and light weight. Furthermore, we were able to demonstrate our sustainable technology at the same time, by doubling the recycled and renewable material ratio to 63% from the previous race (2019). Regarding the transportation of tires, too, we worked with DHL to realize carbon-neutral transportation. We will continue to evolve for the next competition.



The BWSC is an extraordinary collaboration of bright young minds driven by a passion to realize a greener, cleaner future. Through designing new technologies for sun-powered electric vehicles, the vehicles themselves are spectacular, however the importance lies in the many innovations developed by the students, that are later adopted across multiple industries. It is incredibly inspiring to be a part of.

### Joanne Hayes

Head of Sustainability and Corporate Communications,  
Bridgestone Australia and New Zealand



24MBP Business Shaping Scenario

# Create New Business **Sowing Good Seeds** for the Future

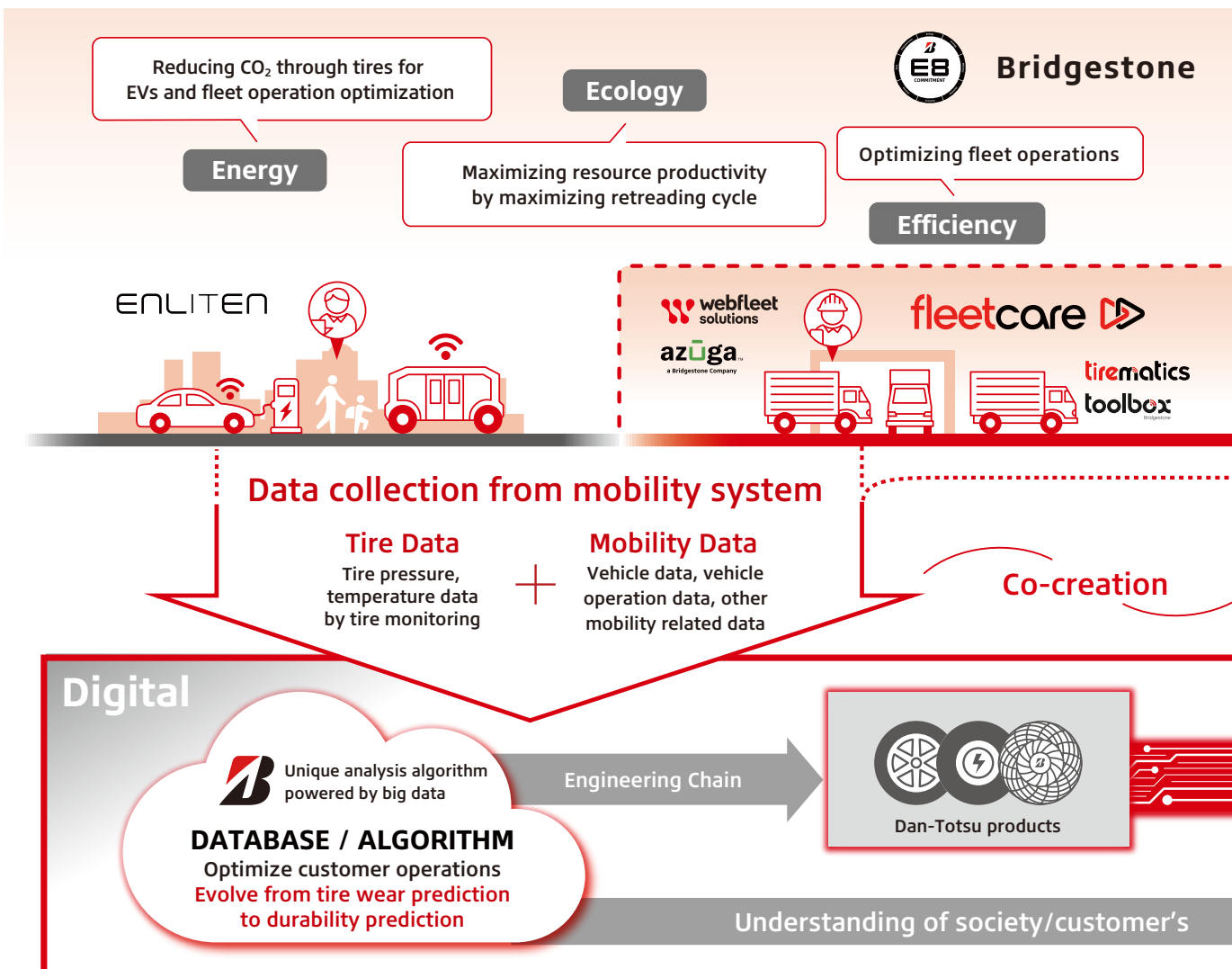
The fourth business shaping scenario is to “create new business sowing good seeds for the future”. Bridgestone will sow good seeds beyond the 24MBP and create new business which generates social value and customer value.

## Solutions Business **Growth Business**

Bridgestone E8 Commitment

- Energy
- Ecology
- Efficiency
- Extension
- Economy

### • Bridgestone's Mobility Ecosystem

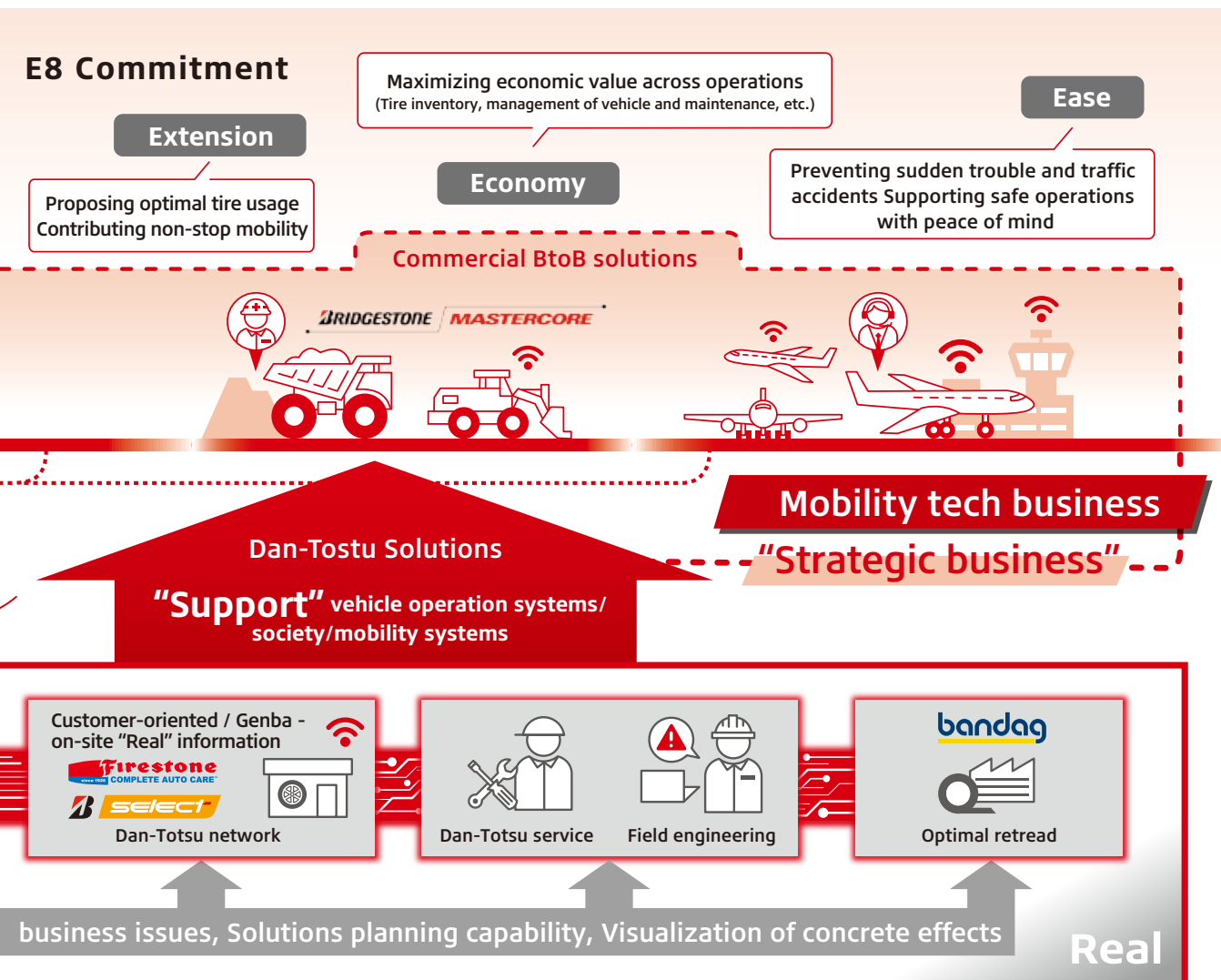


## Build Bridgestone's Mobility Ecosystem

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.





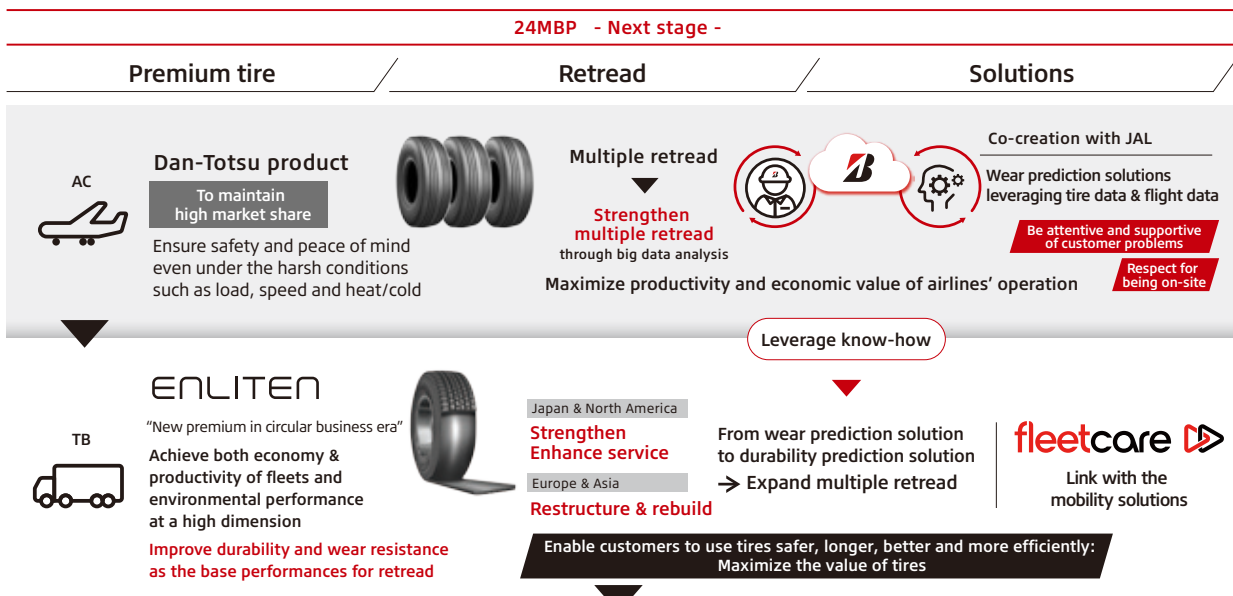
## Accelerate Value Creation Centered on Retread

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



Tire-centric solutions



Mobility Solutions



Mining solutions

Expand solutions based on new premium “MASTERCORE”  
Build value creation through real x digital — new challenge



Aviation solutions

Strategic starting point to establish  
solutions business model including retread







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

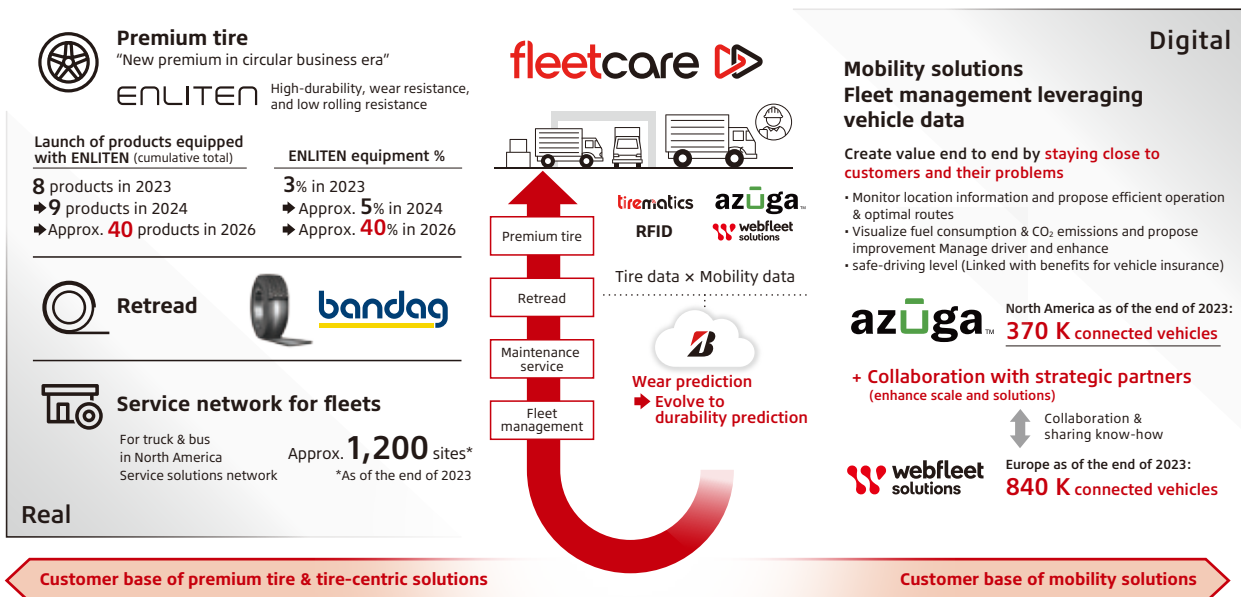
In North America, by strengthening linkage between, premium tires, retread, and mobility solutions, we will enhance the “Fleetcare” program that provides solutions in a package tailored to their pain points through staying closer to customers. By doing so, we will build the mobility tech business.

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, high-quality 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 next-generation 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.



"Craftperson skill" /  
Manufacturing data



Date regarding tire's using condition &  
tire inspection data after usage

**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 craftsman 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.

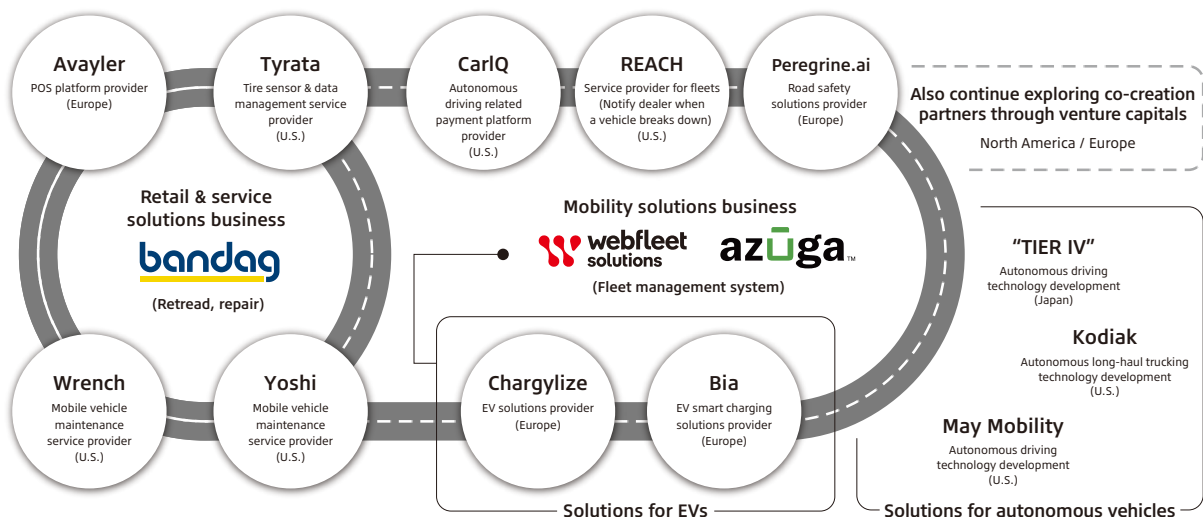


Automated Driving Demonstration Tests at B-Mobility



Automated Driving Demonstration Tests on Public Roads

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





## Exploratory Business: Sowing New Seeds

Bridgestone E8 Commitment

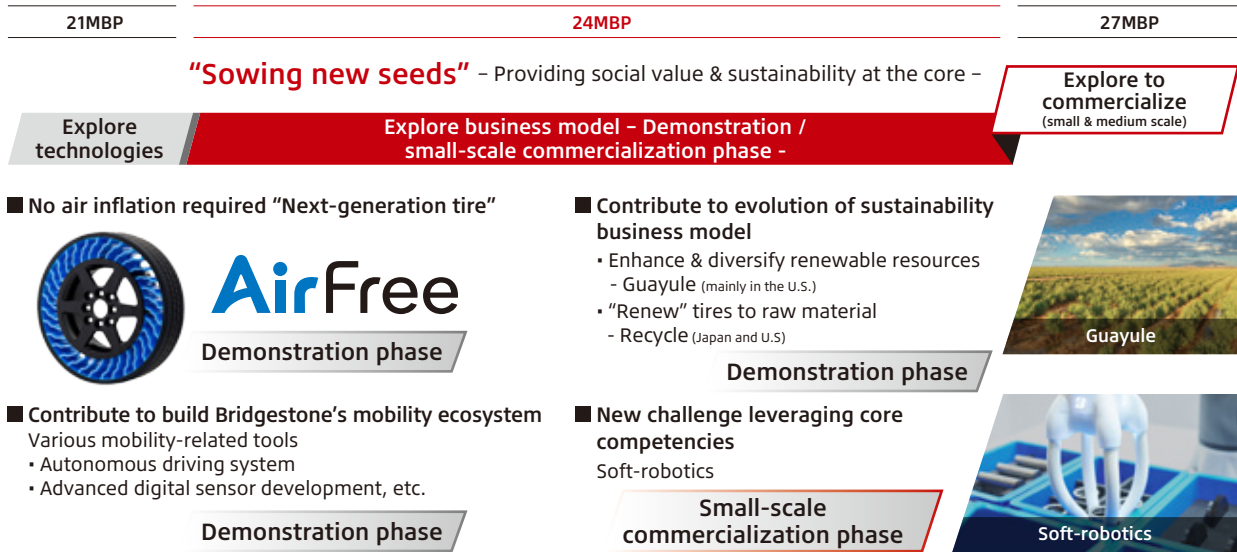
Energy

Ecology

Ease

Empowerment

In the exploratory business, which we have positioned as sowing new seeds for future sustainable growth, we start by providing social value with sustainability at the core. In the 21MBP, we first focused on exploration of technology. In the 24MBP, we promote the exploration of business models for the next stage, with co-creation as its axis.

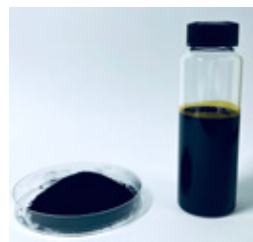


### Guayule Business: Diversification of Natural Rubber Sources

In the U.S., we are promoting the guayule business to diversify natural rubber sources, a renewable material, through co-creation and open innovation with the U.S. Department of Energy, local NGOs, and external partners. Unlike the para rubber tree, the cultivation of which is geographically concentrated and is susceptible to disease and climate change, guayule can be grown in arid regions, making it a viable alternative to natural rubber. Cultivating guayule can also contribute to the greening of these arid regions. Development of guayule-derived tires, which was studied in the past in Firestone, was resumed in earnest in 2012. In 2022, we supplied race tires made from guayule-derived natural rubber at the NTT INDYCAR® SERIES, and demonstrated their performance. We will continue to take advantage of the NTT INDYCAR® SERIES under a concept of "mobile laboratory" to explore technologies for commercialization.

### Recycle Business: "Renew" Tires to Raw Material

In the recycle business, which "renews" tires to raw material, we are promoting co-creation with ENEOS Corporation under the "Green Innovation Fund Project" of the New Energy and Industrial Technology Development Organization (NEDO), in Japan. We have been promoting elemental technologies development since 2021, and began recycle pyrolysis tests of end-of-life tires in 2023. During the 24MBP, toward its commercialization we are promoting technology verification and also start studying the construction of a pilot demonstration plant. In addition, we continue initiatives for recycling in the U.S. and for mining tires as well.



Recovered carbon black (left) and tire-derived oil (right)



Demonstration machine (Kodaira, Tokyo)

\* Obtained as a result of work (JPNP21021) commissioned by the New Energy and Industrial Technology Development Organization (NEDO).

## Soft-robotics: A New Challenge Leveraging Bridgestone's Core Competencies

In the soft-robotics business, which has become a corporate venture "Bridgestone Softrobotics Ventures" as opportunities for diverse talent, especially for young talent, to shine and place to demonstrate entrepreneurship, we are exploring business model based on co-creation with a wide range of partners to "realize a future where human and robot co-exist" under the slogan "Soften the Future".

Soft-robotics is soft robot which utilizes artificial rubber muscles that leverage the know-how gained from the development and production of tires and hoses and are designed to work alongside humans. The "TETOTE" soft robotic hand, incorporating AI software from our partner, Ascent Robotics Corporation, makes piece-picking possible, successfully grabbing a variety of objects. "TETOTE" was awarded as the "2023 Good Design Award" by the Japan Institute of Design Promotion, and the concept model of the soft robotic hand won the "iF Gold Award" at the internationally prestigious "iF Design Award 2023". In addition, we are taking on new challenges such as presenting "umaru," a prototype of "robots that immerse your body and move your mind," at the International Robot Exhibition 2023. In the 24MBP, we will continue to evolve initiatives for the next phase of small-scale commercialization.



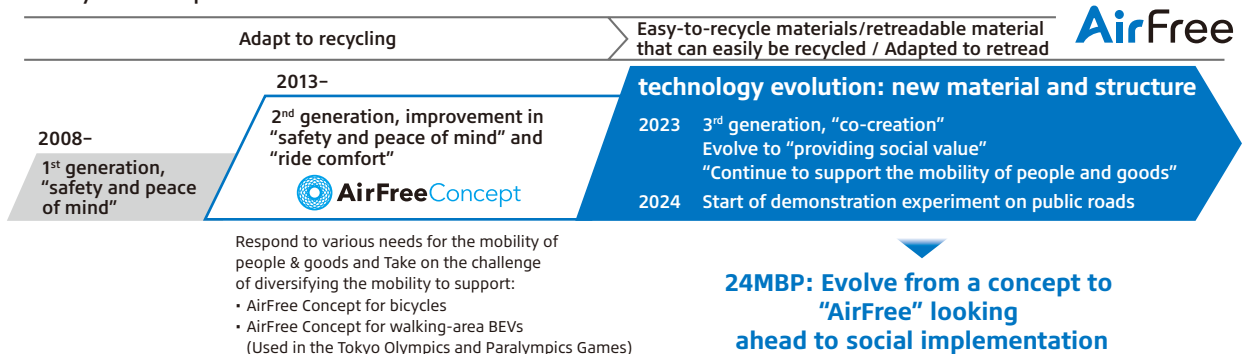
"umaru," A Prototype of "Robots that Immerse Your Body and Move Your Mind" at International Robot Exhibition 2023

## "Next-Generation Tire" that doesn't Need Air-Filling: AirFree —Supporting Local Community—

As part of our efforts to sow new seeds in tires, we create value by evolving the AirFree Concept, into "AirFree", a "next-generation tire" that doesn't need air-filling, with a view to social implementation. Bridgestone has been uniquely developing the AirFree Concept since 2008, valuing sustainability such as leveraging materials that can be easily recycled, with our core competencies – resin material technology leveraging "mastering rubber" and the technology of "mastering road contact". Leveraging digital

simulation technology and tire technology, we have evolved it to new material and structure. In 2023, we started a demonstration experiment for ultra small EVs through co-creation with Idemitsu Kosan. In addition, from 2024, we start demonstration experiments on public roads in the vicinity of Bridgestone Innovation Park in Kodaira, Tokyo. In the future, by pairing AirFree with automated driving, where tires become more important, we aim to solve mobility issues in local communities due to an aging population, rural depopulation, and limitations on movement caused by labor shortages.

### ● Journey to Develop AirFree





### Expanding Our Mission: From Local Communities to Outer Space Research and Development of Lunar Rover Tire

We leveraged the technology cultivated through “AirFree” for the research and development of lunar rover tires and developed a new second-generation tire.

In line with Bridgestone’s fundamental principle of “Tires carry life,” we are working on research and development of lunar rover tires from 2019. Bridgestone, which has known the roads around the world and has supported the evolution of all forms of mobility on Earth, now supports the evolution of space mobility from the ground up to the roads of outer space as the next stage. Bridgestone’s technology innovations, which continue to support the evolution of mobility, has been refined in “extreme” environments such as motorsports. Through this project, we aim to become essential to the future of mobility by taking on the challenge of the new “extreme” environment of human activity, that

is the surface of the moon.

In April 2024, we exhibited a second generation tire concept model for the first time at our booth within the “Japan’s Space Industry” pavilion organized by the Japan Aerospace Exploration Agency (JAXA) at the 39th Space Symposium, the largest space-related symposium in the U.S., held in Colorado Springs, U.S.. By demonstrating Bridgestone’s new challenge and pursuit of excellence to our partners, we gain their empathy to expand our space business network and create opportunities for co-creation with various partners in Japan and overseas.

Currently, a lunar rover equipped with Bridgestone tires is expected to start operation on the moon after 2031, which is the 100<sup>th</sup> anniversary of Bridgestone. We are enhancing our technology innovation, and aiming to keep empowering the mobility of people and goods with safety and peace of mind from the ground up toward our 100<sup>th</sup> anniversary.



**Support mobility in local communities through safety, peace of mind and sustainable technologies**

Safe and peace of mind mobility in local communities by Empowering Blue

Establishing technologies for social implementation and exploring business models-creating a mobility system  
Co-creating with partners: small mobility x autonomous driving systems

# AirFree

Expanding missions from community to space

**Providing safety and peace of mind in extreme environments and “supporting space exploration with the dreams of humanity on our shoulders”**

Bridgestone, which has known the way of the world and supported the evolution of all kinds of mobility on Earth contributed to development of human beings by knowing the way of space and supporting the evolution of space mobility

Co-creating with various partners in the space business network  
Contributing to international missions — Promoting technology exploration —




#### “Tires Carry Life”: Supporting All Forms of Mobility, from Local Communities to Outer Space, with Safety and Peace of Mind

AirFree is a next-generation tire that does not need air-filling. We are working with members of various teams across organizational boundaries to establish technologies and explore business models with a view toward social implementation around 2026. AirFree technology is also leveraged in tires for lunar terrain vehicles. Expanding our mission from serving the local community to the extreme environment of outer space, Bridgestone will continue to take on challenges in order to be essential to the future of mobility.

**Narumi Kawada**

Global OE Strategy & New Mobility Business Development Department

## Diversified Products Business: Sharply Focus on Areas Where Bridgestone's Core Competencies Can Be Leveraged

Bridgestone E8 Commitment Energy Ecology Extension Ease

In the diversified products business, which Bridgestone sharply focuses on areas where Bridgestone's core competencies can be leveraged, we aim for the next stage by promoting improvement of profitability.

Our strength in the premium hydraulic hose business lies in the business model that links with original equipment, replacements, and solutions. To strengthen our premium strategy, we reinforce our Dan-Totsu products by leveraging our core competencies cultivated through tires, such as "mastering forming hybrid polymer" for managing rubber and other materials and "mastering high pressure" that leverages tire technology, and also reinforce production and supply structure through investment for increasing production capacity at Thai plant. To further strengthen our solutions, we acquired the U.S. mobile service provider Cline Hose & Hydraulics, LLC ("Cline" reinforce investment in production) through our U.S. subsidiary, Bridgestone HosePower, LLC ("BSHL"). By adding Cline's network to our 47 company-owned service locations throughout the U.S., we expand our mobile van solutions network in the U.S. and reinforce our solutions business.

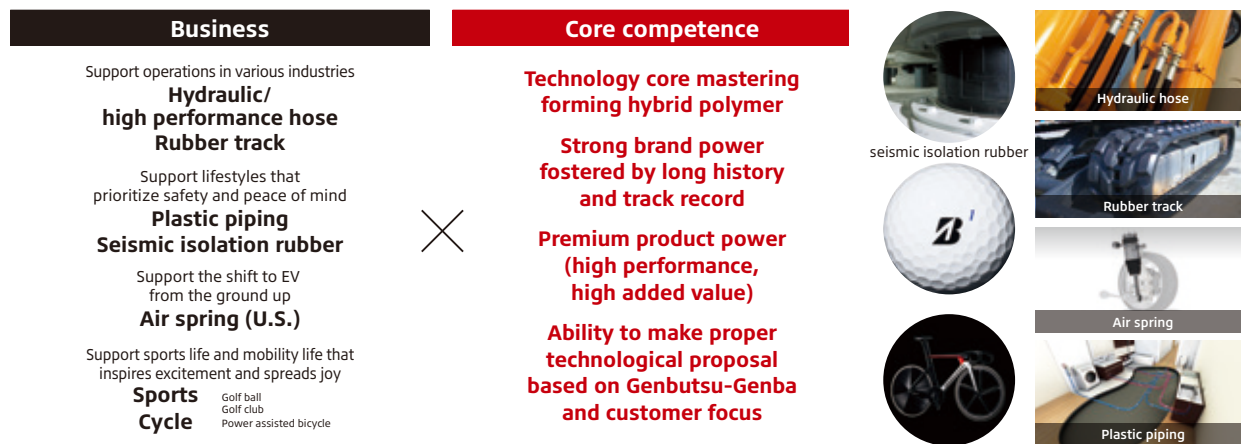


FLEXTAL, Premium Hydraulic Hoses in North America



Premium Hydraulic Hoses: Mobile Van Services

### ● Overall Picture of Diversified Products Business



### Creating social value linking with business

Bridgestone's seismic isolation rubber contributed to the continued provision of medical care during the 2024 Noto Peninsula Earthquake. Keiju Medical Center, located in Nanao City, Ishikawa Prefecture, is a core hospital in the Noto Peninsula region. Of the four buildings that make up the hospital, three are earthquake resistant, and one building, which is the newest, is seismically isolated using seismic isolation rubber from Bridgestone. While the earthquake-resistant buildings temporarily lost its capacity to function due to internal equipment damage and toppling of instruments, the seismically isolated building was undamaged and continued to function, allowing the personnel to carry out emergency surgeries following the earthquake and to support medical services in the local community.