

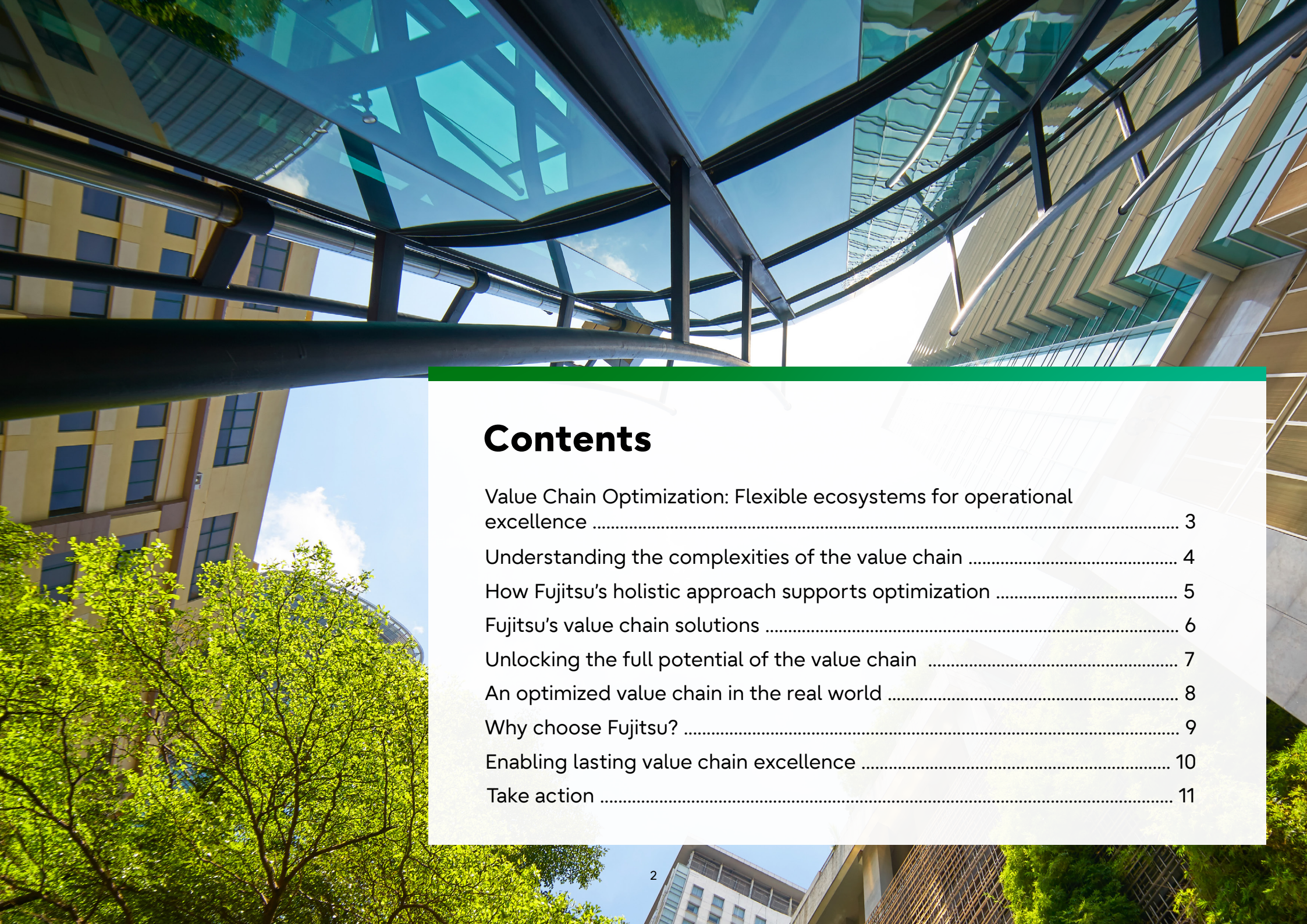
An aerial photograph of a port area, showing a large number of colorful shipping containers stacked in neat rows. Several yellow gantry cranes are positioned along the waterfront, ready for loading and unloading. The water is a deep blue, and the sky is clear. The overall scene depicts a highly organized and active logistics hub.

FUJITSU

Value Chain Optimization:

Flexible ecosystems for
operational excellence





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Value Chain Optimization: Flexible ecosystems for operational excellence

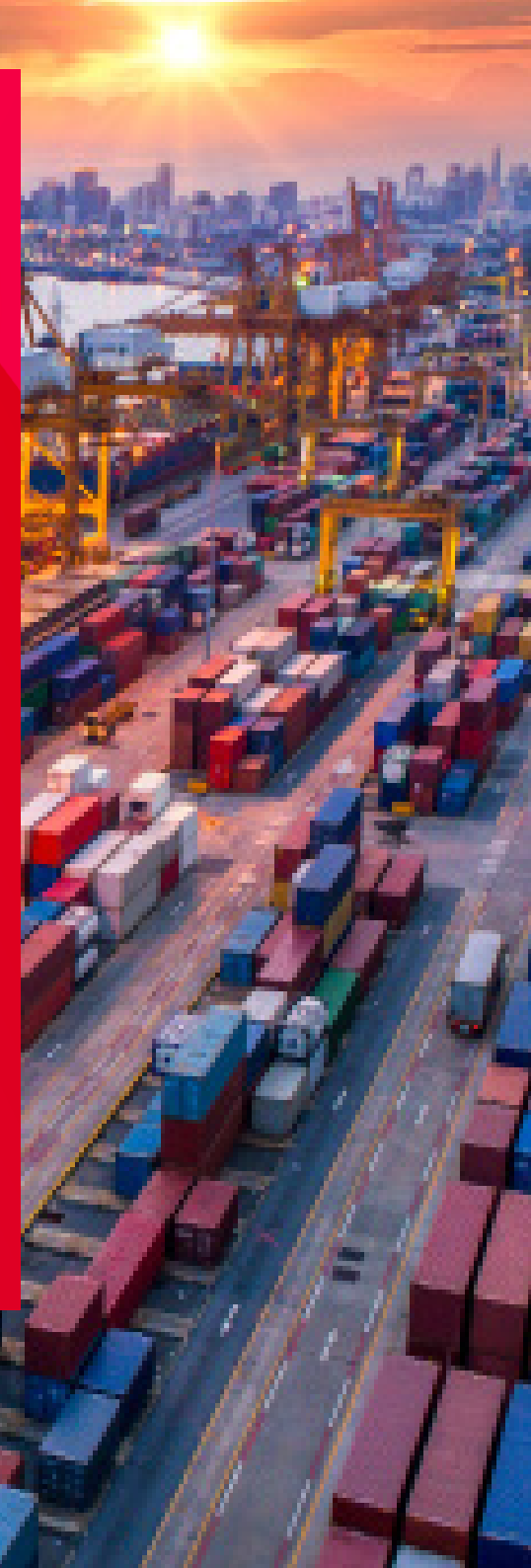
Given the interconnected nature of global commerce, optimizing the value chain lies at the heart of supporting continued growth in manufacturing. This multifaceted approach involves not only streamlining the processes that transform raw materials into end products but also embracing circularity to ensure efficient recycling and reuse.

For manufacturers, the future will be about turning waste products into valuable assets. Rather than focusing solely on managing disruptions, which is essential for resilience, this approach centers around establishing an operational framework that extracts more value from materials, both raw and waste.

It encompasses enhanced material utilization, innovative product repurposing, and an unwavering commitment to ethical sourcing. Can you repurpose a waste product into something new in order to develop additional streams of revenue? Can raw materials be sourced more efficiently, responsibly, and ethically through nurturing symbiotic supplier relationships? Can you develop a more circular economy that promotes sustainability? These are some of the core questions at the heart of value chain optimization.

Answering these questions will not only strengthen a company's bottom line but contribute to a more sustainable and ethical approach to business that resonates with the values of today's conscientious consumers, as well as with government and industry regulations.

Fujitsu is committed to guiding customers through these intricate systems, eliminating obstacles and transforming inefficiencies into opportunities. In this brochure, we explore how our holistic Value Chain Optimization approach aids customers in reshaping value chains to uncover hidden possibilities, achieve operational excellence, and deliver exceptional value to stakeholders.



Understanding the complexities of the value chain

The global marketplace's transformation, as well the pace of technological change, have added complexity to sourcing, production, and distribution, necessitating a re-evaluation of traditional supply chain models. Challenges in one area can have ripple effects across various facets of manufacturing operations. Organizations now navigate interconnected webs of suppliers, production facilities, and distribution networks on a global scale.

Shifting expectations

Consumer expectations have been reshaped by market leaders like Amazon and other e-commerce giants, influencing the entire value chain, even in the B2B sector. Adapting to these evolving demands is paramount, calling for a strategic approach to Value Chain Optimization that places customer-centricity at its core.

Emerging technologies have introduced both opportunities and complexities within the value chain. Innovations like artificial intelligence, IoT, blockchain, and digital automation offer the potential to streamline operations, enhance decision-making, and unlock new growth avenues. However, they also bring intricacies that require in-depth understanding and strategic implementation to maximize benefits and mitigate challenges.

Understanding the material lifecycle

Raw materials pass through multiple steps on their journey within manufacturing operations and conventional supply chains often include inefficiencies that contribute to waste. These can typically be resolved through greater planning, visibility, and operational control with organizations paying attention to key aspects such as streamlining existing supply chains, responsible sourcing and routing, as well as creating more ethical supplier relationships.

However, these requirements cannot be thought of as supplementary factors when it comes to managing end-to-end supply chain operations – they need to be embedded at an operational level.

How Fujitsu's holistic approach supports optimization

Our holistic approach to Value Chain Optimization integrates cutting-edge technologies, innovative strategies, and deep industry expertise, prioritizing comprehensive solutions that address the entire value chain ecosystem. We firmly believe that successful solutions stem from viewing the value chain as a cohesive, interdependent system, where every element contributes to overall success.

At the core of our approach, we leverage advanced solutions to process and optimize the myriad variables crucial for managing a successful value chain. These technologies provide the agility and precision necessary to navigate modern supply networks.



Artificial intelligence

Intelligent, self-correcting AI will make inventory monitoring more accurate and reduce material waste.



Internet of Things

Data from IoT sensors will provide insight into inventory location and status.



Blockchain

Will verify authenticity, improve traceability and visibility, and improve transactional trust.



Intelligent order management

Supply chains will master inventory visibility with improved demand forecasting and automation.



Quantum computing

Unprecedented computational power will solve previously unsolvable problems quickly.



Digital twins

Virtual representations of complex operations let you track objects through entire lifecycles with inherent accuracy and model the effects of any proposed changes.



Industrial metaverse

Digital replicas of supply chains and plant networks enable digital environments that encourage seamless collaboration among stakeholders throughout the entire value chain.

Fujitsu's value chain solutions

Fujitsu Digital Annealer provides quantum-like computing technology to rapidly solve complex combinatorial optimization problems. The Digital Annealer computational architecture bridges the gap to the quantum world and paves the way for much faster, more efficient solving of today's business problems, whether that be identifying the quickest transportation routes, improving warehouse operations, or supporting effective disaster recovery.

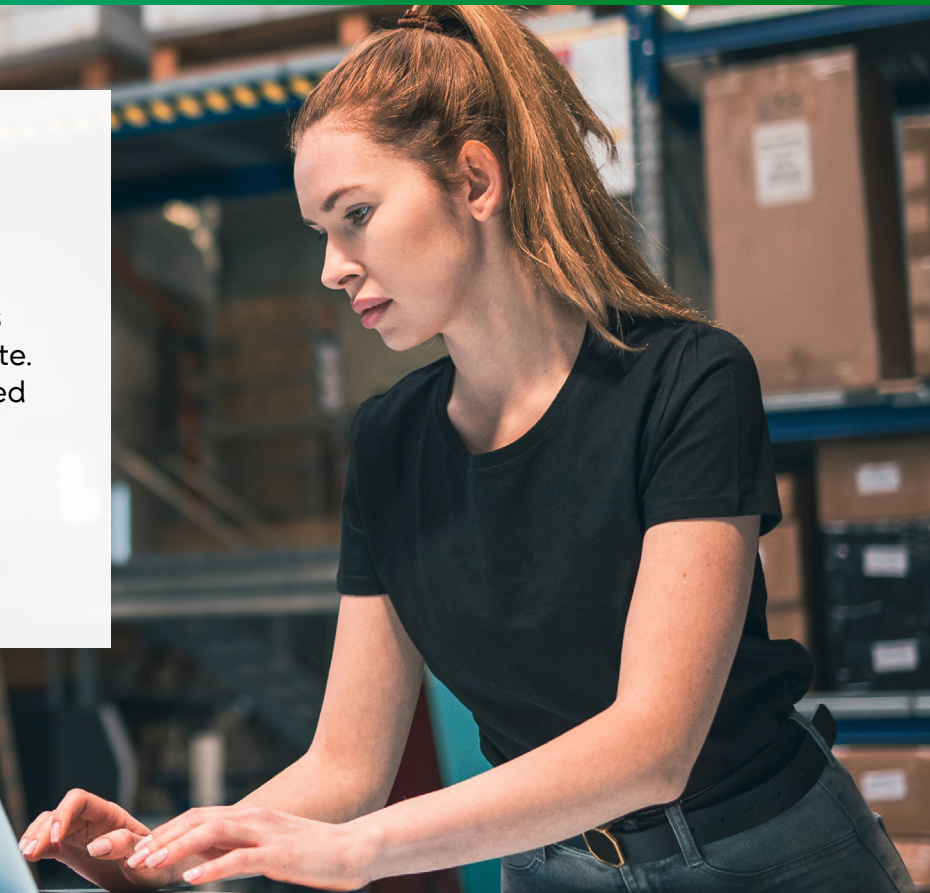
Kozuchi is an AI platform that helps manufacturers to accelerate the testing and deployment of advanced AI technologies to address unique business challenges. This can support with everything from enabling rapid discovery of new materials to detecting defective products from image data with high accuracy, thereby optimizing resource usage and reducing the risk of defective products leaking into the marketplace.

Track and Trust is a blockchain-based digital ledger that enables supply chain transparency and trust for manufacturers. It provides an immutable, tamper-proof record of an item's journey from production through distribution, verified at each step offering end-to-end visibility and traceability, improving efficiency, reducing waste, and proving authenticity. By establishing traceability that connects information from raw material production, procurement, and manufacturing through to inspection, transportation, and end-usage, manufacturers can enable a less wasteful and more efficient value chain.

Flexible at scale

Across our suite of supply chain solutions, we emphasize flexibility and scalability. Our solutions are designed to adapt to changing dynamics, allowing organizations to swiftly reallocate resources towards in-demand goods or services, limiting waste. With profound knowledge across various industry sectors, our solutions are tailored to address specific nuances and challenges unique to each customer.

We understand that a successful value chain not only operates smoothly but also empowers individuals and organizations to work cohesively, make data-driven choices, and drive continuous improvement.



Unlocking the full potential of the value chain

Value Chain Optimization is about more than mere operational efficiency – it focuses on unlocking the full potential of raw materials and strengthening supplier relationships to deliver unparalleled value. By understanding the intrinsic value of raw materials and the multiple ways in which they can be utilized, organizations can avoid the risks associated with material waste and unwanted or hazardous byproducts.

The components of an optimized value chain:

- **Symbiotic supplier relationships:** Nurturing synergies with like-minded suppliers helps uncover potential avenues for ongoing innovation that drives continued success. By having a deep-rooted collaborative mindset that focuses on innovation, suppliers and manufacturers can work together to discover alternative material applications, leading to mutual growth and enhanced supply continuity.
- **Raw material utilization:** This focuses on the art and science of extracting maximum value from raw materials, be it through innovative formulations, alternative applications, or extended life cycles. This helps manufacturers realize the full potential of raw materials, leading to the development of diversified products and reduced dependency on fresh inputs.
- **Product repurposing:** The importance of reclaiming and remanufacturing finished goods, turning old products into new through recycling and return-to-manufacturer programs. Beyond waste reduction, focusing on the creative and strategic reuse of raw materials, ensuring that nothing is left unutilized. Leveraging recycling and return-to-manufacturer strategies encourages circularity, leading to the rejuvenation of finished products, reduced waste, and minimized resource extraction.
- **Innovation from existing resources:** Exploring new products or pivoting to alternative ones based on shifting market conditions helps drive continuous innovation without increased resource consumption. Expanding product portfolios by innovating with existing resources also helps open new revenue streams and cater to broader customer segments.
- **Ethical and sustainable sourcing:** Prioritizing sustainable and ethical raw material sourcing practices, ensuring not just environmental conservation, but also contributing to long-term value creation.
- **Sustainable competitive advantage:** Establishing a brand reputation rooted in sustainability and innovation appeals to environmentally conscious consumers and differentiates brands from competitors focused merely on supply chain resilience.
- **Enhanced stakeholder value:** Delivering consistent value to stakeholders by ensuring ethical sourcing, innovative product offerings, and a commitment to sustainable practices, fostering long-term relationships and trust

Value Chain Optimization transcends simple efficiency. It's about repurposing, innovating, and optimizing at every touchpoint of the material's journey. With Fujitsu's support, our customers aren't just streamlining operations; they're evolving them to unlock unprecedented streams of value.

An optimized value chain in the real world

Optimizing bourbon aging with IoT

[Beam Suntory](#) leveraged GlobeRanger's iMotion IoT platform to monitor the aging process of bourbon within each barrel. Beyond streamlining paperwork, this advanced technology empowers Beam Suntory to detect and intervene in real-time evaporation occurrences. This proactive approach drastically reduces bourbon waste, ensures optimal aging, and enhances overall output. As an added advantage, consumers can gain insight into individual barrel histories, reinforcing transparency and engagement.



Why choose Fujitsu?

As our customers work to define a value chain that will support their business goals and commitment to social good, we help by focusing on end-customer value and delivering quality that stems from:

Experienced insights

Our rich history as a successful partner in supporting business transform runs deep, underpinned by our extensive experience in understanding your industry and the intricate challenges you are facing on a daily basis.

Commitment to growth

Our solutions offering is reinforced by a commitment to facilitating growth, enhancing efficiency, and addressing your unique needs. This dedication empowers us to provide customized solutions that align with your business objectives.

State-of-the-art solutions

At the heart of our offerings lies a suite of state-of-the-art tools dedicated to improving supply chain operations. From AI-driven analytics to IoT solutions, our cutting-edge technology is designed to provide the insights and capabilities to transform a value chain. These advanced tools equip manufacturers with the means to navigate the complexities of modern supply networks and drive operational excellence.

Customer-centric approach

We recognize that every business is unique and deserves solutions tailored to its specific requirements. We prioritize your distinct needs over one-size-fits-all packages, ensuring that our solutions seamlessly integrate into your existing operations to deliver maximum value.

Integrated partnerships and solutions

Collaborations with trusted industry names like SAP and Blue Yonder augment our solution suite, ensuring businesses remain agile and competitive in ever-fluctuating market dynamics.

Promoting sustainability

We uphold a profound commitment to value chain optimization that extends beyond profitability. Sustainability and ethical standards are central to our philosophy. Our solutions are designed to align with global sustainability goals, not only enhancing your brand's reputation but also safeguarding your operations against potential risks.

Enabling lasting value chain excellence

The process of Value Chain Optimization is a transformative initiative, one that requires strategic foresight, commitment, and the right partner. Globalization, technology, and empowered consumers are changing the way businesses manage their supply chains.

Emerging advances in supply chain technology create the potential to gain significant insights into performance and orchestrate activities across the entire chain. Leveraging digital solutions, they anticipate anomalies in logistics costs and performance before they occur and have insights into where automation can deliver significant scale advantages, optimizing operations in real time.

But this can only be achieved by having the right expertise offering guidance and support throughout an optimization journey. With our deep industry knowledge and cutting-edge technology solutions, we serve as the guiding hand that helps organizations navigate the complexities of the modern value chain, remaining agile and responsive to changing dynamics. Moreover, it's vital to ensure that optimization efforts align with global sustainability goals and ethical considerations, safeguarding your operations against potential risks and enhancing your brand's reputation.

Take action

We are here to support you at every step of your transformation journey, helping you unlock the full potential your value chain and optimize your entire operation. Partner with us and steer your manufacturing enterprise towards excellence.

Contact us today to start your own journey into the world of smart, efficient, and sustainable manufacturing.