FROST & SULLIVAN

BEST PRACTICES

2026

GLOBAL AUGMENTED CONNECTED WORKER, END-TO-END PLATFORMS

CUSTOMER VALUE LEADERSHIP

azumuta

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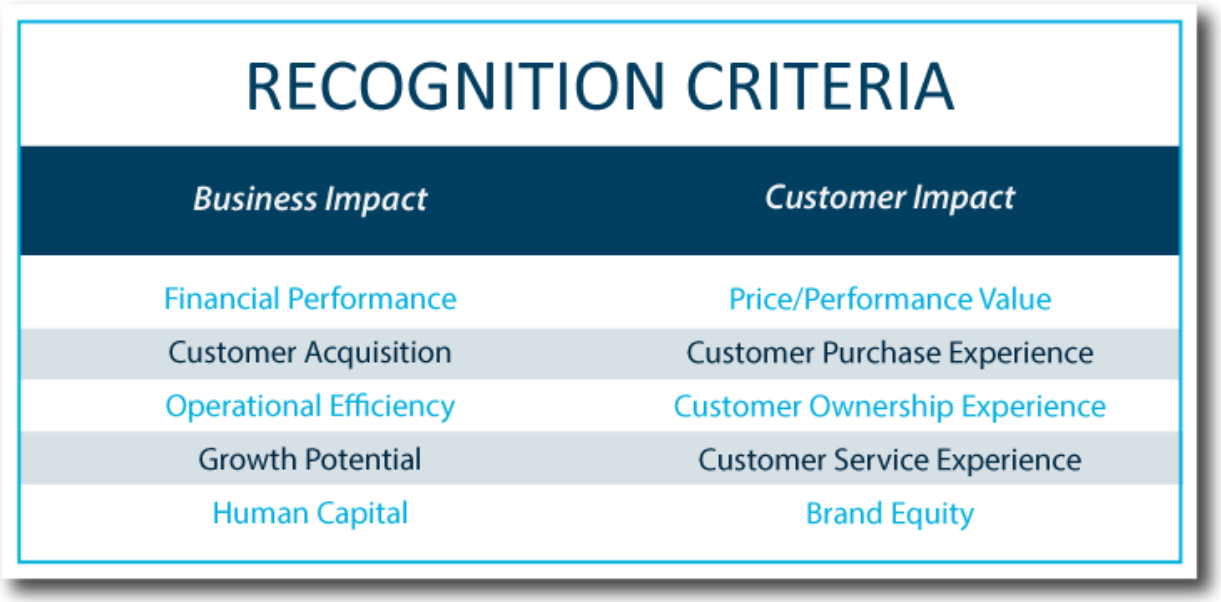
Best Practices Criteria for World-class Performance

Frost & Sullivan applies a rigorous analytical process to evaluate multiple nominees for each recognition category before determining the final recognition recipient. The process involves a detailed evaluation of best practices criteria across two dimensions for each nominated company. Azumuta excels in many of the criteria in the Augmented Connected Worker, End-to-End Platforms space.



RECOGNITION CRITERIA

Business Impact	*Customer Impact*
Financial Performance	Price/Performance Value
Customer Acquisition	Customer Purchase Experience
Operational Efficiency	Customer Ownership Experience
Growth Potential	Customer Service Experience
Human Capital	Brand Equity

The Transformation of the Augmented Connected Worker, End-to-End Platforms Industry

The augmented connected worker (ACW) market is experiencing a period of strong growth and increasing adoption among manufacturers. Driven by the introduction of new technologies such as augmented reality (AR) and artificial intelligence (AI) and the expansion of their capabilities, ACW platforms are consistently addressing new use cases on the shop floor, helping managers have a better understanding of their workforce's skill profile, and assisting decision-makers with deep insights into their processes and key performance indicators. However, several challenges still remain for these platforms: lengthy sales cycles, varying levels of digital maturity among manufacturers, and fierce competition against extra-market solutions for a place on the shop floor mean ACW vendors are still establishing themselves in the industrial landscape.

Growth Potential

Azumuta was established in 2016 and is headquartered in Ghent, Belgium. Azumuta's all-in-one platform has as its core value proposition the consolidation and unification of siloed tools like LMS, QMS, and digital work instructions into a single source of truth, eliminating disconnected processes, modernizing legacy systems, and preparing the frontline workforce for the future. Through this approach, users can greatly reduce administrative overhead and simplify their IT/OT ecosystem. Its

platform offers a wide range of ACW capabilities that have earned it a spot in the end-to-end platforms segment of the market, as well as manufacturing execution systems (MES) capabilities.

Azumuta's connected worker solutions have several standout features that help manufacturers deploy more efficient processes, achieve better results, and adapt to the discrete manufacturing landscape in which most of these companies operate. The platform's adaptive digital work instructions allow expert employees to skip non-essential steps of the manufacturing process, helping managers correctly assign human resources amid a skilled labor shortage and improve the experience of frontline workers. These digital work instructions are also configurable through Azumuta's variants matrix, making them suitable for the varied product environments in discrete manufacturing, as supervisors can make specific adjustments to the instructions according to the variant of a specific product that is being built. Supervisors can also monitor workers' task execution progress and track product orders, ensuring everything is running on time.

> *"Azumuta's AI strategy is focused on value-enhancing applications that improve productivity and achieve efficiency gains, saving valuable time for manufacturers and helping frontline workers in their day-to-day activities."*
>
> ***- Juan Francisco Dell'Era***
> ***Senior Research Analyst,***
> ***Industrial Automation & Software***

Azumuta also has extensive skill matrix capabilities focused on enabling operational compliance. Its employee competency management tools automatically restrict tasks if a worker's certification is missing or expired. This is complemented by a robust analytical suite that provides decision-makers with insights into the workforce's overall competencies and enables targeted training to close skill gaps. Moreover, users can define the qualifications necessary for different roles in the shop floor, as well as create customized training paths to efficiently onboard new workers.

Customers can also expect extensive development of Azumuta's AI capabilities in the near future. Azumuta's AI strategy is focused on value-enhancing applications that improve productivity and achieve efficiency gains, saving valuable time for manufacturers and helping frontline workers in their day-to-day activities. A significant part of this strategy is the management of content creation, assisting users in the creation of step-by-step digital guides based on uploaded videos through Azumuta's AI video language model (VLM) processing technology. Another use for VLM technology is the Azumuta Guardian, which can observe work processes and highlight deviations to ensure execution follows established guidelines. The company is also developing a root cause analysis agent that can aid workers based on troubleshooting knowledge captured at different sites, reducing the workload of maintenance teams and providing frontline workers with more autonomy.

Two important features for discrete manufacturers are Azumuta's Ninja View and relational databases. The Ninja View provides frontline workers with a simplified interface that improves their experience of the platform and allows them to focus on the most critical aspects of their tasks, ensuring operations keep running smoothly. Azumuta's relational databases, combined with its offline capabilities and strict approval flows, make the platform a great fit for highly regulated industries, as they grant companies more control over their data and improve traceability, something of paramount importance when it comes to compliance. The company seeks to make

manufacturers audit-ready at all times, as the platform tracks every action in real time, enabling customers in sectors like MedTech and Aerospace to generate compliance reports instantly, transforming week-long processes into a simple task.

Azumuta's growth potential is driven by a strong commitment to partnerships with external institutions to promote the evolution of its platform and access to new markets. These partnerships include joint research projects with government organizations, universities, and schools. An example is the company's partnership with Ghent University to work on the future developments in the augmented connected worker space.

High-Tech Manufacturers

Companies working in complex fields like industrial electronics, electromechanical equipment, precision systems, and multi-level assemblies for semiconductor, medical, automotive, and capital-equipment OEMs are facing a number of challenges in their daily operations: operator onboarding and training takes a long time and isn't eliminating either dependency on senior operators or errors in the shop floor; traceability across sub-assemblies in complex products is fragmented, as data on components, test results, and operators involved is scattered across different enterprise systems and documents; actual execution is never captured due to unexpected bottlenecks; and cascading execution mistakes affect sequence-dependent assemblies, especially in an environment where engineering change orders accelerate and customer-specific variants proliferate.

The underlying root cause for these problems is a structural execution gap, as engineering capability has digitized rapidly but the shop floor still runs on paper-based SOPs and tribal knowledge. These pains are continuing to intensify due to the increase of variants and customization, growing workforce volatility that removes vital tribal knowledge from the shop floor, and the need for accountability based on new contractual requirements.

Azumuta closes this execution gap by serving as the digital layer between engineering planning and shop floor execution. Customers in high-tech fields can make use of Azumuta's training capabilities and skills matrix to standardize onboarding and ensure workers are qualified for the tasks they must perform. The platform matches operators to tasks based on validated competency, and features instructions that can be adapted according to skill level, providing simplified versions for experienced workers. These digital work instructions can dynamically change based on the variant being worked on, and feature version control and approval flows. Azumuta's Product Routing acts as the primary enabler for this industry, as it unlocks proper sequential assembly workflows and multi-level BOM support.

Another issue faced by manufacturers stems from the inability to capture actual execution time at the task level. In complex assemblies with deep BOMs and frequent variants, bottlenecks and lost hours remain invisible, making it impossible to validate estimates against reality or identify where the inefficiencies are. Azumuta captures execution time at each step, giving operations teams the data necessary to quantify bottlenecks, protect margins, and improve quoting accuracy over time.

Moreover, real-time measurements allow supervisors to monitor deviations, and the platform can trigger containment workflows automatically if values don't match the established thresholds. Finally, users have access to pre-built integrations with major ERP, PLM, QMS, and LMS systems, as well as vision systems and torque tooling, connecting the platform to existing IT/OT stacks. All these features enable the complete digitization of the shop floor, facilitating traceability and capturing essential knowledge to train workers and enable continuous improvement.

Industrial Machinery and Equipment

Manufacturers working in this vertical operate in environments defined by engineering-to-order and configure-to-order builds, deep multi-level BOMs, and tight delivery commitments. At the same time, customers expect shorter lead times, deeper customization, and flawless performance upon installation. Customer-specific configurations, frequent engineering changes, and the integration of many different systems into complex assemblies can lead to confusion among workers and the costly late detection of assembly errors. These sub-assemblies also suffer from limited traceability due to scattered data. To make matters worse, experienced operators carry critical know-how that is being lost as they retire from the workforce, while finding new skilled labor is increasingly hard and onboarding takes time. This leads to inconsistent execution across shifts and bottlenecks that affect senior staff.

Azumuta's adaptive digital work instructions and its variants matrix guide operators through assembly of alternate versions of a specific product, showing them visuals, parameters, and checks for that variant, and expert operators can skip non-essential steps. Operators can also perform real-time quality validation to prevent late-stage defects. The platform also allows managers to track the link between sub-assemblies and final machines to have a structured build history per machine, enabling multi-level BOM traceability and fast impact analysis when a supplier defect is identified across a batch.

Azumuta's skills-based onboarding and its Skills Matrix module reduces reliance on tribal knowledge and accelerates ramp-up of new operators, providing certifications tied to task authorization. Finally, the platform's integrations to ERP, PLM, and QMS systems, as well as peripheral devices, allow seamless implementation in public and private cloud, or on-premise.

In engineering-to-order environments, project profitability depends on controlling actual build time, yet most manufacturers have no task-level visibility into where hours go. Custom configurations, rework, and waiting accumulate over time, eroding profit margins. Azumuta captures execution time across tasks and variants, enabling lost-hours analysis and giving operations teams the required evidence to improve future bids and protect profitability on complex builds.

Aerospace & Defense

The aerospace and defense sector is entering a period of production acceleration as order books are strong, defense budgets are rising, and OEMs are pushing the supply chain to increase output across platforms. The main constraint lies in the ability to scale capacity without compromising compliance, quality, or configuration control. In daily operations, the main challenges are linked to inconsistent training of new operators and the heavy reliance on tribal knowledge; frequent

engineering revisions and strict requirements amidst serialized assemblies, creating a high risk of configuration drift; a higher number of regulations and growing audit pressure, made worse by paper sign-offs and disconnected records; the need of real-time validation; and the ongoing workforce transition and the knowledge retention issues it carries.

In many cases, aerospace organizations are highly PLM-driven on the engineering side, but the shop floor still depends on experienced technicians manually translating complex engineering data into practical assembly steps, a gap that widens as production scales and new personnel are onboarded.

This execution gap is addressed by Azumuta's platform, turning it into a structured, auditable workflow. Its BOM-aware digital work instructions are tied to engineering revision and allow for different product configurations, ensuring quality requirements are met and sub-assemblies can be traced by linking them to the final product's serials and tracking the components used. Validation is enabled by recording every operator action and the different parameters being monitored, supported by Azumuta's relational databases, strict approval flows, and offline mode. These features support compliance with standards like AS9100, NADCAP, and ITAR.

Additionally, the platform's skill-based execution control ensures that workers are certified to perform certain tasks before giving them authorization to do so, while also accelerating the qualification of new technicians through role-based guidance and customized training paths. Finally, Azumuta can align with manufacturers' security policies by deploying on-premise, as well as having the option of doing so in private and public cloud. Customers retain full control over network access and data residency while integrating securely with PLM, ERP, and MES. These aspects of data sovereignty support compliance with ITAR, CUI handling requirements, NIST 800-171, and CMMC.

As manufacturers scale output to meet demand, execution time visibility is no longer just a performance metric, but rather a capacity planning tool. Without task-level data, ramp-up decisions rely on assumptions, increasing the risk of delivery delays and compliance pressure. Azumuta captures execution-level timing across shifts and teams, providing the operational insight needed to scale production in a controlled and predictable manner.

Home & Professional Appliances

Home and professional appliances manufacturers face a key challenge: scaling variant-rich production at line speed without compromising compliance, traceability, or margin. This is highlighted in 5 operational pressures: an environment characterized by high-mix, high-volume configurable production, where variants proliferate due to regional, technological, and pricing effects; the growing difficulty of hiring skilled assemblers; the dense regulatory stack; quality and traceability concerns, as this line of products carry real recall and product-liability risks; and other factors like margin pressure, time-to-build, and supply volatility.

Azumuta's variants matrix can address the challenges posed by high-mix, high-volume configurable production, ensuring specific models, voltages, and energy classes are respected, and version control to acknowledge engineering changes and propagate them across shifts, lines and sites. Azumuta's in-line quality validation can catch out-of-spec measurements in real time, reducing the

chances of defects affecting customers, while the traceability and audit-readiness enabled by the platform facilitate warranty investigations and certification audits.

Margin pressure is direct: time lost on the line to rework, changeovers, or unclear instructions is margin that cannot be recovered. Without task-level execution data, these losses remain invisible and unaddressed. Azumuta captures actual build time at the step level, enabling line managers to identify inefficiencies, reduce unplanned downtime, and drive the continuous improvement needed to stay competitive in high-mix, high-volume production.

"The first pillar entails enhancing the platform's existing capabilities with strong customer involvement, embarking on co-creation journeys to develop standardized solutions that can be implemented across the entire customer base. This can yield successful results as it aligns Azumuta with the key demands of manufacturers across different verticals."

- Juan Francisco Dell'Era
Senior Research Analyst,
Industrial Automation & Software

Moreover, compliance reports are generated instantly by tracking every action performed during the manufacturing process. Supervisors can also schedule recurring maintenance, safety, and certification-specific routines and assign them to the right operator group, as well as standardize the workforce's training to absorb the volatility in worker availability. Finally, Azumuta's platform can be deployed in weeks, integrating with enterprise systems like ERP, MES, PLM, and LMS.

Company Performance and Expansion

Azumuta has adopted a series of strategies to make its platform accessible to new customers and easily expand the capabilities available for existing users, increasing the value they are able to extract from the platform in their daily operations. This value path starts from licensing, as the platform's modularity ensures manufacturers can get the best performance from the platform based on their needs. This opens the platform up to smaller companies that do not have the budget necessary to implement all the capabilities or have operations that are not developed enough to require them. Users are also able to deploy their own applications, as Azumuta's platform possesses no-code configurability. This no-code configurability empowers process engineers and floor managers, as they can seamlessly update workflows without IT interventions. The platform can be deployed in private and public clouds through AWS, as well as on-premises.

Azumuta has a solid product development strategy that provides customers with a comprehensive roadmap for future releases and includes them in the process of defining the strategic development priorities. This strategy has 3 pillars: enhance, expand, and explore. The first pillar entails enhancing the platform's existing capabilities with strong customer involvement, embarking on co-creation journeys to develop standardized solutions that can be implemented across the entire customer base. This can yield successful results as it aligns Azumuta with the key demands of manufacturers across different verticals. The second pillar concerns the expansion of the platform's capabilities; it currently entails releasing new manufacturing operations capabilities and integrations with product lifecycle management (PLM) and warehousing to facilitate connections to product order data, as

well as developing new AI agents and learning management expansions. The third pillar centers around exploring new ways to improve user experience and facilitate continuous improvement. Some of the initiatives that have bloomed from these efforts include a plugin marketplace to connect tools and scheduling capabilities for shift workforce planning.

This approach has produced strong financial results for Azumuta, as the company is rapidly achieving higher revenues and increasing the size of its team. Revenue growth is supported by an engaging sales strategy that connects Azumuta with decision-makers in critical departments within manufacturing firms. The company has recently launched a Series A funding round that will enable a considerable expansion of the Azumuta brand throughout Europe and North America, as it gets ready to open new hubs in France and The Netherlands, expand its sales, customer support, and onboarding teams. Notable, Azumuta has entered the process industries with active implementations in pharma and chemical sectors, reinforcing the platform's versatility and expanding the company's client base across more markets from which to derive growth.

Customer Experience

Azumuta is committed to delivering a top-of-the-class customer experience, combining seamless deployment with straightforward scaling opportunities. A key element in all of this is a template marketplace where manufacturers can share best practices across factories, which helps them create standardized processes to facilitate adoption and achieve strong results across different shop floors.

Another factor facilitating deployment is Azumuta's software integrations, which allow manufacturers to connect the platform with the main enterprise resource planning (ERP), quality management systems (QMS), PLM, and learning management systems (LMS) solutions available in the market, creating a comprehensive data ecosystem for the platform to operate at its full potential. Moreover, the platform is purpose-built to integrate with automation control and peripheral devices, which helps users eliminate inefficiencies, boost production time, and improve traceability.

Azumuta is also in the process of developing a network of implementation partners that will further improve customer purchase and ownership experience. This network will be comprised of system integrators and consulting firms, which will work with manufacturers to integrate Azumuta's platform into their tech stacks and provide different implementation services such as onboarding and training. The company currently has some hardware technology partners for vision systems and torque machinery and is also looking into expanding its software partnerships to have more out-of-the-box integrations and tools available for customers.

Conclusion

Through innovative features, modularity, and a clear orientation towards discrete industries, Azumuta has positioned itself as a trustworthy partner for manufacturers wanting to enter the ACW space. Continuous customer involvement in its platform's development, a well-defined product strategy, and partnerships with a series of institutions align the company with the main needs of the market, and its expansion plans ensure the execution of its plans will come to fruition. For its strong overall performance, Azumuta is presented with Frost & Sullivan's 2026 Global Customer Value Leadership Recognition in the augmented connected worker, end-to-end platforms industry.

What You Need to Know about the Customer Value Leadership Recognition

Frost & Sullivan's Customer Value Leadership Recognition is its top honor and recognizes the market participant that exemplifies visionary innovation, market-leading performance, and unmatched customer care.

Best Practices Recognition Analysis

For the Customer Value Leadership Recognition, Frost & Sullivan analysts independently evaluated the criteria listed below.

Business Impact

Financial Performance: Strong overall business performance is achieved in terms of revenue, revenue growth, operating margin, and other key financial metrics

Customer Acquisition: Customer-facing processes support efficient and consistent new customer acquisition while enhancing customer retention

Operational Efficiency: Company staff performs assigned tasks productively, quickly, and to a high-quality standard

Growth Potential: Growth is fostered by a strong customer focus that strengthens the brand and reinforces customer loyalty

Human Capital: Leveraging innovative technology characterizes the company culture, which enhances employee morale and retention

Customer Impact

Price/Performance Value: Products or services offer the best ROI and superior value compared to similar market offerings

Customer Purchase Experience: Purchase experience with minimal friction and high transparency assures customers that they are buying the optimal solution to address both their needs and constraints

Customer Ownership Excellence: Products and solutions evolve continuously in sync with the customers' own growth journeys, engendering pride of ownership and enhanced customer experience

Customer Service Experience: Customer service is readily accessible and stress-free, and delivered with high quality, high availability, and fast response time

Brand Equity: Customers perceive the brand positively and exhibit high brand loyalty, which is regularly measured and confirmed through a high Net Promoter Score®

Best Practices Recognition Analytics Methodology

Inspire the World to Support True Leaders

This long-term process spans 12 months, beginning with the prioritization of the sector. It involves a rigorous approach that includes comprehensive scanning and analytics to identify key best practice trends. A dedicated team of analysts, advisors, coaches, and experts collaborates closely, ensuring thorough review and input. The goal is to maximize the company's long-term value by leveraging unique perspectives to support each Best Practice Recognition and identify meaningful transformation and impact.

		VALUE IMPACT	
STEP		WHAT	WHY
1	**Opportunity Universe**	Identify Sectors with the Greatest Impact on the Global Economy	Value to Economic Development
2	**Transformational Model**	Analyze Strategic Imperatives That Drive Transformation	Understand and Create a Winning Strategy
3	**Ecosystem**	Map Critical Value Chains	Comprehensive Community that Shapes the Sector
4	**Growth Generator**	Data Foundation That Provides Decision Support System	Spark Opportunities and Accelerate Decision-making
5	**Growth Opportunities**	Identify Opportunities Generated by Companies	Drive the Transformation of the Industry
6	**Frost Radar**	Benchmark Companies on Future Growth Potential	Identify Most Powerful Companies to Action
7	**Best Practices**	Identify Companies Achieving Best Practices in All Critical Perspectives	Inspire the World
8	**Companies to Action**	Tell Your Story to the World (BICEP*)	Ecosystem Community Supporting Future Success

*Board of Directors, Investors, Customers, Employees, Partners

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The Growth Pipeline Generator™

Frost & Sullivan's proprietary model to systematically create ongoing growth opportunities and strategies for our clients is fueled by the Innovation Generator™.

Learn more.

Key Impacts:

- **Growth Pipeline:** *Continuous Flow of Growth Opportunities*
- **Growth Strategies:** *Proven Best Practices*
- **Innovation Culture:** *Optimized Customer Experience*
- **ROI & Margin:** *Implementation Excellence*
- **Transformational Growth:** *Industry Leadership*

The Innovation Generator™

Our 6 analytical perspectives are crucial in capturing the broadest range of innovative growth opportunities, most of which occur at the points of these perspectives.

Analytical Perspectives:

- Megatrend (MT)
- Business Model (BM)
- Technology (TE)
- Industries (IN)
- Customer (CU)
- Geographies (GE)