



realwear

**2017 North American Industrial Wearables
New Product Innovation Award**

FROST & SULLIVAN

BEST
2017 PRACTICES
AWARD

NORTH AMERICAN INDUSTRIAL WEARABLES
NEW PRODUCT INNOVATION AWARD

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Background and Company Performance

Industry Challenges

Wearables technology has recently begun to receive a spike in attention owing to its applications in the health monitoring and virtual reality sectors. However, wearables adoption in industrial sectors began with handheld devices such as rugged mobiles and tablets customized for industrial surroundings. The development of industrial wearables demands sophisticated engineering and prototyping cycles, which restrains their mainstream release, and companies are locked into the innovation programs relying completely on lab test runs rather than practical field tests.

Another major challenge in the commercialization of industrial wearables is that it demands perfect collaboration between high-performance hardware and user-friendly software. Requirements from the industrial sector are completely different and challenging when compared to large-scale enterprise smart devices for commercial use. This gap is restricting technology companies from taking the plunge into industrial wearables.

RealWear, however, is an industrial wearables start-up based in Silicon Valley, US that has bridged the gap between high-performance hardware and user-friendly software to create a new rugged hands-free head-mounted tablet for industrial applications in sectors including oil and gas, automotive, and mining.

New Product Attributes and Customer Impact

Match To Needs

RealWear values the customer voice and employs tools to ensure that customer needs directly influence product design. One such process tool is the “AHA” product management software that allows RealWear to track, manage, and complete functional requirements of its product systems. Through this innovative method, RealWear provides its customers and field testers individual access to a portal where they can list out their feature and design requirements. The product development and engineering teams evaluate the aggregated list at regular intervals in search of feasible options which are then incorporated into future devices. This unique product input and development process clearly differentiates RealWear from its competition. One such resultant implementation is the introduction of an accessory to its rugged head-mounted tablet HMT-1 that can withstand ultra-cold weather conditions based on customer requirements through the AHA portal.

The development team of HMT-1, in fact, brings together experts from the rugged hardware industry with direct experience in being a customer as well as a vendor, real-world, first-hand experience that strategically influences the customer-focused design of this RealWear product.

Reliability

As RealWear HMT-1 is predominantly used for applications such as maintenance and data collection in hostile environments in the oil and gas, energy, and utilities sectors, its reliability has a direct impact on the downtime, production, and cost incurred for the

respective customer. The company understands these correlations and involves the best engineering and testing methods to ensure consistent performance during the entire product life cycle.

Its testing methods begin at the design stage, through inline testing during manufacturing and run through to military-grade quality assurance of the product in its final stage. One of RealWear's unique testing methods to ensure ruggedness is the 2m product drop onto concrete in 3 different axis orientations to simulate on-site situations, and the fully dust proof and highly waterproof IP66 ingress protection rating. Another example of RealWear's commitment to military-grade quality is that it does not hesitate to support its contract manufacturers to adhere and surpass high-quality market expectations.

Quality

RealWear HMT-1 packs a whole suite of hardware features and software functionalities engineered specifically for industrial applications.

On the hardware front, the device boasts 2 USB ports, 16 GB data storage memory with MicroSD card slot to permit up to 256GB of additional storage to be added, octa-core processor, inbuilt GPS, Wi-Fi, and Bluetooth modules with 854x480 pixel resolution screen viewable in bright sunlight. HMT-1 offers best-in-class battery 3250 mAh for hot swapping during use, a feature that competitors do not provide leading to loss of working data.



The hardware is complemented by software modules such as the included voice-activated document navigation and available third parties applications for remote video monitoring and mentoring, guided work instructions, industrial IoT data visualization, and hands-free workflow form completion to improve efficiency and workplace safety. Frost & Sullivan finds out that the open and evolvable system design of HMT-1, based closely on Android 6.0.1 allows options for user customization such as addition of an IR camera to the USB ports according to usage. By strategically maintaining the focus between bare necessities and customization, HMT-1 offers customers the options to add-on devices of interest and upscale utility without compromising performance and quality

Positioning

While most of the industrial wearables in the market hinder the operator's line-of-sight in some way, HMT-1 is inherently designed to minimize disruption to the operator's line-of-sight, and the arm can even be completely moved out of sight, or can be shifted to left or right, depending on the user's preference. Adding to this flexibility, HMT-1 can clip onto many models of personal protective equipment (PPE) hard hat and be used with any type

of eyeglasses, safety glasses or goggles, which eliminates the need for prescription lenses per user.

The ability to extract voice, consistently detect and act accordingly with an accuracy of 95%, however, is HMT-1's most customer-appreciated and distinguished feature. By installing mics in 4 different positions with 2 noise-cancelling algorithms to work on them, HMT-1 is able to achieve best-in-class hands-free voice activation even in 95dB noisy and dusty industrial environments.

The engineering marvels in voice activation, noise cancellation, and industrial design of mic and speaker to be waterproof is attributed to patents and trade secrets authored by RealWear's team, building the core capability of the device and posing an incredibly high bar for competitors while perfectly resonating with its loyal customers.

Price/Performance Value

RealWear operates at the intersection between industrial wearables and mobile computing. Industrial-grade rugged tablets offered by the competition are positioned at approximately US \$2,000 with storage, camera, and performance inferior to that of RealWear's flagship HMT-1 product.

By contrast, RealWear's HMT-1 is competitively priced at US \$1,500 per device bundled with a 16 MP camera, 8-core processor, and 256 GB of data storage memory. Frost & Sullivan research finds that when compared to similar industrial wearables in the market, RealWear HMT-1 offers the best value for price and has emerged the leader in customer preference of ultra-rugged industrial wearables.



Customer Service Experience

To cater to its growing customer base, RealWear is evolving a four-layered approach to enhancing the customer service experience.

- The basic level involves telephonic customer support via instruction-based solution advice aimed at offering a quick remedy for on-site troubles.
- RealWear calls the second level of customer service its Customer Success Organization. As the product is relatively new to the market, the Customer Success Organization proactively reaches out to customers at regular intervals to ensure customer satisfaction and consistent product performance.
- The third level of customer service is aimed at the solutions built with the product, and is oriented towards assisting customers in choosing between RealWear's partners for software and firmware development to suit their application needs.

- The final and the highest level of customer service is the company's Factory Field Service Engineering group, which continuously monitors global customer concerns for similar issues to pinpoint the need for updating firmware or upgrading product design.

Standing out from the competition with its comprehensive customer service portfolio, RealWear ensures it travels with the customer throughout the product lifetime, ensuring stress-free customer service of the highest quality.

Conclusion

Staying true to its name, RealWear commits to delivering unmatched performance and customer-inspired reliability in its best-in-class products that are ready for deployment in harsh industrial environments. Its one-of-a-kind rugged head-mounted tablet, HMT-1, offers a hands-free voice-visual interface unlike anything offered by the competition, merging high-performance hardware and user-friendly software for industrial applications in sectors including oil and gas, chemical, automotive, heavy manufacturing, power and utilities, transportation and logistics, aviation, engineering and construction, mining and telecom and data centers.

Powered by a passionate team with expertise in multiple fronts of product development, design, and engineering, as well as a robust product development strategy, RealWear is expected to continue pushing boundaries in the industrial wearables market. With its strong overall performance, RealWear Inc has earned Frost & Sullivan's 2017 New Product Innovation Award.

Significance of New Product Innovation

Ultimately, growth in any organization depends upon continually introducing new products to the market and successfully commercializing those products. For these dual goals to occur, a company must be best-in-class in three key areas: understanding demand, nurturing the brand, and differentiating from the competition.



Understanding New Product Innovation

Innovation is about finding a productive outlet for creativity—for consistently translating ideas into high-quality products that have a profound impact on the customer.

Key Benchmarking Criteria

For the New Product Innovation Award, Frost & Sullivan analysts independently evaluated two key factors—New Product Attributes and Customer Impact—according to the criteria identified below.

New Product Attributes

- Criterion 1: Match to Needs
- Criterion 2: Reliability
- Criterion 3: Quality
- Criterion 4: Positioning
- Criterion 5: Design

Customer Impact

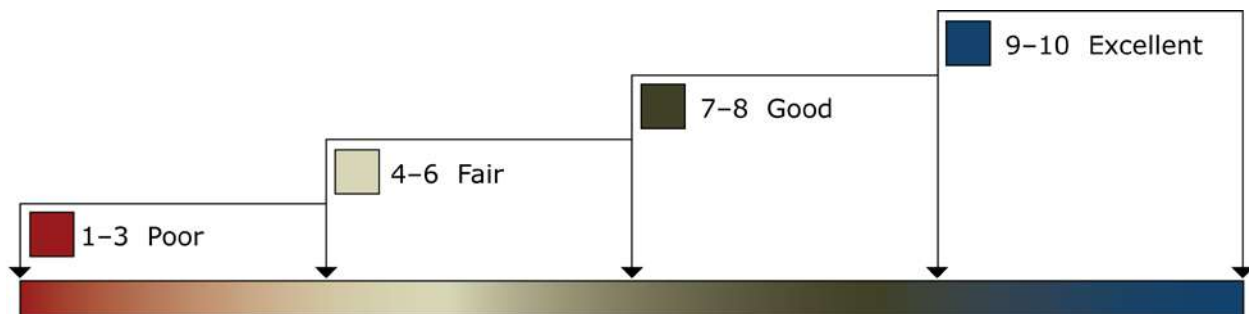
- Criterion 1: Price/Performance Value
- Criterion 2: Customer Purchase Experience
- Criterion 3: Customer Ownership Experience
- Criterion 4: Customer Service Experience
- Criterion 5: Brand Equity

Best Practices Award Analysis for RealWear, Inc

Decision Support Scorecard

To support its evaluation of best practices across multiple business performance categories, Frost & Sullivan employs a customized Decision Support Scorecard. This tool allows our research and consulting teams to objectively analyze performance, according to the key benchmarking criteria listed in the previous section, and to assign ratings on that basis. The tool follows a 10-point scale that allows for nuances in performance evaluation. Ratings guidelines are illustrated below.

RATINGS GUIDELINES



The Decision Support Scorecard is organized by New Product Attributes and Customer Impact (i.e., These are the overarching categories for all 10 benchmarking criteria; the definitions for each criterion are provided beneath the scorecard.). The research team confirms the veracity of this weighted scorecard through sensitivity analysis, which confirms that small changes to the ratings for a specific criterion do not lead to a significant change in the overall relative rankings of the companies.

The results of this analysis are shown below. To remain unbiased and to protect the interests of all organizations reviewed, we have chosen to refer to the other key participants as Competitor 2 and Competitor 3.

<i>Measurement of 1–10 (1 = poor; 10 = excellent)</i>			
New Product Innovation	New Product Attributes	Customer Impact	Average Rating
RealWear, Inc.	9	9.6	9.3
Competitor 2	8	7	7.5
Competitor 3	6	7	6.5

New Product Attributes

Criterion 1: Match to Needs

Requirement: Customer needs directly influence and inspire the product’s design and positioning.

Criterion 2: Reliability

Requirement: The product consistently meets or exceeds customer expectations for consistent performance during its entire life cycle.

Criterion 3: Quality

Requirement: Product offers best-in-class quality, with a full complement of features and functionalities.

Criterion 4: Positioning

Requirement: The product serves a unique, unmet need that competitors cannot easily replicate.

Criterion 5: Design

Requirement: The product features an innovative design, enhancing both visual appeal and ease of use.

Customer Impact

Criterion 1: Price/Performance Value

Requirement: Products or services offer the best value for the price, compared to similar offerings in the market.

Criterion 2: Customer Purchase Experience

Requirement: Customers feel they are buying the most optimal solution that addresses both their unique needs and their unique constraints.

Criterion 3: Customer Ownership Experience

Requirement: Customers are proud to own the company’s product or service and have a positive experience throughout the life of the product or service.

Criterion 4: Customer Service Experience

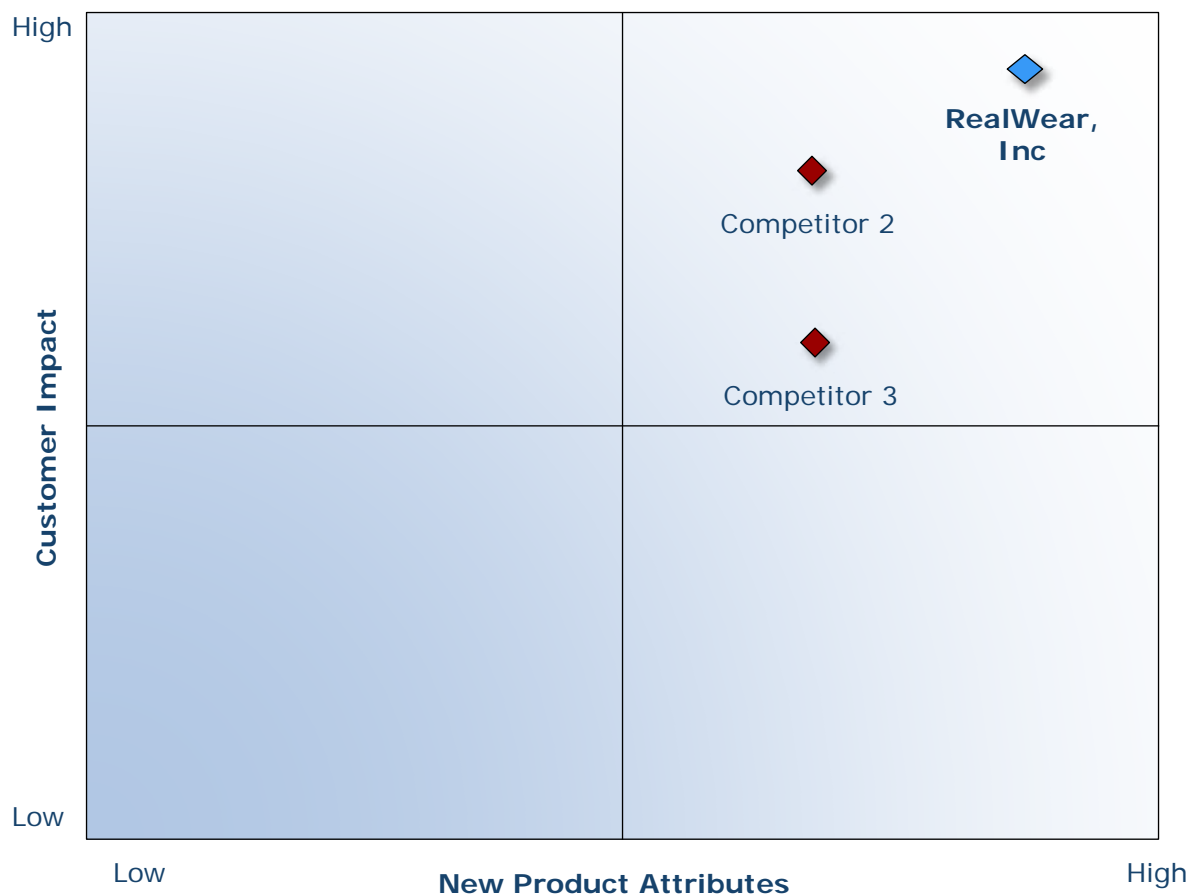
Requirement: Customer service is accessible, fast, stress-free, and of high quality.

Criterion 5: Brand Equity

Requirement: Customers have a positive view of the brand and exhibit high brand loyalty.

Decision Support Matrix

Once all companies have been evaluated according to the Decision Support Scorecard, analysts then position the candidates on the matrix shown below, enabling them to visualize which companies are truly breakthrough and which ones are not yet operating at best-in-class levels.



Best Practices Recognition: 10 Steps to Researching, Identifying, and Recognizing Best Practices

Frost & Sullivan analysts follow a 10-step process to evaluate Award candidates and assess their fit with select best practice criteria. The reputation and integrity of the Awards are based on close adherence to this process.

STEP	OBJECTIVE	KEY ACTIVITIES	OUTPUT
1 Monitor, target, and screen	Identify Award recipient candidates from around the globe	<ul style="list-style-type: none"> • Conduct in-depth industry research • Identify emerging sectors • Scan multiple geographies 	Pipeline of candidates who potentially meet all best-practice criteria
2 Perform 360-degree research	Perform comprehensive, 360-degree research on all candidates in the pipeline	<ul style="list-style-type: none"> • Interview thought leaders and industry practitioners • Assess candidates' fit with best-practice criteria • Rank all candidates 	Matrix positioning of all candidates' performance relative to one another
3 Invite thought leadership in best practices	Perform in-depth examination of all candidates	<ul style="list-style-type: none"> • Confirm best-practice criteria • Examine eligibility of all candidates • Identify any information gaps 	Detailed profiles of all ranked candidates
4 Initiate research director review	Conduct an unbiased evaluation of all candidate profiles	<ul style="list-style-type: none"> • Brainstorm ranking options • Invite multiple perspectives on candidates' performance • Update candidate profiles 	Final prioritization of all eligible candidates and companion best-practice positioning paper
5 Assemble panel of industry experts	Present findings to an expert panel of industry thought leaders	<ul style="list-style-type: none"> • Share findings • Strengthen cases for candidate eligibility • Prioritize candidates 	Refined list of prioritized Award candidates
6 Conduct global industry review	Build consensus on Award candidates' eligibility	<ul style="list-style-type: none"> • Hold global team meeting to review all candidates • Pressure-test fit with criteria • Confirm inclusion of all eligible candidates 	Final list of eligible Award candidates, representing success stories worldwide
7 Perform quality check	Develop official Award consideration materials	<ul style="list-style-type: none"> • Perform final performance benchmarking activities • Write nominations • Perform quality review 	High-quality, accurate, and creative presentation of nominees' successes
8 Reconnect with panel of industry experts	Finalize the selection of the best-practice Award recipient	<ul style="list-style-type: none"> • Review analysis with panel • Build consensus • Select recipient 	Decision on which company performs best against all best-practice criteria
9 Communicate recognition	Inform Award recipient of Award recognition	<ul style="list-style-type: none"> • Present Award to the CEO • Inspire the organization for continued success • Celebrate the recipient's performance 	Announcement of Award and plan for how recipient can use the Award to enhance the brand
10 Take strategic action	Upon licensing, company is able to share Award news with stakeholders and customers	<ul style="list-style-type: none"> • Coordinate media outreach • Design a marketing plan • Assess Award's role in future strategic planning 	Widespread awareness of recipient's Award status among investors, media personnel, and employees

The Intersection between 360-Degree Research and Best Practices Awards

Research Methodology

Frost & Sullivan's 360-degree research methodology represents the analytical rigor of our research process. It offers a 360-degree-view of industry challenges, trends, and issues by integrating all 7 of Frost & Sullivan's research methodologies. Too often companies make important growth decisions based on a narrow understanding of their environment, leading to errors of both omission and commission. Successful growth strategies are founded on a thorough understanding of market, technical, economic, financial, customer, best practices, and demographic analyses. The integration of these research disciplines into the 360-degree research methodology provides an evaluation platform for benchmarking industry participants and for identifying those performing at best-in-class levels.

360-DEGREE RESEARCH: SEEING ORDER IN THE CHAOS



About Frost & Sullivan

Frost & Sullivan, the Growth Partnership Company, enables clients to accelerate growth and achieve best-in-class positions in growth, innovation and leadership. The company's Growth Partnership Service provides the CEO and the CEO's Growth Team with disciplined research and best practice models to drive the generation, evaluation, and implementation of powerful growth strategies. Frost & Sullivan leverages more than 50 years of experience in partnering with Global 1000 companies, emerging businesses, and the investment community from 45 offices on six continents. To join our Growth Partnership, please visit <http://www.frost.com>.