



2015 Global DOCSIS Cable Networks
New Product Innovation Award



FROST & SULLIVAN



50 Years of Growth, Innovation & Leadership

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Background and Company Performance

Industry Challenges

Today's communication networks are highly complex. Frost & Sullivan recognizes that multiple system operators (MSOs) face several challenges, such as the need to increase data transfer rates, meet tighter service-level agreements (SLAs), and ensure network availability. The key criterion for certification labs, original equipment manufacturers (OEMs), MSOs, and chipset manufacturers is to ensure that networks function smoothly. This is a challenge for end users, as they need to find the right solution and also be trained to perform these tasks.

Companies that are in the position to address these challenges and can enable operators to ensure robust system performance are expected to gain market share. With over-the-top (OTT) video, 4K video, and 3DTV, there are increased bandwidth and higher-speed data communication requirements. There is also an increasing requirement to maintain high quality of service in order to increase customer retention.

New Product Attributes and Customer Impact

Design:

Headquartered at Montreal, Canada, Avera—a privately owned company—has created the innovative DP-1000 DOCSIS Protocol Analyzer, which supports both DOCSIS 3.0 and 3.1. This is the industry's first analyzer of its kind that supports DOCSIS 3.1. The product provides real-time optimum signal processing solutions with field-programmable gate array technology. The DP-1000 analyzes up to 32×8 single or bonded upstream/downstream (US/DS) channels (DOCSIS 3.0) and 2×1 orthogonal frequency-division multiplexing US/DS channels (DOCSIS 3.1). It is an entirely new product; the company's previous solution—the DP-360 DOCSIS Protocol Analyzer—can analyze up to 4 upstream and 16 downstream channels. The product was designed with a single, 19-inch, 4U rack for minimal footprint, supports up to seven 200-MHz bandwidth cards, and can analyze DOCSIS 3.1 network performance at up to 10 GBit/s downstream and 1Gbit/s upstream speeds, at a resolution of 1 MHz. Frost & Sullivan notes that apart from this, Avera offers a wide range of DOCSIS test solutions such as the DOCSIS Channel Emulator, Jupiter Design Verification System, and Mercury Manufacturing Verification Test System. This product design strategy plays a vital role for the company's business growth in the industry.

Match to Needs:

Frost & Sullivan benchmarking analysis reveals that Avera is one of the best protocol analyzer providers in the DOCSIS network cable market, with a strong record for several best practices. Avera's DOCSIS Protocol Analyzers are industry standards for functional

DOCSIS and EuroDOCSIS network analysis. Additionally, they provide exceptional visibility for the MAC layer. As a passive sniffer between CMTS and CPE devices, DP-1000 ensures high network performance by verifying RF parameters. The key to its success is that the company's clients, including multiple system operators, chipset manufacturers, product developers, and certification bodies, use the product to sort out and correct trouble spots in the network cable. With many channel filtering, demodulation, and upgrade features, DP-1000 can achieve high satisfaction from customers. The DP-1000's success in enabling the silent capture and real-time analysis of DOCSIS 3.1 network data (OFDM downstream and OFDMA upstream) adds value to the market as well as to the company's growth.

Quality:

Adopter certification from CableLabs ensures the quality of Avera's products in the DOCSIS Cable Network market, which meet the standard requirements. Apart from that, the company creates internal processes for products to ensure that the products are of high quality. Frost & Sullivan finds that the company is strategically aligned with quality and specifications to sustain itself in the competitive era, through excellent partnerships with National Instruments, Keysight Technologies, and JOT Automation.

Customer Ownership Experience:

Avera maintains robust relationships with its potential customers in the communication sectors, such as multiple system operators, silicon chipset manufacturers, certification labs, original equipment manufacturers, and original design manufacturers. The company emphasizes customer feedback, in order to improve the quality of its products and services and bring new products into the market. Frost & Sullivan firmly believes that this marketing and product positioning strategy helps the company to retain a strong relationship with its customers.

Customer Service Experience:

Avera not only provides innovative and new products to its elite customers but also offers high-quality product services. The company's main focus is on enormous customer-based needs by providing the best possible products and services through its Customer Support Portal. The company's engineers work with cable labs to develop specifications and test plans on a regular basis. Frost & Sullivan finds that to ensure a better customer service experience, the company maintains regular contact with its customers by holding weekly meetings with them. In order to increase customer feedback on the DP-1000, Avera's customer support team works through professional services on projects at the clients' location. The company's Delivery Channel Sales Partners are globally present in the US, Canada, Europe, Mexico, and Japan. Avera's value-added resellers and distributors across the globe support customers through local expert teams.

Brand Equity:

As the world's leading Test Engineering firm in electronics and telecommunications, Avera has innovated laudably through the DOCSIS DP-1000 Protocol Analyzer by providing high quality and value to its customers in the global cable network market. Frost & Sullivan's research confirms that Avera's product is the first to the market for DOCSIS 3.1 protocol analysis. It has earned a great achievement for its analyzer's many value additions. These features include fast processing through multiple channels, along with support for both DOCSIS 3.0 and DOCSIS 3.1. Avera's 100% share acquisition of Cal-Bay Systems, a California-based company, has strengthened its brand. The company is concentrating on enhancing customer support and lowering customer attrition.

Conclusion

Frost & Sullivan's independent analysis of the DOCSIS Cable Network market clearly shows that with its DP-1000 DOCSIS Protocol Analyzer, Avera has emerged as a key leader in the cable network market by addressing several challenges among end users, including increased bandwidth and higher-speed data communication requirements. By pioneering its DOCSIS 3.1 solution, Avera has made a mark in the industry and leads from the front. Avera's customers now have the ability to ensure the smooth functioning of their networks, along with real-time troubleshooting.

With its strong overall performance, Avera has earned Frost & Sullivan's 2015 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, differentiating from the competition. This three-fold approach to delivering New Product Innovation is explored further below.



Understanding New Product Innovation

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

Key Benchmarking Criteria

For the New Product Innovation Award, Frost & Sullivan 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

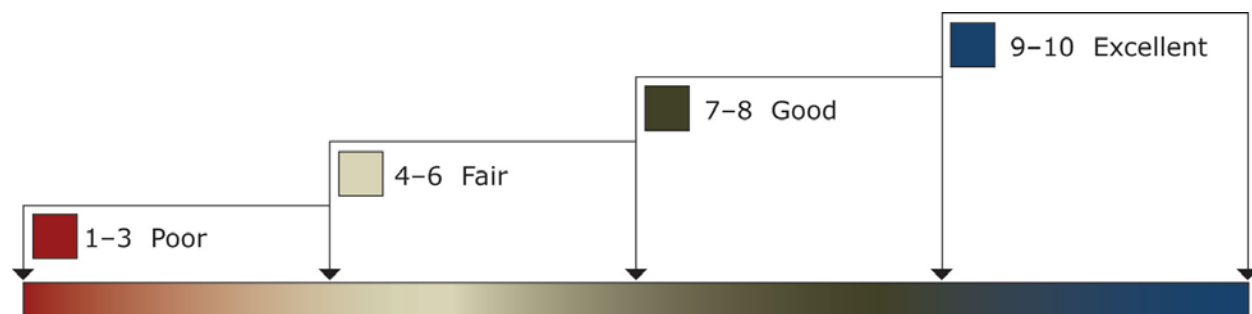
- Criterion 1: Price/Performance Value
- Criterion 2: Customer Purchase Experience
- Criterion 3: Customer Ownership Experience
- Criterion 4: Customer Service Experience
- Criterion 5: Brand Equity

Best Practice Award Analysis for Avera

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., the overarching categories for all 10 benchmarking criteria; the definitions for each criteria 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, Frost & Sullivan chose to refer to the other key players in as Competitor 2 and Competitor 3.

DECISION SUPPORT SCORECARD: NEW PRODUCT INNOVATION AWARD

<i>Measurement of 1–10 (1 = poor; 10 = excellent)</i>			
New Product Innovation	New Product Attributes	Customer Impact	Average Rating
	50%	50%	100%
Averna	9.0	9.0	9.00
Competitor 2	7.5	7.0	7.25
Competitor 3	7.0	7.0	7.00

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 functionality

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 like 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

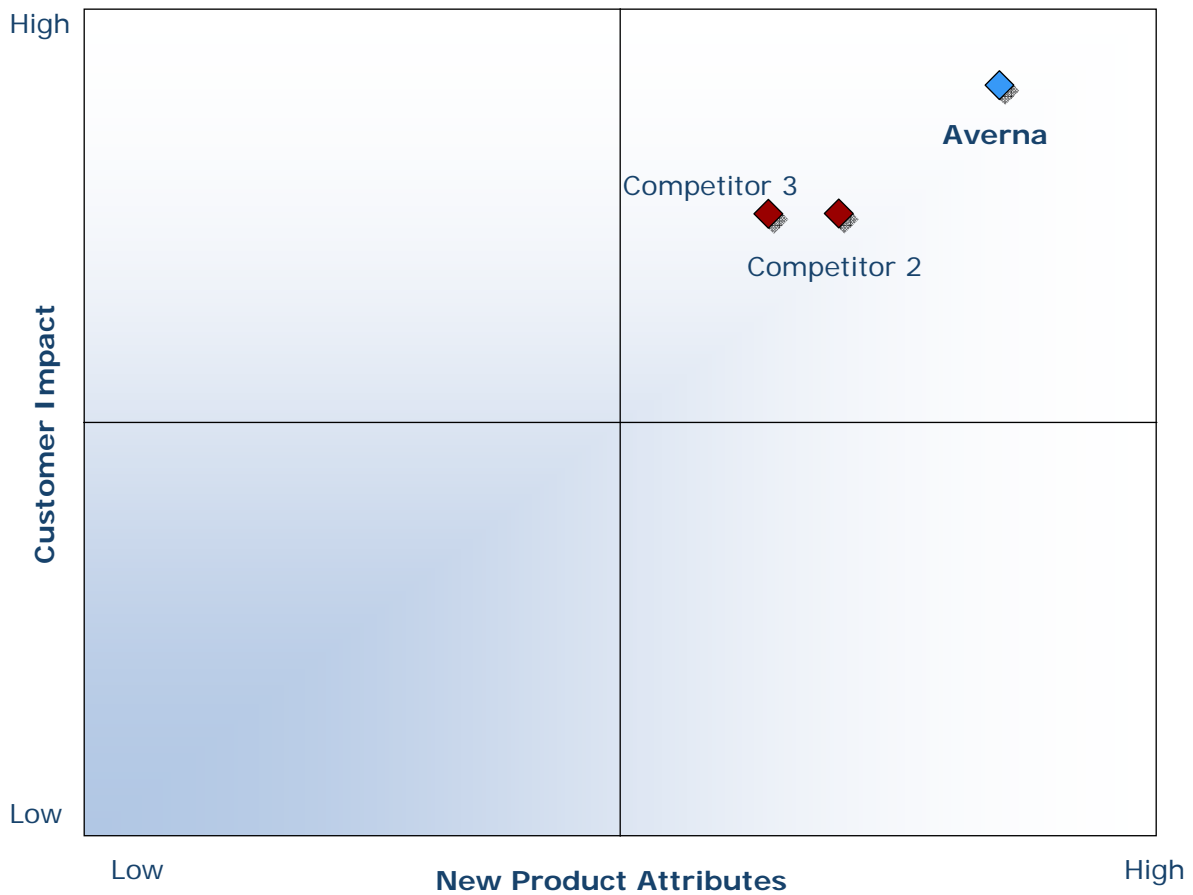
Criterion 5: Brand Equity

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 can 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.

DECISION SUPPORT MATRIX: NEW PRODUCT INNOVATION AWARD



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 players 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 40 offices on six continents. To join our Growth Partnership, please visit <http://www.frost.com>.