

# Customer Value Leadership Award Tire Pressure Monitoring Systems Global, 2013

# Frost & Sullivan's Global Research Platform

Frost & Sullivan is in its 50th year in business with a global research organization of 1,800 analysts and consultants who monitor more than 300 industries and 250,000 companies. The company's research philosophy originates with the CEO's 360-Degree Perspective™, which serves as the foundation of its TEAM Research™ methodology. This unique approach enables us to determine how best-in-class companies worldwide manage growth, innovation and leadership. Based on the findings of this Best Practices research, Frost & Sullivan is proud to present the 2013 Global Customer Value Leadership Award in TPMS to NIRA Dynamics.

# **Key Industry Challenges**

With European legislation (UNECE R64) requiring Tire Pressure Monitoring Systems (TPMS) to be fitted on all new vehicles and with a similar Chinese legislation around the corner, there is a need for solutions that readily blend into existing vehicle architectures. Original Equipment Manufacturers (OEMs) require the solution to entail lesser effort and minimal cost. Direct TPMS adds about €400 over the lifetime of the vehicle, whereas indirect TPMS costs less than €10 to add to vehicles with an ABS or ESC unit. However, Frost & Sullivan research reveals that the biggest challenge for indirect TPMS has been its inability to isolate and identify the wheel in which the tire pressure has dipped. Also, first-generation indirect TPMS did not meet the requirements of the upcoming regulation, hence posing a threat to the indirect TPMS' market potential. OEMs, in developed markets and emerging markets alike, are in need of cost-effective TPMS solutions that meet regulatory requirements. While most indirect TPMS suppliers have devised ways to ensure regulatory requirements are met, end-user requirements and OEM specifications transcend legislative stipulations. Frost & Sullivan analysis indicates that OEM's need a visionary solution that creates value in this commoditized market space.

# Best Practice Award Analysis for NIRA Dynamics

The Frost & Sullivan Award for Customer Value Leadership is presented each year to the company that has demonstrated excellence in implementing strategies that proactively create value for its customers with a focus on improving the return on the investment that customers make in its services or products. This award recognizes the company's inordinate focus on enhancing the value that its customers receive, beyond simply good customer service, leading to improved customer retention.

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## **NIRA Dynamics' Performance in Tire Pressure Monitoring Systems**

NIRA Dynamics' TPI solution is one of the most sought-after indirect TPMS solutions in the OE-fitment space and not without reason. Through its TPI solution, NIRA Dynamics has created a platform to deliver the performance of a direct TPMS at the cost of an indirect TPMS solution. In price-sensitive segments, especially in the mass-market vehicle segment, the added cost of direct TPMS could be a burden. NIRA Dynamics has evolved from supplying to a few European OEMs years ago to an emerging supplier that caters to global OEMs even in regions such as China. While legislation requires OEMs to ensure TPMS is installed, there is no mention of the technology choice and the OEMs are free to choose between direct and indirect TPMS. Most suppliers strive to ensure that indirect TPMS meets legislative requirements. Frost & Sullivan notes that NIRA Dynamics goes the extra mile to ensure it more than meets legislative requirements by taking into account key preferences of consumers while ensuring a low-cost solution.

## **Key Performance Drivers for NIRA Dynamics**

## **Factor 1: Customer Service Leadership**

Traditionally, luxury vehicles were fitted with direct TPMS in the 2000s, and many luxury brands still do so across the world. The Audi TT was the first vehicle that was fitted with TPI, an indirect TPMS solution from NIRA Dynamics, in 2006. Certain vehicles fitted with direct TPMS inherently had certain technical issues that hampered end-user experience. NIRA Dynamics incorporated their flagship TPI solution in such vehicles and thereby rectified issues faced by end users. TPI is now fitted on several Audi models such as A1, A3, A4, A5, A6, A7, A8, Q5, Q7, and TT as well as some of the best-selling models in the Volkswagen brand, such as Golf, Jetta, Passat, Tiguan, and Sharan and also the SEAT Exeo. TPI's key success factor has been its ability to comply with European and US regulatory requirements—UNECE R64 and FMVSS 138, respectively— and across parameters such as puncture position and diffusion detection. This has led to successful implementation of the solution across various aforementioned brands within the Volkswagen group.

NIRA licenses TPI software to car manufacturers and leading automotive/ESC system manufacturers, such as Bosch. Volkswagen Group has recognized TPI as their standard for TPMS. Though TPI is one among many other indirect TPMS solutions available to the OEMs, Frost & Sullivan research confirms that NIRA Dynamics was the first in the market with a unique product with system integration expertise (integration with slip control), superior system maintenance, and quality of service.

#### **Factor 2: Customer Value Enhancement Potential**

Since 2006, NIRA Dynamics has achieved a yearly growth rate of around 100% in terms of TPI licenses sold. The number of licenses reached more than 5.5 million in September 2013, making it the largest market participant in the global market for the latest generation of

indirect TPMS. With more OEMs intending to implement iTPMS in the coming years, Frost & Sullivan expects TPI market share in the mass-market segment to grow twofold by 2016.

A major reason for the growth prospects is attributable to the business resulting from leading Chinese manufacturers. Chinese legislation requires TPMS to be fitted on its passenger vehicles and the TPI solution meets these requirements as well. Frost & Sullivan firmly believes that NIRA Dynamics will be in a perfect position to serve the global market through their collaboration with Bosch, the market leader for ESC systems.

### Factor 3: Value Addition to the end consumers

One of the key value-adding features of TPI is that it can report both a gradual pressure loss and a stepped pressure loss far ahead of the tire breakdown by using spectral analysis. This is tapped from wheel signals that estimate tire pressure from the wheel speed sensors that are part of the ABS or ESC system of a vehicle. Secondly, TPI performance is not hampered due to speed changes, surface changes, load variations, or driving styles. It automatically adjusts to different types of tires such as all-weather-tires, run-flat tires etc. More importantly, TPI works not only with OE-fitted tires and rims but is also compatible with nearly all aftermarket tires and rims.

TPI is a solution that not only caters to legal requirements but also takes into account what is expected from an end-user perspective. Warning system errors, such as false positive or missed alerts, are overcome by the TPI solution with high sensitivity and the right balance between detection sensitivity and actual sensitivity requirements. Frost & Sullivan research clearly shows that NIRA Dynamics' TPI solution goes the extra mile in adding value not only to OEMs but also to end-users from a very practical day-to-day application perspective.

## Factor 4: Proof of Quality - Compatibility, Longevity, Robustness and Reliability

The unique value proposition of TPI is the field experience on second-generation iTPMS in the US, EU, and China. About half a million TPI compliant with FMVSS are active in North America and five million are active globally, which includes Europe and China. The TPI solution has proved its quality quotient by ensuring against failure-in-operation of the product in the millions of vehicles on the road today. A value-adding feature in TPI system design is that it gets activated within five minutes of calibration, after which the system undergoes a learning process where it studies the radii and frequency characteristics of properly inflated tires. This is then calibrated as the baseline for proper detection of tire pressure, based on which loss of pressure in any given wheel can be identified and isolated.

With an AUTOSAR-compliant interface, it is easy to integrate TPI across different hardware. The key advantage is that a TPI can be fit into any ESC hardware unit, including those from Continental, Robert Bosch, and TRW Automotive. This exemplifies TPI's commitment to serve the OEM customer immaterial of the intermediary tier-1 supplier. With TPI, the customer does not incur any additional maintenance costs, unlike in the case of a direct

TPMS-fitted vehicle. In some cases, an average European consumer ends up spending close to €400 on direct TPMS over the lifetime of the car. TPI ensures that this cost is eliminated for the end user, as 54% of consumers, according to a recent survey, are unwilling to pay any additional amount for the fitment of TPMS on their vehicles.

## Conclusion

Market innovation is usually short-lived. Most fast-followers try to provide an identical benefit on their own product line that mimics innovators. NIRA Dynamics' innovation is no exception to this syndrome. Although they were first to the market, they are not the only iTPMS supplier to identify and isolate an under-inflated tire. However, TPI is the most unique value-adding solution that ensures against false-positives and missed alerts, and is in operation on over 5.5 million vehicles today. This is a major achievement for an organization without an ABS or ESC product of its own, as most of the braking control suppliers today tend to offer TPMS as well. Powered by their constant drive to change for the better, NIRA Dynamics is expected to extend its value proposition to more vehicles in Europe, China, and eventually the rest of the world. Frost & Sullivan's independent analysis of the Tire Pressure Monitoring Systems Market clearly shows that NIRA Dynamics' contribution results in invaluable savings of lives, fuel, and thereby money for OEMs and consumers.

Based on the aforementioned factors, Frost & Sullivan is proud to present the 2013 Global Customer Value Leadership Award in TPMS to NIRA Dynamics.

# Critical Importance of TEAM Research

Frost & Sullivan's TEAM 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 seven of Frost & Sullivan's research methodologies. Our experience has shown over the years that companies too often make important growth decisions based on a narrow understanding of their environment, leading to errors of both omission and commission. Frost & Sullivan contends that successful growth strategies are founded on a thorough understanding of market, technical, economic, financial, customer, best practices, and demographic analyses. In that vein, the letters T, E, A and M reflect our core technical, economic, applied (financial and best practices) and market analyses. The integration of these research disciplines into the TEAM Research methodology provides an evaluation platform for benchmarking industry players and for creating high-potential growth strategies for our clients.

Chart 1: Benchmarking Performance with TEAM Research



## **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 50 years of experience in partnering with Global 1000 companies, emerging businesses and the investment community from more than 40 offices on six continents. To join our Growth Partnership, please visit <a href="http://www.frost.com">http://www.frost.com</a>.