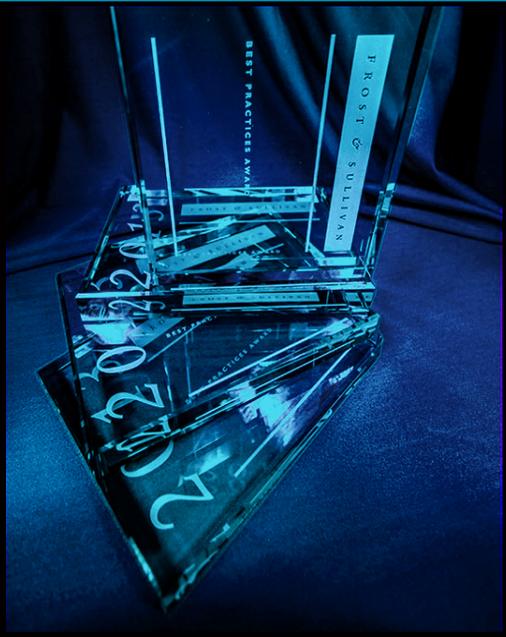


FROST & SULLIVAN



2016 Ugandan  
Sustainable Mobility  
Visionary Innovation Leadership Award



FROST & SULLIVAN

BEST  
2016 PRACTICES  
AWARD

UGANDAN  
SUSTAINABLE MOBILITY  
VISIONARY INNOVATION LEADERSHIP AWARD

2016  
BEST PRACTICES  
AWARDS

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## Background and Company Performance

### *Industry Challenges*

The Ugandan automotive industry recorded some of its highest vehicle sales figures in its history over the course of the 2015 financial year. The industry saw a 44% boom, with 2,784 new vehicles sold, an all-time record in Uganda. Four multinational brands controlling 80% of the market dominate the industry. The market dynamics show a strong preference for pick-up trucks, which held 54% of the vehicle market in 2015. Despite the positive market outlook, original equipment manufacturers (OEM) and new vehicle sellers in Uganda face significant challenges.

On a macro-economic level, the country has performed well over the past 2 decades, attaining on average a 7% gross domestic product (GDP) growth rate. Abject poverty levels were reduced from 56% in 1992 to 20% in 2014. The inflation rates have stabilised through effective management to 5.5% in 2014 after the economic shocks in 2011/2012 saw inflation levels rise to 18.7%. Despite these encouraging statistics, the economic growth in Uganda slowed down to about 3.8% in 2015, and local businesses are feeling the economic severity.

The transport infrastructure in Uganda is of a low standard. Of the 20,000 kilometres (km) of national roads, only 17% are paved. Certain urban roads are partially paved, but the remaining 80% remain unpaved gravel roads. These statistics clearly correlate to the 54% market share that pick-up trucks hold because of their robust design for all terrains. State considerations seek to look beyond poor road maintenance and towards cheaper transport alternatives, utilising railways and water transport solutions. At present, these alternatives only account for 10% of Uganda's trade.

Demand for new cars is incredibly low because of the abundance of used cars flooding the market. The large appetite for used cars stems from the affordability they offer in an economy where the local currency, the Ugandan shilling, is weak. Of the 10 vehicle imports currently making up the demographics of the car market, 7 are used imports.

OEMs operating in Uganda will need to overcome the present consumer appetite for used vehicles by providing solutions that create tangible value for their customers. The value proposition of the new vehicle on offer needs to outweigh the cost burden borne by customers. For vehicle manufacturers, product line diversity is of paramount importance to capture new market segments and to remain competitive by servicing the needs of the current market with robust, all-terrain vehicles.

## *Focus on the Future and Best Practices Implementation*

Established in 2014, Kiira Motors Corporation (KMC), the brain-child of Makerere University, is a presidential initiative for automotive manufacturing in Uganda. The Uganda Development Corporation (UDC), which is the public investment arm of the Ugandan Government, and Makerere University own KMC. The KMC manufacturing plant will be located on 100 acres of land situated at the Uganda Investment Authority Industrial and Business Park in Jinja. The KMC plant will be equipped to support the manufacture of up to 60,000 vehicles per year.

### **Focus on Unmet Needs**

The Kiira Vehicle Technology Innovation Program has produced 3 concept vehicles: the Kiira EV (2011), a 2-seater electric car; the Kiira EV SMACK (2014), a 5-seater hybrid electric sedan; and the Kayoola Solar Bus (2016), a battery electric vehicle with a real-time solar charging system for range extension.

These concepts were developed to address 2 overlooked needs in the Ugandan automotive industry: locally manufactured vehicles and sustainable mobility solutions. With used imports dominating the automotive industry, the unmet need for spare parts and service centres, in conjunction with poorly maintained road infrastructure, has significantly reduced the usable lifespan of these vehicles to approximately 6 years.

From an environmental perspective, studies by KMC show that the fleet of 9,000 14-seater buses operating daily in the Uganda's capital city, Kampala, produce 96,715 tons of carbon emissions annually. The Kayoola solar bus was developed to address the need for public transport solutions that steer away from excessive pollution and environmental decay and move towards cost-effective, sustainable mobility with zero tail pipe emissions.

### **Technological Sophistication**

The Kayoola Solar Bus has incorporated a sustainable technology to make its mark as Africa's first solar-powered bus. The 35-seater bus has a hybrid propulsion system that incorporates an electric motor as its core power generator. The electric motor is powered by battery packs, one of which is charged by solar panels strategically placed on the roof of the bus, and the other is charged electrically.

The bus has a range of approximately 50 miles on one charge, with each battery requiring an impressively low 1 hour charging time. This feature makes the Kayoola Solar Bus well suited for urban duties such as school bus transport and intracity mass mobility.

The bus is set to be commercialised with other mobility solutions from KMC in 2018 and is gaining global attention; the bus was recently featured at the 2016 United Nations Environment Assembly (UNEA) world meeting at which KMC was the Green Transport Partner. With the high density population in Kampala, together with a growth in mobility demand to 700,000 per day in the next 3 years in the capital alone, the Kayoola Solar Bus is the answer to the growing mass-mobility demand in Uganda.

### **Blue Ocean Strategy**

The focus on developing sustainable electric, hybrid, and solar vehicles will see KMC create a leadership position in an uncontested market space. The development of a local manufacturing plant will create barriers to entry for new market entrants when KMC leverages its 3 competitive advantages: economies of scale, a first-mover advantage, and import cost avoidance.

With increased output at the manufacturing facility, KMC will enjoy a cost advantage, essentially reducing the cost per vehicle produced as the scale of its operations increases. A further cost advantage will be utilised as KMC will not be subject to the sum of the 6 different fees charged on vehicles imported into Uganda, which include a 25% import duty, 18% value-added tax, 6% withholding tax, 50% environmental tax, 1.5% infrastructure levy and registration fees.

First movers have the potential to make a lasting impression on customers, which can lead to brand recognition and brand loyalty. Additionally, first movers have more time to refine their processes and to perfect their products/services and may have an advantage in controlling local resources, such as a strategic location or exclusive contracts with key suppliers.

### **Visionary Scenarios through Mega Trends**

Frost & Sullivan defines Mega Trends as global, sustained, and macro-economic forces of development that impact businesses, economies, societies, cultures, and personal lives, thereby defining our future world and its increasing pace of change.

Africa has some of the most abundant renewable energy resources on the planet. The availability of funding for renewable energy projects, rapid project construction timelines, and suitability for remote electrification create an attractive environment for project development in the African market. The development of solar-powered buses in the form of KMC's Kayoola is an example of how the company has leveraged the renewable energy Mega Trend to develop a solution that addresses the customer needs of today with the infrastructure of tomorrow.

The second Mega Trend KMC has encapsulated in its business strategy is urbanisation. Urbanisation in Africa is primarily resource driven. Mass migration is resulting in the formation of Mega Cities, Mega Regions, Mega Corridors, and Mega Slums, on a continent burgeoning with opportunities in enabling infrastructure such as energy-efficient and resource-efficient technologies that have been previously unavailable. The demand for urban mobility solutions is on the rise in Uganda, and the introduction of the KMC product range seeks to meet the needs of all mobility end users. Electric and hybrid vehicles in particular will form the basis of this strategy because eco-friendly innovations and infrastructure are driving Smart Cities and Mega Cities.

## **Company Culture**

KMC has developed and promoted both formal and informal cultures and customs at the workplace to enrich its staff. KMC conducts mission workshops, where the company's vision, mission, and core values are reflected upon in the context of team building exercises. Management interventions are carefully guided by KMC-relevant policies included in the company's human resources handbook and domain-specific standard operating procedures. KMC has a well-publicised code of ethics and professionalism. The company has played an important role in corporate social responsibility by participating in key community events, encouraging the staff to do the same in sensitising the public about the company's mission, values, and role in developing the country. The culture deeply embedded into the core of KMC is the focus on developing Uganda as an economic force. Incentivising exports and promoting locally manufactured products to position the Ugandan automotive industry in the global automotive value chain forms the basis of this focus. KMC is looking at the automotive industry as a catalyst for industrial development in Uganda. With 260 million metric tons of iron-ore available, value addition can be gained from utilising local resources, which extend to leather and textiles and raw materials.

## **Process Design**

### **KMC Enterprise Architecture**

KMC is a well-structured organisation divided into 6 functional units: product development, production, finance, marketing and sales, legal, and operations (human resources, information technology systems, facilities management, and office administration). KMC implements a matrix-organizational architecture with a 3-tier governance structure: board of directors, executive and Tier II management, and operational teams. This leadership architecture ensures the effective planning, development, communication, and implementation of the company's strategies and directional changes. The KMC enterprise architecture is crafted to foster homogeneously vertical and horizontal value stream integration for efficiency and effectiveness with a hybrid top-down-bottom-up (information push-pull) value stream performance monitoring strategy.

## KMC Enterprise Value Stream Optimization and Budgeting Protocols

The KMC enterprise value stream performance protocol is aligned to the company's business philosophy and strategy for vehicles made in Uganda. The protocol acts as an enabler for domestic value addition for intellectual application of the citizenry and economic transformation through a progressively growing automotive industry value chain. Measurable key performance indicators are derived on a weekly basis at active project levels from the quarterly and annual KMC master schedule, with prescribed milestones per department. The KMC resource allocator matrix ensures that the active staff is accounted for with the expectation of 75% acceptable delivery on prescribed tasks. The designated project manager issues job cards to each staff member, with time charts, bills of materials, and budget allocations where applicable. The project manager is responsible for clarifying the mission and expectations of the commissioned tasks, while leaving enough room for creativity and value addition from the operational staff. In liaison with human resources, the quality control team performs weekly value stream performance evaluations. These evaluations are presented to the weekly management board for information processing and responsive action.

## KMC Value Stream Evaluation Tool (VSET)

KMC has developed streamlined management systems that allow for the evaluation of new strategies to promote continuous improvement. The KMC VSET enables managers and departmental heads to monitor and measure the individual performance of each team member as well as the entire team. The VSET is utilised on a weekly, monthly, and annual basis, with progress reports portraying the team's performance in line with different task criteria, which provides a rich history of lessons learned and a firm foundation for introducing and justifying new strategies.

## *Conclusion*

KMC has shown the drive and innovative thinking needed to redefine mobility in a region where automotive development is somewhat lagging behind in both an African and a global context. The company's vision extends far beyond the standard vehicle manufacturing concept, and the company seeks to improve the development of the Ugandan automotive industry by catalysing growth through its sustainable mobility solutions. Vehicle implementation and development have sound financial backing from the Ugandan government, and the future value KMC will create upon commercialisation has been identified.

With its strong overall performance, Kiira Motors Corporation has earned Frost & Sullivan's 2016 Visionary Innovation Leadership Award for sustainable mobility in Uganda.

## Significance of Visionary Innovation Leadership

A visionary innovation leadership position enables a market participant to deliver highly competitive products and solutions that transform the way individuals and businesses perform their daily activities. Such products and solutions set new, long-lasting trends in how technologies are deployed and consumed by businesses and end users. Most important, they deliver unique and differentiated benefits that can greatly improve business performance as well as individuals' work and personal lives. These improvements are measured by customer demand, brand strength, and competitive positioning.



## Understanding Visionary Innovation Leadership

Visionary Innovation is the ability to innovate today in the light of perceived changes and opportunities that will arise from Mega Trends in the future. It is the ability to scout and detect unmet (and as yet undefined) needs and proactively address them with disruptive solutions that cater to new and unique customers, lifestyles, technologies, and markets. At the heart of visionary innovation is a deep understanding of the implications and global ramifications of Mega Trends, leading to correct identification and ultimate capture of niche and white-space market opportunities in the future.

## Key Benchmarking Criteria

For the Visionary Innovation Leadership Award, Frost & Sullivan analyst's independently evaluated two key factors—focus on the Future and Best Practices Implementation—according to the criteria identified below.

### Focus on the Future

- Criterion 1: Focus on Unmet Needs
- Criterion 2: Visionary Scenarios through Mega Trends
- Criterion 3: Growth Pipeline
- Criterion 4: Blue Ocean Strategy
- Criterion 5: Growth Performance

### Best Practices Implementation

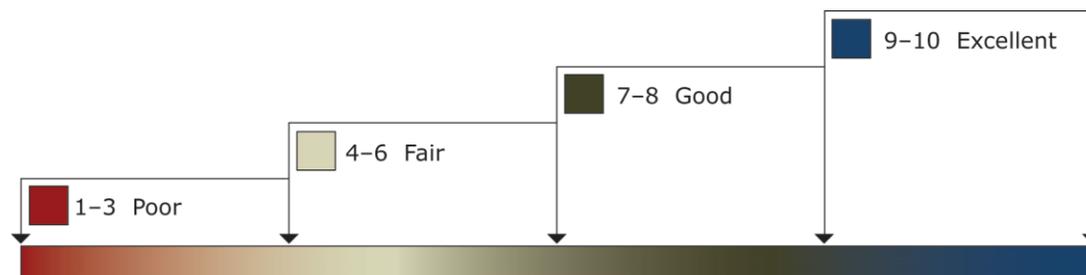
- Criterion 1: Vision Alignment
- Criterion 2: Process Design
- Criterion 3: Operational Efficiency
- Criterion 4: Technological Sophistication
- Criterion 5: Company Culture

## Best Practice Award Analysis for Kiira Motors

### 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 analyse 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 Focus on the Future and Best Practices Implementation (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, we have chosen to refer to the other key players as Competitor 2 and Competitor 3.

DECISION SUPPORT SCORECARD FOR VISIONARY INNOVATION LEADERSHIP AWARD

<i>Measurement of 1-10 (1 = poor; 10 = excellent)</i>			
<b>Visionary Innovation Leadership</b>	Focus on the Future	Best Practices Implementation	Average Rating
<b>Kiira Motors Corporation</b>	<b>10</b>	<b>9</b>	<b>9.50</b>
Nissan	8	8.5	8.25
Toyota	7	8	7.50

*Focus on the Future*

**Criterion 1: Focus on Unmet Needs**

Requirement: Implementing a robust process to continuously unearth customers’ unmet or under-served needs, and creating the products or solutions to address them effectively

**Criterion 2: Visionary Scenarios through Mega Trends**

Requirement: Incorporating long-range, macro-level scenarios into the innovation strategy, thereby enabling “first to market” growth opportunities solutions

**Criterion 4: Growth Pipeline**

Requirement: Best-in-class process to continuously identify and prioritize future growth opportunities leveraging both internal and external sources

**Criterion 3: Blue Ocean Strategy**

Requirement: Strategic focus in creating a leadership position in a potentially “uncontested” market space, manifested by stiff barriers to entry for competitors

**Criterion 5: Growth Performance**

Requirement: Growth success linked tangibly to new growth opportunities identified through visionary innovation

*Best Practices Implementation*

**Criterion 1: Vision Alignment**

Requirement: The executive team is aligned on the organization’s mission, vision, strategy and execution

**Criterion 2: Process Design**

Requirement: Processes support the efficient and consistent implementation of tactics designed to implement the strategy

**Criterion 3: Operational Efficiency**

Requirement: Staff performs assigned tactics seamlessly, quickly, and to a high quality standard

**Criterion 4: Technological Sophistication**

Requirements: Systems enable companywide transparency, communication, and efficiency

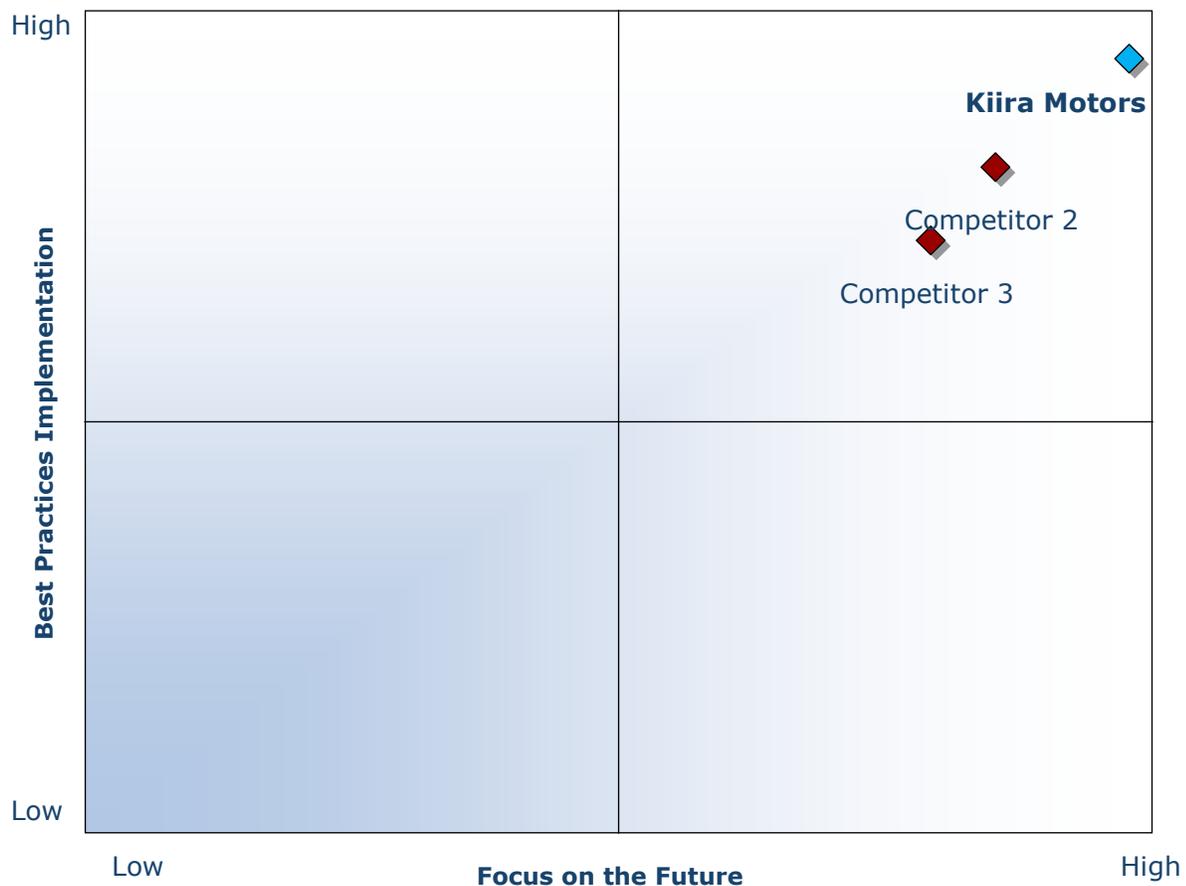
**Criterion 5: Company Culture**

Requirement: The executive team sets the standard for commitment to customers, quality, and staff, which translates directly into front-line performance excellence

*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.

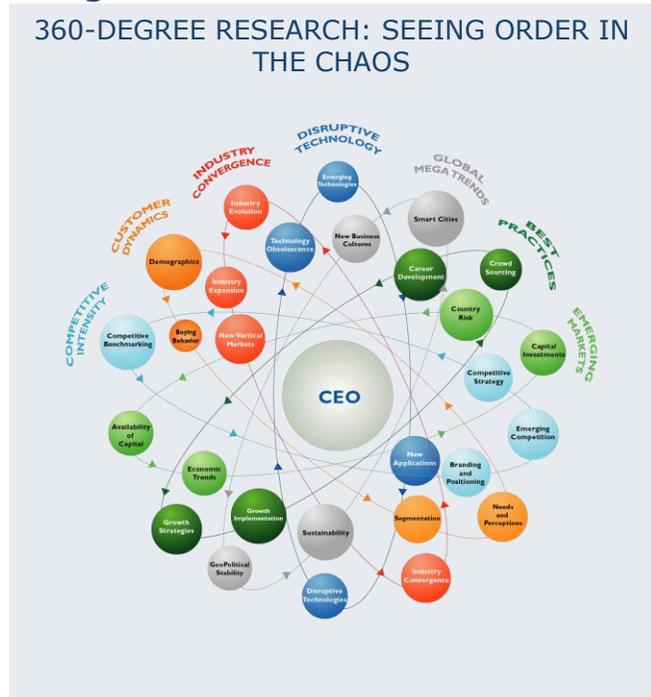
DECISION SUPPORT MATRIX FOR VISIONARY INNOVATION LEADERSHIP AWARD



## 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.



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

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

## 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 almost 50 years of experience in partnering with Global 1000 companies, emerging businesses and the investment community from 31 offices on six continents. To join our Growth Partnership, please visit <http://www.frost.com>.