2012 European Electric Vehicle Charging Infrastructure Competitive Strategy Leadership Award
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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 2012 Europe Competitive Strategy Leadership Award in Electric Vehicle Charging Infrastructure to RWE EFFIZIENZ GMBH.

Significance of the Competitive Strategy Leadership Award

Key Industry Challenges Addressed by Competitive Strategies
The imminent mass production of electric vehicles and the introduction of over 15 models globally since 2010 have been significantly instrumental in driving the growth of the electric vehicle market. The obligation to install electric vehicle charging stations around the cities to cater to the demands of the electric vehicle adopters can be met through the offer of a broad product portfolio, formation of strategic alliances and leveraging robust business models. Being in its nascent stage, the market has untested business models, is unaware of use cases of the charging stations and driver behavior, and suffers from the lack of standardization in charging station plugs. Firstly, the location of a public charging station should be strategically located because ease of access and maximum usage will help recover cost. Secondly, the type of charging station installed in a selected location is very important due to the time taken to charge the vehicle. For example, In case of parking a vehicle in a shopping mall, railway station, airport or any leisure area, mode 3 charging can be installed, however, along the highways, mode 4/DC charging should be installed as the charging time is less than 30 minutes. These collectively pose a serious challenge to the market participants. Although market entrants from various industries, such as utilities, along with automobile manufacturers and infrastructure providers, have become a part of the ecosystem, utilities become a key stakeholder in the value chain. The in-house manufacturing of the charging stations, supplying electricity and making it available to customers by setting up charging infrastructure network, creates a strong competitive position for a company in the market.

On the other hand, governments are taking aggressive steps towards encouraging people to adopt electric vehicles and make the necessary infrastructure available through funding pilot projects, providing incentives and subsidies on the purchases of electric vehicles.

Impact of Competitive Strategy Leadership Award on Key Stakeholders
The Competitive Strategy Leadership Award is a prestigious recognition of RWE EFFIZIENZ GMBH’s accomplishments in electric vehicle charging infrastructure. An unbiased, third-party recognition can provide a profound impact in enhancing the brand value and accelerating RWE AG’s growth. As captured in Chart 1 below, by researching, ranking, and recognizing those who deliver excellence and best practices in their respective endeavors, Frost & Sullivan hopes to inspire, influence, and impact three specific constituencies:

- Investors
Investors and shareholders always welcome unbiased and impartial third-party recognition. Similarly, prospective investors and shareholders are drawn to companies with a well-established reputation for excellence. Unbiased validation is the best and most credible way to showcase an organization worthy of investment.

- **Customers**
  Third-party industry recognition has been proven to be the most effective way to assure customers that they are partnering with an organization that is leading in its field.

- **Employees**
  This Award represents the creativity and dedication of RWE EFFIZIENZ GMBH’s executive team and employees. Such public recognition can boost morale and inspire your team to continue its best-in-class pursuit of a strong competitive position for RWE EFFIZIENZ GMBH.

**Chart 1: Best Practices Leverage for Growth Acceleration**

**Key Benchmarking Criteria for Competitive Strategy Leadership Award**

For the Competitive Strategy Leadership Award, the following criteria were used to benchmark RWE EFFIZIENZ GMBH’s performance against key competitors:

- Leverage of Competitive Intelligence
- Execution of Competitive Strategy
- Impact on Market Share
- Competitive Brand Positioning (brand strength and unique market position)
- Impact on Customer Satisfaction/Value
**Decision Support Matrix and Measurement Criteria**

To support its evaluation of best practices across multiple business performance categories, Frost & Sullivan employs a customized Decision Support Matrix (DSM). The DSM is an analytical tool that compares companies’ performance relative to each other with an integration of quantitative and qualitative metrics. The DSM features criteria unique to each Award category and ranks importance by assigning weights to each criterion. The relative weighting reflects current market conditions and illustrates the associated importance of each criterion according to Frost & Sullivan. Fundamentally, each DSM is distinct for each market and Award category. The DSM allows our research and consulting teams to objectively analyze each company’s performance on each criterion relative to its top competitors and assign performance ratings on that basis. The DSM follows a 10-point scale that allows for nuances in performance evaluation; ratings guidelines are shown in Chart 2.

![Chart 2: Performance-Based Ratings for Decision Support Matrix](chart2.png)

This exercise encompasses all criteria, leading to a weighted average ranking of each company. Researchers can then easily identify the company with the highest ranking. As a final step, the research team confirms the veracity of the model by ensuring 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.

![Chart 3: Frost & Sullivan’s 10-Step Process for Identifying Award Recipients](chart3.png)
Best Practice Award Analysis for RWE EFFIZIENZ GMBH

The Decision Support Matrix, shown in Chart 4, illustrates the relative importance of each criterion for the Competitive Strategy Leadership Award and the ratings for each company under evaluation. To remain unbiased while also protecting the interests of the other organizations reviewed, we have chosen to refer to the other key players as Competitor 1 and Competitor 2.

**Chart 4: Decision Support Matrix for Competitive Strategy Leadership Award**

<table>
<thead>
<tr>
<th>Measurement of 1–10 (1 = lowest; 10 = highest)</th>
<th>Leverage of Competitive Intelligence</th>
<th>Execution of Competitive Strategy</th>
<th>Impact on Market Share</th>
<th>Competitive Brand Positioning</th>
<th>Impact on Customer Satisfaction/Value</th>
<th>Weighted Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Relative Weight (%)</td>
<td>20%  20%  20%  20%  100%</td>
<td>20%  20%  20%  20%  100%</td>
<td>20%  20%  20%  20%  100%</td>
<td>20%  20%  20%  20%  100%</td>
<td>20%  20%  20%  20%  100%</td>
<td>20%  20%  20%  20%  100%</td>
</tr>
<tr>
<td>RWE EFFIZIENZ GMBH</td>
<td>8  9  7  8  8</td>
<td>8</td>
<td>8</td>
<td>6</td>
<td>6.2</td>
<td>8.0</td>
</tr>
<tr>
<td>Competitor 1</td>
<td>6  7  6  6  6</td>
<td>6</td>
<td>6</td>
<td>5</td>
<td>5.8</td>
<td>6.2</td>
</tr>
<tr>
<td>Competitor 2</td>
<td>7  6  6  5  5</td>
<td>7</td>
<td>6</td>
<td>5</td>
<td>5.8</td>
<td>6.0</td>
</tr>
</tbody>
</table>

**Criterion 1: Leverage of Competitive Intelligence**

RWE AG, one of the leading utilities in Europe and early entrants to the European electric vehicle charging infrastructure sector, has established itself strongly in Europe. RWE AG launched its operations in mid-2008 in the area of electric vehicle charging infrastructure by the effective leverage of its competitive market intelligence. The company took a strategic step to manufacture charging stations, operate the charging network and provide software solutions, which would address the complete requirements of the market. This enabled RWE AG and since 2009 its 100% subsidiary RWE EFFIZIENZ GMBH to establish itself as a one-stop shop for infrastructure solutions and a leading service provider in Europe.

RWE EFFIZIENZ GMBH provides a balanced portfolio of electric vehicle charging solutions that include mode 3 and mode 4/DC charging station, which has enabled RWE EFFIZIENZ GMBH to enjoy a competitive edge over its competitors in Europe, who focus on manufacturing, supplying electricity and operating the network in an efficient manner. The other market participants form alliances with various other companies to run the network. For example, a company that operates a network will outsource the charging station units, partner with a utility and use a third party software solution to manage the network. There are many other leading utilities in Europe, who have become active players in the electric vehicle charging infrastructure market. However, RWE EFFIZIENZ GMBH is the only player, who manufactures various types of charging stations, supplies electricity, as well as installs them and operates in both public and residential localities.
Criterion 2: Execution of Competitive Strategy

RWE EFFIZIENZ GMBH is the only utility in Europe to manufacture charging stations and install them for its own network. It manufactures intelligent mode 3 charging stations, which are installed for both residential and public charging. The residential charging stations are competitively priced between €600 and €2,300 and the public charging stations range from €3,000 and €6,300. Besides, the company also provides Mode 4/ DC charging station, which is used for rapid charging. The entire charging station network is operated by RWE EFFIZIENZ’s Infrastructure Control System. The versatility of the available products, coupled with the flexibility of and the ease-of-access to, is a testament to the customer-centric approach that RWE AG follows.

RWE AG is one of the biggest investors in renewables in Europe. Its strategy is to impart knowledge, products and services to its customers and to develop smart grids, which is very essential for promoting the growth of the electric vehicle charging infrastructure market. The business strategy executed by RWE EFFIZIENZ GMBH includes competitive pricing, along with the offer of extended services that include secure billing and single bill for electricity usage and EV charging and effective business models. RWE EFFIZIENZ GMBH has two types of business models that are used in the operation of the charging network, namely the subscription model which was introduced on the launch of charging stations and the pay-as-you-go model which was later introduced.

Subscription Model – In this type of business model, the users of the charging station need to sign an automotive electricity contract and are billed on a monthly basis, with a fixed fee and a varying component depending on their energy consumption. The main advantage of this business model is that it locks in customers who need to use the charging station frequently. This helps them to increase the return on investment faster. It also records the usage and behavior of the user, which is the most important factor for RWE EFFIZIENZ GMBH to acquire an in-depth understanding of the market. RWE EFFIZIENZ GMBH launched its operations with this business model, as it considered it to be less complex when compared to the pay-as-you-go model.

Pay-as-you-go Model – This business model is similar to the model followed by the fuel stations, where the customer will have to pay for the usage of the station at a particular time. This will open up opportunities for RWE EFFIZIENZ GMBH, as customers will have the flexibility to use the network rather than limiting the usage to a specific network or service provider.

Criterion 3: Impact on Market Share

RWE EFFIZIENZ GMBH has installed and is operating the largest network of intelligent charging station stations across Europe. By 2012, it is expected to have an installed base of 1,800 charging points across Europe. RWE EFFIZIENZ GMBH has installed charging stations across 240 cities in Germany since 2009. RWE EFFIZIENZ GMBH supplies its intelligent charging stations to the largest metropolitan project in Europe, which is known as “Amsterdam Electric”. The project aims to install 1,500 charging points in Amsterdam by 2015, out of which RWE EFFIZIENZ GMBH has already installed approximately 100 charging points and will provide up to 250 points by 2014. The tender has been shared with NUON, a key utility in Amsterdam.

In order to increase its market share in Europe, RWE EFFIZIENZ GMBH has partnered with Europe’s biggest car park operator, APCOA in 2009. About 40 local and regional European utility companies are linked to the RWE infrastructure system to provide easy access to a larger network. RWE EFFIZIENZ GMBH has been expanding aggressively beyond Germany, which is its headquarters. The company has spread across the European market, covering countries, such as Austria, Poland, the Netherlands, Switzerland, the United Kingdom and many other countries.
Criterion 4: Competitive Brand Positioning

In 2008, the Corporate Strategy Department identified E-Mobility as an industry that would place the utilities in the key position. In 2009, RWE Effizienz was founded as a wholly-owned subsidiary of RWE AG group and E-Mobility was made a part of RWE Effizienz and RWE AG has, over the years, evolved as an innovative electric power utility and a key participant in the European market for electric vehicle charging by setting a goal of installing a network of e-charging stations. RWE EFFIZIENZ GMBH has partnered with major OEMS, such as Daimler for the “e-mobility” project in Berlin which was launched in 2009 to provide electric vehicle charging solutions in the German capital. “RWE” has a high brand value in the European market and is focusing on expanding its operations to other regions within Europe. For instance, RWE EFFIZIENZ GMBH partnered with Renault-Nissan in 2010 to provide charging infrastructure for the electric vehicles sold in Germany, Austria and the Netherlands.

Criterion 5: Impact on Customer Satisfaction/Value

RWE EFFIZIENZ GMBH has built the largest network of smart and fast charging station across Europe. As of 2011, the company has installed approximately 1,000 charging points in Germany, 200 in the Netherlands, 50 in Austria and about 20 in Poland. The installed smart and intelligent charging stations enable bi-directional communication between the vehicles and the charging station to make it easy for the customers to operate. The charging station automatically authenticates the user on connecting the charging cable to the vehicle, which records the information about the charged energy volume and adds the charge to the user’s electricity bill, thereby making it convenient and cashless charging for the users. The company has developed a detailed improvement program to raise the performance indicators. RWE EFFIZIENZ GMBH values the customer requirements and understands the relation between them. It offers strong support services, such as direct customer service where the consultants can be reached in RWE EFFIZIENZ GMBH centers, telephone assistance, assistance via email and electronic service bureau, to achieve high level of customer retention.

Conclusion

RWE EFFIZIENZ GMBH has been aggressive in launching the electric vehicle solutions since 2008. The company has signed several partnership agreements with major automakers, distributors and infrastructure providers in Europe. These partnerships are playing a significant role in strengthening its presence in the European electric vehicle charging infrastructure market. All the above-mentioned factors make RWE EFFIZIENZ GMBH the worthy recipient of the 2012 Frost & Sullivan Competitive Strategy Leadership Award in the European Electric Vehicle Charging Infrastructure Market.
The CEO 360-Degree Perspective™ - Visionary Platform for Growth Strategies

The CEO 360-Degree Perspective™ model provides a clear illustration of the complex business universe in which CEOs and their management teams live today. It represents the foundation of Frost & Sullivan’s global research organization and provides the basis on which companies can gain a visionary and strategic understanding of the market. The CEO 360-Degree Perspective™ is also a “must-have” requirement for the identification and analysis of best-practice performance by industry leaders.

The CEO 360-Degree Perspective™ model enables our clients to gain a comprehensive, action-oriented understanding of market evolution and its implications for their companies’ growth strategies. As illustrated in Chart 5 below, the following six-step process outlines how our researchers and consultants embed the CEO 360-Degree Perspective™ into their analyses and recommendations.

Chart 5: How the CEO’s 360-Degree Perspective™ Model Directs Our Research
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 6: 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.