

F R O S T & S U L L I V A N

FROST & SULLIVAN BEST PRACTICES AWARD

EV CHARGING - EUROPEAN

**Competitive Strategy Innovation  
and Leadership 2019**

FROST & SULLIVAN

2019

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PRACTICES  
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Charging  
Electric  
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## Background and Company Performance

### Industry Challenges

The transition to hybrid vehicles in the early 2000s created a drastic reduction of both fuel requirements and upstream CO<sub>2</sub> emissions. Developing technologies that lead to an all-electric vehicle (EV) ecosystem promises to reduce fuel consumption, with zero fuel requirements producing minimal CO<sub>2</sub> emissions. According to research by the National Renewable Energy Laboratory, this decrease would lead to a national average reduction of 42% in CO<sub>2</sub> emissions in the USA by 2025.

Electric fueling stations are still a niche segment because of difficulties in navigating the bureaucratic red tape, along with long 'refueling' times, which typically take four to six hours longer than a conventional fuel recharge. Therefore, with the autonomy of evolving EV cars, the industry needs to shift to faster charging stations that can charge vehicles in less than 30 minutes. Audi announced its e-tron Quattro concept of a 150-kilowatt (kW) charging capacity that will be introduced in 2019, and Volkswagen announced its I.D. BUZZ by 2022, with a battery capacity of 111 kilowatt hours (kWh), thus calling for better EV charging infrastructure in the passenger segment.

Based on market potential, a range of technologies is already in place (e.g., Tesla superchargers, CHAdeMO, and a combined charging system); however, standardization is yet to be established. Participants from different verticals are now focusing on various components of EV charging infrastructure development, such as increasing dependence on renewable energy sources, implementing plug-connector standardization, upgrading EV charging equipment (EVCE), and improving efficiency in network operations.

### *Strategy Innovation and Customer Impact*

#### **Competitive Differentiation**

To exploit the technology potential, France-based DBT-CEV has strategically positioned itself as the top provider in the industry, with approx. 2,300 fast-charging stations across Europe. Currently, the company offers charging stations with up to 43 kW AC power output and DC charging stations with up to 50 kW power output for existing market models operating on-road. Moreover, these charging stations are universally compatible with DC fast-charging stations that follow a dual standard, such as combined charging system (CCs-2), CHAdeMO, and AC Type 2 plugs, to handle all kinds of EVs.

To keep up with rising demand, DBT-CEV has developed a fast charger QCNG150, which can simultaneously recharge three vehicles of any make in 15 minutes (3x 50 kW or 150 kW capacity). This solution offers three times more charging power than current fast chargers as it anticipates the arrival of new-generation EVs and adapts the performance to increasing power requirements, in line with a range of 300 to 400 kilometers (km) (186 to 249 miles) per vehicle.

Understanding the need for cleaner alternatives of energy sources as well as environmental benefits, DBT-CEV is partnering with the governments of Jordan and Abu Dhabi to install solar-powered charging stations that are powered by energy captured by solar panels (HYSEO International) and stored in Lithium-ion battery packs (NETenergy LLC), thereby allowing completely off-the-grid charging.

With the futuristic technology of inductive charging underway by major companies, such as Qualcomm, DBT-CEV is already exploring options in the field of inductive charging and electric highways by establishing strategic research and development (R&D) in the field. Moreover, DBT-CEV's Quick Charger AC-DC solution produces scalable power with installation budget control and is ideal for charging the Nissan Leaf or e-NV200, Renault Zoe, Citroën C-Zero, Mitsubishi i-MiEV, and even a Smart Fortwo (in 22 kW). In addition, this solution can simultaneously charge two EVs and is the perfect solution for electric highways.

### **Strategic Effectiveness and Strategy Execution**

DBT-CEV anticipates huge growth in the EV charging segment because of governments encouraging the adoption of EVs to develop 'greener' states and allow for ease of legislations. Therefore, the company has carried out numerous strategic R&D developments on several technologies, such as a 350-kW heavy vehicle charger, a Batteries Buffer project (stationary energy storage to avoid the risk of electricity networks' over use) in Austria with an Israeli partner, solar charging in Jordan and Abu Dhabi, and the relatively new segment of inductive charging. Recognizing the need to complement and augment the existing market, DBT-CEV has recently founded a licensed organization (Educare) specializing in training engineers and technicians dedicated to EV charging infrastructure (EVCI), thus catering to the demand for new jobs and skills.

For strategic growth, DBT-CEV has collaborated with Nissan Europe, and since 2013, the company has delivered and maintained approx. 2,300 quick chargers installed in 37 European countries. This major contract with Nissan Europe, covering its entire fleet of quick chargers in Europe, is a clear recognition by Nissan of the reliability and quality of DBT-CEV's products and services. In addition, the contract covers the installation and maintenance of the 150-kW fast charger for the new Nissan Leaf, which has been showing record sales.

### **Customer Purchase Experience**

Europe is ahead of other regions worldwide, in terms of record consumption of EVs amid the ban on diesel vehicles by 2040 under the Paris Climate Agreement. The stringent emission norms come in the wake of automobile manufacturers pledging to electrify the existing automobile industry. The European Union's (EU) regulatory bodies have already strengthened emissions requirements for diesel and petrol cars in favor of automakers switching to EVs for ease of operation, to stay in line with market sentiment. If the trend

continues, exploration in the field of electric charging will be highly fruitful for market participants.

With Europe leading the ban on diesel vehicles, SAG VIGILEC has opted for DBT-CEV to supply semi-fast charging stations, thus providing 600 charging points for 300 public roads and highways. DBT-CEV's clientele includes more than 450 active customers, such as Auchan; Autogrill; BP; EDF Energy; Eurotunnel; IKEA; Kiwi; McDonald's; Nissan; Sodetrel; and the Bordeaux, Paris, and Neuilly-sur-Seine town councils. Moreover, the company's Quick Charger AC-DC, which is compatible with any model, is trusted by many customers, such as IKEA, CORA, and Autogrill.

DBT-CEV has installed the first DC fast charger in Lebanon, in partnership with local petroleum group MedcoEnergi, compatible with existing EV models in that region. DBT-CEV has supplied charging equipment to major oil companies, including Avia, BP, and Total, and has announced a partnership with start-up Chakratec to provide EV charging solutions, along with Chakratec's patented kinetic storage, in areas with weak grid networks and power shortages, to help decrease the operational cost of EVCSs by up to 70%.

### **Brand Equity**

With France leading in the EV index for best EV infrastructure, with the installation of the most charging points, the industry demands quality and efficient service in the charging segment. As of June 30, 2017, DBT-CEV's client portfolio has grown by 28% year-over-year, from 450 to 575, thus highlighting the provider's efficiency. In addition, DBT-CEV has successfully secured a partnership with carmaker Nissan, which was an enthusiastic early advocate for these vehicles and dominates the French EV market.

DBT-CEV has built approximately 15,500 (AC) and 2,300 (DC) charging stations till date for more than 2 million EVs sold worldwide through different channels-to-market, enabling the company to provide strong forecasts of consolidated turnover growth for its fiscal year (FY), which started in July 2017. In addition, DBT-CEV has secured funding from the French government's FASEP-Innovation to develop innovative charging technologies.

Furthermore, the inauguration of the first EV solar-powered charging station in Jordan, equipped by DBT-CEV, has proved its worth, prompting the installation of more new charging points by the company, in collaboration with the city of Amman and in consortium with NETenergy and HYSEO International.

### **Performance Value**

With the commercial potential of the new fast charger QCNG150, increasing clientele, contract renewals and partnerships, and higher services activity, DBT-CEV is seeing major opportunities to grow and address market needs. The company holds a market share of

approximately 45% (for fast chargers in Europe), with the extension of services in 37 countries at an expected market growth rate of 36% from 2014 to 2023.

A turnover of €9 million for the fiscal year ending on June 30, 2017, was recorded in the wake of growing EV adoptions. With EV charging station sales growing by 11%, DBT-CEV has supplied 879 new chargers (including 285 fast chargers) to England, Spain, France, Hungary, Ireland, Italy, and Poland. Although the industry has a number of other market participants, DBT-CEV has grabbed the market opportunity by positioning the right products based on market needs and launching new products such as QCNG Compact and Ultra that are totally proprietary.

### *Conclusion*

DBT-CEV has emerged as an industry stronghold for EV charging stations across Europe by selling a high-performance, innovative range of products suited to both existing and upcoming models on the market. By addressing the industry challenges with innovation, DBT-CEV is emerging as the market leader in high-speed charging stations for EVs. In an industry that is only now picking up speed, such as EV charging, pioneering an end-to-end solution is clearly the way to help the company establish a firm competitive position.

Frost & Sullivan appreciates DBT-CEV's vision to differentiate itself as an end-to-end provider that can successfully manufacture and run a network of EV charging stations.

With its strong overall performance, DBT-CEV has earned Frost & Sullivan's 2018 Competitive Strategy Innovation and Leadership Award in the European EV charging industry.

## Significance of Competitive Strategy Innovation and Leadership

Any successful approach to achieving top-line growth must (1) take into account what competitors are, and are not, doing; (2) meet customer demand with a comprehensive, value-driven product or service portfolio; and (3) establish a brand that resonates deeply with customers and stands apart from other providers. Companies must succeed in these three areas—brand, demand, and positioning—to achieve best-practice levels in competitive strategy.



## Understanding Competitive Strategy Innovation and Leadership

As discussed above, driving demand, brand strength, and competitive differentiation all play a critical role in delivering unique value to customers. This three-fold focus, however, must ideally be complemented by an equally rigorous focus on Strategy Innovation and Customer Impact.

## *Key Benchmarking Criteria*

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

### *Strategy Innovation*

#### **Criterion 1: Strategy Effectiveness**

Requirement: Strategy effectively balances short-term performance needs with long-term aspirations and vision for the company.

#### **Criterion 2: Strategy Execution**

Requirement: Adoption of best-in-class processes supports the efficient and consistent implementation of business strategy.

#### **Criterion 3: Competitive Differentiation**

Requirement: Unique competitive advantages with regard to solution or product are clearly articulated and well accepted within the industry.

#### **Criterion 4: Executive Team Alignment**

Requirement: The executive team is aligned along the organization's mission, vision, strategy, and execution.

#### **Criterion 5: Stakeholder Integration**

Requirement: Strategy reflects the needs or circumstances of all industry stakeholders, including competitors, customers, investors, and employees.

### *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.



## 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 <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 recipient</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

