For more than 150 years

Technology and financing from a single source

A remarkable success story
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From its very first days in business, Siemens has been one of the world’s leading providers of technology, introducing revolutionary innovations to the market throughout its history. This is a well-known fact. But there is another fact about the Company that may not be so well known: Siemens supported and advanced its technological achievements with innovative financial solutions. This brochure provides an in-depth look at this side of Siemens’ business. The publication shows how closely the areas of technology and financing were interwoven at Siemens from the beginning and how deeply Werner von Siemens and his brothers themselves were involved in the issue.

In 1997, the Company’s global financial know-how was brought under the umbrella of Siemens Financial Services. By taking this step, Siemens made it possible for technology and financing to be delivered from a single source – to support the four Sectors Energy, Healthcare, Industry and Infrastructure & Cities. Just as the Company’s founders did roughly 150 years ago, we ensure that every project has solid, sustainable financing. The maxim of Werner von Siemens is just as true today as it was in the beginning: ‘I will not sell the future for short-term gain!’

At SFS, we consider ourselves to be co-entrepreneurs and assume a portion of the risk related to long-term infrastructure projects. This is precisely the approach that the Siemens brothers took in the 19th century when they put up their own capital in order to carry out projects that helped bring electricity to Russia and erect international telegraph lines, among other activities. Technology and financing simply go hand in hand at Siemens – and it has been that way for more than 150 years now.”

Foreword

Roland Chalons-Browne
CEO of Siemens Financial Services
“If you deliver the best, you’ll remain at the top, and I always prefer publicity through performance to an image based on words.”

Werner von Siemens
to the Siemens & Halske representative E. Rau
in Brussels, on January 18, 1876

Limited government funding, risk-averse banks and protesting residents. The parallels between today and the construction of Berlin’s elevated and underground railway systems before 1900 are unmistakable. In technical terms, the electrical railway became a functional reality in 1879. But hardly anyone was willing to put money into the new infrastructure, particularly given the outcry coming from some residents. In cities like Berlin, where elevated railways became the solution of choice as a result of the area’s challenging soil conditions, officials initially refused to issue construction permits and operating licenses for such railways, citing potential noise issues and the shadows that would be cast over residential streets.

Finally, in 1896, Siemens achieved a breakthrough with a plan for a three-line network. In the wake of Berlin’s transformation into Germany’s largest industrial center, it was impossible to overlook the need to bring the city’s public transportation system up to the latest standards. To create a broad financial basis for this major project, Siemens joined forces with Deutsche Bank and set up a company called “Hochbahngesellschaft,” or the Elevated Railway Company, a year later. This company then built the railroad system, at times above ground and at times below ground as a way of allaying the persisting protests about the noise. On February 15, 1902, the first line finally went into operation.

Groundbreaking work: Siemens developed, operated and financed the power-generation station in Moscow – the largest of its kind in Eastern Europe (1898)

With Siemens’ technology and capital, the first line of Berlin’s elevated and underground railway went into operation in 1902

A remarkable success story
Technology and financing from a single source
Russia glows

Project description

Before the first public power station was erected in Manhattan in 1882, many major cities were bathed in electrical light by the turn of the century. Siemens assumed a pioneering role in Russia, among other countries. Carl von Siemens founded the “Gesellschaft für elektrische Beleuchtung vom Jahre 1886,” or the Company for Electrical Light, established in 1886, in St. Petersburg. The company was awarded the license to set up and operate power plants throughout the Russian Empire. In the process, it played a major role in the electrification of Russia.

Technical solution

Siemens did not assume a leading technical role in the lighting market at the end of the 19th century. The Company focused on refining the arc lamp and used it for the first time in 1879 to illuminate the Berlin boulevard Unter den Linden. But the light bulb developed by Thomas Edison lasted longer, cost less to manufacture and was easier for private individuals to use. Emil Rathenau gained the German market’s rights for this bulb. He then established the “Deutsche Edison-Gesellschaft,” or German Edison Company, and had set up 27 power stations by the mid-1880s to operate street lights. The combination of production, operation and financing won over Carl von Siemens – and, finally, his brother.

Financing solution

As a result of the opportunities available on the Russian market, the founding generation of Siemens took on a large portion of the financial risk at the light company. The start-up capital of the new company totaled 1 million rubles. Carl von Siemens held around 80 percent of the 2,000 shares. In other markets, and particularly in Germany, the skepticism of his brother Werner prevented Siemens from moving too far beyond the Company’s core business as a technology supplier and evolving into an energy provider, as some competitors had done. In Russia, the risk appetite paid off. The light company expanded rapidly, built power stations in a number of Russian cities and turned a profit each year, with the exception of 1913.

Challenge

Like many countries, demand for electrical street-lighting was not especially strong in Russia in the beginning, particularly because cities already had gas-fired lamps. Siemens gained an ally in the czar himself, an enthusiastic backer of technology, after the Company installed an electrical system in his Winter Palace. The traditional winter ball held there in January 1887 was illuminated by 12,000 light bulbs. A short time later, Siemens was granted the desired lighting license and, for the first time, undertook the financing and operation of major infrastructure projects in the heavy-current market.

Innovative technologies require intelligent financial solutions

Technology and financing from a single source: This formula for success is not just a major factor today. It has also played a key role throughout Siemens’ history. Time and time again, the Company has laid the groundwork for cutting-edge technology, particularly in the area of infrastructure, by providing solid, long-term financing. This combination cleared the way for electric streetcars and subways, the intercontinental telegraph and, most recently, the construction of power plants in emerging countries and power generation from renewable energy sources. The overriding principle in this work is: The tougher the situation on the capital market and the faster technological progress, the more the Company is called to act as both a supplier of technology and a financial service provider.

In such situations, Siemens does not squeeze out traditional lending institutions. Rather, the Company partners with all other market players to find the right financial solutions. Depending on the situation, these solutions can include a public-private partnership, an operating company, a concessionaire relationship, an equity participa-

tion, the arrangement of outside financing or an interme-
diary role between supply and demand. No matter which role is being played, Siemens follows the lead of its founder Werner von Siemens: “I will not sell the future for short-term gain!”

The tougher the business environment, the greater the importance of the Company’s own financial expertise

This precept has been the cornerstone of Siemens’ business activities ever since 1847, when the Company was established under the name Siemens & Halske. At the time, the telegraph was on the verge of revolutionizing worldwide communications. In 1846, Werner von Siemens made a pioneering discovery, which he described this way: “My telegraph needs just one line, can be played like a piano by using its keys and reliably works at such a speed that you can telegraph nearly as fast as you can press the keys.” Public-sector customers quickly recognized the tremendous potential of electrical communications and filled the Company’s order books. Acting as an advisory member of the Prussian Telegraph Commission, Werner von Siemens himself laid the groundwork for this business. When the Company was able to transmit the news that King Frederick William IV of Prussia had been named Germany’s hereditary emperor in the St. Paul’s Church of Frankfurt to Berlin within an hour, all doors swung open for him in the capital. But the willingness of Prussia and other states to invest in the technology stopped at their state lines.

Electricity generation in Russia

(Units of billions of kWh)

<table>
<thead>
<tr>
<th>Year</th>
<th>Value</th>
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<tbody>
<tr>
<td>1913</td>
<td></td>
</tr>
<tr>
<td>2011</td>
<td>1.052</td>
</tr>
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* Start of the light company: Using its own technology and capital, Siemens played a major role in the electrification of Russia.

Carl von Siemens on the establishment of the light company

“Hopefully, we will create the embryo of a great, powerful society.”

The tough business environment, the greater the importance of the Company’s own financial expertise...
Berlin becomes mobile

In February 1902, Germany’s first elevated and underground railways were ceremoniously put into service in Berlin. Following London (1863), Budapest (1896), Glasgow (1897) and Paris (1900), the German capital became the fifth European city to have an electric subway.

In March 1896, Siemens received a 90-year license to build an electric elevated railway in February 1902. Siemens received a 90-year license to operate one of the first partial lines between the Warnow Bridge and Nollendorf Square. By fall 1913, the elevated and under-ground railroad network had grown to more than 35 kilometers and become a central transport link – by 1903, the number of passengers had already reached 29 million.

**Technical solutions**

Directly after discovering the potential uses of the dynamoelectric principle for vehicles, Werner von Siemens wanted to use the discovery for transportation purposes as well. In 1879, the company publicly displayed an electric locomotive for the first time at the Great Industrial Exposition of Berlin and sent a surge of excitement through the crowds attending the fair. About 90,000 visitors went for a ride on the 300-meter circular track built on the exposition’s ground. Because the power was supplied by a center rail on the ground, most cities refused to approve the technology for safety reasons. In the mid-1880s, an American researcher developed an alternative, but more complicated, system using overhead contact wires. In 1889, Siemens discovered that electricity could also be transported by using a simple and safe bow contact, a realization that helped produce a breakthrough for electric streetcars – the days of the horse-drawn rail ways began to draw to a close.

**Financing solution**

A year after receiving the license, Siemens put this major project on a broader foundation in April 1897 and set up the “Gesellschaft für elektrische Hoch- und Untergrundbahnen,” or Elevated and Underground Railway Company, in Berlin in partnership with the Deutsche Bank. The equity capital of this company, which took over the licenses awarded to Siemens in the past, totaled 12.5 million German marks. This financial cushion made a number of things possible. Among them, the company was able to respond to the desires of the well-off residents of the Charlottenburg district and turn the planned elevated rail line running to the west into an underground system – the Berlin subway was born.

**Challenge**

It took 35 years before Werner von Siemens’ first ideas for an electric streetcar could become a reality. After overcoming the technical problems, Siemens submitted his first application to build an elevated railway in February 1880 to the Berlin police headquarters that was responsible for the license. Officials refused to issue the license, citing residents’ protests. But Siemens did not give up. It altered the line, drew up plans for additional lines and finally received the license to build and operate an elevated railway after 16 years.

Elevated and Underground Railway Company, in Berlin in partnership with the Deutsche Bank. The equity capital of this company, which took over the licenses awarded to Siemens in the past, totaled 12.5 million German marks. This financial cushion made a number of things possible. Among them, the company was able to respond to the desires of the well-off residents of the Charlottenburg district and turn the planned elevated rail line running to the west into an underground system – the Berlin subway was born.

**Annual passenger totals**

<table>
<thead>
<tr>
<th>Year</th>
<th>Passengers (in millions)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1903</td>
<td>29</td>
</tr>
<tr>
<td>2012</td>
<td>507</td>
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After financial negotiations being conducted with major banks about the London–Calcutta line broke down, the Siemens brothers established the Indo-European Telegraph Company (IET) in April 1868. They contributed both their licenses and technical know-how and held a 20 percent stake in the company’s capital. The remaining 80 percent was split evenly between England and the continent. During an opening ceremony held two years later, William Siemens publicly demonstrated how a telegram could be exchanged back and forth within an hour over the 11,000-kilometer line. In so doing, he laid the foundation for the decades-long success of IET.

In the years that followed, the brothers expanded their international cable-laying operations for the telegraph. In 1874, for instance, the Direct United States Telegraph Company succeeded in laying a transatlantic cable that originated at the British branch location. In this business activity, the Siemens brothers risked not only their capital, but also their lives: They personally watched the cable be laid between the Irish coast and Newfoundland from their perch aboard the Faraday, a cable steamship developed by William Siemens – all the way across the stormy Atlantic.

A difficult start to the electric industry

While the drive to introduce the telegram was able to count on the public sector to provide the necessary financial support at least on the national level, the electric industry had to rely on innovative financial solutions from Day One. This industry was born in 1866 when Werner von Siemens discovered the dynamoelectric principle. By about 1878, the work had progressed to such an extent that using electricity to illuminate streets and homes as well as power electric trains had become a real possibility.

**At their own risk, the Siemens brothers had international tele-graph lines laid and made their technology a global business**

**“To build rail lines built on iron pillars that run through the streets of Berlin and to power the trains electrically.”**

Werner von Siemens, 1867

**Know-how and capital for a cable running from London to Calcutta**

International communication offered tremendous oppor-tunities. Following drawn-out negotiations, Siemens finally had all of the licenses it needed in 1868 to build and operate a telegraph line between London and Calcutta at its own risk. It was a tremendously risky under-taking, particularly when you consider that the line had to run through the Russian Empire, which was aggressively expanding to the south, and a weakened Persia. Siemens had acquired its first taste of Russia in 1852. Just five years after being established, the Company led by Carl von Siemens gained a foothold in the market there and intensely worked to string the telegraph line between Moscow and Sevastopol following the outbreak of the Crimean War. By the time the line was completed, the only news being transmitted was the fall of the city.

**International communication offered tremendous oppor-tunities. Following drawn-out negotiations, Siemens finally had all of the licenses it needed in 1868 to build and operate a telegraph line between London and Calcutta at its own risk. It was a tremendously risky under-taking, particularly when you consider that the line had to run through the Russian Empire, which was aggressively expanding to the south, and a weakened Persia. Siemens had acquired its first taste of Russia in 1852. Just five years after being established, the Company led by Carl von Siemens gained a foothold in the market there and intensely worked to string the telegraph line between Moscow and Sevastopol following the outbreak of the Crimean War. By the time the line was completed, the only news being transmitted was the fall of the city.**
Tourism magnet from the 1960s: The museums near Potsdamer Platz are among Berlin’s most popular attractions.

Berlin saves energy

Project description

The Kulturforum Potsdamer Platz in Berlin is an internationally recognized complex of museums built in the 1960s. In addition to the Philharmonie concert hall and the Chamber Music Hall, the site is also home to the New National Gallery and the New State Library. The newest facility at the site, the New Old Masters’ Gallery, opened in 1998. New buildings will be only conservatively added in the future and adapted to the overall plan developed in 1964 by the architect Hans Scharoun. The cultural forum is one of Berlin’s most important tourist attractions.

Technical solution

Working with Siemens engineers, SFS devised a customized solution under which the financing, planning, technical equipment, services and installation of the ventilation and air-conditioning systems could be provided by a single source. As a result, energy costs generated in 2008 were nearly 50 percent below their 2003 levels. Thanks to further improvements, CO₂ emissions were reduced by 7,000 tons during the same year.

Financing solution

Together with Siemens and other partners, SFS developed an energy-performance contracting model. Under this plan, financial investments are refinanced from the contractually guaranteed energy and operating-cost savings over a period of 10 years. It was only this innovative structure and the linkage of financial and technological know-how that enabled the urgently needed upgrading work in the buildings to be carried out without having to seek additional funding from the budgets of the agencies that oversee the facilities.

Challenge

The building operating systems in the New National Gallery and six other buildings had to undergo urgent energy-efficiency renovation and modernization work. But the necessary funding had not been earmarked in the financial planning of the agencies that oversee the structures, the Prussian Cultural Heritage Foundation and Berlin State Museums.

In the beginning, the electrical industry built, operated and financed power plants because municipalities were reluctant to do so

Cities were reluctant to award contracts that would bring electrification to their horse-drawn rail lines and their gas-fired streetlamp systems. They were frightened off by the high investment costs. In the beginning, there was also a dearth of reports regarding people’s experience with these new systems, information that could be used to calculate the commercial risk. Much weight was given to this particular aspect because a number of untested technologies were competing for the first contracts. One of the many unanswered questions was whether alternating or direct current should be used. Added to this was one other fact: Local gasworks were frequently run by the cities themselves or by concessionaires. Few of them were interested in bringing in a competitor.

The birth of the entrepreneurial business

For this reason, the fledgling members of the electric industry had to take unconventional marketing approaches. In addition to construction, they took on the financing and operation of electric power plants. As a result, they provided new technologies at their own expense as a way of awakening the presumed demand. One example of this approach was the “Unternehmergeellschaft,” or entrepreneurial business, born. Werner von Siemens was skeptical about the new development. “Supply operations create a solid foundation for a long-range business, while entrepreneurial businesses pay off only amid particularly promising opportunities.”

Siemens could not and had no intention of completely following this trend, particularly because it was not only using the dynamoelectric principle to produce power, but was also continuously expanding its range of services. Together with German, Swiss and Austrian banks, the Company established the “Schweizerische Gesellschaft für elektrische Industrie” (Indelec), the Swiss Company for the Electric Industry, in 1896 in Basel. Although Siemens held only a 1 percent stake in the company, Indelec quickly became the primary bank of the Siemens business group. At the same time, “Siemens Elektrische Betriebe GmbH” (SÈB) was established in Berlin as the operating company of electric power plants. Here, too, Siemens held just a 1 percent stake. Most of the shares were held by Indelec. This company, however, had pledged to give all SÈB contracts to Siemens. In exchange, Siemens provided SÈB with preferred status in the issuance of concessions.

Compared with such competitors as AEG and Kummert-Werke, Siemens was cautious during the height of Germany’s electrification phase at the turn of the century. Siemens took on the full commercial risks only in Russia with the lighting company established in 1886.
London rolls more efficiently

Project description

Thameslink is a 225-kilometer-long British rail line with 50 stops along the way. The north-south line runs from Bedford to London and then on to Brighton. In recent years, ridership on the line has risen steeply. Today, more than 40 million people are being transported each year. In Great Britain, more than 350 trains cover over 80 million kilometers annually.

Challenge

To be able to rapidly and comfortably transport the constantly rising number of passengers in the London metropolitan area, developers had to create a rail vehicle that could carry a very large number of people and also reduce wear and tear. In addition, the amount of energy used by the rail vehicles was to be measurably reduced. To meet these demands, Siemens developed a new rail vehicle called the Desiro City.

Technical solution

The new Desiro City for commuter, regional and interregional use in Great Britain can transport up to 25 percent more passengers than the previous model thanks to improved interior partitioning. The number of seats and the seat spacing can be changed depending on the particular need and area of use. As a result, the new train generation offers considerably more comfort and much greater flexibility. Vehicle developers focused in particular on ease of maintenance. In 2016, Siemens will begin to deliver 1,140 regional train cars worth 1.8 billion euros to London. The eight- and 12-section rail vehicles will begin to be built in the German city of Kiel in 2014.

Financing solution

The Thameslink Rolling Stock Programme is a public-private partnership (PPP) between the Department for Transport and the project consortium Cross London Trains (XLT), which Siemens oversees as consortium leader. Along with two partners, SFS acts as an equal shareholder in the 177 million British pounds equity of XLT. In addition to the production and maintenance of the trains, the Thameslink Rolling Stock Programme includes an agreement to build and finance two maintenance depots at Hornsey and Three Bridges. Besides acting as an arranger of capital, SFS plays a major role in the overall project financing by serving as an adviser and a developer. In addition to a consortium of 19 banks led by SMBC, BTMU, Lloyds and KfW IPEX, the European Investment Bank is an important lender.

* Financial close on June 27, 2013

The Thameslink agreement covering the delivery and maintenance of 1,140 regional train cars was signed on June 27, 2013.

2013

Train passengers in Great Britain [in billions]

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<thead>
<tr>
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<td>1.2</td>
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<tr>
<td>1982</td>
<td>0.6</td>
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Thanks to its solid financing, Siemens emerged as a winner from the electric crisis of 1901 to 1903

The time of this circumspectly managed company arrived at the beginning of the 20th century. The market for municipal electricity production had reached its initial saturation level within just a few years. In particular, those providers with low levels of capital ran into trouble, especially when they were confronted by massive pay raises and demands for higher fees from municipalities. The consequence: The so-called electric crisis between 1901 and 1903 led to many bankruptcies.

In general, only two financially sound providers emerged from this concentration and merger process: AEG and Siemens. Both had focused more closely on returns during the planning phase of their projects than their competitors had, and both were comparatively well positioned internationally. As a result, they became Germany’s second- and third-largest industrial companies, with consolidated assets of more than 470 million German marks and 455 million German marks at Siemens. Their portfolios continued to include many financing companies. But these industrial giants were sufficiently protected by the strength of their consolidated balance sheets and the issuance of securities.

A new area for financial experts: the telephone

The outbreak of World War I took Siemens as well as the entire electric industry completely by surprise. Markets collapsed, and most international subsidiaries were expropriated. During the early postwar period, the primary goals were to reorganize production and reestablish international business operations.

*By combining cutting-edge technologies and innovative financing solutions, the project underscores Siemens’ ability to carry out major infrastructure projects under challenging market conditions.*

Roland Chalons-Browne, CEO of Siemens Financial Services
The new Bendigo Hospital is being financed as part of a public-private partnership (PPP). The government of Victoria commissioned the consortium consisting of Siemens Financial Services and Land Lease concluded negotiations for financing a new 372-bed comprehensive hospital. With this project, Siemens is expected to be involved in the public-private partnership and shoulders a significant share of the project financing.

**Technical solution**

Siemens involvement in the public-private partnership also paves the way for working closely with Bendigo Hospital on a range of cutting-edge technologies. After all, a new hospital will be built and include state-of-the-art operating rooms, an integrated cancer center, a radiation therapy system, a psychiatry unit with inpatient treatment and a helicopter landing pad. In the contract award process, a cost-benefit model was applied that went far beyond just selecting the least-expensive bid and instead focused on the actual additional benefits of the respective infrastructure.

**Financing solution**

The government of Victoria commissioned the consortium, in which SFS holds a stake through Exemplar Health, to perform the planning, construction, maintenance and financing of the new Bendigo Hospital as part of a PPP. The overall contract totals 630 million Australian dollars. An integral member of the consortium, Siemens is investing 50 percent of the project’s equity and participating in the senior debt. This level of commitment demonstrates the immense importance that Siemens attaches to this project and the Healthcare Sector.

**Challenge**

The new hospital will address demand for additional healthcare services in Bendigo and the Loddon-Mallee region. At the same time, the new Bendigo Hospital will serve as an attractive employer to retain qualified medical staff throughout the greater regional area – just like John Flynn.

**Project description**

John Flynn, founder of the world’s first airborne medical service, was born in 1880 in Bendigo, Australia. Located about 150 kilometers from Melbourne, Bendigo is also where a consortium consisting of Siemens Financial Services and Land Lease concluded negotiations for financing a new 372-bed comprehensive hospital. With this project, Siemens is expected to make a significant contribution to the expansion of the region’s healthcare infrastructure and ensuring the broad provision of help throughout the greater regional area – just like John Flynn.

**Siemens is an experienced partner for large-scale projects. We can bring enormous value to the consortium by offering a combination of financial and technology know-how as well as a sound understanding of hospital processes.**

Jeff Connolly, CEO of Siemens Australia

The new Bendigo Hospital is an important healthcare facility for the region and reconfirms Siemens’ status as a preferred partner to build major healthcare facilities in Australia. We supported this project with a tailored financial package with equity and loans.

Anthony Casciano, CEO of Project, Structured and Leveraged Finance Healthcare, Siemens Financial Services

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**Victoria gets healthier**

**2013**

Financial close on May 29, 2013

**AUSTRALIA, BENDIGO**

Siemens is involved in the financing and construction of a state-of-the-art hospital near Melbourne

Population of Victoria

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<tr>
<td>1901</td>
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The economic upswing of the 1920s ended with the onset of the world economic crisis in 1929. Thanks to its far-reaching international presence and comprehensive service portfolio, Siemens fared rather well in comparison with its primary competitors. But after the National Socialists seized power in Germany in January 1933, business conditions changed dramatically. Starting in 1936, growing government demand along with involvement in war preparations and the transition to the war economy fueled sales at Siemens in Germany. Governments elsewhere also began to play a stronger role in the economy as well as in its financing. With Germany’s political, military and economic collapse in 1945, Siemens lost four-fifths of its total assets and most of its international business.

**Reconstruction with government funding**

After 1945, Siemens, like all German companies, had to reinvent itself. It quickly became clear that the volume of major infrastructure projects would rise. These major projects were financed in Germany and other European countries primarily by loans provided from the European Recovery Program (ERP). In the 1950s, Siemens was once again able to acquire prestigious projects overseas, including a steam power plant in San Nicolás, Argentina, and a steel mill in India. Here, too, Siemens was primarily seen as a technology provider, with financing derived from public and private sources.

**Using its own technology and its own capital, Siemens built telephone networks in emerging countries**
The North Sea becomes a powerhouse

Project description

Butendiek is the second offshore wind power plant in Germany for which Siemens is providing both the technology and portions of the financing. The power plant is being built near the German-Danish border about 32 kilometers west of the German island of Sylt. When it goes online, it will supply some 370,000 households – about the equivalent of the city of Frankfurt – with eco-friendly electricity. With this project, Siemens continues to expand its environmental portfolio and underscore the importance of this business area to the Company.

Challenge

Butendiek is one of the most attractive offshore wind power plant projects in the North Sea due to its location. But because the project had a very tight time schedule for construction and operation, its financing had to be in place within a few months. With an overall project volume of 1.3 billion euros, the efforts of the project’s close cooperation among everyone involved. A viable solution was found despite the enormous time pressure.

Technical solution

The 80 wind turbines built by Siemens each have a capacity of 3.6 megawatts and a rotor diameter of 120 meters. They are being erected across an area of 42 square kilometers in waters measuring about 20 meters deep. Siemens is also offering a comprehensive service package to ensure maximum exploitation of the wind farm’s power potential. The package includes remote monitoring and diagnostic solutions coupled with state-of-the-art weather forecasting techniques. This approach facilitates anticipatory service planning so maintenance work can be performed within a suitable timeframe as part of a bundled package. A further technical feature of this project is the development of a special logistics concept. The service technicians responsible for the Butendiek project will live and work on a specially designed ship, the service operation vessel.

Financing solution

The financing was carried out in a two-step process. Siemens Financial Services joined four partners to invest in excess of 431 million euros – more than one-third of the project investment volume – in a project company. Siemens Financial Services itself holds a 22.5 percent stake in the company. A consortium of nine international commercial banks provided the remaining financing. All complex contracts were worked out within a few months.

“Wind energy can make a major contribution to ensuring electrical power supply. To do so, however, wind turbines must be reliable and work at maximum output. This holds true on land just as it does under the harsh conditions at sea. Our experienced service technicians and intelligent maintenance concepts help reliably maintain wind turbine performance over the entire estimated service life of these units – for up to 25 years.”

Randy Zwirn, CEO of the Service Division from Siemens Financial Services

Siemens’ share of equity in each project company totaled from 10 percent to 50 percent. Emerging and developing countries in particular considered supplier involvement a good opportunity to use private capital to accelerate the pace of expanding the power supply. In selecting power plant projects, Siemens applied the same approach it used a century earlier with the electrification of Germany and neighboring countries and was careful to finance only economically viable, lower-risk projects. As a result, the Company profited from both the revenues produced by the construction work itself as well as the ongoing operation.

In subsequent years, this finance knowledge was especially needed in the capital-intensive area of power plant construction. In 1995, Siemens was involved in 12 projects with a total output of 6,000 megawatts and an investment volume of more than 8 billion U.S. dollars. These projects were carried out in countries such as Portugal, India and the United States. Thanks to Siemens’ participation in two major coal-fired power plant projects in China, the Company also effectively gained a foothold in a market that would soon develop into the fastest growing in the world.

In growth markets like China and India, Siemens was involved in the financing of large power plants at an early stage

Siemens’ share of equity in each project company totaled from 10 percent to 50 percent. Emerging and developing countries in particular considered supplier involvement a good opportunity to use private capital to accelerate the pace of expanding the power supply. In selecting power plant projects, Siemens applied the same approach it used a century earlier with the electrification of Germany and neighboring countries and was careful to finance only economically viable, lower-risk projects. As a result, the Company profited from both the revenues produced by the construction work itself as well as the ongoing operation.

In 1994, Siemens bundled the growing energy sector financing business in Siemens Project Ventures. Siemens had already created its own companies to address specific areas like venture capital in order to respond to the increasing demand for intelligent financing solutions.
The first company was created in 1972 as a joint venture of Siemens, Deutsche Bank and Dresdner Bank: the "Gesellschaft für die Vermietung von Datenverarbeitungsanlagen," the Company for the Leasing of Data-Processing Systems, from which Siemens Finance & Leasing later emerged.

With electronic data processing, a completely new business sector was created, and leasing provided a new form of financing that helped customers enter the IT age – as it often did, Siemens was among the pioneers of technology and financing.

Siemens Financial Services aims for growth
In 1997, the Group decided to bundle its global financial expertise and to make Siemens Financial Services (SFS) the central contact for all divisions and national companies. Demand for the bundled know-how has been growing: Particularly since the onset of the global financial crisis in 2008, the need for intelligent financial solutions has expanded. Within just five years, SFS’s assets climbed from 11.3 billion euros to 17.4 billion euros. The number of employees rose from nearly 1,000 to more than 2,900 at the end of 2012. Like the world’s economy, the importance of emerging countries and particularly the BRIC nations has increased. SFS now has its own teams in Russia, India and China and is continuing a long tradition in Russia by financing new infrastructure. Several reference projects have also been carried out in China and India.

Interesting opportunities are also being found in Germany. The country’s energy revolution requires enormous investments to be made in new forms of energy production, transmission and distribution. In this area, Siemens is once again assuming an entrepreneurial risk. As one of the showcase projects for the next generation of wind power production, the offshore wind farm in Butendiek, the Company is supplying both the technology and the right financial solution. For this purpose, SFS joined four partners in setting up a project company and then persuaded a consortium of nine international banks to provide most of the 1.3 billion euros in capital required by the project.

This success does not just demonstrate that investors are still prepared to put money into infrastructure projects when the risk-return profile is promising. It also highlights the central role that technology suppliers and their own financial divisions can play: They supply integrated financial know-how, provide capital and create the necessary trust. This is just as true today as it was for the financing of international telegraph lines after 1860. Technology leadership and financial expertise simply belong together.
What is more important to SFS as a financial service provider: continuity or innovation? Both are important. Ever since SFS was established in 1997, we have always tried to design and refine our financial services and products in a way that enables them to meet the needs of current business conditions and the investments to be financed. The positive growth of SFS clearly demonstrates that this was the correct approach to take.

How important is SFS’s partnership with your parent company, Siemens? As the Group’s financial institution, SFS pursues three strategic goals: First, to support the parent company’s business. Second, to contribute to consolidated net income as a profitable unit. And, third, to manage Siemens’ financial risks. But we can reach these goals only if we work closely together with the Siemens Sectors.

Thanks to our strong relationship with the Company’s engineers, we gain a deep understanding about technology and can develop a very precise estimate about current and new technologies as well as about financing options and risks. As a result, we have the opportunity to employ new business models in areas like managed services for hospitals and public-private partnerships in infrastructure projects. This creates a clear competitive edge for Siemens as a whole.

How much do the Siemens Sectors profit from SFS? One of SFS’s main jobs is to be a pacesetter in project financing and to play the role of a catalyst. This means one thing: We want to send positive signals to the market as a way of identifying potentially new market players for joint projects. But to gain this external support, we must show that we believe deeply in our own technology. This requires a long-term financial investment by Siemens. For this reason as well, we increasingly complement the parent company’s expertise with integrated financial know-how. One good example of this is the Meerwind offshore wind farm that was financed by the private-equity investor Blackstone with the support of Siemens.

What impact does this double function have on the working relationship with other financial service providers? We work very closely and successfully with a number of banks. This relationship was intensified in 2010 with the establishment of Siemens Bank. We have seen that new models for risk sharing among individual financial service providers have been developed in such areas as infrastructure investments. If banks act as the main lenders during the construction phase of such projects, the issuance of bonds to institutional investors significantly increases during the phase of follow-up financing. As a result, risk analysis and the available risk-management capacities are becoming increasingly important. All project participants must decide for themselves about the extent of their individual commitment.

What will fuel SFS’s success in the future? Collaboration is the most critical success factor. SFS works with a number of partners: ranging from major multinational companies and small and midsized enterprises to government agencies and financial institutions. Our job is to bring all of these partners together in order to make projects possible. In spite of our name, we do not always just play the role of financial service provider or liquidity provider. Participation by SFS represents risk-sensitive, responsible action. As a result, all participants can develop the trust that is so essential for successful collaboration.
“The earned money would burn in my hands like red-hot iron if I did not give the expected share to my loyal employees.”

Werner von Siemens to his brother Carl, on June 16, 1868
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Publisher:
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Status (unless stated otherwise):
August 2013

www.siemens.com/finance