With almost eight million inhabitants, London is western Europe’s largest city.

London is at the heart of world business and globalization. By applying our innovative technology solutions, the city is in a better place to tackle the challenges it faces in its drive to achieve a sustainable future.

www.siemens.com/ar/london
Making London livable for everyone

Meeting point: City Hall, London, July 13, 2011, 12:30 p.m.

On a walk through central London, city representative Martin Powell and our City Account Manager Kevin Worster take stock of the challenges facing the huge city and the opportunities for improving the lives of its inhabitants through sustainable infrastructure solutions.

Siemens has been active in London for almost two hundred years, helping the city stay abreast of rapid growth and address the questions of the future – with answers that Siemens is already providing today.

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> Martin Powell (left)
> Martin Powell is responsible for climate change projects at the London Development Agency. The agency, which reports directly to the mayor, aims to ensure that the city’s economic growth is sustainable. Powell was formerly head of project management at Network Rail, the owner and operator of most of the rail infrastructure in the UK.

>> Kevin Worster (right)
> Kevin Worster has been Siemens’ City Account Manager in London since October 2009. His job is to drive innovation and thought leadership and leverage our entire portfolio to help master the city’s key challenges. In his thirteen years at Siemens, Worster has held a number of management positions.

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Kevin Worster

Martin, what is your idea of a sustainable city?

Martin Powell

A sustainable city is one that combines all of its various strategies together on water, energy, waste and transport, so that you have a single, holistic approach to tackle your urban challenges. I might add that in striving to achieve this, it is extremely helpful to have a single point of contact at our industry partners, such as Siemens has established with the City Account Management.
Kevin Worster

I’m glad to hear that. It always takes an effort to create such a role in a large and diversified organization. At Siemens, we believe that we need to become involved very early in any decision-making process for urban infrastructure, and the master-planning phase. This is where urban planners and architects today make important decisions determining the way ahead.

Martin Powell

That is certainly true. It’s where we need to balance political ideas with technological options and budget constraints. In this kind of discussion, solutions expertise and innovation as provided by a large-scale industrial partner are key, but it is equally important that our partner can make quick and informed decisions of its own.

Kevin Worster

“We need to become involved very early in any decision-making process for urban infrastructure.”
Clinicians at Queen’s Hospital scanned 13,340 patients last year using Siemens’ SOMATOM Sensation CT system – a testimony to the growing need for early diagnostic imaging and the technology’s increasing importance.

13,340 patients
With a capacity of 630 megawatts, the London Array will be the world’s largest offshore wind farm. Not only are we supplying, installing and commissioning the facility’s 175 wind turbines; we’ll also be maintaining them under a five-year service agreement.

630 megawatts
Kevin Worster

Given that sustainability is also about changing people’s lifestyles, is there anything a company like Siemens can do to help make that happen?

Martin Powell

I think it’s about hearts and minds, and certainly Siemens is doing that in terms of the Crystal, the urban sustainability center here in London, to get a clear message out about what we all can do to improve sustainability and to improve lives within the city. Building the Siemens center and getting it up and running has been pretty impressive.

Kevin Worster

Absolutely. I think the fact that it took just six months from idea to inception for the center, six months, was a bit of a benchmark in London. It was a very fast-track program.

Martin Powell

“A sustainable city is one that combines all of its various strategies together on water, energy, waste and transport, so that you have a single, holistic approach to tackle your urban challenges.”
There were a lot of parties that we had to convince and get on board. We worked quite closely together to do that. That was really good and underlines the reliable relationship between the city and Siemens. Let me add: I think the work we’ve done together on electric vehicles also could bear some interesting fruit.

I guess now what we need to do is maintain momentum. One challenge is air quality in London, certainly looking at emissions from buses. Some of the city’s buses now have Siemens technology, but the main challenge is that there’s a time limit on the things we really want to bring out for 2012. We’re working in close partnership with the Greater London Authority and the London Development Agency in terms of policy to make sure that things can happen.

Beyond transport, the bigger challenge is to get London onto the path to a low-carbon economy. By 2025, we want to cut our CO₂ emissions by 60% compared to 1990. That involves changing people’s minds and lifestyles, which isn’t always easy, but Siemens has been a great partner in giving people a perspective on what’s feasible and desirable while not losing the present quality of life.

“Siemens has been a great partner in giving people a perspective on what’s feasible and desirable.”
The Heathrow Express carries an average of 16,000 passengers a day. Comprising 14 Desiro 332 electric trains, the rail link features extremely comfortable, air-conditioned cars equipped with TV monitors and a host of other conveniences.

16,000 passengers
Our toll system is enabling London to reduce its CO₂ emissions by 150,000 tons a year. Since the system’s launch in 2003, traffic volume on the city’s streets has been cut by 20% and traffic congestion by 26%. Today, 60,000 fewer cars travel through London each day.

150,000 tons
Kevin Worster

We’re a partner of Low Carbon London, an initiative to reduce CO₂. UK Power Networks is also a close partner. Additionally, we’re working closely with the London Development Agency in realizing the smart grid in the Green Enterprise District of London, Europe’s largest urban regeneration project.

Martin Powell

This came about through a conversation with UK Power Networks and Siemens and with other partners. We realized we had an opportunity to get a lot of money invested in London to understand how our grid works, how it will work in the future, how smart technology will integrate with our network, where it’s failed in lots of other cities. We’re very hopeful that this investment in London is going to succeed.

Key figures for London

For further information on London, see the London portrait in the European Green City Index, a study conducted by the Economist Intelligence Unit in cooperation with Siemens:

www.siemens.com/greencityindex
Kevin Worster

Our urban sustainability center may help in that. Even before it opens its doors, it has created lots of excitement within Siemens, lots of colleagues are fulfilling the same roles in other cities and are really looking forward to bringing their customers to London.

Martin Powell

A few people approached me about it in São Paulo, at the C40 climate summit chaired by Michael Bloomberg, who is mayor of New York. And they wanted to understand what it was going to do, how we thought it would benefit London, and we can use the lessons that come out of this experience and replicate them elsewhere.

Kevin Worster

The key attainments to be had from working with London would be to understand the city’s targets and drivers. You really need to put yourself in a city’s shoes to understand where it’s going in terms of air quality, buildings, transportation infrastructure, and then link in our innovative solutions, so that you have that kind of sustainable intelligent solution.

― London Mayor Boris Johnson

“It is a clear sign of the confidence in London’s ability to nurture and support eco-enterprises that Siemens has chosen to locate a flagship center of sustainability here in the UK capital.”
About 100,000 people are expected to visit the Crystal, our sustainability center in London’s Docklands, every year. At the center, they’ll discover how cities can develop sustainably – and what a technology company like Siemens can do to help.

100,000 visitors
Queen's Hospital
We've signed a service contract with Queen's Hospital to supply, maintain and manage all the facility’s medical systems – from magnetic resonance imaging and computed tomography scanners to flow meters – for a period of 33 years. By transferring the risk of operating these systems from the National Health Service to Siemens, the responsible service provider, the agreement frees hospital personnel to focus on providing first-class patient care. With the help of our on-site implementation and operations team, the new hospital building was commissioned in October 2006 – on time and on budget.

King's College Hospital
An integrated and consolidated blood sciences solution from Siemens has enabled the pathology department at King's College Hospital to create an end-to-end diagnostics service. The result: increased process efficiency, productivity gains, predictable turnaround times and workforce re-profiling.

The department provides a full range of diagnostic, interventional and therapeutic radiology tests. To support its services – particularly in the area of diagnostic radiology – we've supplied the hospital's radiology department with a wide array of innovative technology, including our highly flexible angiography imaging system, the Artis zee.

The Crystal – A Sustainable Cities Initiative by Siemens
Implementing a forward-looking concept in an imposing new venue, the Crystal demonstrates our long-term commitment to infrastructure and urban solutions. The sustainability center will open its doors to visitors in the summer of 2012. With a wide range of multimedia exhibits, the Crystal will provide a platform for the exchange of ideas while showcasing the ways in which cities can be more sustainably designed in the future. Focusing on technologies that deliver ecofriendly solutions for the urban environment, the center is expected to attract up to 100,000 visitors a year – everyone from city officials to urban planners and architects to members of the interested public and students of all ages.

Hybrid buses
London's famous double-decker buses are moving with the times. A test fleet powered by hybrid drives from Siemens is already on the streets. The new buses feature an intelligent combination of diesel-electric engines and energy storage systems: their engines act as generators during braking, while their lithium-ion batteries store energy for use in subsequent acceleration. All in all, the hybrid buses consume around 40% less fuel and produce up to 40% fewer emissions than their conventional counterparts.

Martin Powell
For us, it’s understanding what it takes for businesses to invest in London, what conditions we need to put in place to make that happen. Ensuring our policies align with the business conditions that are of importance to a company like Siemens, to guarantee that we make businesses aware in London of what we’re trying to do, and how maybe to merge our awareness campaigns to promote London’s reputation as a business and investment location. For the future, I hope that Siemens continues to invest in the technology they have today and implement that into London right now. I think the London government needs to make some big infrastructure decisions today in order to allow even more investment into these areas fifteen years from now, particularly our energy supply, which is often a longer-term, more difficult investment proposition to make.

Kevin Worster
We’re just taking the first steps. We have realized a lot of projects in London. Going forward, I think there is a huge amount more of what we can do, especially around transportation infrastructure and energy generation.
Siemens and London – A close partnership

Already a densely populated conurbation, London continues to grow – with important consequences for infrastructure, energy supply and transport. Siemens is collaborating closely with London’s government to master the challenges facing the city in its drive to achieve a sustainable future.

The Crystal, our sustainability center, is located in the heart of the new Green Enterprise District, an area in the Docklands of East London that is now undergoing large-scale regeneration. Starting in 2012, the Crystal will offer a vision of the urban future and demonstrate how innovative technologies can reduce a city’s environmental footprint, cut costs and improve the quality of urban life. With its innovative architecture and design, the center will also provide insights into the possibilities created by ecofriendly building technologies, while focusing discussion on the options and opportunities available for the city environment and increasing public support for urban projects.

Londoners don’t have to wait for the center’s opening to experience our green technologies. All they have to do is climb aboard one of the city’s many hybrid buses. These innovative vehicles are not only much quieter than their conventional counterparts; they also use around 40% less fuel and produce up to 40% fewer emissions. To improve the city’s air quality, the Low Emission Zone encompassing all of Greater London has been created. The zone, which can be entered only by vehicles meeting a specific emissions standard, employs the same traffic control systems used to speed traffic flows in the city’s central Congestion Zone. Since the technology’s introduction, the number of individual car trips into downtown London each day has declined by 60,000.

Efforts – like London’s – to reduce traffic congestion are most effective when the components of the local public transportation system have been integrated into one another. Here, too, our technology is making a major contribution to urban mobility. The Heathrow Express and the Heathrow Connect – rail links that have dramatically reduced travel times between London’s leading airport and the city center – use traffic guidance systems and advanced trains from Siemens. We’re also increasing the capital’s accessibility with our Desiro regional trains. All in all, innovative transportation measures like these have reduced street traffic in central London by 20% and cut annual CO₂ emissions by 150,000 tons.

As a leading supplier to London’s hospitals, we also strive to reduce the environmental impact of our medical technologies. Over their lifecycles, our offerings in the healthcare field cut hospital electricity and air-conditioning costs by tens of thousands of euros.

The London Array offshore wind farm marks yet another advance in the city’s efforts to reduce its carbon footprint. Located in the Outer Thames Estuary, the wind farm will be the first facility of its kind in the one-gigawatt class. Boasting 175 Siemens wind turbines, the London Array will generate enough renewable energy to power 750,000 households and, thus, meet the electricity needs of roughly a quarter of the city’s population.
Siemens in London

> A selection of current projects

**Toll system**

London uses intelligent video systems from Siemens to ensure that toll charges are actually paid. The video systems register license plate numbers and compare them against the computerized list of toll payers. The toll system has reduced traffic volume by 20% and street congestion by 26%. Sixty thousand fewer cars now travel London streets each day, cutting CO₂ emissions by some 150,000 tons a year.

**Automated video surveillance**

Under an outsourcing agreement, we’re delivering a pioneering project for the London Borough of Bexley that provides comprehensive CCTV services to improve community safety, increase system performance and reduce costs. Across the UK, we’ve installed one of the nation’s largest surveillance solutions for infrastructure operator Network Rail: over 4,000 CCTV cameras are enabling British Transport Police to track activity from any station in the system.

**London Array offshore wind farm**

Located in the Outer Thames Estuary, the London Array will be the largest offshore wind farm in the world. We’re contributing 175 wind turbines with a total capacity of 630 megawatts. Capable of supplying power for about 750,000 households, or a quarter of Greater London’s population, the wind farm will reduce annual CO₂ emissions by 1.9 million tons. The facility’s capacity can be expanded to 1,000 megawatts if required.

**Heathrow Express**

This rail link from Siemens is the fastest way to get from Heathrow Airport to London’s city center. Taking only 15 minutes – compared to 50 minutes by subway – the Heathrow Express transports an average of 16,000 passengers a day.

**Smart grid**

London has one of the highest levels of electricity consumption and CO₂ emissions in the UK. It also has the country’s most demanding carbon reduction targets. To help the city meet these targets, we’re collaborating with UK Power Networks in the Low Carbon London initiative by conducting trials with local customers. These trials, which are part of a series of tests coordinated by the Learning Laboratory of London’s Imperial College, will yield valuable insights that can be shared in the course of the program with all distributed network operators and the power distribution industry as a whole. The aim of the initiative is to develop a power distribution concept for 2020 that will cover everything from strategic network planning to grid operation.

**Infrastructure for electric mobility**

Transport for London has set an ambitious goal for its Source London electric mobility project: to have 1,300 public charging stations in operation across the entire city by 2013. Supplying software solutions geared to the project’s complex requirements as well as related services, we’re playing a key role in London’s drive to become the capital of electric mobility.
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The UK capital is one of Europe’s most important metropolitan areas and a shining example of how Siemens solutions can contribute to sustainable urban development.