Transforming cities for the better through sustainable technology

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“Cities are the core of global development. This is where our future takes shape, where economic growth springs from the bustling activities of more than half the world’s population, and where our most pressing environmental challenges are most evident.

Siemens has the portfolio, the know-how, and the expertise to help cities become more livable, more competitive, and more sustainable.”

Roland Busch
Member of the Managing Board of Siemens AG and CEO of the Infrastructure & Cities Sector
Future city life

The look and feel of cities in the future will be different from today. The need to improve quality of life, economic competitiveness and environmental viability will drive a new way of living.

A scenario for future city life
In the future, high-rise buildings will be like small towns, with homes, shops, workshops – even gardens and farms – all under one roof. The spaces around us will be flexible, changing to match our needs. Instead of owning things, we will pay to use a space or an item, then give it back, hand it off, or recycle after use. For example, we will invite friends to ride along in shared e-cars and rent space in community gardens. We may even order produce from our community gardens!

Technology and fluidity will enable us to live efficient lives. Many people will work from home, switching between business and leisure, the real and the virtual. Our new lifestyle will allow neighbors to join together in vibrant, dynamic communities.

Buildings will get smart
Buildings today account for the bulk of a city’s energy consumption and greenhouse gas emissions. They therefore represent enormous potential for energy savings and are key to sustainable city development.

In the future, buildings will be self-sufficient, producing a surplus of energy, recycling their own waste, minimizing water usage, collecting rainwater, and reusing and recycling gray water. Buildings will also be fully automated and intelligent, with thousands of sensors making sure that lights are switched on or off, and that rooms are optimally heated only when they are occupied.
Buildings represent enormous potential for energy savings and are key to sustainable city development.

City residences will not just consume electricity: they will also generate and store it. Intelligent, intermodal transportation will ensure seamless travel.

From consumer to prosumer
The lifeblood of urban existence – renewable energy – will flow along main arteries to power the city. After a windy night that generated a surplus of energy, prices will go down. The smart grid will respond, communicating with all producers and consumers. But residents will not just consume electricity; they will generate and store it. They can then use surplus energy to do things like charge their electric cars. The city will make energy miners and energy traders of us all.

Responsive cities
Sensors throughout the city will provide essential information to keep it running efficiently and to keep people safe. The city will become a living organism, seeing, hearing, thinking. It will be intelligent and responsive. Real-time information will flow into the city control center, where it will be integrated and visualized. Traffic lights and information systems will be adapted so traffic flows smoothly. Data will also be used for urban planning. Residents will be invited to take an active part in the planning process and help decide the future of their communities. Residents will have a direct connection to public services and can participate at every level. This will be a city that responds to the needs of its population.

Effortless travel
Journeys across the city will take people and packages from one mode of transport to another – via mega hubs. When you set out to meet friends, a navigation assistant will plan your route. It will begin by booking a shared e-car to the local transport hub. Payment will be invisible; the public transportation network will recognize you and ensures a seamless journey. If there’s a traffic accident or road construction, the navigation assistant will instantly respond by changing your route.

While most people sleep, the city will restock, recharge and recycle. Public transport will be used to deliver goods and packages. When energy demand is low, the smart grid will recharge the city’s batteries and tasks that can be done overnight will be automatically activated. Our future city never sleeps – its cycle continues.
The challenges of cities today
Megatrends shape our cities

Growing cities increase complexity
The megatrend of urbanization will dramatically shape not only cities, but the entire world. Urbanization has created a pressing need for infrastructure investment, regardless of budget limitations and austerity programs. Cities must have functioning traffic systems, intelligent logistics, efficient energy supplies, and environmentally compatible buildings. Studies suggest that cities are investing on average €2 trillion a year.

But managing growing cities with decreasing budgets and increasing complexity, along with the expectation of a higher quality of life, places heavy demands on both infrastructure and environment. The megatrends urbanization, demographic change and climate change will shape the future. City managers need to respond to these megatrends to make critical decisions about infrastructure today that will meet future demand.

For the first time in history, more than 50% of the world’s population lives in urban areas. By 2030 this number will grow to 60%, and is expected to reach almost 70% by 2050.
Urbanization as a key driver for economic growth

Urbanization has radically changed the dynamics of urban-based manufacturing. Over the last 50 years, employment in cities has stabilized around a diverse and vital mix of businesses, from traditional forms of fabrication to technology-oriented activities. All enterprises share the benefits of urbanization because of proximity and speed to market as well as specialization. They also benefit from the “agglomeration economies” of cities. Urban manufacturing enables local governments to create new jobs and generate a positive impact on the labor market. The most competitive cities will be the ones that anticipate the challenges of growth and balance these three fundamental goals: economic competitiveness, quality of life, and environmental protection.

The future of climate change is decided in cities

A city’s ecological footprint contributes significantly to climate change, as they consume two-thirds of the world’s energy and produce approximately 70% of the greenhouse gas emissions. At the same time, cities are ideal focal points for strategies on reducing greenhouse gas emissions. With their dense populations and often fragile infrastructures, cities are vulnerable to the effects of climate change, such as storms and flooding, and need to become more resilient. Instead of considering the cost of doing nothing, we should consider the benefit of doing something.

Urban residents need good air to breathe, good water to drink, and reliable electricity to power their lives. They need access to healthcare, and they need to be mobile.

To meet rising consumer demand, cities will need to build floor space equivalent to 85% of today’s existing building stock.*

Strong partners for city solutions
Pioneering partner for infrastructure and cities
Siemens recognizes the immense challenges that cities face in a highly urbanized world and as a response, in 2011 Siemens established a new Infrastructure & Cities sector by bringing together existing portfolio elements. Bundling our portfolio in a customer oriented sector enables us to serve these markets more efficiently and provide integrated solutions.

To highlight the role of technologies in urban development, Siemens has opened the Crystal in London, a sustainable cities initiative dedicated to exploring how we can create a better urban future. It houses the world’s largest exhibition on urban sustainability, bringing together city decision makers and the public.

To specifically address the needs of urban planners, Siemens established the Center of Competence Cities (CoC). Its core activities are urban development and global account management for cities. The Siemens city account managers are embedded in the cities fabrics. The teams in the CoC also build strategic partnerships and fosters solutions for cities. The Center is located in the Crystal in London and has regional centers in Shanghai and Washington DC.

The Siemens’ city account managers provide comprehensive advice to city customers, not only about infrastructure technology and solutions, but also about the economic efficiency of such investments and the financing assistance Siemens can provide. They are intimately familiar with their customers’ projects, budgets, and infrastructure plans.
In-depth studies provide real insights
Siemens engages in several levels of research on cities. The Green City Index series was developed in collaboration with the Economist Intelligence Unit. The Index analyzes more than 130 cities for best practices, ranks their environmental performance over several infrastructure areas and shares the results with the public to contribute to the debate on sustainable cities. Additionally, there are studies on individual cities such as London, Munich or Yekaterinburg.

Leveraged through our intensive research and our technology expertise, we are uniquely positioned to support cities in their journey to a sustainable future. As a trusted advisor to cities striving for excellence, we support them in making the right infrastructure investments. Our thought leadership, expertise, technology, and financial solutions are there to help cities reach their goals.

The Green City Index analyzes more than 130 cities for best practices and ranks their environmental performance.

- Siemens’ Infrastructure & Cities sector provides integrated solutions for cities.
- Siemens’ Center of Competence Cities acts as a trusted advisor during the early stage of infrastructure projects.
- The Green City Index and other Siemens studies show cities where they are leading and where they need to invest.
Helping you finance future growth
Funding the future

Infrastructure needs investments
Urgently needed infrastructure investments in times of restricted budgets require new services and business models. The OECD estimates that required investments for road, rail, telecommunication, electricity and water infrastructure will reach $71 trillion worldwide by 2030, which is about 3.5% of global GDP. A great share of this investment will go into power generation and transportation. Although cities in developed countries may have different priorities than those in emerging economies, they share an overall need for serious infrastructure investment.

Tailored financing to meet your needs
Siemens recognizes the urgent need for investment and limited availability of public funds. Siemens Financial Services (SFS) partners with cities to assist them with financing large public projects.

SFS has created a number of attractive financing models for cities needing to invest in urban infrastructure. Our experts have designed these models in close collaboration with customers, making sure we know exactly where city managers need support, where they see their priorities, and what their ideal financing scenario would be.
**Business models for infrastructure investments**

Our offerings include asset finance and leasing; structured finance; banking business (loan financing); and of course project and equity participation, better known as public-private partnerships (PPPs). PPPs typically see average project volumes ranging from €100 million to over €1 billion.

Siemens has been implementing public infrastructure projects all over the world for more than 160 years. Our vast experience helps us guide you in the right direction, benefiting your city’s coffers as well as its global competitiveness.

Direct access to key Siemens markets and related industries gives us a better basis for decision making and enables us to devise a successful financing solution for your infrastructure requirements. Our long experience in the public infrastructure sector means we can partner with all kinds of cities, including sprawling cities in emerging economies, established European centers with creaking infrastructure, and growing megacities in sometimes difficult circumstances.

**Siemens is here to help you achieve a better future.**

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The OECD estimates the required investment in infrastructure worldwide to reach $71 trillion by 2030.
The Crystal
Exploring urban sustainability
A look into the future
The Crystal hosts the world’s largest exhibition on the future of cities, demonstrating that we can build sustainable, livable, and prosperous cities today. The doors are open to everyone, making it a global community resource for education and knowledge sharing. It also serves as a state-of-the-art meeting place for city decision-makers and influencers, urban planners, architects, and public infrastructure operators.

A model for sustainable living
The Crystal showcases Siemens’ expertise at creating solutions for sustainable cities and demonstrates our commitment to environmentally responsible urban development. It takes on the role of facilitator for dialogue and enables visitors to experience challenges and global trends as well as technological urban solutions.

One of the most sustainable buildings in the world
By incorporating cutting-edge technologies, the Crystal is a model for sustainable buildings. It generates its own energy through solar power and heat pumps. A highly efficient building management system optimally distributes electrical power, as well as heating and cooling. Rainwater is harvested for use and all waste water is recycled.

As the first building designed to receive top BREEAM (outstanding) and LEED (platinum) ratings, the Crystal meets the world’s highest energy-efficiency standards. For the office space, it uses 50% less energy than any other comparable office building to date.
Portfolio
Mobility
Sustainable mobility within and between cities

Megacities are drowning in traffic. Integrated mobility solutions from Siemens can help. We provide a wide range of products and systems for efficient, safe and environmentally friendly transport of people and goods.
14 billion liters of fuel is wasted annually because of congested roads in Germany.

Complete solutions that are ecologically and economically sound
Mobility is key for cost-effective and environmentally friendly urban development. People and goods must be transported within and between cities, so traffic patterns must be adapted accordingly.

In Germany alone, congested roads result in 14 billion liters of fuel being wasted annually. This equals 17% of total vehicle consumption and 35 million tons of carbon dioxide emissions. The total annual cost of traffic jams in Germany has been estimated at a staggering €100 billion.

In response, Siemens is offering comprehensive mobility solutions like operation controls for rail and road traffic, rail electrification systems, parking management and tolling solutions, energy-efficient subways, streetcars and electric buses within cities, as well as commuter and long-distance trains between cities.

No matter which kind of transportation you use, our integrated mobility solutions help save energy and reduce emissions.

New technologies reduce emissions
By relying on renewable energy, electromobility will significantly reduce environmental impact. Our areas of research and development include electric buses, Europe-wide charging infrastructures and electrification of heavy trucks, which are supplied by an overhead contact line. These new technologies will reduce harmful local emissions and reduce the CO₂ footprints of individual vehicles.

Siemens is also developing intermodal traffic solutions such as eTicketing. Passengers use eTickets for public transit and mobility services such as car parking and sharing. Smart systems then automatically calculate their charges based on usage.

Complete airport rail link: Bangkok, Thailand
The Suvarnabhumi Airport Express, which connects Bangkok’s airport and city center, is an integrated rail solution from Siemens. It comprises signaling and control systems, telecommunications, automatic fare collection, platform doors and tunnel equipment, traction power supply, track work, depot and service center equipment, baggage management, check-in systems, as well as rolling stock. Today, the nonstop Suvarnabhumi Airport Express is an attractive, convenient, and eco-friendly alternative to traveling by taxi or car.
Efficient buildings

Intelligent building technology increases energy efficiency, comfort, safety, and security

Today we face rising power consumption, higher energy prices, and resource shortages. Yet demand for networked smart buildings is growing.

To meet these challenges, Siemens offers intelligent, integrated technologies that deliver maximum energy savings, performance and sustainability.
Since 1995, Siemens has equipped 6,500 buildings worldwide with energy-efficiency solutions.

Efficient energy use to protect the environment
The worldwide efforts aimed at cutting energy consumption and lowering CO₂ emissions gain in importance. For this reason, more and more emphasis is placed on the efficient use of energy in buildings, which — worldwide — represent more than 40% of energy usage. For years, Siemens has been committed to environmental protection and the improvement of energy efficiency in buildings.

Intelligent technologies for energy-efficient buildings
By optimizing buildings today, the costs of operation and energy can be reduced along with CO₂ emissions, thus protecting the climate. Intelligent, integrated room and building automation controlling heating, ventilation, air conditioning, lighting and shading has considerable potential for saving energy, without compromising comfort.

All our products and systems are designed to provide an ideal climate in any environment, with the lowest possible energy use. To ensure highest quality and control accuracy, all applications are subject to thorough testing and precise calibration in Siemens’ unique laboratory. Only this kind of testing under real conditions guarantees the energy savings of the applications and ensures optimal energy-efficient control and regulation of temperature, humidity and air quality in the rooms as well as satisfaction of individual requirements for comfort.

Solutions and services for maximum efficiency
Our solutions and services optimize the lifecycle performance of your buildings. Energy consumption is continuously measured, checked and optimized through remote monitoring. The upgrade and update programs are tailored to your needs, ensuring that your buildings achieve maximum efficiency. In addition, we offer financing through our Energy Saving Performance Contracting.

This program lets you save energy and operating costs while generating the funds you need for your infrastructure project. And with Total Building Solutions (TBS), Siemens offers you the possibility of integrating all building processes and disciplines into one efficient solution that increases the comfort, security, flexibility, and efficiency of your buildings. We are also constantly working on the integration of new technologies into our energy-efficient solutions. This is how we lay the foundation for sustainable cities.

The world’s tallest green building
TAIPEI 101 is not only one of the tallest buildings on earth, but also one of the “greenest.” Siemens helped meet its requirements for outstanding energy efficiency and environmental compatibility. This enabled TAIPEI 101 to earn LEED EBOM Platinum certification and save about 28,000 tons of water, 3,000 tons of carbon dioxide, and 4.8 million kWh of electrical energy — which add up to an annual cost savings of US$700,000.

Because of our comprehensive environmental portfolio, Siemens is a global pioneer in sustainable urban development.
- Energy consumption in buildings can be reduced up to 50% by using intelligent and energy-efficient technologies.
- Total Building Solutions integrates multiple building systems, providing optimum comfort and security for occupants.
Most of us place a high value on public safety. Whenever Siemens considers the location of an urban development project, long-term security is among the most important site characteristics. Local civic authorities must be able to meet a variety of security challenges.

Places like airports, harbors, railway stations, tunnels, stadiums and other public venues are particularly important to protect. High-traffic areas must be closely monitored. Cities need a reliable partner that can provide state-of-the-art security technology for long-term protection.
Advanced technologies protect critical infrastructure
We provide advanced technologies that protect cities, buildings, campuses, and critical infrastructure. Our access control systems ensure that only authorized individuals can enter a facility. Our evacuation systems help save lives by combining crowd flow simulations with voice alarms and emergency communications.

Siemens’ video surveillance systems monitor sensitive areas in real time. If there is a security issue, you can detect it early and respond quickly – essential when protecting public transportation and passengers. You can also integrate our network-based monitoring systems with our integrated command centers. These solutions allow you to plan for various scenarios so you can implement clear procedures and coordinate first responses to any incident.

Intelligent response takes security to the next level
Large buildings, campuses, and critical infrastructure require emergency evacuation plans. If something unexpected occurs, you need to react fast. To speed your reaction time and secure your buildings, we created intelligent response systems.

Our solutions integrate your security and fire safety systems, including fire and smoke detection, fire suppression, monitoring and surveillance, access control, and building automation and controls. Siemens’ intelligent response systems enhance your real-time awareness and control, enabling better mobilization and evacuation in emergency situations.

Integrated security solutions for the Middle East
Siemens developed a world-class security system for the Middle East that has become a showcase for the entire region. It is a citywide video surveillance solution, managed from a single command and control center. To enable the solution, we established a nationwide wireless IP network, implemented terrestrial trunked radio (TETRA) communications, and delivered a turnkey integrated command center. A dedicated account manager maintained a close, collaborative relationship with the customer throughout the project.

Our video surveillance systems increase security for cities, buildings, campuses and critical infrastructure.
Our Total Building Solutions integrate multiple safety systems to keep buildings and public facilities secure.
Our intelligent response systems integrate security and fire safety systems, enhancing your situational awareness and control, and enabling faster mobilization and evacuation.
Cities often face challenges such as integrating renewable and distributed generation, limited capacities, aging infrastructures and reducing costs and emissions while using a reliable power supply.

Smart power grids offer many advantages that help cities meet these challenges.
SIESTORAGE can provide up to one megawatt primary control reserve for 30 seconds to the grid.

Smart grids: efficient, flexible and interactive
Siemens Smart Grid technologies shift energy management away from a centralized, reactive and producer-controlled network to a decentralized, proactive and demand-controlled grid. It incorporates two-way communication for digital sensing and automated analytics across the energy conversion chain, from power generation to consumption. This turns your power grid into a demand-controlled tool, enabling you to generate and deliver power efficiently.

Siemens’ Smart Grid enterprise IT platform, industry knowledge, and deep understanding of the energy conversion chain enables us to customize our solutions to the specific needs of utility companies.

Proven technologies for reliable power supply
Siemens offers a full range of medium- and low-voltage products, and integrates them into smart, reliable, efficient, and stable power distribution grids. Our low- and medium-voltage solutions have been proven in numerous industrial applications, like oil and gas, mining, chemicals, automotive and metals, as well as in cities. They boost the energy efficiency of buildings and industrial power infrastructure, from arc-fault detection units to highly complex switchgear.

Flexible storage solutions
In addition to switchgear, our portfolio includes busbar trunking systems; protection, switching, measuring and monitoring devices; switches and socket outlets; and customized solutions for power supply installations and distribution grids. All our solutions meet the strictest quality and safety standards. Our latest innovations include the SIESTORAGE battery storage system for distribution grid operators, and SIHARBOUR onshore power supply for ships. When power generation from renewable sources becomes variable, SIESTORAGE provides up to one megawatt primary control reserve for 30 seconds to the grid. By drastically reducing the spinning reserve of conventional power plants, SIESTORAGE significantly reduces CO₂ emissions as well.

Supplying power for a safer pilgrimage
Every year, about three million people set out on the Hajj, the pilgrimage to Mecca. Siemens electrified the first metro system in this region – which transports up to 72,000 passengers per hour – in just 17 months, 10 months faster than usual. Siemens provided the entire power supply system, including the primary substations, switchgear, extended ring cable systems, traction substations, and the overhead contact line to various diesel generators. With this remarkable project, we not only delivered a state-of-the-art public transportation system, but helped save lives during the Hajj, making the annual pilgrimage much safer.
Water and wastewater
Managing one of the world’s most valuable resources

Supplying the world’s population with clean, potable water is one of the greatest challenges facing us. Today, about 1.2 billion people in developing countries lack access to potable water, and about twice that many have no access to sanitary facilities. But industrialized nations also need reliable water supplies – both industry and agriculture depend on this precious resource.

As the world’s population grows, sustainable stewardship of water resources should take the highest priority. Siemens understands the importance of water management and has the right answers. We offer solutions for water and wastewater treatment, transport, and distribution.
The Czajka wastewater treatment plant in Warsaw, Poland, can handle up to 515,000 m³ of wastewater.

Advanced technologies for reliable water supply
The requirements for urban water management are growing – today and into the future, our water supply networks must be more efficiently operated and intelligently controlled. Existing capacities must be used as effectively as possible in order to minimize operating costs.

Siemens provides answers for these challenges with a comprehensive portfolio of automation products. We help network operators in the water supply and water treatment industries realize their economic and technological optimization potential by, for example, detecting and locating leaks, which reduces water loss and the resulting damage. Our solutions can also calculate the most efficient operating schedules and reduce energy consumption and costs by optimizing pump operation. Simulations of various operating states enable the risk-free testing and optimization of plant operation.

A number of cities – Warsaw, for example – already rely on automation solutions from Siemens to make their water supply more efficient.

Clean water for Warsaw
A SIMATIC PCS 7 distributed control system from Siemens provides comprehensive visualization, control, and monitoring of all wastewater treatment processes. These upgrades, along with SCADA automation and monitoring, have made Czajka the largest and most modern plant in Eastern Europe. Its wastewater capacity increased from 240,000 m³/d to 435,300 m³/d, and the plant can handle 515,000 m³/d at peak times. Czajka plays a major part in improving the water quality of the Vistula River, Warsaw’s most important source of potable water.
Power is indispensable when developing a sustainable energy system. Electricity offers numerous ways to integrate renewable energy sources and reduce greenhouse gas emissions.

Our innovations have accelerated the energy business ever since the discovery of the dynamo-electric principle by Werner von Siemens in 1866.
One solution is not enough
The energy system of the future will have little to do with the traditional energy conversion chain of the past. The original energy chain – from the power plant to the consumer – has become a complex system of central and distributed power producers and buyers. Their nodes are where supply and demand are balanced. The role of consumers is also changing: increasingly they will become power producers themselves and feed their surplus back into the grid.

The speed at which these changes occur varies worldwide, as countries and regions confront disparate challenges in managing their power supplies. That’s why there isn’t just one solution that applies everywhere. But Siemens has the right solution for every region.

Four major challenges
There are four major challenges to managing power supplies effectively: economic efficiency, climate change, reliable power, and resource efficiency.

In addition, power generated from renewable energies is increasing. The sustainable energy system of the future will depend on electrification and the ability to feed fluctuating renewables into the power grid.

London Array: the world’s largest offshore wind power plant
To meet rapidly rising energy demands and cut carbon emissions by 34% below 1990 levels, the United Kingdom is developing renewable energy sources. The goal is for 15% of electricity to come from renewable sources, such as offshore wind power, by 2020.

At 1 GW, London Array, located off the coast of Kent, is the world’s largest consented offshore wind power plant. Rated at 630 MW once operational, phase one of London Array could generate enough energy to power more than 470,000 homes and displace more than 900,000 tons of CO₂ a year – equivalent to taking nearly 300,000 cars off the road.

Siemens is supplying 175 turbines for phase one. Each is rated at 3.6 MW, fitted with the new Siemens 120 m rotor, and has a hub height of around 87 m above sea level. We will also provide a warranty and five-year turbine servicing contract. Siemens installed the electrical systems for two offshore substations and performed onshore substation work. The project incorporates four export cables, each over 50 km long, to connect the offshore substations to the onshore substation, and more than 200 km of inter-array cabling to connect the turbines to each other and to the offshore substations.
Healthcare
Caring for our people – and our environment

Demographic change is one of the greatest challenges of our age. Not only is the world’s population growing rapidly, but life expectancy is also significantly longer.

By 2050, 16% of the global population will be 65 years of age or older, an 11% increase over 2007.

As a result of these shifts, demand for healthcare and eldercare will rise – as will per capita healthcare costs. Because competence centers, research institutions, and medical experts are usually located in big cities, they help make them attractive places to live. Municipalities today need to invest in healthcare, not only for ethical and compassionate reasons, but also to remain competitive in ways that are environmentally and economically sound.
We help our customers increase the quality and efficiency of healthcare delivery – benefiting more than 195,000 patients every hour.*

Sustainable healthcare around the globe
Worldwide, Siemens is known for healthcare solutions that help providers achieve their financial and environmental goals, while increasing the quality of patient care.

Siemens takes a modular approach that enables healthcare organizations, large and small, to combine products and solutions from a wide range of application areas. These areas include: power generation and transmission, building automation, IT and communication infrastructure, and medical technology.

By implementing customized solutions, healthcare providers save energy and reduce their emissions. These factors not only improve time and cost management, but also increase the quality of patient care.

Rating sustainability: University Medical Center Hamburg-Eppendorf
In 2011, the University Medical Center Hamburg-Eppendorf, one of the leading hospitals in northern Germany, asked Siemens to rate its sustainability. We used our Green Check assessment tool to analyze the hospital’s strengths and weaknesses in the environmental, economic and social areas of sustainability.

Overall, the Hamburg-Eppendorf medical center demonstrated excellent performance. It particularly excelled in fiscal management, service efficiency, patient services, and energy efficiency.

Nevertheless, we also identified a potential savings of €1.2 million and recommended a number of changes for further improvement. The first phase of implementation began that same year and made the University Medical Center Hamburg-Eppendorf even more energy-efficient and sustainable.

The statements by Siemens’ customers described herein are based on results that were achieved in the customer’s unique setting. Since there is no “typical” hospital and many variables exist (e.g., hospital size, case mix, level of IT adoption) there can be no guarantee that other customers will achieve the same results.
Today about 80% of the global GDP is generated in cities – and that trend is growing. To sustain this level of growth and remain competitive, metropolitan areas must continuously invest in their own infrastructure.

However, these kinds of investments cannot be financed with public money alone. Cities need access to private sector financing and strong partners with the resources and expertise to shape sustainable urban development.
OECD-studies point out that the required investments in infrastructure will reach about 3.5% of global GDP by 2030.

Technical knowledge and financial expertise
The ideal financing partner for infrastructure projects combines technical knowledge and financial expertise. The ideal partner also understands the needs of project developers, and can assist in identifying and procuring the best technology.

Siemens Financial Services offers all of this to our customers. We understand the needs of urban infrastructure development and place high value on integrated approaches.

Thanks to our comprehensive portfolio, we are the one-stop shop for investments in infrastructure and equipment. Our financing models range from standard solutions, such as leasing and debt purchasing, to tailored, structured financing – and even equity participation for more complex projects. And because many of our solutions for developing modern infrastructure increase sustainability by saving energy, they end up paying for themselves.

Berlin and Siemens: an energy-saving partnership
Berlin had annual energy costs of €17.2 million for its 185 public buildings. Siemens implemented an energy management system for heat generation and distribution, and for water control, monitoring, and maintenance.

Siemens Financial Services helped the city fund this large investment through sales of receivables, a framework agreement with attractive terms and conditions, and accounting and tax clarification. In all, Berlin invested €28.5 million in this project, with contract terms valid for 9 to 12 years.

Berlin now saves €5.3 million per year in energy costs, and has reduced its CO₂ emissions by 25% per year. By entrusting Siemens with its energy management, Berlin took an important step toward a sustainable future, and made an investment that will pay for itself. This project also serves as a model for how public-private partnerships can help municipalities achieve their economic and environmental goals.