Ericsson’s vision is to be the prime driver in an all-communicating world. The vision of an all-communicating world is rapidly becoming a reality with more than 5.3 billion subscriptions today for mobile telecommunications. Ericsson envisions a continued evolution, from having connected five billion people to connecting 50 billion “things”. In the Networked Society, we envision that anything that can benefit from being connected will be connected, mainly via mobile broadband. For us, it’s about Technology for Good—using connectivity to make a positive socio-economic and environmental impact, and address challenging issues such as poverty alleviation, human rights and climate change.

Additional information on Ericsson’s sustainability performance is available online, including:

Global Reporting Initiative (GRI)
Key Performance Indicators (KPI)
www.ericsson.com/sustainability
ABOUT THIS REPORT

This report, together with additional information available online, summarizes our 2010 sustainability and corporate responsibility (CR) performance. For us, sustainability is about what we call the “triple bottom line” – long-term social equity, economic prosperity and environmental performance. Corporate responsibility is about maintaining the necessary controls to minimize risks, while creating positive business impacts for our stakeholders and our brand, by linking our products, services and solutions to an overall business goal of sustainable growth. A sustainable and responsible approach results in value creation for the company, our employees, our customers, our shareholders and society as a whole. Unless otherwise stated, all information and data pertains to activities undertaken from January 1, 2010 to December 31, 2010. The report covers the Ericsson Group, i.e. Telefonaktiebolaget LM Ericsson and its subsidiaries, and provides performance highlights from our joint ventures Sony Ericsson and ST-Ericsson. The Ericsson Annual Report 2010 provides information on Ericsson’s structure, nature of ownership and legal form, subsidiaries, as well as changes regarding size, structure, financial performance and ownership during 2010.

The Report is published as a PDF together with supplementary online information and videos, which allows readers to explore topics more in depth.

Please visit www.ericsson.com/sustainability

The Ericsson 2010 Annual Report and other financial information can be found at www.ericsson.com/investors. To help us improve reporting and ensure transparency, we welcome your feedback and questions on our report and performance.

Please contact us at corporate.responsibility@ericsson.com.

Throughout the report you will find the Solution icon and specific Ericsson solutions in bold to indicate our many innovative solutions to sustainability challenges.

ABOUT ERICSSON

Information and Communication Technology (ICT) is positively changing the way we work and live. As a leading provider of communications infrastructure, services and multimedia solutions, Ericsson strives to enable this change. We constantly innovate to empower people, business and society.

Network infrastructure provides the fundamentals for people to communicate. Today, more than 40 percent of the world’s mobile traffic passes through networks provided by Ericsson. The networks we support for operators serve more than two billion subscriptions. We are also a global leader in telecom services, which accounts for close to 40 percent of our revenues. Currently, we serve approximately 400 customers, most of whom are network operators. Our ten largest customers account for 46 percent of our net sales. New customers include TV and media companies as well as utility companies. Our total addressable market was estimated at approximately USD 200 billion in 2009 (excluding joint ventures’ markets).

Our experience in building networks in more than 180 countries gives us unique customer and consumer insights, and our extensive portfolio of telecommunications solutions and intellectual property (patents) offers a true business advantage. We are committed to working with our customers and partners to expand the borders of telecommunications for the benefit of people everywhere. Our operations have been divided into business units that create competitive advantage and best meet the needs of our global customer base. These include Networks, Multimedia, and Global Services. Through the joint ventures Sony Ericsson and ST-Ericsson, we provide handsets and product offerings in semiconductors and platforms for mobile devices.

EXTERNAL ASSURANCE

GLOBAL REPORTING INITIATIVE (GRI) APPLICATION LEVEL

This Report, with the exception of pages 86-87, pertaining to Sony Ericsson and ST-Ericsson, has been assured by Det Norske Veritas, see Assurance Statement on page 93. The GRI G3 guidelines have been used in compiling this Report and a complete GRI compilation appears online. Ericsson’s Sustainability and Corporate Responsibility Report 2010 has achieved an A+ application level, which means the Report has been externally assured, and that the application level has been checked by a third party, Det Norske Veritas.

SALES BY REGION 2010, Net sales (SEK billion and percent)

*This includes sales of e.g. mobile broadband modules, cables, power modules as well as licensing and IPR.
LETTER FROM THE CEO

Dear Stakeholders,

In a world full of connections—business and personal, local and global—we find ourselves on the brink of a new era: The Networked Society. In this next phase of the development of information and communication technology (ICT) everything that can benefit from being connected will be connected. Broadband and mobility have become basic needs for people—a core part of societal infrastructure as essential as roads and bridges. It is revolutionizing the way we provide education and healthcare, how we build our cities and how we run our businesses. As a catalyst for more sustainable development, we have only begun to tap the possibilities of the Networked Society.

The transformational power of ICT to spur socio-economic development and put us on the path of a low-carbon economy has never been greater. By applying our innovation to market-based solutions that empower people, business and society, Ericsson intends to be a major part of the exciting changes taking place today that will shape a more sustainable world— we call this Technology for Good. Broadband and mobility applied to address the big challenges of our time, like poverty alleviation and climate change, are enabling greater progress towards reaching the Millennium Development Goals (MDGs) by 2015. Technology for Good is not only good for sustainability; it is also good for business because it sparks innovation and opportunities.

It took 100 years to connect one billion places, but only 25 years to connect five billion people. There are 600 million mobile broadband subscriptions today. That figure is likely to jump to one billion this year and 5 billion by 2016. Three fundamental forces are driving what happens with this level of global connectivity: Mobility—the freedom to be anywhere; broadband—the power to access limitless information, and cloud computing—enabling instant, on-demand content to any device.

Technology for Good: Towards lasting change

Our work is not about philanthropy. For lasting change, there has to be a sustainable business case. Our goal is to encourage new business models and market-based solutions that are scalable and replicable in the more than 180 countries where we have customers. The Networked Society brings many opportunities and challenges. Wherever and however we work, we want to ensure that we are a force for good, and that our technology contributes to making the world a better place. For example, in Africa almost 70 percent of girls do not receive a secondary school education, and in sub-Saharan Africa, 12 million girls do not enroll. However, a girl who does receive an education can expect her wages to increase by 15 to 20 percent and she invests 90 percent of that income back into her family and community.
Reaching policy makers about the transformative power of ICT is vital. In May 2010, I was asked to join the Broadband Commission for Digital Development co-founded by ITU, the UN agency for information and communication technologies and UNESCO, the United Nations Educational, Scientific and Cultural Organization. In September the Broadband Commission delivered recommendations to UN Secretary General Ban-Ki Moon to accelerate the attainment of the MDGs in the report “A 2010 Leadership Imperative: The Future Built on Broadband.” I have more recently agreed to lead the Commission’s Climate Change working group, and will continue to raise the awareness of governments, other industries and NGOs about the role that broadband can play.

With opportunity also comes responsibility. With the landmark “Smart 2020” report, the industry set the vision of using ICT solutions to reduce global business-as-usual carbon emissions by 15 percent by 2020. Now we must deliver on that promise, in ways that will result not in incremental but rather transformative change: where video conferencing substitutes business air travel; intelligent utility grids reinvent how we access and use energy, and cities are designed to be low-carbon, or even, as with the ambition of Stockholm Royal Seaport, climate-positive.

FACING THE CHALLENGES

There are certainly challenges ahead. By 2016, mobile data traffic will increase by about 25 times, driven primarily by video. This must not lead to an unsustainable increase in the ICT industry’s energy footprint. Ericsson puts enormous emphasis on increasing the energy-efficiency of our products and reducing the environmental impact of our operations. We are on track with our Group target to reduce our carbon footprint by 40 percent over five years. We are also part of a major European Commission research initiative, the EARTH project, with the aim of improving energy-efficiency of mobile systems by at least 50 percent.

Ericsson is committed to ensuring that the transformative power of communication reaches everyone, even those who remain the most “un-networked” in our society, the four billion people living at the base of the pyramid. But we need to redouble our efforts if the world is to meet the deadline for the Millennium Development Goals. Many of our initiatives are profiled in this report.

Our Code of Conduct and Code of Business Ethics are part of our backbone. We remain committed to the principles of the UN Global Compact in the areas of human rights, labor, environment and anti-corruption, and this report contains our annual Communication on Progress. We see telecommunications as a basic human right, which strengthens other rights: to health, to education, to a livelihood. As we have seen from major political and world events in 2011, it also furthers the right to freedom of speech, for people to share and discuss opinions, to connect to the world and report on local developments.

In our commitment to strong business ethics, we further strengthened our Supplier Code of Conduct and in 2010 we appointed a Chief Compliance Officer to focus on Ericsson’s anti-corruption program and other issues.

There are responsibilities and challenges that come with the Networked Society and in achieving our commitment to Technology for Good. But for me, the key words remain opportunity and trust. I am excited to be part of an industry where the full transformative power of the technology is yet to come. Ericsson intends to play a major role in driving that potential forward.

Through our work with the Earth Institute and Millennium Promise, we have co-founded a global education initiative, Connect To Learn, which uses Information and Communications Technology (ICT) to enable access to a 21st century education that every child deserves. The potential is enormous and the challenges are real. By working in public-private partnership, we are delivering PC as a Service, a cloud-based computing solution which lowers costs for schools, reduces complexity for teachers and promotes a new business for mobile operators. The initiative began in Africa and we expect it to expand to other continents during 2011.

In considering solutions to climate change, we identified a gap between technology development and policy making. We continue to raise awareness of the role that broadband and ICT can play in the global climate discussions, and we were actively engaged in the industry effort to develop the Guadalajara ICT Declaration for Transformative Low-Carbon Solutions.

Throughout this report you will read about our achievements and initiatives during 2010. You will also find stakeholder viewpoints on many of the global issues we collectively face. Engaging with stakeholders is the way to advance our own learning, and that of our partners, towards solving shared challenges. I invite you to learn more on the pages that follow about the progress we are making toward realizing the commitment to Technology for Good. And I would of course welcome your feedback. Please contact us at corporate.responsibility@ericsson.com.
In the move towards a low-carbon economy, there are many sustainability-driven opportunities enabled by ICT that substitute or optimize more carbon-intensive activities within areas such as transportation, electricity generation and management, and urban development. Through energy-efficient product design and our sustainability consulting services, we also enable our customers to reduce their own environmental impact.

**OUR VISION**

The Ericsson vision is to be the prime driver in an all-communicating world. In today’s Networked Society, this means harnessing technology, competence and innovation to empower people, business and society. Ericsson’s mobile and fixed networks, multimedia solutions and telecom services aim to make a real difference to people’s lives, to business, and to the economy, enabling change towards a more sustainable world. Technology for Good is how we express our vision for sustainability and corporate responsibility. Connectivity has the power to make a positive impact on society and the environment, helping to tackle some of the world’s biggest challenges, like poverty, human rights and climate change.

As part of this vision, sustainability and corporate responsibility is central to Ericsson’s business strategy. Sustainability delivers a number of benefits for Ericsson: new business opportunities, reduced risk, value for the brand and for customers, market leadership, and attractiveness as an employer.

**THE OPPORTUNITY**

Ericsson sees a strong business case for innovative, sustainability-inspired solutions and services, both in developed and developing markets. This case is expected to strengthen as increased demand leads to economies of scale.

Ericsson’s strategy embraces two key focus areas: the socio-economic impact of fixed and mobile broadband as an enabler of societal change and delivering more carbon-efficient solutions towards a low-carbon economy.

Affordable, accessible and efficient broadband technology can make a significant contribution to breaking the cycle of poverty, enabling people in developing countries and emerging markets to participate in – and benefit from – the Networked Society. ICT, delivered through public-private partnerships, is seen as a key enabler in accelerating the push towards achieving the Millennium Development Goals (MDGs) by 2015.

**OUR SUSTAINABILITY STRATEGIES**

• Reduce our customers’ environmental impacts through strong leadership in energy-efficiency and environmental performance
• Promote new business opportunities and ICT-based solutions for a low-carbon economy
• Drive the socio-economic value of ICT solutions and new business opportunities to shape lives and enable economic growth
• Manage corporate responsibility risks to build stakeholder trust
• Reduce environmental impacts from Ericsson’s own activities while building a strong internal culture of engagement with sustainability
MANAGING OUR KEY ISSUES

We focus on the sustainability and corporate responsibility issues that are most material to Ericsson, our sector and our stakeholders. These are determined through a continuous process of review, consultation, and assessment that takes its starting point in the sustainability strategy.

The framework for Ericsson’s materiality process is our Sustainability Strategy. By materiality, we mean the issues most critical to Ericsson from a sustainability and corporate responsibility perspective. These issues are weighed in terms of their importance and relevance to our business, to our stakeholders, and to society and the environment. In determining materiality, we also take into account relevant reporting guidelines and industry commitments, such as the Global Reporting Initiative and the United Nations Global Compact. Our most relevant issues fall within six key areas:

ENABLING COMMUNICATION FOR ALL

Ericsson can best contribute to sustainable development and the Millennium Development Goals by making telecommunications more accessible and affordable for all. No longer a luxury, better connectivity has become an engine for economic growth and prosperity, allowing developing nations to seize the opportunities of the Networked Society (p. 14).

REDUCING OUR ENVIRONMENTAL IMPACT

We design and manufacture products and solutions in the most efficient way, with a view to preserving scarce resources throughout the value chain, in order to minimize our environmental footprint and that of our customers. We also optimize our own business operations to reduce the environmental footprint (p. 28).

ENABLING A LOW-CARBON ECONOMY

The ICT sector has huge potential to lead the transformation to a low-carbon economy by offering solutions to reduce the 98 percent of carbon emissions that come from other industries and sectors. Ericsson is working on solutions for smart grids, remote work, intelligent transport and other innovative uses of ICT (p. 44).

CONDUCTING BUSINESS RESPONSIBLY

Good governance with a strong focus on corporate ethics is essential to doing business responsibly and enhancing investor confidence. High environmental and social standards are applied to our global supply chain and we put continuous focus on working with our suppliers to ensure those standards are met (p. 62).

EMPOWERING PEOPLE

With an engaged and diverse workforce, Ericsson is better positioned to achieve our business and sustainability aims, attract and retain talent, respond to our customers’ needs and maintain a competitive advantage. We also focus on developing our knowledge capital through learning excellence (p. 72).

CARING FOR THE COMMUNITY

In every region of the world where Ericsson operates, we engage in initiatives to address sustainability challenges. Our employees contribute actively to diverse communities, joining local stakeholders to tap the power of ICT to benefit society. Ericsson Response is our worldwide employee volunteer initiative to deploy ICT for disaster relief and humanitarian aid (p. 78).
DETERMINING MATERIALITY

We consult a wide range of stakeholders both within Ericsson and externally when determining our most relevant issues. We engage actively in society to stay informed and to contribute to important developments and to the public debate on issues important to Ericsson and our stakeholders. Our stakeholder engagement is a continuous dialogue that provides vital input to the development and focus areas of our Sustainability Strategy.

We also prioritize issues through different methods of assessing our major impacts on society, the economy and the environment. Key among these is our life-cycle assessment (LCA) approach. We use LCA to determine the environmental impacts of our activities on a variety of environmental impact areas, including eco systems, biodiversity, water and air emissions, hazardous substances and carbon dioxide emissions. Through LCA, we have determined that energy use and CO₂ emissions are the most material environmental impacts for Ericsson.

We also analyze surveys run by independent organizations and customers as another valuable input to the materiality process. In 2010, the findings of the Monitoring and Evaluation Study of the Millennium Villages project in sub-Saharan Africa (p. 16) provided insights that led Ericsson to prioritize in a more systematic way the importance of measuring the impacts of our products and solutions on socio-economic development.

The annual cycle of reviewing our sustainability strategy taps the knowledge and expertise of diverse functions within the Group organization as well as with individuals responsible for Sustainability Strategy and corporate responsibility in the 10 Regions and our Business units. The Sustainability Strategy is one of the Ericsson functional strategies and is fully integrated in the Ericsson strategy and target process. This review process tracks the latest trends and developments for our stakeholders and the industry.

WEIGHING THE ISSUES

The circles categorize the issues of greatest concern for Ericsson and our stakeholders and with the highest potential impact on our business. The green circles are the issues of the greatest magnitude, followed in importance by the circles in blue and the circles in purple.
We value the opportunity to learn from our stakeholders, as a way to shape and guide our Sustainability Strategy and to inform the content of our annual Sustainability and Corporate Responsibility Report. Stakeholder dialogue and engagement helps to strengthen our approach to sustainability.

During 2010, we participated in the low-carbon and environmental leadership assessment by WWF and Gartner as well as the Greenpeace Cool IT Leaderboard survey. We are also regularly asked to respond to inquiries on performance in other areas, such as supply chain management, by NGOs in different parts of the world. Our participation in such surveys provides insight into the issues of greatest concern to NGOs and their members, and these are taken on board as we assess where to focus our activities and priorities.

Also in 2010, our stakeholder engagement with industry partners, governments and NGOs influenced our decision to look more closely at the potential of Ericsson to contribute with our products and solutions to address the estimated 98 percent of carbon emissions that come from other industries.

Our ongoing stakeholder dialogue also made clear the need for greater awareness among governments about the role the ICT can play in addressing climate change, which heightened the importance of advocacy for Ericsson as part of our strategy. It is precisely this type of insight from stakeholder engagement that led Ericsson to take a leadership role in initiatives such as the Broadband Commission for Digital Development.

Each year Ericsson conducts a customer satisfaction survey of approximately 10,000 representatives of our customers worldwide. We also survey customers’ perceptions of Ericsson’s performance on specific questions related to sustainability. These include helping to make telecom more available for all and bridging the digital divide; making the world more sustainable, and reducing environmental impact.

In addition, over 1,300 employees responded to the annual online poll ranking the sustainability issues they think Ericsson should focus on.

The three top issues for employees in 2010:

1. Communication for all – making communications more affordable and accessible in order to alleviate poverty and bridge the digital divide.
2. Increased focus on use of renewable energy sources such as wind and solar for telecom.
3. Development of services and solutions to help customers minimize...
ENGAGING WITH STAKEHOLDERS

Ericsson’s Sustainability Strategy directly addresses issues of concern to our stakeholders.

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<td>• Energy efficient solutions, carbon footprint and measurement methods • Supply chain management • Rural, low-income business case • Occupational health and safety (OHS) • Sustainable city solutions • Proactive phase-out of hazardous substances, enabling effective end of life treatment of telecom equipment • Design for Environment</td>
<td>• Carbon footprint reduction targets • New solutions and services for energy optimization and rural low-income segments • Energy/CO2 standardization • Continued strong focus on supply chain • OHSAS 18001 certification • Public-private partnerships</td>
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<td>• Standards for assessment of climate change and measurement of energy-efficiency • Materials data handling and chemicals management • Broadband for digital development • Supply chain management and conflict minerals • Effective handling of e-waste globally</td>
<td>• Active submissions to ITU and other standardization bodies • Launch of Broadband Commission on Digital Development Report • Participation in industry organizations such as GSMA, GeSI, ITI and Digital Europe • UN STEP initiative to handle e-waste globally and Ghana e-waste project.</td>
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<td>GOVERNMENTS</td>
<td>• Public policy outreach at COP16 • Meetings with governmental bodies on e- and m-health • Broadband for GDP and job growth</td>
<td>• Importance of broadband for social and economic development and climate change • Ensure that energy and carbon footprint of sector does not increase</td>
<td>• Participation in ICT4EE Forum • Participate in organizations such as the Broadband Commission on Digital Development • Helped to establish and leading the Climate Change Working Group of the Broadband Commission • Led industry initiative in GeSI to launch the Guadalajara ICT Declaration</td>
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<td>CONSUMER AND BUSINESS USERS</td>
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OUR STAKEHOLDERS

Ericsson’s key stakeholders include investors, customers, employees, suppliers, industry partners, governments, consumer and business users of telecommunications services, non-governmental organizations, standardization bodies, research institutes and the media.
In 2010, Ericsson activities to support sustainability and corporate responsibility took place all over the world, including:

**EUROPE**

In Italy, young entrepreneurs push the boundaries of ICT with innovative application in the Ego Programme sponsored by Ericsson. A geolocation application to help parents stay in touch with their children is one winning idea.

Spain and Italy’s largest utilities (Endesa and Acea, respectively) are working with Ericsson to enable more intelligent electricity grids.

At Stockholm Royal Seaport, a new frontier in sustainable urban design that will house 30,000 people and aims to dramatically shrink the carbon footprint of urban living, Ericsson is ICT solutions advisor.

**NORTH AMERICA**

In New York, Ericsson CEO Hans Vestberg was among the Commissioners delivering to the UN General Secretary the results of the Broadband Commission for Digital Development’s report on using broadband to help meet the Millennium Development Goals.

The Technology for Good photo exhibit at New York’s Grand Central Station highlighted the power of telecommunications to empower people and change lives, marking the tenth anniversary of the Millennium Development Goals.

**CENTRAL AND SOUTH AMERICA**

In Mexico, Ericsson was among the ICT leaders at the COP16 climate change negotiations delivering the Guadalajara ICT Declaration for Transformative Low-Carbon Solutions.

In the remote Belterra region of the Amazon, Ericsson and operator Vivo are rolling out mobile broadband voice and internet access, e-health and e-education services to 30,000 people in 175 Amazon villages who will have connectivity for the first time.

For more information on Ericsson’s sustainability and corporate responsibility activities around the world, visit www.ericsson.com/sustainability.
Innovative thinkers in Japan were recognized for their research into low power-consumption devices through the Ericsson Telecommunication Award and Young Scientists Award.

“Less carbon, more love to the earth” was the slogan of an interactive game promoted on the website of Ericsson Taiwan, to demonstrate the use of ICT to reduce environmental impact.

More than 800,000 base stations in China have been equipped with the Ericsson Power Save feature over the past three years, resulting in a dramatic savings in energy efficiency.

In the village of Kokoyah, Liberia, Ericsson will begin to turn the lights on, thanks to a new solution designed to share base station excess power with surrounding local communities lacking electricity.

Ghana and Tanzania are among the first countries to benefit from Connect to Learn, a public-private partnership to bring ICT to schools, provide secondary school scholarships targeting girls, and to improve quality and availability of education.

Weather is critical for the 3.5 million people living along Lake Victoria in East Africa. Ericsson is working with partners on Weather Info for All: establishing weather stations that use mobile broadband for pre-disaster weather alerts, climate data collection, and weather information.

Refugees in Uganda and Kenya are able to connect with their loved ones thanks to an Ericsson-designed mobile phone application allowing them to register to search for loved ones via Refugees United, an anonymous database.

In Manila, street children are getting a chance to get off the streets and into the classroom through a Mobile Education program from Ericsson together with UNICEF.

In Australia, Ericsson is deploying the 4G/LTE wireless telecom network for customer EnergyAustralia to enable Australia’s first fully integrated, commercial-scale smart grid as part of the Smart Grid, Smart City demonstration project.

Refugees in Uganda and Kenya are able to connect with their loved ones thanks to an Ericsson-designed mobile phone application allowing them to register to search for loved ones via Refugees United, an anonymous database.
Better connectivity improves quality of life. No longer a luxury, connectivity is a basic infrastructure for economic growth and prosperity. For developing regions keen to seize the opportunities of the Networked Society, ICT is an enabler, a gateway to global 21st century knowledge and information. It also has a vital role to play in achieving the Millennium Development Goals by opening up access to services that improve livelihoods and quality of life.

Affordable and accessible mobile broadband technology can help break the cycle of poverty for millions around the world. But to be sustainable, there must be a strong business case. Ericsson is helping to make that happen.

In 2010, our focus was to introduce new solutions to benefit those at the base of the pyramid, build on the progress of a range of ongoing projects and initiate partnerships to achieve common goals. Among the main achievements was the launch of a public-private partnership to provide secondary school scholarships targeting girls, Connect to Learn (p. 18) and the introduction of a mobile phone application to help refugees trace loved ones, together with NGO Refugees United (p. 22).

Solutions in 2010 focused on applications to support distribution of weather information, agriculture and community power. We are working in East Africa with partners such as operator MTN in Uganda to enable Weather Information for All, with the aim to establish weather stations in Africa and use mobile broadband applications to provide pre-disaster weather alerts, climate data collection, and weather information. Such a service is critical for the 200,000 fishermen and 3.5 million people who live on the borders of Lake Victoria in East Africa and depend on it for their livelihood. In 2009, Ericsson completed establishing a mobile communications network with operator Airtel (formerly Zain) that covers 80 percent of the lake where fishing activity occurs. A 2010 report, “Life lines at Lake Victoria”, available at www.ericsson.com, makes recommendations for further expanding the capabilities now in place to further boost safety and economic growth. Within agriculture, Ericsson developed the Ericsson Mobile Auction System to assist farmers to get accurate market information to sell their goods (p. 26).

More than 500,000 people throughout 11 countries in sub-Saharan Africa benefit from mobile connectivity as a result of the Millennium Villages Project.

The Millennium Villages are located in: Ethiopia, Ghana, Kenya, Malawi, Mali, Nigeria, Rwanda, Senegal, Tanzania, Uganda and Liberia.
Introducing mobile networks has a significant influence on socio-economic development in low-income and remote communities – that's the finding of a 2010 report evaluating the impact of broadband on the Millennium Villages.

Mobile connectivity fuels economic growth, which is particularly vital for the billions of people living at the base of the economic pyramid—the markets of the future. The vital difference mobile technology can make to quality of life is being demonstrated today in the Millennium Villages. These are 12 village clusters in 11 countries, where Ericsson is bringing mobile communications to over half a million people. The project is a public-private partnership with operators MTN and Airtel (formerly Zain), Sony Ericsson, Columbia University’s Earth Institute, the Millennium Promise, and the United Nations Development Programme (UNDP) and Ericsson.

Among the study’s findings:
• Connectivity made it possible for parents to safely allow their children to attend school.
• If we assume that one in 30 health workers can save one life with the aid of a mobile phone, approximately 6000 lives can be saved per year in the rural areas of the four countries studied. (Kenya, Nigeria, Tanzania and Ghana).
• Cost of travel decreases with the use of mobile phones, with a saving per trip of five USD for people living on less than one USD a day.

MONITORING IMPACT
The 2010 Monitoring and Evaluation Study of the impact of connectivity in the Millennium Villages conducted by Ericsson and Millennium Promise set an important baseline for measuring the potential of mobile communications to influence human development in remote villages.

By the end of 2010, nearly all of the villages had mobile communications capabilities. The study found positive impacts in areas such as health; (improved response to emergencies, better-trained and equipped health workers, reduced isolation); education (improved teacher presence, academic quality, and student attendance) and business and societal development (small business and industry sector development, reduced transportation costs and strengthened markets and social networks).

A BOOST TO THE ECONOMY
In the first global review of over 100 socio-economic studies on the impacts of broadband investments conducted in 2010 by Ericsson and Arthur D Little, every ten percentage points increase in broadband penetration are shown on average to deliver an isolated economic effect on GDP growth of one percent. The study found that in developing and emerging markets, broadband penetration has a significant effect on economic growth, with 80 jobs created for every 1000 broadband connections. While the GDP impact is increasingly established in many markets, Ericsson’s CEO focus is how this trend directly and indirectly improves lives.

The developing and emerging markets represent the majority of new subscriber growth for the mobile industry. Ericsson will continue to focus on solutions and sustainable business models that enable socio-economic development for the base of the pyramid. In Dertu, more than 3,000 phone minutes are logged daily in a village with only 5,000 to 6,000 inhabitants. Clearly, the demand for the benefits afforded by mobile broadband will only increase in future.
HEALTH
Good healthcare is often difficult to access in developing countries, especially in remote villages. In the Millennium Villages, mobile communication is helping community health workers do their job better and save lives.

INNOVATION
Sustainability and innovation go hand in hand at Ericsson. Solutions aimed at stimulating socio-economic development and a low-carbon economy are enabling smart ways to spur small business development, improve education and make communication more affordable for all.

REFUGEES
Refugees struggle to connect with their families. In 2010, Ericsson joined with the UN High Commissioner for Refugees (UNHCR) and Refugees United to deploy a mobile phone application making it easier to search for and connect with a loved one.

EDUCATION
Bringing ICT to schools and awarding scholarships especially for girls is the aim of Connect to Learn, launched in 2010 in Africa by Ericsson and partners in a new public-private initiative.
Achieving universal education and gender equality are key development challenges. They are two of the eight UN Millennium Development Goals (MDGs). ICT can play a major role in making them happen.
Towards these goals, Ericsson is developing new business models for ICT-enabled educational services. Together with mobile operators and others seeking to bridge the digital divide, the aim is to scale up innovative solutions to a broad population.

**A PROMISING PARTNERSHIP**

Connect to Learn is a first step. Launched in September 2010, this is a public-private partnership to provide secondary school scholarships targeting girls, to implement ICT in schools, and to improve quality and availability of education. Ericsson is partnering with Millennium Promise, an NGO committed to supporting the achievement of the Millennium Development Goals (MDG) and the Earth Institute at Columbia University as technical advisor. Ericsson believes that the educational opportunities afforded by modern broadband technology should be inclusive. Equal access to education is the right of every child and is part of Ericsson’s commitment to contribute to the MDG 2: achieving universal education. While that Goal has been focused on primary education, Ericsson and partners recognize the need to drive progress in secondary education as well. During 2010 the initiative was launched in three countries in sub-Saharan Africa: Ghana, Tanzania and South Africa. Knowing that many programs for ICT deployment to schools fail, even in mature markets, a conscious decision was made to focus on a small number of schools in each country that face multiple obstacles to development, including lack of electricity, bandwidth, and teacher competence.

In total, five schools were selected, feasibility studies concluded and ICT solutions are being rolled out. The focus is on building a model that is sustainable from an academic, technology and business perspective. In some cases, such as in Tanzania, extensive preparations had to be made, such as the installation of solar power equipment to power the ICT equipment. In 2011 it is expected that, together with our partners, many more schools across Africa as well as schools in Latin America, Asia, the Middle East will also join the initiative.

**TARGETING COST AND COMPLEXITY**

There are considerable challenges in introducing modern broadband technology to schools in developing countries. Among them: the logistical difficulties of bringing connectivity to rural areas; access to electricity; security; low levels of IT knowledge among teachers; and the lack of strong business model to ensure efforts are sustainable. This means demonstrating the business opportunities to operators and convincing governments to include ICT in national education policies and budgets.

To address these challenges, Ericsson is deploying solutions such as PC as a Service (p. 20) that lower both initial costs and total ownership costs for schools, significantly lower the complexity of technology solutions for schools, teachers and students, and promote the role of network operators as a provider of both bandwidth and applications for education.

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**A THREE-PART PROGRAM**

1. **ICT IN SCHOOLS**
   Implementation of ICT will provide global information sources and connect students to other schools around the world. The first solutions have been identified and secured (PC as a Service, p. 20).

2. **SCHOLARSHIPS**
   Deserving students, two-thirds of them girls, will receive secondary school scholarships by raising funds from a coalition of private, public and non-profit partners. The first scholarships have been deployed in Ghana and Tanzania.

3. **GLOBAL ADVOCACY**
   A spotlight will be focused on the critical role of ICT in education and the need to improve access to secondary education.
EDUCATIONAL SOLUTIONS

CHANGING THE GAME

People in developing countries face barriers to education, including cost, bandwidth constraints, accessibility and complexity. These can be overcome through models such as PC as a Service, a solution being explored by Ericsson and Novatium Solutions Ltd of India (in which Ericsson has a partial ownership stake). The solution will enable consumers and enterprises to be provided with a low-cost terminal that delivers computing services via cloud computing. Through devices located in schools, companies or homes, the aim is to offer a virtual desktop: the ability to access the computer operating system applications and content over the Internet. When scaled, PC as a Service presents a game-changer in terms of making ICT solutions for education more widely available and affordable to a greater number of users.

The complexity and maintenance involved in using a PC is radically reduced, for example, by removing the hassle of virus protection as well as software updates and installation on each device.

LEARNQUICK

Opening the door to learning for those in rural areas without access to PCs, the Internet, or schools, LearnQuick is another example of a mobile learning tool developed by Ericsson. Offering mobile phone users customized lessons on a mobile device, the tool gears lessons to a wide range of users, including students, teachers, and professionals—and is even being used to deliver agricultural-related education and services. In essence, a standard digital web-based education package is adapted to the mobile device, whilst preserving elements of interactivity and allowing education to be tailored to the specific user. Rollout of this service is being explored together with education authorities and operators in China.

OPENING CLASSROOM DOORS IN SOUTH AFRICA

In much of sub-Saharan Africa, meal programs, security, infrastructure, equipment and academic performance can determine whether a student attends school. Under the umbrella of the Connect to Learn Initiative, in Johannesburg, South Africa, Ericsson has developed a set of innovative communication technologies and applications that help tackle barriers to education. Project partners are IT School Innovation (ITSI), a high school ICT education company; Junction Training, an NGO and multi-facet training company, and Infundo, a registered charity aimed at breaking the cycle of poverty through life-changing programs.

Called Ericsson Education Suite, the solutions optimize bandwidth constraints, where these exist, and address other barriers through four main focus areas:

- **Curriculum**: Curriculum sharing, creation and access across multiple devices and sources
- **Distance**: Distance learning and real-time collaboration among schools, teachers and students across significant distances
- **Community**: Facilitating communication among students, teachers, sponsors and the general public
- **Management**: Meeting, managing and tracking the needs of schools, teachers, and students

Parents can receive messages about their children’s progress, teachers can report missed attendance, and community members can sponsor schools virtually through mobile money systems.

Deployed in 2010 in eight schools in South Africa, the project covers about 8,000 students and 160 teachers, with plans to expand the project during 2011 to cover 150 additional schools.

VIEWPOINT

JOHN MCARTHUR IS CEO OF MILLENNIUM PROMISE, A NON-PROFIT ORGANIZATION DEDICATED TO SUPPORTING THE ACHIEVEMENT OF THE MILLENNIUM DEVELOPMENT GOALS, WORKING WITH ERICSSON IN THE MILLENNIUM VILLAGES AND WITH CONNECT TO LEARN.

What will define success for Connect to Learn?

First, to see a significant number of scholarship students complete secondary school. Second, to develop new models in which connectivity empowers students, their teachers and their communities. Third, to leverage this experience to achieve broader breakthroughs that ensure every child has the opportunity to complete a twenty-first century secondary education.
CALL OF THE AMAZON

Living in remote, isolated communities, the people of Belterra in the Amazon face enormous challenges in the provision of health and education. Now remote villages in the region have connectivity for the first time through project Conexão Belterra (Connect Belterra). Together with Brazilian operator Vivo and the NGO Project Saúde & Alegria, Ericsson provided mobile broadband voice and Internet access network, as well as e-health and e-education services, to 30,000 people in Brazil. The aim is to extend coverage to 175 villages.

This is the first 3G/WCDMA base station deployed in this Amazon region. Saúde & Alegria supported the project with community development programs within health, organization, forest economy, education, culture and communication. Today the network in Belterra has reached full capacity and is being expanded rapidly.

To measure the impact of mobile connectivity, UFPA (Federal University of Pará) and the education institution Faculdades Integradas do Tapajós, interviewed 403 people from the region (see graph).

In addition to positive impacts on business and education, the mobile network enables the boat-hospital run by Saúde & Alegria to transmit digitally exam results and analyse them together with leading hospital, Hospital Albert Einstein, to assist its 15,000 patients a year. Ericsson’s Mobile Survey Tool is used for monitoring of environmental impacts, patient diagnosis, communication with communities and quality of life studies.

Conexão Belterra was a top finalist for the Global Mobile Award for Best Use of Mobile for Social and Economic Development at the 2011 Mobile World Congress.

MOBILE BROADBAND USE IN BELTERRA
In 2010, Ericsson joined with Refugees United, the UNHCR and operator MTN to develop and deploy a mobile phone application so refugees can register to search for a loved one via an anonymous operator database. The solution makes sense in Africa, where less than two percent of people have access to computers, but over 45 percent have a mobile phone. The service was piloted in Uganda in September with strong results and is extending to countries with great need during 2011.

Danish brothers and social entrepreneurs David and Christopher Mikkelsen formed the non-profit Refugees United after spending years helping an Afghan refugee find his family. In 2008 they launched an anonymous online search engine but realized how crucial it was to have a mobile option. Ericsson is making that solution possible and scalable. This includes developing a platform for operators to offer the search-and-find services on a large scale. The Refugees United project builds on Ericsson’s decades of experience delivering connectivity to the African continent and building knowledge about how ICT can meet people’s needs. We continue to work with partners in support of the refugee cause and other underserved populations. In 2007, together with MTN, the UNHCR and the GSMA Development Fund, Ericsson became involved in a project in Northern Uganda to bring connectivity to refugee settlements through mobile phone and Internet communication.

What does mobile connectivity mean for refugees?

“What we’re talking about is the un-networked society. The world that refugees exist in is as unconnected as can be in 2011. They crave information. Refugees need to have access to knowledge about health, about infrastructure, about legal rights, and most importantly, from our perspective, the access to finding out information about their family’s whereabouts. Technology is the access and mobile is the key.”
In 2011, more than 120,000 refugees are expected to have signed up. In 2010, more than 10,000 refugees have signed up.

Source: Refugees United
Towards a Healthier Future

Many diseases that afflict people in developing countries, particularly women and children, are preventable and treatable. Healthcare systems face tremendous pressures to improve health quality, accessibility and outcomes affordably. Digital health can help.

With the MDGs marking their tenth anniversary in 2010 and heading rapidly for the target date of 2015, meeting the MDGs on health is a priority. Particularly in the poorest countries, too little progress has been made. With two-thirds of the population globally now within reach of a reliable means of voice and data communication, ICT can play a crucial role in improving access to health. Ericsson is one of the founding members of the UN Digital Health Initiative (DHI), a public-private partnership working to create innovative models for the development and delivery of global health to millions in developing countries in a united effort to help achieve the MDGs on health. The DHI aims to confront the diseases of poverty more effectively and efficiently. Mobile communications in particular can empower individuals, communities, health workers and health institutions to improve delivery and accessibility of health services in a more cost-efficient, streamlined way.

Better Village Health

In the Millennium Villages in sub-Saharan Africa, digital health is enabling use of mobile broadband to save lives and improve health care delivery. With more than 2000 mobile phones supplied by Sony Ericsson to the Village’s community health workers, children under five, pregnant women and newborns can be monitored and patient records generated via applications such as Child Count+ and Ericsson Mobile Survey Tool. Some 800 community health workers are being trained and deployed across 14 sites in 11 countries in Africa. A 2010 Millennium Village Monitoring and Evaluation Study traced a positive impact: rural health workers were better able to respond to emergencies, consult with other health staff, and ensure medications were in stock, resulting in reduced mortality rates.

Cross-Sector Approach

To succeed, digital health must demonstrate a sound business case for all stakeholders, with a positive return on investment. This is a major finding from the joint 2010 report, “Challenges and Opportunities in Scaling Up Digital Health” by Ericsson and the DHI. The report found that scale effects are key. Concerns such as cost, secure and reliable infrastructure, legislation, safety regulations and harmonization of technologies and investments can be addressed through a government-led, multidisciplinary approach.

Health Solutions

The Connected Hospital

Digital health is easing delivery of healthcare services in mature economies, too. A connected hospital streamlines knowledge capture, collection and communication. The Ericsson Research healthcare project CARE is cooperating with the University Hospital in Linkoping, Sweden to remotely monitor the health status of heart disease patients and using “smart” medicine dispensers that send mobile text message reminders if a patient forgets to take a pill.

In our “Measuring Emissions Right” white paper, Ericsson has analyzed how the Healthcare Networking Information System we developed and deployed in Croatia is enabling reduced carbon emissions. Ericsson Mobile Health is a new product in the healthcare area that enables remote measurement of patients’ physiological parameters in case of different chronic diseases and conditions.
Innovative Solutions

Sustainability boosts innovation at Ericsson, resulting in solutions that benefit a wide cross-section of society, from the developing regions to more established markets.

Innovation is at the heart of what Ericsson does. We continuously capture and implement ideas that improve internal processes, strengthen employee engagement and uncover new business opportunities. With customers, we set up joint innovation labs to test ideas to take to market. These ideas are screened against a number of business criteria, among them sustainability, before committing to further investment.

Increasingly sustainability is at the heart of what we do, too, driving new opportunities for Ericsson. Tackling poverty and universal access to education are the drivers behind Ericsson Mobile Auction (see below box), mobile learning tool LearnQuick and PC as a Service, a virtual desktop (p. 20), or Carbon Smart Commuting, mobile applications for ride-share services. (p. 57) Mobile Virtual Number and Shared Call are solutions that make it easier and more affordable for people to share phones and mobile subscriptions.

As awareness grows about how connectivity can empower and enable, we’re seeing increased interest from customers and others to develop solutions together and create economies of scale.

Working with a global customer base, Ericsson benefits from a broad spectrum of ideas from many parts of the world, allowing us to better identify new areas of opportunity. Importantly, we can encourage many different entities (governments, operators, regulators, enterprises) to help establish and make use of the kind of wide-ranging telecoms infrastructure and services which can address sustainability needs.

When the Price is Right

A small farmer in Ecuador wants to sell her crop. But finding the best buyer is limited to the information she can get locally. With a middleman, there’s no guarantee she’s getting the right information or the best price. For many farmers and tradespeople in South and Central America, Africa and Southeast Asia, this is the reality of day-to-day barter. Enter Ericsson Mobile Auction, a new mobile broadband-based solution being tested in India and South America. The aim is to give sellers and buyers the means to advertise accurate, up-to-date information through their mobile phones, enabling more efficient supply and distribution of products for entrepreneurs, increased trading and empowerment.

Source of Great Ideas

Ericsson sees a clear business case for sustainability-inspired solutions when the price is right.
Information and Communication Technology (ICT) has the potential to significantly offset CO₂ emissions from other sectors. The industry itself represents only about two percent of global emissions, but a key part of environmental stewardship at Ericsson is ensuring our own carbon footprint is continuously reduced.

Ericsson uses life-cycle assessment (LCA) to understand our own environmental impacts and guide research and development into solutions that lessen our environmental footprint. Through LCA we can chart our overall environmental performance and impacts from “cradle to grave” through raw material extraction, manufacture, transport, use, disassembly and end-of-life. Thanks to this approach, we know our most significant impact on the environment occurs when energy is consumed while products are in operation—more than two-thirds of the total energy is consumed at this stage. The LCA approach guides Ericsson in the development of its product offering, services and the way we operate our business.

In 2010, the carbon dioxide emissions associated with the life-time operation of delivered products totaled approximately 18 Mtonnes, a reduction from 19 Mtonnes in 2009, and our direct emissions from in-house activities totaled approximately 0.64 Mtonnes.

A Group carbon footprint reduction objective was set in 2009 for in-house activities and life-time operations of delivered products. The target is to reduce the carbon intensity for these two categories by 10 percent per year, or in total 40 percent, over five years compared to a 2008 baseline. In 2010, Ericsson met the annual 10 percent reduction target: a 14 percent reduction in indirect emissions per capacity from delivered products was achieved, resulting in 26 percent total from 2008.

There was a slight increase in direct emissions from our in-house activities. Component shortages led to an increase in shipping by air, and business travel increased somewhat due to increased number of employees. Thus, we were not able to reduce our direct emissions as anticipated, but will increase focus in this area for 2011.

We continue to help our customers reduce their impacts – through network efficiency gains and modernization. Innovative solutions help decouple growth in network traffic from emissions growth, delivering cost savings for operators while tackling climate change. Issues that are important for our sector – energy-efficiency, management of electronic waste, use of hazardous materials and conflict minerals – are an ongoing focus for Ericsson.

To ensure we keep at the forefront of sustainability thinking, Ericsson actively monitors developments in the market and regulatory areas and plays an active part, alongside other stakeholders, in national, regional and global sustainability debates.

Our most significant environmental impact occurs when energy is consumed during products in operation.
ERICSSON LIFE-CYCLE ASSESSMENT CARBON FOOTPRINT 2010

CARBON FOOTPRINT TARGET RESULT 2010

- Direct emissions (Ericsson own activities)
- Indirect emissions (all other life-cycle emissions)

Activities in 2010

Future (lifetime) operation of products in 2010

Products in operation

End-of-life treatment

- Supply chain
- Ericsson activities
- Operator activities
- Products in operation
- End-of-life treatment

~ = Approximately

Direct emissions (Ericsson own activities)

Indirect emissions (all other life-cycle emissions)

~ = Approximately

Products in operation kg CO₂/capacity [subscriber/line/port] and year

Ericsson activities kg CO₂/capacity [subscriber/line/port]

Baseline 2008 for Ericsson activities and products in operation: Actual achievements compared to baseline are shown.

~ = Approximately

~ = Approximately
During 2010, Ericsson put processes in place to achieving the Group target for reducing the environmental impact of in-house activities. Our focus is on four areas: facilities, logistics, business travel, and IT solutions.

Ericsson has a five-year ambition for the future workplace anchored on more sustainable ways of working including business travel, sourcing, IT and facilities. Harnessing technology, we can enable a more flexible, mobile working environment with increased productivity, improved efficiency, reduced emissions and lower costs. We will increase use of online meeting tools, video and telepresence to meet these goals.

FROM AIR TO LAND
The most significant issue is logistics: the shipping and distribution of products. To reduce emissions, Ericsson has made a strategic shift from air to surface freight to reduce emissions. A component shortage in 2010 resulted in not meeting our surface transportation targets and led to an unforeseen and temporary increase in shipping by air. Consequently, 46 percent of outbound shipments were surface shipments instead of the anticipated 60 percent. A new measurement indicator covering a wider scope of transport, Global Share Surface, will be used from 2011. Using this new indicator, the 2011 target is to increase surface transport to 70 percent.

ENERGY-WISE FACILITIES
Facilities are a critical area for lowering the carbon footprint. A global energy management program is implemented for 75 percent of operations. In 2010, energy audits were conducted for 30 percent of our major locations to identify ways to reduce energy use. Competence Centers for Energy Management were established including implementation of a new Environment and Energy Reporting systems covering over 40 percent of our total building space.

We improved the energy-efficiency of data centers, servers, and cooling systems, responsible for the highest energy consumption in office buildings. Consolidation of data centers is underway. We reduced the number of R&D hubs from 38 to seven, resulting in fewer servers. Using virtual servers produces less heat and requires less energy for cooling. Ericsson is increasing use of green energy and our share of green electrical power in Europe is about 60 percent. (This includes the use of solar, wind and other energy sources).

FUTURE WORKPLACE SOLUTIONS
SMARter WAYS OF WORKing
In 2010, we established a Group travel management function and travel tracking solution to gather better CO2 data from travel partners. We reduced the number of travel agencies we use from over 60 to two. To reduce business travel, Ericsson is deploying our own smart work solution, Business Communication Suite including web-conferencing and other virtual collaboration tools which can also be shared with other external parties. The target for 2011 is to reduce energy use in offices by three percent per employee.

Ericsson has also launched a videoconferencing solution, Visualcom. Using this solution, Ericsson conducted a study in Sweden of the potential carbon reduction of using video to limit business travels which showed an annual reduction of more than 85 tonnes of CO2 emissions.

In a survey of employee travel habits, a high percentage of the 5,500 respondents said they would choose not to travel when possible. The highest number of trips were between offices in Stockholm and Gothenburg: video-conferencing facilities are being piloted in these two cities to address this.

REMOTE DELIVERY OF SERVICES
Ericsson is also committed to minimizing the environmental impact of services we deliver. In 2010, 55 percent of integration services and 25 percent of network rollout services were delivered remotely. Remote working techniques reduce air and ground travel; intelligent collaboration tools ensure the customer experience is not compromised.
ENERGY-EFFICIENCY
More efficient networks can ensure increased traffic capacity demands don’t lead to an unsustainable rise in network energy consumption.

DESIGN FOR ENVIRONMENT
Design for Environment (DfE) is an integrated part of the product design process. Our product portfolio worldwide is designed around materials efficiency, energy-efficiency and end-of-life treatment efficiency.

SOLUTIONS FOR OPERATORS
Rising energy costs and network growth are putting cost and carbon footprint at the top of telecom operators’ agendas. Ericsson takes an end-to-end approach in providing solutions.

DOWN TO EARTH
In the European Commission project EARTH, Ericsson is working with other industry partners to achieve the ambitious goal of reducing the energy consumption of mobile systems by 50 percent.

TAking IT BACK
Through our Ecology Management Program, Ericsson offers free take-back of equipment at the end of life. We are also working to address e-waste in Ghana.
Telecom operators face the challenge of meeting rising capacity demands, while at the same time reducing network energy consumption. Ericsson applies a holistic approach to energy-efficient network design. Network performance and future-proofing are key. State-of-the-art networks are designed for energy-efficiency, increased lifespan as well as reduced need of maintenance and site visits. Ericsson’s innovative solutions on node, site and network level are helping to minimize the total energy required while maximizing traffic delivered (voice calls handled or megabytes transferred).

**SLEEK DESIGN**
Our product cycles focus on more compact and efficient designs that provide equivalent or better coverage and capacity in a smaller size, consume less power and generate less heat, which requires less cooling.

**SMART MODERNIZATION**
In a typical mobile network up to 90 percent of the energy consumed in the radio access network (RAN) is from radio base stations, and a mobile operator has on average 80 percent of its energy going to the RAN. Over the years, Ericsson has reduced the power consumption of our base stations for a given capacity. At the same time, we have improved the range of each base station, so fewer sites are needed to cover a given area.

During 2009-2010 Ericsson introduced the state-of-the-art multi-standard radio base station, RBS 6000, for mobile networks. The RBS 6000 provides the foundation for efficient modernization of the radio network, providing support for 2G/GSM and 3G/WCDMA and...
4G/LTE (Long Term Evolution) capabilities. Operators wanting to deploy 3G/WCDMA or 4G/LTE face practical difficulties since there is little space left on existing 2G/GSM sites for additional equipment. RBS 6000 solves this issue by providing a high-capacity, multi-standard cabinet, containing both energy-efficient 2G/GSM equipment along with 3G/WCDMA or 4G/LTE technology. When spectrum allocations allow, the multi-standard radios can be used simultaneously for two standards, with additional energy savings of 20-30 percent.

**BIG ENERGY SAVINGS**

Networks can be energy optimized in many ways: advanced network design; reduced number of sites; site power efficiency; equipment for climate control, and more efficient hardware models with trunking gains from higher capacity site configurations. (Trunking is a concept by which a communications system can provide network access to more clients by sharing a set of lines or frequencies instead of providing them individually). Immediate savings can be made by implementing energy-reducing software features. But most significant gains come from network modernization, where the combined effects of improving installed base stations and hardware modernization can reduce the radio access network energy consumption by as much as 60 percent. Additional site modernization will add significant savings.
ENERGY-EFFICIENCY SOLUTIONS

UP IN THE AIR

A recent innovation is the Ericsson AIR (antenna integrated radio) solution, launched in 2011, based on a unique design that integrates the radio unit into the antenna. Field trials in customer networks demonstrated that the solution provides reduced power consumption of up to 40 percent, mainly due to reduced feeder loss and simplified cooling. Trials have also shown improved integration and installation time up to 30 percent.

The Ericsson AIR solution will ensure highly efficient and smooth introduction of 3G/WCDMA and 4G/LTE technologies. As Ericsson AIR has fewer units and fewer interconnections compared to traditional site solutions, a new standard or a new frequency band can easily be introduced, thus reducing costs for mobile operators. The Ericsson AIR solution will be commercially available in the second half of 2011.

IN COOL COMPANY

Our new RBS 6000 macro outdoor uses a high-efficiency heat exchanger based on thermosiphon cooling technology. By following an outdoor cabinet strategy that never mixes inside with inside air, numerous advantages are achieved. The RBS total lifetime is increased, site maintenance is reduced as the frequent filter replacements required in an open air cooling system become unnecessary, and indoor-specified transmission equipment can also be housed in the RBS.

RBS 6000 is using the thermodynamic method of passive heat exchange based on natural convection which circulates liquid without the necessity of a mechanical pump. The liquid is placed in a vertical closed-loop circuit. Its purpose is to simplify the circulation of liquid and heat transfer, by avoiding the cost and complexity of a conventional liquid pump. Convective movement of the liquid starts when liquid in the loop is heated, causing it to expand and become less dense, and thus more buoyant than the cooler water in the bottom of the loop. Convection moves heated liquid upwards in the system as it is simultaneously replaced by cooler liquid returning by gravity. Energy savings compared with earlier outdoor cabinets are significant.

BASE STATION DELIVERED EFFICIENCY

Efficiency of Ericsson’s base stations, averaged over the actual deliveries made to our customers. Measured as the base station power consumption divided by relevant base station hardware capacity. Includes base station and all major site equipment contributions such as conversion of incoming AC power supply to base station DC voltage and site-cooling equipment.
The power consumption is measured in Watts. The yellow part on the graph shows power consumption of the climate unit used to cool the electronics. In 2010 the highly efficient thermosiphon technology was introduced. The graph shows the power consumption of Ericsson’s outdoor base stations when used for 2G/GSM.
As data traffic on mobile broadband networks grows, the ICT industry needs to increase network energy-efficiency to reduce its contribution to global CO₂ emissions. EARTH is focused on understanding trends in network energy consumption over the next 10 years.

In 2010, Ericsson joined the Energy Aware Radio and neTwork technologies (EARTH), a two-and-a-half-year project funded by the European Commission. With 15 partners from industry, academia and research institutions from 10 European countries, the target of EARTH is to reduce energy consumption of mobile systems by a factor of at least 50 percent. The project is primarily focused on mobile cellular systems of LTE (4G/LTE) and its findings will contribute to ongoing work on developing network energy-efficiency standards.

For Ericsson, EARTH is an opportunity to apply our radio network expertise to better understand the impact of increasing data traffic and device growth on mobile broadband networks. Capacity, coverage and energy consumption are the three key parameters that will be examined.

EARTH has the potential to generate common models and methodology for energy-efficiency, build consensus on the key issues to be tackled, and serve a test environment for optimized energy-efficiency system prototypes. Through carbon footprint and system analysis, EARTH has identified key drivers for energy consumption and is developing short- and long-term solutions for improved energy-efficient network operation.

Ericsson has been studying the relationship between network energy consumption and data growth to better understand the key mechanisms for energy consumption in mobile networks. Absolute energy consumption is expected to increase over the next ten years, primarily due to adding approximately three times the number of subscribers, and about a thousand fold increase in data growth. However, our research and analysis shows that network energy consumption is not on the same growth path as the increase in volume of traffic. Instead, there has been an impressive decrease of energy needed to produce the data traffic (kWh/GB), due to technology and product improvements, in combination with increasing data rates for 3G/WCDMA technologies.

In 3G/WCDMA networks in Sweden (see graph) we have seen a 90-fold decrease in energy consumption per data traffic in kWh/GB (data and voice) over just four years (2006-2010).

Maintaining these efficiencies into the future will become increasingly demanding for product development and research within the cellular industry. Our findings show that mobile broadband will be able to meet the future traffic demands without a significant global increase of network power consumption. Continuous improvement in energy-efficiency should allow the networks’ energy consumption to remain stable during the next ten years, even as data traffic increases, larger mobile devices become more common, and more advanced and new mobile broadband networks are deployed.

Based on the illustrated trend, energy consumption will decrease by a factor of 100 per GB over 10 years.
Cost, energy consumption and carbon footprints are rising to the top of telecom operators’ agendas. Using our environmental and sustainability experience and insight, we help them reduce energy costs and minimize environmental impact.

Customers around the world are showing increasing interest in efficiency solutions. With rising energy costs, network growth, regulations and the imperative to act on climate change, operators want their network operations streamlined when it comes to energy and environmental impact.

With our Environmental and Sustainability consulting service, Ericsson is constantly looking at ways to improve service to operators. For instance, for operator 3 in Italy, Ericsson provided efficiency measures to modernize the network and data centers resulting in up to 50 percent reduced energy costs.

THE CASE FOR EFFICIENCY
In 2010 we significantly developed our network energy auditing abilities. We know it is vital to take a network perspective, looking at issues such as quality, capacity, and coverage, and based on this knowledge, optimising radio resources before optimizing at the site level to achieve the best results.

To help operators, we start with an energy audit to help identify potential energy savings in their network, data centers and other assets such as offices. We then recommend solutions, which might include services to improve network and site energy consumption, products especially designed for minimal energy consumption, and know-how to identify and deploy alternative energy sources in the network.

ENERGY-EFFICIENT SOLUTION
COOLING IT DOWN
Ericsson Network Energy Optimization (NEO) is one such service, focusing on maximizing subscriber traffic while at the same time reducing energy consumption. After maximizing efficiency at the network level, we consider options at site level such as cooling, power management and use of renewables. The result is less equipment needed and lower energy consumption for the network to support the traffic. Such efficiency improvements are crucial for mobile operators who want to maintain mobile traffic growth while at the same time cut their carbon footprint.

NEO also evaluates the use of alternative energy sources at sites. Off-power grid wind and solar solutions can reduce diesel consumption by 90 percent or more. During 2010, one site in Dertu, Kenya was powered by renewables for 94 percent of its running hours, resulting in a reduction in diesel consumption of 17,200 liters per year.

COMPLETE TURNKEY SOLUTION
In addition, Ericsson is developing software for our state-of-art mobile broadband technologies HSPA and 4G/LTE that successively increases the number of smartphones and other devices supported by the radio network equipment. Such efficiency improvements are crucial for mobile operators who want to maintain mobile traffic growth while cutting their carbon footprint.

This full network service offers our customers a complete turnkey solution combining both quick wins and longer-term strategies for their most critical energy challenges.

REAPING THE BENEFITS
For operators, the business case for efficiency is clear:

- reduced OPEX due to increased energy-efficiency across the entire network
- quicker adaptation to new environmental directives
- less risk for down time in unstable power grid areas
- cost-efficient off-grid expansion with alternative energy sources.
Is the ICT sector doing enough to reduce its own energy footprint?

“I am watching with growing concern the expansion of ICT’s own energy footprint. Energy-efficiency is an important first step but does not by itself amount to being ‘green’. You need to look at where the overall energy is coming from, particularly when overall energy demand is growing as fast as the ICT industry’s energy requirements. Companies can take critical steps to reduce this demand, but ultimately the power grid will only get ‘greener’ if we work together to change the policies that govern it.”
To stay on the cutting edge, we constantly assess our product portfolio for environmental improvements. We also monitor sustainability developments in the market and regulatory areas and participate in fora where we can contribute to national, regional and global sustainability goals.

For over 15 years, Ericsson has focused on minimizing the environmental impact of our products throughout the entire life-cycle. Design for Environment (DfE) is an integrated part of the product design process, embedding efficiency in materials, energy and end-of-life treatment across our product portfolio worldwide.

TOOL FOR MATERIALS DECLARATION
In 2010 we released a new materials declaration tool, based on a widespread industry standard, enabling efficient handling of product materials declarations for Ericsson and our suppliers. The tool enhances Ericsson’s ability to provide full and detailed materials declaration of all products and to analyze the portfolio to meet updated legislative and market requirements. In 2010 the portfolio was analyzed for impacts from the published REACH (Registration, Evaluation and Authorization of Chemicals) Candidate List with substances for authorization and the revised RoHS (Restriction of Hazardous Substances) exemptions.

BETTER CHOICES
Ericsson takes a precautionary approach to the use of halogenated substances and has worked with low-halogen materials since the early 1990’s. Ericsson published a study in 2010 showing that the majority of in-house designed printed boards and cables for Ericsson high-volume network infrastructure equipment use low-halogen materials. No performance problems related to the use of low-halogen materials in network infrastructure equipment were identified. Ericsson has also phased out lead in solder from printed board assemblies in our network infrastructure equipment. By first quarter of 2010 we produced more than 20 million lead-free soldered printed board assemblies. Field evaluations prove these boards are at least as reliable as those using tin-lead solder.

RAISING THE STANDARD
Knowing what’s in the sustainability pipeline for our sector is important, too. Ericsson plays an active role in the European ICT4EE (ICT For Energy Efficiency) Forum. This group was created to respond to the expectations set out in the 2009 EU Commission “Recommendation to facilitate the transition to a low-carbon economy.” The ICT industry is expected to identify a methodology framework and identify energy-efficiency targets by 2011.

Ericsson contributes to the development of well-defined standards harmonized between regions which drive efficiency in materials and energy use. Ericsson participates in the International Electrotechnical Commission (IEC), which sets international standards for electrical and electronic equipment. We also play an active role towards standardization through the ITU (International Telecommunication Union), ETSI (European Telecommunications Standards Institute) and other regional and international standardization initiatives.

A challenge for resource efficiency is setting standards for measuring products and network energy-efficiency that reflect actual operating conditions. Assessment standards for life-cycle impact of products, networks, services and organizations are also key.
Through our Ecology Management Program, Ericsson offers free take-back of equipment at the end of its life, in all 180 countries where we do business.

The program is built around the requirements of the EU Waste from Electrical and Electronic Equipment (WEEE) and is applied globally. In 2010, less than five percent of all material collected and processed was sent to landfill; more than 95 percent was recovered. This meets our own recovery target and exceeds the WEEE’s stipulated minimum 75 percent recovery rate.

Providing the service means responsible handling of equipment to ensure material does not end up in trade-restricted areas, landfill, or in places where unethical business practices are taking place. Most key material streams such as ferrous metals, precious metals, and plastics re-enter the commodities market where they are sold to industry as raw materials.

Customers from around the world, including India, Malaysia, Singapore, and the Philippines, are taking advantage of the program. In China, the process is being implemented in our production plant at Nanjing and we are in discussion with customers interested in the program.

In 2010, we had fewer take back requests than anticipated, and thus were unable to meet our target to increase volumes. This was due largely to the negative global economic climate and a global shortage of components in the first half of the year. During 2010, Ericsson has continued to improve its capabilities to handle WEEE in Latin America and the Middle East as well as in production facilities in Sweden, India and China, and we are working hard to increase awareness among customers about the service. For 2011, a new target has been set to achieve 20 percent volume of WEEE take-back vs. equipment put on market.

Ericsson is involved with a number of organizations focused on addressing the take-back issue. These include the UN STEP (Solving the E-waste Problem), with members from industry, governments, international organizations, NGOs and the science sector, and GeSI (the Global e-Sustainability Initiative), an ICT industry association that works in partnership with STEP, and the Ghana project.
SAFER E-WASTE HANDLING IN GHANA

In developing countries where suitable infrastructure does not exist, the handling of electronic waste can cause human health and environmental damage, while large volumes of valuable and strategic materials go unrecovered. To address this problem, Ericsson is one of several partners in an e-waste project in Ghana, along with the Raw Materials Group of Sweden, the Nordic Development Fund’s Climate Facility and the Environmental Protection Agency in Ghana.

Currently in the start-up phase, the project is expected to be completed within two years. Handling of e-waste in Ghana is typically done by people working in the informal sector using simple manual methods – including open burning of flammable e-scrap components – at sites that expose them to hazardous and toxic substances and pollute land, water and air. E-waste is an important source of secondary raw materials since it contains valuable concentrations of metals. Currently, only a fraction of these are recovered due to inappropriate recycling methods.

The project is assisting the Ghana government to establish recycling infrastructure to help solve Ghana’s e-waste problems and reduce its climate footprint as more energy-efficient processes to extract metals are used. Establishing efficient handling and dismantling methods will also improve e-waste workers’ health and safety, and alleviate poverty through improved livelihood conditions, while ensuring better handling of electronic waste.
Digital Development, in which Ericsson CEO Hans Vestberg serves as a Commissioner. At the Millennium Development Goals Summit at UN Headquarters in September, the Commission issued recommendations to world leaders in their report, “A 2010 Leadership Imperative: the future Built on Broadband.” One recommendation was to utilize the Commission for studying ICT solutions to climate change. A working group on climate change, chaired by Ericsson, is now developing that work further.

In 2010, Ericsson was a core contributor to the 2010 GeSI report: “Evaluating the carbon reducing impacts of ICT, an assessment methodology,” helping to create a practical methodology and roadmap for quantifying the carbon-reducing impacts of ICT solutions.

Ericsson is working with customers globally as well as a range of industries to leverage on existing business models and create new business models around areas such as healthcare, national security and public safety, transportation, utilities, connected homes and sustainable cities. The ultimate goal: improve quality of life while also tackling climate change.

**ENABLING A LOW-CARBON ECONOMY**

Few industries have as much potential to lead the transition to a low-carbon economy as the ICT sector. The industry itself only accounts for two percent of total CO2 emissions, but it can make significant contributions to reducing the 98 percent of carbon emissions that come from other industries and sectors.

The “Smart 2020” report by the industry group Global e-Sustainability Initiative (GeSI), of which Ericsson is an active member, set a vision of using ICT solutions to reduce global business-as-usual emissions by 15 percent by 2020, representing energy savings of about 600 billion Euros. Now it is time to deliver. Through innovative technologies like smart grids, remote working, and intelligent transport systems, the ICT sector can help shift society towards greater resource and energy conservation and efficiencies.

In 2010, Ericsson demonstrated the power of telecommunications as a catalyst for a sustainable society through a range of initiatives. These included advising cities on using technology to reach ambitious carbon-reduction targets, for example, in the Stockholm Royal Seaport Project (p. 51); working with utilities on smart grids (p. 52); and supporting the ICT Guadalajara ICT Declaration at the COP16 climate change negotiations (p. 48). Ericsson has also developed the Carbon-Smart Commuting concept (p. 57).

Raising awareness is the first step. This is one of the aims of the Broadband Commission for Digital Development, in which Ericsson CEO Hans Vestberg serves as a Commissioner. At the Millennium Development Goals Summit at UN Headquarters in September, the Commission issued recommendations to world leaders in their report, “A 2010 Leadership Imperative: The Future Built on Broadband.” One recommendation was to utilize the Commission for studying ICT solutions to climate change. A working group on climate change, chaired by Ericsson, is now developing that work further.

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Ericsson is working with customers globally as well as a range of industries to leverage on existing business models and create new business models around areas such as healthcare, national security and public safety, transportation, utilities, connected homes and sustainable cities. The ultimate goal: improve quality of life while also tackling climate change.
The ICT sector can be a key enabler in the shift to a less carbon-intensive economy. Through use of broadband-based technologies and applications such as smart grids, remote working, and intelligent transport systems, significant energy conservation and efficiency gains can be achieved.

SETTING THE FRAMEWORK
Making the transition to smarter technologies requires willingness to make changes in lifestyles and ways of working, doing business and running our economy. Change on this scale is not easy and requires vision and concrete goals. Ericsson is working to raise awareness and measure the benefits to be gained by shifting to smarter solutions. By moving from a product to a service perspective, for example, a meeting becomes a service that can be delivered virtually rather than through physical means.

Raising awareness is critical to capitalizing on the opportunities, including the right policy framework. We have been building on earlier work from the reports, “Communication Solutions for Low-Carbon Cities” and “A Five-Step Plan for a Low-Carbon Urban Development”, in which Ericsson and WWF Sweden made recommendations to policymakers that included, for instance, integration of low-carbon ICT solutions into climate strategies for cities.

On the global level, we make our voice heard at the global climate change negotiations as well as being represented on the GeSI Board, helping to driving its global policy work to deliver a coherent policy framework and strategy to address sustainability issues.

Ericsson contributes actively to the standardization work of The European Telecommunications Standards Institute and the International Telecommunications Union, as well as in other regional standardization bodies.

PROVING ICT’S VALUE
Just how big a difference can ICT make? In “Measuring Emissions Right,” Ericsson developed a methodology to assess the climate-positive effects of ICT. These are illustrated in LCA case studies within health service delivery in Croatia, use of mobile money in Kenya, and collaborative work solutions enabled by Ericsson Business Communication Suite. We see an increasing demand for enterprise solutions in the area of virtual meetings and in enabling virtual, collaborative, ICT-based working solutions.

Ericsson’s performance in both reducing our own environmental impact and contributing to reducing the carbon impact of other sectors of the economy was acknowledged by a 2nd place ranking on the 2010 Greenpeace Cool IT Leaderboard, which evaluates ICT company efforts to pioneer climate solutions, reduce their own energy impact, and engage actively in political advocacy.
SUSTAINABLE CITIES
Cities today are home to half of the world’s population and this will likely increase to 70 percent in 40 years’ time. Modern information technology—and broadband in particular—can help make them more sustainable. Stockholm Royal Seaport is an incubator for the connected sustainable city of the future.

TRANSPORT
Fully integrating transport infrastructure, vehicles and users with ICT can significantly reduce environmental impacts and deliver improved safety and efficiency. Through its carbon-smart commuting concept, Ericsson offers a range of solutions.

SMART GRIDS
Power generation is among the main culprits in global warming. Smart grids are the prerequisite for large-scale use of renewable energy and require intelligent ICT-based solutions to make it happen.

ICT AND CLIMATE CHANGE
A push for large-scale change to more information-based infrastructure is at the heart of the Guadalajara ICT Declaration presented by ICT industry leaders at the COP16 global climate negotiations in 2010.

TELIASONERA AND ERICSSON RESEARCH
To help drive home ICT’s sustainability potential, we need facts.
A focus on solutions - that is the aim of the Guadalajara ICT Declaration for Transformative Low-Carbon Solutions presented by ICT industry leaders, including Ericsson at the COP16 global climate negotiations in December 2010. The Declaration has the backing of the Global e-Sustainability Initiative and some 40 companies and organizations from more than 20 countries, which in 2009, represented more than one trillion USD in turnover. This group is committed to developing solutions such as digital health and education, smart grids, remote working and intelligent transport systems, which use mobile and broadband connectivity to benefit climate goals.

The focus of climate negotiations has tended to be on high carbon-emitting sectors, where industry is part of the problem. But companies offering transformational solutions to climate change want their voices heard, too. For Ericsson, COP16 was an opportunity to drive uptake of low-carbon solutions by underlining the need for policy frameworks around the world that support deployment of broadband infrastructure.

Through ICT solutions, Ericsson believes it is possible to shift the climate change discussion from problem to solutions and the kind of large-scale transformative change that will enable a shift from physical to information-based infrastructure.

In 2011, the ICT Guadalajara Declaration will be followed with the establishment of a public-private work stream focused on transformative low-carbon ICT solutions, in preparation for COP17 in Durban, South Africa.

KEY RECOMMENDATIONS OF THE GUADALAJARA ICT DECLARATION

For operators, the business case for efficiency is clear:

- Recognize and make full use of ICT solutions
- Support the creation of a work-stream focusing on transformative solutions
- Support a global workshop to highlight government policy best practices
- Recognize ICT solutions in mitigation, technology mechanisms, technology development and transfers
- Support methodology development
- Include ICT in national mitigation/adaptation plans
LUIS NEVES, CHAIRMAN, GLOBAL E-SUSTAINABILITY INITIATIVE (GESI) AND VICE PRESIDENT, CORPORATE SUSTAINABILITY, DEUTSCHE TELEKOM

Can ICT really help society cut carbon emissions by 15 percent by 2020?

“The potential reduction is much higher, in my opinion, and it is already happening. The ICT sector has an incredible capacity to innovate and help society dematerialize. The more we dematerialize, the more we will see CO₂ going down. But we need to do more to incorporate sustainability into the innovation process. Then we will achieve even greater results.”
Cities today are home to half of the world’s population. By 2050, UN estimates put this at 70 percent. Growing urban population could push fragile eco-systems, scarce natural resources, and global warming to their limits. Modern information technology—and broadband in particular—can help make our cities more sustainable.
The urban centers of the world produce nearly 80 percent of CO\textsubscript{2} emissions but only cover two percent of land. This impact is expected to increase dramatically in the next three decades. Estimates from a 2010 research study by WWF and Booz & Company, show that in a business-as-usual scenario, USD 350 trillion (or seven times current global GDP), will be spent on urban infrastructure and operation over the next 30 years to accommodate population growth. Broadband technology opens up a range of solutions and services that can plug into a common communications platform to create the attractive eco-city of the future. But while broadband can create more sustainable choices about the way we live in cities, there must be change in attitudes and behaviour as well as supporting government policy that directs investments towards low-carbon cities. A “smart city” is not necessarily a sustainable city if ICT-enabled solutions like videoconferencing and telecommuting only exist alongside and do not replace carbon-intensive ways of working and commuting. It is the vision, objectives and implementation which make it possible to create a truly sustainable city.

AT HOME IN 2030
Stockholm Royal Seaport marks a new frontier in sustainable urban design. When completed in 2030, the Royal Seaport will offer 10,000 new homes and 30,000 additional workspaces in an environment that unite modern architecture with climate-smart and efficient infrastructure. It will house some 30,000 people, with the objectives of a carbon footprint of 1.5 tonnes per person per year by 2020 and a climate-positive city district by 2030. Ericsson is ICT solutions advisor to the city of Stockholm on reaching these tough targets.

Ericsson is also part of the Urban Smart Grid project led by the utility company Fortum and ABB to study implementation of a complete smart grid. There are 11 partners in the project, including ABB, Electrolux, NCC and the Swedish Royal Institute of Technology. The urban smart grid will enable Royal Seaport’s inhabitants, businesses and government services to increase renewable energy production and reduce energy consumption. With the organization Swedish ICT and the telecom operator TeliaSonera, Ericsson is studying how the implementation of a common communications platform can support the connection of homes, utilities and meters, public transport, buildings, electrical vehicle charging stations, and enterprises at the Seaport. The study also includes suggestion of test beds for specific services such as access to healthcare.

TRASH TO TREASURE
Ericsson is also actively involved in SymbioCity (Sustainability by Sweden), a network of Swedish companies and organizations headed by the Swedish Trade Council to promote urban sustainability initiatives. The concept: to leverage synergies such as turning waste into energy. SymbioCity identifies the links between landscape planning, waste management, architecture, urban functions, industry and buildings, energy, traffic and transport, water supply and sanitation. Our aim: to show how ICT can support Stockholm to achieve its sustainability goals.
 Utilities get smart

Accounting for about 25 percent of total CO₂ emissions, power generation and electricity are among the main culprits in global warming. Energy utilities are therefore a key part of the solution for a more sustainable world. Smart grids are leading the way.

The utility industry faces powerful economic incentives to reduce carbon emissions. Many governments around the world are taking the lead in pushing for smart grids, and earmarking substantial funds to support the roll-out of smart meters to drive energy-efficiency. Intelligent ICT-based technology such as meters, sensors and other devices and systems enables better management of electricity to homes, factories, offices and other buildings. The benefits accrue across the whole value chain (see side bar, “Transforming Grids”). The business model for smart grids is becoming increasingly attractive to the electricity industry as it seeks to upgrade aging networks to meet demand for renewables. This is only expected to grow in the future.

Unlocking the Grid
Ericsson is actively involved in smart grid transformation worldwide as a prime integrator of the ICT platform. This will enable exchange of detailed information about electricity consumption patterns, pricing signals, and remote control of smart devices. The telecom industry’s extensive experience with time- and volume-dependent pricing can be adapted to the utility industry. We are working on smart grid solutions for customers across many markets, including Australia, Canada, Italy and Spain (p. 54). Ericsson Research is strongly focused on smart grids. We are chair of the telecom-related work for the European ADDRESS project, an EU-funded project with 25 partners from 11 countries looking at the future of smart grids in Europe, studying the impact of adding more renewable energy to the grid.

Contributing to Climate Goals
We are also involved in leading R&D work such as InnoEnergy, one of three knowledge and innovation communities established by the European Institute of Innovation & Technology (EIT), which is exploring the use of smart grids to meet European climate goals. Smart grids are also part of Ericsson’s contribution to the Stockholm Royal Seaport Project (p. 51). For smart grids to achieve their full potential, economic incentives for utilities to make the necessary investments, standardization of smart grid technology by the utility and ICT sectors, and active consumer participation are needed.

Transforming Grids
A smart grid makes it possible to:

- Make greater use of renewable energy by adjusting for variability in the amount of energy captured from sun and wind
- Tackle the problem of losses, primarily by measuring quality of electricity supply and outages at different levels of the grid to understand where the grid should be improved
- Reduce peak demand by moving some of the demand to off-peak times, and have real-time information about battery charging levels
- Adjust for pricing incentives, i.e., when more renewable energy is available on the grid
- Use more electricity if there is an oversupply, i.e., to cool down refrigerators so that they don’t require cooling during peak times

World Energy Demand Is Expected to Grow by a Third by 2035:
International Energy Agency.
AMBITIOUS ROLL-OUT IN AUSTRALIA

Real-time, two-way communications for up to two million devices and meters are just a first step in EnergyAustralia’s ambitious Smart Grid program. EnergyAustralia was recently chosen by the Australian Government to lead the Smart Grid, Smart City demonstration project to test Australia’s first fully integrated, commercial-scale smart grid. One of the largest energy suppliers in Australia, the utility serves 1.6 million electricity network residential customers and 1.4 million retail customers. Under the program, a total of 12,000 smart monitoring devices will be installed through a 4G/LTE wireless telecom network which Ericsson will deploy.

EnergyAustralia sees multiple benefits: faster response to power shortages, ability to handle renewable energy and electric vehicles, and giving households access to information and control over their appliances and energy use. The network will be rolled out across 150 sites, of which 125 in New South Wales.

HYDRO-QUÉBEC IN THE PILOT SEAT

In Canada, Hydro-Québec, one of North America’s largest electric utilities has chosen Ericsson as the prime integrator for the first phase of a smart metering pilot project.

Ericsson will be responsible for implementation and integration of Energy ICT’s Meter Data Management System, which will pull data from 3.7 million meters and integrate it with back-end office systems. By providing utilities with up-to-the-minute data streams, smart metering systems can significantly improve operational efficiency. The aim of the remote meter reading project is to test-drive smart meter systems ahead of their expected widespread deployment scheduled to begin in early 2012.
ROLLING IT OUT IN EUROPE

Today, thanks to an Advanced Metering Management (AMM) system, Acea Distribuzione, Italy’s largest municipal utility, is lowering its costs and better managing energy flows. Completed in 2010 – and one of Europe’s largest smart metering rollouts – Acea’s AMM system offers some 1.4 million households in Rome better quality supply, tailored packages including demand incentives and prepayment, along with access to online information. Aimed at modernizing and improving the energy delivery system, it can also be extended to water and gas meters.

Across Europe, Ericsson has been working closely with the region’s leading utilities – including Acea – to enable more intelligent electricity grids. Increasingly, utility customers are relying on us to manage the ever-more complex ICT platforms that underpin these smart grids. In 2010, we were selected by Endesa, Spain’s largest utility and one of the biggest electrical groups in the world, to operate the company’s corporate telecommunications network under a 4-year managed services contract. This will enable Endesa to both save costs and focus on running their network more efficiently.
TRANSPORT: REINVENTING THE WHEELS

Intelligent transport systems that fully integrate transport infrastructure, vehicles and users with ICT can significantly reduce environmental impacts and deliver improved safety and efficiency.

Globally, the transport sector represents about 13 percent of global CO₂ emissions – and this is set to rise. The problems of increasing congestion and emissions won’t be solved by new infrastructure alone. By applying ICT-based innovation to all transport modes – air, water, road and rail – intelligent transport systems can optimize how we get around and help to make transport cleaner, safer, more seamless. Intelligent transport offers gains in efficiency, for example by reducing travel time, or monitoring metering of traffic, logistics, and route flow. It also enables the connectivity required to support infrastructure for electric vehicles.

A mobile broadband communications link makes it possible to gather and aggregate information not only from individual cars but from large numbers of vehicles over wide areas as well. Such con-
nectivity can improve safety and performance as well as transform the driving experience by preventing motorists from getting lost, avoiding traffic jams or missing needed maintenance.

For example, traffic congestion costs the EU 100 billion EUR per year or about one percent of its GDP. Traffic management applications which optimize routes and speed could result in savings of 16 percent in carbon emissions and 16 billion EUR annually.

Modern cars have hundreds of on-board sensors and actuators which measure everything from tire pressure to water temperature. However, the usefulness of this information is limited due to lack of remote connectivity for machine-to-machine communications. In other words, the information is only valuable if it can be processed by the right source.

Ericsson is working with customers, governments and others to explore new opportunities to deploy energy-smart transport. Solutions Ericsson has developed include:

**TRANSPORT SOLUTIONS**

**Carbon Smart Commuting:** This includes solutions and products such as web conferencing; multi-modal travel planners, and tools for car-sharing and carpooling.

**ConnectedCar:** Mobile systems inform drivers about up-to-date routes, road obstructions and weather reports, battery status on electric cars and more.

**eCall:** A crash notification service, along with mobile systems for traffic hazard warnings.

**Electric vehicle charging:** A prototype has been developed as part of the Stockholm Royal Seaport Project (p. 51)

Setting industry standards for the design of intelligent transport systems and deploying these widely is a challenge that calls for cross-sector partnership. Through the Earth Institute Roundtable on Sustainable Mobility, Ericsson and other private and public sector leaders are exploring how modern communication, energy and transportation technologies can help reinvent the automobile for safer, more efficient personal travel.
SOLUTION

ticket to ride in Brazil

Public transportation, including rail and buses, can benefit from intelligent transport solutions. In Curitiba, the largest city in southern Brazil, Ericsson is enabling an innovative transport solution through 3G/WCDMA mobile broadband. Through electronic ticketing and fleet management systems, controllers can access information about and monitor their fleet. And citizens can enjoy improved public transport services based on high-bandwidth connectivity. The new solutions open up possibilities for new traveler services that can help people plan their route and enable them to purchase tickets wherever and whenever it is most convenient.

SOLUTION

eco-bus in serbia

In Serbia, Ericsson together with Telekom Srbija launched in early 2011 in the city of Pancevo solutions aimed at tackling environmental issues and improving quality of service. The EcoBus is an environment monitoring solution (Air Quality Monitoring) that will measure pollution levels in town. Sensors are part of the measuring mobile test points that are mounted on public transportation vehicles. Mobile test points have GPRS interfaces and sensors for CO₂, CO, NO₂, temperature, humidity, pressure and position.

Measurements and position data are sent through the mobile network to the central database and SENSEI platform (an EU-funded research project in which Ericsson participated). Also, it will be possible to monitor air pollution data and vehicle position on the city Google map, though web applications or applications on an Android mobile phone.

BusTracker is an application that gives information about times of arrival for public buses. Subscribers can receive info about when a bus is approaching a certain bus station though web, Android phone, SMS or USSD, both systems for sending text messages by mobile phone.
In a move that saves both cost and the environment, Ericsson and supplier Distribution Services Provider (DSP) began in 2010 to use trucks instead of sea and airfreight for shipments to the Middle East. The solution resulted in a CO₂ emissions reduction of 45 percent as compared to airfreight. The total transport time from pick-up at factory or warehouse until delivery at the destination country is similar and sometimes faster with truck transport compared to airfreight. Thanks to Ericsson’s business, DSP has been able to attract other large Swedish and European companies to add their volumes to the solution, giving an even greater environmental impact. It is expected that in 2011 Ericsson will increase its trucking volumes to the Middle East by another 30 percent as compared to airfreight, improving the carbon footprint even further.
To help drive home ICT’s sustainability potential, we need facts. Ericsson, Swedish telecom operator TeliaSonera, and the Centre for Sustainable Communications at the Royal Institute of Technology (KTH) in Sweden pooled efforts in 2010 to try and quantify both the ICT sector’s own environmental impact and the difference it could make to other sectors.
Mapping our global footprint

Alongside TeliaSonera and KTH, Ericsson joined forces last year to assess electricity use and CO2e emissions (CO2 plus all other greenhouse gases and effects) from the ICT and Entertainment and Media Sectors (E&M). Among the findings published in the Journal of Industrial Ecology:

- The ICT sector produced 1.3 percent of global CO2e emissions in 2007 and the E&M sector 1.7 percent.
- The corresponding figures for direct CO2 were 2 and 2.6 percent respectively.

Smart work at TeliaSonera

Ericsson and TeliaSonera also measured the impact of TeliaSonera’s use of ICT-based smart work solutions such as teleworking, flexi-working, virtual or tele-presence conferencing and flexi-office. Their goal: to reduce air business travel, car travel and need for office space.

Using 2001 as a baseline year, the study found that between 2001-2007:

- Smart work initiatives reduced CO2e emissions by 40 percent per employee — or over 2.8 tons of CO2e per employee per year.
- Scaling the results to country level, the study found that similar initiatives could reduce some 20 percent of Sweden’s CO2e by 2020.
- Scaling to a global level could potentially reduce global CO2e emissions by 2 to 4 percent, if reductions of 20 to 40 percent were achieved per employee over a 10- to 20-year timeframe.

Impact in Sweden

In another study, we made a detailed examination of the carbon impact of TeliaSonera’s ICT network and services in Sweden. Among the conclusions:

- The CO2e emissions of an average mobile broadband subscriber are about 25 kg/year, including the whole life cycle of equipment, networks and supporting infrastructure. The corresponding figure for an average PC user with fixed broadband is about 200 kg/year.
- The main part of the carbon footprint per subscriber in Sweden comes from manufacturing of end-user equipment (mobile phones, PCs, etc) that mainly takes place abroad.

Ranking performance

In an assessment of low-carbon and environmental leadership in the ICT industry by Gartner, Inc. and WWF, Ericsson ranked second in Carbon Delivery Today — the environmental impact of the ICT industry (representing an estimated two percent of global carbon emissions) and second in Carbon Delivery Tomorrow - Applications of ICT (the 98 percent of carbon emissions that come from other sectors).

The survey examined 28 ICT providers’ commitment to managing the environmental aspects of their internal operations and their supply chain. It also explored their capabilities in advancing the low-carbon solutions markets and developing products and services that will help them and their customers reduce their greenhouse gas emissions or increase their energy-efficiency. While the report found “rapid progress” in 2009 and 2010, it noted that low-carbon economy solutions were “not yet core business” and that “more challenging, longer term goals” needed to be set. It also urged the industry to further commit its weight to influence climate change and sustainability policy.
CONDUCTING BUSINESS RESPONSIBLY

Good governance, with a robust focus on corporate ethics, is essential to doing business responsibly and enhancing investor confidence. At Ericsson, employees are accountable for their individual actions and for upholding the company’s core values. As a signatory of the UN Global Compact principles, we take a strong position on anti-corruption. This year, we made the decision to appoint a Chief Compliance Officer in 2011 to focus on Ericsson’s anti-corruption program and other ethics matters.

Our responsibility doesn’t stop at our door: we continually monitor the social and environmental impacts of our supply chain, too. This helps us better understand business risks, as well as promoting and implementing high standards of conduct throughout the value chain to ensure the quality of governance our stakeholders expect. In 2010, Code of Conduct training for our suppliers was made available in 13 languages.

Within Ericsson, we strive to create a safe and healthy working environment for all, with a coordinated, Group-wide approach to health and safety. We strengthened our global approach to Occupational Health & Safety in 2010. In addition, an e-learning program for employees was launched to build awareness about sustainability and corporate responsibility.

We also address human rights issues affecting our company, supply chain and others in our sphere of influence, such as data privacy and the challenges surrounding conflict minerals in our products.
People want to trust the companies with whom they do business. Our governance framework is based on the principles of business conduct outlined in the global Ericsson Group Management System (EGMS). This includes the policies, directives, guidelines and business processes that frame how we do business every day.

To be effective, corporate governance systems must be robust. But they also need to be flexible to respond to evolving expectations such as new legislation, and the concerns and demands of stakeholders. This is the underlying philosophy of our EGMS.

Compliance with our Code of Business Ethics, Code of Conduct and Sustainability Policy are at the heart of the EGMS. This is monitored through the Global Assessment Program implemented by our external assurance provider. The program tracks how Group policies and directives are applied, how operational risks are managed, and how corporate responsibility and sustainability objectives are achieved. Audits help verify performance against targets defined in the EGMS, with the goal of mitigating risks and strengthening performance. Annual assessments are conducted for Group Functions, Business Units and Regions within Ericsson.

Corporate responsibility is an increasingly important component of the EGMS. In 2010 the percentage of corporate responsibility criteria included in the Global Assessment Program increased to 25 percent.

A UNIVERSAL LANGUAGE
As well as reliable controls and procedures, sound corporate governance also requires a strong ethos of ethical business conduct across the organization. The company’s related policies and directives are contained in our Code of Business Ethics, translated into more than 20 languages. The Code details laws and statutes that concern Ericsson’s operations and financial reporting, as well as the protection of confidentiality and security of information concerning the company, its customers and suppliers. It also outlines our commitment to human rights. The Code is regularly acknowledged by all employees, and in March 2010, nearly 100 percent of employees reaffirmed the Code.

An anti-corruption e-learning program is provided to existing employees and our goal is to make it mandatory for all new employees. Its purpose is to inform, identify challenging situations, and help evaluate appropriate courses of action. Employees working within Security, Audit and Legal have received additional, specialized anti-corruption training.

Group Legal Counsel is available to provide support. Since there may be different cultural perceptions of what constitutes corruption in different parts of the world, special effort is made at local level to ensure Group standards are understood and adhered to. There are reporting mechanisms for breaches, including a whistleblower procedure for suspected financial irregularities.

CHIEF COMPLIANCE OFFICER
Our stakeholders expect Ericsson to uphold high compliance levels. With the business environment and legal and regulatory requirements becoming increasingly complex, in 2010 a decision was made to appoint a Chief Compliance Officer (CCO) for the Group. The position became formal in early 2011.

The CCO will support the organization with respect to compliance with laws and regulations, as well as internal policies and directives. The CCO may also serve as a Group focal point to coordinate the different strands of expertise already present within Ericsson. The CCO will initially focus primarily on Ericsson’s anti-corruption program.

ETHICS
Ericsson’s commitment to ethical conduct and anti-corruption, backed by policies, education and training, underscores our commitment to act responsibly to earn our stakeholders’ trust.
Human rights
Ericsson shares human rights concerns related to mining of minerals in conflict zones, working with others to improve transparency and traceability of mineral sourcing.

Supply Chain
We use our Supplier Code of Conduct, based on the UN Global Compact principles, to ensure that our global supply chain upholds high social and environmental standards.

Health & Safety
We take a global approach to achieving high standards of occupational health and safety (OHS) for employees and suppliers, with an OHS network established across 60 countries.
RAISING THE BAR WORLDWIDE

At Ericsson, working with suppliers towards improved standards, continuous improvement, and full compliance with our Supplier Code of Conduct (S-CoC) are part of how we do business, wherever we do business.

With supply chains increasingly global, sustainable supply chain management offers opportunities to improve working and environmental standards and build competitive advantage. Our S-CoC is based on the UN Global Compact principles covering labor, environment, human rights and anti-corruption. It is critical for good governance and the integrity of our brand.

There are several main components to our S-CoC program, including a global organization, comprehensive training and regular audits and assessments. All our regions have trained auditors, as well as procedures for assessing critical suppliers and for planning, conducting and follow-up of S-CoC audits and on-site assessments.

EMPHASIS ON TRAINING

In 2010, we held eight training sessions worldwide for Ericsson auditors. Globally the number of certified S-CoC auditors increased in 2010 from 130 to 150. Online S-CoC training is provided to suppliers, to help them better understand and communicate Ericsson standards to their own suppliers. To reach as many suppliers as possible, we have translated the material into 13 languages. Supplier response has been positive and we expect the course to expand in the future. The training is available on ericsson.com for anyone to use. An objective is that at least 90 percent of all strategic Sourcing personnel will complete the web-based CoC supplier training during 2011.

AUDITS TRACK PERFORMANCE

We conduct audits and on-site assessments to monitor if our supply chain lives up to expectations. In 2010, we performed 550 S-CoC audits and 218 on-site assessments. Overall, we found steady improvements in the supply chain in many areas, such as proper use of personal protective equipment, and suppliers’ communication of S-CoC to their own suppliers. However performance varied and improvement areas are identified in virtually all audits. Findings include inadequate training and information, communication of workers’ rights, and environmental management, and in some markets, use of excessive overtime. Corrective action plans and follow-up audits address these areas.

We work to raise awareness of CoC in the supply chain, particularly in developing markets. By actively helping our suppliers improve performance through audits, assessments, web training and seminars, we reduce our risk while contributing to higher standards in the supply chain.

MAKING PROGRESS IN CHINA

In 2010, 32 selected suppliers in China, who had been audited in 2009, were re-audited. The results were impressive: in one year, the number of audit areas with major findings (critical in the report scorecard) was down by 46 percent. Minor findings (warning) remained constant. Scorecard areas in which the suppliers conformed to the S-CoC were up sharply.

The audit areas with the most remaining critical scores were:

- Overtime
- Securing CoC compliance in the supply chain
- Environmental management
- Chemicals handling

These will remain priority focus areas in 2011.
A RISK-BASED APPROACH

Ericsson operates a systematic and documented risk matrix to identify higher-risk suppliers. This matrix was updated in 2010. Among the prioritized (or risk) commodities are:

- die-casting and network roll-out
- tower manufacturing and galvanization
- enclosures
- mechanical parts
- power supply
- printed circuit board manufacturing
- warehousing and logistics.
A safe and healthy working environment for all our employees worldwide is a commitment Ericsson takes personally.

In 2010 our global approach to occupational health and safety (OHS) was further strengthened. A focus on individual country level has been replaced with a coordinated, Group-wide approach that aligns practices and responsibilities globally. It dovetails with our OHS Policy and Directive and the OHS network we have established across Ericsson globally.

A harmonized global system for OHS mitigates risk, but it is not without challenges. Legislation differs around the globe – and this requires meeting a variety of cultural and competence needs to ensure consistent practices Group-wide.

We have mapped our ongoing competence needs in 2011. We will focus on mandatory e-learning for all OHS personnel, activities to raise awareness for employees, and specialized training programs for management.

In 2011, we will also perform Group audits as part of our implementation of the Occupational Health and Safety Assessment Series (OHSAS) 18001. The OHSAS 18001 provides additional assurance to our customers that we have robust systems in place to protect Ericsson employees and others engaged in company business, as well as to protect our brand and our customers.
ERICSSON SUPPORTS RESEARCH INTO SOLUTIONS THAT PUT OWNERSHIP OF DATA INTO THE HANDS OF THE USER

ADDRESSING HIV/AIDS IN SUB-SAHARAN AFRICA

Programs to improve wellness and reduce the impact of HIV/AIDS are making a real difference for people working with Ericsson in sub-Saharan Africa. This includes permanent employees and contractors based at an Ericsson office. With appreciation for their contribution, we continued to collaborate with the Swedish Workplace HIV/AIDS Programme (SWHAP) during 2010 by introducing programmes in Ghana, Tanzania and Rwanda and adding to ongoing efforts in South Africa, Kenya and Uganda. SWHAP provides support with funding and expertise for workplace activities to tackle HIV/AIDS. It also evaluates and follows up on programs.

The workplace programs typically include policy formulation, information, establishment of wellness committees, training of peer educators, voluntary counseling and testing, providing support to HIV-positive employees and community outreach. In addition, comprehensive wellness testing is done for blood sugar, cholesterol, BMI, blood pressure and malaria. On-going patient management ensures that employees who are high risk in any area are provided with the proper support to reduce these risks. A holistic wellness calendar provides themes for interventions on a monthly basis focusing on physical, emotional and psychological wellbeing. The SWHAP programme also enables Ericsson to network and collaborate with other Swedish employers and consulates operating in sub-Saharan Africa.

The business case is clear. An actuarial assessment commissioned by SWHAP in South Africa showed that a successful workplace program could reduce the total additional costs of HIV/AIDS for Ericsson in South Africa by nearly 50 percent.

AN OPEN SOCIAL NETWORK

In our Networked Society, an increasing amount of data is being shared via smart phones, online social networks, and machine to machine. Data privacy has become a growing concern among many users of the Internet. As a leading provider of ICT products and solutions, Ericsson is researching and developing applications that address these concerns.

In 2010, we became a partner in the Stanford University Mobile and Social Computing Research Group (MobiSocial) which focuses on development of open, egalitarian social and mobile computing architecture and platforms. MobiSocial is currently developing solutions that allow people to interact socially without having to join the same proprietary social network. Ericsson supports research into solutions that put ownership of data into the hands of the user, and provide users with greater choice and transparency.

www.mobisocial.org
Conflict minerals – minerals mined in conditions of armed conflict and human rights abuses – are an issue of considerable concern in society. Ericsson shares the concern related to mining of minerals in conflict zones and the work conditions in these mines. We continuously try to improve the conditions in our supply chain. This work is guided by two Ericsson Group policies:

- The Code of Conduct which states our commitment in the areas of basic human rights, labor standards, environmental management and anti-corruption in the work place. Compliance to this Code is a requirement for all suppliers.
- Our Sustainability Policy which outlines our commitment to meet or exceed applicable legal requirements in the socio-economic and environmental areas.

Ericsson takes active measures to ensure that we in due time will have processes in place to fulfill section 1502 of the Wall Street Reform and Consumer Protection Act in an efficient and effective manner. Our proactive efforts ensure that we are well positioned to meet legislative requirements in this area and we are closely following developments in all markets.

Due to the complexity of this matter we recognize the importance of industry-wide efforts and participate in the sector-wide Extractive Working Group of the Global e-Sustainability Initiative. Together with a broad range of stakeholders, including NGOs and government agencies, this focuses on improving the transparency and traceability of mineral sourcing, with the goal of creating a multi-industry conflict-free mineral supply chain.
A COMPLEX SITUATION

The term conflict mining refers to the mining of columbite-tantalite, cassiterite, wolframite and gold ore in the Democratic Republic of Congo (DRC) and neighboring regions where the mining is believed to support the ongoing conflict. Derivatives of these minerals are tantalum, tin, tungsten and gold, all of which can be used in electronics components. Tracing the ownership and origin of these minerals is challenging as the supply chains include multiple actors, from small-scale producers to local consolidators as well as smelters and other processors. The smelting and refining of minerals often combines ore from many different sources, making it difficult to trace their origin after refining.

There has been an ongoing debate about whether companies should simply pull out of mining in the region, or support a ban. In Ericsson’s view, that is not necessarily the best approach. The DRC has a large legal mining industry that provides employment and income for many workers. The OECD and others have noted that a ban could damage the economy and stability of the country. We are concerned about mining activities that occur where human rights are not respected. Our goal is to find an approach that improves labor and living standards while taking every effort to ensure an effective, verifiable, conflict-free sourcing from the region.
Empowering People

With an engaged and diverse workforce, Ericsson is better positioned to achieve our business and sustainability aims, attract and retain talent, respond to our customers’ needs and maintain a competitive advantage.

Our people represent the greatest contribution to the success of our business and are critical to achieving our sustainability aims. At Ericsson, we put strong emphasis on career development, performance management and leadership growth to ensure our more than 90,000 employees have every opportunity to fulfill their potential.

The core values of the Ericsson corporate culture are respect, professionalism and perseverance. Our annual employee survey shows that over 90 percent of our employees feel the company’s core values are relevant to them. This attitude contributes to our company culture. It is also supported by our managers, who make sure the core values are part of everyone’s work every day.

All employees are expected to have a development plan with clear objectives and receive annual feedback from their managers to help develop their careers, identify any gaps in their knowledge and work towards closing those competency gaps. There is a global annual process to identify, assess, develop and appoint high performers who have the potential to be excellent managers. Ericsson also has several leadership assessment centers, leadership programs and executive development programs to further assess and develop managers. In 2010, 91 percent of employees had at least one formal performance-related discussion with their manager.

In our knowledge-based, Networked Society, learning is essential. At Ericsson Academy, we focus on ways to help employees exchange ideas, perform better, collaborate more and stimulate innovative thinking (p. 77).

Sustainability and corporate responsibility are increasingly important features of what talented people seek in an employer. People want to work for a company that sees its role in society in a broader context than simply earning a financial return for investors. They want a company they are proud to work for, which is managed with integrity and responsibility towards society and the environment, and where employees have an opportunity to contribute to those aims in their daily work.

A company with customers in 180 countries, needs to have a global mindset. Diversity is a key component of how we develop and empower our people (p. 74).

In 2010, we met our objectives to maintain or improve performance level for Individual Performance Management (IPM). The results of the annual all employee survey, Dialog, indicated that our new culture initiative is confirmed by our employees by achieving the highest index.
A diverse workforce is a strong, capable and innovative workforce, better able to respond to the needs of a global customer base and to help achieve Ericsson’s aims to contribute to sustainable development.

People with diverse background and perspectives create a dynamic workplace. Ericsson has a focused strategy to ensure that our employee base and our management teams are as diverse as the world in which we operate. Our definition of diversity extends beyond gender, race, religion, ethnicity, age and other established parameters to diversity of experience, functional backgrounds, family situations. The goal is to be inclusive, because we believe this approach best fosters innovative thinking and drives performance. To reach this goal, we embed our aim to increase diversity into all our processes for career development and talent management.

**DIVERSE LEADERSHIP**

In early 2011 as part of this focused strategy, Ericsson’s Executive Leadership Team increased its gender diversity, with an increase from eight percent women in 2009 to 20 percent women. Of the top 250 management positions in the company, 14 percent are female in 2010. It is important that we instill the approach that diversity is top of mind in developing our workforce, and built into our leadership development. A diverse team – where everyone contributes with their unique abilities, skills and experiences, presents a competitive advantage and stimulates innovation.
I believe sustainability and corporate responsibility contribute to shareholder value and are also important for how we do things as a company and what we share as a brand. Sustainability is important for how we attract, develop and retain our team. The decision of graduates and top talent to join a company depends a great deal on whether it is run with integrity and has values that they share. Employees want to work for companies they are proud of, that are run with integrity and responsibility. They want to be involved with companies that contribute to the community and to a better world.
ERICSSON ACADEMY PORTAL

50,000 web portal page views / 13,000 unique visitors / 4,500 active instructor-led courses

on average 26,000 web portal hits per month / 2,500 active online tutorials & courses
In a world where information is just a finger stroke away, on a PC, tablet, mobile phone, or other electronic device, Ericsson’s approach to learning is in step with a Networked Society that needs to collaborate, connect and compete, 24/7. Ericsson Academy is the company’s dedicated learning initiative to pursue learning excellence.

Ericsson Academy is a strategic hub to inspire people and organizations to exchange ideas, perform better, collaborate and stimulate innovation. The Academy provides a range of training courses, interactive forums, and learning materials online and on-demand, all tailored to an individual’s need. The goal is to network and share knowledge with employees, customers, universities, suppliers and partners in order to drive the ICT industry into the next decade.

The main focus on securing a competent, well-trained, knowledgeable workforce is more important than ever, indeed it is essential to our business success and competitiveness. Ericsson aims to create a learning culture in which learning and collaboration is embedded in our work and processes and utilizes a wide range of learning methods and technologies from informal to structured, from planned to on-demand. We are focused on aligning learning and competence development with the Ericsson business strategy both globally and locally. In 2010 we have strengthened both regional and business unit responsibility for promoting learning strategy, solutions and culture.

TAILORED LEARNING
Ericsson applies our own ICT solutions and digital learning tools to gaining knowledge and bolstering competencies, using the flexibility and convenience of learning anytime, anywhere via the Internet, smartphones, other devices and innovative applications. As a result, learning programs now offer shorter, more tailored modules satisfying a specific learning need. Competence readiness is one of three priorities in the Ericsson learning approach. In 2010, we offered 7,000 learning modules whereof about 2,500 were digital learning formats, a significant increase from 2009. Every area of the company is covered, from marketing and sales to operations and maintenance to sustainability and corporate responsibility (a Sustainability and CR e-learning portal was designed and launched by the Academy in 2010).

GOING INTERACTIVE
In 2010, Ericsson introduced a new platform for the learning portal with a focus on greater interactivity among employees, with community forums and other tools for employees to engage with each other and share knowledge more informally so that the information needed right now is available. The Academy portal receives about 26,000 hits per month on average, and in 2010, more than 90 percent of employees took some form of learning course. Our annual employee survey showed a two percent improvement of our employee key indicators of learning excellence.
CARING FOR THE COMMUNITY

In every region of the world where Ericsson operates, we engage in initiatives to address sustainability and corporate responsibility needs using communications technology. Our employees contribute actively to diverse communities, joining local stakeholders to create solutions that benefit communication for all, enable a low-carbon economy, and reduce our environmental impact.

A flagship program for community involvement is Ericsson Response™, a volunteer initiative that deploys employees and telecom equipment to support the UN and other humanitarian organizations at times of disaster. With over 140 employee volunteers, Ericsson Response™ marked its 10th anniversary in 2010, looking back on a decade of supporting 40 different relief efforts in more than 30 countries.

Within the regions, Ericsson has a common approach to engagement with communities. Sustainability and corporate responsibility initiatives are aligned with our business goals of affordable, accessible communication for all and environmentally sustainable technologies.

Yet innovation and decision-making take place at the local level. The greatest impact can be achieved where local needs are understood. This also empowers our employees to take ownership of Ericsson’s sustainability and corporate responsibility objectives.

In 2010, projects ranged from introducing video-conferencing to migrant workers in India, providing education to street children in the Philippines and earning recognition from the Carbon Trust for carbon-saving initiatives in our UK operations.
ON THE GROUND IN HAITI

Ericsson Response’s operation in Haiti was the biggest in the 10-year history of the organization, with 19 volunteers responding to the United Nations requested assistance following the 2010 disaster. The 2G/GSM network that Ericsson volunteers quickly assembled allowed aid organizations to work more efficiently and provide desperately needed support.

A devastating earthquake that struck Haiti on 12 January 2010 claimed over 225,000 lives, according to annual data compiled on behalf of the UN by the Centre for Research on the Epidemiology of Disasters (CRED). One of the world’s poorest countries, Haiti struggled to cope as the international community moved rapidly to assist with the disaster, the deadliest during 2010.

When a natural disaster strikes, communication is vital. That’s the driving motivation behind Ericsson Response, an employee volunteer organization that marked its 10th anniversary in 2010. One of our flagship Corporate Responsibility programs, Ericsson Response, is a humanitarian, non-commercial venture. As the market leader in telecom, we provide logistics and communications support in emergencies so that relief operations can carry out their work. Typically, following a disaster, Ericsson Response receives a request from partners, prepares volunteers, sets up and maintains communications in the disaster area for our partners for as long as they need us.
HIGHLY TRAINED VOLUNTEERS

Ericsson Response was formed when employees expressed their wish to contribute their experience and competencies to disaster situations. Ericsson provides 7,000+ hours of annual training to the more than 140 employees willing to volunteer their time and effort.

In the event of disaster, Ericsson partners with UN relief agencies such as the World Food Program, the UN Office for the Coordination of Humanitarian Affairs (UNOCHA), UN Children's fund (UNICEF) and other international humanitarian organizations such as the International Federation of Red Cross and Red Crescent Societies and Save the Children.

SIX-MONTH MISSION

The mission lasted over six months in Haiti. A total of 19 volunteers provided on-site work during six months. Volunteers set up a portable 2G/GSM container system. The 2G/GSM network provided mobile communications for an area of approximately 40 square kilometers, covering UN and NGO camps in and around the capital, Port-au-Prince. The network handled an average of 3000 calls a day and up to 5000 calls during peak periods, making it possible for UN agencies and NGOs to have crucial communication services. Furthermore, volunteers were seconded to organizations such as WFP and UNICEF as ICT support to set up their own networks.
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In its decade of work in supporting relief organizations with communications, Ericsson has become better at determining which skills and solutions to offer to make the relief work more efficient. Transportation and logistics are always challenging in such situations. By constantly reviewing how to better prepare and train volunteers, and improve the efficiency of its equipment, Ericsson Response remains ready to be mobilized at any time.

A DECADE OF DISASTER RELIEF SUPPORT

At times of disaster, Ericsson provides ICT support based on specific requests from aid organizations. This includes deployment of radio links, base stations or 2G/GSM systems.
“I have always been proud to work for a company that strives to make a difference in the world and one that allows its employees the opportunity to make a real and tangible difference themselves.”

Brent Carbro, Volunteer, Ericsson Canada

“The World Food Programme (WFP) congratulates Ericsson Response for 10 years of leading innovation and achievement. We look forward to our ongoing partnership and the enthusiastic, reliable and professional support your team brings in providing telecommunications in humanitarian emergencies.”

Jakob Kern, Deputy Director - IT Division, World Food Programme (WFP)

“Over the past decade Ericsson’s provision of emergency telecommunications and ICT support has greatly helped the international response to humanitarian crises. Through its work, Ericsson volunteers are reaching out to millions of people in need. I hope that we will continue to work together to support people in times of crisis.”

Valerie Amos, the United Nations Under-Secretary-General for Humanitarian Affairs and Emergency Relief Coordinator (The United Nations Office for the Coordination of Humanitarian Affairs - OCHA)
Making a Difference

In our 10 regions around the world, Ericsson is working with a variety of partners to deliver results on shared sustainability aims, making a difference to the quality of life, and boosting local economies and local communities.

Face to Face in India

Migrant workers in rural India are finding a more rewarding way to keep in touch with their families in distant cities through a pilot project initiated by Ericsson to bring video-conferencing facilities to Public Call Offices (PCOs) where only voice calls were previously available. Today eight public booths—four in New Delhi and the rest in Begusarai in Bihar—are equipped with 3G/WCDMA-enabled video phones. Rural and urban migrant workers can now do video conferencing at an affordable rate. It is also an economic boost for the PCO business in India.

With over 70 percent of India’s rural population contributing to 60 percent growth of mobile telecommunication, Aamne Saamne (“Face to Face”) is designed to help those who cannot afford mobile phones, Internet access or high-speed broadband to benefit from new forms of connectivity. The project earned a silver trophy at the Rural Marketing Association of India Corporate Awards 2010, which recognizes innovative solutions aimed at rural consumers.

World at Their Fingertips

Primary and secondary students from low-income families in Brunei who lack computers and Internet access at home now have a world of information available to them at school. For the second consecutive year, Ericsson and mobile operator DST Communications provided high-speed mobile broadband access, laptops and routers to 3,000 students at six schools in Brunei. The project supports the Brunei Ministry of Education’s Mobile Teaching & Learning (MobiTEL) program, enabling adoption of web access and e-learning.

Students can now access media-rich web content such as animations, video and interactive graphics. This has inspired new forms of teaching and helped students grasp concepts in interactive environments. Through improved technology skills and knowledge, the aim is to empower students in Brunei to seize the opportunities of a global, networked economy.

Carbon Smart Earns Trust

Being carbon smart at Ericsson Ltd in the UK earned the company the Carbon Trust Standard certificate, becoming one of just 400 companies in the UK with that distinction. Companies are assessed by independent third parties in three areas: carbon footprint measurement, carbon management, and carbon reduction performance. The Standard is part of the Carbon Trust, a not-for-profit company helping business and organizations cut carbon emissions, save energy and commercialize low-carbon technologies.

In order to achieve the Standard, Ericsson measured the carbon footprint over the past three years, and tracked progress in reducing emissions through measures such as refurbishing offices, introducing new air conditioning systems, updating the lighting, and improving building management controls. The recognition is spurring further carbon-saving activities and helps Ericsson fulfill the requirements of the UK Government’s Carbon Reduction Commitment.
OVER THE RAINBOW

For Manila’s street children, their rainbow is a mobile education van helping them to get off the streets and onto the path of a better life. Called “Bahaghari” by the children, which means “rainbow” in the local language, the van is equipped with a laptop and broadband access and used to conduct weekly teaching sessions. Ericsson and Sony-Ericsson together with the United Nations Children’s Fund (UNICEF) began the Mobile Education and Child Protection Program in 2009. Some 200 street children have benefited from the program, learning vital skills such as how and where to report incidents of abuse, exploitation and violence against them and other children, and gaining better access to social services.

The learning sessions are held by trained street educators (some of whom are former street children themselves) using interactive information technology. Parents also have the opportunity for counseling. In 2010, around 15 street children were able to take equivalency exams that would enable them to be certified as having completed their elementary-level or secondary-level education. As of February 2011, five of these children have passed secondary-level education equivalency. We will continue to monitor and support them as they progress towards vocational or college education.

HEAVY WATERS IN PAKISTAN

The devastating floods that struck Pakistan in July 2010 affected 20.5 million people, one-fifth of Pakistan’s total land area. The intensity of the floods severely damaged optical fiber cables, causing a service blackout across the network of Warid Telecom in Balochistan, the country’s largest province. As a result, the coordination of essential humanitarian relief activities was severely jeopardized. Warid requested urgent assistance from Ericsson to restore service in Balochistan. Ericsson proposed to transfer traffic from the damaged optical fiber network to a satellite-based very small aperture terminal (VSAT) system. This solution had never previously been implemented in Pakistan.

Through efficient co-operation between Ericsson’s local customer support and global support, engineers rapidly provided the required configurations and both voice and SMS traffic were successfully tested using VSAT media. Service was soon restored on Warid’s network and aid could begin to reach thousands of people who desperately needed it.
SONY ERICSSON

Sony Ericsson is a joint venture between Sony Corporation and Ericsson. Sony Ericsson combines the strengths of its parent companies and over the years the company has brought together the best communications technologies with superior entertainment user experiences to create its Xperia™-line of smartphones.

Sustainability affects all aspects of Sony Ericsson’s business. The company works both internally and with its supply chain to ensure that human rights are respected, the carbon footprint is kept to a minimum and unwanted substances are not allowed to contaminate the environment.

Ericsson and Sony Ericsson actively partner on many projects to benefit socio-economic development and humanitarian causes, such as Refugees United, Ericsson Response, and the Millennium Villages. Sony Ericsson’s three environmental targets (using 2008 figures as a baseline) are:

- By 2015, reduce CO₂ from our internal activities by 20 percent
- By 2015, reduce CO₂ from the life-cycle of our products by 15 percent
- Collect 1 million phones annually through our Global Take-Back programme by 2011

GREENHEART™

GreenHeart™ is a line of products aimed at reducing environmental impact, including reducing packaging, eliminating paper manuals, and using waterborne paint and recycled plastics. The first GreenHeart™ products were launched 2009. In 2010 a line of phones (Cedar, Aspen, Elm, Hazel), chargers and accessories were launched. The GreenHeart™ charger complies with the Energy Star level V and has a standby power-loss that is less than 30mW. In 2010, Aspen and Elm earned first and second place in the smartphone and mobile phone categories in the Greenpeace Green Electronics Survey. Aspen scored highest not only in the chemicals and life-cycle sections; it also has the highest amount of recycled plastic of all the ranked brands. Elm earned second place due to strong performance in the chemicals section, usage of recycled plastics and scored highest in the life-cycle category.

SUPPLY CHAIN

Sony Ericsson is continuously evolving its approach towards supply chain responsibility. Sony Ericsson works closely with suppliers to raise their standards of basic human rights, working conditions and health & safety. The focus is not on the total number of assessments or audits but rather on helping selected suppliers to obtain a profound understanding of the issues, in order to achieve lasting improvements. In 2010, Sony Ericsson performed supply chain CSR activities at 30 sites, including component suppliers and manufacturing sites, all located in China, which Sony Ericsson considers a critical region for monitoring the supply chain.

Sony Ericsson welcomes initiatives that highlight issues surrounding metal extraction, so-called ‘conflict minerals’ focus on the mineral mining from the eastern Democratic Republic of the Congo (DRC) and its surrounding area. Sony Ericsson has been in dialogue and cooperation with various organizations and bodies to find solutions to the complex issue. In 2010, Sony Ericsson joined the Supply Chain and Extractive Working Groups of GeSI, the global e-sustainability initiative, as part of an industry initiative together with government authorities, NGOs and various international organizations to address the issue.

CONTACT

To learn more, please visit Sony Ericsson Sustainability site at www.sonyericsson.com/sustainability

For any inquiries on Sony Ericsson Sustainability works, please contact sustainability@sonyericsson.com
ST-ERICSSON

ST-Ericsson is a world leader in developing wireless platforms and semiconductors, bringing smarter communication, on-the-go entertainment and mobile broadband connectivity to people around the globe. A 50/50 joint venture of Ericsson and STMicroelectronics, ST-Ericsson has one of most advanced product portfolios in the industry. As a global business and thought leader, ST-Ericsson is strongly committed to sustainable development.

ENERGY-EFFICIENT SOLUTIONS
ST-Ericsson focuses on power-efficient solutions for all its products and processes. One example is a power management solution that significantly reduces the charging time for mobile devices from a wall socket. This is part of the new PowerHUB™ family of products that will also harvest energy from a wide range of sources, including renewable energy. The aim is to cut the time needed to charge a mobile device, thus reducing energy consumption. With the PM2300, a three amps charger can be used, instead of the standard 1.5 amps, thus reducing the charging time by 50 percent.

MONITORING OUR PERFORMANCE
In April 2010, after only 14 months in operation, ST-Ericsson achieved an ISO 14001 worldwide certificate.

A worldwide monitoring scheme was also introduced in the first quarter 2010, based on selected environmental key performance indicators:

- Product power consumption
- Number of wafers used per million chips
- CO₂ footprint related to business travel
- Site energy and paper used
- Electronic waste (e-waste) collected

The 2011 objectives focus on continuing the worldwide deployment of the environmental management system by fixing mid- and long-term environmental targets. These will be formally approved by top management at end of March 2011.

ACTIVE ROLE IN SOCIETY
ST-Ericsson applies the code of conduct promoted by the Electronic Industry Citizenship Coalition (EICC). It requires suppliers to comply with their code and with the European Union’s Restriction of Hazardous Substances Directive for electrical and electronic equipment (RoHS). The company implements a banned and restricted substances list for all its products and packaging based on the RoHS directive and based on the same list used by Ericsson.
MEMBERSHIP AND AFFILIATIONS

BROADBAND COMMISSION FOR DIGITAL DEVELOPMENT
With the support of United Nations Secretary-General Ban Ki-moon, the Broadband Commission for Digital Development was launched on 10 May 2010 by the International Telecommunication Union (ITU) and the United Nations Educational, Scientific and Cultural Organization (UNESCO). It is chaired jointly by President Paul Kagame of Rwanda and Mr Carlos Slim Hélu, Honorary Lifetime Chairman of Grupo Carso, with ITU Secretary-General Hamadoun I. Touré and UNESCO Director-General Irina Bokova as vice chairs. Ericsson is a founding member of the Broadband Commission and our CEO is a Commissioner.

www.broadbandcommission.org

BUSINESS CALL TO ACTION – UNDP
Ericsson is a member of Business Call to Action (BcTA) and supported the launch of the BcTA in 2008, which aims to accelerate progress towards the Millennium Development Goals (MDGs) by challenging companies to develop inclusive business models that offer the potential for both commercial success and development impact.

http://www.businesscalltoaction.org/

CLINTON GLOBAL INITIATIVE
Established in 2005 by former US President Bill Clinton, the Clinton Global Initiative (CGI) convenes global leaders to devise and implement innovative solutions to some of the world’s most pressing challenges. At its Annual Meeting and at events throughout the year, CGI gathers government officials, business leaders, and nonprofit directors from all over the world, creating opportunities for them to collaborate, share ideas, and forge partnerships that enhance their work. To fulfill the action-oriented mission of CGI, members devise practical solutions to global issues through the development of specific and measurable Commitments to Action.

GAID
Under the umbrella of the UN, the Global Alliance for ICT and Development (GAID) is a multi-stakeholder partnership aimed at bridging the digital divide. GAID focuses on issues of access, connectivity, content and education. Ericsson has been a member of its Board since 2007.

www.un-gaid.org

GeSI
Ericsson is a founding member of the Global e-Sustainability Initiative (GeSI) and is represented on the Board of Directors and heads the Global Policy Work Group. GeSI aims to create an open and global forum for the improvement and promotion of products, services and access to ICT to benefit society and the environment. Sustainable sourcing and climate change are key issues on the agenda.

www.gesi.org

StEP
With members from industry, government, the NGO sector and academia, the Solving the e-waste Problem (StEP) initiative develops sustainable solutions to e-waste through analysis, planning and pilot projects.

www.step-initiative.org

SYMBIO CITY
SymbioCity is a network of Swedish companies and organisations. It was founded on the initiative of the Swedish Government and Swedish Industry. SymbioCity is administrated by The Swedish Trade Council, with offices in more than 60 countries around the world. The headquarters are situated in Stockholm.

www.symbiocity.org

UNITED NATIONS GLOBAL COMPACT
This is an organization for businesses committed to aligning their operations and strategies with 10 universally accepted principles in the areas of human rights, labor, environment and anti-corruption.

www.unglobalcompact.org

Ericsson was one of the first signatories of the UN Global Compact.

ERICSSON ALSO SUPPORTS
THE CARING FOR CLIMATE INITIATIVE.
This is a voluntary and complementary action platform for UN Global Compact participants who seek to demonstrate leadership on the issue of climate change. It provides a framework for business leaders to advance practical solutions and help shape public policy as well as public attitudes. Chief executive officers who support the statement are prepared to set goals, develop and expand strategies and practices, and to publicly disclose emissions as part of their existing disclosure commitment within the UN Global Compact framework, the Communication on Progress.
RECOGNITION OF PERFORMANCE

CORPORATE RESPONSIBILITY SUPPLIER AWARD
Ericsson earned the Corporate Responsibility Supplier Award from telecom operator Vodafone based on the findings of its Supplier Performance Management (SPM) system which covers corporate responsibility, financial stability, technical capability, delivery and quality of service as well as the strength of the commercial relationship.

COVALENCE ETHICALQUOTE
Ericsson was number eight in the technology sector in the Covalence EthicalQuote ranking for first-quarter 2010. The ranking, an ethical reputation scoring system, is calculated for 581 multinationals within 18 sectors.

ETHIBEL
Ericsson was included in the Ethibel EXCELLENCE Investment Register in 2010, which ranks companies for socially responsible and ethical investments.

E-LEGACY AWARD
Ericsson Power Modules was recognized for environmental excellence and presented the ‘Investment in the Environment Award’ at the Electronic Product Design (EPD) e-Legacy awards for the 3E concept contributing to reducing energy consumption. Ericsson is the first company to offer digitally controlled and PMBus compliant DC/DC power-modules for ICT. The 3E concept and Design for Environment working practices will contribute to reducing the carbon footprint of its products by 40 percent by 2013 from a 2008 baseline.

FTSE4Good
FTSE Group confirms that Ericsson has been independently assessed according to the FTSE4Good criteria, and has satisfied the requirements to become a constituent of the FTSE4Good Index Series. Created by the global index company FTSE Group, FTSE4Good is an equity index series that is designed to facilitate investment in companies that meet globally recognised corporate responsibility standards. Companies in the FTSE4Good Index Series have met stringent social and environmental criteria, and are positioned to capitalize on the benefits of responsible business practice.

GREEN COMPANY OF THE YEAR IN INDIA
Ericsson received the three top prizes, including the Green Company of the Year, at Voice & Data (V&D) Telecom Awards in India.

GREENPEACE
Ericsson earned second place in the Greenpeace Cool IT Leaderboard evaluation of the ICT sector’s environmental performance. Greenpeace uses three criteria to evaluate ICT companies: efforts to offer economy-wide technological climate solutions that contribute to global greenhouse gas reductions; initiatives to reduce emissions from (the assessed company’s) own footprint; and active engagement in political advocacy and support for science-based climate and energy policies. Regarding Ericsson, Greenpeace noted “the strength of its real-world case studies, which measure how its solutions are driving down emissions.”

RURAL INNOVATION AWARD
Ericsson India was awarded a silver trophy from the Rural Marketing Association of India (RMAI) in the ICT category for the “Aamne Samne” mobile video solution for Public Call Offices (PCOs). RMAI is an industry body devoted to furthering the cause of rural marketing. Aamne Samne (Face to Face) enables migrant workers to stay more closely connected to their families via video calls in the PCOs. The award recognizes the potential of Ericsson’s business model to impact millions—both the owners of PCOs and the rural consumer segment that represents about 800 million people.

SARASIN SUSTAINABILITY MATRIX
Bank Sarasin, a major provider of Socially Responsible Investment in Europe, confirmed a Company Rating of “high” for Ericsson in the Sarasin Sustainability Matrix, compared with other IT equipment companies. In the IT Equipment and Electronics Industry Rating Ericsson was “average”.

WWF SWEDEN & GARTNER ASSESSMENT
Ericsson ranked second in Carbon Delivery Today – the environmental impact of the ICT industry (representing an estimated 2% of global carbon emissions) and second in Carbon Delivery Tomorrow - Applications of ICT (the 98% of carbon emissions that come from other sectors) in an assessment of low-carbon and environmental ICT leadership by Gartner, Inc. and WWF. The survey examined performance among 28 ICT companies.
## Objectives and Achievements

<table>
<thead>
<tr>
<th>Status</th>
<th>Objectives 2010</th>
<th>Achievements 2010</th>
<th>Objectives 2011</th>
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<td></td>
<td>100 percent of the Millennium Villages connected.</td>
<td>Over 90 percent of the villages have some form of connectivity. An additional village in Liberia was added and is pending. A village in Ethiopia is under investigation to connect during 2011.</td>
<td>Complete Liberia site installation powered by renewable energy and community power commercially launched.</td>
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<td>Launch weather monitoring stations in East Africa and support the development of end-user services related to weather and climate.</td>
<td>A Mobile Weather Service was developed to support fishermen and farmers to mitigate and take actions based on specific weather forecasts.</td>
<td>Deploy Connect to Learn in at least 4 Millennium Village schools. Continue to develop affordable ICT solutions such as PC as a Service and LearnQuick for use in secondary schools targeted by Connect to Learn.</td>
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<td>Introduce at least three new applications to benefit the poor.</td>
<td>More than three new applications have been implemented: Refugees Reunification mobile application, Mobile Survey Tool, Ericsson Virtual Private Number, Ericsson Collect Call, Ericsson Mobile Auction and Ericsson LearnQuick.</td>
<td>Launch smart phone application for Refugees United and support in enabling 100,000 refugees to register in the Refugees United data base to search for missing family and loved ones.</td>
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<td>Publish Monitoring and Evaluation Report, and define a model for socio-economic impacts of mobile communications.</td>
<td>A report on “The impact of mobile connectivity on the Millennium Development Goals” in Africa was published. A model for socio-economic impact from broadband was published.</td>
<td>Initiate study to analyze social and economic impacts of communication projects aimed at supporting the poorest of the poor.</td>
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<td>Handover project to local stakeholders for the establishment of search and rescue capabilities in the Lake Victoria Region.</td>
<td>The search and rescue report was handed over to Lake Victoria Basin Committee, responsible for search and rescue for Tanzania, Uganda and Kenya. A report, “Life lines at Lake Victoria” was published with recommendations.</td>
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<td>Develop applications to support distribution of weather information, agriculture and community power.</td>
<td>A Mobile Humanitarian Forum (GHF) ceased to exist and project was transferred to African Centre of Meteorological Applications for Development (ACMAD). This impacted the results of the initiative, but Ericsson and WMO continued with distribution of weather info in East Africa.</td>
<td>Complete deployment of weather services and alerts in East Africa for selected user groups.</td>
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<td></td>
<td>Install up to 100 new weather monitoring stations in East Africa and support the development of end-user services related to weather and climate.</td>
<td>Global Humanitarian Forum (GHF) ceased to exist and project was transferred to African Centre of Meteorological Applications for Development (ACMAD). This impacted the results of the initiative, but Ericsson and WMO continued with distribution of weather info in East Africa.</td>
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<td>10 percent Group-level carbon footprint reduction per subscriber (applied on product portfolio level).</td>
<td>Ericsson achieved annual 10 percent reduction target (see Carbon footprint target result 2010 graph) p. 49.</td>
<td>10 percent Ericsson carbon footprint reduction measure as CO2 emissions per subscriber, including Ericsson own activities and products in operation.</td>
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<td>Leverage use of virtual collaboration tools to reduce business travel by 10 percent and set global travel baseline.</td>
<td>In 2010, we established a Group travel management function and consolidated our travel agency supplier base from more than 60 suppliers to two. This will improve ability to gather travel data, including CO2 data.</td>
<td>To reduce business travel, deploy our own smart work solution, Business Communication Suite including web-conferencing and other virtual collaboration tools, which can also be shared with other external parties.</td>
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<td>Increase outbound surface shipping target from 60 to 70 percent.</td>
<td>Component shortage has led to an increase in shipping by air. 46 percent of the outbound shipments were surface shipments.</td>
<td>Increase outbound surface shipping to 70 percent using the global share of surface transport indicator.</td>
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<td>Establishment of global energy management program worldwide.</td>
<td>75 percent of the global environment and energy management program has been established.</td>
<td>Reduce energy use in offices by three percent per employee.</td>
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<td>Our Global Facility Management Supplier to establish a Competence Center in the area of Energy Management including implementation of a new Environment and Energy Reporting System.</td>
<td>Competence Centers in the area of Energy Management and implementation of a new Environment and Energy Reporting System were established covering over 40 percent of the total building space.</td>
<td>Reduce energy consumption from data center and Hub over 30 percent from baseline.</td>
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<td>Perform Energy Audits on major locations (&gt;5,000 m2 and lease period left &gt; 5 years).</td>
<td>30 percent of the major locations have been audited. We have included and audited within the scope of these energy audits the majority locations with test labs.</td>
<td>Define a baseline for our test environment areas.</td>
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<td>Ensure that less than 5 percent of Waste of Electrical and Electronic Equipment (WEEE) is disposed of in landfill.</td>
<td>In 2010, less than 5 percent material collected and processed was sent to landfill and more than 95 percent was recovered.</td>
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<td>Increase the volume of collected take-back material by 20 percent during 2010.</td>
<td>We have collected/taken-back less material than previous year due to there being a fewer number of operator change-outs of equipment.</td>
<td>Establish new measurement for Equipment put on Market and achieve 20 percent volume of WEEE take-back vs. Equipment Put on Market.</td>
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<td>Implementation of new tool for materials declaration.</td>
<td>During 2010 a new materials declaration tool was launched.</td>
<td>Initiate processes and procedures, including supplier requirements, to ensure elimination of conflict minerals from our supply chain that might contribute to financing armed conflicts.</td>
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<tr>
<td>Status</td>
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|       | At least three activities to illustrate telecom as a catalyst for a sustainable society. | More than three engagements illustrate telecom as a catalyst for a sustainable society, covering sustainable cities, transport and smart grids:  
• Stockholm Royal seaport project with City of Stockholm  
• Energy Australia Smart Grid Communications Network project  
• Carbon Smart Commuting Concept  
• Active engagement in the launch of Guadalajara ICT Declaration at COP16 | Show how ICT contributes to a low-carbon economy by engaging with selected stakeholders on at least three projects or initiatives. Continue to engage and drive climate negotiations related activities together with external organizations such as the Broadband Commission and GeSI. |
|       | Develop specific sustainability and CR criteria for joint ventures. | Specific criteria for reporting sustainability and CR for Joint Ventures have been created and used for this report. |
|       | Nortel integrated in key areas of Ericsson Business Units and in key areas of Ericsson Group Management System (EGMS). | Formerly acquired Nortel operations have been integrated in Ericsson Business Units and in key areas of Ericsson Group Management System (EGMS). |
|       | Conduct corporate responsibility training for the Ericsson Board of Directors. | Corporate responsibility session with Board of Directors completed. Conduct corporate responsibility training for the Ericsson Board of Directors. |
|       | Establish baseline for new measurement of sustainability & CR performance. | A new target set including not just carbon footprint but also thought leadership, perception and performance. Improve Ericsson sustainability leadership based on thought leadership, perception and performance. |
|       | Launch sustainability and CR employee awareness and engagement program. | Launched new Sustainability policy and an Ericsson Academy e-learning course on Sustainability and Corporate Responsibility and developed employee engagement pilot program. Complete Employee Engagement pilot project within selected units. |
|       | Implement the Occupational Health and Safety Assessment Series (OHSAS) 18001. | Formal 3rd party (DNV) assessments of our OHS performance in 23 countries has been completed. Perform OHS according to the standards set in the Ericsson Group Management System and in compliance with OHSAS 18001. |
|       | Establish Business Warehouse Database as a common tool for supplier CoC classification and reporting. | Data base was established and most units actively using it. Increase environmental focus within the S-CoC audit program by developing, piloting and implementing supplier environmental audit scheme in selected regions. |
|       | Launch the web-based CoC training in eight more languages. Actively inform all suppliers and encourage its use globally. | Supplier Code of Conduct on-line training is publicly available in 13 languages, and all regional sourcing organizations have been actively informed to encourage all suppliers to use the training. Over 90 percent of all Strategic Sourcing personnel will complete the Code of Conduct training for Suppliers during 2011. |
|       | Develop and implement a five-year S-CoC strategy | The strategy exists and is used as a high-level steering document. |
|       | Continue to improve and develop the S-CoC Program using regular auditor seminars, internal collaboration sites, continued trainings, conferences and other means. | Eight S-CoC Auditor trainings and two global auditor seminars were held and a collaboration site on the Intranet was launched. More than 1640 sourcing and other relevant personnel have attended the Observer Training since it was launched. |
|       | Maintenance and development of the S-CoC Program is included in each BU/MU top management scorecard. | Regional S-CoC Program target compliance exceeded 90 percent stretch level as part of Business Units and Regional Sourcing scorecard. Maintenance and development of the S-CoC Program is included in each Region top management scorecard. |
|       | Maintain or improve performance level for Individual Performance Management (IPM) | We have maintained perceived quality of Individual Performance Management (IPM) discussions. An improvement to the IPM process has been developed in 2010. |
|       | 90 percent of employees to have strengthened their competence through Ericsson Academy. | More than 90 percent of our employees have engaged in one or more formal training activities. Introduce a technical certification program to our employees, initially covering the skills within the IP and converged IP domain. |
|       | External introduction of Ericsson Academy. | Many of our training centers, offering customer training have become Ericsson Academy Centers. Ericsson is now also offering free of charge e-learning opportunities on the ericsson.com website. Continue to expand the free of charge e-learning offering to external audiences. |
|       | 10 percent improvements of our employee key indicators of learning excellence. | Our employee perception on learning excellence has improved two percent in our annual all employee survey (Dialog). Launch a mobile application for certain workforce groups to access tailored tutorials and performance support. |
|       | Establish a maturity framework for competence management excellence. | A Global Learning Excellence Framework was established in 2010 and successfully implemented. Launch a mobile application for certain workforce groups to access tailored tutorials and performance support. |
|       | Leverage on our educational assets in one to two key CR projects. | Ericsson developed a web-based internal learning site supporting Sustainability and CR. |
|       | Launch new Ways of Working to guide all employee behavior, including diversity parameters. | Our new culture initiative, “It begins with us”, was launched for all employees in 2010. |
Ericsson endorses the 10 UN Global Compact (UNGC) principles which provide a universal framework for business conduct. The UNGC principles guide us in development of Group practices within our sphere of influence. Through initiatives like Refugees United and Connect to Learn; Ericsson Response, the Millennium Villages and Weather Info for All, we mobilize our core business to support UN efforts to alleviate poverty, improve the environment and bridge the digital divide.

ERICSSON POLICIES AND DIRECTIVES
Respect for human rights and intolerance of corruption are embodied in our values of respect, professionalism and perseverance and in our Code of Business Ethics. The Code of Conduct (CoC) aims to protect human rights, promote fair employment and safe working conditions, and maintain high ethical standards. The Sustainability Policy, replacing the previous Environmental Policy, describes our commitment to reduce the environmental impact of our own operations and to support socio-economic development through communication for all. The CR component of our Global Assessment Program rose from 20 percent to 25 percent in 2010. Suppliers must meet high social and environmental standards. In 2010, the Ericsson Board of Directors completed annual sustainability and CR training and we launched a CR and sustainability engagement e-learning program.

HUMAN RIGHTS
Ericsson sees access to communication as a basic human right. Our first obligation is to avoid complicity in human rights abuse, notably in countries where regulations and ethical standards are not enforced. Our core technologies can also help improve lives, promote democratic societies and generate economic opportunities. Among our actions:

- Addressed the issue of conflict minerals in our supply chain and in sector initiatives, (p. 70).
- Joined the Stanford University Mobile and Social Computing Research Group (MobiSocial) to address privacy issues around open social networks (p. 69).
- CEO served as a Commissioner on the Broadband Commission for Digital Development which presented a Declaration to the UN General Secretary at the 2010 Millennium Development Goals Summit. Our partnership in the Millennium Villages initiative supports sub-Saharan Africans’ right to health, education and equality (p. 16).
- Published a “Monitoring and Evaluation Report” on the Millennium Villages, defining a model for socio-economic impacts of mobile communications (p. 16).
- Published report, “Life Lines at Lake Victoria”, assessing outcome of the communications project for people living around Lake Victoria in East Africa (p. 14).

- Conducted 550 S-CoC audits and 218 on-site assessments of supply chain; increased online CoC training for suppliers to 13 languages (p. 66).

FAIR LABOR PRACTICES
Human resources procedures ban discrimination and ensure equality and diversity in our operations. We encourage union membership. In countries where workers cannot freely choose membership, work conditions are discussed with local management in a structured format. In 2010, we

- Strengthened global approach to health & safety, progressed towards implementation of the Occupation Health and Safety Assessment Series (OHSAS) 18001 (p. 68).
- Increased HIV/AIDS focus among our employees in Africa (p. 69).
- Supported independent research on health issues related to radio waves and electromagnetic fields (EMF) (p. 69).

ENVIRONMENT
- Participated in Global Compact Caring for Climate, COP16 Low Carbon Leaders Project.
- Environmental Management System globally ISO 14001 certified. This ensures our operations are consistently managed with minimal impact on the environment.
- Achieved Group carbon footprint reduction target (p. 29)
- Continued to improve energy-efficiency of products (p. 34).
- Incorporated hazardous substances, producer responsibility, efficient resource use in product design, procurement, production and operation. Updated Banned and Restricted Substances lists, developed new tool for materials declaration (p. 40).

ANTI-CORRUPTION
The Ericsson Group Management System ensures integrity and high standards of conduct worldwide. A whistle-blower procedure enables employees to report violations relating to accounting, internal controls and procedures or fraudulent practices.

- A Chief Compliance Officer appointed early 2011 to strengthen focus and training on business ethics and anti-corruption (p. 64).
Det Norske Veritas (DNV) has carried out an independent verification of Ericsson Group ('Ericsson') Sustainability and Corporate Responsibility ('CR') Report 2010 ('the Report') against VeriSustain™ and GRI G3 (2006). The Management of Ericsson is responsible for all information provided in the Report as well as the processes for collecting, analysing and reporting that information. DNV’s responsibility regarding this verification is to Ericsson only, in accordance with the scope of work commissioned. The stakeholders of Ericsson are the intended users of this Assurance Statement. DNV disclaims any liability or responsibility to a third party for decisions, whether investment or otherwise, based on this Assurance Statement summary or the full version, provided at www.ericsson.com/sustainability_corporateresponsibility. Our conclusions are based on the assumption that the data and information provided to DNV is complete and true.

Scope and Methodology

DNV’s scope of work included verification of the following:

- Adoption of Ericsson sustainability and CR-related policies, practices and procedures at Group level and across the Ericsson regions assessed by DNV in 2010, as part of Ericsson’s Global Assessment Program (8 regions in total; China, Philippines and Malaysia were subject to detailed Sustainability and CR assessments). The assessments focused mainly on: senior management leadership and oversight; environmental management; code of conduct; local sourcing and supplier management; facilities management; occupational health & safety; SOX Entity-wide controls, including code of business ethics; HR management; and CR project management;
- Sustainability and CR-related policy, strategy, objectives and achievements in 2010, as described in the Report;
- Sustainability and CR-related actions, initiatives and projects described in the Report;
- Ericsson’s efforts to engage, communicate and respond to the interests and concerns of stakeholders in the Report;
- Materiality, inclusivity and responsiveness processes described in the Report, and the reliability of specified sustainability performance information;
- Extent to which the Report adheres to the Global Reporting Initiative (GRI) Sustainability Reporting Guidelines and the application level declared by Ericsson, including standard disclosures, management approach, indicators (except Economic performance) and principles, as published on www.ericsson.com/sustainability_corporateresponsibility.

This verification focused primarily on the Report, and not on the adequacy, effectiveness or efficiency of Ericsson’s sustainability and CR management practices. Those aspects are the subject of Ericsson’s Global Assessment Program. The scope of this verification covered Ericsson Group, including Telefonaktiebolaget LM Ericsson and its subsidiaries. It excluded sustainability and CR management, performance or reporting practices by any of Ericsson’s external suppliers or any other third parties mentioned in the Report. It also excluded statements or data relating to the Sony Ericsson or ST-Ericsson joint venture.

This engagement was carried out between May 2010 and April 2011, by qualified and experienced professionals, in accordance with the DNV Protocol for Verification of Sustainability Reports (VeriSustain™) and GRI G3 (2006). The following methods were applied:

- Interviews with Ericsson personnel representing relevant functions at Group and regional levels, including data owners;
- Review of documentation, data records and sources relating to sustainability and CR management at Group and regional levels, including external Supplier Management practices and performance by Local Sourcing departments;
- Review of the processes and tools used to collect, aggregate and report on sustainability and CR-related data at Group level and in the regions visited;
- Review of internal and external communication relating to Ericsson’s sustainability and CR management and performance.

Conclusions

Based on the scope of work carried out, DNV concludes that the Report provides an accurate and fair representation of Ericsson’s policies, strategies, management system, initiatives and performance in 2010. Regarding the level of adherence to key reporting principles, we conclude the following;

Materiality: Acceptable. In 2010, Ericsson continued to carry out an extensive analysis of the sustainability and CR developments in the ICT sector, and the impacts arising from its activities. This analysis provided the basis for the identification and prioritization of sustainability and CR issues. It has also helped define Ericsson’s Sustainability & Corporate Responsibility Strategy and the content of the Report.

Inclusivity: Good. In 2010, Ericsson continued to implement an external stakeholder engagement program aimed at identifying and understanding stakeholder interests, concerns and information needs regarding sustainability and CR issues;

Responsiveness: Acceptable. The Report generally focuses on the sustainability and CR issues of most interest to stakeholders; and

Reliability: Good. No systematic or material errors or omissions were identified. Uncertainty and limitations relating to the methodologies and data used in the assessment of Ericsson’s sustainability performance were clearly explained to DNV. Ericsson expressed its commitment to continually improving the quality of its data management processes and the reliability of reported information. The Report and other sources of information to which it refers, are considered to provide a detailed account of Ericsson’s management approach and performance.

Opportunities for improvement

In the course of the verification, the following opportunities for improvement were identified:

Materiality: develop a more structured process for prioritizing and monitoring the materiality of issues across Ericsson’s regions. This should also enable a clearer overview of the relative materiality of various sustainability and CR issues in the Report;

Inclusivity: the process for selection of stakeholder groups and individual stakeholders, and the prioritization of their views, can be more clearly described in the Report;

Responsiveness: more clearly describe the way in which stakeholders’ views on Ericsson’s Sustainability & Corporate Responsibility strategy and the previous Report were taken into account in further development of the strategy and the definition of the content of the current version of the Report;

Reliability: Continue to define and standardize the methods to collect, aggregate, analyze and report sustainability performance data and information.

DNV states its independence and impartiality with regard to this commission. DNV did not provide any services to Ericsson during 2010 that could conflict with the independence of our work.

The Report is based on the GRI Guidelines (2006) and its principles. DNV endorses the GRI Application Level of A+, declared by Ericsson. Detailed information on the verification process, conclusions and recommendations by DNV is provided in the full Assurance Statement, available at www.ericsson.com/sustainability_corporateresponsibility.

Tom C. Andersen Gosselin
Lead Verifier
Det Norske Veritas AS, Stockholm,
11th April 2011

Antonio Ribeiro
Sustainability Services Manager