CHANGING THE EQUATION

THE IMPACT OF HP GLOBAL CITIZENSHIP IN 2009—AND BEYOND

ENERGY: BUSINESS CONSTRAINT OR CATALYST?

HOW TECH IS HELPING CURE HEALTHCARE

TRANSFORMING EDUCATION TO FUEL ECONOMIC GROWTH

WELCOME

This publication complements HP's annual report detailing our programs, performance and goals across a wide array of issues that make up global citizenship. Inside you'll find highlights from 2009 along with essays exploring issues reshaping business, society and the environment.

IN 2010, INTERNATIONAL DATA CORPORATION (IDC) ESTIMATES THE WORLD WILL CREATE 988 EXABYTES OF DATA—18 MILLION TIMES THE AMOUNT OF INFORMATION IN ALL THE BOOKS EVER WRITTEN.[1]

CHANGING THE EQUATION

Powerful forces are transforming how the world lives and works, placing unprecedented demands on everything from our healthcare and education systems to our energy grid. We need bold thinking, new solutions, a fresh approach. Technology holds the key. By using resources more efficiently, harnessing the power of information and sparking wider innovation, we can use technology to meet rising social and environmental needs and change the equation for generations to come.

25%

Just 25% of the world's population is online.[2] As billions more get access to mobile devices and the Internet, that figure will skyrocket, generating enormous volumes of data. **See page 14**

ENERGY

1.15 BILLION

The global middle class will triple to 1.15 billion by 2030,[3] intensifying demand for energy and natural resources. **See page 4**

↓80%

Most scientists agree that global greenhouse gas emissions must be cut by 80% by 2050 to mitigate the worst effects of climate change.[4] **See page 4**

HEALTHCARE

$1.2 TRILLION

An estimated $1.2 trillion is wasted annually in the U.S. healthcare system, with redundant procedures and inefficient administration cited as two of the largest reasons.[5] **See page 12**

10–15%

In the U.S. alone, e-health solutions could cut healthcare costs between 10 and 15 percent.[6] **See page 12**

EDUCATION

71 MILLION

Worldwide, 71 million children of primary school age aren't in school,[7] leaving them unprepared to get ahead in today's knowledge economy. **See page 16**

16%

An estimated 776 million adults—16% of the global adult population—lack basic literacy skills.[8] **See page 16**

AFRICA

THE EXODUS OF EDUCATORS AND RESEARCHERS COSTS AFRICA AN ESTIMATED $4 BILLION A YEAR IN ECONOMIC GROWTH.[9]

See page 17

AS ONE OF HP'S SEVEN CORPORATE OBJECTIVES, GLOBAL CITIZENSHIP HAS LONG BEEN INTEGRAL TO THE SUCCESS OF OUR BUSINESS. IT DRIVES US TO MEET HIGHER STANDARDS OF INTEGRITY, CONTRIBUTION AND ACCOUNTABILITY AS WE ALIGN OUR BUSINESS GOALS WITH OUR IMPACTS ON SOCIETY AND THE ENVIRONMENT.

Our commitment is shaped by issues—such as meeting energy needs of a fast-growing global population, responding to climate change, managing the information explosion and transforming education—that cut across industries, economies and borders, and require new levels of leadership, innovation and collaboration.

HP is responding by focusing where we believe we can apply our technologies, resources and expertise for greatest impact. From how we develop products to how we run our operations, manage our supply chain and engage with stakeholders, global citizenship drives us to accept challenges and pursue solutions that fuel ongoing innovation and growth.

Read more about HP's global citizenship strategy and programs at www.hp.com/go/globalcitizenship.

At HP, we are committed to aligning our business goals with our impacts on society and the environment. Global citizenship influences how we run our business, holding us to high standards of integrity, ethics, contribution and accountability in everything we do. Through rigorous internal policies and active engagement with outside stakeholders, we work to ensure that we live up to our ideals.

In 2009, the global economy experienced the worst recession in a generation. At HP, we set a goal of controlling discretionary spending, while keeping the muscle of the organization intact. Thanks to the hard work and talent of HP employees, we were able to maintain forward progress on our core strategy. That includes our commitment to global citizenship, which we believe becomes even more important in difficult times.

WITH THE EXPANSION OF OUR ENTERPRISE SERVICES CAPABILITIES, HP CAN DO MORE THAN EVER TO HELP OUR CUSTOMERS BUILD SUSTAINABLE BUSINESSES.

We are working in areas such as education, healthcare and energy to harness the power of information, using IT to change the equation and help create a more efficient, environmentally responsible and equitable world. And in HP Labs, we're working on the future. Innovations like nanoscale sensors, breakthrough software for analytics and knowledge discovery, and data centers with net-zero environmental impact will be the building blocks of tomorrow's sustainable society.

We are also improving HP's own products and operations. Last year, we announced that by the end of 2011, we will reduce the energy consumption and associated greenhouse gas emissions of all HP products combined by 40 percent compared with 2005 levels. We are leveraging the power of our supply chain to protect both the environment and human rights. And through HP's Office of Global Social Innovation, we are developing new ideas and approaches for education and healthcare delivery. Around the world, our efforts are supported by HP employees who volunteer in their local communities and donate in conjunction with HP matching grants to the causes they care about most. At HP, we also recognize that these issues are bigger than any single organization can address on its own, so we support the UN Global Compact to promote higher standards, and we cultivate partnerships with industry peers, governments and NGOs to achieve our shared objectives.

Together, these coordinated initiatives have helped put HP at the forefront of global citizenship. *Corporate Responsibility Magazine* recently recognized our efforts with the No. 1 ranking in the annual 100 Best Corporate Citizens List, and *Newsweek* ranked HP as the greenest company among the 500 largest corporations in America.

In the years ahead, we are well positioned to lead the evolution of our industry and create extraordinary opportunities for our customers, our stockholders, our people and the world around us.

With global demand forecast to increase by over 40% by 2030, the challenge is clear: we must conserve and produce more energy sustainably while emitting significantly less greenhouse gas.[10]

Technology offers an answer. While the IT industry contributes 2 percent of global carbon emissions, the larger opportunity is using technology to lower the other 98 percent. HP is applying IT in new ways to help individuals, enterprises and industries reduce their carbon footprint by increasing transparency, improving efficiency and transforming existing processes.

INFORMATION IS POWER

Technology can help us understand how we're using energy— insight that can trigger changes in processes and behavior.

For example, the Advanced Meter Infrastructure solution employs HP technology to monitor energy consumption in real time, so utilities and customers can anticipate and reduce demand.

We're also helping businesses and consumers measure energy and emissions with our online Carbon Footprint Calculator for printers and PCs. For more a comprehensive view, HP's Carbon Impact Assessment Service takes into account the energy use and associated emissions of an entire IT environment.

INCREASE EFFICIENCY

Technology can save energy by boosting efficiency; innovations in HP's high-volume HP desktop and notebook PC families are on target to save 1 billion kWh of electricity by 2011, relative to 2008. And we're rethinking power-hungry data centers from the ground up (see following page) to dramatically reduce consumption and carbon emissions.

Nanotechnology offers even greater promise. An HP Labs initiative dubbed Central Nervous System for the Earth (CeNSE) will embed billions of networked sensors in the world's infrastructure—buildings, transportation systems, agricultural fields—to monitor energy use and align supply with demand, decreasing waste and reducing risk in the electricity grid.

TRANSFORM HOW THE WORLD LIVES AND WORKS

Beyond increasing efficiency, the ultimate goal is to replace energy- and resource-intensive processes and behaviors with sustainable ones.

In this area, HP is advancing ways to use light rather than wire to transmit data. It's more efficient (and reduces demand for mining copper) while delivering greater bandwidth. We're integrating this technology in HP blade servers, and by 2017 we'll be using it for intra-chip communication.

HP's Halo Collaboration Studios save energy and reduce emissions by providing the advantages of meeting in person without the environmental toll—and costs—of travel. Avoiding one round-trip flight from New York to London saves 3,000 pounds of CO_2 per person. Think of the impact if just a fraction of the thousands of business trips taken each day were replaced by Halo.

A LOW-CARBON DIET
FOR A POWER-HUNGRY PLANET

40% HP will reduce energy consumption and associated GHG emissions of all products 40% below 2005 levels by the end of 2011.

131 MILLION kWh HP purchased approximately 131 million kWh of renewable energy worldwide in 2009.

POWERING DOWN: WHY REDUCE DATA CENTER ENERGY USE

While energy-efficient data centers are receiving heightened attention, a recent survey found some IT directors still rank energy as a low priority.[11] Here are five reasons why they should reconsider:

DOUBLE
Growth in data center energy consumption over the past five years. And it's expected to double again in the next five to over 100 billion kWh—at a cost of $7.4 billion annually.[12]

UP TO 30×
How much more it costs annually to power a data center compared with a commercial office building, on a square-foot basis.[13]

50%
Cost to cool a typical data center—in other words, it costs as much to cool as to compute.[14]

60%
Data center capacity that can be wasted due to poorly designed layouts and airflow.[15]

45%
Estimated energy savings in the data center due to energy-management best practices combined with IT consolidation.[16]

2×
HP's goal is to double voluntary purchases of renewable energy to 8% by 2012.

OUTSIDE VOICES

AMORY B. LOVINS
CHAIRMAN & CHIEF SCIENTIST, ROCKY MOUNTAIN INSTITUTE

Ubiquitous IT has changed the lives of billions of people. In 2005, servers (including their cooling and auxiliary equipment) used 1.2 percent of U.S. and 0.8 percent of global electricity; all IT, telecoms and office equipment used 3 percent of U.S. electricity. However, IT's growth is increasingly offset by power-sipping hardware, server-sharing software, terse code, and efficient power supplies and cooling systems.

For example, the new Wynyard data center that my team co-designed with EDS (now part of HP) got 16-fold more computing per kWh than conventional designs, and cost one-tenth less to build. Full exploitation of the identified opportunities would have boosted energy productivity by about 80-fold at half normal capital cost.

Moreover, IT probably saves far more energy indirectly than it uses directly. Computers optimize car engines. Electronic controls improve buildings and factories. Computer analysis fine-tunes nearly everything that makes or uses energy. The Internet itself probably saves energy: videoconferences displace flying, a Google search releasing 0.2 grams of carbon displaces thousands-fold more carbon released by driving to the library, and e-commerce reduces retail and warehouse space and shipping.

IT is also enabling a dramatic shift of power generation from fossil and nuclear fuels to renewables. In 2008, the world invested more in renewable than in fossil-fueled electricity generation; renewables (except big hydro) plus cogeneration produced two-thirds of the world's new electricity. IT is both using energy with elegant frugality and enabling huge energy savings and climate-safe sources. Together, IT and energy are creating abundance by design. Their convergence marks one of the century's greatest business opportunities.

HP's Wynyard data center opened for business in February 2010. The 360,000-square-foot facility is one of the largest in Europe. Wynyard won the Green Datacentre Award in 2008 in recognition of its environmentally responsible design.

COOL DATA CENTER DESIGN

As a result of their rapidly rising energy consumption, data centers worldwide now account for more emissions than Argentina and the Netherlands combined.[17]

An innovative facility in Wynyard, UK, designed and managed by HP, is a notable step toward reversing that trend. We've applied a systems-based approach, taking advantage of local conditions to reduce environmental impact. The Wynyard data center is expected to reduce energy consumption by 40 percent, cut emissions and save up to $15 million annually.

The roof **collects rainwater**, using it for landscaping and firefighting systems. Rainwater is also filtered and stored in **80,000-liter tanks** and used to boost humidity levels when the air is too dry.

Cold North Sea air is circulated throughout the data center, cooling equipment and allowing the facility to go without air conditioning 97% of the time.

Walls and server racks are **white**, a design choice that conserves energy by reducing the need for lighting and saves about $7 million a year.

To save energy, **sensors** turn lights on only when needed. Lights are angled at **45 degrees** to the server rows, brightening the facility and reducing the number of fixtures needed.

Wynyard has a **Power Usage Effectiveness score of 1.2**; the closer to 1.0, the better. A typical data center earns a 2.0, while most sustainable facilities have scores of about 1.7.

Reflective material on the roof deflects **sunlight** to ensure that the building absorbs as little heat as possible. **Wind-powered sources** provide 10% of the facility's energy.

In a typical year, the facility is expected to produce **8,770 tonnes of CO_2**, roughly half of what a comparable data center would produce.

#1 HP's ranking in both *Newsweek*'s Green Rankings of America's 500 largest corporations and the Climate Counts Company Scorecard.

1 BILLION kWh HP's goal is to save customers 1 billion kWh by 2011 through improved energy efficiency of HP's high-volume HP desktop and notebook PC families, relative to 2008.

5 STEPS TO SAVE ENERGY, PAPER AND MONEY

An average printing fleet serving 700 people uses over 33,000 kWh, generates nearly 190,000 pounds of CO_2 and costs $700,000 annually.[18] The opportunities to reduce costs and environmental impact are substantial.

1 ASSESS IMPACT

First identify inefficiencies. The typical ratio of users to printing devices is 1:3, when most networked devices can handle more. Redundant devices waste energy.

2 CUT ENERGY USE

An outdated fleet wastes energy. HP helped 3M optimize its printing infrastructure, reducing consumption by an estimated 79.9%, saving $1.2 million over three years.

3 STOP WASTING PAPER

Setting duplex printing as its default helped one Fortune 500 company conserve an estimated 800 tons of paper annually.

4 RECYCLE MORE

Storing old IT in a closet is a security risk. And tossing print cartridges in the trash can harm the environment. HP recycling programs have recovered over 2.04 billion pounds of electronics and HP print cartridges since 1987.

5 GO DIGITAL

Paper-based workflows slow productivity and waste resources. Caja Madrid implemented an HP digital document delivery system and cut paper use 15% while improving customer service.


A LOGICAL APPROACH TO PRINTING

Years of acquisitions left IT services and business provider Logica with little control over printers and copiers in remote offices. HP Managed Print Services helped reduce its overall printing costs by an estimated 39% and lower support calls by 50%. An added bonus: a more environmentally sound approach to printing, which has helped the company use an estimated 60% less paper and 32% less energy.*

*Printing cost, support call data, and paper and energy savings are estimates reported by Logica to demonstrate the advantages of HP Managed Print Services.

HP CARBON FOOTPRINT CALCULATOR

With the web-based HP Carbon Footprint Calculator, you can measure how applying power-saving technologies, activating power-saving settings and consolidating devices can lower the energy use and carbon footprint of PCs, printers and other devices. To learn more, visit www.hp.com/go/carbonfootprint.
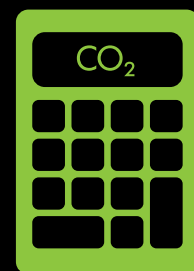
↓9%
In 2009, HP decreased total energy use by 9% compared with 2008.

112,000 TONNES
The volume of electronic products and supplies HP recovered for recycling in 2009, including 61 million print cartridges.

A billion people rely on HP technology every day. We operate in approximately 170 countries with a workforce of over 300,000. And our supply chain is the largest in the IT industry, encompassing more than 700 production suppliers that employ over 300,000 workers. In ways large and small, HP's commitment to global citizenship touches countless lives, businesses and communities worldwide every moment of every day.

DAKAR, SENEGAL

A scientist collaborates with peers worldwide by tapping into **powerful grid computing technology** provided by HP, slowing African "brain drain" by enabling her to advance research without leaving her native country.

DETROIT, UNITED STATES

The third-largest water and sewerage utility in the U.S. uses HP software to **track and manage consumption in real time**, helping conserve water and energy while reducing costs.

HP GLOBAL

CIUDAD JUAREZ, MEXICO

Workers at an HP supplier participate in an educational session about preventative healthcare, part of the HERproject, a program to **help women in the global supply chain access healthcare services**.

SAO PAULO, BRAZIL

A large development company upgrades its data center, doubling its capacity while cutting its energy consumption and associated greenhouse gas emissions by installing **efficient HP blade servers and advanced HP cooling solutions**.

TRONDHEIM, NORWAY

A nurse responds to a patient call on her **medical data assistant**—based on an HP mobile device—and wirelessly accesses a smart network designed by HP to alert the attending physician to an emergency.

SHENZHEN, CHINA

The Shenzhen Stock Exchange, serving 35 million investors, relies on HP **information security control solutions** to safeguard $800 million in daily transactions.

CITIZENSHIP

MUMBAI, INDIA

To complete her science assignment, a student logs into a virtual classroom, part of an **online learning knowledge center** funded by a grant from HP designed to extend the reach of education.

JAKARTA, INDONESIA

Rather than boarding an airplane, a product development team gathers in an HP **Halo telepresence room** to meet with colleagues in Berlin and Athens, saving 3,000 pounds of CO_2 emissions per person.

THREE PRINCIPLES OF
HP'S RESPONSIBLE SUPPLY CHAIN MANAGEMENT

In a global supply chain, local issues take on worldwide significance. Labor rights in China, for instance, or factory emissions in Mexico are linked to companies bringing products to market—even if they are many steps removed.

This raises tough questions for HP, which has the largest IT supply chain. How far do our responsibilities extend? What issues can we meaningfully address? How do we minimize risks to customers and meet stakeholder expectations?

We take on these questions through our supply chain social and environmental responsibility (SER) program. It focuses on building supplier capabilities, promoting collaboration and increasing transparency.

1. BUILDING SUPPLIER CAPABILITIES

HP partners with NGOs to correct issues found through risk assessments and supplier audits. Together, we train suppliers on best practices and tools for meeting HP's rigorous code of conduct while helping them be more efficient.

For example, HP is working with Students and Scholars against Corporate Misbehavior to raise labor rights awareness at two supplier sites in China. The program—the first of its kind in the IT industry—is training about 4,500 workers on labor rights and has set up a hotline for reporting grievances.

2. PROMOTING COLLABORATION

Our supply chain is not ours alone. Because HP shares suppliers with others, we collaborate on issues that transcend any single company.

In 2009 HP began working with the Electronic Industry Citizenship Coalition and IT companies to respond to human rights violations associated with the trade of minerals from The Democratic Republic of Congo (DRC). These minerals are used to produce metals commonly found in electronics.

While the root issue is far removed from HP and difficult to isolate—not all metals are sourced from the DRC, and there can be more than five tiers of suppliers from their source to our direct suppliers—it is unacceptable that raw materials from the DRC contributing to armed conflict might end up in HP products.

This is why HP is contributing to an industry effort to develop a certification process that will ensure conflict minerals from the DRC are not used to manufacture electronics.

3. INCREASING TRANSPARENCY

A cornerstone of our SER program is transparency. In 2008, HP was the first in our industry to publish its first-tier suppliers. We again broke new ground in 2009, when we reported emissions data for our largest suppliers.

We are taking these steps—along with reporting results of audits in our global citizenship reports—to drive improvements in the global IT supply chain and foster trust with stakeholders.

ADVANCING WOMEN'S HEALTH

In 2009, HP completed a pilot of the HERproject (or Health Enables Returns) at two suppliers in Mexico. HERproject joins companies, factories and local NGOs to promote female workers' health through targeted workplace training programs.

The catalyst for HERproject was a study by the David and Lucile Packard Foundation, which found poor awareness of general and reproductive health, family planning options and available health services among women in global supply chains.

HERproject, which was launched by Business for Social Responsibility in 2007, complements HP's approach to responsible supply chain management. Proactively improving the health of our supply chain workforce yields social and business benefits by reducing absenteeism while increasing productivity and retention. Building on the program's success, HP has launched HERproject at three supplier sites in China.

700+ Number of production suppliers in HP's supply chain.

590 In 2009, HP conducted 104 supplier site audits, bringing our total since 2005 to 590.
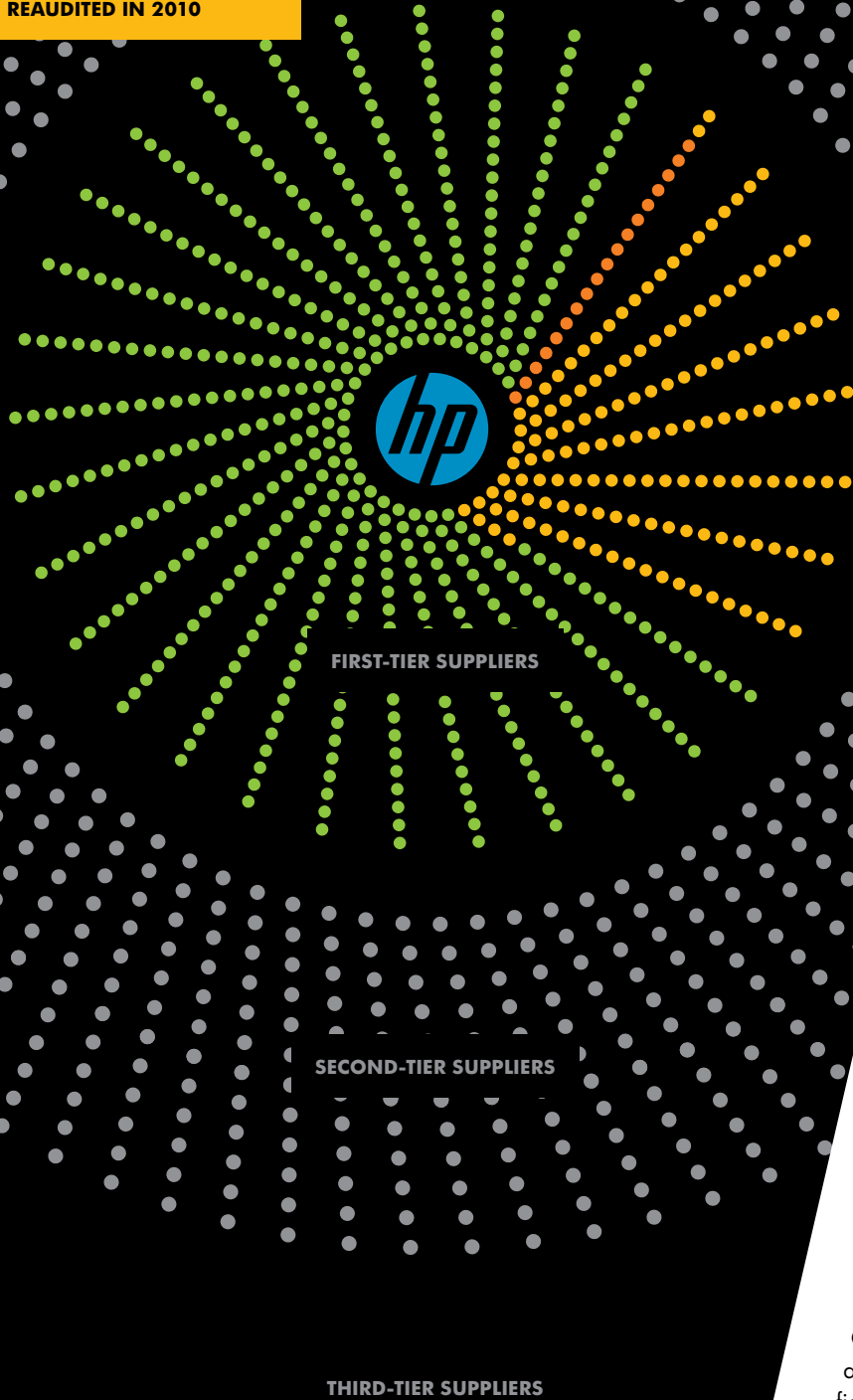
OVER **300,000** Number of workers at supplier facilities that produce HP products.

500+ LOW-RISK SUPPLIERS

18 NEW SUPPLIERS TO BE AUDITED IN 2010

153 SUPPLIERS AUDITED THROUGH 2009

43 SUPPLIERS WILL BE REAUDITED IN 2010

FIRST-TIER SUPPLIERS

SECOND-TIER SUPPLIERS

THIRD-TIER SUPPLIERS

PROF. J. RUGGIE
UN SPECIAL REP. ON BUSINESS AND HUMAN RIGHTS

Human rights are relatively new on the agenda of most businesses. Yet their relevance to companies is compelling, as criticism, campaigns and lawsuits over alleged harm to human rights increasingly pose risks to companies' reputations, operations, staff recruitment and retention, and their bottom line.

In 2008, the UN Human Rights Council unanimously welcomed the "protect, respect and remedy" framework I put forward for better managing the human rights challenges posed by, and faced by, companies. It comprises the state duty to protect against human rights abuses by business, the corporate responsibility to respect human rights, and greater access by victims to effective remedy.

The corporate responsibility to respect requires a process of human rights due diligence: that a company's policies or other public commitments adequately incorporate human rights; that it periodically assesses its human rights impacts; integrates the results and operational implications across its decision making; and tracks and reports on its performance. This process requires leadership from the top and an alignment of staff incentives across the company. And it involves engagement with those at risk of being impacted and avenues for them to raise concerns.

Only with such a process in place can a company know and show that it is respecting human rights. I am gratified to see more and more companies now working to ensure they can meet this baseline expectation.

4.1 **MILLION TONNES** CO_2e emissions associated with suppliers' material and manufacturing, according to data collected from suppliers that represent 86% of HP's expenditures in those areas.

A NEW PRESCRIPTION FOR BETTER CARE

The healthcare industry is grappling with daunting issues. Governments are mandating electronic medical records. Patients have heightened expectations for better care. Markets are demanding stronger financial performance. Meeting these challenges requires more than incremental change. It calls for entirely new ways of thinking about, delivering, managing and tracking care and services.

HP believes technology is a prescription for change; it has the power to transform healthcare, making it more affordable, effective and innovative.

INCREASING AFFORDABILITY

Affordable healthcare hinges on creating efficiencies in how providers deliver services and insurers process claims. Technology can simplify infrastructure and tools, allocating more resources to care and fewer on overhead.

For example, when the state of Kansas needed to revamp its Medicaid Management Information System, it turned to HP. Our technology streamlined processes, enabling real-time exchange of information between providers and lowering administrative costs to less than 2 percent of benefits.

IMPROVING CARE

In the U.S., up to 98,000 people die annually from medical errors.[19] Technology can reduce that number by ensuring the best remedy is provided at the proper time, in the correct way, for the right person.

For example, HP handheld devices are allowing healthcare workers to access patient information and order medication and tests with greater speed and accuracy.

Another example is the London Health Sciences Centre in Ontario, Canada, which is using HP technology to track infusion pumps for administering fluids. This frees clinicians to spend more time with patients and less time searching for equipment.

DRIVING INNOVATION

Technology can be a catalyst for expanding medical knowledge and treatment.

HP envisions an integrated healthcare system where software and personalized services capture patient data, storing and securing it. Analyzing this information can reveal trends, such as emerging epidemics, and prompt more rapid and effective responses.

Centralized research will also enable the collective intelligence of the healthcare community to improve services. Expensive emergency room visits will be replaced with virtual consultations that focus on preventative care. The integration of IT systems in hospitals and clinics will establish vital, more efficient connections between surgical theaters, smart beds, nursing stations and insurance billing systems.

This vision is not far off. Today the world-respected M.D. Anderson Cancer Center is using HP high-performance computing to cut the time to analyze massive data sets from 20 minutes to 20 seconds. Widening access to such technology is accelerating research and innovation, enabling drug companies to bring medicines to market more quickly, for example.

93% Percentage of HP employees who rated workplace and job safety as meeting or exceeding expectations.

+3 HP expanded HERproject (or Health Enables Returns) to three new supplier sites in China in 2009.

2.4 BILLION Number of healthcare transactions handled each year by HP technologies.
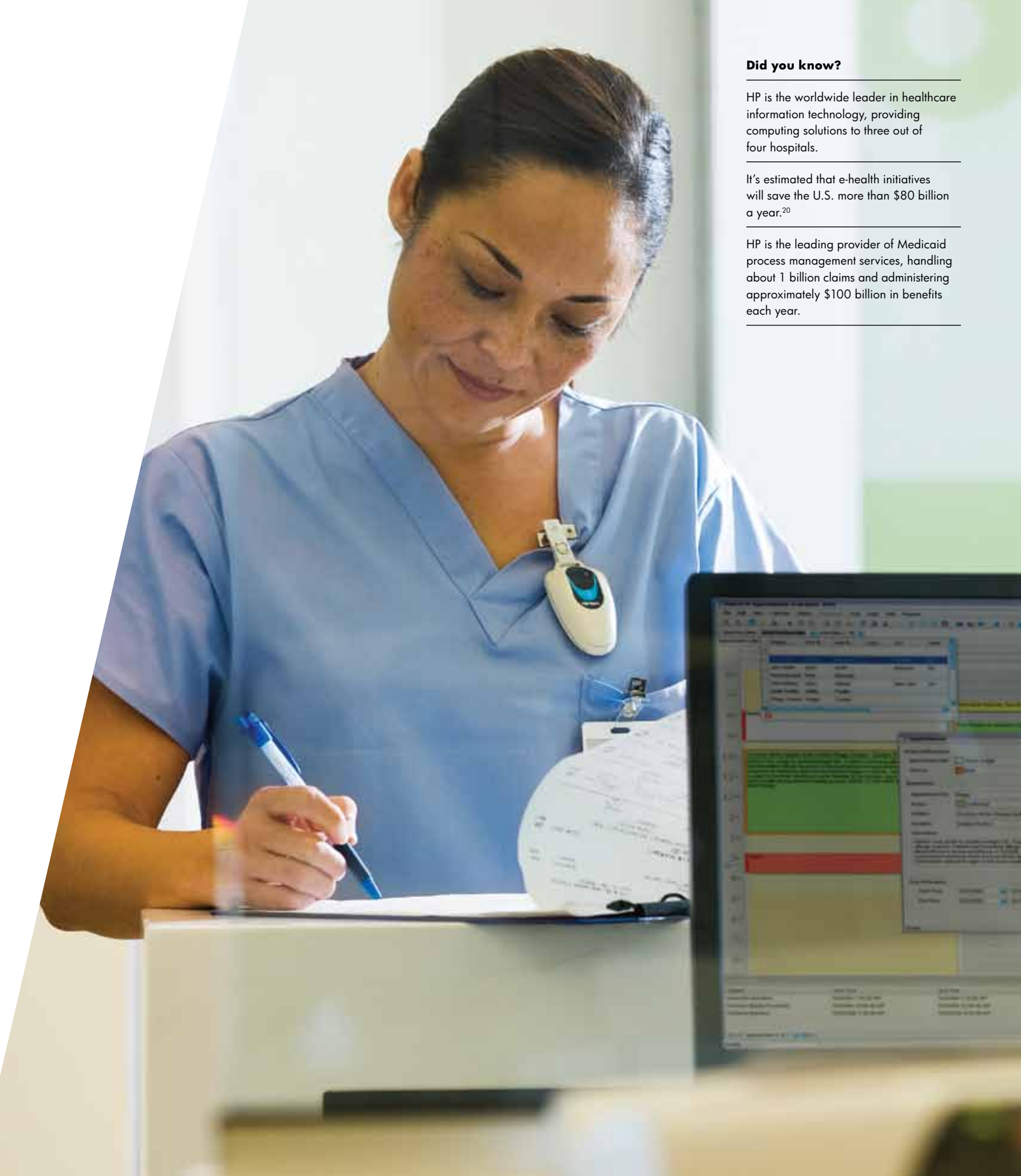
38.4 BILLION Number of patient visits supported annually by HP's clinical and administrative applications.

111,000+ Calls per year handled by HP technologies, from potential enrollees in the Arkansas BreastCare program, which gives uninsured women access to healthcare.

HARNESSING THE INFORMATION EXPLOSION

The digital universe is 500 billion gigabytes—equivalent to a stack of books stretching to Pluto and back ten times.[21] But here's the even bigger issue: just 25 percent of the world's population is online.[22]

That figure will dramatically rise as the population races toward 8 billion and technology becomes ever cheaper and accessible. Ubiquitous Internet access, more mobile devices, the advance of cloud-based services and the digitalization of virtually every aspect of our lives—these and countless other factors will generate enormous volumes of data.

The question is—how do we make sense of it all? Left unaddressed, this explosion of information risks overwhelming us. But while technology is fueling the challenge, it also holds the answer. With the right solutions, the information explosion represents an unprecedented opportunity for greater intelligence, deeper insight and smarter decisions. This is where HP is focusing our energies.

BRAIN (short for Behaviorally Robust Aggregation of Information in Networks) is a prime example. Developed by HP Labs, BRAIN uses proprietary algorithms to tap into and apply the collective wisdom of experts to make accurate predictions about future events, such as quarterly revenues or demand for products. The tool removes bias and generates more on-target forecasts. An HP business unit relies on BRAIN, as does SwissCom, Switzerland's leading telecom provider, to predict revenue with greater efficiency and accuracy.

Unstructured information represents another opportunity. Roughly 80 percent of data stored by organizations falls into this category.[23] It's all the raw information—e-mails, audio and video files, HTML-based web pages—not organized in a database, making it very difficult to search and analyze.

HP Labs is working on a solution called Live Business Intelligence (Live BI), a unified data and analytics platform. By allowing much more powerful and sophisticated analysis of highly complex data, Live BI will yield insights for transforming operational processes and customer interactions.

TUNING IN TO THE PLANET

Imagine a world in which your house heats itself just before you return, a bridge notifies officials when steel tie rods must be replaced, and the next hybrid flu virus is tracked around the globe in real time.

All of this and more will be possible through the Central Nervous System for the Earth (CeNSE). In development by HP Labs, CeNSE will use billions of nanoscale sensors to feel, taste, smell, see and hear what is going on in the world and then transmit that data over powerful networks to be analyzed and acted on quickly. Having such deep intelligence on demand will empower better, faster decisions, improving safety and security while promoting greater sustainability.

2006   2007   2008   2009
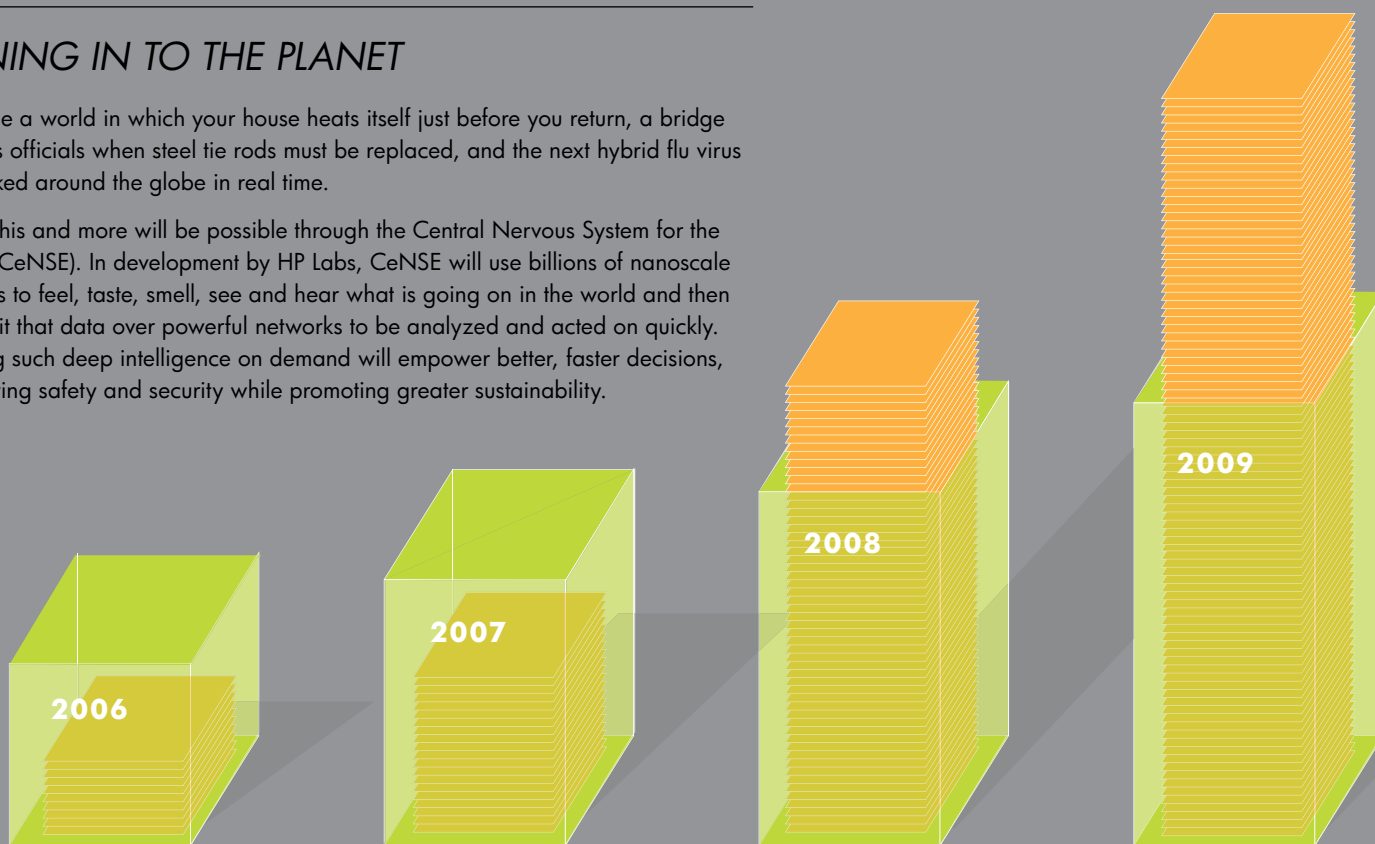
97% In 2009, more than 97% of HP employees completed Standards of Business Conduct training.

1/25 HP is one of 25 companies involved in the Business Forum for Consumer Privacy.

The digital universe is so vast that it now exceeds available storage space. According to an IDC white paper, information surpassed storage capacity in 2007. By 2011, almost half of all digital information will be transient, or without a permanent location.[21]

🟧 Digital information

🟩 Available storage capacity

2011

2010

45% Today, one-third of digital information includes personal information; that's forecast to rise to 45 percent by 2012.[24]

PROTECTING
PRICACY
PRIVACY
IN A CONNECTED WORLD

Privacy is a fundamental human right increasingly at risk. Today, one-third of digital information includes personal information; that's forecast to rise to 45 percent by 2012.[24] As a result, HP is as focused on developing solutions to making the most of data as it is on keeping data safe and secure.

Beyond integrating an array of security and privacy features into our products and services, HP is a founding member of The Trusted Computing Group, which develops and promotes security standards for PCs, servers, PDAs and digital phones.

But technology can go only so far—it must be supported by policies that guide informed decisions when handling data.

HP's privacy accountability model is a case in point. It is based on traditional criteria, such as the law, codes of conduct, contracts and programs such as Safe Harbor. But our model goes further by also considering company values, customer expectations and potential risks to our business and that of our stakeholders.

We developed our accountability model in collaboration with the Centre for Information Policy Leadership, and are working with that organization, regulators and advocacy organizations to encourage its wider adoption.

11 HP scientists and engineers are working with 11 other companies on PICOS, a program to create confidence in the safety of sharing data in online communities.

2009 In 2009, HP was named one of the World's Most Ethical Companies by the Ethisphere Institute.

NEW LESSONS FOR A CONNECTED WORLD

Education goes hand in hand with economic development. The prosperity of communities and nations depends on having individuals with the talent and skills to participate and compete in the knowledge economy. A highly educated workforce has the power to drive innovation, raise productivity and stimulate growth.

At HP, we believe we can fuel learning and economic development by applying technology to broaden education's reach and transform its impact.

First, by making education more relevant to more people. The common model for education hasn't kept pace with the skills needed to succeed in today's information-intensive economy. Today's students need the skills to use technology to find, synthesize and apply information efficiently. To meet this requirement, classrooms need to be as wired as the world around us.

Making technology an integral part of the educational experience helps students master the Internet as well as other core competencies, such as critical thinking and collaboration. It's also a way of bridging the educational divide for underserved communities. And for students with learning differences, technology can be used to tailor the curriculum to their individual needs.

Second, by making education more engaging. Building websites, writing blogs, creating digital video—many students are already doing these things on their own. Joining learning with the activities students are naturally drawn to gives students a way to more deeply connect to academic concepts. Students can use multimedia to visualize complex problems, and use Internet resources to access research or online chat programs to collaborate with their classmates. It's a simple equation: When students are more engaged, they learn more.

Third, by opening education up to everyone. Approximately 80 percent of the world's population lives in developing countries,[25] where schools can be few and far between. Technology is a potent force of democratization, capable of freeing education from traditional settings and opening it up to more people in more places. Tools such as desktop videoconferencing can bring the classroom to individuals in rural areas, and grid computing can connect academics in remote regions to their colleagues around the world.

Read the case studies to the right to learn more about what HP is doing to change the education equation.

$30 MILLION — In 2009, HP contributed more than $30 million in education grants and programs worldwide.

500,000 — HP will work with partner organizations to train a half-million students globally through HP entrepreneurship training programs by the end of 2010.

USING THE POWER OF TOUCH

Technology can help students learn in a way that works best for their unique needs. At the Hope Technology School, teachers are using HP TouchSmart PCs to connect with students who have learning differences. By using HP TouchSmart Voice Notes, students record their voices and play the files back with a simple touch to the screen. This method is particularly helpful with students who have difficulty speaking, as it reinforces language skills and motivates them to speak more. Students also use their voice notes to communicate with classmates and teachers.

MAKING THE WORLD A CLASSROOM

Dynamic, interactive technology-based learning can better prepare students with the skills they need to succeed outside school walls. As a result of an HP Innovations in Education grant, students at the Universidad EAFIT, located in Medellín, Colombia, can now use mobile technologies such as HP tablet PCs and iPAQs to take the classroom wherever they go. They employ blogs, e-mail and instant messaging to collaborate with each another, communicate with their professors and share insights.

LAUNCHING NEW ENTREPRENEURS

Technology can bring skills-based training to those outside of the educational system, such as young entrepreneurs. In partnership with the Micro-Enterprise Acceleration Institute and the United Nations Industrial Development Organization, HP supports the Graduate Entrepreneurship Training through IT (GET-IT) program to help 16- to 25-year-olds begin careers and launch new businesses. Aspiring entrepreneurs can enroll at one of 100 GET-IT centers in Africa, Europe and the Middle East. Others can access training courses through an online portal, www.get-it-city.net.

STEMMING THE TIDE OF BRAIN DRAIN

An estimated 70,000 skilled professionals, scientists, academics and researchers leave Africa each year to work in developed countries.[26] A collaboration between HP and UNESCO is turning this "brain drain" into a "brain gain" by allowing university faculty to engage in real-time scientific collaboration from their home countries through grid and cloud computing. Since the pilot project launched in 2006, the program has connected 20 higher education institutions throughout the Middle East and Africa.

Cheikh Anta Diop University in Senegal is using its access to the European Grid (EGEE) infrastructure to tap into computing power and storage capacity. Now, its scholars can collaborate with colleagues around the world and engage in cutting-edge university projects worldwide without having to leave their home countries.

100 By 2011, HP plans to connect 100 universities via grid technology through the UNESCO Brain Gain Initiative.

153 Number of Innovations in Education grant projects launched worldwide by HP in 2009.

TO LEARN MORE, VISIT
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