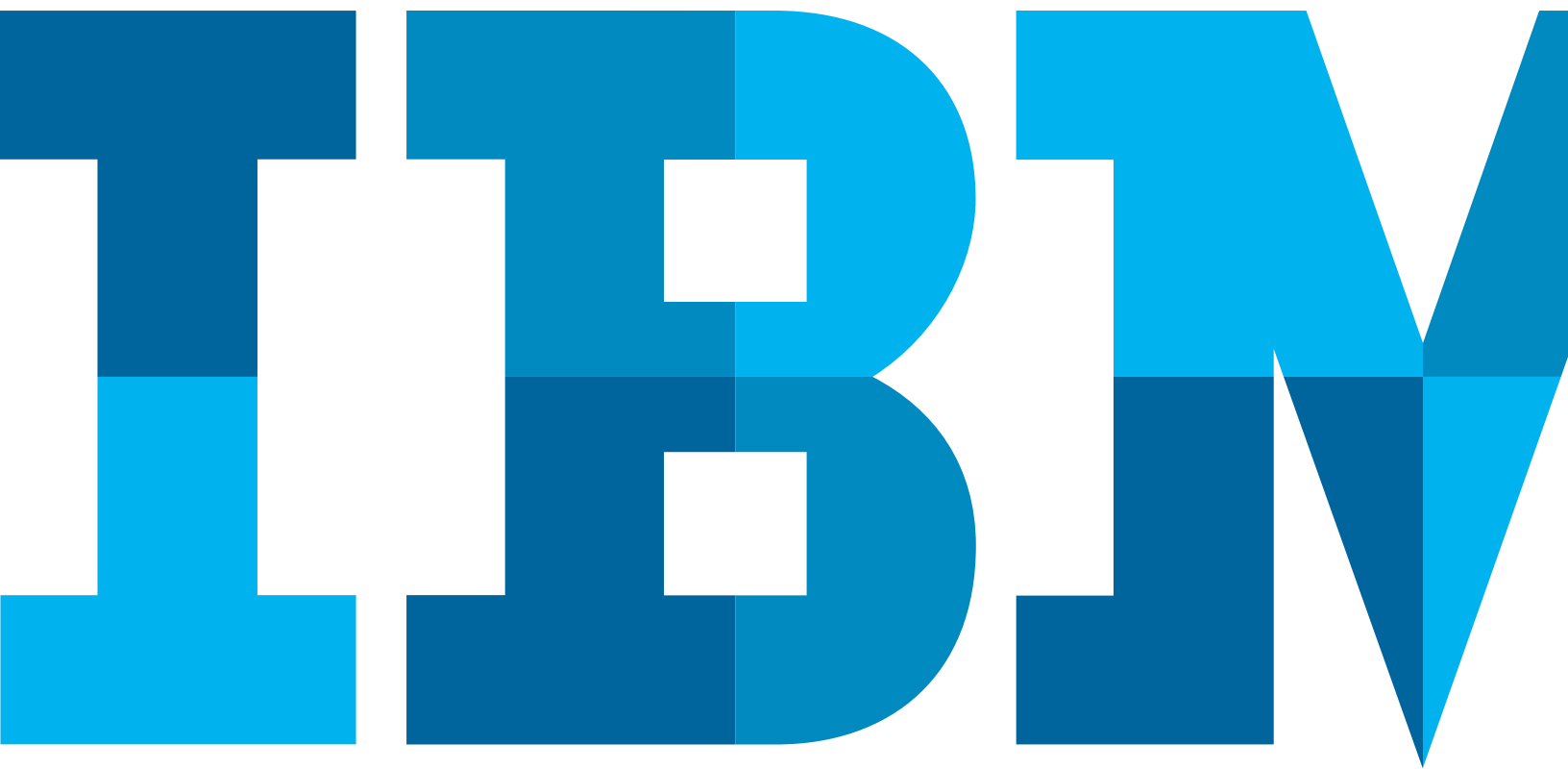


# 2010 Corporate Responsibility Report

[ibm.com/responsibility](http://ibm.com/responsibility)



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## About this report

IBM's Corporate Responsibility Report is published annually during the second quarter of the subsequent calendar year. This report covers our performance in 2010 and some notable activities during the first half of 2011.

To select the content for inclusion in the 2010 Corporate Responsibility Report, we have used the Global Reporting Initiative (GRI) Reporting Principles of materiality, sustainability context, stakeholder inclusiveness and completeness. IBM also provides on its corporate responsibility Web site a comprehensive [GRI Report](#) utilizing the GRI G3 Sustainability Guidelines at a self-declared GRI Applicant Level A.

Unless otherwise noted, the data in the report covers our global operations. More details about IBM's corporate responsibility activities and performance are available [here](#). Information about our business and financial performance is provided in our [2010 Annual Report](#). IBM did not employ an external agency or organization to audit the 2010 Corporate Responsibility Report. The metrics contained therein and in this summary were generated using IBM's corporate accounting systems audited by IBM's internal audit staff.

# To achieve success, you have to manage for the long term.

Of course, many people pay lip service to the importance of long-term thinking. But if you take it seriously—if you adopt it as a management philosophy—it leads to certain distinctive behaviors and choices.

From the time of IBM's founding 100 years ago, IBMers have taken a long-term view—thinking not in quarters, but in decades and beyond. This has shaped how we allocate resources and how we develop talent. It has led us to take a number of bold risks, and to collaborate broadly and deeply—with universities, governments, nongovernmental organizations, even our competitors.

It has also underpinned how generations of IBMers worked to create a distinctive organizational culture—not by default or sporadically, but deliberately. Not grounded in products or charismatic leadership, but in shared values.

Importantly, it shaped IBMers' perspective on our company's role in society. Indeed, long-term thinking is not only the key to business survival, it's also the best definition I know of corporate responsibility.

For a century, our company has pioneered science and technology. It has also pioneered progressive workforce policies, environmental stewardship and community service. From Social Security, to equal opportunity employment, to advances in education, healthcare and more, IBMers' innovations have changed the way the world literally works. Many examples are contained in this report, and many more are described on our Centennial Web site.

Today, it all comes together in our work to build a smarter planet. This agenda encompasses everything we are as an organization. And one of its most profound consequences has been the convergence of our business and citizenship strategies. Which, when you think about it, makes perfect sense. You cannot optimize complex systems like food, water, energy, education and cities without simultaneously expanding access to underserved populations, increasing their transparency and architecting their environmental sustainability.

In addition, you cannot do it alone. A world that is becoming a system of systems is a world of inherent multiplicity and diversity. Effective action, therefore, is necessarily collaborative. We are seeing this in thousands of smarter planet engagements around the world, in the work of our Corporate Service Corps teams in emerging markets, in the success of our Smarter Cities Challenge and in many other ways.

Which brings me back to the deeper notion of corporate responsibility that is the subject of this report. Far more than "giving back to society," the idea of long-term responsibility leads both to an ambitious notion of the kind of work you tackle, and to a distinct management approach, encompassing investment, talent, policy, governance and stakeholder engagement.

Most fundamentally, it leads you to unleash the ideas and deepen the expertise of your people. Products, services, technologies—and CEOs—come and go. But from decade to decade, it is IBM's culture, its corporate character, that endures. And it is IBMers who manifest our character in action.

On this report, you will read about some of the ways IBMers are doing so. Indeed, as this report becomes available, one of the largest and potentially most consequential demonstrations of IBMers' societal responsibility is underway. Through our Centennial Celebration of Service, IBMers around the world are devoting at least eight hours during 2011 to apply their talent and expertise to civic and societal needs. I can't wait to see the impact.

In this work, and in what we do every day, my colleagues and I know that we are only scratching the surface of what is possible on a smarter planet. And that is why we also know that our first century, for all its remarkable milestones, was just a harbinger of our second.



SAMUEL J. PALMISANO  
Chairman, President and Chief Executive Officer

# IBM's Approach

Through the years, IBM has consistently expanded the definition of corporate citizenship, pushing the boundaries of what is required to be considered a responsible enterprise. In this section of IBM's 2010 Corporate Responsibility Report, you will find more detail on our approach to corporate responsibility, and some examples of how that approach manifested itself during the past year.

## Our Approach to Corporate Citizenship

Over the 100 years of IBM's existence, we have developed and refined a thoughtful and comprehensive approach to corporate citizenship that we believe aligns with IBM's values and maximizes the positive impact of which we, as a global enterprise, are capable. We do this in four ways:

We identify and act upon new opportunities to apply our technology and expertise to societal problems (See [Smarter Cities Challenge](#)).

- We scale our existing programs and initiatives to achieve maximum benefit (See [World Community Grid](#)).
- We empower our employees and others to serve their communities (See [Service Jam](#)).
- We integrate corporate citizenship and social responsibility into every aspect of our company.

We focus our community engagement and corporate service programs on specific societal issues, including the environment, community economic development, education, health, literacy, language and culture. These are areas of urgent societal needs where we can apply IBM's technology and talent to solve problems, rather than simply making cash donations. We believe that direct action and collaboration, not spare change, are the path to real change.

In all of our community service efforts, we aim to provide leadership, and we insist on excellence. Whether it's using voice recognition technology to help children learn to read or cloud computing to make disaster relief tools available instantly to recovery workers, we expect to effect widespread positive change. And we work closely with highly qualified partners who are deeply committed to the same outcomes. This is our approach to stakeholder engagement: to collaborate with leading organizations to evolve meaningful and sustainable solutions.

This commitment is fostered throughout the company, led by senior management, which is ultimately responsible for our economic, environmental and societal performance, as well as compliance with laws, regulations and our various codes of conduct. The IBM Board, its committees and our CEO regularly review performance and accountability.

On a day-to-day basis, our citizenship activities are managed by Corporate Citizenship & Corporate Affairs at IBM, which regularly reports to the Board on goals and performance. The vice president for Corporate Citizenship and Corporate Affairs at IBM also serves as the president of the IBM International Foundation, which is chaired by IBM's chairman and CEO.

It is only logical that responsibility for good corporate citizenship extends to all divisions of the company, because corporate citizenship at IBM consists of far more than community service. IBM is a company of more than 425,000 employees, doing business in nearly 170 countries. We manage a supply chain of more than 27,000 suppliers. We support a vast network of stakeholders — from clients, employees and business partners to community leaders and investors. And the work we do impacts not only other companies' business success, but the efficiency and innovation of countries, cities, governments, communities and our planet's critical infrastructure.

For these reasons, IBM's business is inherently required to pursue the highest standards of social responsibility, from how we support and empower our employees, to how we work with our clients, to how we govern the corporation.

## A Different Kind of Company

**“Corporations prosper only to the extent that they satisfy human needs. Profit is only the scoring system. The end is better living for us all.”**

— Thomas J. Watson Jr., former Chairman of IBM

It started with values. From its founding a century ago, IBM has been held together not by a new technology or business model, but by a shared set of beliefs. IBM's leaders were convinced that a strong company culture and a commitment to good corporate citizenship would lead to success in both business and society.

Over the years, the world has changed many times. Wars have been fought. Economic recessions have come and gone. Technological revolutions have changed the way we work and live. And during that time, IBM has reinvented itself more than a few times.

But through it all, IBMers have defined their actions—and their company's collective identity—according to a core set of values. They are the foundation that allows IBM not just to react to change, but to embrace and lead it. It is no exaggeration to say that without this steadfast commitment, IBM would not have survived the many challenges it faced during its first century, or be in a position of strength as it embarks upon its second.

**“IBM is among the progressive companies ... that have achieved the seemingly impossible: high levels of business performance—innovation, growth and profit—and social good. They have mastered the tough challenge: building a resilient culture to flourish in turbulent times while leaving a positive mark on the world. While the short-term fortunes of any company, IBM included, can change precipitously, a high-performance, humanistic culture provides the foundation for sustainable growth, profit and innovation over the long term.”**

— Rosabeth Moss Kanter  
Ernest L. Arbuckle Professor of Business Administration, Harvard Business School, and author of *SuperCorp: How Vanguard Companies Create Innovation, Profits, Growth, and Social Good*.

It is also safe to say that this commitment has produced significant, measurable results—both in the form of profitable growth and in terms of societal impact. The latter is the subject of this report.

In 1965, then Chairman Thomas J. Watson Jr. described the company's values this way: "We accept our responsibilities as a corporate citizen in community, national and world affairs; we serve our interests best when we serve the public interest ... We want to be at the forefront of those companies which are working to make our world a better place."

In 2003, IBM Chairman Sam Palmisano opened the company's global intranet to ValuesJam, a broad-ranging re-examination of the role of beliefs and values within a radically different economic and societal reality. Most importantly, it aimed to further define what we, as IBMers, actually do value.

Being IBMers, tens of thousands of us joined in. Being IBMers, we took this opportunity very seriously—indeed, with a sometimes brutal honesty about where IBM stands as an enterprise, and what it needs to become. And being IBMers, we came to thoughtful and broad agreement on what distinguishes us at our core:

- Dedication to every client's success
- Innovation that matters—for our company and for the world
- Trust and personal responsibility in all relationships

IBM has always been grounded in beliefs—under the Watsons, they were even called the Basic Beliefs. What has changed is the recognition that people's values can no longer be dictated to them from above. ValuesJam signaled a new management philosophy for a new era—a profoundly different way of forging enterprise identity from the bottom up.

In this report you will find examples of IBM's values-based decisions, strategies and actions throughout its history. These accomplishments from our past reinforce our belief that values can be the driving force behind a successful business and add societal value. They also remind us of the role that private enterprise can and should play in society. And they strengthen our commitment and inform our approach to good corporate citizenship going forward.



In 1935, under the innovative and visionary leadership of IBM's Anne Van Vechten, the company held its inaugural systems service engineering class for women. The class, which trained employees for professional-level positions, marked the start of an increased business role for women at IBM.

# Awards and Recognition 2010

## Corporate Citizenship

- **EthicalQuote, Switzerland**  
IBM ranked #1 in Covalence's EthicalQuote Q1 2010 Ranking, besting 581 large companies across 18 sectors. Covalence, based in Switzerland, runs EthicalQuote, the ethical reputation scoring system and corporate social responsibility news database tracking the world's largest companies. It is one of the most influential rankings used by socially responsible investment funds.
- **Global 1000: Sustainable Performance Leaders**  
IBM ranked #2 on Justmeans "Global 1000: Sustainable Performance Leaders" list. The list measures performance on financial, environmental, social and governance factors among the 1,000 largest publicly traded companies.
- **100 Best Corporate Citizens**  
IBM ranked #4 on CR Magazine's 12th Annual "100 Best Corporate Citizens" list. The list is based on the Russell 1000 listing of large public corporations. The list is based on publicly available information and is recognized by PR Week as one of America's top three most important business rankings.
- **World's Most Respected Companies**  
IBM ranks #4 on Barron's World's Most Respected Companies list. This survey of money managers produces a ranking of businesses with strong leaders, good governance, quality products and services, and solid market returns.
- **Five Star Outstanding Corporate Citizen, China**  
IBM China was awarded the "Five Star Outstanding Corporate Citizen in China" award late last year. Only four other companies received five stars among the almost 100 Outstanding Corporate Citizen companies selected nationwide by the Ministry of Civil Affairs. IBM was recognized for its extraordinary corporate social responsibility (CSR) achievements supporting local governments' agendas in the areas of disaster relief, community services, closing the digital divide, and education in remote and minority regions.

- **Award for Ethics and Values in the Industry, Mexico**  
For the seventh time, IBM Mexico received the "Award for Ethics and Values in the Industry" from the Confederation of Industrial Chambers (CONCAMIN). The award recognizes best business practices and the corporate values of the company.
- **Multiple Awards, Poland**  
In Poland, IBM received the top CSR award for the IT and telecommunications sector from the Responsible Business Forum, and was runner up for the American Chamber of Commerce award for the most socially responsible company in Poland.
- **Multiple Awards, India**  
In India, IBM received the Golden Peacock Award for Corporate Social Responsibility in February 2010 and the Bombay Stock Exchange Award for Best Corporate Social Responsibility Practice in September 2010.
- **Caring Company Award, Hong Kong**  
In Hong Kong, IBM received the Caring Company award from the Hong Kong Council of Social Service.
- **100 Most Valuable Global Brands**  
IBM was awarded the #2 position by BrandZ in its list of "100 Most Valuable Global Brands." One of the deciding factors was the inclusion of new CSR-related criteria, which helped move IBM into this slot.

## Leadership

- **Outlook Business, India**  
IBM's Corporate Service Corps was praised as a one-of-a-kind program for leadership development in a feature story in Outlook Business, one of India's top business magazines.
- **Industry Innovation Award, China**  
In China, IBM received the Industry Innovation Award for Corporate Services Corps and related CSR activities, and the 2010 Corporate Social Responsibility Award from the China Business Journal.
- **2010 Best Volunteer Project Award, Turkey**  
In Turkey, IBM was awarded the "2010 Best Volunteer Project Award" by the Corporate Volunteer Association (OSGD) for the Corporate Service Corps program.

## Education

- **Childhood Education Reform, China**  
China's Ministry of Education Counselor, Mr. Xuming, visited the KidSmart center in Guangzhou and praised IBM as the only major corporation to make a long-term commitment to early childhood education reform in China. 2010 is the 10th anniversary for China's KidSmart program. In 2010, IBM donated 200 KidSmart Young Explorer units to preschool education centers in minority areas across China.
- **Certificate of Outstanding Contributions, China**  
The China Ministry of Education (MoE) awarded IBM the certificate of outstanding contributions to China's education system for seven consecutive years at its Spring Festival Reception for representatives from more than 30 multinational companies in China.
- **Ministry of Education & Training, Vietnam**  
In Vietnam, IBM was recognized by the Ministry of Education & Training for our 10-year contribution to early IT learning in education.

## Disaster Relief & Recovery

- **Chilean Innovation Discovery Workshop, Chile**  
The IBM/Red Cross project for Chile relief was highlighted as an example of a smart solution at the Chilean Innovation Discovery Workshop for government. Chile's Minister of Housing and Urban Development participated in the workshop.

## Employee Engagement

- **Global Views Magazine, Taiwan**  
IBM Taiwan was recognized by Global Views Magazine with a major CSR award—the only “foreign company” to win the award three consecutive times. The judging group, comprising eight prestigious thought leaders from academia, not-for-profits and government, recognized IBM's achievements in “volunteerism for community services” and its “work-life integration program for the workplace.”

## Environment

- **#1 Green Ranking, Newsweek**  
IBM ranked #1 in the Newsweek “Green Ranking” of the biggest publicly traded companies in developed and emerging world markets. The criteria include environmental impact, green policies and reputation.
- **Green500 List, The Green500**  
IBM was ranked #1 in the latest Supercomputing Green500 List announced by Green500.org. The Green500 ranks the top 500 supercomputers in the world by energy efficiency. The list shows that 13 of the top 25 most energy efficient supercomputers in the world are built on IBM high-performance computing technology. IBM also holds over half of the top 100 positions on this list.
- **Low-Carbon & Environmental Leadership, Gartner/World Wildlife Fund**  
IBM was ranked #1 in all-around performance and was in the top 3 in all five categories in Gartner/World Wildlife Fund's recent “Low-Carbon & Environmental Leadership Findings Report.” The report evaluated 28 ICT companies on their all-around performance, transformation by IT, transformation of IT, internal environmental performance and supply chain.
- **ISM Award for Excellence in Supply Management, Institute for Supply Management**  
IBM received the ISM Award for Excellence in Supply Management (the “R. Gene Richter Award”) from the Institute for Supply Management in the Sustainability category for 2011. The award recognized IBM for three initiatives including its Center of Excellence for Environmental Compliance/Social and Environmental Management System, Supply Chain Social Responsibility Initiative and Green ISC Initiative.
- **PM100 Awards**  
Three of the eight 2011 Progressive Manufacturing 100 (PM100) Awards IBM received related to its environmental leadership. The awards recognized IBM for its Supply Chain Environmental and Corporate Responsibility Management System Requirement, its Center of Excellence (CoE) for Product Environmental



Compliance, and its Environmental Reporting Tool (ERT). The PM100 Awards recognize companies from around the world that have achieved significant breakthroughs in innovation, the use of advanced technologies and the effective management of their businesses.

- **LEED Gold Certification, U.S.**  
In 2010, IBM's new, 60,000 square foot, Leadership Data Center in Research Triangle Park, North Carolina, became the company's first LEED Gold certified data center. Other IBM LEED certified facilities include its Boulder, Colorado Data Center (LEED Silver) and its LEED Gold Certification for Commercial Interiors for its leased office space known as the Bay Area Lab in Foster City, California.
- **Advanced Enterprise Award, China**  
IBM International System and Technology Company (ISTC), Shenzhen, China, received an Advanced Enterprise Award from the Shenzhen Waste Reduction Action Program in 2010. The award is part of a voluntary program that encourages enterprises to reduce their waste volumes versus production.
- **Class of Excellence Wastewi\$e Label Award, Hong Kong**  
IBM Hong Kong received the Class of Excellence Wastewi\$e Label Award in August 2010 in the Hong Kong Awards for Environmental Excellence program. The Wastewi\$e Label is a recognition scheme established to encourage Hong Kong businesses and organizations in adopting measures to reduce the amount of waste generated within their establishments or generated through the services and products they provide; and recognize their waste reduction efforts.
- **Environmental Excellence Award, Philippines**  
In the Philippines, at the 9th Asian Corporate Social Responsibility (CSR) Awards, IBM received the Excellence Award in the Environment Excellence category for IBM's Corporate Service Corps, which helped create Interactive Flood Maps in support of a Smarter Philippines project.
- **Most Valuable Pollution Prevention Awards, National Pollution Prevention Roundtable**  
IBM received two 2010 Most Valuable Pollution Prevention (MVP2) Awards from the National Pollution Prevention Roundtable: one for the elimination of perfluorooctane sulfonate (PFOS) and perfluorooctanoic acid (PFOA) compounds from the company's chip manufacturing processes in Burlington, VT and East Fishkill, NY, and one for chemical usage reductions at IBM's 300mm manufacturing facility in East Fishkill. This is the second year in a row and the third time in four years that IBM has received an MVP2 Award.
- **Vermont Governor's Awards, U.S.**  
IBM Burlington, Vermont, received two 2010 Vermont Governor's Awards for Environmental Excellence & Pollution Prevention under the Environmental Excellence in Resource Conservation category for its "Solid Waste and Packaging Reductions at the IBM Burlington Facility" and "Cooling Load Reduction by Free Cooling in Cold Weather." This marked 17 consecutive years that IBM has been recognized with at least one of these awards—which is every year the competition has been held.
- **Distinguished Service Citation, U.S.**  
IBM Burlington received a Distinguished Service Citation in the business/professional organization category of the 2010 Keep America Beautiful National Awards for Waste Reduction and Recycling for its solid waste and packaging reduction initiatives.
- **Distinction Award, Canada**  
IBM Canada's Bromont site received the 2011 Distinction Award in the category of Energy Efficiency. The award was presented to IBM by the Agency for Energy Efficiency of Quebec and the Federation of Quebec Chambers of Commerce.
- **Excellence in Environmental Engineering Award, U.S.**  
IBM East Fishkill received a 2011 Excellence in Environmental Engineering Award in the small projects category from the American Academy of Environmental Engineers (AAEE) for the catalytic reduction of hydrogen peroxide in ammonia wastewater.

## Internal Environmental Recognition

### Chairman's Environmental Award Program

IBM established the Chairman's Environmental Award Program in 1991 to encourage leadership and recognize achievement and progress in environmental affairs on the part of IBM's organizations.

Similar to the past three years, the 2010 Award Program focused on energy conservation and energy efficiency across IBM's operations, products and services, and the competition continued to be among major business units.

The recipient was selected based on degree of leadership, results, and innovation and integration with regard to their programs and initiatives in the areas of energy conservation and energy efficiency. IBM Systems and Technology Group received the 2010 IBM Chairman's Environmental Award.

The Systems and Technology Group (STG) has global responsibility for developing IBM systems hardware and operating systems software solutions as well as designing and manufacturing semiconductor technology for IBM systems and OEM clients. STG's operations include 37 laboratories in nine U.S. states and 17 countries around the globe.

The selection of STG for the 2010 Chairman's Environmental Award recognizes the organization's outstanding leadership, innovation and results in energy efficiency and conservation as demonstrated by a comprehensive focus across its products and operations.

Energy efficiency results in STG's product lines from processors to high-performance computing products include:

- Enhanced power management functions in new server POWER7® and x86 processors, memory and I/O subsystems.
- Innovative data management such as Easy Tier™ storage, data compression, data de-duplication, and thin provisioning supporting storage energy efficiency.
- Low-power "sleep" mode for Retail Store Systems.
- The first in the industry to qualify a 4-processor socket server to the new U.S. EPA ENERGY STAR criteria for servers.
- The IBM System Blue Gene® family of supercomputers achieved computing excellence with breakthroughs in energy efficiency, winning the National Medal of Technology.

In data center energy efficiency initiatives, STG:

- Moved Measurement & Management Technologies (MMT) from Research to a data center thermal analysis customer service offering.
- Partnered with Syracuse University to deploy a new data center with innovative energy-saving features.
- Developed and offered Active Energy Management capabilities for IBM products.

In addition, STG achieved exceptional operational energy efficiency in its microelectronics manufacturing operations, significantly contributing to IBM's overall energy conservation results over the last three years.

## Diversity

- Diversity Award, Austria

IBM Austria won the Diversity Award from the national Chamber of Commerce for the wide range of our diversity programs, including mentoring women, Bring your Daughter to Work Day, the GLBT network and the Women's Leadership Forum.

- Max-Spohr Award, Germany

In Germany, IBM received the Max-Spohr Award for leading practice in diversity. The award was made by Völklinger Kreis e.V., Germany's professional association for gay managers.

- Top 100 Hong Kong Leading Graduate Employers, Hong Kong

IBM is ranked #1 among the Top 100 Hong Kong Leading Graduate Employers. The survey explored key factors that influenced the decision-making process of final year students when selecting their first employer after graduation, as well as their career aspirations and motivations.

- Employee Resource Group of the Year, U.S.

IBM HR won the Employee Resource Group of the Year award from The U.S. Business Leadership Network. IBM was selected because of our support for a broad array of cultures, people, thoughts and ideas. These are proving integral to the company's success in the development of superior technology solutions that make a difference to our employees, clients and the world.

- Leadership in Global Diversity, U.S.

DiversityInc named IBM the #1 company for leadership in global diversity based on our training, employee groups and strong cultural values across all boards.

# 2010 Performance Data Summary

Over the course of a year, IBM uses a series of metrics to measure our corporate responsibility efforts. On this page you will find a summary of the data in several important areas. Our Key Performance Indicators (KPIs) for various parts of the business are also noted, along with some explanation of each.

**KPI** denotes key performance indicator

## Employees

At IBM, we focus on enabling IBMers to flourish by providing guidance and opportunities for career and expertise growth, allowing IBM and IBMers to succeed in this rapidly changing world. IBM blends traditional, virtual and work-enabled learning and development activities to accomplish this. As realized in 2010, this strategy enables us to provide timely, comprehensive and targeted learning while achieving more efficient, effective learning delivery.

	2006	2007	2008	2009	2010
Learning investments worldwide (\$M) <b>KPI</b>	682	622	648	490	547
Learning hours worldwide (M)	19.6	22.3	23.2	25.5	28.6
Learning hours per employee <b>KPI</b>	55	58	61	64	67

IBM has a long-standing commitment to understanding employee issues and concerns through the use of employee surveys and analysis. In 2011, IBM will begin implementing a more contemporary approach to employee surveys. We will shift from large, enterprise-wide surveys to surveys tailored to local needs or focus areas that enable the business to move more nimbly. These new survey methods will include more frequent, targeted surveys focused on business performance. Employee participation in these surveys will help IBM develop more actionable insights around topics that are important to the targeted employee

population and have direct application to moving the business forward. These survey techniques will also help foster a culture of analytics within IBM's business. (Note: The industry benchmark IBM compares itself against also declined from 2009 to 2010.)

	2006	2007	2008	2009	2010
Employee Satisfaction (%)	67	69	67	69	65

IBM has demonstrated 100 years of commitment to addressing the specific needs of women in our workforce, and to creating work-life and career development programs that address their needs. We continue to monitor the progress and leadership development of women in our workforce and provide opportunities across the 170 countries where we do business.

Women in the workforce % <b>KPI</b>	2006	2007	2008	2009	2010
Global Workforce	28.5	28.8	28.9	28.7	28.1
Global Executives	19.7	20.3	21.2	21.2	21.4
Managers	24.5	24.8	24.5	24.6	24.8

## Global illness/injury rate

	2006	2007	2008	2009	2010
Total number (per 100 employees)	0.32	0.30	0.27	0.27	0.26

## Retiree and Employee On Demand Community

Hours in thousands	2006	2007	2008	2009	2010
Asia Pacific	134	163	143	118	111
Europe, Middle East, Africa	284	210	175	155	198
Latin America	31	42	41	43	44
North America	1,263	1,303	1,170	954	1,110

Total registrations inception through 2010 was 164,129.  
(Employees: 150,356 Retirees: 13,773)

## Giving

IBM tracks global corporate contributions by issue, geography and type of grant. Giving by issue is important as our goal is to maintain education as our primary focus. Giving by geography is important to understand the alignment of our resources to our global operations. The type of giving—services, technology (including software) and cash—is important as we focus on providing the best of our company's technical services and technology to address key social issues.

While education is our highest priority, we currently intend to maintain some investment in human services, culture, health and the environment. Additionally, we want to keep flexibility for new initiatives and to meet extraordinary external conditions. Our balance of contributions in 2010 met these goals. Our overall contributions rose by 1.8 percent, in line with the five-year trend.

IBM is a globally integrated enterprise operating in over 170 countries. In 2010, the percentage of contributions in mature markets generally fell, while contributions in developing markets rose. Some of our contributions are given on a globally competitive basis, so geographical distribution may vary due to the number and quality of applications. By type of contribution, cash as a percentage of total contributions dropped slightly in 2010, consistent with our emphasis on giving services and technology.

We do not set goals for percentage change in contributions year over year, nor for giving by geography or by type of contribution. We focus instead on increasing the quality of our work with partners on projects that successfully use IBM solutions and that have significant impact on key social issues. Current trends in contributions will not necessarily continue, but rather will be determined within the framework of increasing the effectiveness of our contributions.

### Global corporate contributions

by issue (\$M) <b>KPI</b>	2006	2007	2008	2009	2010
K-12 Education	49.4	41.7	45.4	44.0	34.7
Higher/Other Education	51.5	49.2	82.6	92.4	116.8
Culture	12.3	11.9	10.5	5.7	3.2
Human Services	19.8	16.7	15.3	15.0	7.7
Health	10.6	4.6	4.0	4.2	4.3
Other	7.9	40.7	19.3	19.9	16.1
Environment	0.6	1.8	2.2	4.7	6.4
<b>Total</b>	<b>152.1</b>	<b>166.6</b>	<b>179.3</b>	<b>185.9</b>	<b>189.2</b>

### Global corporate contributions

by type (\$M) <b>KPI</b>	2006	2007	2008	2009	2010
Cash	48.8	43.8	42.9	40.3	39.3
Technology	59.2	55.8	93.8	102.2	105.3
Services	44.1	67.0	42.6	43.4	44.6
<b>Total</b>	<b>152.1</b>	<b>166.6</b>	<b>179.3</b>	<b>185.9</b>	<b>189.2</b>

### Global corporate contributions

by geography (\$M) <b>KPI</b>	2006	2007	2008	2009	2010
United States	95.7	91.8	94.6	77.1	75.8
Asia Pacific	19.9	22.3	24.4	45.4	34.8
Canada	4.0	3.6	3.4	8.4	6.8
Europe, Middle East, Africa	26.1	40.8	44.4	35.2	54.3
Latin America	6.4	8.1	12.5	19.8	17.5
<b>Total</b>	<b>152.1</b>	<b>166.6</b>	<b>179.3</b>	<b>185.9</b>	<b>189.2</b>

Employee Charitable Contribution Campaign (U.S.)	2006	2007	2008	2009	2010
Amount Donated (\$M)	34.7	35.1	36.1	36.1	36.2
Participation Rate (%)	57	58	57	59	59
Recipient Agencies*	7,742	8,366	8,776	9,486	9,706

\*Data for 2006–2009 has been revised.

Employee Charitable Fund (Canada)	2006	2007	2008	2009	2010
Amount Donated (\$M)	3.4	3.3	3.0	3.0	3.0
Participation Rate (%)	52	49	49	43	42
Recipient Agencies*	1,275	1,323	1,150	1,373	1,480

\*Data for 2006–2009 has been revised.

## Environment

IBM maintains goals covering the range of its environmental programs, including climate protection, energy and water conservation, pollution prevention, waste management and product stewardship. These goals and our performance against them are discussed in the Environment section of the online IBM Corporate Responsibility Report. The goals identified here as “KPIs” are based on stakeholder interest and materiality. IBM considers all of its goals to be important metrics of the company’s performance against its commitment to environmental protection.

IBM’s goal is to achieve annual energy conservation savings equal to 3.5 percent of IBM’s total energy use. IBM again achieved this goal in 2010, attaining a 5.7 percent savings from energy conservation projects.

Energy Conservation <b>KPI</b>	2006	2007	2008	2009	2010
as % of total electricity use	3.9	3.8	6.1	5.4	5.7
Renewable Energy Procured	2006	2007	2008	2009	2010
as % of total electricity use	7.3	8.5	8.6	11.3	11.2

Between 1990 and 2005, IBM’s energy conservation actions reduced or avoided CO2 emissions by an amount equal to 40 percent of its 1990 emissions. To further extend this achievement, IBM set an aggressive “2nd generation” goal: to reduce the CO2 emissions associated with IBM’s energy use by 12 percent

between 2005 and 2012 through energy conservation and the procurement of renewable energy.

As of year-end 2010, IBM’s energy conservation results and procurement of renewable energy yielded a 16.7 percent reduction in its energy-related CO2 emissions since 2005.

CO2 Emissions Reduction <b>KPI</b>	2006	2007	2008	2009	2010
% reduction against the 2005 base year	—	+2.0	-1.6	-5.7	-16.7

Product Energy Efficiency **KPI**  
Please visit our Product Energy Efficiency section

Recycled Plastics	2006	2007	2008	2009	2010
% of total plastics procured through IBM contracts for use in its products that is recycled—against annual goal of 5%	11.7	10.6	10.3	13.2	11.5

IBM’s goal is to reuse or recycle end-of-life IT products such that the amount of product waste sent by IBM’s Product End-of-Life Management (PELM) operations to landfills or incineration for treatment does not exceed a combined 3 percent of the total amount processed.

In 2010, IBM’s PELM operations sent only 0.6 percent of the total processed to landfill or incineration facilities for treatment.

Product end-of-life management <b>KPI</b>	2006	2007	2008	2009	2010
% of total processed sent by these operations to landfill or incineration for treatment	1.1	0.8	0.6	0.5	0.6

IBM’s goal is to achieve year-to-year reduction in hazardous waste generated from IBM’s manufacturing processes indexed to output. IBM’s hazardous waste generation indexed to output decreased by 21.6 percent in 2010.

Hazardous waste reduction (%) <b>KPI</b>	2006	2007	2008	2009	2010
	-8.1	-8.4	-10.9	+8.4	-21.6

Nonhazardous Waste Recycling	2006	2007	2008	2009	2010
% recycled of total generated against an annual goal of 67% (in 2006) and 75% (2007-2010)	76	78	76	76	79

IBM's goal is to achieve annual water savings equal to 2 percent of total annual water usage in microelectronics manufacturing operations, based on the water usage of the previous year and measured as an average over a rolling five-year period. In 2010, new water conservation and ongoing reuse and recycling initiatives in IBM's microelectronics operations achieved an annual 1.8 percent savings in water use, resulting in a rolling five-year average of a 2.8 percent savings versus the 2 percent goal.

Water Conservation (%)	2006	2007	2008	2009	2010
	7.0	6.0	4.6	3.1	2.8

## Supply chain

Supplier spending by category	2006	2007	2008	2009	2010
Services and General Procurement (%)	64	67	68	69	64
Production Procurement (%)	33	31	29	28	33
Logistics Procurement (%)	3	2	3	3	3
Services and General Procurement (\$B)	23.2	25.0	26.1	22.6	22.1
Production Procurement (\$B)	11.7	11.4	11.4	9.3	11.6
Logistics Procurement (\$B)	0.9	0.9	1.0	0.9	1.0

Supplier spending by location	2006	2007	2008	2009	2010
North America (%)	42	43	39	39	35
Asia Pacific (%)	27	26	30	29	35
Europe, Middle East, Africa (%)	26	27	25	25	22
Latin America (%)	5	4	6	7	8
North America (\$B)	15.0	16.0	14.9	12.8	12.3
Asia Pacific (\$B)	9.7	9.8	11.4	9.4	12.2
Europe, Middle East, Africa (\$B)	9.2	9.9	9.8	8.1	7.5
Latin America (\$B)	1.9	1.6	2.4	2.5	2.7

Supplier diversity provides IBM a competitive advantage through gains in market share and client satisfaction by giving global opportunities to diverse owned businesses. IBM's Global Supply strategic goals and objectives are supported by diverse suppliers around the world that deliver value in areas such as flexibility, innovation and sustainability, thereby helping to contribute to a Smarter Value Chain.

First-tier spending <b>KPI</b>	2006	2007	2008	2009	2010
Total U.S. (\$B)	12.7	12.6	12.5	10.9	10.7
Diverse U.S. (\$B)	1.3	1.4	1.5	1.4*	1.5
Diverse Non-U.S. (\$M)	615	709	745	806	74.2

\*Data for 2009 has been revised.

IBM's supplier social responsibility assessment protocol requires that all audited suppliers create and submit a Supplier Improvement Plan (SIP) for all noncompliance—with priority given to major noncompliances. The SIP forms a conduit linking initial audit findings to supplier-generated improvements geared toward resolution of root causes with verification taking place through a re-audit scheduled following the completion of all improvement actions.

Supplier improvement plans completed and accepted <b>KPI</b>	2006	2007	2008	2009	2010
	—	—	169	84	316

# Communities

At IBM we engage with communities around the world by offering our technology, services and expertise to help solve some of the world's most complex problems. While the monetary value of these contributions is great, we eschew checkbook philanthropy whenever possible. We believe that this approach is the most efficient, effective and sustainable way to practice good corporate citizenship. And we believe it is helping to make the world work better. In this section of IBM's 2010 Corporate Responsibility Report, you will find examples of the contributions IBM made to the global community this past year.

## Education

For the last 100 years, IBM has deeply understood the importance of education at all levels, from early childhood through graduate studies. The company recognizes the positive effects that education can have on the social and economic conditions in a community. And of course, IBM itself relies on a highly educated and skilled workforce.

Over the years, IBM has identified specific challenges at every step of the education process, from improving the quality of early childhood education to developing more and better teachers throughout the world. This commitment has yielded a portfolio of long-running education programs that continues to grow and improve every year. And as educational needs change, we continue to search for new programs that can address those needs.

One example of a new initiative from 2010 is a unique school that IBM is developing in collaboration with the New York City Department of Education, the City University of New York and New York City College of Technology. Announced in September 2010 and slated to open in September 2011, the new school, called Pathways in Technology Early College High School (P-TECH), will be the first of many new, innovative public schools spanning high school through an associate degree. The mission is to provide students with the individualized instruction that will enable them to master the skills and knowledge they need to either graduate with an associate degree that will enable them to



P-TECH in New York City provides students the opportunity to earn an associate degree—providing students a direct route to an IT career.



secure entry-level positions in the information technology industry, or to continue and complete study in a four-year higher education institution.

The broader goal is to apply the knowledge and experiences developed in the pilot school to serve as a model for use by other traditional high schools in New York City and nationally. This school will be the first in a series and a demonstration of how K–12, higher education and public/private collaboration can substantially raise graduation rates, prepare a greater number of students to fill good-paying jobs in IT or other fields, and enable more students to successfully pursue postsecondary education. For more information, visit [ptchnyc.org](http://ptechnyc.org).

Below are a few of the other long-running educational programs in which IBM continues to invest:

### **KidSmart Early Learning Program**

The IBM KidSmart Early Learning Program integrates new interactive teaching and learning activities using the latest technology into the pre-kindergarten curriculum. IBM's KidSmart program includes the Young Explorer, a computer housed in brightly colored, child-friendly Little Tikes furniture and equipped with award-winning educational software to help children learn and explore concepts in math, science and language. Since the inception of the KidSmart Early Learning Program in 1998, IBM has donated more than 50,000 Young Explorers to schools and not-for-profit organizations in 60 countries, reaching more than 100,000 teachers and serving more than 10 million students.

Some examples of how the KidSmart program is being integrated successfully in school curricula include Hong Kong, where IBM collaborated with the Office for the Development of the Energy Sector in the Macao Special Administrative Region Government. There, IBM incorporated the region's environmental education curriculum, part of a national agenda in promoting energy savings, in the KidSmart program. And in Poland, the Ministry of Education has financed the creation of an online community for KidSmart teachers that links to the newly translated Polish version of the KidSmart Web site. Through this platform, teachers can exchange best practices and ideas on how to use the Young Explorers to promote children's development and learning.

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# 10 million

students have been served by IBM's KidSmart Early Learning Program since 1998.

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### **Reading Companion**

It is well-known that literacy is a key contributor to the competitiveness and economic growth of any region. Launched more than a decade ago, Reading Companion® is IBM's Web-based literacy initiative that uses voice recognition technology to help children and adults to learn to read. The software listens as students read words and phrases that appear on the screen, correcting pronunciation as needed and encouraging students along the way.

Reading Companion provides a private, unthreatening setting in which to learn, and is currently being used in more than 2,100 schools and nonprofit organizations—about half of which are schools—in 36 countries. Approximately 85,000 users are participating in this grant program.

Some examples of key relationships include projects with Colombia, where IBM is working with Fundación Empresas Publicas de Medellin and the American Colombo Center in Medellin to implement a bilingual project called English Net, which includes schools and 35 libraries in the city and its surroundings. Reading Companion is bringing together IBM volunteers, librarians and teachers in promoting English learning that will benefit at least 1,500 learners in its first year alone. Also, the Leonardo da Vinci project in Turkey will bring vocational high schools from eight European Union countries together over two years to create an online glossary using Reading Companion's Book Builder feature to help students learn English vocabulary for the workplace. The Book Builder functionality in Reading Companion allows schools and not-for-profit organizations to create original e-books on topics that are of interest to local readers, and add to Reading Companion's existing virtual library of more than 200 online books for children and adults.

### ¡TradúceloAhora!

¡TradúceloAhora! (TranslateNow!) is IBM's real-time bidirectional translation technology initiative. Keeping parents actively engaged in their children's schoolwork is critical to academic success. Using IBM's WebSphere Translation Server software to translate Web sites, e-mails and instant online communications from English to Spanish (and vice versa), ¡TradúceloAhora! allows Spanish-speaking parents of school children to better communicate with their children's English-speaking teachers. The automatic translation program is also helping thousands of users find much-needed information on the Web on health services, job searches and more. To date, nearly 4,500 users in 1,000 organizations—about one-third of which are schools—are participating in this grant program in the U.S., Colombia, Peru and Mexico. Nearly 4,300 Web pages are translated each month.

According to the principal of the Ann Richards School for Young Women Leaders (Austin, Texas), "With the ¡TradúceloAhora! software, I am able to open the doors of communication with our Spanish-speaking parents. When the software translates our many e-mail announcements to Spanish, we are able to inform and include all members of our family. Never should there be barriers of any kind that prevent parents from being active participants in the school life of their children. ¡TradúceloAhora! affords us that opportunity to remove a language barrier. We are grateful to IBM for always striving to make the world a smarter place."

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# 4,300

Web pages are translated each month by ¡TradúceloAhora!

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### TryScience

Science is the key to innovation. But engaging young students in science and math has become increasingly difficult in some parts of the world, a trend that is of concern to IBM on multiple levels. To address this, IBM has several programs to spur interest in these critical subject areas. [TryScience.org](http://TryScience.org), a collaboration among IBM, the New York Hall of Science and the almost 600 museums of the Association of Science-Technology Centers, is an online resource that allows children, as well as their teachers and parents, to interactively experience engaging and fun science projects and science museums around the world. The site has received millions of visitors since its launch in 1998.

### IBM Technology Camps

IBM Technology Camps around the world are designed to foster a new generation of scientists and engineers and encourage the thousands of young people who have participated in these programs to pursue careers in math, science and engineering. The number of jobs requiring science and math skills is exploding. From May through November, programs are held across the United States, Asia, Latin America, Europe and Africa for middle school age girls taking part in IBM's EX.I.T.E. (EXploring Interests in Technology and Engineering) Camps; boys and girls involved in the company's IGN.I.T.E. (IGNiting Interest in Technology and Engineering) programs; and people with disabilities participating in IBM's S.T.E.M. (Science, Technology, Engineering and Math) EntryPoint workshops. Beginning with the first EX.I.T.E. Camp in 1999, more than 10,000 young people have taken part in IBM Technology Camps.

### Transition to Teaching

Transition to Teaching is an extension of IBM's work in education and community service. Since 2006, IBM has enabled its employees to become fully accredited teachers in their local communities by supporting our mature workers who are interested in a second career in teaching. Transition to Teaching provides employees with guidance and funding to help them transition into teaching as their next career move, while still working at IBM. IBM was the first company to provide its employees with this kind of opportunity to pursue a second career as a K-12 math and science teacher.

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# 100

IBM employees are exploring a second career in education via IBM's Transition to Teaching program.

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Acknowledging that a shift in vocation takes time and training, the Transition to Teaching initiative helps underwrite the costs while employees pursue the education and training experiences required for teacher certification—combining traditional coursework, online courses and practice teaching. Employees are able to choose the best certification program that meets their needs so they can get the necessary education courses as well as assistance during the student teaching period. Today, more than 100 IBM employees are participating in the Transition to Teaching program, and 31 graduates have already completed their teacher certification and are teaching in classrooms or teaching online courses in the United States.

IBM has learned a lot about the critical path to a second career in teaching and has shared its perspective with other companies as well as the education community to expand the conversation on successful pathways to developing a talent pipeline for K–12 science, technology, engineering and math teachers. This year IBM provided its lessons learned and experience with teacher training and certification to the U.S. Department of Education and several national programs engaged with teacher recruitment and education.

## University Relations

Over the 100 years of IBM's history, the academic community has been a critical partner to the company. We believe that higher learning is central to the advancement of our company, and civilization in general.

That's why IBM works with more than 6,000 universities around the world on a number of levels: we conduct collaborative research and development; we provide grants and donations; we inform curriculum to help develop the next generation of science and technology innovators; and more.

In 2010, IBM gave more than \$100 million to universities around the world. These contributions came in the form of academic initiatives, matching grants, fellowship awards and other educational grants. One example from March 2010 is a \$7.6 million Shared University Research award that established a new high-performance computing (HPC) initiative for biomedical and life sciences research at the Texas Medical Center. Scientists from Rice University will use the supercomputer in collaboration with researchers from the medical center to study cancer, AIDS and other complex diseases.

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## \$100 million

in contributions to universities around the world in 2010.

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## Software for a Cause

IBM also initiated a number of innovative programs for the university community in 2010. For example, IBM realizes the next generation of innovators will be those who can work effectively in distributed team projects. Through the IBM Open Collaborative Research program, researchers from IBM, McGill University and the University of British Columbia investigated together how to motivate students to work on team projects.

The result was [Software for a Cause](#), a special project plan that can be integrated into a university level software engineering course. In a pilot of the program conducted in the fall of 2010, student teams at different universities developed a software application for a charitable organization using cutting-edge technologies. The distributed student teams leveraged the IBM Rational Team Concert service offered by Marist College to build the application. The team worked with Cystic Fibrosis Canada to create a Facebook application that could better connect their community. Lessons learned and ideas from the pilot are being expanded upon by the IBM GBS University Delivery Services program, which reaches out to a worldwide network of universities.

## Watson

IBM worked with eight different universities to help develop the technology behind Watson, the IBM supercomputer that competed and won a contest of the popular television game show *Jeopardy!* in early 2011. Those universities include Carnegie Mellon University, University of Albany, Università Degli Studi Di Trento, Massachusetts Institute of Technology, Rensselaer Polytechnic Institute, University of Massachusetts Amherst, University of Southern California and University of Texas.

On the nights of Watson's *Jeopardy!* appearance, IBM hosted more than 60 "Watch Events" at those and other universities in the U.S. More than 11,000 students attended these events, with overflow crowds at many venues, watching Watson's natural language processing and deep analytics triumph over two former *Jeopardy!* grand champions.

"It was an honor to be involved," said Catherine Copetas, Assistant Dean, Carnegie Mellon University. "And the follow-up with students has been quite astounding. Watson impressed us all with his powerful brain and has the students thinking and talking about the week. What could be better? When students/faculty/staff applaud a machine and its accomplishments, you truly have achieved something powerful. It's clear: Watson struck an intellectual nerve. Thanks to all our friends at IBM for ... some seriously fantastic science. Perhaps we should add to Watson's credentials that he brings scientists and all people (back) together."



### Icon of Progress: A Computer Called Watson

See how IBM's Deep QA software is changing the way we communicate with computers.

## Technology in Communities

Human ingenuity and effort are key factors in addressing the world's challenges. But technology can play a critical role too. Where possible, IBM identifies opportunities to directly apply its technology and expertise to problems facing local and global communities. To follow are examples of how we have matched our innovation with community needs in 2010.

### World Community Grid

Since 2004, IBM's [World Community Grid](#) has pooled processing power from idle computers around the world to help solve humanitarian problems that require intensive computer analysis. We do this by using grid computing to join together many individual computers, creating a large, virtual system with massive computational power that far surpasses the power of all but a handful of supercomputers. Because the nature of the work is split into small pieces that can be processed simultaneously, research time is reduced from years to months and even to weeks.

World Community Grid is another example of how IBM tightly integrates its expertise as a technology and services company with its community service efforts. Since its launch, more than 540,000 users and 1.7 million devices have contributed more than 400,000 years of computing to help researchers understand childhood cancer, HIV/AIDS, muscular dystrophy, clean energy and more.

In 2010, World Community Grid helped a team of researchers at the renowned Scripps Research Institute discover two new compounds that prove the existence of new binding sites on HIV protease. Associate Professor C. David Stout, senior author of the study, explained, "These results open the door to a whole new approach to drug design against HIV protease," which is an enzyme used by HIV to create new, infectious viral particles.

Also in 2010, World Community Grid added a new ambition to its portfolio: clean water. In September, IBM announced a project with Tsinghua University in Beijing, China, in coordination with a consortium of institutions from all over the world, which will endeavor to understand the molecular scale properties of a new class of efficient and inexpensive water filter materials. The goal is to help satisfy demand for inexpensive, clean drinking water in developing countries.

## 200 million

results returned to researchers by computers  
on World Community Grid in 2010.

The program is part of a broader effort called Computing for Clean Water, which is the seventeenth research project to be launched on World Community Grid and one of eight projects currently active, or intermittent.

The other seven active research projects are:

- The Clean Energy Project  
Harvard University, USA (launched June 2010)
- Discover Dengue Drugs — Together  
University of Texas Medical Branch, USA  
(launched February 2010)
- Help Cure Muscular Dystrophy  
Universite Pierre et Marie Curie, France (launched May 2009)
- Help Fight Childhood Cancer  
Chiba University, Japan (launched March 2009)
- Help Conquer Cancer  
University of Toronto, Canada (launched November 2007)
- Human Proteome Folding  
New York University, USA (launched July 2006)
- FightAIDS@Home  
The Scripps Research Institute, USA  
(launched November 2005)

The key to World Community Grid is scaling capacity. That's why every year IBM actively promotes the project and encourages new members to sign up. In 2010 we launched a social media strategy, including Facebook and Twitter outreach. During the year, the grid added 230,000 new devices, contributed 110,000 years of computer run time and returned more than 200 million discrete results to the research projects.

Also, in early 2011, World Community Grid was the recipient of winnings realized from the game show, Jeopardy! Watson, an artificially intelligent computing system developed by IBM, was a contestant on Jeopardy! and placed first, winning \$1 million. Half of those winnings were donated as grants to a number of World Community Grid research projects with the goal of accelerating results.

### Trailblazer Grants

IBM strives to make its donations to the not-for-profit community sustainable, impactful and scalable. IBM closely ties many of its contribution offerings to its business expertise and product offerings. In this way, IBM eschews checkbook philanthropy, and instead engages not-for-profit organizations on a deeper, more collaborative level. This approach helps IBM understand the true needs of these organizations and deliver greater value, and it helps the organizations better understand IBM.

First piloted in 2009, [IBM Trailblazer Grants](#) are designed to offer not-for-profit organizations a chance to enhance their performance and assist them in delivering better services to the community. The offerings help these organizations improve IT infrastructure and build leadership and technology skills through consultations with IBM experts and access to IBM technology. These tailored solutions were developed in collaboration with organizations in the not-for-profit community, and are specifically designed to support them in their efforts to serve our communities. They often involve in-depth workshops on subjects as varied as project management, leadership, operational risk and the strategic use of social media. And they offer specific technology services such as security vulnerability testing, data backup and collaboration software.



IBM continues to expand its Trailblazer Grant program. In 2010, IBM issued 135 grants, up from 21 in 2009. IBM plans to issue more than 200 around the world in 2011.

In 2010, IBM greatly expanded the Trailblazer Grant program, both within the United States and abroad. The company made 135 worldwide grants during the year, with a market value of \$1.9 million. That's up from 21 grants in 2009. As the program continues to scale and meet with positive results, the company plans on expanding to more than 200 grants in 2011.

Thus far the feedback on the Trailblazer Grant program has been overwhelmingly positive. In a recent survey, 95 percent of grantees said the offering will have a positive impact on their organization. And 98 percent said IBM should continue to provide the offering to other organizations.

The packaged services and technology offerings of the Trailblazer Grant program will continue to evolve as the needs of the not-for-profit community change and IBM's business offerings grow.

Currently, there are 10 different grant packages, including:

- Project Management: Concepts & Consultation
- Strategies for Social Media
- Leadership & Collaboration Workshop
- Operational Risk & Resiliency Assessment
- Data Backup Services
- Hacker Vulnerability Assessment
- Strategic Assessment
- LotusLive™
- Lotus® Foundations™
- Mini-Jam Collaboration Platform

### Disaster Relief

When disaster strikes, people want to help. IBMers are no different. As such, IBM has a long tradition of swiftly responding to disasters. In particular, IBM has helped to speed and coordinate relief efforts on the ground through a combination of expertise from its consultants, volunteer efforts and monetary donations by its employees, and the deployment of technology and resources to fit the situation.

## \$1 million

IBMers donated more than \$1 million of their own money in 2010 to volunteer efforts in Haiti.

In 2010, IBM responded in a variety of ways to earthquakes in Haiti, Chile, China and Australia, as well as to flooding in Pakistan. In Haiti, IBM worked with a number of nongovernmental organizations with local staff and experience. We donated services to design an enterprise mobility solution, which led to an expanded system that helped track vehicles and supplies during the chaotic months following the earthquake. We provided an in-depth assessment of the options available in the portable data center market, helping NGOs with crucial criteria for selecting and deploying a portable data center. We donated KidSmart Early Learning Centers to educational facilities being managed by local NGOs. Other equipment was donated to government ministries through the Clinton Global Initiative. A consortium of medical practitioners trying to improve medical care for Haitians received a donation of Lotus Live. Volunteers assisted Haitians with U.S. legal residency matters and taught project management skills to those involved in rebuilding. And IBMers contributed more than \$1 million of their own money to charitable groups working in Haiti.

In addition, IBM translated and distributed trauma guides that aid caregivers in recognizing and treating the effects of trauma in children and adults affected by disaster. IBM's trauma guides were developed in collaboration with trauma specialists from Harvard Medical School, who based the content on training they provided following the 2004 Asian tsunami. These guides provide a practical resource for caregivers offering psychological support to survivors of disaster. Following the earthquake in Haiti, IBM translated the guides into French and Haitian Creole for distribution throughout the country. More than 10,000 copies of the Haitian Creole and French translations were distributed in Haiti following the earthquake. Spanish, Simplified Chinese and Urdu translations were distributed following incidents in Chile, China and Pakistan, respectively.



In Chile, IBM worked with the Red Cross on a project for relief following the earthquake in February, and helped create a smarter command center equipped with Lotus Live and Sahana, an open source disaster management suite of tools. The project was highlighted as an example of a smart solution at the Chilean Innovation Discovery Workshop for government. Chile's Minister of Housing and Urban Development, Magdalena Matte, participated in the workshop, which highlighted IBM's use of technology to facilitate relief.

The Sahana software, a modular and flexible Web-based suite of disaster management applications, was created in Sri Lanka in the desperate three-week period after the cataclysmic 2004 South Asia tsunami that claimed more than 200,000 lives. Now governed by the Sahana Software Foundation, Sahana is used to track everything from victim identification to refugee camps, relief organizations and donations of relief goods. It is an active and evolving open source project that is actively promoted by IBM as a strategic component of disaster response. In collaboration with Sahana experts, IBM has sponsored Sahana Camps in numerous locations, inviting IBMers and others to collaborate on improving skills to use the technology after disaster. A project with the Philippines Red Cross to customize Sahana to that agency's specifications, begun following the 2009 typhoon, was successfully completed in December.

People affected by disaster in Sri Lanka, the Philippines, Indonesia, Peru, India, Chile and China's Sichuan Province have benefited from Sahana. And last year IBM began work with regional governments in India to host a version of the Sahana software in the cloud, to demonstrate a new regional model for Sahana support within IBM.

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# 10,000

copies of Haitian Creole and French trauma guides were distributed in Haiti following the earthquake.

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# 100%

of more than 400,000 IBMers are expected to donate at least one day of service, a commitment of over 3,200,000 hours.

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## An Enduring Commitment to Service

On June 16, 2011, IBM will celebrate its 100th anniversary as a corporation. Of all the things we will do to mark this momentous occasion, the fullest and most visible expression of our company will not be a video, a book, an exhibit or an advertisement. Rather, it will be a global Celebration of Service in which IBMers will be encouraged to get out into their communities and devote at least eight hours to applying our expertise to civic challenges and societal needs.

Why such a focus on service? For 100 years, service and volunteerism have been essential elements of what it means to be an IBMer. Creating a culture of service has always been a central part of our corporate citizenship efforts. We believe this culture benefits IBM, IBMers and their communities on multiple levels: it helps us express IBM's brand and values to the world; it allows IBMers to give back to their communities, apply their skills in meaningful ways, and gain new skills; and it improves our employee satisfaction, attraction and retention rates.

At any given time, there may be as many as 160,000 IBMers involved in community service efforts around the world, engaged in projects that range from working with mayors of major cities to improve urban quality of life to teaching science, math and engineering to local high school students. But this year IBM is aiming for 100 percent participation, with all 400,000 IBMers donating at least one day to community service.

# 12 million

hours of volunteer service logged by 177,000 IBM employees at the On Demand Community Web site.

## Redefining Service for the 21st Century: IBM's Service Jam

To lay the groundwork for IBM's Celebration of Service, we conducted an online brainstorming event in October 2010. In many ways, it confirmed and expanded IBM's strategies for service and corporate citizenship. Service Jam brought together thousands of experts from not-for-profit organizations, corporations, academic institutions and government agencies across ideology and geography. The intent of the Jam was to begin a global conversation about how we can collectively improve the delivery of service in the 21st century. View the complete results in the [Service Jam White Paper](#) (PDF).

Service Jam found that while there are many positive examples of programs and projects that provide invaluable services to people in need, the global service community as a whole could function better—i.e., it could serve more people—if it improved in four key areas.

- **Cultivate a culture of service through education.**  
Make service and project-based learning part of the educational curriculum to develop more professionals who can conceive, execute and deliver service programs. To help achieve this goal, IBM will convene a group of leaders from the private sector, governments and not-for-profits to work with an education reform organization to help make service learning an integral part of evolving national academic standards in the United States.
- **Recruit, develop and retain volunteers.**  
Develop a more thoughtful, structured approach to the recruitment, development, management and retention of volunteers around the world. This includes a more disciplined process for matching supply and demand, professionalizing the

role of the volunteer manager, and developing the right volunteer incentives and rewards. For its part, IBM will create and package solutions that leverage the company's project management methodologies to help not-for-profits prepare to receive volunteers, and corporations to offer them. The solution will be offered by IBMers around the world.

- **Build the foundations of successful collaboration.**  
Successful partnerships require careful planning, common goals and rigorous management. They are not simply mergers designed to share resources and reduce costs. Not-for-profits, the private sector and governments must develop more structure and discipline in how they approach and develop partnerships.
- **Improve the science of measuring impact and evaluating social return.**  
Measuring the success of service is difficult today because there are no agreed-upon standards. Choosing the right metrics will be vitally important. IBM will donate technology and resources to the collaborative development of a Web-based social return on investment (SROI) measurement tool that will help define service indicators that not-for-profits can use to measure success.

Like the Service Jam itself, each of these efforts will be conducted in the spirit of open collaboration. And each will be designed to deliver on the promise of the Jam: to provide better service to the people who most need it.

## IBM's Centennial Celebration of Service

IBM's Centennial Celebration of Service will reflect IBM's history of societal responsibility while showcasing our strategy for service and citizenship in the 21st century. The Celebration of Service will serve as a model for the type of coordinated system described in the Service Jam.

The Celebration of Service builds on the enthusiasm and innovative spirit of IBMers who already perform service in extraordinary numbers. Many of them do this through IBM's online service portal called On Demand Community. Launched in November 2003, On Demand Community enables IBMers to find



volunteer activities and identify skills and expertise they can contribute to a cause. It equips volunteers to empower community organizations with better project management skills, show them how to develop technology strategies, and more. Volunteers also use On Demand Community resources to visit classrooms, sharing their expertise and enthusiasm for science and technology with students around the world. Since its launch, more than 170,000 IBM employees and retirees have registered at the site and logged well over 12 million hours of volunteer service.

To extend that example of volunteerism to IBM's entire work force, the Celebration of Service will build on established volunteer programs, recruit new service leaders and work with additional outside organizations. This will generate a range of projects—based on IBMers' extraordinary professional skills—that exemplify our brand, demonstrate our values and help our communities work better.

Throughout 2011, all IBMers will be encouraged to perform a minimum of eight hours of service in their communities—especially on June 15, 2011, the day before the actual date of the Centennial. IBMers can develop a unique service project that speaks to them personally, or they can select from a range of pre-packaged projects that marry IBM's competencies with community issues. All volunteer opportunities and complete information on IBM's Celebration of Service activities can be found on the enriched On Demand Community portal, which launched in January 2011, in conjunction with the overall Centennial Web site.

The redesigned portal will include everything IBMers need to get started, including:

#### **The Service Pledge**

The official first step in the year of service, the Centennial Service Pledge invites IBMers and the public to make an online pledge of eight or more hours of community service to be completed in 2011. Pledges in addition to hours tracked by On Demand Community will reflect the overall participation in service throughout the year.

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## \$12 million

available in IBM grants to help IBMers impact their communities in 2011.

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#### **New Grants**

\$12 million in grants are available to support IBMers worldwide in their 2011 Celebration of Service. There are three types of grants: Community Grants, Catalyst Grants and Centennial Grants.

- Community Grants are awards of \$500 to \$5,000 in cash or \$1,000 to \$7,500 in technology for individual or team projects that give back to the community, with or without the use of an IBM solution or technology.
- Catalyst Grants are \$10,000 cash grants for projects that focus on skills-based activities (i.e., professional skills that are typical of what IBMers possess) or that support local sustainability issues. Projects must have 100 or more people, at least 50 percent of whom must be IBM employees and/or retirees. There are 100 Catalyst Grants available in 2011, and they will be awarded based on a competitive review process by a small regional team.
- Centennial Grants are cash grants of up to \$100,000 for projects that exemplify “smarter” components (i.e., intelligent, instrumented and interconnected) and demonstrate an ability to make the world work better. There are 10 Centennial Grants available in 2011. Up to 30 finalists will be selected in a competitive review and showcased on the Centennial site. (Applications must be submitted by June 15. Winners will be announced during the third quarter.)

### Activity Kits

Activity Kits, new resources designed especially for the Centennial Celebration of Service, provide volunteers with “grab-and-go” service ideas to help them get engaged quickly and easily. A planned 18 Activity Kits will be shared and available to the public on IBM100. Each kit contains concise instructions for successfully delivering popular service solutions.

### Service Models

Service Models are a structured way for IBMers to develop new service projects. The seven different types of service projects are:

- Smarter Service Projects, which focus on increasing understanding of, and participation in, IBM's Smarter Planet strategy. A successful Smarter Service Project will demonstrate IBM's commitment to a community and identify local, skills-based team projects.
- Client or Business Partner Joint Projects, which enhance IBM's client and business partner relationships by mutually identifying and supporting local service projects. These projects will provide benefit to the community and an opportunity for client and IBM teams to work collaboratively.
- National/Regional Partner Team Projects, which are created by national/regional partner organizations in collaboration with a liaison from IBM's Corporate Citizenship organization. The partner develops the framework and activities, and delivers them to local chapters/organizations for single large-scale, skills-based team projects.
- IBM Program Expansion Projects, which enhance existing IBM-sponsored programs (e.g., KidSmart, eWeek, Technology Camps, Diversity Network Groups, Corporate Service Corps, etc.). The program sponsor will also provide new input and ideas for individual or team skills-based service projects.
- Virtual Volunteering Projects, which use collaboration technologies to share IBMers' skills remotely with a community partner. Teams will provide leadership and expertise to identify a need and complete a project.
- Team Projects, which are typically executed at a local community partner's location. Teams will provide leadership and expertise to identify need and complete a project. Through this opportunity, IBMers will raise awareness of local societal issues and ways to get involved.
- Individual Projects, in which IBMers will support a volunteer effort of their choice. Projects are ideally skills-based and likely performed locally with a community partner.

### Service Leader Resources

IBMers are encouraged to become Service Leaders, a unique volunteer experience opportunity for those who are already passionate about volunteering and want to offer their project idea and their enthusiasm to others. Significant investment has been made in developing extensive Service Leaders training modules to ensure these highly motivated volunteers are equipped and ready to organize and lead projects and to encourage clients, business partners and family members to participate.

### Social Media

On Demand Community provides instructions on how IBMers can utilize social networking to encourage others to be part of the Celebration of Service, as well as to help them to organize and promote their service activities in a coordinated way that uses IBM's digital strategy to extend the brand.

IBM's global Celebration of Service will be a highlight of our Centennial year. It will build upon IBM's proud history of societal responsibility while showcasing our strategy for service and citizenship in the 21st century. By collectively donating their skills and expertise, IBMers will help solve local challenges and demonstrate IBM's brand and values to communities, governments and partner organizations. Together, we will show that this is a company that has consistently aimed to make the world work better through service.

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# \$36 million

in employee contributions to the Employee Charitable Contributions Campaign in 2010.

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## Employee Donations and Programs

IBM teams with employees to support organizations and causes in the communities where they live and work. Community-level grant making and extensive volunteer programs help our employees become personally involved in community projects.

### Employee Charitable Contributions Campaign

The annual Employee Charitable Contributions Campaign (ECCC) in the U.S. provides employees with an opportunity to contribute to nearly 10,000 community organizations. These organizations offer a wide array of services, including environmental, cultural, health and human services, literacy, and disaster relief. The 2010 ECCC generated more than \$36 million in support to communities in the U.S. The Employee Charitable Fund program in Canada provided almost \$3 million in contributions to Canadian organizations. IBM salutes the generosity of its employees and is proud to provide these programs to assist them in support of their communities.

### Matching Grants

The IBM Matching Grants program enables employees and retirees to increase the value of their donations to educational institutions, hospitals, hospices, nursing homes, and cultural and environmental organizations with a matching gift from IBM. The recipient organization can choose to receive its gift in the form of either cash or IBM equipment. Hundreds of educational institutions and thousands of not-for-profit organizations have benefited from contributions by IBM and our employees through this program. Recipients of IBM Matching Grants are a varied group that includes the Nature Conservancy, Memorial Sloan-Kettering Cancer Center, the Educational Broadcasting Corporation, the Metropolitan Opera, the University of North Carolina and Yale University. In 2010, 5,703 organizations received grants with a value of \$14.5 million.

## Community Grants

IBM Community Grants support employees and retirees who regularly volunteer with not-for-profit organizations. When IBM volunteers work with eligible community organizations for 40 hours over a five-month period, the organization becomes eligible for either a cash or equipment grant. Grants begin at \$500 and may be higher if the IBM volunteer uses solutions from the IBM On Demand Community, or if IBM volunteers work in teams. Organizations may receive one Community grant per calendar year. In 2010, community organizations received grants with a value of \$2.7 million through IBM Community Grants.

## Development in Communities

### Smarter Cities Challenge

Perhaps no program exemplifies IBM's integrated approach to corporate citizenship better than the [Smarter Cities Challenge](#). Announced in November 2010, this \$50 million competitive grant program will provide teams of IBM experts to 100 cities around the world over the next three years.

The goal of the Smarter Cities Challenge is to provide city leaders with strategies to improve efficiency, spur economic growth, engage citizens and more. IBM consultants will immerse themselves in local issues involving the administration of healthcare, education, safety, social services, transportation, communications, sustainability, budget management, energy and utilities.

Though the Smarter Cities Challenge is a purely philanthropic endeavor, it is well-aligned with IBM's business strategy. For the last three years, IBM has been building a substantial business in helping cities in both developed and developing countries to collect and analyze critical data. The result is a better understanding of how these complex systems of systems really work, and how they can work better.

## \$50 million

of IBM grants to 100 cities around the world over the next three years.

The Smarter Cities Challenge takes that expertise and makes it more widely available, because building smarter cities is not just a business challenge, it's a societal challenge. Cities are already home to more than half the world's population, and wield more economic power, greater political influence and more advanced technological capabilities than ever before. Simultaneously, many cities are struggling with a wide range of financial and service delivery challenges, in areas as diverse as transportation, energy, clean water, education, social services, public safety and economic development.

IBM's consultants and technology specialists will help municipalities analyze and prioritize their needs, review strengths and weaknesses, and learn from the successful strategies used by other cities. After studying the role that intelligent technology might play in uniting and advancing different aspects of city life, IBM will identify ideas and opportunities designed to help make regions healthier, safer, smarter, more prosperous and attractive to current and prospective residents and businesses.

In keeping with IBM's area of expertise, a consistent theme will be collecting, sharing, analyzing and acting on data. For instance, IBM experts might suggest ways to link the processes and objectives of multiple departments to reduce cost and improve productivity. A city's education program could be more effective if it was closely coordinated with social services, transportation, parks and recreation, public health, and safety. Police officers might be more effective if timely, customized information were electronically "pushed" to them while walking the beat or in transit. Citizen engagement could be improved if computer access were more widespread. Snow removal teams might be more efficiently deployed if ultra-precise weather data were obtained and analyzed.

The Smarter Cities Challenge will also take advantage of City Forward, IBM's free, Web-based platform, to view and interact with city data while engaging in a public dialogue. City Forward's straightforward exploration tools allow users to identify patterns, trends and correlations in data that may reveal new insights and point to new areas of interest for further investigation. These explorations can then be shared and discussed within the City Forward Community and beyond—wherever people gather to exchange ideas about cities.

The Smarter Cities Challenge will draw upon IBM's intrinsic technological savvy, but also upon the field experience accumulated by IBM over the last three years from the company's ongoing pro bono Corporate Service Corps grant program. Corporate Service Corps deploys teams of top IBM employees from around the world with skills in technology, scientific research, marketing, finance and business development. They work with local governments, not-for-profit civic groups and small businesses to develop blueprints that intersect business, technology and society. Teams have gone to work in places such as Ho Chi Minh City, Vietnam; Rio de Janeiro, Brazil; Chengdu, China; and Katowice, Poland.

IBM conducted a series of pilot grants in Baltimore, Maryland; Austin, Texas; and Mecklenburg County, North Carolina (Greater Charlotte). Those engagements produced valuable insight into how cities might derive the greatest benefit from IBM's expertise, and will serve as a model for engagements elsewhere.

"We are honored to have been the first city chosen for IBM's Smarter Cities Challenge," said Baltimore Mayor Stephanie Rawlings-Blake. "Over the last number of weeks, we enjoyed brainstorming with IBM about making the delivery of Baltimore City's citizen services even more effective. It was refreshing to hear new and creative points of view, and inspiring to hear about the successful approaches undertaken by other like-minded cities. I was particularly pleased that they quickly grasped our vision for the future, and offered strategies for realizing and even enhancing those potential plans."

The approximate value of each Smarter Cities Challenge grant will be equivalent to US\$400,000. Each team will comprise top IBM talent, who will bring their unique expertise to the program. The engagement will be conducted in a collaborative, constructive and transparent manner, with IBM team members working alongside leaders from the public, private and volunteer sectors.

Municipalities are selected competitively based on a number of criteria, including the ability to clearly articulate between two and four strategic issues that can potentially and reasonably be acted upon. Also considered will be the city's track record of innovative problem solving, commitment to the use of technology and open data, and demonstrated willingness to provide public engagement along with access to and time with city leaders.

The most successful proposals will offer clear, compelling evidence that a particular city is poised to best utilize the resources offered in the Smarter Cities Challenge, that the grant has the potential to substantially enhance a city's capacity to act on key issues, and that the city is ready to match IBM's investment with its own commitment of time and talent. Municipalities of all sizes are eligible, but it is believed that cities with populations between 100,000 and 700,000 will gain the most from the experience.

Cities interested in researching, and potentially applying for, a Smarter Cities Challenge grant, can visit [www.smartercitieschallenge.org](http://www.smartercitieschallenge.org).

The Smarter Cities Challenge is sponsored by the international philanthropic foundation at IBM, which has been a leader in corporate social responsibility and corporate citizenship for nearly 100 years. IBM implements initiatives to address specific vital issues such as the environment, community economic development, education, health, literacy, language and culture. IBM employs its most valuable resources—technology and talent—to bring these programs to fruition. Since 2003, more than 150,000 IBM employees have shared more than 12 million hours of service, transforming communities in more than 70 countries. The expertise and time shared during that time is estimated to be valued at one-quarter of 1 billion U.S. dollars.

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# \$150 billion

purchased each year by IBM and other members of Supplier Connection.

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## Supplier Connection

Small businesses are crucial to the vitality of the U.S. economy, as they accounted for two-thirds of net-new jobs created in the United States between 1993 and 2008, according to the Small Business Administration. However, it can be challenging for small businesses to sign up new, large accounts, especially among global companies. And without this source of sustained and sufficient demand, small businesses have little incentive to expand their operations or hire new employees.

With the goal of fueling economic growth and job creation in the United States, IBM and a consortium of large corporations are collaborating to make it easier for small businesses to potentially become suppliers to large companies. The resulting consortium, called Supplier Connection, collectively purchases more than \$150 billion in goods and services annually through its global supply chains. The participating companies include IBM, AT&T, Bank of America, Pfizer, Citigroup and UPS.

The Center for an Urban Future, a not-for-profit research group, recently conducted a study to explore and document the potential benefits and impact of supply chain collaboration by large and small companies. It performed in-depth interviews with supply chain professionals at both large and small firms and examined a range of economic data. In the resulting report, *Breaking into the Corporate Supply Chain*, the research group found that "... becoming a corporate supplier provides small firms with a measure of financial stability and valuable new revenues that often enable them to hire new employees, undertake a marketing campaign, add new equipment or pay down debt ... Indeed, as we show in this report, breaking into the supply chain of a large corporation can be transformative for small businesses."

In response, Supplier Connection offers a free Web-based portal that makes it easier for small businesses to become recognized as potential suppliers to large companies and for large companies to identify small companies with which they would do business. The site was created by IBM through a grant of more than \$10 million from the IBM International Foundation.

Supplier Connection provides small companies with a standardized and streamlined way to register basic information, share business practices and potentially connect with both large and small businesses to enhance their opportunity for growth. In turn, large companies are now able to quickly find registered suppliers and communicate and forge stronger relationships with new and existing suppliers. Moving forward, Supplier Connection will continue to support economic growth by encouraging businesses, both large and small, to participate in this exciting and important initiative.

#### Small Business Owners on Supplier Connection:

"We work with businesses of all sizes," said Amanda Neville, a partner at Thinkso Creative, a New York City design and marketing agency with just over 10 employees. "But we've been reluctant to spend the time and resources it takes to complete the lengthy application processes required by some large corporations for new vendors. We'd rather focus on serving our clients through stand-out work."

"As a busy small business, we can't spend a lot of time jumping through hoops to apply for new business that we may or may not win. I'm an expert on event planning and catering, not corporate bureaucracy," says Alison Bates Fisher, senior events designer at Main Event, an Arlington, Virginia, catering company with approximately 30 employees. "If there was an easy way for me to streamline the application process, I would take advantage of it."

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## \$2 million

dedicated to improve the SME Toolkit.

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#### SME Toolkit

In 2002, IBM and the International Finance Corporation (IFC) partnered in the creation of a small and medium enterprise toolkit, or [SME Toolkit](#), which provides entrepreneurs and small businesses with free information critical to burgeoning businesses in areas such as finance, accounting, international business, marketing and human resources.

The Toolkit is available in 35 countries and 18 languages. It is available in emerging markets such as Vietnam, the Philippines and Bangladesh, and in the U.S. for under-served communities such as women-, African American-, Hispanic-, Native American- and Asian-owned businesses. The Toolkit delivers interactive tools, online collaboration and educational content for small businesses. It provides information that helps small businesses learn and implement sustainable business management practices. These tools are often only available to Fortune 1000 companies.

"The Business Planning section of the SME Toolkit was especially helpful, particularly the examples of, and the step-by-step guide to, creating a comprehensive business plan," said Jon Gilligan, President of Pinnacle Property Services. Jon also used ShopFactory e-Trader to create his company's Web site. "It was very easy to use, even for this relatively novice computer user."

Partnerships established by the IFC in each of the countries hosting the site are responsible for localizing, customizing and translating content so that it speaks to the local markets. These partners, such as EDC Pan-African University in Nigeria and Dunn & Bradstreet in Singapore, can also help nurture local businesses and improve their chances of survival.

IBM has dedicated more than \$2 million to improve the usability and performance of the SME Toolkit, providing enhanced functionality and creating a resource hub, learning location and meeting place for small and medium businesses. As a result of



the partnership with IBM, the Toolkit uses an open-source platform and features Web 2.0 technology. In 2010, access to popular social media sites — such as Facebook, Twitter, and LinkedIn — was added to both the global and American sites. Mobile phone access to the site has also been enabled.

The intent of IBM's support of the SME Toolkit is to accelerate economic development and job growth in geographies and communities not yet engaged in the market economy, as well as to help spur development of women- and minority-owned businesses in the U.S. The Toolkit is a leading example of IBM partnering with significant outside organizations, contributing the best of IBM's technical expertise and solutions, and addressing pressing social issues.

### Corporate Service Corps

Started in July 2008, the Corporate Service Corps (CSC) is a philanthropic program that deploys teams of IBMers to help solve some of the most complex problems in developing countries. It is not unlike a business version of the Peace Corps, and as such the program gives host countries the opportunity to benefit from IBM's expertise in addressing economic, societal and environmental challenges.

In return, IBMers are able to apply their knowledge and skills to real-world problems and develop their leadership capabilities. They team with diverse groups of fellow IBMers from all around the world, learning important cultural lessons along the way. The CSC typifies how IBM integrates its social responsibility efforts with its business strategy, making both more successful and sustainable.

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# 1,500

Corporate Service Corps volunteers by the end of 2011.

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Since its inception, the Corporate Service Corps has sent nearly 1,000 IBMers to more than 20 different countries, including Brazil, China, Egypt, India, Ghana, Malaysia, Nigeria, the Philippines, Poland, Romania, South Africa, Tanzania, Turkey, Vietnam, Sri Lanka, Russia, Kenya, Indonesia and Morocco. Teams of 10–15 IBMers spend approximately six months on a CSC engagement: three months of preparatory work, one month overseas and two months post-service. All projects work at the intersection of business, technology and society. Grant recipients include government agencies, educational institutions and nonprofit organizations. In 2011, IBM will send its 1,000th volunteer out with its 100th CSC team. We expect to reach approximately 1,500 CSC volunteers by the end of 2011, and we will be adding deployments to Kazakhstan, the United Arab Emirates, Thailand, Cambodia and Chile.

In 2010, the IBM Corporate Service Corps was expanded to IBM executives, and called the Executive Service Corps (ESC). We expect to expand the ESC from 33 participants in 2010 to more than 100 in 2011. The core mission of the CSC was maintained in the Executive Service Corps program: leadership development, community development and increased growth market expertise. This past year, teams composed of five to six executives from a dozen countries were deployed for three weeks to Ho Chi Minh City, Vietnam; Katowice, Poland; Rio de Janeiro, Brazil; and Chengdu, China.

CSC and ESC teams each have their unique compositions, experiences and business challenges, but they all share significant immediate and long-term outcomes. Each team member benefits from extensive professional development; each grant recipient receives extensive consulting services focused on its most complex problems; and IBM is enriched with greater knowledge of the needs and issues in growth markets.

Below are some of the highlights from the Executive Service Corps teams in Vietnam, Poland, Brazil and China.

#### **Vietnam**

In Vietnam, two executive teams focused on four critical areas of concern for Ho Chi Minh City: food safety, water management, transportation and economic development. The city was presented with ideas for how to collect, integrate and analyze information about these different systems, and how to view them as parts of one fully interdependent system of systems.

“The issues that the CSC team worked on are very important, even life and death issues for our city. The three weeks weren’t long, but the CSC executives came up with very good observations and analysis, working with departments of the City including transportation, food safety, water management, e-government and human resources for high-tech innovation. The team’s very detailed and valuable recommendations fit into the City’s development plan for the next 10 years, while the final report presents an interesting vision as well as concrete next steps for each system and their integration. We are looking forward to further support and cooperation with IBM and the Smarter Cities initiative.”

— Dr. Phan Minh Tan  
Director, Department of Science and Technology,  
Ho Chi Minh City, Vietnam

#### **Poland**

In Poland, two consecutive teams deployed to the city of Katowice to help develop roadmaps and pilot projects in the following areas: marketing and promotion of the city; improved transportation services; alignment of the public, business and academic sectors; private sector engagement in city planning; and talent retention to stem drain to other cities and abroad.

“Client-facing experience is the biggest personal take-away for me. I received on-the-job mentoring and experience ... There is no way that I could have gained this experience in a workshop or class.”

— Karen Howe  
Executive Service Corps participant

#### **Brazil**

In Brazil, a team of IBM executives was sent to Rio where participants worked with the government to address some of the major logistical challenges facing the city that will host the World Cup in 2014 and the Olympics in 2016.

“I was very engaged with this program with the Executive Service Corps team and I would like to say that it was absolutely great to have this program in Rio from a business perspective. We had the opportunity to enhance IBM’s excellent reputation with the community through these five executives, demonstrating IBM’s culture and values. That was absolutely great and I hope we can do another program soon in Rio.”

— Pedro Paulo Pereira de Almeida  
IBM Regional Director, Smart Cities Brazil

#### **China**

The first IBM executive team to Chengdu, China, returned in November 2010. The executives worked very closely with city leaders in a number of strategic areas including cross-government transformation, program management, architecture and other key project areas. A second team went to Chengdu in April 2011.

In the interview after the final Executive Service Corps presentation, one of the Chengdu Municipal government officials said, “Prior to working with the Executive Service Corps, we saw IBM as a hardware and software company and now we know that while they do sell hardware and software, their strength is really as a business transformation partner.”



# The IBMer

For the last 100 years, IBM has pioneered innovative approaches to hiring, managing and retaining our work force. From some of the earliest thinking on work force diversity to progressive programs for employee well-being and leadership development, this ongoing commitment to our employees is critical to the success of IBM and IBMers. And as the nature of our business changes, we will continue to apply the same innovation and creativity we use to develop products and services to our relationship with employees. In this section of IBM's 2010 Corporate Responsibility Report, you will find examples of the commitments IBM made to its work force this past year.

## IBMers at Their Best

IBM has long practiced the art and the science of developing the world's best business and technology professionals. For the last 100 years, IBM has worked to support and foster this distinctive brand of thinker and doer, also known as the "IBMer."

Last year, IBM used the occasion of its upcoming 100th anniversary as an opportunity to look back and clearly define the unique corporate characteristics that have made IBM so successful over the last century. Through an exhaustive process, we identified five traits that describe IBM at its best, collectively called our Corporate Character. They include: pioneering intellectual capital that creates new value; applying science to the challenges of business and society; being global, in presence, viewpoint and lasting impact; collaborating as experts dedicated to the success of others; and in so doing, making the world work better.

To help make IBMers successful within this framework, we then created a working group and conducted hundreds of interviews with clients and internal leaders to help refresh and redefine the core competencies of IBMers at their best. These nine "IBM Competencies" map closely with our Corporate Character, and include a varied set of capabilities, from continuously transforming to acting with a systemic perspective. We believe that together with our newly codified Corporate Character, these IBM Competencies will help IBMers better understand what is expected of them, by both our company and the world.

## IBM Competencies

### Embrace challenge

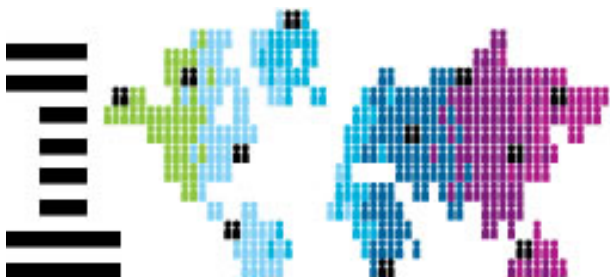
IBM is in the business of taking on complex situations and challenges. The mission of IBMers is to make the world work better—from daily breakthroughs to world-changing progress. So we focus on the future and embrace the hard challenges facing our teams, our clients and our communities. We see opportunity in complexity, and are skilled at identifying the central issues and charting a path forward. We take personal accountability for transformative outcomes—and our belief in progress inspires others to rise to the challenge with us.

### Partner for clients' success

IBM's worth depends not just on what we imagine, but what we deliver. IBMers go above and beyond what is expected to achieve our clients' current and future aspirations. We deliver client value. We act as their partners and derive great pride from their success. We invest the time to understand their situation and unmet needs; seek out market and societal insights; and make connections across the whole of IBM to serve them. We work alongside our clients, co-creating approaches, solutions and ultimately their success—which, in turn, transforms whole industries, economies and society.

### Collaborate globally

IBMers are global professionals and global citizens—and must therefore be skilled at collaboration. We think and work shoulder-to-shoulder with others—across the boundaries of teams, disciplines, organizations, countries and cultures—to achieve the right outcome. As the human dimension of a globally integrated enterprise, we build our own networks of experts—and we encourage our colleagues to use the collective intelligence of their network not just to get work done, but to identify what needs to be done and to take collective action. We see our networks of global citizens not just as collections of individuals, but as a collective leadership force creating the full promise of IBM to transform the marketplace, society and the world.



**Icon of Progress: The Globally Integrated Enterprise**

Explore how IBM transformed from a multi-national corporation to become a globally integrated enterprise.

### Act with a systemic perspective

IBMers are systems thinkers. We help our clients, our colleagues and the world understand and design the essential dimensions of any system—how it senses, maps and analyzes information, detects underlying patterns, and translates that knowledge into belief and action. We help others see this end-to-end view, synthesizing information from many dimensions—whether the system in question is technological, economic, societal, cultural or natural. This systemic view allows us to frame problems properly, and to take the right action in the right way at the right time. It also lets us anticipate the impact of our actions on others. Knowing all this, we act wisely while boldly taking the right risks.

### Build mutual trust

IBM's business model requires getting different constituents to work together to solve problems and open up opportunity—be that inside IBM, among organizations, within our clients or, in the case of world-changing work, with many communities. IBMers are skilled at building “360 degrees of trust” across this full spectrum of IBM's constituents—finding common ground for those with different objectives, aspirations, constraints and cultures. We build these kinds of relationships by acting with integrity, assuming positive intent and ensuring that openness and trust are maintained—even when agreement is not achieved. We trust in the skills of others—that they know what to do and how to do it, and are motivated to achieve the result. And if we see trust eroding, we take accountability to remedy that quickly.

### Influence through expertise

IBM's value proposition and business model are grounded in delivering expertise. So we continually deepen our own and our colleagues' knowledge and eminence—as professionals, as collaborators, as leaders, and as fully realized IBMers. We develop our skills and careers through feedback, coaching, mentoring and challenging assignments—within IBM and in the communities where we and our clients live and work. And we take personal responsibility for developing IBM's thought leadership, both inside and outside our organizations.

### Continuously transform

IBMers are committed to building the future—a better world, and a better IBM. This is what IBM has done for 100 years. Our intellectual curiosity and spirit of restless reinvention, animated by a belief in reason, in science and in progress, infuse the enterprise with energy. Today, in a world where the future is far less predictable, IBMers actively seek what we do not know and haven't yet imagined. We cultivate an environment of openness to new approaches and experimentation. We rethink assumptions and ask probing questions—to grasp new situations, unearth opportunities and create new markets. We engage others whose background, culture, language or work style is different from our own. This is the heart of an IBM that can learn, adapt and continuously transform.

### Communicate for impact

IBMers communicate to find mutual understanding and to build a sense of shared outcomes. That starts with listening; we ensure people's ideas and concerns are heard. We bring deep expertise and perspective, which are the ingredients to communicating clearly and simply, especially in complex situations. We interpret and synthesize disparate concepts, strategies and intent. We leverage our understanding of others' perspectives—the ones they can express, and the ones they as yet cannot—to tailor what we say and how we say it. We communicate authentically, in a timely way, in the most effective manner—even when conveying an unpopular opinion.

### Help IBMers succeed

The IBM brand is about IBMers, and how we show up in the world—not just client-facing IBMers, but all of us. So we each strive to bring our best selves to our work. And we are in the service of the success of others—ensuring they have resources, ongoing support and clear milestones. We take the time to share insights and discuss the challenge in front of us. We anticipate and remove obstacles and prevailing practices that are holding people back. We acknowledge others' contributions, champion their ideas and help each IBMer find his or her own motivation. We create an environment in which our colleagues feel a sense of purpose and engagement, and which draws on their own strong desire to act.

# 100%

of primary healthcare is covered for U.S. employees enrolled in IBM's self-insured health plans.

## Employee Well-Being

Employee well-being is incorporated in every aspect of IBM's global business, from our strategic and business planning to operations such as procurement, construction, manufacturing equipment, real estate leases, product development, acquisitions and outsourcing arrangements.

It is a total health management system that transcends traditional employee well-being programs by recognizing the importance of promoting physical and psychological health. This framework, known as IBM's Well-Being Management System, provides for a coordinated and consistent approach across all geographies and time zones. And it facilitates proactive planning, execution excellence, measurement and continuous improvement in areas of employee health and well-being. It also supports IBM's business goals by improving productivity, managing costs and eliminating unnecessary expenses.

**“Advancing the health, safety and well-being of our global work force is an absolute priority; it's a commitment that encompasses the environments in which employees work and the communities in which they live.”**

— Martin J. Sepúlveda, M.D.

FACP, IBM Fellow, Vice President Integrated Health Services

## Healthcare System Delivery Reform

IBM Integrated Health Services (IHS) continues to take a leadership position by driving the advancement of health promotion and prevention within healthcare systems around the world. Whether expanding coverage for key preventive services in developing healthcare systems or pressing for the promotion of medical homes in more established systems, IBM strives to take a leadership role for the benefit of the company and its employees, their families and the communities in which they live.

## Primary Care

IBM has understood the benefits for driving patient-centric primary care for some time. In 2006, IBM removed the financial barriers for enrolled employees to receive 100 percent coverage for routine and preventive primary care services. In 2010, IBM took an extraordinary step by providing 100 percent coverage for primary healthcare for IBMers in the United States who are enrolled in IBM's self-insured health plans. There is no longer a co-pay or deductible for in-network primary care with an internist, family practitioner, pediatrician, general practitioner or primary care osteopath.

## Medical Homes

IBM has led the private sector in the U.S., shifting toward a coordinated and comprehensive primary care model for Medical Homes by founding the Patient-Centered Primary Care Collaborative (PCPCC). We believe this organization has provided the impetus for what has now become a national movement in healthcare delivery. Centered on strong patient-physician relationships and comprehensive primary care, the goal of PCPCC is the establishment of a Medical Home for every patient. IBM's initiative has brought together more than 700 major employers, consumer groups, patient quality organizations, health plans, labor unions, hospitals, physicians and others, to develop and advance primary care transformation and to test the Patient-Centered Medical Home (PCMH) model of delivery. The mission of the PCPCC is to create a more cost-effective and efficient model of healthcare. It is our belief that, where implemented, the Medical Home will improve health as well as healthcare delivery and result in lower overall expenditures.

## Health Information Technology and Analytics

IBM continues to actively promote its vision of smarter healthcare, in which information technology is used to help increase efficiency, reduce costs and improve outcomes. We believe modernization of this kind is a critical step toward better healthcare. IBM leverages sophisticated healthcare analytics to inform its investments and health benefits design, and promotes the use of technology in employee health management, such as offering online Personal Health Records (PHRs). IHS also supports a variety of special projects to advance health information technology (HIT) and health analytics:

- The Taconic Health Information Network and Community (THINC)—A transformation initiative using HIT to improve the quality, safety and efficiency of healthcare for the benefit of people in the Hudson Valley region of New York.
- The North Carolina Healthcare Information & Communications Alliance (NCHICA)—An initiative through which participating physicians are able to compile medication histories for their patients and offer electronic prescribing, automated refills and access to the formularies for each of the health plans. Medication error reduction, elimination of duplicate testing and timely access to imaging and lab data are benefits of this project.

In the U.S., IBM employees are provided access to the Employee Health Management Center, which is a single locus of technology for focusing on personal health management and providing comprehensive healthcare information. This innovative tool allows individuals to:

- Securely store and access medical information in their Personal Health Record;
- Assess and understand their personal health risks;
- Understand their medical conditions and treatment options through clinical advisor tools; and
- Receive targeted health information and news tailored to their needs and interests.

## New Models in Integrated Clinical Care

IBM delivers an integrated clinical care and health insurance program incorporating health insurance, physicians, wellness, chronic care management, concierge services and care coordination services. The program is designed to simplify and enhance the overall healthcare experience. It aims to evolve the current multi-vendor care management approach to a simpler, fully integrated and enhanced member experience.

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# 2:1

value versus program cost, a conservative measure of the Integrated Health Services Pilot.

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## The Integrated Health Services Pilot

The Integrated Health Services Pilot was implemented for active IBM employees and family members who reside in Florida, Georgia and New Jersey. The program brings best practices together and aligns with IBM's integrated healthcare strategy. The pilot advances IBM's mission in several key areas including: expanded services from wellness to chronic condition management; population management directed by condition prevalence and identified opportunities within prevalence; one integrated technology platform, to coordinate service information; expanded member outreach using campaign management, based on the opportunity to coordinate outbound plus inbound traffic, mail and online connectivity; increased personalization using claims, pharmacy and lab data, and biometric and health risk assessment information when available; integrated service delivery with one health coach serving as primary member contact and engaging specialists when needed; streamlined administration with one trusted partner, one set of reports and one value model; enhanced member empowerment across all conditions; and improved program measurement through an ongoing integrated measurement model.

The personal health coach is a trained healthcare professional with in-depth knowledge of all IBM health benefits and programs and behavioral change strategies, along with expertise in the healthcare system. This new approach will offer an enhanced and seamless provider of comprehensive health services and an enhanced customer service experience, whether the individual needs help coordinating care for complex medical conditions, navigating the healthcare system, understanding treatment plans and tests, or identifying the best providers and support programs.

The pilot has performed well, benefiting more members, more effectively, than non-pilot controls as measured by participation, engagement, value, comparison to program cost and member satisfaction.

- **Member Engagement**

Nearly 1 percent of the total population participates per month; more than 11 percent of the population has participated through November 2010. Rates of engagement for the pilot were nearly three times higher than those for the non-pilot population.

- **Value Confirmed**

The average value confirmed per member, an indicator of potential future savings, for the pilot was nearly 21 percent higher than that for the non-pilot population.

- **Value versus Program Cost**

If performance was based solely on Value Driver closure, a conservative measure, the value of this program is quickly approaching 2:1.

- **Member Satisfaction**

Member satisfaction is overwhelmingly positive as measured by feedback from employees and stakeholders.

## Personalized Medicine

IBM has taken a leadership role in providing access to new personalized medicine opportunities. With the potential to transform healthcare by marrying genomics with clinical treatment, personalized medicine is the science of how someone's unique attributes, such as genetic makeup, can affect health, including the response to medication or treatment. New developments in personalized medicine have the potential to identify the most effective treatments for individual patients, leading to improved health outcomes.

## Improving Health and Health System Performance in the U.S.

IBM is actively involved in the National Committee on Evidence-Based Benefit Design (NCEBBD). This team of large employers and national experts, representing research, accreditation, physicians, health plans and consumers, seeks to improve quality of care and promote value by using benefit design and purchasing to encourage and reward effective care and discourage ineffective care. By linking benefit design to medical practices with demonstrated effectiveness, the committee seeks to enhance the health and quality of life of employees and their dependents and improve employer return on the investment in benefits. IBM is helping to translate evidence-based assessments

into recommendations for plan design, provider selection, reward programs and employee support to reduce misuse and overuse of healthcare dollars and to direct spending to high-value services.

Dr. Martin Sepúlveda, IBM Fellow and VP of IBM IHS, has also been participating in a study committee of the Institute of Medicine (IOM), the health arm of the National Academy of Sciences, to recommend national strategies for improving the public health system in the United States. This IOM committee issued its first report, *For The Public's Health: The Role of Measurement for Action and Accountability*, in November 2010 (available at the Institute of Medicine Web site). The committee will produce two additional reports over the next two years addressing recommendations on funding mechanisms for public health, and legal and regulatory authority for public health effectiveness. In addition, Dr. Sepúlveda worked with the IOM on a recently completed comprehensive report on U.S. national strategies for the prevention and control of chronic liver disease and liver cancer from hepatitis viruses.

Dr. Sepúlveda is also a leading force in the Institute on Health, Productivity and Human Capital, which develops and shares solutions aimed at improving employee health and productivity. The work of the institute examines and supports the business relationship between population health and engagement, and organizational performance. The institute's key role centers around providing information and facilitating a meaningful dialogue among large employers, national experts and policy-makers regarding employee health and productivity, population health and organizational performance.

IBM's Integrated Health Services is an important core participant in the National Leadership Committee on Consumerism and Engagement (NLCCE). This organization provides a leadership forum that focuses on identifying and disseminating best practices and innovative ideas for empowering and engaging employees and their dependents in the healthcare process. The main objective of this important group is to find groundbreaking efforts in the employer, healthcare and public health communities that allow employees and dependents to receive the appropriate preventive care services based on age, gender and level of risk. Another focus is to investigate ways employers can encourage employees and dependents to seek care in alternative settings,

including urgent care centers, convenience care clinics, medical tourism centers and on-site medical clinics. It does this through plan design and increased employee awareness of the benefits offered through use of these centers.

### Global Healthcare Transformation

Dr. Sepúlveda is the sitting president of the Global Health Benefits Institute, an organization comprising more than 35 global corporations and dedicated to advancing the health of the workforce and transforming the healthcare systems of growth countries. This organization's mission is to provide affordable business solutions that improve the health and productivity of employees outside the U.S.

Its key objectives and strategies include:

- Creating health value (i.e., effectiveness and efficiency) and improving productivity by promoting innovative, practical and evidence-based health benefit solutions.
- Demonstrating that technology-enabled health improvement programs enhance a company's competitive advantage as an employer of choice in the recruitment and retention of talent.
- Developing a business case for corporate leadership to invest in health and productivity programs.
- Providing a unique source of information on demographics, health and disability trends and benefits, and comparative information on top-tier providers and vendors.
- Providing a forum where members share best practices and insights, benchmark programs, and create tool kits to develop practical solutions to global health issues.
- Establishing vendor expectations for excellence, including innovation, transparency, efficiency and continuous improvement, which support high-performing healthcare systems.

IBM continues to address healthcare transformation in the U.S. through its work with The Commonwealth Fund, a private foundation working toward a high-performance health system. The Commission on a High Performance Health System is a group of distinguished experts and leaders representing every sector of healthcare, as well as the state and federal policy arena, the business sector, professional societies and academia. It is

charged with promoting a high-performing health system that provides all Americans with affordable access to high-quality, safe care while maximizing efficiency in its delivery and administration. In addition to formulating policy improvement options and recommendations for health reform implementation, the Commission works to engage policymakers in the executive and legislative branches and key healthcare stakeholders. The Commission sponsors bipartisan briefings and meetings for members of Congress and their staff, aiming to move the U.S. toward a healthcare system that achieves better access, improved quality and greater efficiency, with particular focus on those with the greatest health risks.

### **ePC3—China**

Chronic diseases are reaching epidemic proportions worldwide and becoming a severe economic burden to both developed and developing countries. IBM is involved in a project called Evidence-Based Patient Centric Care (ePC3)—in collaboration with China's Peking University People's Hospital—that aims to improve care and reduce costs by using electronic health records to analyze the effectiveness of medical treatment based on clinical guidelines. It has four unique features:

- Lifecycle management of clinical guidelines, including modeling, deployment, monitoring, execution and evaluation
- XML-based health records that can be dynamically updated by reconciling health information collected from all clinical events
- Semantic interoperability that follows international standards like HL7 CDA/RIM and IHE
- Sensor-based patient monitoring and mobile event management

### **Research Collaboratory—Taiwan**

IBM opened a new Research Collaboratory in Taiwan in 2010, in collaboration with the Ministry of Economic Affairs Taiwan, to focus on disease prevention and wellness. The collaboratory is focusing on using technologies including mobile devices, analytics and cloud computing to promote wellness-centric healthcare that will help manage diseases more efficiently and effectively. Cloud computing will be used as the foundation for much of the collaboratory's work in areas such as sensor data collection, record sharing, analysis and diagnostics. Cloud

computing can help Taiwan's doctors and hospitals coordinate and exchange information more efficiently. These flexible networks will be scalable to integrate and share data, which will help reduce costs.

### **Wellness Initiatives**

IBM's diverse work force provides services in 170 countries, each with unique employee characteristics, languages, cultures and health needs. To meet this challenge, IBM established a Global Wellness and Health Promotion Framework that pairs a centralized strategy with flexible program prioritization and implementation at the regional and local levels.

The framework focuses on four areas:

- Monitoring population health status and risk through strategic data collection and analytics
- Creating healthy workplaces that drive healthy behaviors through smoke-free policies, healthy food selections at the worksite and options for physical activity
- Designing comprehensive healthcare plan support for preventive care
- Implementing strategic behavior change programs based on local health priorities, ranging from weight management to HIV prevention

The framework outlines key program elements for all geographies, although these elements are prioritized and implemented based on local needs. The following are some examples of country leadership in each area.

#### **1. Monitoring population health status and risk through strategic data collection and analytics:**

Health agency data provided the catalyst for IBM's cardiovascular and diabetes screening camps in India. These camps, held at all major IBM India locations, provided clinical and laboratory screening, as well as individual counseling by physicians and dietitians. Further, a Women's Well-Being Camp helped female employees make informed decisions about nutrition, physical health, weight loss, reproductive problems and cancer awareness. Cervical cancer vaccinations were provided at a discounted rate.



In Central and Eastern Europe, data mining of absenteeism claims identified prevention opportunities related to basic respiratory infections. Understanding this employee health risk led to implementation of an education and awareness campaign, delivered through intranet articles, posters, lectures and a telephone information line.

## **2. Creating healthy workplaces that drive healthy behaviors through smoke-free policies, healthy food selections at the worksite and options for physical activity:**

Initiatives aimed at improving employee nutrition have been supported by collaboration with the company's on-site food vendors, Sodexo and Eurest. IBM's primary cafeteria supplier, Eurest, monitors healthy food selections and criteria, presence of appropriate labeling and marketing, and associated education and training for employees on a monthly basis.

IBM India was able to provide special menus of healthy choices at select locations, along with access to individualized counseling by dietitians on healthy eating strategies.

Over the years IBM has made a significant investment in supporting its employees in becoming or staying smoke-free through various programs. Globally, all IBM work locations are smoke-free.

Managing stress in the workplace is also a priority. IBM Japan offers Refresh Blue, a unique program designed to leverage the stress management benefits of regular physical activity, including team stress and stretch breaks.

## **3. Designing comprehensive healthcare plan support for preventive care:**

The economic and social costs of mental health issues are estimated to be around 2.5 percent of the gross national product in the U.S. According to medical data, mental-neurological disorders rank first in disease burden in the country. IBM has long recognized the need to support employees in addressing more than just physical risks. To address this very important health issue, IBM China added medical insurance coverage for all mental disorders in 2008. As with sexually transmitted diseases and HIV, mental disorders were excluded by health insurance products in the China marketplace. No other companies in China covered them in their corporate medical insurance plan at the time. Since

then, encouraging changes in corporate health benefits for mental disorders have gradually occurred.

Chronic diseases such as cardiovascular disease, stroke, cancer and diabetes in China have significantly increased in the last three decades. These chronic diseases are associated with unhealthy lifestyle behaviors like smoking, inactivity and poor diet. IBM China collaborated with its insurance provider to fund health promotion and health incentives with a focus on mental health, stress and resilience, inactivity, smoking, unhealthy diet, cancer, and common infectious diseases such as hepatitis B and HIV/AIDS. This will not only reduce health risks and help contain medical costs in the long term, but also improve productivity and employee morale.

In the U.S., IBM's Health Benefits Plan integrates multiple programs and analyzes data to improve patient access and outcomes, reduce time away from work, and minimize the cost and impact of behavioral health conditions on the business. Plan members who may be at risk for behavioral health issues receive personalized outreach along with comprehensive care advocacy to help guide them to the right level and duration of care.

## **4. Implementing strategic behavior change programs based on local health priorities, ranging from weight management to HIV prevention:**

In several geographies, IBM has been among the first employers to offer health screening services for employees to understand their health risks and identify potential health issues early. IBM Egypt began with general employee awareness and education, and is now implementing a health screening called "Know Your Numbers" in collaboration with a local hospital. A similar approach was taken in Russia to build awareness among employees and offer access to health screenings at the worksite.

With the need for support beyond behavioral health, IBM launched a Global Resilience Program in 2009. The online resilience program provides employees the ability to respond to stress, pressure and change, such as family and relationship issues, health conditions, or workplace and financial concerns. Tools connect individuals to online resources. This program was implemented in Brazil, China, the Czech Republic, Hungary, India and the U.S.



### Personal Vitality Rebate Program

New science in building the capacity to thrive offers new, exciting opportunities for employees to experience higher levels of energy and vitality. Embracing these innovative techniques, IBM introduced the Personal Vitality Rebate program in 2010. Initiatives include simple techniques to promote recovery, positivity and energy-creating thinking patterns. Practicing these quick, proven techniques positions employees to experience higher levels of vitality immediately and with little effort, resulting in greater engagement and participation. This goes beyond traditional health-risk reduction, helping employees optimize vitality.

### Hepatitis B Intervention and Treatment

Hepatitis B is a viral infection of the liver and is the leading cause of liver cancer. About 2 billion people worldwide have been infected with the virus and about 350 million live with chronic infection. An estimated 600,000 persons die each year due to the acute or chronic consequences of hepatitis B. This infection is closely associated with conditions such as chronic hepatitis, cirrhosis, hepatic cancer, etc.

**IBM's hepatitis B vaccination program in China lowered the percentage of unvaccinated employees from 64 percent in 2005 to just 15.6 percent in 2009.**

At IBM we believe that we have a responsibility to do what we can to fight widespread diseases like hepatitis, for our employees and for the world. Disease prevention is an important and longstanding IBM health strategy. That's why, in association with the U.S. Institute of Medicine (IOM), IBM worked collaboratively to help address the hepatitis problem. Dr. Martin Sepúlveda, IBM Fellow & Vice President, Integrated Health Services, served on the IOM's Committee on the Prevention and Control of Viral Hepatitis Infections, which authored a guidance document on the epidemic. At the request of the CDC and several other private and government organizations, the committee evaluated several intervention strategies and developed guidance for health-care providers.

In China, more people die from hepatitis B-related liver diseases than from HIV/AIDS, pulmonary tuberculosis and malaria combined. In 1999, IBM introduced a hepatitis B vaccination program for its employees in China. Through the vaccination program, the percentage of unprotected employees in IBM China has decreased from 64 percent in 2005 to 15.6 percent in 2009, according to hepatitis B antigen-antibody serology results from annual health checkups. IBM is the first company in China providing a company-paid hepatitis B immunization program for primary prevention to all employees. Through the years, IBM has actively advocated the workplace-based hepatitis B vaccination programs on various occasions. Since 2008, several other companies in China also have started to offer hepatitis B vaccination to their employees.

Due to fear and lack of knowledge on hepatitis B transmission, employment discrimination against hepatitis B virus carriers is also common in China. A 2007 survey showed 69 percent of respondents considered hepatitis B and HIV as the most serious causes of employment discrimination in China, and a 2008 survey showed that 84 percent of 96 multinational companies in China required a hepatitis B test for employment; 44 percent would reject applicants with a positive test result.

IBM is among the first multinational companies in China to have a nondiscriminatory employment policy for persons with hepatitis B and we do not require a hepatitis B test for employment. We are making available professionally delivered education programs on the prevention and management of hepatitis B to employees, and offering voluntary hepatitis B testing through annual health checkups. We also support an employee's healthcare costs through the health benefits insurance program. Supportive psychological counseling is available throughout China.

Due to its contributions to hepatitis B prevention and anti-discrimination, IBM China was recognized by the Chinese Foundation for Hepatitis B Prevention and Control and was featured on its Web site as a model for a company that eliminated hepatitis discrimination and constructed an effective workplace-based hepatitis B prevention program.

## Leadership on HIV/AIDS

In the 1980s, HIV/AIDS first emerged as a world health threat. Early in the epidemic, IBM demonstrated leadership in employee well-being as it often has over the past 100 years. Not only did we offer voluntary counseling and testing for employees in South Africa, a country highly affected by this disease, we also implemented a policy of nondiscrimination in hiring and work. As the disease took hold, IBM deployed new strategies with the South African employee and contractor population who desired more individualized interventions. IBM accomplished this through kiosk and intranet offerings in addition to treatment and prevention options. In the space of a year, missed work due to HIV dropped from 25 days a year to just three. After a successful pilot program that began in 1999, management approved IBM South Africa's first HIV/AIDS policy in October 2001.

Over the years, IBM expanded global leadership programs in countries such as South Africa, Russia, Brazil, India and the U.S. For example, in 2005, IBM engaged in a dialogue on HIV/AIDS in the work force with the Interfaith Center on Corporate Responsibility (ICCR), a coalition of nearly 300 faith-based institutional investors that seek a global community built on justice and sustainability through transformation of the corporate world.

In 2006, IBM launched a comprehensive education and training program to build awareness among its employee and management teams about various aspects of HIV/AIDS. Covered topics included how to provide accommodations for affected employees, how to handle potential workplace exposure and the societal impact of the disease. Over the years, IBM has maintained a diligent focus on HIV/AIDS, highlighted by the following achievements:

- Founding member of the first corporate leadership coalition on AIDS
- 1997 U.S. Dept. of Health and Human Services National Business and Labor Award for Leadership on HIV/AIDS
- 2008 National AIDS Fund Edward N. Brandt Award for Business Leadership (for support of key initiatives since the 1990s)

More recently, HIV/AIDS has been identified as a major public health concern in China. With an estimated population of 740,000 with HIV/AIDS, China faces huge challenges in preventing

transmission of HIV/AIDS into the general population and in treating infected people. And with treatment costing as much as \$6,000 a year, HIV/AIDS is a significant financial problem for all people with the disease.

The Chinese government has shown increasing levels of commitment to controlling HIV/AIDS, and a growing number of international organizations, foundations and civil society groups, as well as corporations, are actively contributing to the AIDS response in China. Recognizing the evolving HIV/AIDS issue and the need for action, IBM China introduced HIV/AIDS coverage in corporate medical insurance in 2007, a time when HIV/AIDS coverage was excluded by all commercial medical insurance products in the country.

IBM China went a step further by providing equal rights and opportunities of employment to all people living with HIV/AIDS, and promoting information and awareness campaigns to reduce ignorance about the disease and tackle fear and prejudice. Influenced by IBM's leading initiative, dozens of companies have since included HIV/AIDS coverage in their corporate medical insurance plans, and many more companies are considering covering HIV/AIDS. In the future, HIV/AIDS coverage could be a component of a commercial medical insurance product in China.

## Child Health Initiative (Rebate)

Today's children constitute the work force of tomorrow. Diagnoses of illnesses attributable to obesity (e.g., hypertension, diabetes and depression) are no longer confined to adults. And these illnesses are taking a heavy toll on healthcare services.

In 2010, *Pediatrics*, the official journal of the American Academy of Pediatrics, published an article entitled "An Observational Study of an Employer Intervention for Children's Healthy Weight Behaviors," co-authored by Dr. Martin Sepúlveda, IBM Fellow & Vice President, Integrated Health Services, and colleagues. The article evaluated IBM's leadership in improved healthy lifestyles through our IBM Children's Health Rebate program.

The Children's Health Rebate is one of four cash-incentive Healthy Living Rebates in the U.S. It was designed to reward good nutrition and physical activity for the entire family, which is key to helping children develop healthy habits for a lifetime. This initiative

reflects the growing national concern over children's health, as the demands on families and children in today's home, school and work environments continue to grow.

The Children's Health Rebate aims to help parents and families aid children in the maintenance of healthy weight. IBM created this unique, action-oriented program by combining recommendations from leading experts with simple activities in which the whole family can participate. The program addresses four key focus areas over 12 weeks (see below). All U.S. employees are eligible for the program.



#### Project Outline:

1. Complete a brief family inventory to identify current eating and physical activity patterns within the family.
2. Set family action goals, such as preparing healthy meals together or engaging in outdoor physical activities.
3. Identify success by completing the family inventory again after 12 weeks.

Families also received education materials, including the book *Family Power* by Karen Miller Kovach from Weight Watchers, online resources, quick family recipes and more. A \$150 cash rebate is earned upon completion of the program.

The results of this short-term observation study suggest that healthy weight behaviors in children, adolescents and parents can be improved by using a Web-based intervention linked with a cash-incentive program. The results also show that employers can activate parents and support a role for employers in community-based strategies for obesity prevention in children. Experimental designs with biometric data would strengthen the suggestion of positive impact in this employer-based approach.

#### The Well-Being Management System

First implemented in 1999, IBM's Well-Being Management System (WBMS) is a global, centralized system that links the company's occupational medicine, industrial hygiene, safety, wellness and health benefits, strategic initiatives and programs to IBM's strategies covering manufacturing, research and development, sales and services worldwide. IBM's corporate policy—Responsibility for Employee Well-Being and Product Safety—is the cornerstone of IBM's WBMS, which follows the “plan-do-check-act” principles that are common in International Organization for Standardization (ISO) consensus standards. This systematic approach involves a “planning, implementation, evaluation and review” cycle that monitors and audits well-being requirements and improvement objectives. It also provides a process for corrective or preventive health and safety actions.

The management system is implemented throughout all of IBM's business units worldwide via a tiered structure, with the top tier consisting of activities carried out globally and the second tier organized by geographical unit, location or business line. The WBMS helps align performance improvement with evolving business priorities, while enabling continual improvement in employee health and well-being and control of health and safety risks that can impact business operations. Each year a strategic planning process considers new global objectives, which are then translated into relevant initiatives with the flexibility to accommodate unique well-being and safety requirements at a local level. The system is regularly reviewed for efficacy, efficiency and consistency, with input from management, employees and other external reviewers.

### Recognition of Excellence: OHSAS 18001 Certification

External certification of IBM's WBMS has been beneficial in improving the quality and consistency of global implementation. It has also enabled IBM to fulfill marketplace demands and foster business opportunity, because the company is more readily able to demonstrate its standardized approach to managing employee well-being to clients and potential customers. In addition, certification aligns with IBM's priority to accelerate global integration via recognized management systems.

In 2007, Bureau Veritas Certification North America, Inc. (BVC) audited IBM's Well-Being Management System (WBMS) and certified that it conforms with the requirements of the Occupational Health and Safety Assessment Series (OHSAS)—Standard 18001:2007. This international standard defines requirements for health and safety management systems. IBM is one of the largest organizations to have obtained OHSAS 18001 certification.

In 2010, BVC conducted an extensive recertification audit of the IBM WBMS, resulting in continued global certification to the OHSAS 18001:2007 standard.

"IBM's Well-Being Management System is a mature system with an excellent performance history. The global objectives are appropriate and there is adequate data available to indicate progress toward meeting these objectives. .... The management system is strongly centralized and with well-defined processes."

— Atul Puri  
Vice President of Bureau Veritas Certification North America, Inc., from BVC's WBMS 2010 recertification review

### Injury Illness Rates

The following table details the performance results of IBM's safety programs in a sampling of countries. Global injury and illness data allows IBM to monitor emerging trends aligned with our current business and strategic business growth areas. Because of the changing nature of our business, IBM has determined that the rate for all industries as a comparative norm for 2005 and beyond is appropriate. The company consistently demonstrates low workday case rates (a measurement of injury and illness severity and business impact). The sampling of countries listed below includes IBM locations with a significant employee presence and/or manufacturing locations. The injury rates assume an average of 2,000 hours worked per employee per year. Singapore data pertains to injuries with three or more days of lost time. Due to differences in governmental requirements, a direct comparison among countries is not appropriate.

#### IBM Global Lost Workday Cases

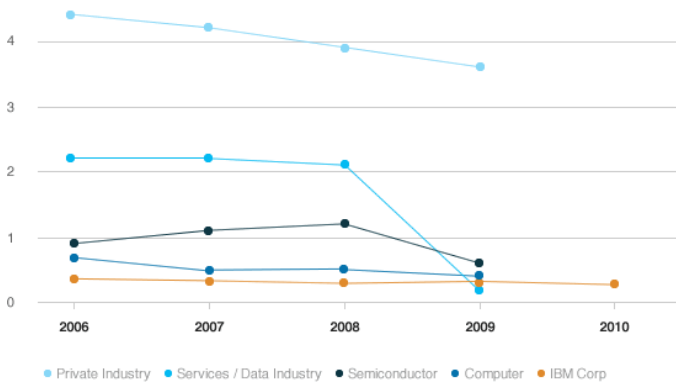
(Rate Per 100 Employees)

Country	Entity	2006	2007	2008	2009	2010
Canada	IBM	0.16	0.09	0.06	0.08	0.11
	Peer/All Industry	0.40	0.40	0.40	0.40	0.20
China	IBM	0.05	0.15	0.14	0.01	0.01
	Peer/All Industry	n/a	n/a	n/a	n/a	n/a
France	IBM	0.33	0.20	0.14	0.11	0.27
	Peer/All Industry	4.00	3.90	n/a	n/a	n/a
Hungary	IBM	0.12	0.05	0.08	0.00	0.13
	Peer/All Industry	n/a	n/a	n/a	n/a	n/a
India	IBM	0.00	0.00	0.02	0.01	0.01
	Peer/All Industry	n/a	n/a	n/a	n/a	n/a
Ireland	IBM	0.10	0.16	0.11	0.12	0.12
	Peer/All Industry	n/a	n/a	1.62	2.20	0.84
Mexico	IBM	0.11	0.16	0.00	0.00	0.03
	Peer/All Industry	n/a	n/a	n/a	n/a	n/a
Singapore	IBM	0.03	0.03	0.18	0.12	0.08
	Peer/All Industry	n/a	n/a	n/a	n/a	n/a
US	IBM	0.16	0.16	0.16	0.14	0.08
	Peer/All Industry	1.30	1.30	n/a	n/a	n/a

## Work-Related Injury/Illness Cases

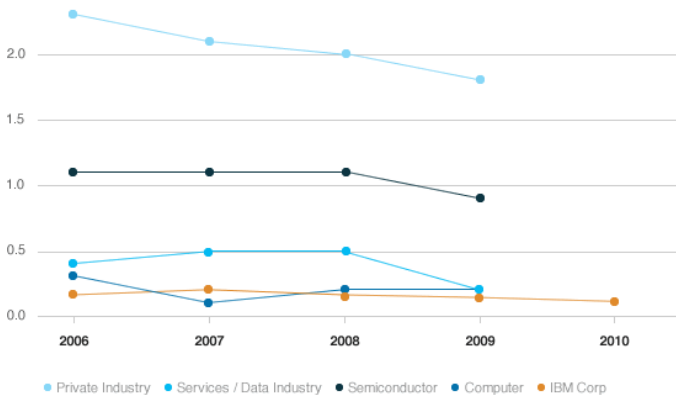
The charts below represent IBM U.S. Occupational Safety and Health Act (OSHA) rates, along with the rates for general industry. These are the rates for total work-related injury/illness cases reported under the U.S. Occupational Safety and Health Act. In addition to lost-time cases, they include cases that required medical treatment or restricted the employee's work activity. Some numbers have been updated from prior years.

### Comparison of OSHA Recordable Rates for Industry



The charts below represent IBM U.S. OSHA Lost Day rates, along with the rates for general industry. These are the rates for total work-related injury/illness cases resulting in a lost workday, and reported under the U.S. Occupational Safety and Health Act. In addition to lost-time cases, they include cases that required medical treatment or restricted the employee's work activity. Some numbers have been updated from prior years.

### Comparison of OSHA Lost Day Rates for Industry



## Employee Diversity

In 1899, The Computing Scale Company, one of three companies that would eventually join to form IBM, hired Richard MacGregor, a Black employee, as well as Lilly J. Philp, Nettie A. Moore and Emma K. Manske. This was 10 years before the National Association for the Advancement of Colored People (NAACP) was founded, 36 years after President Lincoln signed the Emancipation Proclamation and 20 years before women won the right to vote. In 1924, these same four employees helped inaugurate IBM's first Quarter Century Club.

Throughout its history, IBM has consistently led in workplace diversity, from opening a training center for more than 600 people with disabilities in 1943 to being the first company to provide domestic partner benefits to gay, lesbian, bisexual and transgender employees to becoming the first company to adopt a global genetic nondiscrimination policy in 2005. Diversity, equal opportunity and cultural acceptance are part of IBM's core values; they are in our DNA. And 100 years of leadership in work force diversity, [evidenced here](#), clearly demonstrates the company's ongoing commitment.

From groundbreaking equal opportunity hiring practices in 1899 to global genetic nondiscrimination policies in 2005, IBM has been a leader in protecting the rights of its workers for more than 100 years.

Today, IBM continues to push the boundaries of diversity. We believe that promoting diversity is not only the right thing to do, but a competitive advantage as well—a bridge between the workplace and the marketplace. Our current approach to diversity follows a framework we call Diversity 3.0. The goals of this framework are twofold:

- To expand the definition of diversity to be ever more inclusive
- To advocate for diversity on a global basis, wherever we do business.

[Click here](#) for more on IBM's Diversity 3.0 program.

## Policy Letter #4

On September 21, 1953, IBM President Thomas Watson, Jr. published the company's first equal opportunity policy letter—one year before *Brown vs. Board of Education*.

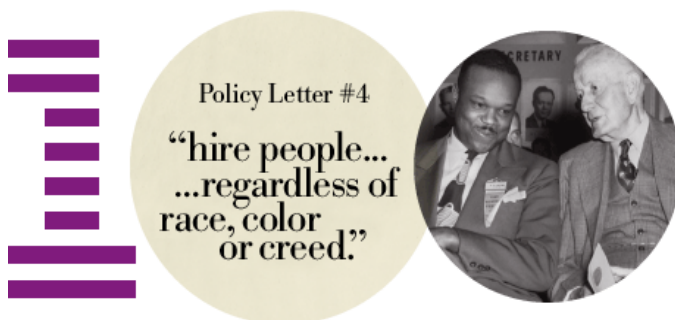
In 2010, IBM once again challenged the accepted definition of diversity by introducing the concept of “Diversity of Thought.” This important aspect of diversity explores how culture and age impact relationships, and how adaptability and cultural intelligence broaden the capabilities of IBMers to work with each other and our clients. It includes both cultural and generational differences in thought. To foster this, IBM hosted a Cultural Intelligence Summit that generated several different outputs, including a learning roadmap for cultural intelligence and a reverse mentoring program for cultural intelligence.

IBM also promoted diversity around the world in 2010. For example, IBM held its annual Winspiration event in Hyderabad, India, in December, bringing together women employees from around the company and empowering them for success in the workplace. The event is hosted by IBM's Indian Women's Leadership Council, and it provides a forum to guide women to best leverage their expertise and hone their leadership skills. This year's sessions included “Networking with Intent,” “Building Relationships & Influencing Skills” and “Accelerating Your Impact through Risk Taking and Decision Making.”

In addition to expanding the definition and geographical boundaries of diversity, IBM also works to improve upon its existing programs. For example, the company announced a new streamlined process called Accessible Workplace Connection (AWC) for people with disabilities who require accommodations to complete their work. These often simple solutions can include anything from assistive technology solutions—such as screen magnifiers for people with low vision, video relay interpreters for people who are deaf or screen readers for people who are blind—to more practical logistics-related accommodations such as alternative travel arrangements.

AWC is a streamlined accommodations process that can be integrated into the workplace through a self-service portal in a Web browser. It is also referred to as a “one-stop shop” for requesting, reviewing and making accommodations for people who have disabilities. The tool enables interactive dialog between employees and the IBM teams responsible for providing accommodations, including expert accommodation specialists. Once a solution is in place, AWC allows individuals to receive ongoing support. It provides a simple way to acquire/support accommodations; tracks whether accommodations are reasonable, comprehensive and effective; helps eliminate process confusion; and offers global consistency.

These are just a few examples of the work IBM did to improve workplace diversity over the course of 2010. Going forward, the company will continue to promote diversity around the world, and provide a fair and accepting workplace.



Icon of Progress: [Equal Opportunity Work Force](#)

Explore how IBM transformed from a multi-national corporation to become a globally integrated enterprise.

## HR ThinkFuture

At the start of 2010, members of IBM's HR senior leadership team faced a critical juncture in the history of their business and the trajectory of their profession due to the advancement of globalization, the need for businesses to be more flexible and changing attitudes among young people in the work force. In addition, IBM's upcoming centennial inspired them to envision changes that will come decades from now, to help IBM endure and thrive for another 100 years.

Traditionally, when facing such a strategic opportunity, the HR team would have convened an in-person meeting at headquarters, with top executives, to examine trends, brainstorm ideas and debate the future. But that approach was becoming insufficient for a function that spans the globe, with more than 3,000 HR professionals in the business.

Instead, the leadership team sought a more inclusive venue. Members of their teams proposed an intriguing option: Adapt some of the technologies IBM's own Learning team uses in its virtual classrooms, combined with IBM's successful "Jam" technology, and convene a worldwide, virtual dialogue that could touch every HR professional. The result became IBM HR ThinkFuture, a new approach to strategy development that will ultimately shape the next generation of HR innovation at IBM.

### Key Elements

#### Collaborative preparation

Leadership brainstorming sessions, with internal and external thinkers, to shape key themes and trends. Work teams, consisting of professionals from multiple countries, were commissioned to develop details around key themes.

#### Follow-the-sun workshops

During a 24-hour period in June, workshops were held in four cities—Brussels, Beijing, Bangalore and Yorktown Heights, New York, with each session devoted to a single macro-topic relating to work and the future. Speakers came from academia, business, journalism and other industries, along with thought-leaders from IBM. Nearly 800 people attended the live events, more than 1,000 viewed the live Webcast and another 2,000 watched video replays.

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# 3,800

people took part in IBM's follow-the-sun workshops.

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### ThinkFuture Jam

Following the educational deep-dives, ThinkFuture Jam opened a 72-hour virtual dialogue using IBM's own technology. In addition to the worldwide HR function, IBM executives, including CEO Sam Palmisano, joined the Jam periodically to share ideas about how HR could evolve and post questions of their own. There were nearly 2,700 registered participants for the Jam, generating more than 3,500 posts. Global participants averaged five hours jamming over the three days, with more than 1,800 unique log-ons.

### Results and Outcomes

Data analytics specialists and an IBM-patented analysis tool combed through the Jam data for important themes and ideas. Initial analytics resulted in 95 ideas with 75 percent of team participation coming from outside the U.S.

With results in hand, Randy MacDonald, Senior Vice President, Human Resources, commissioned five teams to explore the most important ideas for possible development and implementation—Innovative Work Force Models, Leadership for the Next Era, Instrumented Work Force, New Approaches to Performance and Recognition, and Measuring Future Greatness. Teams consisted of high-achieving global HR professionals, working together collaboratively with seasoned HR mentors in a dual-purpose process, to both deepen the thinking and develop leadership skills. Teams worked together in September–October 2010, with results presented to IBM leadership in November 2010.

"I see ThinkFuture as a real competitive advantage for the function," MacDonald said in a post-event interview. He sees these results as the first step in a multi-stage strategic planning and implementation process that will unfold over the next decade.



## Leadership Development

IBM has a long history of innovative leadership development programs. From cultural adaptability to cross-discipline mentoring, IBM believes that developing leadership qualities is good for employees, IBM and the world.

Basic Blue for IBM Leaders, Shades of Blue, the Accelerate Executive Leaders (AccEL) program for new executives and Executive Insights for newly hired or acquired executives are just a few examples. And in 2010, IBM continued to invest in its latest leadership development initiative, Global Enablement Teams (GET), with a decision to focus specifically on growth market countries.

GET teams were originally launched as a pilot in 2008 in nine countries, representing a mix of developed and developing economies. In each country, a team of four or five senior executives from around the world build relationships with the country general manager and the country leadership team. The goal is to enable the country leaders to advance IBM's strategic focus within the country by leveraging the knowledge, expertise and networks of the GET members. To accomplish this, the GET team members work with the country leaders to develop or enhance relations with local government officials, clients, academics and other influential figures and to determine what issues are important in that country. The GET members then help the country general manager and the local teams make the most of our globally integrated enterprise to support the country in addressing those issues.

To put those ideas into action, GET members make short, but intense, visits to their adopted markets. To get an idea of how intense, consider that the Nigeria team had 25 meetings in two days. These visits help IBM align our business strategy with the national agenda, which opens new opportunities and builds goodwill by helping a country meet its greatest challenges. In the process, team members learn a great deal about a country, its society and its business. But the ultimate aim of the program is to enhance and accelerate development of a new generation of business leaders that possess truly global mindsets and display high degrees of cultural adaptability.

In 2010, the program was expanded by four countries and in 2011 to a total of 18 countries, including the Czech Republic, Slovakia,

Poland, Hungary, Kazakhstan, Vietnam, Thailand, the Philippines, Malaysia, Indonesia, Saudi Arabia, Egypt, South Africa, Nigeria, Argentina, Chile, Colombia and Mexico. So far, the country leaders have reported that they believe the GET program is helping to accelerate their efforts to grow IBM's market access in their countries. They believe that the greatest benefits are coming from team members' ability to help them to gain access to resources and expertise throughout IBM and to develop the capabilities of the leadership team. The GET members report that the experience is helping them develop broader enterprise leadership capabilities and cultural adaptability.

# 400,000

individual stock-based grants, approximately, issued to IBMers around the world.

## Special Equity Grant

IBM announced this year it would issue stock-based grants to nearly every IBMer, the first time the company has ever issued stock on such a broad basis. The Special Equity Grant is a one-time event designed to provide a way for employees to share directly in the company's financial performance, as reflected in its stock price, recognizing the unique contributions employees have been making, particularly in the challenging economic climate of recent years.

This one-time IBM Special Equity Grant will provide individual grants of stock units worth approximately \$1,000 to nearly 400,000 non-executive IBMers. The grants are being issued in June, to coincide with IBM's 100th anniversary, and will vest in 2015, when IBM's next financial roadmap concludes.

"This special equity grant is designed to recognize the commitment by IBMers to deliver against our earnings targets," said Randy MacDonald, Senior Vice President, Human Resources. "And they vest in 2015 to coincide with the ending of our next earnings roadmap period, to encourage our continued focus. That way the initial value of the grants can increase over time, when the IBM stock price grows. IBMers can wind up with much more value when we succeed in what we are setting out to do."

# Environment

IBM has long maintained an unwavering commitment to environmental protection, which was formalized by a corporate environmental policy in 1971. The policy calls for IBM to be an environmental leader across all of our business activities, from our research, operations and products to the services and solutions we provide our clients to help them be more protective of the environment.

## **A Commitment to Environmental Leadership**

IBM's longstanding commitment to environmental leadership arises from two key aspects of its business:

- The intersection of the company's operations and products with the environment, and
- The enabling aspects of IBM's innovation, technology and expertise.

IBM's operations can affect the environment in a number of ways. For example, the chemicals needed for research, development and manufacturing must be properly managed from selection and purchase through storage, use and disposal. The company's data center operations are generally energy-intensive, and some of its manufacturing processes use a considerable amount of energy, water or both. IBM continually looks for ways to reduce consumption of these and other resources.

IBM designs its products to be energy-efficient, utilize environmentally preferable materials, and be capable of being reused, recycled or disposed of safely at the end of their useful lives. And as IBM incorporates more purchased parts and components into its products, the company's requirements for its suppliers' overall environmental responsibility and the environmental attributes of the goods those suppliers provide to IBM are important as well.

IBM applies its own innovative technology to develop solutions that can help our company and our clients be more efficient and protective of the environment. We also bring that technology to help the world discover leading edge solutions to some of the world's most demanding scientific and environmental problems.

## Global Governance and Management System

### Global Environmental Management System

IBM's corporate environmental affairs policy calls for environmental affairs leadership in all of the company's business activities.

The policy objectives range from workplace safety, pollution prevention and energy conservation to product design for the environment, continual improvement and the application of IBM's expertise to help address some of the world's most pressing environmental problems. The policy can be found at [www.ibm.com/environment/policy](http://www.ibm.com/environment/policy).

The policy is supported by corporate directives that govern IBM's conduct and operations worldwide. These directives cover areas such as pollution prevention, chemical and waste management, energy conservation and climate protection, environmental evaluation of suppliers, product stewardship, and incident prevention and reporting.

IBM's commitment to environmental protection is implemented through its global environmental management system (EMS).

### Employee and Management Responsibility

Every employee is expected to follow the corporate environmental affairs policy and its directives and report any environmental, health or safety concern to IBM management. Managers are expected to take prompt action when faced with a potential violation of the policy or directives.

In addition, all employees are required by the company's Business Conduct Guidelines to comply with environmental laws and with IBM's own environmental programs.

IBM executives are responsible for the environmental performance of their organizations. Site location executives are responsible for the environmental performance of their sites.

IBM's environmental programs and performance are reviewed annually by the Directors and Corporate Governance Committee of IBM's Board. Formed in 1993, the Charter for this committee established its responsibility for reviewing IBM's position and practices on significant issues of corporate public responsibility, including protection of the environment.

### Environmental Goals

Environmental goals are an important part of IBM's EMS. The company maintains environmental goals covering the range of its environmental programs, including climate protection, energy and water conservation, pollution prevention, waste management and product stewardship. These goals and IBM's performance against them are discussed in their respective sections of this report, and are provided in the listing of IBM's environmental Key Performance Indicators.

### ISO 14001 Environmental Management System Standard

Over a decade ago, IBM became the first major company in the world to earn a single global registration to ISO 14001. The company achieved this credential within just one year of the finalization of the standard.

The initial registration covered IBM's manufacturing, product design and hardware development operations across its business units worldwide. IBM has since expanded its global ISO 14001 registration to include its research locations that use chemicals, several country organizations with their non-manufacturing locations, its product development function, and its Global Asset Recovery Services.

As its business model evolves to include more services offerings, IBM updates its EMS to appropriately address environmental opportunities and challenges in the services area.



Icon of Progress: Corporate Leadership in Environmental Responsibility  
Explore IBM's continued leadership in protecting the environment.

More information about IBM's EMS and programs supporting its environmental objectives may be found at [www.ibm.com/ibm/environment/](http://www.ibm.com/ibm/environment/).

### Public Disclosure

IBM's Corporate Policy on Environmental Affairs also calls for the company to publicly disclose information on its environmental programs and performance. This report marks IBM's 21st consecutive year of annual corporate environmental reporting. IBM also participates in a number of other voluntary reporting programs, such as the Carbon Disclosure Project. More about IBM's environmental reporting may be found at [www.ibm.com/ibm/environment/annual](http://www.ibm.com/ibm/environment/annual).

### Environmental Evaluations of Suppliers

IBM has long been committed to doing business with environmentally responsible suppliers and was an early leader in providing requirements addressing this topic in its global EMS.

- **1972**

IBM established a corporate directive requiring the environmental evaluation of suppliers of hazardous waste services.

- **1980**

IBM expanded its environmental evaluations of suppliers by establishing a second corporate directive which required the environmental evaluation of certain production-related suppliers.

- **1991**

IBM further expanded its environmental evaluations of suppliers, adding a requirement that its product recycling and product disposal suppliers be evaluated.

- **2002**

Nongovernmental organizations raised a concern about electronic waste being exported to some non-OECD countries. Though IBM confirmed that it was not shipping electronic waste products to non-OECD countries, IBM added a requirement to assess its suppliers and certain subcontractors they may use to handle recycling and/or disposal operations in non-OECD countries.

In 2010, IBM again expanded its supplier requirements. To help its suppliers build their own capability to succeed in this area, IBM established a requirement that all its first-tier suppliers establish a management system to address their social and environmental responsibilities. These suppliers are required to:

- Define, deploy and sustain a management system that addresses their intersections with their employees, society and the environment;
- Measure performance and establish voluntary, quantifiable environmental goals;
- Publicly disclose results associated with these voluntary environmental goals and other environmental aspects of their management systems; and
- Cascade these requirements to their suppliers who perform work that is material to the products, parts and/or services being supplied to IBM.

More information on these new supplier requirements may be found in the Supply Chain section of this report and on IBM's supply chain environmental responsibility [Web site](#).

### Stakeholder Engagement

IBM has a variety of outreach programs through which it engages with various groups and individuals on the subject of the environment. The company's community environmental outreach programs range from open houses and emergency preparedness drills with local organizations to the support of and participation in local environmental projects and environmental education efforts.

IBM also has ongoing dialogues with many stakeholders, including socially responsible investors and other shareholders, environmental nongovernmental organizations (eNGOs), governments, employees and others on a range of environmental issues. These dialogues are valuable, as they allow the company to share ideas and obtain feedback about its programs, activities and performance.

Another example of engagement is collaborative innovation. IBM believes integrating different minds and different perspectives can accelerate new solutions to longstanding problems. Since 2001, one way the company has embraced this ideal is through IBM's

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# 1,600

business executives, government officials, nongovernmental organization (NGO) leaders, journalists, analysts and environmental experts from more than 60 countries took part in IBM's Eco-Efficiency Jam.

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Jams, an online technology that enables global conversations on strategic business and societal issues across industries, disciplines, stakeholders and national borders. For example, in 2010, IBM brought together 1,600 business executives, government officials, nongovernmental organization (NGO) leaders, journalists, analysts and environmental experts from more than 60 countries for the company's Eco-Efficiency Jam—a two-day online, interactive discussion of the opportunities for continued advancement of eco-efficiency. The IBM Institute for Business Value wrote a report from the Jam—"The emergence of the eco-efficient economy"—and it can be found [here](#).

In April 2011, IBM held the "Start Jam", which brought together hundreds of leaders from the U.K. and Ireland to explore how businesses can put sustainability at the heart of their strategies. Start Jam builds on the success of the IBM Summit at Start, a nine-day business summit held in September 2010 in association with Start—a national initiative inspired by HRH The Prince of Wales to promote and celebrate sustainable living. The objective was to move forward from the examination of the value and importance of sustainability in business to the questions around how to affect the strategic and cultural changes required to drive a genuine transformation in sustainability.

The Jam thus focused on the "How!"—How to influence consumer behaviors; how to build the right skills; how to optimize resources; and so on. Discussion threads were driven to focus on actions, collaborations, projects and commitments.

As part of its ongoing commitment to the social exchange of best practice ideas, IBM will summarize the key findings and highlight the creative ideas generated by Start Jam to share with participants.

## The Eco-Patent Commons

The Eco-Patent Commons is a unique opportunity for global business to make a difference—sharing innovation to foster sustainable development. The Commons is an online collection of environmentally beneficial patents pledged by companies for free use by anyone. It was designed to facilitate the use of existing innovation that is protective of the environment and encourage collaboration for new innovation.

The Eco-Patent Commons was initiated by IBM and the World Business Council for Sustainable Development and launched in January 2008 with Nokia, Pitney Bowes and Sony. Since then, eight additional companies have joined the Commons including Bosch, Dow, DuPont, Fuji Xerox, Hewlett-Packard, Ricoh, Tasei and Xerox.

Examples of the environmental benefits of patents that may be pledged to the Eco-Patent Commons include:

- Energy conservation or improved energy or fuel efficiency
- Pollution prevention (source reduction, waste reduction)
- Use of environmentally preferable materials or substances
- Water or materials use reduction
- Increased recycling opportunity

To date, the 12 member companies have pledged more than 100 patents to the Eco-Patent Commons, 28 of which were pledged by IBM.

For more information, to join the Commons or to view pledged patents, visit the [Eco-Patent Commons Web site](#).

## Voluntary Partnerships and Initiatives

IBM is strongly committed to participation in voluntary programs and has joined a number of voluntary initiatives and partnerships with governmental and nongovernmental organizations.

Some governmental examples include the U.S. Environmental Protection Agency's (EPA) ENERGY STAR, SmartWaySM and WasteWise programs, and the OECD Committee on Industry, Innovation and Entrepreneurship.

Partnerships with eNGOs include, among others: charter membership in the World Wildlife Fund's Climate Savers program; charter membership in the Chicago Climate Exchange; and membership in the Pew Center on Global Climate Change. IBM also works with and supports organizations such as The Conservation Fund, the Environmental Law Institute, the World Environment Center and the World Resources Institute. In addition, IBM is a founding member of The Green GridSM and a member of the World Business Council for Sustainable Development (WBCSD). In 2010, IBM became a founding member of the WBCSD Water Leadership Group. The WBCSD Water Leadership Group is focused on the development of new approaches to sustainable water management to achieve cost-effective, credible and operational outcomes around company water use, impacts assessment, measurement and reporting.

A more complete listing of IBM's voluntary partnerships and initiatives can be found at IBM's [voluntary initiatives page](#).

IBM has partnered with the Wildlife Habitat Council (WHC) to manage many of its properties in ways that enhance habitats. Seven IBM sites (Armonk, New York; Boulder, Colorado; Research Triangle Park, North Carolina; Rochester, Minnesota; two locations in San Jose, California; and Toronto, Canada) have had their land management and wildlife habitat programs certified by the WHC.

IBM also encourages its employees to support environmental efforts. For example, through its Matching Grants program, the company matches contributions made by U.S. employees to a wide variety of environmental organizations ranging from international organizations such as The Nature Conservancy and the World Wildlife Fund to smaller groups dedicated to preserving lands and habitats in local communities.

In addition, IBM employees can support environmental organizations in their local communities through IBM's On Demand Community (ODC) program. ODC is a first-of-its-kind global initiative to encourage and sustain corporate philanthropy through volunteerism. It provides IBM employees and retirees with a rich set of IBM technology tools they can use to help schools and the nonprofit community organizations in which they volunteer, including environmental organizations. The program combines the expertise, interests and skills of IBMers with the power of the company's innovative technologies and solutions to help nonprofit organizations more effectively address community needs.

## Environmental Investment and Return

IBM tracks its environmental spending (capital and expense) related to the operation of its facilities worldwide, as well as environmental spending associated with its corporate operations and site remediation efforts. In 2010, the total costs associated with these operations were \$103.1 million.

Over the past five years, IBM has spent \$108 million in capital and \$517.6 million in operating expense to build, maintain and upgrade the infrastructure for environmental protection at its plants and labs, and to manage its worldwide environmental programs.

### Environmental capital and expense worldwide

(\$ in millions)

	2006	2007	2008	2009	2010
Capital	\$19.5	\$30.0	\$31.7	\$14.3	\$12.5
Expense*	\$105.2	\$108.2	\$111.3	\$102.3	\$90.6
<b>Total</b>	<b>\$124.7</b>	<b>\$138.2</b>	<b>\$143.0</b>	<b>\$116.6</b>	<b>\$103.1</b>

*\*IBM has restated its worldwide environmental expenses for the period 2006–2009 due to a discovery that some environmental expenses were inadvertently omitted from 2006–2009 environmental reports.*

IBM also estimates the savings which have resulted from its commitment to environmental leadership. These include savings from energy, material and water conservation; recycling; packaging improvement initiatives; reductions in chemical use and waste; and process improvements from pollution prevention. Ongoing savings from the previous years' initiatives are not carried over in this comparison, yielding very conservative estimates.



# \$138 million

estimated environmental savings and cost avoidance worldwide in 2010.

IBM also realizes savings through the avoidance of costs that likely would occur in the absence of its environmental management system. These savings are not measurable in the same way that expenses are, but avoiding these environmental costs does result in savings for IBM, and a reasonable attempt has been made to estimate them. In 2010, IBM's estimated environmental savings and cost avoidance worldwide totaled \$138 million.

IBM's experience has shown that annual savings from its focus on pollution prevention and design for the environment consistently exceed environmental expenses, thus demonstrating the value of proactive environmental programs and performance.

## 2010 Environmental Expenses Worldwide\*

(\$ in millions)

Personnel	\$29.8
Consultant fees	3.4
Laboratory fees	1.8
Permit fees	0.7
Waste treatment and disposal	8.8
Water and wastewater management operations	10.2
Air emission control operations	1.2
Groundwater protection operations	1.1
Other environmental systems operations	3.0
Waste and materials recycling	2.5
Superfund and former IBM site remediation	21.0
Miscellaneous/other	7.1
<b>Total</b>	<b>\$90.6</b>

\*Does not include the environmental expenses attributed to product development, procurement and customer fulfillment for complying with product environmental laws and regulations. Also does not include costs attributed to take back and recycling of used electronic products to comply with electronic product recycling legislation.

## 2010 Estimated Environmental Savings and Cost Avoidance Worldwide

(\$ in millions)

Location pollution prevention operations*	\$39.0
Corporate operations*	5.6
Packaging improvements	8.8
Environmentally preferable materials usage	0.2
Energy conservation and cost avoidance	47.5
Superfund and site remediation efficiencies	9.5
Spill remediation cost avoidance**	5.6
Compliance cost efficiency***	18.1
Potential fines, penalty and litigation avoidance****	3.7
<b>Total</b>	<b>\$138.0</b>

\* Savings or costs avoided by having internal professional staff and tools versus using external consultants and tools.

\*\* These savings are estimates based upon certain assumptions. The figure for spill remediation cost avoidance is estimated considering IBM's actual experience with remediation costs.

\*\*\* Compliance cost efficiency considers costs avoided through proactive efforts to stay ahead of environmental regulations and requirements.

\*\*\*\* The estimation for the avoidance of potential fines, penalties and litigation does not include cost avoidance of potential business interruption or fines related to noncompliance with product environmental laws and regulations (e.g., E.U. REACH or RoHS requirements).



## Process Stewardship

### Environmentally Preferable Substances and Materials

Among its objectives, IBM's environmental policy calls for the company to use development and manufacturing processes and provide products that are protective of the environment. As an integral part of its EMS supporting this objective, IBM routinely and consistently monitors and manages the substances it uses in its manufacturing and development processes and in its products.

The company's precautionary approach includes the careful scientific review and assessment of certain substances prior to their use in IBM processes and products. In specific instances, IBM has chosen to proactively prohibit, restrict or substitute substances used in IBM processes and products when the weight of scientific evidence determines a potential adverse effect upon human health or the environment, even when law permits the use of the substance.

In addition, IBM conducts scientific assessments of existing approved substances when new processes or major modifications to existing processes are being developed. The objective of these scientific assessments is to identify potential substitutes that may be environmentally preferable. IBM believes that the same scientific rigor is required when investigating the human health and environmental effects of potential substitutes as was given to the investigation of the substance in use.

The following provides a sampling of IBM's early leadership in prohibiting or restricting many substances of concern from its processes and products before regulatory requirements were imposed:

- **Chlorofluorocarbons (CFCs)**  
In 1989, IBM became the first major information technology (IT) manufacturer to announce a phase-out of CFCs, a Class I ozone-depleting substance, from its products and manufacturing and development processes.
- **Class I and II ozone-depleting substances**  
IBM completed the phase-out of Class I ozone-depleting substances in 1993. Subsequently, IBM eliminated Class II ozone-depleting substances from its products and processes in 1995.
- **Trichloroethene (TCE), ethylene-based glycol ethers and dichloromethane**  
Examples of other chemicals that IBM voluntarily prohibited from its manufacturing processes include TCE in the late 1980s, ethylene-based glycol ethers in the mid-1990s and dichloromethane in 2003.
- **Polybrominated biphenyls (PBBs) and polybrominated diphenyl ethers (PBDEs)**  
IBM prohibited PBBs and PBDEs from its product designs in the early 1990s and then extended the prohibition to purchased commodities through its procurement specifications in 1993.
- **Cadmium**  
IBM prohibited the use of cadmium in inks, dyes, pigments and paints in 1993; in plastics and plating in 1994; and in CRT monitors along with nickel cadmium batteries in the mid-1990s.
- **Polyvinyl chloride (PVC) and tetrabromobisphenol A (TBBPA)**  
IBM ceased the specification of PVC in its IT system enclosures in 2000 and prohibited the use of TBBPA as an additive flame retardant in IT system enclosures for newly released products in 2007.
- **Specific perfluorinated compounds (perfluorooctane sulfonate [PFOS] and perfluorooctanoic acid [PFOA])**  
IBM prohibited the compounds' use in the development of new materials in 2005, in new manufacturing applications in 2007, and eliminated the use of PFOS and PFOA in manufacturing, development and research processes as of January 31, 2010.

A table summarizing IBM's voluntary material prohibitions and restrictions from 1978 through 2010 may be found on our [Materials use Web page](#).

IBM's restrictions on specific substances and other environmental requirements for its products are identified in the company's [Engineering Specification: Baseline Environmental Requirements for Supplier Deliverables to IBM](#).

### IBM Innovation and Leadership in “Green” Chemicals

In early 2010, IBM became the first in its industry to eliminate all known uses of perfluorooctane sulfonate (PFOS) and perfluorooctanoic acid (PFOA) from its semiconductor manufacturing processes. IBM scientists also developed and patented several alternative PFAS-free (fluorine-free) photo acid generators in 2010.

In 2002, the U.S. Environmental Protection Agency placed restrictions on new applications for PFOS compounds due to scientific evidence showing that PFOS was persistent and bioaccumulative in the environment. However, PFOS compounds continued to be permitted by the EPA “as a component of a photoresist substance, including a photo acid generator or surfactant, or as a component of antireflective coating, used in a photolithography process to produce semiconductors or similar components of electronic or other miniaturized devices” since the semiconductor manufacturing industry demonstrated limited release and exposure.

Nevertheless, due to increasing concerns around the environmental impact of these compounds, IBM began a staged phase-out of PFOS and PFOA in 2003, a plan that required the work of dozens of IBM scientists and engineers, IBM partners and suppliers.

Developing alternatives for these chemicals was an ambitious technological challenge. The transition to the new formulations had to be implemented and qualified across a large array of processes without impacting customer product delivery commitments. IBM’s semiconductor fabricators located in Essex Junction, Vermont, and Hopewell Junction, New York, conducted multi-year qualifications of substitute manufacturing process chemicals to eliminate the use of both PFOS and PFOA compounds.

IBM prohibited the compounds’ use in the development of new materials in 2005 and in new manufacturing applications in 2007. IBM successfully eliminated PFOS and PFOA compounds in its wet etch processes at the end of 2008 and eliminated them from its photolithography processes as of January 31, 2010.

Although other semiconductor companies are working to this goal, to our knowledge, IBM is the only company in the world to have completely eliminated PFOS and PFOA compounds from semiconductor manufacturing.

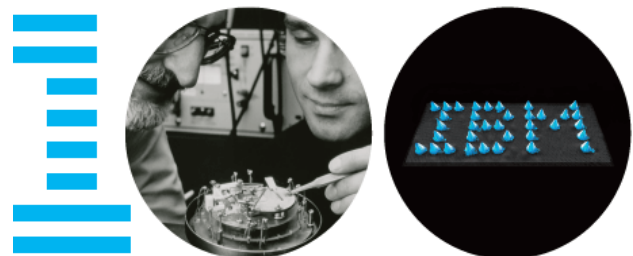
As a continuation of this effort, IBM researchers announced another industry first in February 2010: development of new PFAS-free (fluorine-free) compounds for use as photo acid generators (PAGs) in 193-nm photoresists. The PAG is one of several components of a system of chemicals used in the photolithography process to transfer circuit patterns onto semiconductor wafers. This materials innovation is an example of “green chemistry” in action: applying molecular design to invent new, more environmentally benign compounds.

With two patent applications and one issued patent, IBM is currently in the process of engaging with photoresist supplier companies to commercialize its new materials innovation.

### Nanotechnology

Nanotechnology is the application of scientific and engineering principles to make and utilize very small things (dimensions of roughly 1 to 100 nanometers). An important aspect of nanotechnology is creating materials where their unique properties enable novel and useful application.

Nanotechnology is already part of a wide variety of products—from cosmetics and sunscreens to paints, clothing and golf equipment. It can make products lighter, stronger, cleaner, less expensive and more precise, and has been critical to advancements in the IT industry.



#### Icon of Progress: Scanning Tunneling Microscope

Discover how IBM researchers Gerd Binnig and Heinrich Rohrer broke new ground with their invention of the scanning tunneling microscope.

IBM has been a pioneer in nanotechnology. Its scientists won a Nobel Prize for inventing the scanning tunneling microscope (STM), devised methods to manipulate individual atoms for the first time, developed logic circuits using carbon nanotubes and incorporated subnanometer material layers into commercially mass-produced hard disk drive recording heads and magnetic disk coatings.

The company was one of the first to create safe work practices, and health and safety training for its employees working with nanoparticles. In addition, IBM, along with ISMI (International SEMATECH Manufacturing Initiative) and other semiconductor companies, will be participating in a collaborative study with NIOSH (National Institute for Occupational Safety and Health) and the College of Nanoscale Science and Engineering (CNSE) of the University at Albany-SUNY to monitor potential workplace exposure to nanoparticles during chemical mechanical planarization (CMP) operation and maintenance.

IBM's current nanotechnology research aims to devise new atom- and molecular-scale structures and methods for enhancing information technologies, as well as discovering and understanding their scientific foundations.

During 2010, IBM researchers developed a breakthrough technique that for the first time gives scientists the ability to record, study and "visualize" the extremely fast spin of electrons inside individual atoms. Similar to how a high-speed video camera captures each flap of a hummingbird's wing, scientists at IBM's Almaden Research Center are using the Scanning Tunneling Microscope like a high-speed camera to record the behavior of individual atoms at a speed about 100,000 times faster than previously possible. This new technique could be a valuable tool to study solar cells, quantum computing and storage-class memory at the nanoscale.

IBM's nanotechnology and nanoscience research and development involve interactions and collaborations with partners around the world.

Two environment-related examples:

- The Saudi Arabian national research and development organization, King Abdulaziz City for Science and Technology (KACST), has established a Nanotechnology Center of Excellence in association with IBM Research that will explore and develop breakthroughs in applying molecular-scale engineering to critical energy and sustainable resource issues. Under this multi-year agreement, Saudi scientists and engineers are working side by side with IBM scientists and engineers on advanced nanoscience and nanotechnology programs in the fields of solar energy, water desalination and petrochemical applications such as recyclable materials.
- IBM and the government of Egypt signed an agreement to establish the Egypt-IBM Nanotechnology Research Center as a sustainable world-class center in Egypt. Egypt is working with IBM on several initial projects in the following nanotechnology focus areas: Thin Film Silicon Photovoltaics; Spin-On Carbon-Based Electrodes for Thin Film Photovoltaics; Energy Recovery from Concentrated Photovoltaic for Desalination; and Computational Modeling and Simulation.

## Pollution Prevention

### Hazardous Waste

The best way to prevent pollution is to reduce the generation of waste at its source. This has been a basic philosophy behind IBM's pollution prevention program since 1971. Where possible, IBM redesigns processes to eliminate or reduce chemical use and substitutes more environmentally preferable chemicals. Chemicals needed for research, development and manufacturing must be properly managed, from selection and purchase through storage, use and disposal.

IBM developed a methodology to correlate the hazardous waste generated from its manufacturing operations to its production in 1992 and expanded its use to IBM sites worldwide in 1993. The company established a goal based on this methodology in 1995. That goal: to continually reduce the waste generated from IBM's manufacturing operations relative to production.

# 21.6%

**Goal** – Achieve year-to-year reduction in hazardous waste generation from IBM's manufacturing processes indexed to output.

**Result** – In 2010, IBM's hazardous waste generation indexed to output decreased by 21.6% (714 metric tons).

This goal covers approximately 90 percent of the hazardous waste generated by IBM, which currently comes from three manufacturing sites.

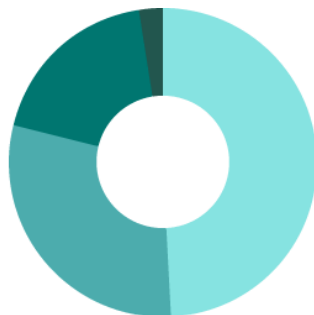
In 2010, IBM's hazardous waste generation indexed to output decreased 21.6 percent. This significant year-over-year decrease was largely attributable to process changes during the transition to lower line width microprocessor technologies that drove an increase in hazardous waste indexed to output in 2009 and source reduction projects in our manufacturing lines in 2010.

For waste that is generated, IBM focuses on preventing pollution through a comprehensive, proactive waste management program. Of the total amount of hazardous waste IBM generated worldwide in 2010, 49 percent was recycled and 29.7 percent was sent to landfills. Of the total amount sent to landfills, 97 percent was sludge from industrial wastewater treatment plants. Local government regulations required disposition of this sludge in secure hazardous waste landfills.

#### Hazardous Waste Management Worldwide

2010 Quantities: 8,400 metric tons

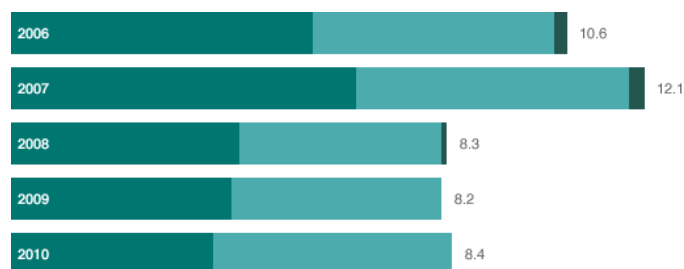
- 49.3% Recycled
- 29.7% Landfill
- 18.6% Aqueous and Other Treatment
- 2.4% Incineration



IBM's total hazardous waste generation has decreased by 21 percent over the past five years, and has decreased by 96.3 percent since the 1987 base year of this metric.

#### Hazardous Waste Quantities Worldwide

metric tons x 1,000



- Closed Loop + On-site Recycling (annual throughput)
- Off-site Recycling
- Treatment, Incineration, Landfill

#### Nonhazardous Waste

IBM also has focused for decades on preventing the generation of nonhazardous waste and recycling that which is generated.

Nonhazardous waste includes waste such as paper, metals, plastics, deionized resins and nonhazardous chemicals.

IBM established its first goal to recycle nonhazardous waste streams in 1988. The goal has since developed on two fronts. The first included not only traditional dry waste streams, but also nonhazardous chemical wastes and end-of-life IT product waste from IBM's own operations as well as IBM-owned equipment that is returned by external customers at the end of a lease. The second was to include nonhazardous wastes generated by IBM administrative, manufacturing and research operations in IBM owned, managed and leased locations meeting certain criteria.

In 2010, IBM generated 71,100 metric tons of nonhazardous waste. This represents a decrease of 10.2 percent when compared to 2009 volumes. The reduction was primarily due to a decrease in construction activities/projects, which is reflected directly in the amounts of nonhazardous construction debris and soil generated by IBM.

# 79%

**Goal** – Send an average of 75% of the nonhazardous waste generated at locations managed by IBM to be recycled.

**Result** – In 2010, IBM sent 79% of its nonhazardous waste to be recycled.

## Nonhazardous Waste Generated and Recycled Worldwide (Metric tons x 1,000)

	2006	2007	2008	2009	2010
Total recycled	102	84	62	60	56
Total generated	134	107	82	79	71
Percent Recycled*	76%	78%	76%	76%	79%

\*Percent recycled versus goal of 67% (2006) and 75% (2007–2010)

IBM's source reduction and waste prevention projects not only help protect the environment, they also provide a financial benefit. In 2010, these programs prevented the generation of over 4,300 metric tons of nonhazardous waste, generated \$6.3 million in revenues from the sale of recyclable materials and accounted for \$7.0 million in cost savings and cost avoidance.

## Chemical Use and Management

Under the U.S. Superfund Amendments and Reauthorization Act (SARA) of 1986 and the U.S. Pollution Prevention Act (PPA) of 1990, companies are required to file an annual inventory of routine releases to the environment and off-site transfers of waste for treatment and disposal in addition to recycling, treatment and energy recovery activities (collectively known as "reportable quantities") for more than 600 chemicals listed on the U.S. Toxics Release Inventory (TRI) list.

IBM's operations rely on the use of some chemicals on the TRI list.

## International Performance Measure

IBM has used TRI reportable quantities as a metric to track the environmental performance of its operations globally since 1993. One of IBM's objectives continues to be identifying opportunities to minimize its TRI releases to the environment. In 2010, IBM sites worldwide used 18 of the TRI-listed chemicals in amounts greater than the reporting threshold of 10,000 pounds (4.54 metric tons) of use per year.

The company's total reportable quantities associated with chemicals on the U.S. TRI list decreased by 1.8 percent (63 metric tons) in 2010, compared to 2009.

IBM's 2010 total reportable releases to the environment and waste transferred off-site for treatment and disposal from its worldwide operations amounted to 514 metric tons, an increase of 29 metric tons from 2009.

This small increase was primarily due to nitrate compounds discharged to one of our manufacturing site's wastewater treatment plant. It was triggered by a ramp up of production and is expected to drop in early 2011. The increase in nitrate compounds represented 62 percent of the total releases to environment and waste transferred off-site for treatment and disposal in 2010.

## 2010 Worldwide Reportable Quantities\* Associated with Chemicals on the U.S. Toxic Release Inventory List

Chemical	Metric Tons
Sulfuric acid (aerosol only)	1,227
Xylene	832
Nitrate compound	495
Ethylbenzene	179
Nitric acid	154
Hydrogen flouride	153
n-methyl-2-pyrrolidone	122
All others	339
<b>Total</b>	<b>3,501</b>

\* As defined by U.S. SARA Section 313 and PPA.

### Total Releases, Treatment and Off-Site Transfers of Chemicals on the U.S. Toxic Release Inventory List\* 2010

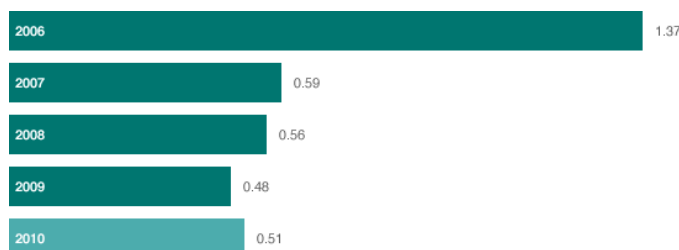
3,655 metric tons



\* As defined by U.S. SARA Section 313 and PPA. Includes recycling, treatment, energy recovery, releases and off-site transfers for treatment and disposal.

### Total Releases to Environment & Wastes Transferred Off-Site for Treatment and Disposal Worldwide\*

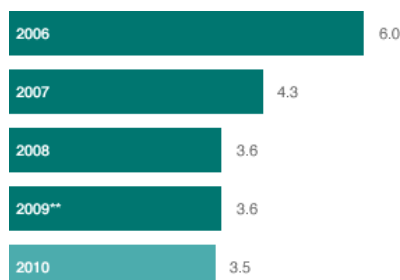
metric tons x 1,000



\*Includes releases and off-site transfers for treatment and disposal, as defined by U.S. SARA Section 313 and PPA.

### Worldwide Reportable Quantities\* Associated with Chemicals on the U.S. Toxic Release Inventory List

Reportable Quantities in metric tons x 1,000



\* As defined by U.S. SARA Section 313 and PPA.

\*\* Data for 2009 has been revised.

### Water Conservation

IBM's evaluation of water use at its worldwide facilities shows that microelectronics operations are the company's most water-intensive ones. For example, in 2010, IBM's microelectronics manufacturing operations represented 82 percent (nearly 9,800 thousand cubic meters [TCMs]) of the total water used (approximately 11,900 TCMs) at IBM's manufacturing operations and laboratories worldwide.

Though IBM's microelectronics operations are not located in areas of water scarcity, in 2000, IBM established an annual water savings goal of 2 percent of total annual water usage in its microelectronics manufacturing operations, based on the water usage of the previous year and measured as an average over a rolling five-year period. The goal measures annual water conservation activities from actual year-over-year reductions from conservation savings projects, reuse (e.g., from the ultra-pure water process for semiconductor manufacturing) and recycling (e.g., from treated wastewater).

In 2010, annual water conservation for the microelectronics manufacturing operations from reduction, reuse and recycling activities was 710 TCMs of water. Of the 710 TCMs of water, 590 TCMs (6 percent of the total water used at IBM's microelectronics manufacturing operations) was provided through on-site water reuse, and wastewater and groundwater recycling projects. Conservation savings projects avoided the use of another 120 TCMs.

# 2.8%

**Goal** – To achieve an annual water savings equal to 2 percent of total annual water usage in its microelectronics manufacturing operations, based on the water usage of the previous year and measured as an average over a rolling five-year period.

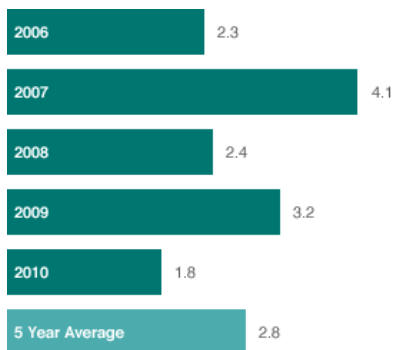
**Result** – As of year-end 2010, IBM's microelectronics manufacturing operations had achieved an average annual water savings of 2.8 percent over the past five years versus the 2 percent goal.

These new water conservation and ongoing reuse and recycling initiatives in IBM's microelectronics manufacturing operations achieved an annual 1.8 percent savings in water use in 2010. The avoided withdrawals were achieved through ongoing efficiency enhancements that reduced water usage in designated operations. Over the past five years, new water conservation and recycling initiatives at IBM's microelectronics manufacturing operations have achieved an average 2.8 percent savings versus the 2 percent goal.

Despite this conservation activity, total annual water withdrawals for these operations increased by 3 percent or 325 TCMs from 2009, primarily due to expanded production at the facilities. The total accumulated conservation activities over the past five-year period avoided withdrawals of 8,885 TCMs of water resource.

#### Annual Water Savings in Microelectronics Manufacturing Operations

Savings as percentage of previous year's total water use



## Product Stewardship

IBM's Product Stewardship program was established in 1991 as a proactive and strategic approach to the company's environmental design and management of products. The program's mission is to develop, manufacture and market products that are increasingly energy efficient; can be upgraded and reused to extend product life; incorporate recycled content and environmentally preferable materials and finishes; and can be recycled and disposed of safely.

### Fundamentals

IBM's product stewardship objectives and requirements are implemented through IBM's Environmental Management System (EMS), internal standards, product specifications and other requirements in IBM's Integrated Product Development process. Product environmental attributes such as energy efficiency, materials content, chemical emissions testing, design for recycling, end-of-life management plans and packaging data must be documented and reviewed in IBM's Product Environmental Profile (PEP) tool at various checkpoints during the development process. Compliance management tools like the Product Content Declaration for IBM Suppliers support the assessments required for a complete PEP prior to product release. IBM's design and compliance controls, including a specification for baseline environmental requirements for supplier deliverables to IBM, Product Content Declarations, and compliance assessment protocols are managed through an interdisciplinary team with representatives from all IBM organizations that design, manufacture, procure, deliver and service IBM's product offerings. The team's activities are coordinated by IBM's Center of Excellence for Product Environmental Compliance.

### Driving Product Design

In 2010, IBM's product development and supply chain organizations reviewed all products that are expected to be available beyond 2012 in order to investigate their use of lead (Pb) in certain solder applications defined in exemptions under the European Union's Restriction of Hazardous Substances (RoHS) Directive (2002/95/EC). Unlike less complex consumer products, IBM still relies on the use of lead in certain solders for its unique high-end, mission-critical mainframe computer servers. With the goal to eliminate these uses long before the expiration of the relevant exemptions, IBM worked with its suppliers during the year to jointly define transition plans for affected parts. This process



included education of suppliers on the technical aspects of the current exemptions as well as on comprehensive changes to the exemption definitions that were published in the European Commission's September 2010 revision of the RoHS Directive Annex. Through its initiatives to further eliminate lead from its products, IBM continues to spur capability in the global supply chain to redesign current lead-based applications.

IBM continues to investigate alternatives to polyvinyl chloride (PVC) plastic for wire and cable applications. In 2010, working with the High Density Packaging User Group (HDPUG) project on halogen-free cables, IBM's materials experts examined prototypes developed by several compounders, but deficiencies in flame retardant performance and moldability remain to be solved for some applications. IBM will continue work to identify and evaluate more environmentally preferable materials for these applications.

### Managing Compliance Data

Assessing the compliance of products to environmental regulations around the world demands a robust management system for product data requirements. Particularly challenging is the frequency of changes in those data requirements. For example, new substance disclosure or reporting requirements tied to the European Union's Registration, Evaluation, Authorization and Restriction of Chemicals (REACH) Directive (EC 1907/2006) must be vetted with the supply chain as often as every six months. In 2010, IBM developed, tested and implemented a new supply chain communication tool to automate notifications of requirement changes to suppliers and track their responses. In addition to communicating new requirements relative to REACH substance regulations, IBM used the tool to inform 650 suppliers of the RoHS exemption roadmap strategies, IBM's Supplier Conduct Principles and other improvements in IBM's product compliance data collection process.

IBM product compliance reporting for global markets is facilitated by an IT solution called the Environmental Reporting Tool (ERT), developed by IBM as a system for collecting and organizing information and data required to meet all compliance activities for worldwide environmental regulations. ERT monitors regulatory submissions and deadlines, automatically alerts activity owners of scheduled responsibilities and extracts data through interfaces to

other repositories to create actual submission forms for a myriad of environmental reports, registrations and product take-back plans required to conduct IBM business in various geographies around the world. As an example, ERT provided a central dashboard for IBM's global team working on worldwide battery requirements. The tool manages documentation related to the development and deployment of supplier requirements, manufacturing processes, end-user communication, registration, reporting, product take-back processes and management plans. IBM's ERT was recognized with a 2011 Progressive Manufacturing 100 (PM100) Award in the Data & Integration Mastery category.

### 2010 Product Stewardship Goals and Performance

#### • Recycled Plastics

The recycled content of plastics used in IBM's products can range from 25 to 100 percent by weight of the commercial resin. In 2010, 31.5 percent of the total weight of plastic resins procured by IBM and its suppliers through IBM's corporate contracts for use in IBM's products had recycled content ranging from 25 to 100 percent. Comparing only the weight of the recycled fraction to the total weight of plastics (virgin and recycled) purchased, 11.5 percent of IBM's total weight of plastic purchases in 2010 was recycled plastic versus the corporate goal of 5 percent recycle.

#### • Use of Landfills

IBM's product end-of-life management operations worldwide processed over 36,600 metric tons of end-of-life products and product waste, and sent only 0.6 percent of the total to landfills or to incineration facilities for treatment, versus IBM's corporate goal of minimizing its combined landfill and incineration rate to no more than 3 percent of the total amount processed.

### Product Energy Efficiency

#### • Servers\*

IBM System p®: IBM released four models of Power Systems™ servers for which previous models or generations existed. These new servers provide reductions of 58 to 70 percent in the typical power consumption per unit of relative performance compared to their previous generation system.

IBM System x®: The six System x servers announced in 2010 for which comparison models existed provide reductions in watts/MTOPS\*\* (the Japan Energy Saving Law metric) of 87 to 98 percent over the previous generation server.

IBM System z®: The new IBM zEnterprise™ 196 (z196) offers 74 percent more capacity per kilowatt for the air cooled version and 86 percent for the water cooled version, than its predecessor, the System z10, while using the same amount of electricity.

- **Point-of-Sale Terminals\***

In 2010, IBM introduced the SurePOS 700, which delivers a 56 percent reduction in the maximum power consumption of the system per composite theoretical performance (CTP) over its previous generation model. It also provides a 98 percent reduction in power use when the system is idle.

- **Storage Subsystems\***

Two new storage systems having previous generation models were released in 2010. They deliver 88 percent and 85 percent more storage capacity per watt of power consumed than their predecessor models.

*\* IBM's product energy goal is to continually improve the computing power delivered for each kilowatt-hour (kWh) of electricity used with each new generation or model of a product.*

*\*\* MTOPS-million theoretical operations per second is a calculation of machine operations based on a specified formula.*

## Product Energy Efficiency

Product energy efficiency has long been one of IBM's environment and climate protection objectives. It was formalized as one of the company's corporate objectives when IBM's Product Stewardship program was established in 1991. IBM has initiated and invested in innovations and integrated solutions through collaboration between IBM's Research and Product Development teams. These teams have also combined hardware and software innovations to improve the energy efficiency of IT equipment and data centers.

## 8 of the top 20

most energy efficient supercomputers in the world are built on IBM high-performance computing technologies.

In addition to its internal focus, IBM continues to actively assist in the development of external product energy efficiency standards. As it did in 1992 when the company helped to develop and was a charter member of the U.S. Environmental Protection Agency (EPA) ENERGY STAR Computer program, IBM is currently participating in the development of the ENERGY STAR specifications for server and storage devices, providing technical assistance and equipment operating data to assist in the development of criteria.

In 2009, the U.S. EPA finalized ENERGY STAR program requirements for computer servers. As of April 2011, IBM had qualified 10 server product families to the ENERGY STAR requirements—four System p and six System x enterprise server systems. These servers meet the U.S. EPA's requirements for power supply efficiency, idle power limits or power management capability, and data reporting. IBM is currently working to qualify other enterprise server systems to the ENERGY STAR requirements. A list of IBM ENERGY STAR qualified servers may be found on the [IBM and ENERGY STAR Web page](#).

### New Advancements for Increased Product Energy Efficiency Performance

The following are examples of new IBM technologies, software and solutions that have enabled the increased energy efficiency of IBM's servers and storage products:

- IBM engineers have utilized power management capabilities provided by the x86 and POWER7 processors and memory and I/O components to reduce the power drawn by the server when no workload is present (idle power) by 20 to 50 percent when compared to the power used by the system at full workload.

- Storage systems are utilizing various software-based data management capabilities such as Easy Tier, thin provisioning and storage virtualization which can reduce the number of terabytes required to accomplish a given storage task.
- Many IBM products are incorporating high efficiency power supplies, with the x3850 X5 server utilizing an 80 PLUS Platinum power supply, the highest power supply efficiency designation currently achievable under the 80 PLUS program.
- IBM continues to innovate in semiconductor, hard drive, storage and networking technologies, utilizing virtualization and other software solutions to improve server and storage system performance for each unit of power consumed by the equipment and reduce the quantity of equipment required to deliver a specified set of workloads.

### High Performance Computers (HPC)

IBM has a full menu of HPC systems: the Productive, Easy-to-Use, Reliable, Computing System (PERCS), IBM System Blue Gene, iDataPlex, and the Roadrunner supercomputer programs. IBM's supercomputer solutions are prevalent on both the TOP500 and Green500 supercomputer lists. Today, eight of the top 20 most energy efficient supercomputers in the world are built on IBM high-performance computing technologies, with the Blue Gene/Q prototype supercomputer leading the November 2010 Green500 List. Technologies developed through IBM's HPC development efforts are leveraged across the entire IBM Systems and Technology Group product line to improve performance and energy efficiency.

Blue Gene has been identified as a leader in "green" supercomputing for available solutions every year from 2007 through 2010. Blue Gene/P, converted from an air cooled (previous generation Blue Gene system) to a hydro-air cooled system, delivers a 9-percent savings on total data center power. The relative cooling cost for a Blue Gene/P system decreased by 50 percent.

Blue Gene's speed and expandability have enabled business and science to address a wide range of complex problems and make more informed decisions—not just in the life sciences, but also in astronomy, climate, simulations, modeling and many other areas. Blue Gene continues its leadership performance in a space-sav-

# 100%

of server heat absorbed by the water-cooled IBM Rear Door Heat exchanger, virtually eliminating the need for air conditioning.

ing, power-efficient package for the most performance demanding applications.

The IBM iDataPlex system was designed to meet the needs of high-performance, large-scale Internet and cloud computing workloads at up to 40-percent lower energy consumption than 1U industry standard servers and BladeCenter servers. Reduced energy use is achieved due to significantly lower air flow requirements and shared cooling fans, high-efficiency power supplies and a double-wide water cooled IBM Rear Door Heat exchanger solution that can absorb 100 percent of the heat generated by the rack and virtually eliminate the need for air conditioning. The iDataPlex system is also designed for material efficiency and longevity, with a server motherboard into which upgrade cartridges can be inserted to easily utilize new technologies.

### Solutions

IBM offers a variety of software and system solutions that enable companies, governments and other entities to improve the energy efficiency of their operations and systems. IBM has responded to climate change, energy management and operational efficiency opportunities with a suite of offerings from products to services to help clients plan and develop greenhouse gas (GHG) inventory processes and management strategies to improve the efficiency of their data centers, buildings, core business processes, logistics and other operations. Three examples of IBM's suite of "intelligent" products and services are described below.

### Route Planning and Goods Management

IBM hardware and software solutions, including ILOG® Supply Chain Applications and IBM WebSphere® Sensor and Business Events, can be combined to solve complex planning, scheduling or logistics management problems while tying these operations to corporate objectives to reduce costs, increase revenues, improve service quality and reduce environmental impact. Using these capabilities:

Two clients optimized their supply chain networks, one removing 4,000 truckloads of goods off the road annually and the other realizing a 23 percent reduction in logistics costs and a 15 percent reduction in logistics driven CO2 emissions.

A third client reduced annual transport mileage growth, and attendant fuel use and GHG emissions by two percentage points.

### Vehicle to Grid Charging and Storage

This solution involves developing the hardware and software components of the infrastructure system required to facilitate large-scale adoption of electric vehicles. IBM is working with partners in utilities, automobile manufacturers, academics and governments to determine the outline of the infrastructure system required to enable large-scale adoption of electric vehicles. IBM's activities include research and development work in vehicle telematics, embedded software, battery performance, network security, roaming and transaction management, smart grid integration, network optimization, renewables charging dispatch and infrastructure planning.

Details of IBM's efforts to develop the infrastructure required to support electric cars and renewable energy generation can be found on our Smart Grid page.

### Energy Efficient Buildings

Green Sigma is an IBM solution that applies Lean Six Sigma principles and practices to energy, water, waste and GHG emissions throughout a company's operations—transportation systems, data centers and IT systems, manufacturing and distribution centers, office facilities, retail space, research and development sites. It combines real-time metering and monitoring with advanced analytics and dashboards that allow clients to make better decisions that improve efficiency, lower costs and reduce environmental impact.

The smarter buildings solution—which combines the company's software, research and services expertise together with industry-leading business partners—enables IBM and its clients to better achieve the following:

- Manage energy use, lower costs and decrease emissions by monitoring and analyzing heat, air conditioning and power consumption;

# 0.6%

**Goal** – Reuse or recycle end-of-life products such that the amount of product waste sent by IBM's PELM operations to landfills or to incineration for treatment does not exceed a combined 3 percent of the total amount processed.

**Result** – In 2010, IBM's PELM operations sent only 0.6 percent to landfills or to incineration facilities for treatment.

- Maintain equipment proactively, identifying emerging problems and trends to prevent breakdowns and confirm that critical assets will work as needed; and
- Lower maintenance and building management costs and extend asset life through preventive maintenance, greater insight into asset conditions and automated notification when assets are performing outside of specifications.

### Product Recycling and Reuse

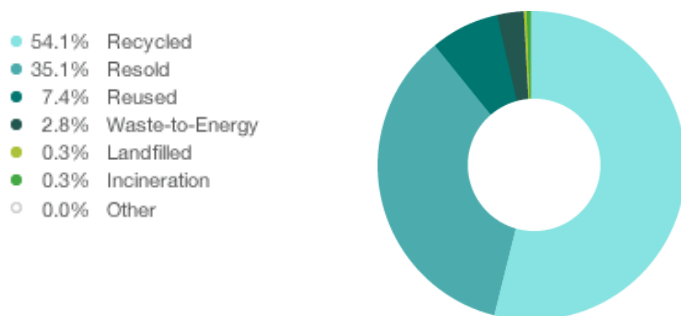
As part of its product end-of-life management (PELM) activities, IBM began offering product take-back programs in Europe in 1989 and has extended and enhanced them over the years. IBM's Global Asset Recovery Services organization offers Asset Recovery Solutions to commercial customers in countries where IBM does business, including:

- Management of data security and disk overwrite services
- Worldwide remarketing network for product resale
- State-of-the-art refurbishing and recycling capability for IT equipment
- Optional logistic services such as packing and transportation

In addition, in many countries and individual U.S. states, IBM offers solutions to household consumers for the end-of-life management of computer equipment, either through voluntary IBM initiatives or programs in which the company participates.

In 2010, IBM's PELM operations worldwide processed over 36,600 metric tons of end-of-life products and product waste. This represents 50 percent of the estimated 73,000 metric tons of new IBM IT equipment manufactured and sold in 2010.

### Product End-of-Life Management Operations 2010: percentage by weight



IBM's PELM operations reused or recycled 96.5 percent of the total amount of product and product waste they processed.

Since 1995, when IBM first began including in its annual corporate environmental report the volumes of product waste it collects and recycles, IBM has documented the collection and recovery of approximately 1.8 billion pounds (over 807,000 metric tons) of product and product waste worldwide through year-end 2010.

### Product Packaging

IBM has had a program focused on the environmental attributes of its product packaging since the late 1980s. Under the program, IBM packaging engineers design solutions that minimize toxic substances and packaging waste by specifying nontoxic materials and inks. They also keep packaging to a minimum while continuing to provide protection to the product being shipped to clients, and collaborate with suppliers to use recycled and recyclable materials and promote reuse.

IBM's environmental requirements for packaging are included in its Environmental Packaging Guidelines, first published in 1990 and updated as needed over the years. Key elements of IBM's Packaging Guidelines have also been embedded in various engineering specifications and procurement documents, which extend their reach beyond IBM to include its supply chain and other business partners. These documents may be found on our [information for suppliers page](#).

In 2010, the integrated worldwide packaging engineering team saved 842 metric tons of packaging material from the implementation of 38 packaging redesign projects worldwide. These

projects delivered an annual cost savings of \$8.8 million. The following highlights a few of the projects implemented in 2010:

- **IBM System Storage® DS3000 package redesign project:** After an audit of the package design for this product, IBM's packaging engineers determined that it could be redesigned to reduce its size and weight. In 2010, the package was redesigned to hold eight units per pallet, rather than the original one. This redesign assessment project eliminated the use of an estimated 300 metric tons of corrugated fiberboard and wood annually and saves \$450,000 in annual transportation costs.
- **IBM Retail Store Systems 4800 logic unit packaging reduction project:** The package for the 4800 logic unit was redesigned to utilize several units per pallet, versus the traditional one unit per pallet, for our Latin America and Mexican markets. The result was a considerable decrease in overall package size and weight per unit shipped. This project saved \$1.3 million annually in materials and transportation costs, while saving an estimated 70 metric tons of packaging materials annually.
- **IBM Green Sigma DOX power packaging reuse project:** In the past, IBM's suppliers and IBM manufacturing sites had different packaging solutions for each step in the manufacturing process, which resulted in additional operational costs and wasted material. IBM packaging engineers designed a package and process that would eliminate the need to use separate packaging solutions for each manufacturing step in the supply chain. The result was an efficient, robust and reusable package that eliminated over 90 metric tons of packaging materials annually from the waste stream while achieving a cost reduction of \$355,000 annually.

In 2010, the IBM packaging team also implemented 19 packaging design projects with its suppliers. The resulting packaging solutions reduced the packaging materials from incoming parts by 204 metric tons and saved \$1.7 million in both material and transportation costs. Examples may be found on our [protective product packaging page](#).

When suppliers apply the design improvements achieved through collaboration with IBM to packaging designs for other customers, the environmental benefits and cost savings can be far-reaching.

## 300 metric tons

of corrugated fiberboard and wood per year eliminated from IBM System Storage DS3000 packaging in 2010.

### Voluntary Environmental Goal for Packaging Materials

IBM's voluntary environmental goal for packaging materials states that paper-/wood-based packaging directly acquired by the company will be procured from suppliers who source from sustainably managed forests where such sources exist.

In 2002, when IBM first established this goal, sufficient quantities of sustainable sourced packaging materials were not yet available for much of the company's needs. With a continued focus on this objective by IBM and its suppliers over the years, in 2010, 99 percent of the paper-/wood-based packaging IBM procured came from suppliers who contractually warranted that the source was derived from forests managed in an ecologically sound and sustainable manner.

### Product Safety

IBM's product safety requirements are included in various steps of the product development, manufacture and test process, and include the supply chain for both IBM hardware and solutions. Required reviews by IBM Product Safety Review Boards assure that product and project managers comply with applicable standards and national regulations, and obtain third-party certifications where required.

Programs for continual improvement include internal and third-party assessment of IBM's products' safety design and process implementation. These assessment results are continually fed back into the evaluation and planning cycle. This process is augmented by incident management tools that provide effective capture and manage any product safety-related incident or customer complaint.

IBM plays a leading role in the development of national, regional and international standards for product safety for information technology products.

## Energy and Climate Programs

IBM recognizes climate change as a serious concern that warrants meaningful action on a global basis to stabilize the atmospheric concentration of greenhouse gases (GHGs). IBM believes all sectors of society, economy and government worldwide must participate in solutions to climate change.

[View IBM's position and policy](#) on climate change.

IBM has been a leader in addressing climate change through its energy conservation and climate protection programs for decades. The company's leadership has been defined by its:

- Longstanding global commitment
- Comprehensive and multifaceted programs—covering the company's operations, products and services
- Leading-edge innovations and client solutions

Significant results, both early and ongoing, benefiting IBM, its clients and the world

### A Five-Part Strategy

IBM has a five-part strategy to reduce GHG emissions:

- Designing, building, updating and operating facilities and manufacturing operations that optimize their use of energy and materials and minimize GHG emissions
- Purchasing electricity generated from low CO<sub>2</sub>-emitting and renewable energy-generating sources where feasible
- Minimizing the use and emissions of perfluorocompounds (PFCs—a family of GHGs) in semiconductor manufacturing
- Reducing employee commuting and business travel
- Increasing the efficiency of IBM's logistics operations

In addition, in the area of hardware and software products and services, IBM's strategy includes designing energy efficient products and providing its clients with energy efficient solutions that also help protect the climate.

The company does not have plans to use emissions offsets to become "carbon neutral" for all or part of its operations. IBM's efforts to reduce its GHG emissions are focused on delivering results in the areas where the company can make the greatest positive impact on climate protection—by devoting its available resources to actions, products and solutions that actually



increase energy efficiency and reduce GHG emissions for both the company and its clients, rather than offset them.

### Conserving Energy

IBM's commitment to energy conservation dates back to 1974 and has continued, unabated, over the intervening years. Energy conservation is a major component of IBM's comprehensive, multifaceted climate protection program because the release of CO<sub>2</sub> by utility companies powering the company's facilities, or from the use of fuel for heating or cooling, represents the greatest potential climate impact associated with IBM's operations.

In 2010, IBM's energy conservation projects across the company delivered savings equal to 5.7 percent of its total energy use versus the corporate goal of 3.5 percent. These projects avoided the consumption of 272,000 megawatt-hours (MWh) of electricity and 352,000 million BTUs of fuel oil and natural gas, representing the avoidance of more than 139,000 metric tons of CO<sub>2</sub> emissions. The conservation projects also saved \$29.7 million in energy expense. These strong results are due to the increased, across-the-board focus on energy demand reduction, efficiency and the implementation of standard, global energy conservation strategies for facility operating systems.

IBM's energy conservation goal recognizes only identified projects that actually reduce or avoid the consumption of energy in its operations. Reductions in energy consumption from downsizings, the sale of operations and cost avoidance actions, such as fuel switching and off-peak load shifting, are not included in the energy conservation goal. Moreover, the above results are conservative in that they include only the first year's savings from the conservation projects. Ongoing conservation savings beyond the first year are not included in the tally. Accordingly, the total energy savings and CO<sub>2</sub> emissions avoidance from these

conservation actions is actually greater than this simple summation of the annual results.

Between 1990 and 2010, IBM saved 5.4 billion kWh of electricity consumption, avoided nearly 3.6 million metric tons of CO<sub>2</sub> emissions (equal to 52 percent of the company's 1990 global CO<sub>2</sub> emissions) and saved \$399 million through its annual energy conservation actions.

### Electricity And Fuel Use And Related CO<sub>2</sub> Emissions

(Scope 1 and 2 CO<sub>2</sub> emissions)

	Electricity and Fuel Use (thousand MMBTU)	CO <sub>2</sub> (EST) (metric tons x 1,000)
2006	22,491	2,420
2007	23,638	2,541
2008	22,443	2,502
2009	21,507	2,436
2010	21,622	2,156

IBM uses the greenhouse gas reporting protocol developed by the World Resources Institute and the World Business Council for Sustainable Development to gather and report its CO<sub>2</sub> emissions.

CO<sub>2</sub> emissions data includes the CO<sub>2</sub> avoidance associated with IBM's purchases of renewable energy.

IBM's global energy management program leverages the expertise of more than 40 IBM energy management professionals deployed around the world. The team has created best practices checklists that set minimum expectations for building systems and operations including controls and equipment for lighting, HVAC, central utility plants (CUPs), compressed air, data center and IT systems, cafeterias and office systems. All sites using more than 2,000 MWh/year of energy must complete the checklists, perform a gap analysis and develop an energy conservation implementation plan a minimum of every three years. The program is buttressed by several enterprise-level databases that collect and store energy use data, conservation project results and completed checklists enabling monthly metrics reporting to the management team. The continuous review of energy use and conservation results has driven the strong results noted above.

# 0.6%

**Goal** – Achieve annual energy conservation savings equal to 3.5 percent of IBM's total energy use.

**Result** – In 2010, IBM's energy conservation projects across the company delivered savings equal to 5.7 percent of its total energy use.



## 5.4 billion kWh

of electricity consumption—and nearly 3.6 million metric tons of CO<sub>2</sub> emissions—saved by IBM through its annual energy conservation actions between 1990 and 2010, resulting in a savings of \$399 million.

IBM uses a full range of energy efficiency initiatives in achieving its results. In 2010, more than 2,100 energy conservation projects were completed at 299 IBM locations around the world. Some examples:

- 208 locations implemented projects to match building lighting and occupancy schedules or install more efficient lighting systems, reducing 17,200 MWh of electricity use and saving \$1.9 million.
- 165 locations modified HVAC systems or operating schedules to reduce 40,300 MWh of electricity use and 83,000 MMBTU of fuel use, and save \$4.9 million.
- 19 locations had continuous commissioning projects that delivered reductions of 11,200 MWh of electricity use and 86,800 MMBTU of fuel use, and savings of \$1.6 million.

The IBM team is also implementing innovative, leading-edge technologies that enable real-time management of energy use.

- IBM is deploying its Smarter Building technologies to increase the energy efficiency of its own facilities. The company is expanding its use of data monitoring and analytics, using “plug-in” analytics to collect sensor and operating data for analyzing both individual events and system trends. This information is then used to optimize building energy use. In 2010, IBM deployed this solution at its Armonk, New York, headquarters and selected buildings at its Rochester, Minnesota, site. It is expected to yield between 5 percent and 8 percent in annualized energy cost reduction at the buildings in which it is deployed. These results are particularly impressive for the Rochester location given its energy conservation history, having already delivered energy savings through conservation actions of between 5 percent and 6 percent of the site’s energy use each year over the past 10 years. IBM has plans to install

Smarter Building solutions at additional locations during 2011 and 2012.

- IBM implemented an Advanced Water Management solution at its semiconductor manufacturing facility in Burlington, Vermont. It utilizes an automated data system, Statistical Process Control (SPC), to transform large amounts of data into manageable useful information. The application of Advanced Water Management techniques has resulted in an energy savings of over 5,000 MWh/year.

### Data Centers

IBM takes a holistic approach to managing its data center portfolio, building new, high-efficiency data center space where it needs to expand its raised floor inventory to meet the needs of existing and new customers, and retrofitting and improving existing data center space to better utilize and derive more workload from its existing space, equipment, and energy resources. These efforts are accomplished through the following initiatives:

1. Building new high-efficiency data center space. IBM’s most recent data center expansions in the U.S. have achieved LEED certification and use state-of-the-art design and system techniques to enable Power Usage Effectiveness (PUE, the ratio of the total power required at the data center divided by the power required to operate the IT equipment) measurements of 1.4 when the data center is fully populated.
2. Implementing best practices and thermal monitoring programs at its existing data centers to optimize cooling delivery and minimize energy use and cost.
3. Virtualizing and consolidating existing workloads for its internal operations and customer accounts. Virtualizing workloads allows a single server to support multiple applications or images, making use of the full capabilities of state-of-the-art IT equipment and executing more workload in less space with less energy.

IBM manages a diverse portfolio of data centers, consisting of both IBM and IBM-managed customer facilities all over the world. IBM also operates additional raised floor space to support its internal operations as well as design and test centers for its System and Technology Group and Software Group.

### New Data Center Construction

IBM's new data centers in Boulder, Colorado, and Raleigh, North Carolina, utilize state-of-the-art technologies and are designed to operate at PUE of 1.4 when fully populated with IT equipment. The data centers are designed to accommodate high density IT equipment and utilize free cooling, variable speed fans and pumping systems. They also have the capability to install direct liquid cool systems on high-power density equipment, as well as high efficiency Uninterruptable Power Systems (UPS) and chiller systems.

### Existing Data Centers

In 2010, 290 projects at 90 existing data center locations reduced energy use by over 32,000 MWh, saving more than \$3.2 million.

- IBM upgraded data center equipment and implemented data center best practices, including blocking cable openings, rebalancing air flow and shutting down air conditioning units, all of which generated 16,800 MWh of savings in IBM's existing data centers. IBM's Measurement and Management Technology, a thermal monitoring management system, was installed at five data centers, with installations underway or planned over the next 18 months for the remainder of the company's owned and leased strategic data centers. This innovative technology from IBM Research produces a real-time three dimensional thermal map of the detailed heat sources and sinks within a data center, allowing for accurate identification and mitigation of data center hot spots, adjustment of cooling delivery as systems are removed and added, and increased data center operating temperatures, with attendant reductions in cooling requirements. Continuous thermal monitoring and the future use of analytics can further improve data center energy management beyond that achieved with the implementation of best practices alone.
- IBM implemented 16 water-side free cooling projects, which utilize the temperature of the outside air rather than chiller systems to cool the chilled water, saving more than 16,000 MWh of electricity use. Most of those projects were installed at locations with data center operations.

### Server and Storage Virtualization and Consolidation

IBM is utilizing virtualization technologies to consolidate multiple workloads from servers and storage systems with low utilization onto single systems, reducing energy use by more than 75,000 MWh in 2010. More than 28,000 images or applications were moved from single use servers to virtualized servers, utilizing existing, high capability systems to consolidate workloads or installing new systems and virtualizing several server or storage systems of workload on the new system. These projects increase the utilization of the virtualized server and storage systems, deliver more workload with less energy consumption, and reduce the quantity of IT equipment and the data center floor space required to perform a given workload. These projects also free up data center space for business growth or new business opportunities.

IBM is helping clients excel in cloud computing, providing secure and reliable Software as a Service (SaaS), Platform as a Service (PaaS) and Infrastructure as a Service (IaaS) solutions.

### Cloud Computing

Over the course of 2010, IBM continued to reap the benefits of cloud computing to its data centers. Cloud computing is an efficient model for providing IT services. It allows IBM to better balance workloads, adjust power consumption and virtualize infrastructure in data centers to better align processing needs with power consumption. The result is balanced energy demands to help avoid high peak energy use and allow consolidation of workload on the minimum number of highly utilized servers, so unneeded equipment can be put to sleep or turned off. Through the introduction of an optimized infrastructure, the number of systems and networks in the data center can be reduced and optimized, cost efficiency improved and energy efficiency enhanced. IBM has established a globally integrated cloud delivery network with centers in Singapore, Germany, Canada and the U.S., along with 13 global cloud labs.

The benefits of cloud computing are demonstrated by IBM's Technology Adoption Program (TAP), which supports the company's software development community. For example, leveraging cloud computing, TAP reduced the number of servers required in a "typical" data center environment by nearly 90

percent. That translated into annual hardware savings of \$1.3 million and energy savings of more than 500 MWh per year.

### Voluntary Data Center Energy Efficiency Initiatives

IBM supported efforts by the U.S. EPA and the European Commission Directorate General Joint Research Centre—Institute for Energy to encourage improvements and innovations in data center energy efficiency. IBM has provided input, recommendations and data center energy use data to support the development of both the European Union Code of Conduct on Data Centres Energy Efficiency (CoC) and the U.S. EPA ENERGY STAR Rating for data centers. These programs set operating criteria or metrics that inform and encourage data center operators and owners to reduce energy consumption in a cost-effective manner while enabling operators to maintain the mission-critical function of data centers. IBM registered all or parts of three data center operations to the EU CoC and is working to qualify one or more U.S. data center locations to the ENERGY STAR data center rating program.

### CO2 Emissions Reduction

In 2010, IBM's procurement of renewable energy and significant energy conservation results were the primary factors for an 11.5 percent reduction in its energy-related CO2 emissions over 2009. The company's procurement of renewable energy equaled 11.2 percent of IBM's total 2010 electricity use.

As of year-end 2010, the company's energy conservation results and procurement of renewable energy resulted in a 16.7 percent reduction in IBM's energy-related CO2 emissions from the 2005 base year of this goal.

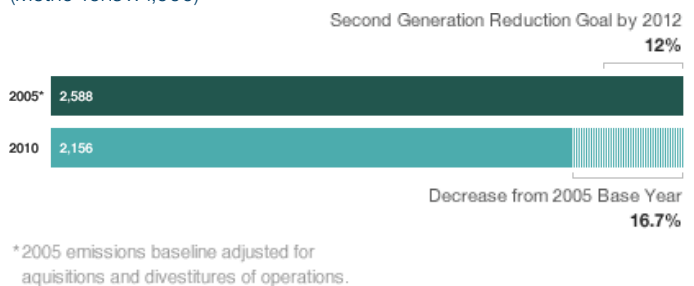
The reductions have been achieved through the following initiatives outlined below. In addition, improvements in the CO2 emissions profile of the electricity that IBM purchased also had a favorable albeit limited impact on the company's performance.

- IBM's energy conservation efforts have reduced or avoided a total of 1.1 million MWh of electricity and 2.4 million MMBTU of fuel use (based on one-year savings associated with conservation projects) from 2006 to 2010, which represents a reduction in IBM's electricity and fuel use of 3.5 percent and 22 percent, respectively, against the 2005 baseline use adjusted for acquisitions and divestitures.

- IBM purchased 561,000 MWh of electricity generated from renewable sources in 2010, resulting in an avoidance of 247,000 metric tons of CO2 emissions associated with the generation of the electricity used by IBM. IBM contracts for these purchases through programs sponsored by suppliers or the responsible utility.
- IBM has reduced its fuel use by 20 percent against the adjusted 2005 baseline. A portion of the reduction is weather-related, due to milder winters in some regions, and the remainder has resulted from projects to optimize boiler operation and reduce heating and humidification demand at facilities through room specification changes and time-of-day heating and ventilation settings.

The 16.7 percent reduction in CO2 emissions in 2010 surpasses IBM's 2012 goal of a 12 percent reduction over the 2005 base year. These results were achieved through the commitment and execution of the business units responsible for IBM's operational energy use. Because each of the factors cited as keys to this achievement will change as IBM grows its businesses, enters into new contracts for electricity and continues its focus on energy conservation, the company will continue to work to sustain its performance against its year-end 2012 goal.

### CO2 Emissions Reduction (Metric Tons x 1,000)



### PFC Emissions Reduction

IBM releases some perfluorocompounds (PFCs) from its semiconductor manufacturing operations. Although the releases are in relatively small amounts (in CO2 equivalents, when compared to IBM's indirect CO2 emissions), IBM was the first semiconductor manufacturer to set a numeric reduction target for PFCs in 1998 and has set an absolute reduction goal through 2010.

# 36.5%

**Goal** – To reduce PFC emissions from semiconductor manufacturing 25 percent by 2010 against a base year of 1995.

**Result** – As of year-end 2010, IBM's emissions were 36.5 percent below the 1995 baseline amount of 381,000 metric tons of CO<sub>2</sub> equivalent.

IBM has achieved its PFC emissions reduction goal, reducing its PFC emissions by 36.5 percent against the 1995 baseline. These reductions have been achieved through IBM's long-term focus on using process chemistries which utilize PFC gases with lower global warming potentials. The Burlington, Vermont, facility has been an industry leader in developing and implementing process substitutions using PFCs with lower global warming potential such as NF<sub>3</sub> and C<sub>4</sub>F<sub>8</sub> for its 200mm semiconductor manufacturing processes. The East Fishkill, New York, 300mm semiconductor manufacturing facility almost exclusively uses NF<sub>3</sub> for its chamber clean processes and abates the majority of its PFC emissions.

PFC emissions increased year-to-year, primarily due to increased manufacturing volumes in 2010 compared to 2009. Some of the increases in emissions during 2010 were mitigated by further conversion of some C<sub>2</sub>F<sub>6</sub> based process cleans to C<sub>4</sub>F<sub>8</sub> process cleans; C<sub>4</sub>F<sub>8</sub> has a lower global warming potential than C<sub>2</sub>F<sub>6</sub>.

## PFC Emissions Reduction (in Carbon Dioxide Equivalent)



IBM also has begun tracking two other materials: 1) nitrous oxide (N<sub>2</sub>O), which is used in the manufacture of semiconductors; and 2) heat transfer fluids that are used in tool-specific chiller units associated with manufacturing processes.

- IBM emitted 17,400 metric tons of CO<sub>2</sub>e of nitrous oxide, which has a lower global warming potential than the PFC gases from its semiconductor operations.
- Chiller systems at the IBM semiconductor operations used 18,300 pounds of heat transfer fluids. These materials are released as fugitive emissions and had a CO<sub>2</sub>e of 32,000 metric tons.

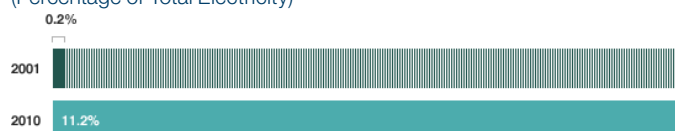
IBM has been replacing some of the heat transfer fluid-based chiller units with solid-state chiller units as an energy conservation measure. These chillers use solid-state components and heat to alternately excite and unexcite electrons to trap and release heat energy. The new style chiller replaced an old Freon-based chiller that used more electricity. Each replacement reduces electricity use by 40 MWh/year and eliminates the fugitive loss of the heat transfer fluids.

## Renewable Energy

In 2010, IBM purchased 561 million kWh of renewable energy. These purchases represented 11.2 percent of the company's global electricity usage and a CO<sub>2</sub> emissions avoidance of 247,000 metric tons. IBM continued to contract for renewable energy purchases in Australia, Japan, Austria, Belgium, Denmark, Finland, Netherlands, Sweden, Switzerland, the United Kingdom and the United States in 2010. Purchases of electricity generated from renewable resources increased in Australia, Finland, Sweden and Switzerland.

IBM's energy conservation efforts and its procurement of renewable energy in 2010 combined to avoid the emissions of more than 390,000 metric tons of CO<sub>2</sub>.

## Renewable Energy Procured (Percentage of Total Electricity)



### Research to Advance Solar Energy

In addition to procuring renewable energy for its own use, IBM is working to further the availability and affordability of renewable energy by investing in IT-related research and development. One focus area is advancing solar technology:

- **New solar cell manufacturing approach:**

In February 2010, IBM announced it had built a solar cell in which the key layer that absorbs most of the light for conversion into electricity is made entirely of readily available elements and is manufactured using a combination of solution and nanoparticle-based approaches, rather than the popular, but expensive, vacuum-based technique. This solar cell set a new world record for efficiency and holds the potential for producing low-cost energy that can be used widely and commercially.

- **Ultra-high concentrator photovoltaic technology:**

In April 2010, IBM announced that it is collaborating with the King Abdulaziz City for Science and Technology (KACST), Saudi Arabia's national research and development organization, on a research project aimed at creating a water desalination plant powered by solar electricity, which could significantly reduce water and energy costs. A new, energy efficient desalination plant with an expected production capacity of 30,000 cubic meters per day will be powered with the ultra-high concentrator photovoltaic (UHCPV) technology that is being jointly developed by IBM and KACST. This technology is capable of operating a CPV system at a concentration greater than 1,500 suns. Inside the plant, the desalination process will hinge on another IBM-KACST jointly developed technology, a nanomembrane that filters out salts as well as potential toxins in water while using less energy than other forms of water purification.

- **Climate Modeling:**

In October 2010, IBM and Universiti Brunei Darussalam (UBD) announced an agreement to collaborate on climate modeling research that will investigate the impact of climate change on flood forecasting, crop yields, renewable energy and the health of rainforests in southeast Asia. The collaboration will help Universiti Brunei Darussalam accelerate its research capabilities in biodiversity, energy and agrotechnology. The university will acquire an IBM Blue Gene supercomputer—the first of its kind in the region—to provide high-performance computing power for the collaborative work.

Researchers from UBD and IBM will work together to develop climate models based on regional climate data. The new hydrological models will be incorporated into the weather models to enable flood forecasting and predict climatic impact on the rainforests.

### Voluntary Climate Partnerships

IBM was a charter member of the Chicago Climate Exchange (CCX), a voluntary emissions reporting and trading system with binding commitments for GHG emissions reduction by its member companies. IBM's participation in CCX covered Scopes 1 and 2 GHG emissions from the company's operations in Canada, Mexico and the U.S.

Over its eight-year participation in CCX (2010 was the final year for the CCX program), IBM reduced its GHG emissions 19.9 percent against the 1998–2001 CCX baseline, compared to the commitment of a 6 percent reduction by 2010. CCX provided an effective means to document and verify GHG emissions reduction activities for IBM's North American operations.

IBM continued its participation in the World Wildlife Fund's Climate Savers program in 2010, working toward the committed reduction goal: Between 1990 and 2005, IBM reduced or avoided CO<sub>2</sub> emissions by an amount equivalent to 40 percent of its 1990 emissions through its global energy conservation program. To extend this achievement, IBM intends to reduce CO<sub>2</sub> emissions associated with its operational energy (electricity and fuel) use by 12 percent between 2005 and 2012 through energy conservation and the purchase of renewable energy.

Under Climate Savers, IBM has also committed to improving the energy efficiency and energy utilization of its internal and clients' data centers through activities and offerings for data center best practices, measurement and monitoring programs, and virtualization and consolidation programs. Activities in support of this commitment are detailed in the Data Centers section.

Though the U.S. EPA discontinued the Climate Leaders program in 2010, IBM intends to meet the second generation GHG reduction commitment it set under the Climate Leaders program:

To reduce total global GHG emissions by 7 percent from 2005 to 2012. IBM achieved its initial goal by reducing total global energy-related GHG emissions by an average of 6 percent per year and PFC emissions by 58 percent from 2000 to 2005.

### Transportation and Logistics Initiatives

#### Employee Commuting and Leased/Rental Vehicles

IBM has been active in promoting programs that reduce the commute to work for its employees. Key contributors to this effort are IBM's two flexible work programs:

- **Work-at-home:** Enables many employees to work from a home office
- **Mobile employees:** Enables many other employees to work from home a designated number of days each week

In 2010, more than 122,000 employees (29 percent) globally participated in one of these two programs, which not only helps employees balance their work and personal responsibilities, but also benefits the environment. In the U.S. alone, IBM's work-at-home program conserved approximately 6.2 million gallons of fuel and avoided more than 48,000 metric tons of CO<sub>2</sub> emissions in 2010.

IBM joined the reconstituted U.S. Best Workplaces for Commuters<sup>SM</sup> (BWC) program in 2009. Currently, 22 IBM locations are registered as BWC sites which represent more than 60 percent of the company's U.S. employees. Many locations actively work with their local or regional transit commissions to integrate IBM's programs with regional programs to increase commuting options for the company's employees.

Globally, many IBM locations provide support for the use of public transit systems, including shuttles from locations to mass transit stations, and alternate transportation or "loaner" cars for business trips during the workday. Where IBM provides leased vehicles for employees, the company continues its effort to move to more fuel-efficient vehicles. Standard guidelines for smaller engine sizes and lower emissions have been established for leased vehicles globally. These guidelines are the framework for selecting car models offered under IBM car plans which reduces average car emission levels as the car fleets renew.

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# 790,000

meetings held virtually via IBM Web conferencing tools.

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#### Business Travel

In 2010, IBM expanded the use of collaboration tools, both internally and externally, to reduce our impact on the environment. As a company, we conducted more than 790,000 online meetings and exchanged more than 10 billion instant messages. Collaborating in this fashion is fundamental to IBM and has allowed us to save on travel costs and impacts, boost productivity by connecting our global workforce 24/7, and avoid CO<sub>2</sub> emissions. We also have increased our use of video conferencing to help reduce the need for travel and improve team interactions. In addition to more than 400 video-equipped IBM rooms globally, we completed work on an IBM Sametime<sup>®</sup> desktop video pilot to extend video capability to employees' desktops. Expansion of this capability is planned for 2011.

#### Efficiency of Logistics

IBM is reducing the CO<sub>2</sub> emissions associated with transporting its products through the efficient design of its packaging, working with suppliers on their packaging designs and optimizing logistics. In the area of logistics, IBM has been an active member of the U.S. EPA's SmartWay<sup>SM</sup> Transport Partnership since 2006.

SmartWay is a voluntary initiative to improve fuel efficiency and reduce GHG emissions associated with logistics operations.

Since 2009, 100 percent of IBM's spend for shipping goods within the U.S. and from the U.S. to Canada and Mexico went through a SmartWay logistics provider. IBM also voluntarily applies specific SmartWay requirements to its distribution operations globally.

IBM's packaging programs also help reduce transport-associated CO<sub>2</sub> emissions by reducing the volume and weight of the company's product shipments through innovative packaging design. Accomplishments in this area are discussed in the Product Stewardship section of this report.



## Energy and Climate Protection in the Supply Chain

IBM is also focusing on the energy and climate programs of its suppliers to understand where they are with regard to having energy conservation and GHG reduction programs and to encourage their action and leadership in climate protection.

The following are two specific initiatives the company has undertaken in this area:

- IBM has been an active participant in the Electronics Industry Citizenship Coalition (EICC) environmental working group. This group is requesting that suppliers providing parts to EICC members disclose their operational energy use and GHG emissions to EICC through a spreadsheet tool developed by EICC, by responding to a Carbon Disclosure Project (CDP) Questionnaire, or through a company Global Reporting Initiative (GRI) report. Companies in the electronics industry share many suppliers and the EICC GHG emissions disclosure process is expected to provide efficiency associated with information disclosure. Where companies are not currently reporting through the CDP or GRI process, the EICC "spreadsheet reporting tool" offers a simplified, structured method for EICC members and their suppliers to inventory and disclose their energy use and GHG emissions, and their associated reduction plans. As companies gain an understanding of their energy use and GHG emissions we believe they are more likely to take actions to improve their performance. Member companies of EICC have also developed education modules to assist suppliers in developing their energy use and GHG emissions inventories.
- Through the CDP's Supply Chain program, IBM and other participating companies are focused on how suppliers are addressing climate change and working to reduce GHG emissions. As a participant in the program, IBM invited 131 of its suppliers to respond to the CDP's Supplier Questionnaire in 2010. These 131 suppliers represented a cross-section of IBM's supplier expenditures with services, general and production-related suppliers, including such suppliers as third-party data centers, logistic suppliers and rental car companies, all of which have higher levels of energy use and associated GHG emissions.

Of the 131 IBM suppliers that received questionnaires, 113 responded. This 86 percent response rate exceeded the 71 percent average response rate for the companies participating in this CDP program. The following are highlights of the findings from the responding suppliers:

- 71 percent report Scope 1 GHG emissions.
- 71 percent report Scope 2 GHG emissions.
- 67 percent have a board committee or other executive body responsible for climate change.
- 45 percent have a GHG emissions reduction target in place.

IBM continues to participate in this endeavor because the company wants to work with suppliers who are responsible for the majority of IBM's spend to gain an understanding of their operational impacts and assess where they are with regard to having a GHG emissions inventory and reduction plan. Survey responses showed that about one-third of production suppliers had reduction plans, and about one-half of non-production suppliers had plans.

In 2011, IBM is focusing on working with its total supply base to assist suppliers in developing and implementing a corporate responsibility and environmental management system, whereby all of IBM's more than 27,000 suppliers are now required to assess and identify their significant environmental intersections, implement measurements and improvement targets for those areas, and provide public disclosure of the related programs and results. To complement this management system initiative, as well as enhance trend analysis on the supply base, IBM will again participate in the CDP Supply Chain Program in 2011. Approximately 107 suppliers, primarily those suppliers that responded to the 2010 questionnaire, will receive requests to participate.

## IBM's Position on the Determination of Scope 3 GHG Emissions

Gross approximations of Scope 3 GHG emissions can help entities recognize where the greatest amounts of GHGs may occur during the lifecycle of a general product or service on a macro level. This can be helpful when assessing what phases of a general product's evolution, use and disposal are ripe for improved energy efficiency and innovation. However, IBM does not assert on a micro level what the Scope 3 GHG emissions are



from the operations of its suppliers and external distribution partners in their work that is specific to IBM, or associated with the use of its products and services. The necessary estimating assumptions and corresponding variability simply do not allow for adequate credibility, let alone calculations that could be perceived as deterministic.

Like many manufacturers, IBM has thousands of suppliers around the world. They are in all types of businesses and very few, if any, work solely for IBM. Furthermore, the sources of energy used by these suppliers vary, and IBM does not believe it could determine a credible estimate or apportionment of the energy used by these suppliers that would be associated with the products or services provided to IBM versus that associated with products or services provided to other companies and customers. In addition, IBM's specific scope of business with any given supplier remains dynamic, as it is driven by business need.

Moreover, one company's asserted Scope 3 emissions are another company's Scope 1 and Scope 2 emissions. Since the ultimate goal for climate protection is for global societies to achieve demonstrable reductions in actual GHG emissions, IBM believes real results in GHG emissions reduction are directly achieved when each enterprise takes responsibility to address its own emissions and improve its energy efficiency. This is reinforced by IBM's recent announcement that all of its first-tier suppliers will be expected to develop a management system, inventory their key environmental impacts including GHG emissions and develop reduction plans for those key impacts.

In 2010, IBM collaborated with researchers at Carnegie Mellon University (CMU) on a case study to investigate the uncertainty and variability associated with calculation of the GHG emissions associated with the life cycle of a rack-mount server product (also referred to as the server's "carbon footprint"). IBM provided CMU with technical details and information regarding the IBM server product evaluated by the study.

In addition to highlighting the high level of uncertainty in product carbon footprint calculations (+/- 35 percent for the product selected), the results of the study verified that GHG emissions associated with the operation of the server dominated the full life

cycle carbon footprint. This "use phase" of the server accounted for an estimated 94 percent of the total GHG emissions associated with the product. It reconfirmed the importance of IBM's ongoing efforts to increase the energy efficiency of its server products and the data centers where servers are used.

### **Coalition for Energy and Environmental Leadership in Leased Space**

IBM's leased space represents another area of its supply chain in which the company believes it can make a difference. Along with DuPont, Fluor Corporation, Pitney Bowes Inc. and the Switzer Group, IBM formed a coalition to drive an increase in the availability of competitively priced leased space that also provides energy efficiency and other environmental attributes. In 2010, Interpublic Group, Lenovo and MasterCard joined the Coalition. By joining together, the Coalition hopes to make more environmentally sustainable leased spaces increasingly the standard rather than the exception in the marketplace.

To aid in accomplishing its objective, the Coalition developed a baseline Environmental and Energy Efficiency Attributes Checklist. It addresses requirements in four areas: sustainable site management, water efficiency, energy efficiency, and materials and resources.

Members of the Coalition commit to:

- Make the Environmental and Energy Efficiency Attributes Checklist a standard part of their requests for proposal (RFPs) for new leases and lease renewals for office space in the U.S.,
- Include the providers' response as a factor in making lease decisions, and
- Develop appropriate metrics to measure progress.

Actions under this initiative are intended to complement, not replace, individual companies' activities for improving building environmental and energy efficiency such as those pursuant to the U.S. Green Building Council's LEED green building certification program.

## Remediation

When groundwater contamination was first discovered at one of IBM's sites in 1977, the company initiated groundwater monitoring at all of its manufacturing and development locations worldwide. Today, IBM has 2,755 monitoring and 110 extraction wells at various sites around the world.

In 2010, 14,706 pounds of solvents from past contamination were extracted while remediating, controlling and containing groundwater at seven currently operating sites and 10 former sites in three countries. At four of these sites, an additional 794 pounds of solvents were removed by soil vapor extraction or other methods. IBM also has financial responsibility for remediation at three other former sites.

As a result of the U.S. Superfund law, IBM is involved in cleanup operations at some non-IBM sites in the U.S. The Superfund law creates a retroactive responsibility for certain past actions even though they may have been technically and legally acceptable at the time.

As of year-end 2010, IBM had received notification (through federal, state or private party) of its potential liability at 110 sites, since the beginning of the U.S. Superfund program back in 1980. Of these, 57 are on the U.S. National Priority List. At the majority of the 110 sites, it has been determined that IBM either never had liability or has resolved liability. As a result, IBM believes it may presently have potential liability at only 14 sites.

When investigation and/or remediation at an IBM location or an off-site facility is probable, and its costs can be reasonably estimated, IBM establishes accruals for loss contingency. Estimated costs connected with closure activities (such as removing and restoring chemical storage facilities) are accrued when the decision to close down a facility is made. As of December 31, 2010, the total accrual amount was \$262 million.

## Audits and Compliance

IBM measures its environmental performance against both external and internal requirements. Every year, and more frequently for some, IBM's manufacturing, hardware development and research sites and organizations, such as Product Development, Global Real Estate Operations, Global Asset Recovery Services, Global Logistics and Global Service Environmental Compliance, complete a comprehensive self-assessment. Each year, certain sites are audited for environmental, health and safety compliance by IBM's Corporate Internal Audit staff. Audit results are communicated to top management. Follow-up, accountability and actions are clearly delineated.

In addition, as part of IBM's single, global registration to ISO 14001, approximately 20 sites or registered entities are audited annually by an independent ISO 14001 registrar. The company's manufacturing, hardware development and chemical-using research sites are audited, by either the Corporate Internal Audit team or the external ISO 14001 registrar, at least once every two years.

## Accidental Releases

IBM sites around the world report environmental incidents and accidental releases to IBM management through the company's Environmental Incident Reporting System (EIRS). Every event meeting IBM's environmental incident reporting criteria, which equals or surpasses legal reporting requirements, must be reported through EIRS.

Each IBM location must have a documented incident prevention program (including provisions for preventing environmental incidents or their recurrence) and reporting procedure.

In 2010, a total of 14 accidental releases related to IBM operations were reported through EIRS. Of these, four were to air, six to land, two to water, and two to both land and water.

The releases to the air included three refrigerants and one particulate matter, which was a wet residue left on fans after a cleaning activity.

The releases to land included one of treated industrial wastewater, one of untreated industrial wastewater, and one each of antifreeze, fuel oil, condensate water and oil.

The releases to water included one of turbid water and one of water containing food particles and grease from a kitchen.

The releases to both land and water included one of untreated sanitary wastewater and one of hydraulic fluid.

The root cause was investigated for all releases, and corrective actions were taken as appropriate. None of the releases were of a duration or concentration to cause long-term environmental impact.

Fines and Penalties

One significant measure of a company’s environmental performance is its record of fines and penalties.

In 2010, IBM received 116 successful agency visits worldwide with no fines being assessed.

Over the past five years, IBM has paid three fines for a total amount of \$31,000.

Fines and penalties worldwide  
(\$ in thousands)

	2006	2007	2008	2009	2010
Number	0	1	0	2	0
Fines	\$0.0	\$1.0	\$0.0	\$30.0	\$0.0

116

successful agency visits worldwide in 2010 with no fines being assessed.

# Supply chain

IBM manages a supply chain of more than 27,000 suppliers in nearly 100 different countries. We understand that managing a supply chain of this size carries with it considerable social responsibility. Even so, we are continually expanding the definition of what it means to run a responsible supply chain, challenging ourselves and our suppliers to reach ever higher standards of social and environmental compliance. In this section of IBM's 2010 Corporate Responsibility Report, you will find examples of IBM's supply chain responsibility efforts over the past year.

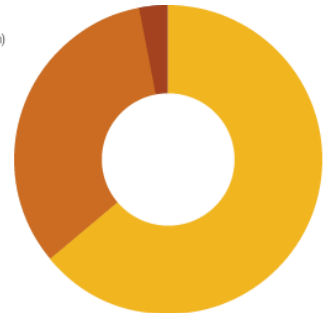
In our 100th year, IBM's supply chain continued its evolution in support of our product and services offerings. With more than 27,000 suppliers in close to 100 countries, social and environmental responsibility remain key imperatives of our corporate responsibility efforts.

During the past year, IBM was active in focusing on social and environmental compliance, driving diverse supplier development, and encouraging U.S.-based small businesses within our own, and others', supply chains. And we continued to integrate this work throughout the business.

## Supplier Spending: \$34.7 Billion Total in 2010

### 2010 Supplier Spending by Category Dollars in Billions

- 64% Services and General Procurement (\$22.1 billion)
- 33% Production Procurement (\$11.6 billion)
- 3% Logistics Procurement (\$1.0 billion)



### 2010 Supplier Spending by IBM Location Dollars in Billions

- 35% North America (\$12.3 billion)
- 35% Asia Pacific (\$12.2 billion)
- 22% Europe, Middle East, Africa (\$7.5 billion)
- 8% Latin America (\$2.7 billion)



## Social and Environmental Management Systems

With its considerable purchases and the number of suppliers in its global network, IBM is demonstrating its leadership by advancing supply chain social and environmental management systems. In early 2010, IBM's Global Supply Vice President and

Chief Procurement Officer introduced Corporate Responsibility and Environmental Management System requirements to our first-tier suppliers. Those firms with which IBM holds a direct commercial relationship are now required to establish and follow a management system to address their corporate and environmental responsibilities. IBM is among the first large global companies extending this kind of system to its external supply base. As part of this system, our suppliers are now required to:

- Define, deploy and sustain a management system that addresses corporate responsibility, including supplier conduct and environmental protection.
- Measure performance and establish voluntary, quantifiable environmental goals.
- Publicly disclose results associated with these voluntary environmental goals and other environmental aspects of their management systems.

IBM also expects its first-tier suppliers to communicate these same requirements to their own suppliers that perform work on products and services supplied to IBM, thus extending this sphere of influence.

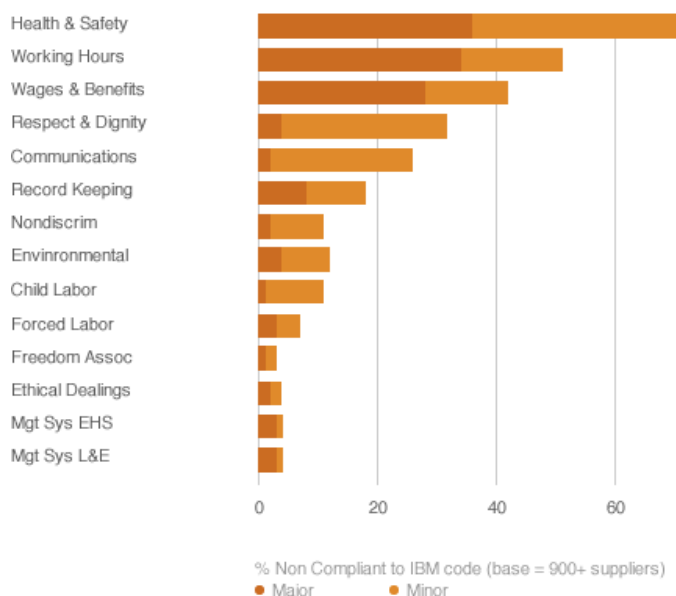
## Supplier Assessment and Improvement Plans

IBM continued to deploy its supply chain assessment activity with focus on growth market countries in which we have grown our purchasing during the year.

Two additional countries, Singapore and South Korea, were added to the roster of in-scope activity. A large proportion of resources was allocated to 380 initial audits completed in 2010 along with 23 re-audits of suppliers in the target countries. These assessments total more than 900 from 2004 through 2010, and measure supplier compliance to both the Electronic Industry Citizenship Coalition (EICC) and IBM Codes of Conduct. In 2010, IBM was the largest user of the EICC's Validated Audit Process (VAP), directing all hardware supplier initial assessments through this sector-developed approach. For suppliers and buyers, the EICC VAP provides a common audit for sharing results and eliminating duplicate costly assessments.

### Supplier Initial Audit Results—Global Cumulative (2004–2010)

*Argentina, Brazil, China, Czech Rep, Hungary, India, Korea, Malaysia, Mexico, Philippines, Poland, Romania, Singapore, Slovakia, Taiwan, Thailand and Vietnam*



IBM's supplier assessment protocol requires that all audited suppliers create and submit a Supplier Improvement Plan (SIP) for all noncompliance—with priority given to major noncompliance. The SIP forms a conduit linking initial audit findings to supplier-generated improvements geared toward resolution of root causes with verification taking place through a re-audit following the completion of all improvement actions. IBM's Supply Chain Social Responsibility (SCSR) team independently reviews and advises on the submitted SIPs and their likely impact toward code compliance. In 2010, a total of 316 SIPs (covering hardware and services suppliers) were reviewed and accepted from suppliers (audited during the previous 12 months) all within 90 days of the initial audit.

The effectiveness of IBM's audit-SIP-re-audit approach was further illustrated in the past year. Re-audits of services suppliers located in China, India, Mexico, the Philippines and Thailand yielded results of 85 percent with no priority/major code noncompliance after completion of the SIP. This is a testament to the commitment of our suppliers to make the necessary improve-

900

assessments measuring supplier compliance from 2004 through 2010.

ments to reach code compliance and therefore generating benefits accruing to the employees of these firms. The remaining 15 percent that still had major noncompliance were required to submit a supplemental SIP or face potential resourcing of their IBM business to other suppliers. We will be monitoring the progress of those suppliers against the supplemental SIPs. We also consider removing business from those suppliers if they do not make progress. These actions underscore the importance to IBM of a socially and environmentally compliant supply chain.

## Industry Collaboration

Throughout 2010, IBM increased its involvement with the [Electronic Industry Citizenship Coalition](#) (EICC). Founded in 2004, the EICC continues its mission to improve the social and environmental standing of the sector by working collaboratively to implement its code of conduct throughout the global supply chain—from raw materials to components to manufacturing to final products and service. At year-end, the EICC consisted of more than 60 international companies in the electronics, software, logistics and communications industries. In 2010, IBM was re-elected to serve as Chair of the Board of Directors, and expanded its representation in a number of working groups. The following are notable EICC accomplishments in 2010:

- Grew membership by more than a third, attracting additional firms in the raw material, logistics, contract manufacturing and product brands.
- Expanded the Validated Audit Program to cover a larger number of developing market countries.
- Commissioned a report on water resources in China.
- Refined its carbon reporting system for supply chains.
- Developed and deployed analytical tools for use in identifying conflict minerals in the supply chain.

## Center of Excellence for Product Environmental Compliance

IBM has a single group called the Center of Excellence (CoE) for Product Environmental Compliance, with end-to-end responsibility for meeting product-related government environmental requirements. The CoE's mission includes the development of strategy, processes, deployment plans, research and development of alternate materials and technologies, education and training materials. The CoE also is active in several industry and regulatory bodies around the world.

## Conflict Minerals

During the past 12 months, there has been a lot of attention placed on the topic of mining and use of minerals originating from the conflict regions of the Democratic Republic of Congo (DRC).

IBM and other member companies of the Electronic Industry Citizenship Coalition (EICC), in conjunction with the Global e-Sustainability Initiative Supply Chain Work Group (GeSI), have been working in a concerted effort to make progress to rid the electronic supply chain of DRC conflict region-originated minerals. Four minerals (tin, tantalum, tungsten and gold) originating in the DRC have been labeled as conflict minerals; however, it should be noted that these same materials are often found in other parts of the world or even from sources within the DRC that are not conflict-related.

Together EICC/GeSI (in collaboration with third-party audit firms and stakeholders) developed and deployed the Conflict Free Smelter (CFS) assessment protocol. This audit process is oriented toward smelters that play a key role in the extended supply chain, and serve as the point at which concentrated ores are refined into the higher level materials that ultimately are used in the majority of technology products. Starting in early 2011, smelters that pass a CFS audit (assuring that no conflict-sourced materials are being used) will be listed on the EICC Web site in order to assist companies in demonstrating their upstream suppliers are conflict-free.

IBM was also involved in the EICC/GeSI joint involvement with the International Tin Research Institute (ITRI) that created a pilot program in the DRC to track tin from artisanal mines to downstream smelters. IBM contributed financially to this pilot and provided a technical solution based on IBM's Maximo Asset Manager to help track the tin ore in the supply chain.

We also engaged our direct material suppliers who provide the four minerals noted above for use in our technology sub-products, and we are working with our suppliers to identify the sources of the raw ores being used. We are poised to further expand this work in preparation for reporting that will be required by the U.S. Security and Exchange Commission relating to section 1502 of the Dodd-Frank Wall Street Reform and Consumer Protection Act.

## Supply Chain Diversity

IBM is committed to diversity in all parts of its business—and has been for more than 100 years.

In 1899, the Computing Scale Company, one of three companies that would later form the Computing-Tabulating-Recording Company (C-T-R) in 1911 (later renamed IBM), hired Richard MacGregor, a Black employee, as well as Lilly J. Philp, Nettie A. Moore and Emma K. Manske. This occurred 10 years before the National Association for the Advancement of Colored People (NAACP) was founded, 36 years after President Lincoln signed the Emancipation Proclamation and 20 years before women won the right to vote.

IBM's history of maintaining a diverse supply chain is no less pioneering. The company first established a global supply chain diversity program in 1968. This was four years before the establishment of the National Minority Supplier Development Council (NMSDC) and 29 years before the Women's Business Enterprise National Council (WBENC). We are the first IT company to conduct more than \$1 billion of business with diverse suppliers in the U.S. And we learned early on that fostering diversity is not only the right thing to do for society, but for business as well. A diverse supplier base not only provides talent, it also helps add stability throughout our supply chain—and promotes economic growth in local communities.

In 2010, IBM conducted \$2.7 billion of global business with first- and second-tier diverse suppliers. Of that, \$2.3 billion was contracted with first-tier suppliers, up from \$2.1 billion in 2009. We also did more than \$700 million of business with first-tier, non-U.S.-based diverse suppliers.

## \$1 Billion

IBM is the first IT company to do more than \$1 billion of business with diverse suppliers in the U.S.

IBM also created a full-time supplier diversity position in China, one of the first companies to do so. The position was created in recognition of the fact that while supply chain diversity is well-established in the U.S., it is not well-understood in other countries, especially as compared to work force diversity.

For these and other accomplishments over the course of 2010, IBM's Program Director of Supplier Diversity, Michael K. Robinson, was honored by the National Minority Supplier Development Council (NMSDC) as the 2010 Minority Supplier Development Leader of the Year. In addition to the NMSDC, IBM is a founding member of the Women's Business Enterprise National Council and the National Gay and Lesbian Chamber of Commerce. IBM also participates in international organizations focused on supplier diversity, such as the Australian Indigenous Minority Supplier Council, the Canadian Aboriginal and Minority Supplier Council, Minority Supplier Development United Kingdom, Minority Supplier Development China, WEConnect Canada, WEConnect Europe, WEConnect India and the International Gay and Lesbian Chamber of Commerce.

Looking forward, IBM plans to grow the diversity of its supply chain as our business needs continually evolve. IBM works with its supply chain teams to clearly define its requirements in both direct and indirect supply areas, and IBM has actively sought and worked with diverse suppliers that might be able to meet those requirements over time. And we continue to work with diverse suppliers—especially our second- and third-tier suppliers—to help them grow their capacity. This work will continue for many years to come.

### Amount of IBM business conducted with first-tier diverse suppliers





# Governance, Ethics and Integrity

Both the size and nature of IBM's business necessitate that it adhere to the highest standards of conduct. IBM employs more than 400,000 employees, and provides services and technology that support businesses, governments, schools, hospitals and highways. As such, integrity, transparency, privacy and risk management are all crucial parts of our business, and our commitment to making the world work better. In this section of IBM's 2010 Corporate Responsibility Report, you will find examples of how IBM is setting the modern standard for business ethics.

## Governance

IBM Senior Management is ultimately responsible for our economic, environmental and social performance, as well as complying with IBM's overall compliance programs. Corporate responsibility at IBM is integrated across the business through the following two forums:

### Corporate Responsibility Steering Committee

Our Corporate Responsibility Steering Committee comprises senior executives from functional areas across the business and is chaired by the vice president for Corporate Citizenship. The Committee meets periodically to provide leadership and direction on key corporate responsibility issues. Each functional area is responsible for the development of its own corporate responsibility goals and strategy, with organizational-wide goals approved by the Steering Committee.

### Corporate Responsibility Working Group

Our Corporate Responsibility Working Group consists of representatives from 10 functional areas (including global representation) and meets at least monthly to manage IBM's corporate responsibility activities, reporting and stakeholder engagement across the company. The Working Group reviews key policy and strategic decisions with the Steering Committee throughout the year.

On a day-to-day basis our activities are coordinated in an organization called Corporate Citizenship & Corporate Affairs, which reports to the senior vice president for Marketing and Communications.

## Stakeholder Engagement

At IBM, we view stakeholder engagement as much more than communications and consultation. For us, it is about business partnership and collaboration—working shoulder to shoulder with communities, governments and the social sector.

Here are a couple of examples:

- Jams, our large-scale electronic conversations, garner stakeholder input and engagement on a scale previously not possible in real time—accelerating the development of new business and societal solutions to problems such as water quality or healthcare. For example, this year we held Service-

# 15,000

representatives from not-for-profit organizations, corporations, academia and government agencies took part in 2010's ServiceJam.

Jam, which brought together more than 15,000 representatives of not-for-profit organizations, corporations, academic institutions and government agencies in a discussion on how social innovation can help solve our world's largest problems.

- We use a variety of social media to help us more deeply engage with our extended IBM workforce and community. This includes our retirees through the IBM On Demand Community, our online system of community engagement, and a range of in-depth social partnerships as we beta test technology breakthroughs with community organizations, teachers, students and parents worldwide.

We also actively seek to work with organizations that are taking similarly innovative, global, open and collaborative approaches to corporate citizenship and sustainability.

Our memberships include:

- AmCham-China CSR Committee
- Boston College Center for Corporate Citizenship (IBM is a Board Member)
- Business for Social Responsibility
- China Corporate Citizenship Committee
- Chinese Federation for Corporate Social Responsibility
- Confederation of Indian Industry National Committee on CSR
- CSR Europe (IBM is a Board Member)
- Electronic Industry Citizenship Coalition (IBM is the Chair)
- European Academy of Business in Society (IBM is a Board Member)
- Global Leadership Network (IBM is an initiator and founding member)
- World Business Council for Sustainable Development

## Business Conduct Guidelines Refresh

Each year, IBMers demonstrate the importance of trust and personal responsibility in all relationships by reading and certifying IBM's Business Conduct Guidelines. This year as IBM Corporation celebrates its Centennial and we reflect on our longstanding commitment to ethics and integrity, we refreshed the [Business Conduct Guidelines](#) (BCG). The new BCG are built upon the solid fundamental principles that have sustained us and brought us success, but have been refreshed to better fit our dynamic and increasingly complex business.

Designed to be used as an online tool, the new BCG include search functionality and connect IBMers to supporting resources and other essential guidance. The enhanced format includes learning aids, which are designed to help IBMers better understand and apply our fundamental principles in our daily work. These new guidelines were designed to be read more than once a year, a resource all IBMers can use to inform our daily actions and decisions.

## CTEBA

In 2010, IBM launched a new global process and tool designed to harmonize and streamline the approval process for client travel, entertainment and business amenities (CTEBA). CTEBA is a set of principles that defines the legal and financial approval requirements for all client travel, entertainment and business amenities provided by IBM, directly or indirectly through third parties.

CTEBA establishes a process for vetting client travel, entertainment or business amenities and confirming that they comply with IBM's worldwide policies, meet IBM's own standards of business integrity and operate ethically and lawfully in all matters.

CTEBA is part of a broad portfolio of controls, and is supported by existing IBM corporate instructions and guidelines such as:

- IBM Business Conduct Guidelines
- IBM Government Client Guidelines
- IBM Business Partner Code of Conduct
- IBM Supplier Conduct Principles/Guidelines
- Corporate Policy Letter 103—Business Conduct and Ethics

## Security and Privacy

Today's digital society is built on the fast flow and analysis of information. The strides we make in gathering, routing and analyzing torrents of data hold the promise of an ever-brighter future, a vision we at IBM refer to as Smarter Planet. But behind these data are real people, real organizations and real concerns about privacy and security.

Balancing the potential of this modern technology with the privacy and security of our employees, our clients and their customers, and citizens in general is something we take very seriously at IBM. Our business depends on it. As a company, we are constantly evaluating these issues in the context of technological and cultural change. In doing this, we consider the role that IBM can and should play in addressing privacy and security concerns, both as a seller of information technology products and services and as a responsible corporate citizen.

We advocate an approach known as "privacy and security by design." By that we mean that leaders responsible for the systems that serve society—systems like healthcare, transportation and utilities—should ensure that privacy and security are addressed from the start and not as afterthoughts. A holistic approach to doing so means the right policies, frameworks and technologies are put in place to facilitate ongoing security and privacy and earn the confidence of stakeholders.

In 2010 we engaged these issues in multiple ways. We have been leading developers of privacy- and security-enabling technologies. We have collaborated with business and government leaders to work toward public policies that enable both individual privacy and continued innovation. And as always, we worked to give our own employees the knowledge and reinforcement they need to champion security and privacy, both inside and outside of IBM.

## Privacy by Design

New privacy-protective technologies. A focus on innovation-friendly, business-ready privacy protection in government policy. Informed and enabled employees and consumers. These elements must work together to protect individual privacy, support economic growth and clear the path for innovative, world-changing uses of data.

Some see technology as a threat to individual privacy. But we know that technology can protect privacy as well. For decades IBM has been a leader in developing privacy-enabling technologies, or PETs. Over the course of 2010, IBM developed or refined our portfolio of critical PETs, such as homomorphic encryption, privacy-sensitive identity management, data masking and management techniques, privacy-enabled RFID and anonymization.

These technologies, and others like them, will play a critical role in protecting privacy in the digital age—as long as they are adopted and broadly applied. One way to encourage broader adoption is through collaborative standards bodies that combine public and private sector leadership. That's why IBM joined forces with Microsoft to pilot cryptographic technologies that will enable European citizens to better protect their privacy and identities. The project, called ABC4Trust, uses privacy-enabling technology that will be piloted at a university in Greece and a secondary school in Sweden.



### [Securing Data and Systems on a Smarter Planet](#)

As systems get more complex and interconnected, security needs change. These IBMers explain security by design, which builds security into systems from the earliest stages of design.

The four-year project will test privacy-preserving Attribute-Based Credentials (ABC) that allow the user to prove just the required information, without giving away a full identity. For example, instead of sharing the exact birthday or address, by providing a copy of an identification card users only prove that they are over 18 years of age and a student of a university or a citizen of a specific municipality, state or country. The ABC system will make use of IBM's Identity Mixer and Microsoft's U-Prove technologies.

In addition to the development of privacy-enabling technology, IBM has long been a leader in the field of privacy policy and practice. We were the first company to adopt a global privacy code of conduct. We were the first company in the Fortune 500 to appoint a Chief Privacy Officer. And we were the first company to adopt a genetic nondiscrimination policy.

Throughout 2010 we shared our views and experience with business partners, government leaders and not-for-profit organizations including via IBMers' service on advisory boards for well-respected organizations like the Future of Privacy Forum, Electronic Privacy Information Center, Centre for Information Policy Leadership and the U.S. federal government's Information Security and Privacy Advisory Board. We communicated the need for balanced commercial privacy policy frameworks that make it simple to share and analyze information responsibly, especially when it crosses borders. And we advocated the idea of industries voluntarily adopting enforceable privacy-protecting codes of conduct.

Within IBM, we mandate information security education for all employees from senior executives to recent hires, and have tailored a Privacy: What You Need to Know course for all employees who may handle personal data. We have implemented a global privacy self-assessment tool that guides employees who handle personal data.

Going forward, IBM is working with the academic community to better understand the privacy and security implications of the analytics age. In 2010, the company worked with Paul M. Schwartz, a University of California at Berkeley law professor, on a paper entitled *Data Protection and the Ethical Use of Analytics*. The paper was presented at an OECD conference to an audience

of business and government professionals. Our hope is that it will serve as the starting point for an important conversation on the privacy implications of analytics.

### **Secure by Design**

Security is an important aspect of the entire life cycle of a system, from design and architecture through to implementation, testing, deployment, maintenance and retirement. Systems designed and architected without security as a required attribute must be protected by other external means. But when one attempts to "bolt on" security to an existing system, the result is likely to be less effective, more expensive to maintain, harder to use and slower than desired. The resulting collection of systems may also still be vulnerable to security or reliability problems.

At IBM, we advocate a Secure by Design approach. We recognize our responsibility to shoulder our share of the technological challenge when conceiving, developing and marketing our technology solutions. But we also recognize the need for collaborating with public and private organizations that build market awareness of these issues and implement policy governing them. We understand our educative responsibility, not just our engineering responsibility.

Along these lines, in March 2010 IBM announced the formation of an Institute for Advanced Security, which helps clients, academics, partners and other businesses understand, address and mitigate the complex, multidisciplinary issues associated with securing cyberspace. Based in Washington, D.C., the Institute provides a collaborative environment for public and private sector officials worldwide to tap IBM's vast security expertise to help them more efficiently and effectively secure and protect critical business information threatened by cyberthreats.

The global nature of information technology development today necessitates the application of secure engineering principles across the industry and across global development teams regardless of their physical location. Thus in December 2010, IBM announced its founding role in The Open Group Trusted Technology Forum (TTF), a global standards initiative that will provide a collaborative, open environment for technology companies, customers, governments and supplier organizations to create and

promote guidelines for manufacturing, sourcing and integrating trusted, secure technologies. The forum's objective is to shape global procurement strategies and best practices to help reduce threats and vulnerabilities in the global supply chain.

The TTF is a proactive response to the changing security and cyberthreat landscape and will address the mitigation of risks potentially introduced by vulnerable supply and development processes. Founding members are Boeing, Carnegie Mellon SEI, CA Technologies, Cisco, HP, IBM, Kingdee, Microsoft, MITRE, NASA, Oracle and the U.S. Department of Defense. Chaired by an IBMer, the forum will operate under the stewardship of The Open Group, an international vendor- and technology-neutral standards consortium.

In addition, IBM last year published a Redguide™, in which we shared IBM's Secure Engineering Framework (SEF). The Secure Engineering Framework describes IBM's experience in creating an end-to-end approach to product delivery, with security taken into account. IBM published this Redguide in the hope that interested parties—whether they be clients, other IT companies, academics or others—can find these practices to be a useful example of the type of security practices that are increasingly a must-have for developing products and applications that run in the world's digital infrastructure.

It includes sections on education and awareness, project planning, risk assessment and threat modeling, security requirements, secure coding, test and vulnerability assessment, documentation, and incident response. The Redguide can be downloaded [here](#).

## Enterprise Risk Management

Managing risk is a complex and nuanced business discipline. Every strategic decision within an enterprise carries with it both risk and opportunity. And because IBM's business affects the fortunes of our shareholders, clients, business partners and employees, it is critical that the company takes a strategic and disciplined approach to enterprise risk management (ERM). We believe that effective risk management is critical to protecting and enhancing the value of the company.

For example, a key element of the company's strategy has been focused on becoming the premier globally integrated enterprise. In the early part of the decade, the company drove implementation of a consistent set of processes and standards worldwide to reduce inefficiencies and improve collaboration. With its processes integrated, the company implemented a new operating model with work shared in global resource centers of excellence located where it made the most business sense.

The company is now embarking on the next generation of its transformation in which new capabilities and technologies like business analytics and cloud computing will drive performance. The proven principles of the globally integrated enterprise will be applied to all of the company's spending to continue to drive additional productivity benefits in shared services, integrated operations and end-to-end process transformation.

In conjunction with our internal business transformation and global integration initiatives intended to improve quality and productivity and enable rapid scaling, we implement comprehensive risk mitigation strategies.

One of the most effective ways to manage risks in a global enterprise is to integrate a culture of risk identification, analysis and mitigation throughout the company. We began by infusing that culture into the business units, the most important dimension since that is where risk is taken for commercial gain, and subsequently focused on the geographic units and on the enterprise processes.

In 2010, we continued to further engage senior management in a collaborative approach to identifying, evaluating and managing enterprise-level risk. We communicated with the Audit Committee of the Board of Directors because an overall review of risk is inherent in the Board's consideration of IBM's long-term strategies and in transactions and other matters. In addition, our senior vice presidents, in acknowledgment of their accountability for managing risk to acceptable levels, have volunteered to lead the work for various identified risks. A key aspect of their leadership is the governance model and management system they are putting in place to foster collaboration and transparency in managing risk. And risk management has been integrated into our executive

compensation system, designed to motivate our leaders to deliver a high degree of business performance without encouraging excessive risk taking.

Throughout the company, the approach we take to identifying and managing risk is based on the ISO 30001 ERM Standard. We consider and assess potential financial, operational, regulatory and other risks to our business. And setting the context is especially important. There are risks we encounter because of where we do business, how we do business, and the nature of our offerings. It is particularly challenging to identify risks that have not been previously identified. We have enhanced our risk identification process over the past five years. The approach in 2010 included several sources. We analyzed our peers' 10K filings. We worked with leading consultants. And we conducted a rigorous self-examination that included several rounds of reviews with approximately a hundred key executives. This effort resulted in some key changes to the set of enterprise-level risks that will receive senior executive focus in 2011.

Because the very nature of our business—information technology—changes so rapidly, we continually challenge ourselves to identify risks that we haven't encountered before, or escalate the importance of existing risks due to changed circumstances. Going forward, IBM intends to continue to drive a culture of risk management into all parts of the enterprise, allowing for business, geography and process experts to define and manage risk at increasingly granular levels.

## Public Policy

In seeking to build and transform the business and societal systems by which our planet works, IBM is deeply engaged with many of the most urgent issues facing the world today. In this, we are necessarily drawn into deep collaboration across civil society—working with lawmakers, regulators, public officials and civic leaders and contributing our expertise, experience and perspective.

One recent example of this is our work with the Technology CEO Council (TCC). The global financial crisis has exacerbated government budget deficits around the world, which pose a threat to the economic health of our societies. IBM believes that action must be taken to dramatically reduce or eliminate these

## \$1 trillion

the U.S. could save by adopting commercially proven best practices and operational efficiencies.

deficits. Which is why the Technology CEO Council, led by IBM Chairman Sam Palmisano, is advocating smarter spending—the adoption of commercially proven best practices and operational efficiencies that could save the U.S. government more than \$1 trillion by 2020, while enhancing the services it provides to citizens and laying a foundation for future growth and innovation. Below is an outline of the seven initiatives offered by the TCC to address the U.S. budget deficit. Much of this approach could be applied to other governments worldwide, at all levels, facing the same challenges.

- Initiative 1  
Consolidate Information Technology Infrastructure
- Initiative 2  
Streamline Government Supply Chains
- Initiative 3  
Reduce Energy Use
- Initiative 4  
Move to Shared Services for Mission-Support Activities
- Initiative 5  
Apply Advanced Business Analytics to Reduce Improper Payments
- Initiative 6  
Reduce Field Operations Footprint and Move to Electronic Self-Service
- Initiative 7  
Monetize the Government's Assets

To read more on specific recommendations on how to accomplish each initiative, visit the [Technology CEO Council](#).







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