THE NATION'S CAPITAL AND HP

Information, Infrastructure and the Next 100 Years

While much of the media was focused on emissions reductions, last month's Copenhagen 15 conference broadly highlighted the diverse challenges the nations of the world face to meet the needs of their citizens. For example, the number of people between 20 and 50 years of age in India will grow more than 60 percent by 2025, while many Western European nations' populations are aging. Younger populations need new opportunities and access to technology, while those with aging populations need more services and support.

By 2025, the worldwide population will grow from 6.6 to 7.8 billion, and the global community is becoming more urban. Worldwide city population is predicted to grow by one billion in the next 10 years and cities worldwide are straining to meet the needs of these new residents.

As the population demographics change, information—and how it's used—has become the most important new source of power. The human capacity to innovate continues to bring more ideas and tools to the fore that will democratize information technology in a way that is affordable and powerful—available to the rest of the world. HP Labs is continually seeking ways to bring advanced, efficient technologies that affect the way we will all live our lives. About one-third of the research at HP Labs is geared towards developing technologies that are decades away. In subject areas like information management, sustainability and intelligent infrastructure, HP is devoting its research arm towards bringing global, nation-changing solutions.

Harnessing information is essential to meeting the disparate needs of growing populations, both in a macro and micro sense. Right now, we're at a confluence of human creativity, mobile technology and digital connectivity, resulting in a doubling of information every four years. Uncontrolled, this information is useless, but controlled, this information becomes knowledge.

Did You Know?

By 2040, the global middle class is projected to swell from 440 million to 1.2 billion people.

All of these forces point to one fact: The physical infrastructure we've built over the last 100 years doesn't map to the needs of the next 100 years.

Employing innovative and advanced IT solutions will bring changes to the way energy, health care and education are provided to the citizens of the world. Harnessed information will change the way we provision our most fundamental societal obligations, changing the way we all live.

Changing the Education Equation

Information technology can extend educational opportunities, from the primary school classroom to universities around the world.

HP has worked with Happy Hearts to build out schools in the Czech Republic, in Thailand, Vietnam and other countries across southeast Asia. The classrooms are clean, well-lit, fully equipped and networked, and students are connected not just within the classroom, but with other cities. They're using high-quality video-conferencing technology to share their images and voices with each other and to gain a view of the broader world.

In another pilot program, HP is partnering with UNESCO to build the first university e-infrastructure for Africa and the Arab states. The project goes beyond sharing information to a cloud-based model of shared computing power, data storage, and also shared access to remote laboratories. By enabling universities to tap into this network, the project will foster innovative teaching and learning, as well as scientific collaboration and research, within the region and beyond.

Ensuring the next generation has the tools to educational development will help strengthen communities, economies and cultures worldwide— promoting further opportunity and innovation for younger populations and older populations alike.

Changing the Health Care Equation

From retail to financial services, IT has revolutionized efficiency, quality and service. However, some of our most important sectors, like health care, have lagged behind. HP is working to improve the administration of payers, increase the safety and quality of providers, and advance the state-of-the-art of genetic and pharmaceutical research, all of which can lead to more savings and more availability of health care service.
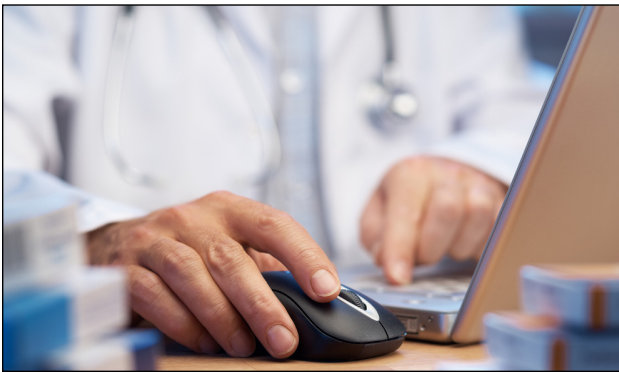
With the power unleashed from industry standard hardware, integrating research into everyday clinical care is easier for doctors, nurses and administrators than ever before.

At St. Olav's Hospital in Norway, HP has created a digital hospital that integrates the entire clinical experience with technology. Doctors and nurses with mobile devices have access to patient information wherever they are, and capturing and sharing vital data is easier and more timely than ever.

Technology is at the center of affordable, quality care. Applying solutions to improve efficiency and lower costs throughout the world will help those with aging populations receive the care they need, while providing younger populations the access they sometimes lack.

HP helps COP 15 Participants Connect Through "Climate Wall"
In partnership with the UN Education Program, HP used touch-screen technology to help connect attendants at the COP 15 event in Copenhagen with delegates who could not make the trip. Watch video of the technology here.

Changing the Energy Equation

HP believes a transparent understanding of energy use will lead to more resourceful solutions worldwide. Given the continued drain on energy resources, bringing efficiencies everywhere possible—through IT, through construction, through innovations in HP products—will help growing populations enjoy the benefits of technology.

HP Enterprise Services is building one of the most powerful and sustainable data centers in the world: the Wynyard, UK Trade Data Center. At the facility, sensors light the rows of servers, the roof collects runoff rainwater for landscaping and fire protection, while the cold wind blowing off the North Sea cools the IT equipment. When complete, the facility will be one of the largest and most efficient in Europe, with anticipated energy savings of 40 percent.

We're also developing low-cost, self-powered sensors using breakthrough nanotechnology. This will enable real-time optimization of heating, cooling and electricity usage in buildings—the single largest source of carbon emissions in the developed world.

For the infrastructure needs of tomorrow, we see a world where networks of billions of embedded sensors act as a Central Nervous System for the Earth to dynamically provision energy resources in real time.

New HP Products Help Businesses Reduce Environmental Impact

In January, HP introduced several new desktop and notebook PCs and displays that use more environmentally friendly materials and meet or exceed Energy Star® qualifications to reduce energy consumption.

HP becomes the first to offer a Microsoft Windows® based desktop PC to be free of brominated flame retardants and polyvinyl chloride. Combined with 100 percent paper-based recycled molded pulp for packaging, the new desktop is engineered with reduced substances of concern while reducing energy usage 30 percent compared to previous models.