Backgrounder

About HP Labs

HP Labs is the exploratory and advanced research group for HP, tackling complex challenges facing our customers and society over the next decade, while pushing the frontiers of fundamental science. Our research spans a wide range of technical disciplines and touches all of HP's businesses. Collectively, we are applying our expertise in these areas to address five opportunities that we believe are crucial in defining the future of information technology:

- Information explosion – Acquiring, analysing and delivering the right information to individuals and businesses so they can act on it.
- Dynamic cloud services – Developing web platforms and cloud services that are dynamically personalised based on your location, preferences, calendar and communities.
- Content transformation – Enabling the fluid transformation of content from analogue to digital, from device to device, and from digital content to physical products.
- Intelligent infrastructure – Designing smarter, more secure devices, networks and scalable architectures that work together to connect individuals and businesses to rich, dynamic content and services.
- Sustainability – Creating technologies, IT infrastructure and new business models for the lower carbon economy that save money and leave a lighter footprint on the environment.

Editorial contact:

Julian Richards, HP
+44 (0)117 312 7625
julian.richards@hp.com

We put a strong emphasis on open innovation, collaborating with universities, venture capitalists, customers and partners to gain insights and to amplify the work of our 600 researchers. Through our Open Innovation Office we are deepening these relationships and ensuring that joint research endeavours result in high-impact research that meets the scientific and business objectives of HP and its partners.

HP Labs operates under the direction of Prith Banerjee, senior vice president of Research for HP. It is organised into 23 labs located in seven major sites: in Palo Alto, USA; Bangalore, India; Beijing, China; Bristol, UK; Haifa, Israel; St. Petersburg, Russia; and Tokyo, Japan. HP Labs also has significant research teams in Princeton, USA and in Barcelona, Spain.

History and technology contributions

In 1966, Bill Hewlett and Dave Packard decided to create a central research lab for HP to free scientists from day-to-day business problems so they could focus on ideas that would help shape the company's future.

HP Labs has a long history of technical achievements including such well-known early innovations as pocket scientific calculator (1972), thermal inkjet printing (1984) and RISC architecture (1986).

In the past two decades, contributions have ranged from optical sensing technology used in cordless mice (1998), to the world's first molecular logic gate (1999), a fundamental step in the creation of chemically assembled electronic nanocomputers, to Jena, the most popular toolkit for Semantic Web developers (2000-today).

HP Labs began its pioneering work in what is now known as sustainable IT in 2000, resulting in hundreds of patents and several HP products, including Dynamic Smart Cooling (2006), which reduces data centre cooling costs by between 25 to 40 percent.

Other recent innovations from HP Labs' global facilities include:

- Tycoon market-based allocation system for computing resources (2004)
- Gesture-based keyboard (2006)
- Memory Spot wireless data chip (2006)
- Mscape toolkit for creating location-based games, tours, experiences (2007)
- Hybrid chip architecture for low-power, high-performance computing (2007)
- Smart skin patch for painless injections (2007)

About HP Labs in EMEA

HP Labs Bristol

Since it opened in 1984, as HP's first strategic research facility outside the US, HP Labs Bristol has been a centre of research excellence in a wide range of IT fields and has also been a champion of the open innovation model -- working closely with partners and customers to create mutually beneficial prototype solutions.

Today, HP Labs Bristol is home to five research labs, with world leading teams working in cloud computing and services, security, information management, web services and systems, pervasive computing, digital printing and publishing, sustainability and information surfaces.

Lab Directors: John Manley; Martin Merry; Huw Robson; Martin Sadler; Tony Wiley.

HP Labs Israel

Opened in 1994 in Haifa, HP Labs Israel's research is focused on providing technology and software applications to deliver digital printing solutions that are more reliable, provide higher print quality and offer better levels of automation by incorporating image processing and analysis technologies, machine learning methods, colour science and systems software.

Lab Director: Oren Ariel.

HP Labs St Petersburg, Russia

The newest HP Labs facility was launched in December 2007. Its research focus is to deliver information to enterprise customers that is automatically selected from diverse, heterogeneous, distributed sources. The Lab has already built strong links with a number of leading Russian universities.

Lab Director: Vladimir Polutin.