



Building a Smarter Planet: 1 in a Series

Welcome to the decade of smart.

Just over a year ago, in the pages of this publication, we began a global conversation about how the planet is becoming smarter.

By *smarter*, we mean that intelligence is being infused into the systems and processes that make the world work—into things no one would recognize as computers: cars, appliances, roadways, power grids, clothes, even natural systems such as agriculture and waterways.

Trillions of digital devices, connected through the Internet, are producing a vast ocean of data. And all this information—from the flow of markets to the pulse of societies—can be turned into knowledge because we now have the computational power and advanced analytics to make sense of it. With this knowledge we can reduce costs, cut waste, and improve the efficiency, productivity and quality of everything from companies to cities.

A year into this new era, the signs of a smarter planet are all around us. Smarter systems are being implemented and are creating value in every major

industry, across every region in both the developed and developing worlds. This idea isn't a metaphor, or a vision, or a proposal—it's a rapidly emerging reality.

In a study of 439 cities, for those that employ transportation congestion solutions—including ramp metering, signal coordination and incident management—travel delays were reduced on average by more than 700,000 hours annually and nearly \$15 million was saved by each.

A yearlong study by the U.S. Department of Energy's Pacific Northwest National Laboratory found that consumers within smart meter systems saved 10% on their power bills and cut their power usage by 15% during peak hours.

Eight hospitals and 470 primary care clinics implementing smarter healthcare systems across their facilities—by making information available to practitioners at the point of care and applying insights into organizational performance—were able to improve clinical results and operational efficiency by up to 10%.

Leading retailers have cut supply chain costs by up to 30%, reducing inventory levels by up to 25% and increasing sales by up to 10%. They did so by analyzing customer buying behaviors, aligning merchandising assortments with demand, and building end-to-end visibility across their entire supply chains.

Banks and other financial services organizations around the world are achieving new levels of risk control, efficiency and customer service. Microfinancer Grameen Koota's optimized loan tracking and processing has helped increase its customer base from 70,000 to 325,000, while enabling it to predict cash requirements, better allocate resources and broaden access to capital.

These and other forward-thinking leaders are realizing near-term ROI. But they are also discovering something deeper. They are finding the hidden treasures buried in their *data*.

Data is being captured today as never before. It's revealing everything from large and systemic patterns—of global markets, workflows, national infrastructures

and natural systems—to the location, temperature, security and condition of every item in a global supply chain. And then there's the growing torrent of information from billions of individuals using social media. They are customers, citizens, students and patients. They are telling us what they think, what they like and want, and what they're witnessing. As important, all this data is far more real-time than ever before.

And here's the key point: data by itself isn't useful. In fact, it can be overwhelming—unless you can extract value from it. And now we can. With the right tools, we're beginning to see patterns, correlations and outliers. With sophisticated mathematical models, we can take the measure of the world's information and actually begin to predict and react to changes in our systems. New York has smart crime fighting. Paris has smart healthcare. Smart traffic systems in Brisbane keep traffic moving. Galway has smart water. A smart grid in Copenhagen keeps energy flowing.

We've learned a lot over the past year about what it takes to build a smarter planet. Importantly, we've

learned that our companies, our cities and our world are complex systems—indeed, systems of systems—that require new things of us as leaders, as workers and as citizens. New responsibilities to protect personal information and privacy, and to secure critical infrastructures. Global standards, not just technological ones, across all dimensions and at all the interfaces of these complex systems. New skills and fields of expertise. New ways of working and thinking. A smarter planet will require a profound shift in management and governance toward far more collaborative approaches.

Forward-thinking business leaders, policymakers and government officials around the world understand these challenges, and they are stepping up to them. Above all, they realize that we cannot wait, cannot let this moment pass. The time to act is now. The decade of smart is under way.

Let's build a smarter planet. Join us and see what others are doing at ibm.com/smarterplanet

