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"Data to Knowledge to Action" Event Highlights Innovative Collaborations to Benefit Americans

Corporations, Universities, Philanthropies, Nonprofits, and State and Local Governments Answer President's Call for New Partnerships

Dozens of public and private organizations are meeting at a White House-sponsored event today to describe their contributions to an inspiring array of collaborations that embrace a common theme: sharing resources and drawing upon sophisticated tools to plumb the depths of huge data sets in order to derive greater value for American consumers and grow the Nation's economy.

The event, at the Ronald Reagan Building and International Trade Center in Washington, DC, is co-sponsored by the White House Office of Science and Technology Policy and the Networking and Information Technology R&D (NITRD) program, which represents the information technology portfolios of 18 Federal agencies. It features scores of new announcements by corporations, educational institutions, professional organizations, and others that—in collaboration with Federal departments and agencies and state and local governments—are answering President Obama's call for partnerships that can enhance national priorities, including economic growth and job creation, education and health, energy and sustainability, public safety and national security, and global development.

"America is rich with institutions that are expert at generating data, but as a Nation we have not fulfilled our potential to make the most of these data by merging pre-competitive resources, partnering on analytics, and sharing lessons learned," said John P. Holdren, Assistant to the President for Science and Technology and Director of the White House Office of Science and Technology Policy. "Today's announcements show that we are maturing in this respect, finding synergies and collaborative opportunities that will accelerate progress in a wide range of scientific, social, and economic domains."

The new commitments build on an initial platform of projects launched last year as part of the Obama Administration's \$200 million <u>"Big Data" initiative</u>. Among the new announcements:

• **Building virtual clinical trials**

Tremendous progress against cancer has been realized through clinical trials, but only a small proportion of all cancer patients participate in such trials. The American Society of

Clinical Oncology aims to realize some of the potential from thousands of other cancer patients through CancerLinQ, a five-year, \$80 million initiative being undertaken with support from its Conquer Cancer Foundation and with donations from Amgen, Chan Soon-Shiong Family Foundation, Genentech BioOncology, Helsinn Therapeutics (US) Inc., Susan G. Komen, and numerous individual supporters. This learning computer network will unlock and analyze vast quantities of de-identified information on patient experiences that are now lost to file cabinets and unconnected servers, to help inform and guide medical professionals and patients.

• Improving access to clinical trials

More than half of all patients say they are interested in participating in clinical trials yet nearly half of all clinical trials fail to reach their recruitment targets. To help close this gap, Novartis, Pfizer, and Eli Lilly and Co. are partnering in the United States to provide a new platform to improve patient access to information about clinical trials. The platform will enhance the existing clinicaltrials.gov clearinghouse website by providing more detailed and patient-friendly information about available trials and embedding a machine-readable "target health profile" to improve the ability of healthcare software to match individual health profiles with applicable clinical trials.

Bringing NASA data down to Earth

Amazon Web Services (AWS) and NASA are making space-based data about the Earth widely available to the public through the NASA Earth eXchange (NEX), a collaborative sharing network for researchers in Earth Science. AWS is working with NEX to host a significant amount of NASA's Earth-observing data as an AWS Public Data Set. Among other benefits, this will bolster projects like Citizen Science Alliance's Zooniverse.org, which allows researchers to leverage the power of the crowd to quickly analyze massive data sets and work on problems that cannot be efficiently solved by computers. Already, for example, the Zooniverse's Galaxy Zoo projects have used contributions from volunteer "citizen scientists" to classify more that 1 million galaxies in the Sloan Digital Sky Survey.

• Applying data analytics to society's problem-solvers

DataKind, a non-profit that matches data scientists with non-profit and non-governmental organizations, is partnering with Pivotal to bring some of industry's top data analytics talent to bear on some of society's greatest challenges. Many high-impact social organizations have huge troves of data but lack the resources to analyze them. Through its new data philanthropy initiatives, Pivotal's data scientists can volunteer their skills and engage data scientists around the world. DataKind is also partnering with The Mission Continues to help that organization better understand the effects of its volunteer programs that aim to improve veterans' lives. DataKind is also starting a new project with Medic Mobile—a non-profit that uses communication technologies to improve the health of under-served and disconnected communities—to better measure the impact of that organization's various health initiatives.

A number of other organizations also announced new collaborations, including:

- NIH, IBM, Sutter Health, and Geisigner Health System, developing new methods for early detection of heart disease;
- NIH's Big Data to Knowledge initiative, developing new standards and tools to help biomedical scientists use the big data being generated by the research community;
- New York University, University of California at Berkeley, and the University of Washington, together harnessing big data for basic research and scientific discovery, with support from the Gordon and Betty Moore and Alfred P. Sloan Foundations;
- DC-NET and CAAREN, partnering with George Washington University Medical Center on next-generation genomic sequencing;
- OSTP, forming an initiative to leverage big data to predict pandemics;
- City of New York, helping new businesses get off the ground more quickly using data across city agencies;
- The Kamusi Project, aligning with universities around the world and "citizen linguists" to create a dictionary of every word in every language;
- MIT and the city of Boston, launching a big-data challenge on urban transportation;
- Splunk, NoticeandComment, and Sunlight Foundation, facilitating Federal and local civic engagement using Regulations.gov;
- Berkeley's AMPLab, funded by NSF's Expeditions in Computing program, is releasing an open-source big data analytics stack for lightning-fast cluster computing that can be used in large-scale collaborations;
- IBM, partnering with universities and industry to create a tool to help position students for the most in-demand data jobs;
- MIT, forming a new working group on big data and privacy; and
- A new Council for Big Data, Ethics, and Society, which will provide critical social and cultural perspectives on big data initiatives.

Suzi Iacono, co-chair of NITRD's Big Data Senior Steering Group and Deputy Assistant Director of the National Science Foundation's Directorate for Computer and Information Science and Engineering, said she was gratified by the tremendous response to the Administration's call for collaborative efforts in the domain of data innovation.

"We are seeing progress on so many fronts, for example developing the foundations of scalable algorithms, integrating human and machine reasoning in large-scale inferences, extracting knowledge from large, diverse, and complex data sets, and altogether facilitating powerful new approaches to discovery and decision-making," Iacono said. "With a sustained commitment from the Administration and our many partners, novel scientific discoveries and wide-spread innovation are certainly on the horizon."

For a full list of commitments presented at today's event, please visit: URL TK

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