



Center for
Technology in Government
Explore • Empower • Innovate



20th Anniversary
Report

1993-2013

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MISSION

The mission of the Center for Technology in Government at the University at Albany is to foster public sector **innovation** that generates **public value** and supports good **governance**. We carry out this mission through applied research, knowledge sharing, and collaborative problem solving at the intersection of policy, management, and technology.

“We will set up a Center for Technology in Government to pursue new ways of applying technologies directly to the practical problems of information management and service delivery in the public sector—focusing on increasing productivity, reducing costs, increasing coordination, and enhancing the quality of government operations and public services.”

—**New York State Governor Mario Cuomo**
1993 State of the State Address



Mark Schmidt

University at Albany

From the Director

20 years ago CTG opened its doors as an applied research center at the University at Albany. We were charged by then New York Governor Mario Cuomo to “pursue new ways of applying technologies directly to the practical problems of information management and service delivery in the public sector.” In 1993, there were no government agency websites, no mobile devices, no social media, and no cloud; the potential of information and technology as tools for service delivery and as a means to change the relationship between citizens and their government was just beginning to be realized. Just one year later when the White House launched its first Web page we knew the world had changed in a way that would make the work of CTG even more critical to New York State and to governments around the world.

CTG was the “first of its kind” providing an innovative model of public-private partnerships where government, academia, and the corporate community could partner on experiments with technology to learn what worked, what didn’t, and why. From the beginning we committed to sharing what was learned. This year’s annual report is part of our 20th anniversary celebration. In it we highlight some of the timeless lessons we’ve learned and how our work, grounded in those lessons, has made a difference worldwide. Our celebration continues with a look at how our research and practice expertise is being used to educate the next generation of public sector leaders.

We also include a birds-eye view of the impact of our work. Over the past 20 years, we’ve completed 75 projects, have on our staff five of the top ten scholars in the global digital government research community, seen our work cited 9,000 times, and we’ve received 26 awards and produced 465 publications. These numbers matter certainly, but at the root of this record is the extensive global network of colleagues who have partnered with us on our founding principle—that for government to effectively use technology to transform public service delivery and citizen interaction with government, we must focus on how technology, policy, and management interact.

One of the most satisfying legacies of CTG’s first 20 years is our network of government and industry partners, researchers, and graduate students; they are an integral part of CTG’s story. We were pleased to welcome these and many other colleagues to Albany when we hosted the 2012 International Conference on Theory and Practice of Electronic Governance (ICEGOV). Hosting this important and unique conference was the perfect way for us to kick off our 20th anniversary celebration. More than 350 of our colleagues from 62 countries came to Albany to celebrate with us. The team here at CTG, led by Jana Hrdinova, Meghan Cook, and Natalie Helbig, ensured that friends and colleagues, old and new, were greeted warmly and challenged intellectually. Their vision and determination made ICEGOV 2012 a wonderful success for all involved.

Our work over the past year and our agenda going forward continues to advance understanding and provide expert guidance to governments at all levels. How value is created through the process of opening government data and what capabilities are necessary to create that value are among the questions guiding our work. We are working with governments to understand how their data is being used and how usability of that data can be increased. One example is our project to better understand the value of air quality data for government agencies, community organizations, researchers, and individual citizens. Case studies in Denver, Atlanta, and Kansas City show how value multiplies when data are accessible, understood, appropriate, and usable by different kinds of users for different purposes.

We are also engaged in research to understand what is known about how to collect data, manage it, and share it in ways that reflect the principles of data stewardship; how cities can leverage technology and data analytics to deliver newly informed programs and services to transform the life of their residents; and how can we best support the growing communities of scholars who specialize in data analytics and policy informatics. All reflect our commitment to improve the way governments serve and engage citizens through innovations that integrate policy, management, and technology.

We look forward to 20 more years of work grounded in the view that technology has the potential to transform government. But understand it is a tool, like many, to be used by those committed with an entrepreneurial spirit to improving the way governments serve and engage citizens.

Sincerely,

Theresa A. Pardo



Timeless Lessons for Government Innovators

Theresa Pardo, Director
Sharon Dawes, Senior Fellow

In 1993, then New York Governor Mario Cuomo announced the creation of the Center for Technology in Government “to pursue new ways of applying technologies directly to the practical problems of information management and service delivery in the public sector.” The idea behind CTG came from state government IT leaders who wanted to try new ideas for using information and technology to improve government. They worked closely with us to invent CTG as a place where they could explore and experiment before making big investments in technical, organizational and institutional innovations. Two years later, we were honored with an *Innovations in American Government Award* from the Ford Foundation for our unique combination of problem solving, knowledge sharing, and partnerships.

By our 5th anniversary, we had worked with more than 100 government organizations on projects ranging from land use permits in New York's Adirondack Park to a prototype for New York's statewide GIS data cooperative. We summed up our observations in an article for *The Public Manager* on **Four Realities of IT Innovation in Government**. To innovate successfully with technology you must lead with your mission, embrace learning by doing, understand and grapple with complexity, and put faith in the unsung commitment and creativity of individual professionals. Those realities remain fully present today in our 20th anniversary year.

Today, we are working with governments around the world, often in collaboration with academics, private firms, and NGOs. Our scope and reach are much wider, but our philosophy is unchanged. We work with government to find innovative solutions to pressing public problems. We share globally what we learn from each project. We work with actively engaged partners in and out of the public sector who understand innovation is hard work with both risks and rewards.

Throughout the 20 year history of CTG, we have emphasized how the societal context and institutional character of government interact with information and communication technologies to shape the capabilities and influence the performance of the public sector. We fundamentally believe innovation is a function of creative exploration of the interdependencies among public policy, public management, information resources, and technologies. We've seen governments everywhere too often struggle to apply a popular strategy, policy, or technological solution to their local context to no productive end. We've seen large central government agencies install multi-million dollar systems that fail for lack of consideration of the culture and capabilities of the intended user community. We've seen small municipalities spend \$50,000 on systems because they work for their peers only to discover too late that the system doesn't work for them because of inherent differences in capability, structure, or management. With no money left to make it work, their staff still do time cards by hand or collect data on clipboards. Systems lay dormant and processes remain slow and mystifying for frustrated and underserved citizens and communities.

At the same time, we've seen amazing successes where innovations flourish thanks to thoughtful analysis of what is both possible and advisable in a specific time and place. Twenty years of work with some of the bravest and brightest public sector innovators has generated practical lessons,

To innovate successfully with technology you must lead with your mission, embrace learning by doing, understand and grapple with complexity, and put faith in the unsung commitment and creativity of individual professionals.

empirical evidence, and analytical tools all designed to gather and exploit deep contextual knowledge that tips the balance in favor of success.

These lessons have stood the tests of time. Take the evolving focus on data as an example. A 1995 CTG project to build an open data community (although we didn't call it that then) produced a prototype spatial data repository and a statewide data sharing program for the State of New York that still exists today. More importantly it produced early understanding of what it takes to build a data sharing community. A US National Archives project to build a planning tool for "electronic records access" in 2002 identified the fundamentals for planning today's open data initiatives. A 2005 project, which identified the unexploited value of the data in local land records, now contributes to new thinking about the emerging field of policy informatics. Our work on capability assessment for information sharing, initially drawn from work with the justice community, contributed to recent work on the dynamics of opening government data, to an open data roadmap for the government of Nigeria, and to new insights for NASA about its open data efforts.

In the spirit of our knowledge sharing philosophy and in celebration of our 20th anniversary, we offer these few timeless lessons to innovators everywhere who want information and technology to work better for government and service society.

LESSON #1. PAY ATTENTION TO "PHASE ZERO: BEFORE THE BEGINNING"

In project after project, we've seen how untested – and even unspoken – assumptions at the outset almost guarantee unnecessary delay, expense, and dysfunction down the line. An example from a project to improve financial services to local governments highlights the need for what we call "before the beginning" analysis. The project's basic idea

was to standardize and share information about municipal finances between six regional offices and the state central office so problems could be spotted early, trends would be more evident, and the right kinds of technical assistance could be offered at the right time. Simple on the surface. However, half the project team began the project thinking this data resource would assist state officials who work with local governments and the other half thought it would be set up for local officials to use themselves. Different users, different goals, different expectations.

From the earliest projects we learned that critical decisions and understandings like this one have to be made explicit “before the beginning,” that is before a project team is fully established, before a timeline is set up, before the budget is allocated, and before any technology decisions are made. This “phase zero” is absolutely necessary. Don’t skip it because you can’t do a full-blown evaluation. Do what you can. Start by identifying and listening to stakeholders, gather some basic descriptive and quantitative information about the situation, and investigate at least a few existing approaches taken by others. Think of this as a version of the 80-20 rule. Eighty percent of your problems down the road can be traced to skipping the 20 percent of effort you should have spent before the beginning.

LESSON #2. UNDERSTAND THAT CAPABILITY IS MULTI-DIMENSIONAL

Innovative capability goes far beyond its technical aspects; it also encompasses policy and organizational capability – and the ways they influence each other. Technical advances make many innovations possible, but technical expertise is not enough. You also need the capability to promote organizational and institutional adaptation and change. Research and experience tell us that most IT project teams fail to critically assess the range of capabilities needed to succeed. Our view of capability helps innovators take into account the importance of context and four key characteristics of full capability.

First, capability is multidimensional—it comprises a variety of essential attributes – leadership, readiness, governance, policies, data assets, technical knowledge, and more. All these contribute to overall capability. Second, capability is complementary—high or low overall levels of capability can result from different combinations of factors, high levels in some dimensions can often compensate for lower levels in others. Third, capability is dynamic—it can increase or diminish due to changing conditions within an initiative or in its external environment. And finally, capability

Eighty percent of your problems down the road can be traced to skipping the 20 percent of effort you should have spent before the beginning.

is specific to its setting—some elements of capability apply to all settings, but capability for any particular project must be assessed relative to its own specific objectives and environment.

Think of these four characteristics as a checklist for approaching any innovation or problem solving effort: Have you identified and considered all the relevant dimensions of capability? Have you mapped all the complementarities? Do you have a plan for responding to changing needs? And finally, are you confident that you understand the specific setting well enough to make these judgments? If the answer is yes in all cases, our experience says your project is much more likely to succeed than to contribute to the too-high failure rate of IT innovation.

LESSON #3. LEARN TO WORK ACROSS BOUNDARIES

Over the past 20 years essential public services and programs, from building infrastructure to assuring public safety to providing human services, have become the responsibility of complex inter-organizational networks of public, private, and non-profit entities. Scholars and practitioners alike recognize that complex societal needs and network-based strategies to meet them, demand individual and collective ability to work across boundaries between departments, agencies, professions, sectors, governments, even nations. As a consequence, the ability to work effectively across boundaries has become a core competency for government professionals worldwide.

In our experience, the need to share information lies at the heart of these networks, and it often involves sharing information for a purpose that was not its originally intended use. The challenges in these initiatives increase proportionally with the number of boundaries crossed, the number and types of information sources to be shared, and the number of technical and organizational processes to be changed or integrated.

The challenges can differ widely in their scope and detail. For example, an effort to increase case closure rates by

linking multiple databases and case management processes in a district attorney's office or a county department of health are less problematic than an enterprise-level initiative to create a statewide crime communications network or a regional network to respond to a public health crisis such as West Nile Virus. The first type involves units of a single organization operating under one executive leader. The second kind involves many separate organizations at several levels of government pursuing related but somewhat different objectives in diverse but overlapping programs with different policies, practices, and data resources. Neither type is easy, but the second has special demands for governance, communication, problem-solving, and resource sharing.

PARTNERING FOR INNOVATIVE SOLUTIONS TO PRACTICAL PROBLEMS

Creating and sharing knowledge is one of the founding principles of CTG. One way we live up to this principle is by translating the lessons we learn from working directly on problem solving projects with governments into guidance documents and analytical tools and techniques that can be used by others with similar needs. One set of tools focuses particularly on helping governments build capability for innovation (see sidebox).

Successful IT innovations and the transformation they seek to support, depend at least as much on the policy environment and how well the organizations and individuals perform as on the chips, networks, and software. They involve understanding and working with the interdependencies among policy, management, technology, and data within a specific context. And they start with a candid assessment of where they are before deciding how to get where they need to go.

We learned these lessons by working with some of the most innovative, dedicated, and persistent public managers you will ever meet. We look forward to working with many more.

Adapted from article originally published in Public CIO, December 2013.

PRACTICAL RESOURCES FOR GOVERNMENT MANAGERS

Government Information Sharing: A Planning Toolkit

This toolkit is designed for government professionals tasked with planning and implementing initiatives that rely on effective information-sharing.

Making Smart IT Choices: Understanding Value and Risk in Government IT Investments

This handbook is designed to help any government manager evaluate IT innovations before deciding (with greater confidence) to make a significant investment.

Opening Gateways: A Practical Guide for Designing Information Access Programs

This guide provides several practical tools to help governments create information access programs that are effective, manageable, and affordable. The assessment, diagnostic, program design, and cost estimation tools presented address issues that remain and will continue to become more relevant to any access program regardless of technology advances or how it is labeled or marketed.

Sharing Justice Information: A Capability Assessment Toolkit

This toolkit is designed for justice professionals to use when considering or planning for a justice information-sharing initiative.

Building State Government Digital Preservation Partnerships: A Capability Assessment and Planning Toolkit

This toolkit is designed for library, archives, records management, and information technology professionals to assess where capability for digital preservation exists and where it must be developed in order to achieve the goal of preserving significant at-risk government information.

These resources can all be downloaded at:
www.ctg.albany.edu/publications



Community Engagement: Scholarship with Impact

For the last 20 years, CTG has had the good fortune to work with and learn from hundreds of government practitioners. This opportunity has also extended to students in the classrooms of the University at Albany. Every year for the last 12 years as part of the nationally ranked program (ranked 3rd by *US News and World Reports*) in Government Information Strategy and Management, offered by the Public Administration and Policy Department, Rockefeller College of Public Affairs and Policy, Theresa Pardo has taught *Building a Case for IT in the Public Sector*.

This course, designed as a service-learning experience, brings together UAlbany graduate students, many with the goal of leading public programs, with working government professionals to help solve real-life problems facing government and non-profit agencies in NYS. The course was developed to prepare students for the responsibilities that they, as future leaders, will have in ensuring that information and technology are used innovatively—but also effectively and efficiently, in support of public priorities. Lectures, readings and case work in the class are designed to build necessary understanding about how information and

technology is deeply embedded in every aspect of government and to appreciate the role they will play as future leaders in ensuring that government investments in IT deliver value to citizens.

Back in 2001, the traditional model for IT field-based projects was for students to engage in the design and development of software systems. From the beginning, Dr. Pardo's course adopted a unique focus to:

- prepare students to use a range of tools and techniques in identifying a problem or opportunity,
- understand the underlying issues and opportunities, and
- explore work processes, organizational procedures and practices, along with the broader and dynamic economic and policy context.

Using CTG's flagship method *Making Smart IT Choices: Understanding Value and Risk in Government IT Investments*, Pardo teaches students how to get at the problem, identify stakeholders, and to work with colleagues from government agencies to understand the relative merit of any one approach to solving the defined problem through innovations in policy, technology, and management .

Over the years students have rated the course highly; consistently identifying the chance to work directly with government practitioners as the most exciting aspect of the course and a highlight of their program. In addition to readings and lectures on IT innovation in the public sector, students learn and use techniques to manage groups, identify and analyze problems, explore solutions in terms of stakeholder interests, and public value creation. Students



UAlbany Government Information Strategy and Management PAD students presented open data posters at the 6th Annual International Conference on Theory and Practice of Government (ICEGOV2012), hosted by CTG in Albany. Pictured: Yefei HU, PAD student visiting from Fudan University; Dean Hill, PAD student and Open Projects Manager, NYS Senate; and Nigel Shadboldt, co-founder, Open Data Institute.



A team of students from Theresa Pardo's PAD650 2011 class presented recommendations to New York State Acting CIO Dr. Daniel C. Chan and CIOs from several state agencies on two emerging information technology issues: 1) cloud computing and 2) bring-you-own-device (BYOD).

conduct best or current practice reviews and work collaboratively with their agency partners to develop new models, methods, prototypes, and recommendations. The class ends with a final presentation and written report back to the sponsoring agency leadership.

Since the inception of the course, students have engaged with a variety of state agencies including: the NYS Office of the Chief Information Officer, Governor's Office of Employee Relations, Department of Tax and Finance, Department of Health, Division of Motor Vehicles, Office of Children and Family Services, Office of the State Comptroller, Department of Correctional Services, New York State Police and The Capital District Library Council. Projects have ranged from understanding the implications of 'going paperless' to dealing with electronic records in the financial market and health arenas. Students have created recommendations and decision making tools for the state related to the use of social media, bring-your-own device policies, and cloud computing options.

In every project, student teams interact with a range of professionals, from analysts, to legal counsel, to top-executives, such as Chief Information Officers and Deputy Commissioners. In a number of cases over the years students have been invited to continue their work on the project or to apply their new skills to related projects through internships with their "project agency."

The fall 2012 offering of the course provided a unique opportunity for the students to share their work with the attendees of the ICEGOV 2012 (International Conference on Theory and Practice of Electronic Governance) conference

“As program managers they will help design systems that support their service programs and will use them daily to carry out program administration and evaluation. As budget or legislative analysts, they may be called upon to recommend whether systems should be initiated, continued, or killed. As field representatives, they will depend on IT to stay connected to the people and information resources of their organizations. They may be members or leaders of projects charged with developing and deploying new technologies to improve operations or offer new services. They will engage in electronic forms of public participation in rulemaking and other venues. They may be freedom of information officers or records managers in addition to their other assignments. As a consequence, the first goal of IT-oriented MPA education should be to prepare students to manage government programs with technology, rather than training them to manage technology itself.”

-Sharon Dawes, Senior Fellow, CTG

Excerpt from "Training the IT-savvy public manager: priorities and strategies for public management education" in the Journal of Public Affairs Education (2004)

organized by CTG and held in Albany. Students planned and prepared a joint paper, which provided an in-depth look at the variety of perspectives on the open data movement and its implementation in different governments and cultures theme. Students developed posters that presented their individual work and presented those posters as part of the ICEGOV Conference Poster Session.

Scholarship with Impact: *What They're Saying*

For the past 20 years, CTG has provided over 70 UAlbany graduate students with both scholarly and practical opportunities and a strong foundation for future careers in teaching, research, and public service, as well as in the private sector. Scholarship and practical experience commingle in all of the applied research projects, fostering a unique educational experience for students at both the master's and doctoral levels. These students have gone on to an array of careers, and many remain part of the global community of digital government researchers.

CTG was and still is the most important stepping stone in my academic career. From 1998 to 2002 I had the unforgettable pleasure of working in teams of highest-caliber colleagues at the Center. It was at CTG that I became fascinated with studying the complex intersection of information, information systems, people, and organizations in the context of public administration and democratic self-governance.

—**Jochen Scholl**, Associate Professor (Tenure), University of Washington; Ph.D. Information Science, 2002

My work at CTG shaped my research interests and placed me on the right track to build my career as a researcher. The work I conducted with CTG's experts provided me with all of the expertise and skills I would need to succeed as a faculty member.

—**Mohammed Gharawi**, Assistant Professor, Institute of Public Administration, Saudi Arabia; Ph.D. Information Science, 2012

The CTG experience continues to positively impact my career. My direct field of work is beginning to utilize the skills and techniques that CTG has been using for many years and having the firsthand knowledge of this work has been incredibly valuable for me. Additionally, the networking opportunities have provided contacts that I continue to utilize for success.

—**Amanda Kronen**, Community Connections Social Worker, LaSalle School; MSW, Clinical Social Work, 2012

CTG is the birthplace of my academic career in E-government.

—**Lei Zheng**, Assistant Professor, Fudan University; Ph.D. Public Administration and Policy, 2009

My CTG experience helped me to better understand the role of information technology in organizations. Our collaboration projects helped organizations to achieve practical results through use of information technology. This experience makes me a more effective teacher and a researcher in the IT field today.

—**Bahadir Ackam**, Assistant Professor, Western New England University; Ph.D., Information Science, 2009

Working at CTG as a graduate student was a very rewarding experience. One important skill that I acquired during my time at CTG was the ability to assess the interests and needs of IT project stakeholders. Having the tools to take a collaborative approach to problem solving is essential in a setting like New York City government where there are a multitude of competing interests within an agency and amongst the city's oversight entities.

—**Roger Lishnoff**, Director of IT Finance, NYC Department of Information Technology and Telecommunications; M.A. Public Policy, 2005

CTG's experience helped me tremendously for my career development. Working at CTG as a research assistant not only provided me with the skills and techniques to be a researcher and scholar, it also helped me to build professional networks and learn to be a good collaborator. For me, it is always the place to find innovative ideas and inspirational people.

—**Jing Zhang**, Associate Professor, Clark University; Ph.D. Information Science, 2003

CTG is the place where I learned a lot about academics and professionalism, and met precious people in my life.

—**Hyuckbin Kwon**, Principal Researcher, Center for Social Survey, Korea Institute of Public Administration, Ph.D., Public Administration, 2012

CTG provided me with the skills and capabilities to further pursue my higher education and a rich experience through collaborations and discussions. It was an excellent experience for me and has provided me the right environment to grow and face my future challenges.

—**Akram Mohammed**, Research Assistant, University of Nebraska Medical Center; MS, Computer Science, 2009

While at CTG, I worked on several project which were invaluable for advancing my skills in applied research, and that is exactly what I am doing today at my current position.

—**Lucy Dadayan**, Senior Policy Analyst, Rockefeller Institute of Government; Ph.D. Informatics, 2012

20 Years: Research Excellence and Policy Impact

Since its establishment as part of the University at Albany, State University of New York in 1993, the Center for Technology in Government has generated significant contributions to the field of government information technology, or what has been recently called digital government. After two decades, CTG is an internationally recognized research center, identified around the world for its expertise in information strategy and management in the public sector.

These achievements are the result of the efforts over the last 20 years of CTG's creative team of experts in government information technologies, who pioneered an innovative approach that emphasizes the important interplay between academic research, consulting, teaching and executive development. This combination allows for the development of state-of-the-art scientific research informed by practice and innovative practical advice that is firmly grounded in findings from first-class academic research.

The center's research, teaching, consulting, advising, and executive development activities and achievements highlight a great diversity of topics.



CTG has had a unique opportunity as a research center that goes beyond exploring concepts and proposing innovative approaches to empowering government agencies to better serve citizens and society as a whole. Universities, governments, and corporations around the world increasingly rely on CTG's expert advice, research results, expert advice, practical tools, guides, and publications, which are freely accessible online. CTG has more than 450 publications. Some of these publications are highly cited and others have received international recognition. CTG staff, including research and faculty fellows, share more than 9,000 citations to their published work.

CTG produces new knowledge through its research and is committed to translating the results of its work into

practical guidance for government agencies in the US and around the world. During these 20 years, the center has provided advice and expertise to numerous government organizations, counting more than 150 local, state, national and international consulting projects. These projects have represented various partnerships with academic institutions, government agencies, corporations, and nonprofit organizations. In this way, CTG has not only offered innovative insights about emerging IT topics, but also provided detailed understanding about how to design, implement and evaluate specific information technologies in particular government contexts. In addition, CTG has also offered technical and executive development to high-level public managers and CIO's in topics such as IT governance, IT capability assessment, IT investments, IT architecture and standards, public value assessment, and social media policies, among others.

CTG is regularly invited to participate in advisory committees, editorial boards, and other mentoring and advising roles. Currently, the center is involved in a great diversity of state, national and international advisory committees and editorial boards. CTG's researchers and professional staff are part of editorial boards in the most highly regarded academic journals within the field of digital government. The center has also had an active role as organizer, presenter, and chair in more than 30 national and international conferences.

Within the University at Albany, CTG has a strong long-term relationship with the Rockefeller College of Public Affairs and Policy, who's Information Strategy and Management Specialty is ranked #3 among all public administration departments in the United States. CTG also has a strong partnership with the College of Computing and Information, which is a leader in the study of information, technology and policy phenomena in both the private and public sectors. CTG's distinguished scholars serve as members of these academic programs by teaching courses and advising students and involving them in research and consulting projects. Over the years, 25 dissertations have been completed through various kinds of partnerships between CTG and doctoral students, here at the University at Albany and elsewhere. The quality of dissertations and master theses is high and several of them have won awards and recognition either in their original form or as journal articles, conference papers, and books.

More highlights from CTG's 20 years can be found in the infographic on pages 10-11: *CTG by the Numbers*.

20 YEARS | CTG by the Numbers



3

RANKING

Rockefeller College of Public Affairs and Policy's Information Strategy and Management Specialty, developed & taught by CTG, is ranked #3 among all public administration departments by *US News & World Reports*.



30

CONFERENCE LEADERSHIP

Have taken an active role as organizers, chairs, and program, sponsor, and award committees in more than 30 national and international conferences...

...including what could be considered the **four** most important international conferences in the field of digital government:

- International Conference on Digital Government Research (dg.o)
- IFIP E-Government Conference (IFIP EGOV)
- International Conference on Theory and Practice of Electronic Governance (ICEGOV)
- Electronic Government Track at the Hawaii International Conference on System Sciences (HICSS)



5

TOP SCHOLARS

Five of CTG staff are ranked in the top ten of scholars in the field of digital government.



25

DISSERTATIONS

Provided data and support to more than 25 doctoral dissertations and masters projects.



9,000

CITATIONS

CTG staff, including research and faculty fellows, represent more than 9,000 citations to their published work.



26

AWARDS

Recognized with more than 25 local, state, national and international awards.



146

EDITORIAL & ADVISORY

Participated on 146 editorial boards, advisory committees, working groups, and study panels.



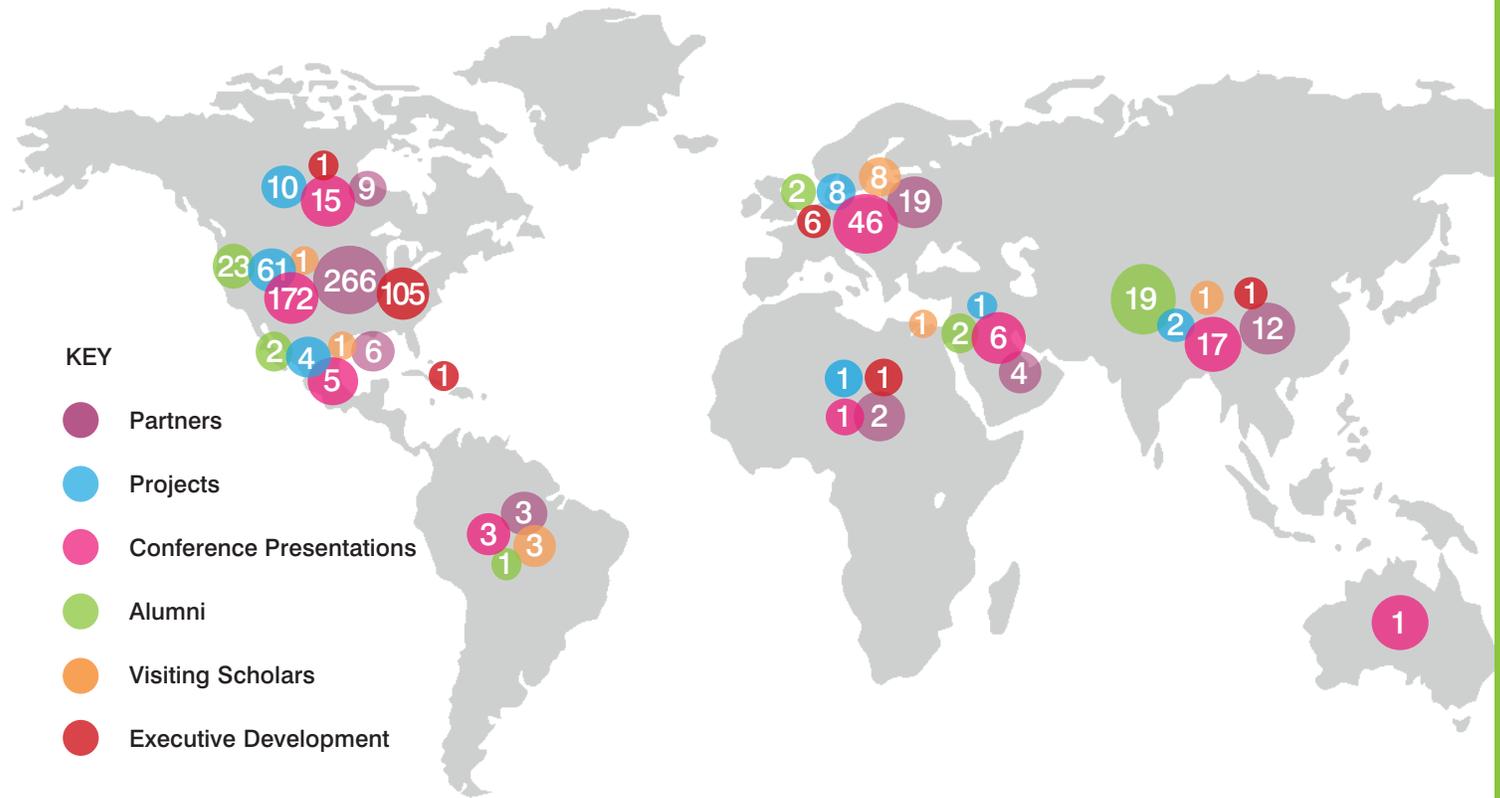
441

PUBLICATIONS

Produced 152 conference papers, 104 journal articles, 99 reports, 20 guides, 34 book chapters, 27 issue briefs, and 5 books.

20 YEARS

Our Global Network



350
KNOWLEDGE SHARING

Delivered over 350 executive development programs, workshops, and conference presentations.



75
PROJECTS

Worked with all levels of government agencies to innovate in ways that increase productivity & coordination, reduce costs, enhance quality, and deliver better services.



317
PARTNERS

Collaborated with 147 government agencies, 66 private companies, 66 universities, and 38 nonprofit organizations.

ICEGOV

2012 ALBANY, NEW YORK
UNITED STATES

6TH INTERNATIONAL CONFERENCE
ON THEORY AND PRACTICE OF
ELECTRONIC GOVERNANCE

22 - 25 OCTOBER 2012

WWW.ICEGOV.ORG



Innovation for Global Change

CTG convened over 350 global technology and government innovation experts from 62 countries whose mission is to advance transparency, participation, and accountability in government at the International Conference on the Theory and Practice of Electronic Governance. This was the first time the conference was held in the U.S.; it was formerly hosted in Estonia, China, Colombia, Egypt and Macao, China. During the four-day conference, there were six plenary sessions: *open data*, *open government*, *information stewardship and management*, *smart cities and urban development*, *women in technology and development*, and *the future of government in the digital age*. More than 80 peer-reviewed research and practice papers were presented, as well as a poster session with more than 30 emerging research studies.



David Ferriero, the 10th Archivist of the United States, National Archives and Records Administration, gave the opening keynote.



SUNY Chancellor Nancy Zimpher, Albany Mayor Jerry Jennings, UAlbany President George Philip, and CTG Director Theresa Pardo at the opening session.



Tomasz Janowoski, ICEGOV Series Coordinator, Senior Research Fellow and Head UNU-IIST Center for Electronic Governance, Macao SAR, China



Professor Nigel Shadbolt, co-founder of the Open Data Institute talking with Yefei HU, UAlbany exchange student from Fudan University, China during the poster session.



Robert Samson, former General Manager of IBM's Global Public Sector and member of Governor Cuomo's NYS SAGE Commission, giving an overview of NYS IT Transformation.



Maria Wimmer, University of Koblenz-Landau, Germany and Gianluca Misuraca, Senior Scientific Officer, European Commission led a session on Policy Modeling & Governance.



Lei Zheng (UAlbany PhD '09), former CTG Graduate Assistant and current Assistant Professor at Fudan University presenting paper on Chinese Government Microblogs.



Jana Hrdinova, ICEGOV organization chair and CTG program associate, at Poster Session with Irfanullah Arfeen, Virtual University of Pakistan.



The senior class of the Capital Region Tech Valley High participated in a session with Dr. Sasi Pillay, the Chief Technology Officer for NASA.



Participants representing academia, government, industry, and not-for-profit sectors from 62 countries shared the latest research and practice innovations.



Jenn Gustetic (far right), NASA's Prizes and Challenges Program Executive, led a tutorial on *Developing an Incentive Prize Strategy*.



Dr. Wojciech Cellary, professor at Poznan University of Economics in Poland, gave the closing summary and impressions of ICEGOV2012.



**A SPECIAL THANKS TO ALL WHO WORKED WITH
THE CTG TEAM TO MAKE ICEGOV A SUCCESS**

Organizing Committee

David FERRIERO
Conference Co-Chair
Archivist of the United States
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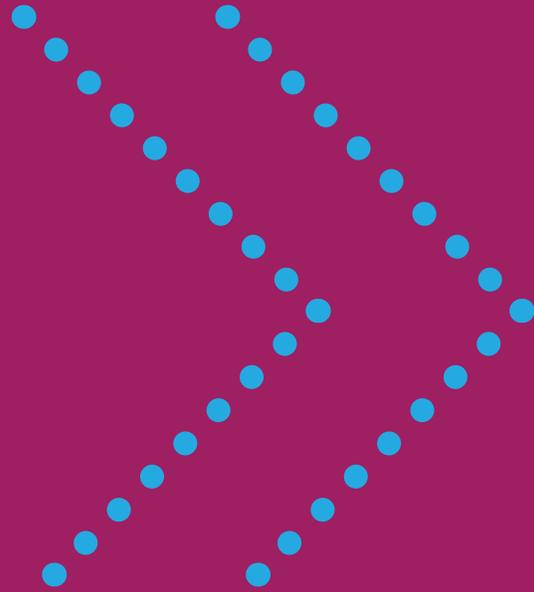
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2012

YEAR IN REVIEW



PROJECTS

FOSTERING INNOVATION IN GOVERNMENT

The goal of every CTG partnership project is to create and share new knowledge that transforms the way government works.

Government practitioners and academic researchers use these projects to better understand the role of information, provide policy and practice guidance, and inform organizational decisions. CTG projects have helped government agencies at all levels to innovate and meet their objectives in ways that increase productivity and coordination, reduce costs, enhance quality, and deliver better services to citizens and businesses.

A NEW ANALYTICAL APPROACH TO OPENING GOVERNMENT DATA

Government's ability to develop appropriate policies and practices to make the best use of information lags behind the rapidly increasing power of information technologies. In addition, there is a growing societal perception of government data as a public resource that should be shared freely and widely. To address these issues, CTG worked in collaboration with SAP to produce a new analytical approach for helping government decision makers better understand the ways opening government can impact government, citizens, and other non-government stakeholders.

CTG developed a white paper that described how an information policy framework can guide the development and implementation of open government initiatives. The framework provides a holistic analysis of how these initiatives generate new information relationships, shape governance, and produce public value. CTG hosted a two-day workshop in June 2012 to engage leading experts in an active review of the conceptual foundation for the model.

The Dynamics of Opening Government Data has cases from two active open data initiatives, featuring street construction projects in the City of Edmonton in Alberta,



In June 2012, an international group of 25 thought leaders from academia, government, and the private sector convened at CTG in Albany, NY for a two-day workshop that entailed an active review of CTG's conceptual opening government model.

PRACTICAL CONSIDERATIONS FOR OPENING GOVERNMENT DATA

The *Dynamics of Opening Government Data* white paper offers practical considerations for government managers:

- Release government data that are relevant to both agency performance and the public interest.
- Invest in strategies to estimate how different stakeholders will use the data.
- Devise data management practices that improve context in order to 'future-proof' data resources.
- Think about sustainability for long term value creation.

Canada, and the restaurant inspection process in New York City. Based on these cases, the white paper provides practical advice for government managers planning or actively engaged in opening government data initiatives (see sidebox).

“What we learned from the combination of CTG's research and public sector use cases is that all stakeholders and their patterns of interaction will evolve over time and require new practices, policies and governance arrangements. We also learned that this combined with the emergence of new technology capability enablers will lead to faster innovation and the accomplishment of objectives never considered possible.”

—Russ LeFevre, Vice President, Industry Marketing, SAP

PROJECTS

The next step in this project is to develop practical tools to help governments plan for, implement, and evaluate opening government data initiatives.

OPENING GOVERNMENT IN NIGERIA

Developing countries and civil society organizations throughout the world are working to be more transparent, empower citizens, fight corruption, and harness new technologies to strengthen governance as a way to move toward a more open government. CTG led a six month project to assist the Federal Government of Nigeria (FGN) in their pursuit of a more open government and vibrant economy. With funding from The World Bank and the Korean Partnership Trust, CTG was lead partner in the Open Government Alliance, working with members of the FGN. This project marks CTG's first World Bank-funded project.

Theresa Pardo and Meghan Cook travelled to Abuja, Nigeria in order to gather necessary information for the core components of the project. They conducted a series of working meetings and workshops in late 2012 and early 2013 with senior level ministers, ICT staff, and civil society representatives. The FGN's *Open Government Action Plan* is being developed using input from these stakeholder workshops and consultation sessions.

Three themes emerged as framing the vision for open government in Nigeria: 1) enhancing transparency in government; 2) increasing civic engagement, and 3) increasing public integrity. Nigeria recognizes these



As part of CTG's first World Bank funded project, Theresa Pardo and Meghan Cook travelled to Abuja, Nigeria to conduct a series of working meetings and workshops in late 2012 with senior level ministers, ICT staff, and civil society representatives.

elements as critical to its *Vision 20:2020*, a plan to establish Nigeria as a top 20 economy by the year 2020. High poverty levels and poor access to services along with many other harsh realities of the Nigerian context challenge the realization of the *Vision 20:2020*.

By developing an *Open Government Action Plan*, Nigeria hopes to be able to mainstream and guide open government investments and innovations across all sectors and levels of government. In addition to the *Open Government Action Plan*, the Alliance conducted and delivered a *Quick Readiness Capability Assessment* as well as developed an *Open Data Innovation Roadmap* and a *Technology Roadmap*.

The project results and recommendations were presented to FGN senior level ministers and ICT staff, as well as World Bank leaders, civil society representatives, and industry leaders in May 2013.

BUILDING AN INTERNATIONAL SMART CITIES RESEARCH AND PRACTICE COMMUNITY

For several years CTG has been partnering with colleagues from the U.S., Canada, and Mexico to carry out new research focused on shared services in the urban context. This work is funded by the Social Science and Humanities Research Council of Canada as well as the Universities of those involved in the partnership. It grew out of the North American Digital Government Working Group formed at CTG in 2007.

In 2012, the project partners published a conference paper, *Understanding Smart Cities: An Integrative Framework* at the 45th Hawaii International Conference on System

OPEN GOVERNMENT ALLIANCE

The Open Government Alliance is a strategic partnership of the Center for Technology in Government, Grant Thornton LLP, and Phase One Consulting Group. Together, the Alliance:



- Works with governments and their stakeholders to identify and specify their open government priorities.
- Develops responsive and context-specific action plans and roadmaps to meet those open government priorities.
- Acts as an international network of partner organizations and clients connected by a commitment to creating public value through more open governments.



The founding partners in the Smart Cities, Smart Governments Research Practice Consortium, led by CTG, are: (Pictured left to right): Juan Carlos Noriega (representing Marco Antonio Peres Useche from Externado University of Colombia); Lei Zheng (Fudan University, Shanghai, China); Sehl Mellouli (Université de Laval, Quebec City, Canada); Theresa Pardo (CTG, UAlbany/SUNY); J. Ramon Gil-Garcia (Data Center for Applied Research in Social Sciences, Centro de Investigacion y Docencia Economicas, Mexico); and Adegboyega Ojo (Center for Electronic Governance, International Institute for Software Technology, United Nations University, Macao, China).

Sciences. The paper helps close a gap in the literature about smart cities by proposing a framework to understand the concept of “smart cities.” Based on an extensive review of the literature, the authors identified eight factors critical to smart city initiatives: management and organization, technology, governance, policy context, people and communities, economy, built infrastructure, and natural environment. These factors form the basis of an integrative framework that can be used to examine smart city initiatives. The framework suggests directions and agendas for smart city research and outlines practical implications for government professionals. The team has also produced award winning conference papers, journal articles, and dissertations, as well as held workshops at academic conferences including ICEGOV 2012 and dg.o.

The research team launched an international consortium called *Smart Cities, Smart Governments: A Research and Practice Consortium*. Founding members, led by CTG, met at the ICEGOV2012 in Albany to sign the Consortium

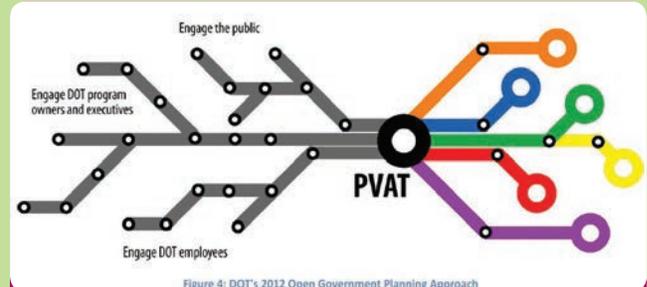


Figure 4: DOT's 2012 Open Government Planning Approach

PUBLIC VALUE ASSESSMENT TOOL

CTG developed the Public Value Assessment Tool (PVAT) to provide government leaders with an approach to making more informed decisions about their portfolio of open government initiatives. This tool provides a structured way to assess the public value of an initiative so that decision makers can review the expected public value across their entire portfolio.

In 2012, the US Department of Transportation (DOT) decided to focus on the public engagement impact and public value generated by enhancing DOT's openness. To achieve this they chose to work with CTG using the PVAT to develop Version 2.0 of its Open Government Plan.

Through public and internal engagement activities, ideas for the plan were collected and run through the PVAT process to better understand the potential public value of each. Once individual project assessments were complete, like activities were grouped into initiatives, and flagship initiative candidates were selected. The information from the PVAT analysis was one of several pieces of information that went into decision making for Version 2.0 of DOT's Open Government Plan.

“The PVAT represented a new opportunity to systematically assess the public value of DOT's Open Government efforts. Using the PVAT process, DOT developed both in depth qualitative public value statements and overall activity summary judgments—both of which are essential inputs to overall agency decisionmaking for Open Government planning.”

—US DOT Open Government Plan Version 2.0

PROJECTS



Jana Hrdinova conducted two days of training on social media management for representatives of the Moldovan government and worked with staff from Moldova's E-Government Center to draft a social media policy guide for use by Moldovan government agencies.

agreement. The mission of the Consortium will be to facilitate the development of a robust international smart cities and smart government research and practice community.

Since the initial formation, the Consortium has continued to generate increasing interest from Universities throughout the world and now totals 16. The next steps for the consortium include the development of a governance structure, and planning a series of 2014 workshops and meetings of members.

SOCIAL MEDIA POLICY GUIDELINES FOR MOLDOVA

The Republic of Moldova has been internationally recognized for its ambitious *eTransformation and eGovernment* agenda. As part of this agenda, the eGovernment Center of Moldova reached out to CTG to conduct social media training and to help it draft a social media policy guide for the government. CTG met with civil society and government representatives in Moldova to produce a set of recommendations that were incorporated into the final policy guide.

The *Moldova Social Media Policy Guide* is designed to help ministries and central government authorities create

internal procedures for managing the use of social media. The guide was launched in early 2013 by the eGovernment Center, after consultations with the civil society and government public information officers. The ministries are now using the guide to synchronize their communication strategies.

The Policy Guide includes a set of rules and advice for civil servants about the use of social networking. It refers to social tools selection, content creation, responsibility for content and incorporating feedback from citizens. Many of the guidelines are adapted from CTG's report, *Designing social media policy for government: Eight essential elements*.

The work was sponsored by the U.S. Department of State as part of the Embassy Lecture Series.

BUILDING A POLICY INFORMATICS NETWORK

The label "policy informatics" is being applied to a community of inquiry and practice (CoIP) that is investigating how new technologies, different types and sources of data, and advanced computational modeling are changing the way we think and conduct public policy and management research.

The emergence of new forms of interaction with government through social media tools enables data to be collected about the behaviors, attitudes, and patterns of government and citizen interactions. New policies pushing open government data provide opportunities to make new connections between intractable social problems and new data sources. These trends are creating more sources, kinds, and amounts of information that can be infused into public interactions and policy and management decisions. To understand how these changes influence how government works and research is conducted, we need new kinds of collaboration between research and practice and across academic disciplines.

In 2012, CTG advanced the development of a CoIP through its involvement in the Association for Public Policy Analysis and Management (APPAM) Committee on Policy Informatics. At the APPAM fall conference, CTG helped

“The work that CTG put into this guide was invaluable. Their knowledge of the subject matter gave us the basis on which to create social media policies that were appropriate for our context, while at the same time covering all crucial areas connected to social media use in government.”

—Stela Mocan, Director, Moldova eGovernment Center

organize a roundtable that featured a government “problem owner,” journal editor(s), researchers, and funders to discuss how policy relevant information and data have changed over the past few years. John Kamensky, panelist, and Senior Fellow and Associate Partner at the IBM Center for The Business of Government, featured his involvement in the panel in an online *Government Executive* article.

CTG also participates in the eGovPoliNet/Crossover Consortium, sponsored by the European Commission FP7 research program. The Consortium is a project to expand the international network of research institutions investigating how information communication technologies (ICTs) are aiding the development of different policy modeling techniques. As the only US consortium member, under a grant from the National Science Foundation, CTG has worked to integrate the US-based policy informatics community with the larger international network through various community building efforts. Sharon Dawes presented at two international conferences, giving a talk on the information dimension of policy informatics. CTG also co-organized a session at ICEGOV2012 entitled *Bridging the North-South Gap in ICT-enabled Policy Modeling and Government*. This session brought together practitioners and researchers to share current practices and experience and to investigate the differences between developed and developing countries contexts. Dawes and Helbig co-authored a book chapter (forthcoming) and will lead a comparative literature review on stakeholder involvement in policy modeling.

BUILDING INFORMATION SHARING NETWORKS TO SUPPORT CONSUMER CHOICE

The impact of trade globalization has been profound and varied along the whole supply chain. Some producers have benefitted from being able to get higher prices for a product produced in an environmentally and socially sustainable way, while other producers are suffering under deteriorating work conditions brought on by globalized pressures to lower production costs. Similarly, consumers are benefitting from lower prices of consumer goods, while on the other hand being faced with greater difficulty when trying to find out how, where, and by whom the products they want to buy are being produced, inspected, and distributed.

Two years ago, CTG, along with a team of researchers from the US, Mexico and Canada, received a \$710,000 grant from the National Science Foundation to develop a data interoperability framework for providing unobservable

product information for the case of coffee produced and consumed in the North American Free Trade Agreement region. This multi-year project has two main components: 1) the examination of the policy environment needed to support an interoperable information system that would provide such product information, and 2) the technical work of building such interoperable framework.

The I-Choose data interoperability framework is designed to allow more information, both government and non-government, into market transactions so that consumers can make decisions that maximize their specific utility. The knowledge gained through constructing and expanding I-Choose will inform a wide range of future collaborations in terms of how to create a trusted environment where incentives for collaboration and competition are complementary, not mutually exclusive.

The study is relevant for a wide range of actors who are already experimenting with new forms of collaboration such as labor, environment, and agriculture government agencies in the NAFTA region, interested legislators, businesses, trade unions, environmental NGOs, consumer groups, and agricultural associations. Over the last year, the team continued to examine attempts to incentivize sustainable behavior among producers and consumers using emerging technologies and the collaborative governance mechanisms that must be established in order to facilitate this behavior change. The technical work consisted of sharpening the focus of the ontology work on the specific function of certification and inspection by mission-driven third party certifiers as the “missing link” in providing trusted information about unobservable product attributes to customers.

TRANSFORMING NEW YORK STATE IT GOVERNANCE

In 2011 Governor Cuomo announced his vision to transform NYS Government. Much of his vision for the state rested on its use of technology and innovative organizational and management practices to create new value for citizens. To realize the Governor’s vision, his Administration has taken transformative actions to improve the state’s approach to managing its diverse IT operations.

As a part of this process, CTG was asked to help facilitate three key streams of work:

- CTG worked with the NYS ITS Workforce Committee to facilitate stakeholder discussions related to assessing IT talent. This work became the foundation for the recommendations from the Workforce Committee to the

PROJECTS

Governor regarding how to proceed with the IT workforce transformation process and what programs needed to be in place to support this organizational change.

- CTG worked with the new ITS Leadership and the Cluster CIOs in the development of the organizational structure.
- CTG and the newly created NYS ITS Leadership and their teams designed and implemented a new governance structure that ensures a systematic and consistent approach to IT investment decision making based on a formally established enterprise and, where appropriate, cluster-level, standards, thresholds, and criteria for cluster and enterprise projects.

The work CTG carried out with the state was critical to New York's ability to create and maintain an enterprise view of its portfolio of enterprise and cluster level IT projects and to actively manage those projects. The implementation of an enterprise and cluster approach will yield important benefits for New York and for state agencies, including more effective and coherent services for constituents, greater efficiency for state government operations at a lower cost, improved data security, and enhanced ability to share data.

ADVANCING NEW YORK STATE'S ECONOMIC DEVELOPMENT GOALS

For New York State to remain competitive in the global economy, universal broadband access and adoption is critical for every New Yorker to fully participate in the modern digital economy. One of the major steps toward achieving this goal is a project by the NYS Office of Information Technology Services, GIS Program Office, Broadband Mapping Unit (BMU) to build a statewide broadband map. The map shows where broadband is available and where it is not, and provides a better overall understanding of the existing broadband landscape.

CTG is working with the BMU on several initiatives to



CTG worked on a new design and enhanced features for the New York State Speed Test website to better enable visitors to explore a wealth of information on broadband availability throughout the state. The upgrades are the first major changes to the site since it first launched in 2010, and will be implemented in early 2013.

collect data to improve the overall accuracy of the map and to add more context through layers such as low broadband adoption indicators. In the first phase, CTG and BMU asked New York State residents to take a broadband speed test from their home computers, which continues to be an ongoing effort to verify the accuracy of the NYS Broadband Map. In addition, CTG released a *Broadband Adoption Report* with results from a survey completed by CTG in 2010 of New York households that showed the extent of adoption of broadband services and how those services are used.

In phase two, CTG began to gather data about broadband services at Community Anchor Institutions (CAIs), which are places where citizens who lack broadband at home can utilize the Internet or where a broadband connection is critical to public service provided by that institution. Examples of these CAIs include libraries, schools and colleges, hospitals, municipal halls, and police and fire stations. Community Anchor Institutions are working with CTG and BMU to identify their current Internet service providers, technology used to deliver the service, and the broadband speed. This data is being used to identify current broadband availability in communities, as well as the level of service, and the need for greater build-out.

“A comprehensive enterprise content management strategy can be a powerful tool in this era of government restructuring and downsizing. Such a strategy with its policy, management, as well as technology components will enable agency staff to transform work practices and continue improving services to our customers. Our project with CTG provided us with a detailed *How To Guide* and set of practical tools to implement such a strategy.”

-Duane Averill, Assistant Director, Data Processing Technical Services, at HCR.

COLLECTING STREET-LEVEL DATA FROM HARD TO REACH POPULATIONS

The National Youth in Transition Database (NYTD) is the first national, longitudinal data collection effort focused on understanding the transitions of youth from state foster care to independent living as adults. In 2010, the New York State Office of Children and Family Services (OCFS) turned to CTG to design a program strategy to fit their current capabilities for surveying youth. From April 2011 to the end of October 2011, CTG, in collaboration with Stony Brook University, worked with local districts and voluntary organizations to offer youth who turn 17 while in foster care the opportunity to participate in the NYTD data collection.

Now in its third year, CTG and its partners continue to improve the data collection strategies to allow the program to be sustainable over time. In 2012, CTG added a variety of tools to engage youth. The team rebranding NYTD for New York State, creating new print and electronic materials and launching a social media campaign. The social media strategy incorporated Facebook and Twitter. We found that over 70 percent of youth surveyed had a Facebook page, therefore, using social media tools was a natural fit for reaching these youth. CTG is conducting further research into the use of social media to reach vulnerable populations, interviewing other states to find best practices and challenges and barriers.

CTG's experience in implementing the survey portion of NYTD has brought to light very clear and important issues regarding developing new types of data resources. Policy makers and practitioners should be looking at future information supply issues. Going forward, the aim for government should be to make the necessary adjustments to account for the range of capabilities at the state and local level, the relationships, and the complexity of the service delivery system and enact new policies and practices.

STRATEGIES FOR ENTERPRISE CONTENT MANAGEMENT

Government agencies are looking for strategies to help them manage vast amounts of information in ways that can help reduce costs, eliminate inefficient paper driven processes, comply with e-discovery requirements, and increase openness and transparency. CTG completed a project with the New York State Homes and Community Renewal (HCR) in which the team developed a set of tools for HCR to effectively and efficiently meet these critical needs.

HCR sought to integrate core business processes and associated records and other information resources into an



CTG launched a new website for the NYTD project in 2012, along with coordinated social media efforts on Facebook and Twitter to keep in touch with foster youth in places they were most likely to be active.

agencywide Enterprise Content Management (ECM) system. In collaboration with HCR staff, a team of CTG researchers used business process mapping and its extensive experience working on government information management initiatives to help develop and pilot an ECM strategy that can be applied across the entire agency.

For over a decade government agencies have been under pressure to use information technologies to be more efficient and productive while reducing costs. However, the implementation of ECM systems is no simple matter and requires that attention be paid to and investments made in management and policy capabilities as well as technology.

Specifically, the HCR project involved the following:

- Exploring existing capabilities and identifying which business process to pilot for the project.
- Mapping out the selected core business process and its information relationships to improve the process, identify key records, and determine the records to be retained in the ECM system.
- Identifying records retention requirements and security classifications.
- Mapping the business process and associated documents to the ECM system.
- Developing project report, templates, and tools and products for agency wide implementation.

The HCR project resulted in a generalizable process and set of tools and strategies that can be adapted by any organization seeking to develop strategies for improved information access, business process efficiency or improvement, e-discovery, or general information or records management issues.

(Projects continued...)

PLANNING FOR A SMARTER CITY OF BINGHAMTON

The City of Binghamton, like many small to medium-sized cities, is trying to do more with less. City leaders have a vision for a 21st century city but find themselves at the point where their current information technology (IT) environment is insufficient to respond to the growing demands of a dynamic and increasingly electronic citizenry. They recognize that to realize such a vision they must have a new level of capability for information and technology management including new enterprise-wide approaches to IT decision making.

To more fully understand what was necessary, Binghamton asked CTG to work with them to assess the current state of IT in the city, evaluate requirements necessary to meet the city's IT goals, and identify challenges through discussions with key stakeholders. During the fall of 2012, CTG brought together managers of city departments to begin envisioning a future scenario where the city would be able to respond to the needs of their citizens in wholly new and innovative ways. These discussions included identifying barriers to this vision.

Six characteristics or goals for a "smarter" Binghamton and a set of recommendations for next steps emerged from these discussions. The most significant barrier to realizing the vision of a smarter Binghamton has to do with how IT decisions are made within city government. Currently, IT decision making is done within single departments without reference to a larger city-wide technology plan or strategy. This siloed approach, long

SIX CHARACTERISTICS FOR A "SMARTER" BINGHAMTON

1. Increase organizational capacity
2. Use information management as a strategic asset
3. Improve access to data and information
4. Institutionalize data management processes and procedures
5. Cultivate a culture of access
6. Optimize organization performance and perspective

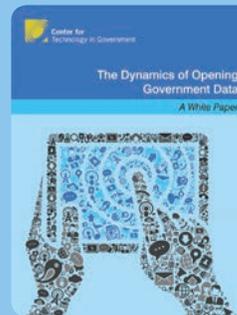
RECOMMENDATIONS

- Create an IT Department with additional staff managed by an IT Director
- Institute a citywide IT governance structure
- Review all IT initiatives from a "Portfolio Management" perspective
- Continue to develop citywide information use policies

recognized as a barrier to coordinated practices and purchasing would, everyone agreed, need to be changed. The report lays out a plan for creating enterprise IT governance led by a new executive charged with city-wide responsibility for technology and data including the development of an enterprise IT portfolio and information use policies.

We congratulate the team from the City of Binghamton who were honored with a 2013 Outstanding IT Service and Support Award during Government Technology's Best of New York Awards Program Conference for their work on this project.

REPORTS



The Dynamics of Opening Government Data

In this white paper, CTG examined two open data case studies of two very different cities to highlight the ways different contexts, stake-holders, and constraints can impact the system as a whole and affect value creation. By using an information polity perspective,

CTG provides government a way to identify the various stakeholders and their patterns of interaction that influence or control the generation, flows, and uses of enhanced information resources in open data initiatives. These tools support planners' abilities to generate informed insights about changing patterns of interaction among existing and potential new stakeholders. In this way, governments can better evaluate the costs, risks, and benefits of a wide variety of open data project ideas before investing.



Building On-ramps to International Research Collaboration: Replicable strategies for entry, productivity and sustainability

Globalization presents important opportunities and difficult challenges that demand internationally-trained, culturally-aware researchers to collaborate

on topics that cross borders, political systems, and cultures. International research collaborations on topics such as livability of cities, political participation, or the health of civil society offer potentially great benefit.

RESOURCES FROM CTGS REPORTS

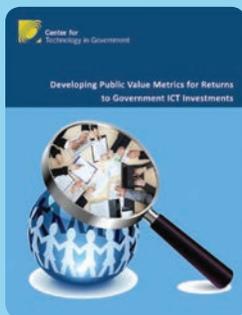
However, such work tends to be sporadic and informal because traditional research training and funding structures make it logistically and financially impractical. In response to this problem, from 2007 through 2010, we experimented with two low-cost innovative approaches or “on-ramps” to international collaboration in digital government research: a set of three international working groups composed of scholars from a variety of countries and disciplines and an annual residential research institute for PhD students to develop an early appreciation for the global impact ICTs on the public sector. This evaluation report shows that both approaches are low cost, high impact strategies to forge lasting networks of relationships as well as long-term career benefits.



Opening Government's Official Legal Materials: Authenticity and Integrity in the Digital World

Increasingly, state governments are moving toward making primary legal materials available online via state government websites. The goal in these efforts, and also the challenge, is to provide users with more efficient access while

ensuring that the electronic versions of primary legal materials are as “official” as their paper originals. State legislators and their staffs, legislative reference librarians, state archivists, and chief information officers all have important roles to play in laying the foundation for these efforts through the creation of new policy, management, and technology capabilities. This brief provides background to the Uniform Electronic Legal Material Act (UELMA), explores the concepts behind authenticated electronic materials, defines what it will take to create, maintain, and make available official electronic legal material, and provides recommendations for states.



Developing Public Value Metrics for Returns to Government ICT Investments

This report presents a new approach to assessing public value returns as part of an overall return on investment analysis for government information and communication technologies (ICT). It addresses one basic question

about public value assessment: *What constitutes good evidence of public value impacts?* The answers provided here are intended to augment the return on investment analysis methods found in the *E-Gov Economics Model: Real Impact for Better Government*, developed by Microsoft. However, this report has potential uses beyond connection with that Model, and can be more generally useful in the assessment of public value returns to government programs and investments. It consists of a way to identify, collect, and interpret a variety of evidence, both quantitative and qualitative, that can be used to assess public value impacts. The approach is designed for use by government practitioners and analysts in connection with return on investment (ROI) analyses. It is particularly aimed at use in connection with the E-Gov Economics Model to examine ICT investments by national and sub-national governments. The report includes recommended methods to collect and analyze these forms of evidence.



Designing Information access programs

Originally published ten years ago, this updated version of *Opening Gateways* recognizes that technological advances have given us a much broader array of tools and approaches to providing access to information. These advances have created a more

sophisticated community of potential users and stakeholders whose expectations of ease of access and immediacy of information have grown exponentially. These changes, combined with a social and political environment that demands public sector entities be more open and transparent in their operations, have put increased pressures on government.

This guide can help government agencies develop affordable, manageable, and effective information access programs. Given the changing technological and social environment, the type of planning processes facilitated by this Guide are more relevant than ever. The revisions have focused on updating many of the examples provided and language used as well as including an expanded discussion of program models available due to technological advances.

All of CTG's reports are available for download at:
www.ctg.albany.edu/publications

INFORMING TODAY'S PROBLEMS AND TOMORROW'S INNOVATION LEADERSHIP

CTG plays a leading role in building a global community of practice for researchers and practitioners to advance knowledge about information technology innovation in government. We are actively involved in advisory boards and committees at all levels of government and around the world to explore and advise on key issues related to digital government. We are frequently asked to share our findings and insights through keynotes and panel presentations at local, national, and international academic and practitioner conferences and meetings, as well as within government agencies.

CONFERENCES

New York State

GTC East Conference
Government Technology
Albany, NY

NYS CIO Council and Local Government Joint Roundtable
NYS Local Government IT Directors Conference Spring Conference
Saratoga Springs, NY

Capitol Camp 2012: Third annual "Unconference" and "Hackathon"
NYS Office of Information Technology Services and the New York State Senate
Albany, NY

Corporate Roundtable
NYS Forum
Albany, NY

Annual Training Meeting
NYS City/County Manager's Association
Albany, NY

National (U.S.)

Summit on Smart Disclosure
White House and the National Archives and

Records Administration
Washington, DC

Fall Research Conference: Advancing Policy Informatics
Association for Public Policy Analysis and Management
Baltimore, MD

5th Annual Public Performance Measurement & Reporting Network Conference
Rutgers' School of Public Affairs and Administration
Trenton, NJ

Technology and Human Services Symposium
The U.S. Department of Health and Human Services, Administration of Children and Families
Washington, DC

Creating Public Value Conference
Center for Integrative Leadership at the University of Minnesota
Minneapolis, MN

The Administrative Agency in the Electronic Age
The American Bar



DEVELOPING COLLABORATIVE STRATEGIES FOR TACKLING THE WORLD'S HARDEST PROBLEMS

10 Downing Street, London, UK

Theresa Pardo participated as part of a multidisciplinary group of experts in London for a two-day planning meeting supported by the MacArthur Foundation and hosted by NYU Wagner to develop a strategy for using technology to create more collaborative ways of governing to tackle the world's hardest problems. The group discussed their shared understanding of open and peer progressive governance; focused on how the techniques and technologies of open and participatory governance can help us tackle hard, real world problems; and examined these questions from the perspective of specific disciplines – with a focus on the potential of data science.

Association's Section of Administrative Law and Regulatory Practice's; Program in Law and Public Affairs and Center for Information Technology Policy at Princeton University
Princeton, NJ

Government Bits: Stewardship of Public Information in a Changing Digital Landscape
ESOPI-21: School of Information and Library Science (SILS) and School of Government (SOG) at the University of North Carolina, Chapel Hill
Chapel Hill, NC

2012 Winter ESIP Federation Meeting: Connections Through Collaboration: Engaging Community Throughout the Data Life Cycle
Federation of Earth Science Information Partners
Washington, DC

Executive Council for Information and Technology Management Summit
U.S. Government Accountability Office
Washington, DC

Cost-Benefit Analysis and Public Safety Technology

Roundtable
Vera Institute of Justice
New York, NY

International

*How to Become a
"Best Run City"*

SAP
New York, NY

*Opening Government:
Managing Complexity and
Producing Public Value*
Government Innovation
Forum 2012 (GIF)
Mexico City, MX

*New ICT Solutions for Public
Sector Agility*
OECD High-level Meeting on
E-government
Mexico City, MX

*Moldova Open Government
Day*
e-Governance Center of
Moldova & The World Bank
Chisinau, Moldova

*International Conference on
Open Government*
Russian Federation,
Government Expert Council,
Nonprofit Organization
Development Foundation/
Center for Development &
Commercialization of New
Technology
Moscow, Russia

*IFIP e-Government
Conference 2012*
Kristiansand, Norway

*Smart Cities Expo World
Congress*
Barcelona, Spain

*2012 Law via the Internet
Conference*

Cornell Law School
Ithaca, NY

Workshop on the City Protocol
City Protocol
Barcelona, Spain

*Second Meeting on the City
Protocol Society*
City Protocol
San Francisco, CA

*3rd Russian Conference on
Knowledge Engineering and
the Semantic Web*
Knowledge Engineering and
Semantic Web School
St. Petersburg, Russia

*Hawaii International
Conference on System
Sciences (HICSS-45)*
Shidler College of Business
U. of Hawai'i at Manoa
Wailea, Maui, HI

*High-Level Working Session
at UN: "Urban Futures...South
Meets North"*
UN-HABITAT
New York, NY

*2012 International Open
Government Data Conference*
Data.gov, The World Bank
Washington, DC

*Major Cities of Europe
Conference 2012*
Major Cities of Europe IT
Users Group
Vienna, Austria

*2012 Annual International
Conference on Digital
Government Research
(dg.o2012)*
Digital Government Society
College Park, MD



MOLODOVA OPEN GOVERNMENT DAY

The World Bank and the e-Governance Center of Moldova jointly sponsored Moldova Open Government Day. Theresa Pardo presented on the US experience with open government; other speakers included Andrew Stott from the UK Transparency Board, Daniel Dietrich from the Open Knowledge Foundation, and many more participants representing civil society (NGO); data journalism; academia, donors and leading government representatives. The day was geared toward helping Moldova finalize its draft National Open Government Action Plan in preparation for membership in the Open Government Partnership.

Using Open Data Workshop
WC3
Brussels, Belgium

*Seeking Excellence in a Time
of Change-Public
Management Research
Conference*
China-America Association of
Public Affairs; International
Research Society for Public
Management; Public
Management Research
Association at Fudan
University
Shanghai, China

Smart Cities Colloquium
Institute for Information
Technologies and Societies
at Université Laval
Québec City, Québec

*Diplomacy in the Digital Age:
Perspectives from the U.S.
and Canada*
Consulate General of Canada
New York City, NY

CONFERENCE LEADERSHIP

*6th International Conference
on Theory and Practice of
Electronic Governance*
-Co-Organizer
-Conference Co-Chair
-Steering & Program
Committee
-Chair of the Doctoral
Colloquium

*13th Annual International
Conference on Digital
Government Research*
-Program Committee
-Chair of the PhD Colloquium

LEADERSHIP

IFIP e-Government Conference 2012
Delft, The Netherlands
-Program Committee
-Chair of the PhD Colloquium
-Organizers of a workshop on *Social Media and Democratization*

EDITORIAL BOARDS

Government Information Quarterly

International Journal of Electronic Government Research

International Journal of Electronic Governance

International Journal of Social and Organizational Dynamics

Journal of Information Technology and Politics

Transforming Government: People, Process and Policy

ADVISORY BOARDS/ COMMITTEES

New York State
Advisory Board
Government Technology East Conference (GTC East)

Open Government, Collaboration and Communication Committee
NYS CIO Council

Enterprise Architecture Committee
NYS CIO Council

Webmasters' Guild
The NYS Forum

IT Skills Development Work Group
The NYS Forum

Board of Directors
The NYS Forum

Advisor
NYS Local Government IT Directors Association

Local Government Work Group
NYS Office of Cyber Security

National

Advisory Board
Educating Stewards of Public Information in the 21st Century (ESOPI-21)

Advisory Committee on the Electronic Records Archives
National Archives and Records Administration

Data One Socio-Culture Working Group
National Science Foundation

Open Government Advisory Working Group
U.S. Office of Personnel Management

Executive Council for Information and Technology Management
U.S. Government Accountability Office

International

Board
Digital Government Society of North America

Advisory Board
Centro de Investigacion y Docencia Economicas (CIDE)

Senior Overseas Advisors
State Information Center, People's Republic of China

Advisory Board (Chair)
United Nations University International Institute for Software Technology

University at Albany
Advisory Group
National Center for Security and Preparedness

Campus Committee
University-Community Engagement

Campus Committee
Program for Career, Leadership and University Excellence

Strategic Planning Committee
UAlbany Strategic Planning Process



UNU-IIST 20TH ANNIVERSARY CELEBRATION IN MACAU

Sharon Dawes, Senior Fellow, CTG and UNU-IIST Board Chair attended the United Nations University-International Institute for Software Technology (UNU-IIST) 20th anniversary open house reception and gala dinner. The grand night at the Star World Hotel was officiated by Prof. Konrad Osterwalder, UNU Rector & Under-Secretary-General of the United Nations; Dr. XU Jun, representative of Ministry of Science and Technology of the People's Republic of China; Dr. Wu Zhiliang, President of Macau Foundation; Mr. Manuel Carvalho, Consul-General of Portugal to Macau and Hong Kong. Over one hundred guests including leaders from government, education, and media sectors of China, Macau, Portugal and other places participated..

Pictured with Sharon (second from right) from UNU-IIST (left to right): Dr. Elsa Estevez, Academic Program Manager, Dr. Han Ei Chew, Research Fellow; Dr. Zamira Dzhushupova, Project Manager; Mr. Florian Henning, Fellow.

SCHOLARSHIP

AN INTERNATIONAL NETWORK

CTG has built an open network of international scholars and practitioners who are welcome to spend time with us in Albany, NY. Some stay for a period of weeks or months as part of our **Visiting Scholars Program** and others come as guest speakers for our various programs. While at CTG, they participate in knowledge and information exchanges with staff, University at Albany faculty, and NYS government professionals, and frequently launch new collaborative efforts with CTG.



Marie Anne Macadar

Associate Professor, School of Business at Pontifical Catholic University of Rio Grande do Sul, Brazil
During her time at CTG, Marie focused on internationalizing her research on Information Systems in Brazilian Public

Health and contributed to current CTG projects.



Hannu Larsson

Researcher and Teacher at Örebro University, Sweden

During his time at CTG, Hannu met with staff to discuss shared research interests, presented his research on Sustainability for eGovernment, and

participated at the ICEGOV 2012 conference.



Joel Gurin

Executive Director, OrgPedia Chair, White House Task Force on Smart Disclosure

Joel spent the day at CTG to explore issues related to smart disclosure and big data with CTG staff, University at

Albany faculty, and RPI Tetherless World Constellation.



Gabriel Accascina

Director of the Knowledge Management Group at the United Nation's Development Program (UNDP)

Gabriel visited CTG to discuss Teamworks, an online knowledge sharing and networking tool currently

being used by over 17,000 UN employees, partners, and contractors around the world.



David Nero

Director of Technology, City of Boston
David, a graduate of Rockefeller College, spent a day at CTG exploring smart city, open data, and enterprise mobile issues and future collaboration opportunities with the City of Boston and meeting with graduate students.



VISITING DELEGATIONS

CTG is a frequent host to delegations of international visitors. In 2012, we hosted:

Representatives from Kenya

Representatives from the Kenya Institute of Administration and the Institute of Development Studies, University of Nairobi met with researchers from CTG as part of their week long visit to UAlbany to further develop partnerships that will enhance government capacity in Kenya (pictured above).

Officials from South Asia

High level officials from South Asia, representing Afghanistan, Bangladesh, India, Nepal, and Sri Lanka spent time discussing data transparency. The visit was organized through the International Visitor Leadership Program, which is the U.S. Department of State's premier professional exchange program.

Professors from Wroclaw University of Economics, Poland

Dr. Artur Rot, Dr. Wieslawa Gryncewicz and Dr. Malgorzata Sobinska from the Institute of Business Informatics at Wroclaw University of Economics in Poland visited the US to meet with leading researchers in the area of digital government.

PUBLICATIONS SCHOLARSHIP

BOOK

Enacting Electronic Government Success: An Integrative Study of Government-wide Websites, Organizational Capabilities, and Institutions.

J.R. Gil-Garcia. New York, NY: Springer.

BOOK CHAPTERS

Assessing the Value of Investments in Government Interoperability

A.M. Cresswell, D.S. Sayogo, & L. Madrid (2012). In Pallab Saha (Ed.), *Enterprise Architecture for Connected E-Government: Practices and Innovations*. IGI Global.

JOURNAL ARTICLES

Are Government Internet Portals Evolving towards more Interaction, Participation, and Collaboration? Revisiting the rhetoric of e-government among municipalities

R. Sandoval-Almazan & J.R. Gil-Garcia. *Government Information Quarterly*, 29 (S1): S72-S81.

E-Health in Mexico: Background, Objectives, Achievements, and Challenges

J. Mariscal, J.R. Gil-Garcia & F. Ramirez. *Espacios Publicos Year 15*, No. 34 (May-August): 65-94.

Information Sharing and Business Systems Leveraging in Supply Chains: An Empirical Investigation of One Web-based Application

I. Chengalur-Smith, P. Duchessi, & J.R. Gil-Garcia. *Information and Management*, 49 (1): 58-67.

Transnational Public Sector Knowledge Networks: Knowledge and Information Sharing in a Multi-Dimensional Context

S.S. Dawes, M. Gharawi, and G.B. Burke. *Government Information Quarterly*, Volume 29, Issue 1, Pages 112-120.

Towards a Multidimensional Model for Evaluating Electronic Government: Proposing a More Comprehensive and Integrative Perspective

L.F. Luna-Reyes, J.R. Gil-Garcia & G. Romero. *Government Information Quarterly*, 29 (1): 324-334.

Towards a Smart State? Inter-Agency Collaboration, Information Integration and Beyond

J.R. Gil-Garcia. *Information Polity*, 17 (1) 269-280.

CONFERENCE PROCEEDINGS

A Realistic Look at Open Data

S.S. Dawes. Proceedings of the *Using Open Data: Policy Modeling, Citizen Empowerment, Data Journalism Workshop*. Organized by WCS and JRC-IPTS. Brussels, Belgium.

A Stakeholder Analysis of Interoperable Data Architecture: The case of I-Choose

D.S. Sayogo, L.F. Luna-Reyes, J. Zhang, H. Jarman, J. Hrdinova, X. Tan, A. Whitmore, T.A. Pardo, D.L. Anderson, G.K. Tayi, & D.F. Andersen. *Proceedings of the 13th Annual International Conference on Digital Government Research* (dg.o2012), College Park, MA.

BEST INNOVATIONS IN PRACTICE PAPER AWARD

6th International Conference on Theory and Practice of Electronic Governance (ICEGOV2012), Albany, N.Y.

Transforming City Government: A Case Study of Philly311

T. Nam & T.A. Pardo.

Philly311 is being used as crucial part of the city administration's strategy to transform the city into a smarter, faster, and better one. In-depth interviews with government officials and managers responsible for operating Philly311 offer insights into the contributions the system is making to a more efficient, effective, transparent, accountable, and collaborative city government. In this paper, the authors develop a preliminary understanding of smart city initiatives in the context of the City of Philadelphia and its 311 non-emergency contact center and how it can be extended and generalized to other smart city programs.

Beyond Open Government: Ontologies and Data Architectures to Support Ethical Consumption

L.F. Luna-Reyes, D.S. Sayogo, J. Zhang, T.A. Pardo, G. Kumar Tayi, J. Hrdinova, and D. Andersen. *Proceedings of the 6th International Conference on Theory and Practice of Electronic Governance (ICEGOV2012)*, Albany, N.Y.

Exploring the Motive for Data Publication in Open Data Initiative: Linking Intention to Action

D.S. Sayogo & T.A. Pardo. *Proceedings of the 45th Hawaii International Conference on System Sciences*. Grand Wailea, Maui, HI. IEEE Computer Society.

Full Information Product Pricing Regimes: Policy Implications for US-Mexico Sustainable Commerce

L.F. Luna-Reyes, D. F. Andersen, D.L. Anderson, D. Derrick, & H. Jarman. The Puentes Consortium.

Information Sharing and Financial Market Regulation: Understanding the Capability Gap

D.S. Sayogo, T. A. Pardo, & P. Bloniarz. *Proceedings of the 6th International Conference on Theory and Practice of Electronic Governance (ICEGOV2012)*, Albany, N.Y.

Understanding Smart Cities: An Integrative Framework

H. Chourabi, T. Nam, S. Walker, J.R. Gil-Garcia, S. Mellouli, K.e Nahon, T.A. Pardo, & H. J. Scholl. *Proceedings of the 45th Hawaii International Conference on System Sciences*. Grand Wailea, Maui, HI. IEEE Computer Society.

PARTNERS

BUILDING PARTNERSHIPS

CTG projects depend on active and ongoing partnerships with government agencies, technology companies, nonprofits, and members of the academic community. We are grateful to the many organizations who supported our work in 2012.



In June 2012, an international group of 25 thought leaders and experts from academia, government, and the private sector convened at CTG in Albany, NY to contribute to an open data white paper, with support from SAP.

Government

City of Edmonton, Alberta, Canada
City of Schenectady, New York
City of Seattle, Washington
GIS Program Office, Broadband Mapping Unit (NYS Office of Information Technology Services)
Mexico City, Mexico
National Council on Science and Technology of Mexico
New York State Homes and Community Renewal
NYS Office of Children and Family Services
New York State Office of Information Technology Services
The NYS Forum
U.S. Department of Transportation
U.S. Environmental Protection Agency
U.S. General Services Administration
U.S. National Science Foundation
U.S. Office of Science and Technology Policy

Universities, Centers, and Institutes

Arizona State University
Center for Electronic Governance, International Institute for Software Technology, United Nations University, Macao
Center for Survey Research, Stony Brook University
Centro de Investigacion y Docencia Economicas (CIDE), Mexico
Centre Francophone d'informatisation des Organizations, Canada
China National School of Administration, China

Universities, Centers, and Institutes (cont)

Claremont Graduate University
Clark University
Delft University of Technology, Netherlands
Fudan University, Shanghai, China
Instituto Tecnologico y de Estudios Superiores de Monterrey, Mexico
National Chengchi University, Taiwan
Ohio State University
Stanford University
Taiwan Governance and Technology Center, Taiwan
Universidad de las Americas, Mexico
University of Koblenz-Landau, Germany
Université de Laval, Canada
Université de Sherbrooke, Canada
University of Bremen, Germany
University of Massachusetts Amherst
University of Vermont
University of Washington

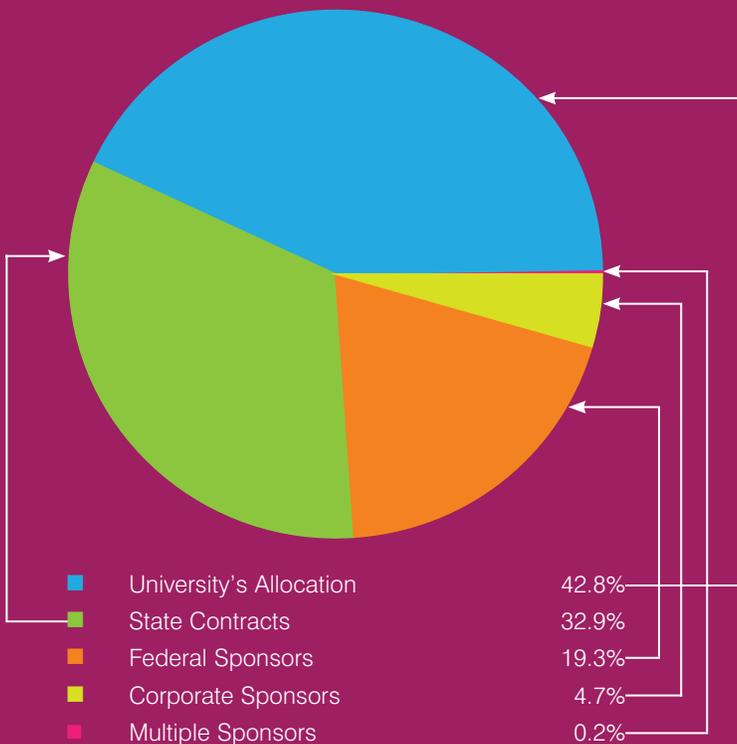
Corporate

MicroKnowledge, Inc.
Microsoft Corporation
SAP
Sonoma Technology

A full list of all the partners CTG has worked with can be found on our website at www.ctg.albany.edu/about.

PORTFOLIO FINANCIAL

In the 2012-13 fiscal year, CTG's work was funded by a diverse portfolio of multi-year projects funded through partnerships with state and federal agencies and corporations. The Center's financial portfolio for this period of \$2,180,026 continues to provide opportunities to collaborate with researchers, practitioners, and students from New York State, the United States, and around the world.



TEAM

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Theresa Pardo

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 Donna Canestraro, Program Manager
 Hillary Closs, Program Assistant
 Meghan Cook, Program Manager
 Natalie Helbig, Senior Program Associate
 Jana Hrdinova, Program Associate
 Amanda Kronen, Program Assistant
 Megan Sutherland, Program Assistant

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 Jane Krumm-Schwan, Director of Administration and Finance
 Gloria Lisowski, Secretary
 Paula Rickert, Administrative Coordinator

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 Derek Werthmuller, Director of Technology Innovation and Services

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 Alan Kowlowitz, Government Fellow
 Xing Tan, Post Doctoral Fellow
 Lei Zheng, Research Fellow

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 Djoko Sigit Sayogo, Public Administration and Policy, Rockefeller College

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