Point of View

Workforce and Workspace Sustainability:
Integrating a Dynamic Workforce, Work Environments, and Technology

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Introduction

Technology advances and social change have led to a revolutionary transformation in how, where, and by whom work is performed. Previously separate systems of buildings, team dynamics, technologies, organizational work models, and environmental systems are becoming increasingly interdependent and interrelated.

Simultaneously, government managers and organizations face a plethora of workforce challenges. Organizations are losing critical skills and the ability to make experience-based decisions as a result of the "silver tsunami" of older-worker retirements.[1] Governments are attempting to respond to increased expectations of flexible work-spaces[2] and work practices from a multigenerational workforce that wants to use new Web 2.0 social networking tools.[3] The maintenance and operation of large buildings are increasingly expensive due to high energy costs and legacy building and technology expenses.[4] Managers of workspace assets face transportation and communications gridlock, and are challenged by national and international "green" agendas.

Through the traditional lens of personnel and real estate management, these problems seem unrelated and intractable. Viewed more holistically, however, this is actually the "*perfect storm" of opportunity for organizations to achieve double-digit improvements to their performance*. By taking complementary actions to promote a growing, collaborative culture of information, people, buildings, and devices, visionary leaders can adopt a new, blended work model that integrates a dynamic workforce, work environments, and technology. The Cisco® Internet Business Solutions Group (IBSG) calls this integrated strategy "Workforce and Workspace Sustainability" (WWS).

WWS applies technology as a strategic enabler of public service innovation and productivity growth. It also responds to socioeconomic goals by reducing energy use, pollution, and traffic congestion. WWS transforms the environmental footprint of government.

The resulting WWS vision reflects an on-demand, highly engaged, multidimensional, global, mobile workforce in harmony with the environment and the real-time service and financial priorities of the organization. Welcome to a world where dream teams happen

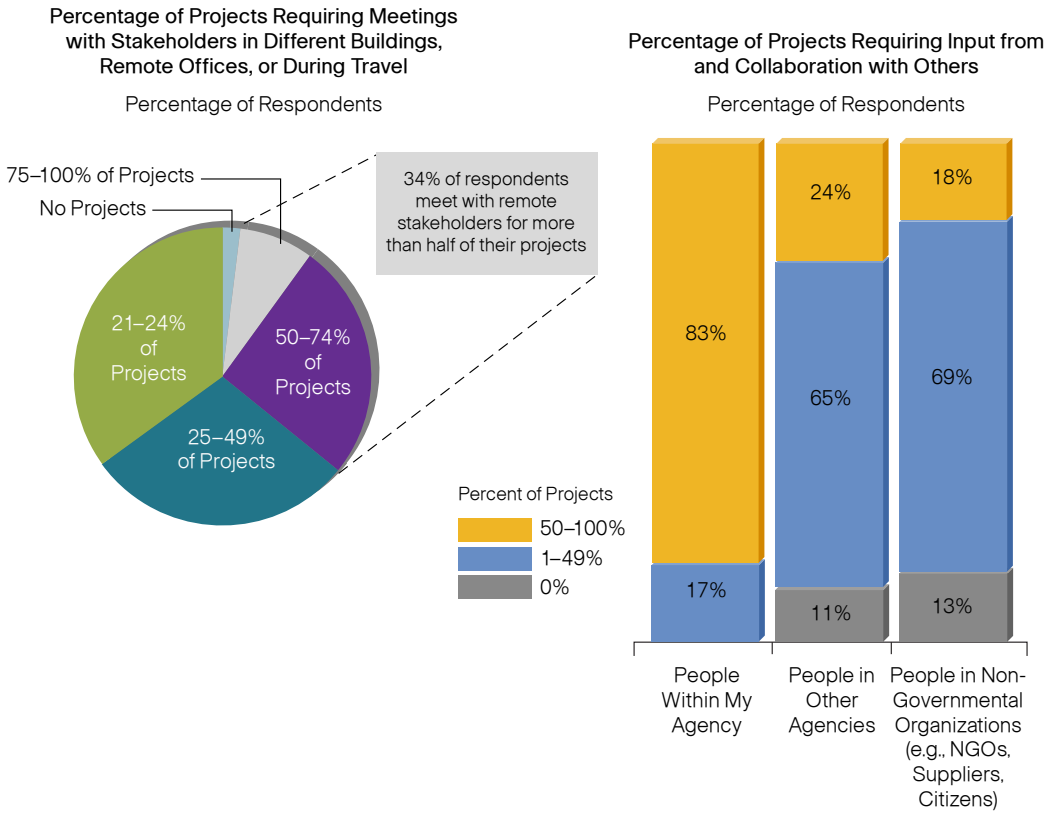
1. "The Graying Government Workforce," Deloitte Touche Tohmatsu, 2007.
2. For the purposes of this paper, "workplace" is defined as the traditional, physical location to which workers commute, and in which they perform work. "Workspace" is defined as an area—either physical or virtual—used to perform work. Because this area has all the tools required for communicating and collaborating to produce work, the physical locaiton of the worker is irrelevant; your work is wherever you are.
3. "The I.P.O.D. Generation," Benjamin Ola. Akande, 2008.
4. "Connected Real Estate," Kevin O'Donnell and Wolfgang Wagener, Eds., Cisco IBSG, 2007.

at the push of a button, your best customers are also your best designers, your recruiting and service territories span the globe, your work is wherever you are, and where technology enhances experience, knowledge, and performance.

Trends and Challenges in Work and the Work Environment

Spurred by technological innovation and innovative social networking capabilities, collaboration and mobility have become far more pervasive today than they were only a decade ago, and this trend is accelerating. By 2015, workers will spend more than 80 percent of their time working collaboratively, with only a few working face-to-face at the same time, in the same place.[5]

Figure 1. Survey of Collaboration and Mobility in the U.S. Federal Government Workplace



Source: Government Business Council, 2009

Work increasingly requires interactions with people beyond organizational boundaries; a recent survey indicates that about 50 percent of the time, those working together on projects in the U.S. federal government are geographically dispersed.[6]

5. "Future Worker 2015: Extreme Individualization," Gartner, March 2006.
6. Government Business Council, 2009.

More major challenges loom:

- Unless we manage our information better, we will be overwhelmed by it. The volume of data and ideas that we produce and consume is rising exponentially. IDC predicts the amount of digital information added annually will increase sixfold by 2010.[7]
- Our increasingly underutilized workplace facilities are monuments to inefficiency. Carbon footprint and energy costs are rising; in the United States, buildings account for roughly 40 percent of primary energy use, 70 percent of electricity consumption, 30 percent of raw materials use, and 30 percent of greenhouse gas emissions.[8]
- Citizens' expectations of speedy service and response times have increased dramatically. Simultaneously, the government workforce and the society it serves are increasingly in danger of becoming out of touch with one another. Ways of working and ways of communicating are likely to become even more challenging in the years ahead.
- The two largest generations of the workforce are at opposite ends of the age spectrum. The number of Canadians 65 or older is set to double in many provinces by 2031. Also, while 35 percent of the total Ontario workforce is under 35, only 22 percent of the Ontario Public Service is under 35.[9] The experience and judgment of older government workers must be valued and preserved as an organizational resource, while government needs to adapt to the new face of the citizenry that it serves.

Government's financial, cultural, and human capital resources for responding to these challenges continue to be flat or to decline, causing a growing gap. Attempts to address these challenges by simply replacing people and upgrading facilities are becoming unsustainable. *To deal with this gap and the growing collaborative culture of information, people, buildings, and devices, we must integrate technology, a dynamic workforce, and tailored, flexible work environments into a new model of work.*

This new model is needed if the public sector is to provide the quality of service expected by today's citizenry. Reengineering public work through an integrated workforce and a network of smart, sustainable work locations will:

- Improve citizen service, including responsiveness to citizen and employee concerns
- Reduce costs and optimize expense management
- Reduce government's environmental footprint (including carbon emissions and energy use)
- Improve workforce quality, engagement, and performance

7. IDC, 2007.
8. U.S. Energy Information Administration statistics, 2003.
9. "Provinces in Transition," Deloitte Publications, 2008; Glen Padassery, Youth and New Professionals Secretariat, Canadian Ministry of Government and Consumer Services, 2008.

Significant Opportunity To Boost Performance

WWS is a call for a systematic, integrated approach that brings together advanced technologies and innovative, modern business practices not only to address these challenges, but also to enable measurable, predictable benefits, including increased worker engagement and productivity, intensified space usage, cost savings, and a reduced physical and environmental footprint.

This unique blend of challenges, evolution of work, and development of technology provides an *unprecedented opportunity* for organizations to increase performance significantly in three key areas: economics, sustainability, and service delivery (see Figure 2).

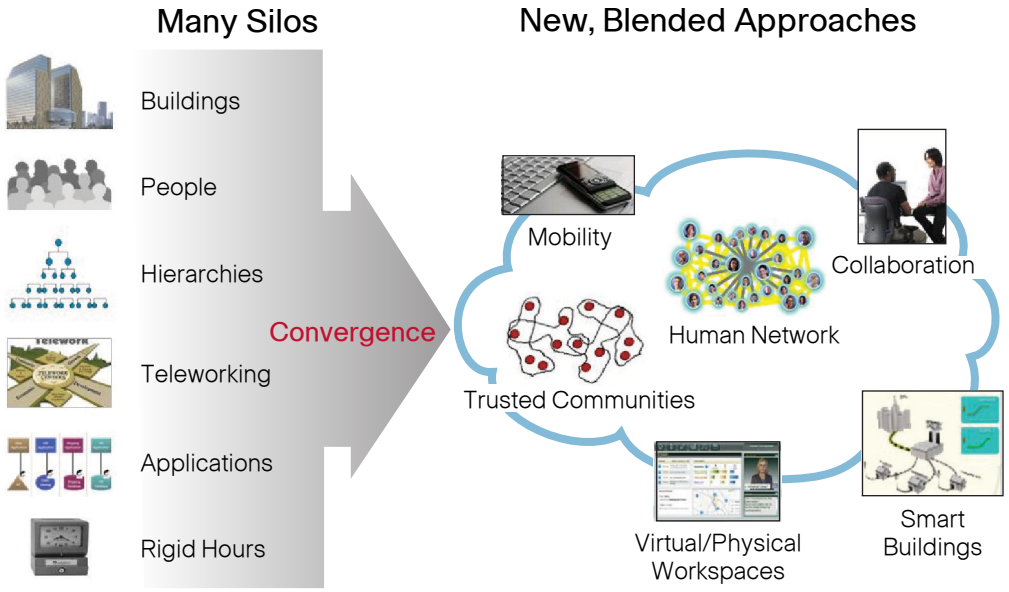
Figure 2. Potential WWS Performance Benefits

Economic (Asset Optimization)	Sustainability (Environmental Footprint Reduction)	Service Delivery (Better Ways To Work and Serve)
· **Real Estate Burden** Space, facilities, meeting utilization	· **Reduce Emissions** CO2, greenhouse gases	· **Citizen Satisfaction** Simplified and higher-quality delivery
· **Labor Cost** Lower administration, management	· **Green Workspaces** Alternative energy	· **Issue Resolution** Interactions with experts
· **Productivity/Utilization** Workforce and resource utilization	Use of nonrenewable resources	Community support, self-service
· **Retention/Loyalty** Lower recruiting and training costs	Recycling, e-waste/ hazardous material	· **Integrated Adjacent Services** Bundled government services
· **Talent and Resource Pool** Increased access, lower access cost	· **Public/Private Transportation** Lower private usage	· **Intra-government Services** Cost, delivery, and execution sharing
	Higher usage of alternatives	Shared real estate and facilities
	Lower overall transportation	

Source: Cisco IBSG, 2009

A WWS approach realizes this performance opportunity by converging traditional silos of personnel, real estate management, and information technology into a single, blended work model. This blended approach (see Figure 3) encompasses modern, flexible workspaces and work practices, providing a less-hierarchical working experience and encouraging workforce mobility, flexible work / life balance, and environmental stewardship.

Figure 3. Convergence of Work, Workforce, and Workplaces



Source: "Connected and Sustainable Work," Cisco IBSG, presented to Connected Urban Development Global Conference, 2008

Dynamic collaboration takes the organization from "traditional telework models" (changing worker location, but leaving the full range of other existing capabilities in place) to presence-based, mobility workspaces. These include networks of workspaces; fluid work styles; non-hierarchical collaboration; place- and person-independent processes, data, and decision making; support for personalized, adaptive work styles; and increasingly, adoption of distributed operations with centralized authority. This involves reinventing some concepts that in the past have been taken for granted:

- **Redefining the "Employee":** Expands the talent pool by redefining the workforce as a collective network of "workers" instead of "employees." The workers increasingly include volunteers, concerned citizens, contractors, and experts from other governments or nonprofits who collaborate on issues of mutual interest in a dynamic and fluid way. The traditional concept of owning information and being limited by employment levels is fading away.
- **Work Follows the Worker:** Work must reach the talent, wherever it may be. Confining work to a physical space limits the talent pool to local availability and depth of skills. In addition, the rigid framework hinders collaboration, cocreation, and knowledge-sharing benefits. Increasingly, we will rely on skills banks and social networks that allow teams to be created and subsequently dissolved as needs arise and are met. "Who's in the room?" is becoming less important than "Who has the skills?" and "Who has the passion to create change?"
- **Evolution of "Going to Work":** In WWS, workers no longer organize around a fixed commute hour or planned work schedule based upon a physical office. New forms of distributed work allow workers to collaborate and contribute at any time, making traditional office hours less relevant. This emerging, fluid schedule brings

significant gains in energy consumption efficiency in physical workplaces, and adds productivity to the workgroup. According to the Work Design Collaborative of CoreNet Global, by 2010 in the United States, 40 percent of work will be done in corporate facilities, 40 percent at home, and 20 percent "in between" (hotels, convention centers, airports, public places, and so on). This will necessitate new or improved employee performance strategies that measure bottom-line results rather than hours in a physical location. It represents the evolution of telework—from working primarily at home to working virtually anywhere.

- **The New Workgroup:** Work moves away from hierarchical/rigid organizational models to encourage the creation and performance of fluid, spontaneous, and self-regulating teams in which peers self-select their involvement in the team, and collaborate, engage, and assign value to each other's contributions as they innovate, complete a task, or solve a problem.
- **User-Centric Workspaces:** In a distributed and mobile work environment, "central" and "peripheral" workplaces are replaced by "connected" and "peer" workspaces. In a physical environment, no office is a satellite or secondary, and every facility is a primary point of access for work.
- **New Worker Value Proposition:** Organizations must assume a broader view of value to the worker, including quality of life, linkage to the community, flexibility, peer group, and trust. New forms of visibility for worker contributions ensure autonomy and fairness. A 2003 survey by Robert Half International, reported in TechAmerica's Competitiveness Series, found that 33 percent of companies viewed telework as the best way to attract talent, and 50 percent rated it the second-best method.[10] Only salary ranked higher. Governments need to recognize the value of workplace autonomy to their employees and to the people they want to attract. They need to demonstrate that they value employees' work, not just their presence.

As examples appear from around the world,[11] Cisco IBSG has started to analyze and model the performance benefits summarized in Figure 2. Performance benefits are based on use of ICT-based, integrated collaboration solutions: unified communications, multimedia and ICT alternatives for Smart Work Centers, homesourcing,[12] ICT facilities and energy, safety and security, and building automation.

Enabling WWS

What are the foundational enablers of a WWS approach? In their paper on "Global Decision Making and Economic Development,"[13] Sandor Boyson and David Boyer provided a compelling account of the development and diffusion of digital platforms that unify what, until now, have been separate communications channels. Greater

10. http://www.aeanet.org/publications/idjj_telework_overview.asp
11. "Cost-Effective 'Homesourcing' Trend Grows," Stephanie Armour, USA Today, March 15, 2006; Connected Urban Development Publications, http://www.connectedurbandevelopment.org/publications/cisco#connected-government-1202983933528722-2
12. "Macmillan English Dictionary" defines homeshoring (homesourcing) as "The transfer of service industry employment from offices to home-based employees with appropriate telephone and Internet facilities."
13. "Unified Communications: Leading Advances in Global Decision Making and Economic Development," Sandor Boyson, Robert H. Smith School of Business, University of Maryland, and David Boyer, Avaya, page 67 in "Global Information Technology Report 2007-2008: Fostering Innovation Through Networked Readiness," Soumitra Dutta and Irene Mia, editors, Palgrave Macmillan, July 2008.

collaboration can be achieved by unifying communications and bringing people and their expertise into business and government processes as needed ("on demand"). The authors believe that nations urgently require a bold set of adjustments in public and private strategy to harness this next generation of communication and collaboration tools as a catalyst for new economic and social development. The key to national success will lie in mobilizing collaborations and partnerships that cut across government and industry.

Perhaps not coincidentally, this both explains and aligns with the three key enablers of a WWS approach:

- Collaboration
- Virtual workspace
- Strategically calibrating talent with business competencies

This paper focuses on the first two enablers: collaboration and virtual workspace.

A collaboration model converges all forms of communication into experiences that accelerate productivity and decision making at any time, in any place, on any device. It empowers not just today's mobile workforce, but also our citizens (who themselves are moving beyond self-service to become participatory designers and deliverers of the very services they and their neighbors need). The model also incorporates a network of 24/7, on-demand, collaborative, team-oriented work locations. This network of virtual workspaces reflects a convergence of work styles, locations, mobility, and team collaboration.

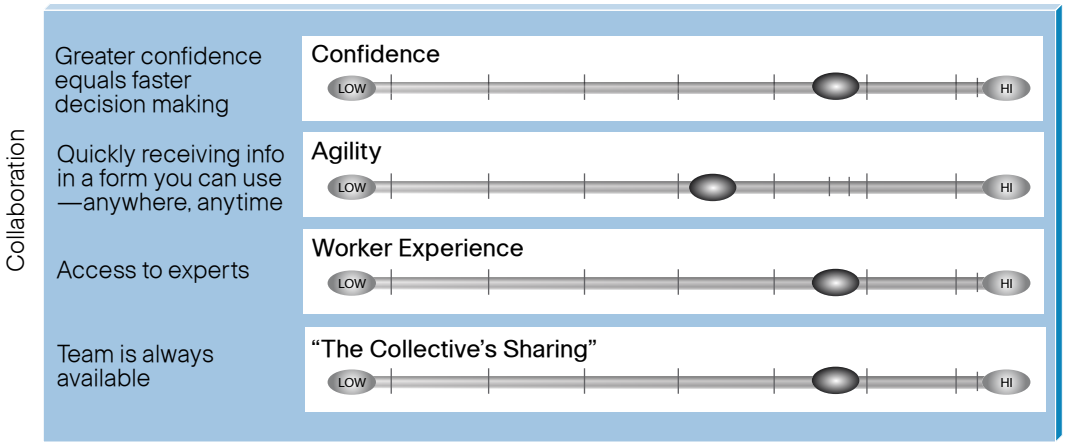
To engage the collaboration and virtual workspace enablers effectively, an organization must understand and manage each enabler's associated dimensions. *Collaboration* has four dimensions—confidence, agility, workforce experience, and collective sharing—each of which should be viewed as a continuum. Public managers must know where business functions and processes fall on each dimension's continuum. Then they can determine ROI-based business cases to identify the right set of tools to help move their organization to the desired position on the continuum, while also understanding that not every function or process should be at the highest position (see Figure 4).

For example, as an organization seeks to improve collaboration, its choice of tools and applications will depend upon the dimensions on which it is focused. If an organization needs to increase *confidence* and trust among collaborators, or to accelerate or improve the quality of decision making, it will consider enhancing its use of rich-media solutions (e.g., Cisco® TelePresence™[14] or video) to drive greater context and credibility during deliberations. Simultaneously, other, less time- or context-sensitive functions that do not need the same level of confidence use less-interactive solutions (for example, email).

14. Cisco TelePresence creates a live, face-to-face communication experience over the network, employing high-resolution, life-size video and high-quality audio to empower collaboration. A Cisco TelePresence meeting is similar in quality of experience to an in-person meeting, which supports collaborative behavior.

If an organization needs to increase the *agility* of its mobile team's collaborative efforts, it will consider enhancing usage of presence-based mobility solutions. "Presence"—knowing the status, state, and preferences of someone so that you can reach him or her immediately—has become a key capability in driving trust, speed of collaborative decision making, and service delivery.

Figure 4. Dimensions of Collaboration and Virtual Workspace Must Be Managed over a Continuum



Source: Cisco IBSG, 2009

If an organization needs to increase its *worker experience*—further connecting the right people, content, and knowledge to expand innovation, productivity, or quality—it will consider enhancing its use of unified and embedded communications, teaming processes, and workforce data. Improving the level and engagement of a workforce's experience accelerates decision making and improves innovation and quality.
Finally, if the agency wants to improve sharing and teamwork—its collective sharing capabilities—it will consider optimizing its use of enterprise social networking solutions.

The *virtual workspace* comprises the physical and logical infrastructure, services, and surrounding environment—along with the associated tools, applications, collaboration mechanisms, and information/knowledge collection—*that enable people to partner with peers to produce work*. It functions as an extension that is available at any location, at any time.

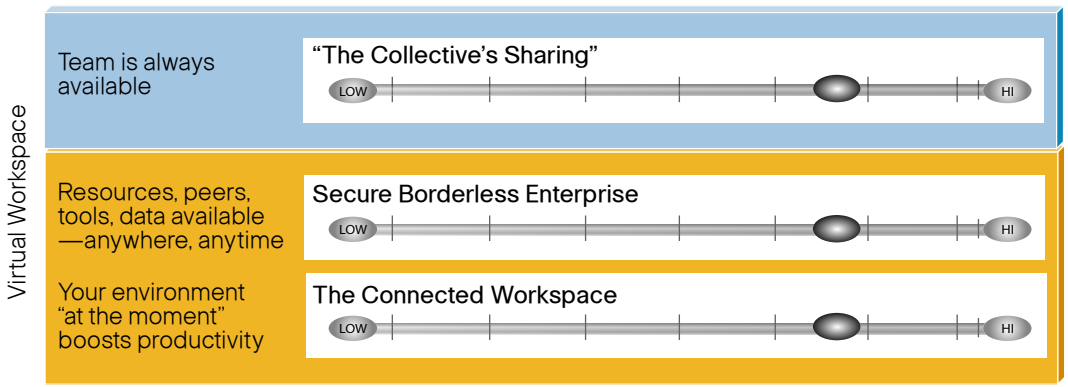
The virtual workspace is all about producing work—outcomes and associated deliverables—in all physical workplaces (such as corporate offices, home office, car, retail locations, airport, and airplane). The environments in which you produce work can be very different—not just day-to-day, but hour-to-hour. In the knowledge economy, your ability to produce work is defined by your access to information and resources, your ability to collaborate with others, and the setting that allows you do to this most productively. This is different for each individual and changes constantly. It's based on the computing, collaboration, and communications devices available in each of the respective workspaces, and on the individual's personal preferences. Your services are delivered at your point of need—not dictated by central locations or external rules.

The virtual workspace has three dimensions: collective sharing (already introduced); a secure, borderless enterprise; and the connected workplace.

The *secure, borderless enterprise* enables access to resources, peers, tools, and data. It's always available—anywhere, anytime—with security levels that satisfy the needs of government organizations. Security levels are required to ensure the trust of those communicating, and to protect the information and rights of citizens whose data might be used in communications. This is a critical factor for governments because of their unique relationships to citizens and their access to potentially sensitive information.

The physical space in which we work can enable or restrict how, where, and when we work. A *connected workplace*—a collaborative, empowering, physical environment—is really a network of workspaces. These workspaces have new levels of services and capabilities that are technology-enabled and environmentally friendly, but also more space-efficient and focused on team workspaces and mobile workspaces, customers, and suppliers than the traditional workspace (see Figure 5).

Figure 5. Three Dimensions of the Virtual Workspace



Source: Cisco IBSG, 2009

Business-Case-Based Benefits and ROI

So what are the projects or initiatives an organization might undertake to implement Workforce and Workspace Sustainability? Which elements constitute a starting point? Cisco IBSG doesn't recommend trying to do everything at once; rather, we suggest that an organization focus on one or two dimensions from the enablers discussed above—perhaps starting with a pilot that demonstrates near-term value based on achievement of clearly defined performance outcomes (economic, service, and/or sustainability). The pilot should project a measurable return on investment (many organizations have started with the "connected workplace" and "workforce experience" dimensions). Cisco IBSG believes a WWS approach is critical in evaluating and implementing an organization's next set of business process transformation and IT projects.

WWS positions top government executives to answer the call for tighter, transparent budgets, reduced overhead expenditures, and improved service (even amid stimulus hiring cycles) within a well-thought-out, strategic approach. A good WWS strategy will additionally move governments from a defensive posture of resisting cuts to an offensive

and positive strategy for improving the quality of the workforce and the sustainability of workspace environments. WWS meshes well with evolving public sentiment and political agendas of resource conservation, workforce collaboration, citizen involvement, and government transparency. In fact, the power of WWS is its direct connection to the three performance areas: economics, service delivery, and sustainability.

WWS outcomes are part of a management-driven strategy that employees, unions, and management can support together—an "all-win" strategy that reduces costs and improves employee options and day-to-day work/life experiences. WWS allows employees to achieve better and more productive work/life balance, and citizens to see greater value in increased work productivity. Demonstrated results can replace old models such as "telecommuting," which are viewed as employee benefit programs rather than taxpayer and management benefit strategies. This allows a new, powerful, networked workforce to achieve better results for citizens.

Cisco IBSG believes these are the first steps of a critical journey that governments must embrace to overcome their existing problems and deliver tomorrow's needed services in a sustainable way. New approaches to workforce and workspace challenges and increased collaboration will lay the foundation for a profound renewal of the public sector as an engine of innovation and ingenuity. Only by applying these models can governments marshal the scope of resources necessary to solve the big policy problems they face.

Most important, governments that rise to this challenge will create an environment that makes it easier to attract the smart, multigenerational workers needed to refresh their workforces—and to build upon their institutional knowledge. As a result, they will replace worn, pressured environments with effectively managed, highly sustainable models that position them well for future challenges.

To find out more about Cisco's Workforce and Workspace Sustainability program, please contact:

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More Information

The Cisco Internet Business Solutions Group (IBSG), the global strategic consulting arm of Cisco, helps CXOs and public sector leaders transform their organizations—first by designing innovative business processes, and then by integrating advanced technologies into visionary roadmaps that address key CXO concerns.

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