White Paper: Preparing for the big changes coming to the workplace of the (very) near future

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IN BRIEF

Business is racing toward an even more competitive future where success will depend on *effectiveness*, not simply efficiency.

Effectiveness will depend on collaboration, innovation and creativity, manifested in global communities of employees and contractors.

Physical workspaces will be radically different than today's norm, with emphasis on environmentally efficient design, automation and reconfigurability.

Successful leadership will depend on effective management of people over processes and social skills over technical expertise.

OVERVIEW: A lot has been written about the prescience of the writing team behind the 2002 Steven Spielberg motion picture, *Minority Report*. For example, they envisioned the office of 2054 with 3-D displays, multi-touch and gesture-based computer interfaces and retina scan security. What they didn't envision is that all those technologies would be in active use by 2012.

This white paper will present our vision of Information Technology business in the near future. And while it's been opined, "it's difficult to make predictions – especially about the future," our speculations are derived from a myriad of sources directly involved in developing the technology we'll soon be using. These sources include Microsoft, Cisco, Hewlett-Packard, Corning Glass and many others, along with expert observers, reporters and analysts from sources such as the WORKTECH Forums, the International Facility Management Association, CIO magazine, the Wall Street Journal and, not least, our own extensive experience with IT business clients.

For clarity, I've organized these descriptions of the future workplace into sections:

- **The physical workspace**
- **The people who will occupy that workspace**
- **Communication between those people**

It's important to note, however, that effectively anticipating, adapting and capitalizing on these changes requires consideration and understanding of how each of these three major sections overlap and depend critically on the others. More than ever before, a global perspective is needed.

Changes You'll See in the Workspace

The concepts of internal and external resources will fade. Organizations will re-think and re-focus on their core competencies and then outsource for many solutions. In the process, they will eliminate mission-distracting systems that can be handled more efficiently, effectively and at lower cost by third parties. "Out tasking" will gain ground, utilizing outside resources for specific tasks on specific projects for specific periods. The resources will be seen as extensions of the organization, not independent entities. This relationship has the advantage of letting the organization "test drive" a resource or experiment with a new technology with minimal risk. This shift will further merge the physical workplace with the virtual workplace and the concept of internal versus external resources.

Where it exists, the physical office environment will change markedly in response to common societal priorities. Existing concepts such as "the right to daylight" will be the norm. High performance LEEDS configured buildings will have fully-automated systems for managing daylight exposure (using photovoltaic glass), heat recovery, cooling recovery, rainwater and "gray water" recovery and re-use and energy production and storage from solar, wind geothermal and bio-diesel fuel cells. LED lighting will be standard. HVAC systems will become even more zonal, with individualized temperatures, flow rates and oxygen levels.

Desk telephones will seem as dated as fax machines, replaced by smartphones and VoIP integration into tablets and other mobile devices. Even the venerable desktop pc will be a thing of the past, except in rare applications. Today's virtualization and cloud trends will become innate to supporting enterprise computer systems.

Bring Your Own Device (BYOD) policies will alleviate businesses of the expense of supporting end-user computing devices

How we interact with our computers is quickly moving from the keyboard-mouse to include gesture-based inputs, stylus tablets, speech and facial recognition. Single flat monitors will be replaced with multiple heads-up displays in "space" or embedded in surfaces, with large 3D holographic images. Placing a smartphone on to an active surface will automatically make a touch-sensitive interface appear and interact with the device and the network.

Networked sensors and activators will surround us in the workplace, in public and at home. We will come to expect and rely upon automated responses to our presence and directions. Internet navigation, climate control, transportation and more will be controlled by voice, motion or even glance. Smartphones and wearable devices will handle monetary transactions. They'll also monitor critical data relating to our health and provide real-time communication with medical systems and caregivers.

Data security will become more robust, using sophisticated anomaly-based event monitoring that is adaptive and intelligent to identify threats and vectors that do not exist in "reference" databases. This will be especially important in part due to the growing acceptance of Bring Your Own Device (BYOD) policies that alleviate businesses of the expense of supporting end-user computing devices.

Hybrid activity-based workspaces will be reconfigurable by users and teams, and organizations will encourage it. Configuration will promote social interaction, collaboration and creativity. Moveable "separators" will be active large-format touch sensitive display surfaces.

Nearly all of these advancements assume the continuing increase in accessible, secure networks with extremely wide (and inexpensive) bandwidth. Popularity of applications built on real-time collaboration among multiple users will increase. The advancing sophistication of big data promises breakthroughs in business intelligence.

Changes You'll See in How People Work

In the business of the near future, employees and contractors will form and work in communities. These communities may be physical or virtual, but they will be project-driven, strategic and tactical. They will be global and inherently diverse.

Teams will be "crowd sourced" – formed ad-hoc as needed, pulling together the best multi-disciplined resources of employees and contractors. The teams will disband as quickly as they formed, once a project is completed.

Organizations of employees will be less hierarchical and more self-managed and self-driven. Business processes will be modified to support this flexibility. There will be more spontaneous interactions with customers and suppliers through multiple methods and forms.

Social media tools will remove barriers of time and space

Millennials (those currently 18 to 28 years old) will drive many of these changes, and will pull individuals, teams and organizations with them. They will insist that schedule flexibility be built in to the culture of the organization. The focus will not be on presence, but completion – results rather than method. In addition, they will expect organizations to be socially conscious, promoting volunteerism, community events, donations and environmental best practices. They will strongly promote a balance between work and private life activities.

Changes You'll See In How People Communicate

Millennials are, of course, the same group that embraced social media so enthusiastically and they will integrate social media into work activities as tools as traditional as Word and Excel are today. These tools enable short-form communication, timelines and chat, and so help alleviate the collaboration challenges of global teams and project management by removing barriers of time and space. Collaboration tools will capture conversations and make them available and searchable.

How These Trends Will Influence Technology Leadership

Since social media will be such a dominant form of communication and collaboration, Gen-Xers and Boomers will need to use these same tools to pass along mentorship, training and expertise. IT leaders of any generation will become managers of resources and people, rather than processes and systems. Indeed, excessive focus on automation and efficiency may detract from organizational agility and creativity, which will prove to the lifeblood of continued success.

Leaders will not emerge from a traditional vertical hierarchy, but from building relationships between cross-functional teams. Success will depend more on social skills than technical knowledge and expertise. Strong teams will be built on the metrics of authenticity, transparency and honesty.

The increasingly virtual workforce will require leaders who provide clear and transparent communication of expected work outcomes and regular communication of project status and changes, rather than simply assertion of managerial will. Using new resources, whether full time employees or on contract, will take on the added dimension of knowing how to work effectively with people across cultures and generations.

A special challenge will be presented to Human Resources departments, which are traditionally saddled with compliance issues. In a new culture where social and work boundaries are so diverse, malleable and unclearly defined, HR may have difficulty leading or even supporting many new initiatives.

Conclusion

The leaders of the near future will be more dependent for their success on their adeptness in developing trusted relationships with people, rather than on their knowledge of systems, processes, tools or the use of power or position.

Outsourcing of services will become the norm, rather than relying exclusively on full time employees. Outside service providers will come be regarded as extensions of the business that come in to complete specific projects. This will result in lower costs and increased effectiveness.

Successful leaders will quickly adopt and adapt to the coming changes in workplace structure and culture. Being among the first has advantages not only in increased operational effectiveness, but also in attracting the talented, creative and collaborative individuals who are key to growth and prosperity.

To Learn More

By its very nature, a white paper such as this must generalize and abbreviate. Some of the points presented here will affect your organization to greater and lesser degrees. To start a conversation about meeting the challenges of business in the near future – and how Novaré may help – please contact John Hendricks, at john.hendricks@novaresg.com.

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About Novaré

Novaré Solutions Group LLC is a Seattle-based technology consulting firm specializing in the strategic planning and management of complex technology initiatives. We serve a wide range of public, private and non-profit organizations, managing projects in information technology, systems integration, data centers, networking, database systems, audio/video, telephony, physical security, building control systems and broadcast production.

Novaré is deeply experienced in leading all aspects of technology projects through all phases, including analysis, requirements definition, specification, budgeting, design, implementation and transition to operations.

Novaré Solutions Group's portfolio includes strategic technology planning and execution for clients in business, government, health care, industry, philanthropy, technology and real estate, with complex software and hardware implementations worldwide in data centers, commercial buildings, campuses, hospitals, theaters, recording studios, residential estates, yachts and aircraft. Novaré Solutions Group is currently managing the technology portions of projects whose overall value exceeds $300 million.

About John Hendricks

John Hendricks is a Managing Partner of Novaré Solutions Group LLC, a Seattle-based technology consulting firm specializing in the management of complex technology projects. Hendricks is a senior technology executive with over twenty-five years experience in information technology, project management, systems integration, data centers, networking, audio/video, telephony, physical security and building control systems, as well as broadcast production.

Over this period, Hendricks has managed numerous building and data center projects in all phases including analysis, requirements, specification, budgeting, design, build and transition to operations. Data center projects include those of the Bill & Melinda Gates Foundation; Univar Corporation; City of Bellevue, WA; King County, WA; Puyallup School District, WA; Qwest Field and Exhibition Center; and Paul Allen's Vulcan Inc., where Hendricks was Director of Technology Projects.

Hendricks' extensive experience leading all aspects of technology projects includes complex software and hardware implementations worldwide, in commercial facilities, theaters, recording studios, private residential estates, yachts and aircraft. Prior to Vulcan, Hendricks was co-founder of Workflow Solutions, creators of business software for clients including The Boeing Company, Bank of America and McDonnell-Douglas Corporation. Another Hendricks startup, Salmon Systems, developed a contact management software package used by major broadcast stations throughout the US.

Hendricks is known as a visionary strategist and an expert in team development and management of complex projects. He holds a Bachelor of Arts degree in Communications from the University of Michigan.