INTEGRATED ALTERNATIVE WORKPLACE STRATEGIES (AWS)

Sustainable Real Estate Roundtable: Management Best Practices
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Executive Summary

Key Takeaways

• Changing demographics, advances in technology, new business needs (24/7 service), globalization trends, and environmental considerations influence the move to greater mobility and the accelerated adoption of AWS.

• Leading companies implement AWS to reduce RE costs and carbon footprint; manage top talent; increase human capital outcomes; enhance RE and operational agility, and improve brand.

• Executives follow a step-wise, iterative process for the planning, implementation, and evaluation of AWS to maximize benefits.

• Executives deploy AWS on a company-wide level after making a compelling business case, aligning with business goals, ensuring departmental integration (RE, HR, IT, EH&S), conducting initial assessment, and testing pilots.

• Executives integrate AWS into their company’s sustainability strategy; adopting options customized to the business goals and organizational culture company-wide to enhance sustainable value creation across the enterprise.

This Integrated Alternative Workplace Strategies (AWS) report is part of SR Inc’s year-round Sustainable Real Estate Roundtable (SRER) business service, which includes Member Executives responsible for making nearly one and a half billion square feet of real estate more sustainable. SR Inc presents this management best practices research report to address the expressed and growing interest of SRER Member-Clients in developing and implementing various AWS solutions to enable greater real estate (RE) portfolio and operational efficiencies and reduce enterprise greenhouse gas (GHG) emissions, while managing top talent, improving human capital outputs, and consequently, enhancing the profit chain.

Leading companies are innovating beyond traditional workspace. They are doing so in response to enabling technology, globally distributed teams, shifting demographics, the collaborative demands of increasing knowledge work, and the rise of corporate sustainability as an organizing principle of business leadership. External and internal factors make the move to mobility – and the associated more efficient, distributed, resilient
built corporate footprint – an important business decision to ensure companies remain competitive. Customer, employee and investor interest in greater sustainability is becoming a prime influence on how this move is made, how it is understood and how it is messaged internally and externally.

The management best practice research and recommendations presented here are premised on dozens of SR Inc Member-Client interviews in CY 2010 and 2011 with executives leading corporate real estate portfolios as well as with major national and global real estate owners. SR Inc research into management best practices is on-going and will be updated for delivery at SR Inc Summit on Sustainable Real Estate. SR Inc’s recommendations are strictly vendor- and solution neutral.

Section 1 of this report provides an overview of Alternative Workplace Strategies (AWS), including basic components, enablers, trends, benefits and barriers. Key drivers for the adoption of AWS, such as reduced costs, reduced greenhouse gas (GHG) emissions, retention and attraction of top talent, improved human outcomes, and enhanced brand, among others, are discussed and supported with industry examples. In addition, global and US trends in AWS adoption, specific options, and impacts are summarized and analyzed.

Section 2 reviews the various AWS options deployed by companies and discusses the synergies among them. This section provides a decision framework and proposes a step-wise, iterative process for the three phase of AWS adoption – Planning, Implementation, and Evaluation. Case studies of leading companies who have successfully implemented AWS company-wide such as Nortel, American Express, AT&T, and Microsoft are included as well.

Section 3 features three SRER Member-Client case studies (Cisco, Oracle, and the US GSA) to provide insights about why and how leading executives are adopting AWS programs. SRER Member-Client Cisco has developed a Cisco Connect Workplace program with focus on collaboration, innovation, and technology; SRER Member-Client Oracle has a Oracle Flex Program for over 20 years, providing mobile centers, remote work, and hoteling. SRER Member GSA offers telework, flex time, and hoteling.

Section 4 provides a high-level discussion on how Real Estate (RE) executives create sustainable value portfolio-wide by adopting AWS as a part of (1) the overall sustainability strategy, and to enhance this strategy, (2) an integrated company-specific program, and (3) company-wide rather than project-by-project to maximize cost-savings and value-add.
Section 5 provides actionable implementation guidance for AWS company-wide, in the form of tools and resources. This includes teleworker savings calculators and models, examples of Post-occupancy Evaluation (POE) surveys, sample Telework Assignments and Agreements, a list of most common KPIs and metrics for evaluating AWS, and a range of SR Member Advisories and Briefings.
Section 1: Introduction to Integrated Alternative Workplace Strategies

Key Takeaways

- Changing demographics, advances in technology, new business needs (24/7 service), globalization trends, and environmental considerations influence the move to greater mobility and the accelerated adoption of Alternative Workplace Strategies (AWS).

- Leading companies implement AWS to reduce RE costs and carbon footprint; manage top talent; increase human capital outcomes; enhance RE and operational agility; and improve brand.

- The major obstacles for implementing AWS include organizational structure and culture; management concerns about employee productivity and accountability; executive buy-in; and employee concerns about losing space, among others. Leading companies overcome these by gathering data; improving communication and understanding; establishing protocols for accountability, and ensuring continued leadership.

- In US, home-based work and hoteling remain two of most widely used, simple, and cost-effective AWS options. In Europe, Asia, and other regions, the focus is on providing a novel, collaborative office space.

- Corporate sustainability is playing a key role in motivating and organizing the move to mobility as well as how it is understood and messaged internally and externally.
1.1 Definition

Advances in technology, changes in work styles, and generational changes have resulted in new work styles and workplace models. As a result, the traditional, dedicated 9-to-5 workplace is quickly becoming obsolete. Companies evaluate their workplaces and seek to align them strategically with business goals and market pressures. Companies across diverse industry sectors are embracing new and more flexible work styles at an accelerated rate through the deployment of Integrated Alternative Workplace Strategies (AWS) to remain competitive, reduce cost, and reduce environmental risk. External and internal factors make the move to mobility an important business decision. Leading companies are challenged to constantly evaluate how their work environments serve their needs. Traditionally, companies have adopted AWS to empower employees to work more efficiently, balance work and life, and collaborate. Companies now adopt AWS to achieve operational efficiency by rightsizing their real estate portfolios to reduce overhead expenses (real estate and travel), and cut their carbon footprints.

Flexible work options have quantifiable benefits across diverse industries for both employers and employees. Mobility programs emerged in the financial service workplace at some of the most progressive companies, such as American Express, Meryll Lynch, HSBC, and Ernst & Young during the 90s. Technology firms such as Accenture, Cisco, HP, IBM, Motorola, and Nortel, are also among the early adopters who developed robust AWS programs as well as introduced technology products to enable virtual communication. SRER Member-Clients AAA NCNU, BNY Mellon, Cisco, IBM, Intuit, JP Morgan, Lenovo, Oracle, and Visa are leaders in successfully implementing AWS portfolio-wide. Public sector organizations have also adopted flexible workplace programs. In 2002, SRER Member-Client the US GSA launched the WorkPlace 20-20 research and development program to help federal agency clients realign their work settings to support teams effectively in response to rapid changes in organizational structures, work styles, and technology. 

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Figure 1. American Express used a Balanced Scorecard to identify flexible workplace benefits.

Source: CoreNet Global Summit, Berlin 2008.

<table>
<thead>
<tr>
<th>FINANCE</th>
<th>BUSINESS PROCESS</th>
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<tr>
<td>• Reduced churn cost</td>
<td>• Increased collaboration and knowledge sharing</td>
</tr>
<tr>
<td>• Lower turnover costs</td>
<td>• Mission achievement</td>
</tr>
<tr>
<td>• Greater flexibility decreases costs</td>
<td>• New ways of thinking and managing</td>
</tr>
<tr>
<td>to reconfigure workplace and lost productivity</td>
<td>• Enabled remote work</td>
</tr>
<tr>
<td>• Ability to better utilize and shed space</td>
<td>• Sustainable</td>
</tr>
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<table>
<thead>
<tr>
<th>CUSTOMER / BRAND / IMAGE</th>
<th>PEOPLE</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Enhanced brand/image</td>
<td>• Increased retention</td>
</tr>
<tr>
<td>• Improved organizational reputation</td>
<td>• Enhanced personal productivity</td>
</tr>
<tr>
<td>• Increased customer satisfaction and engagement</td>
<td>• Increased job satisfaction</td>
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<tr>
<td></td>
<td>• More effective ways of working</td>
</tr>
<tr>
<td></td>
<td>• Increased personal comfort and wellbeing</td>
</tr>
<tr>
<td></td>
<td>• Reduced absenteeism</td>
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A look at several descriptions of AWS is instructive. The Society of Human Resource Management defines Flexible Work Arrangements (FWA), a term that is interchangeable with AWS, as follows: ³

“Flexible work arrangements (FWAs) for the purpose of this research mean greater flexibility in the place of work, the scheduling of hours worked and the amount of hours worked. Such arrangements give employees greater control over where and when work gets done and over how much time they choose to work, leading to greater opportunities for employees to be able to enjoy an optimal balance between work and life responsibilities.” ⁴

³ For purposes of this report, we will use the term AWS.

Gensler, a leading design firm and SRER Member-Client, provides AWS consulting to large global companies. Gensler offers the following definition:5

“A mobile workplace offers variety and choice in how, when, and where work is accomplished – without a 1 to 1 seating assignment.”

AWS allows for altering the physical place or time the work is conducted, and consists of three elements:

- **Place** of work
- **Scheduling** and number of hours worked and arrangements regarding overtime, predictable scheduling, and shift and break schedules
- **Space design** of office, where work is conducted

Section 2 of this report, *Decision Framework and Industry Best Practices*, provides a list of definitions for various AWS options.

### 1.2 Global Trends and AWS Market Drivers

A number of factors have shaped the move to greater workforce mobility on a global level since the early 1990s, as identified in Figure 2 below. *Globalization and the need to constantly cooperate and innovate* are two factors. Effective collaboration has been recognized as a competitive advantage to companies. It breaks the ‘siloes,’ blurring the boundaries of different departments and jobs. Flatter, cross-unit, and fluid organizational modes are replacing older, more hierarchical organizational structures. Jobs are no longer anchored in pre-defined physical locations. Rather, jobs move with **top talent, which tends to be highly mobile and dispersed. Work is increasingly knowledge based**, rather than linear and manufacturing based; it is also more **team-dependent** and less individually oriented. A 2008 survey across a random sample of 900 full-time employees across US industry sectors shows that employees spend on average 32% of the time in collaboration with colleagues. Employees at top-performing companies spend their time in a rather different mix of work modes (focused, collaborative, socializing and learning work modes) than their counterparts at average companies do.6 Extensive travel is required for many jobs and employees are accustomed to working away from their office or desk. Finally, **business needs are changing** and corporations are expected to provide services around the clock. The 24-hour

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5 Interview with Gensler. 27 April, 2011.

work day for global companies means employees often find it necessary to work early mornings or late evenings to communicate with colleagues and clients across time zones. Responding to these impacts, companies have shifted workplace thinking from a single site approach to a portfolio-wide approach.

Changing demographics is another driving factor. In the past, 7 out of 10 HR experts reported that flexible workplace option policies that were developed on a corporate level were established due to employees’ requests. Child care has been cited as the number one reason employees request work flexibility because all parents are in the workforce. The number of single parents has significantly increased since 1975 (but leveled out after 1995). Across the industrialized world, about 15.9 % of children live in single-parent households, with U.S. at the higher end of the single-parent spectrum. According to Custodial Mothers and Fathers and Their Child Support: 2007, a report released by the US Census Bureau in November, 2009 there are 13.7 million single parents currently in the US. Of children under 21 years of age in the US, 26.3% lived with only one of their parents. AWS has helped parents spend more time with children. Elder care is another common reason for employees to require more flexibility.

Work-life balance has for a long time ranked as one of the top reason for firms to adopt formal AWS policies. The Families and Work Institute found that in the US, the ability to balance work and family life is the top reason for employee job satisfaction. Eighty percent of workers cite flexibility as a motivation to stay in their jobs, with 90% willing to give up 40% of their salary for greater work-life balance. The younger the employee is the more he or she would be willing to work remotely. Of the respondents under 30 years of age, distributed work options strongly appealed to 71%. This number decreases to 15% of employees over 50.

Technology is a major enabler of AWS, changing people’s way of working. New, superior technological solutions (both hardware and software), such as improved laptops, PDAs, smart phones, VPN, VoIP, Wi-Fi, and pervasive broadband, are available to make employees more productive while moving about. Companies are increasing using Web 2.0 applica-

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tions such as blogs, wikis, podcasts, instant messaging (IM), social networks, chatting, web conferencing (Web-ex, Go-to-Meeting, ConnectPro, etc.), and various feeds to enable new levels of collaboration. The ease and best use of these varies for different generational groups, as illustrated in Table 1 below. As technology continues to reduce the time and economic costs of effectively connecting people across time and space barriers, teams are being distributed geographically in order to match the best talent with the project. Video communications are also expected to advance in the next five years, in ways that will transform work styles even more dramatically.

Last but not least, the rise of sustainability as a megatrend has shifted the focus of companies towards creating long-term sustainable value portfolio-wide. This includes utilizing resources more efficiently and creating healthier workplace environments. In this regard, sustainability has become an organizing principle for AWS. Leading companies have incorporated AWS into their overall sustainability strategy to reduce office space, optimize operating efficiencies, reduce commuting, and provide better workplaces to increase retention, recruiting, and productivity. They have also recognized the shaping role that AWS can play in regard to their corporate sustainability strategy and have “branded” their AWS efforts as part of it.
1.3 AWS Relevance by Real Estate Role

The increasing interest in and practice of AWS has special relevance for corporate users, owners, and investor-advisors (Fig 3).

**CORPORATE USERS**
- Reduced costs
- Reduced carbon impact
- Employee attraction & retention
- Increased human capital outcomes
- Increased agility
- Enhanced brand
- AWS regulations

**OWNERS**
- Provide flexibility (lease, space design)
- Higher quality, more sustainable products

**INVESTOR-ADVISORS**
- Understand new needs, respond to market changes
- Reposition portfolios (strategic location in center cities & in proximity to transportation amenities)
- Advise owners

Figure 2. AWS market drivers

Figure 3. AWS relevance for corporate users, owners, and investor-advisors.
Corporate Users

Corporate users directly deploy AWS to optimize their RE portfolios, increase RE agility, reduce environmental impacts, meet employee demands, improve human capital outcomes, and enhance brand. They use AWS to optimize and enhance their portfolios is the most direct way of saving on overhead costs as well as GHG emissions by:

- Eliminating unneeded space at a faster pace
- Consolidating space
- Maximizing space utilization
- Re-negotiating lease rates
- Pursuing shorter leases to allow for maximum flexibility
- Adopting green leases and services
- Relocating or reinvesting into newer, higher quality, and more strategically located buildings, while leaving older, lower quality ones behind
- Reconfiguring space to include shared, collaborative space
- Incorporating evolving networking technologies

In 2008, US companies, for example, spent an average of $8,500 per dedicated workstation or office in rent, utilities, maintenance, security, insurance, etc., (i.e., total cost of occupancy). With an average 50% seat vacancy, companies spend about $4,250 more per employee than necessary. By increasing occupancy or reducing vacancy, companies could drop those savings to the bottom line. If a company removes 100,000 sf from its portfolio through AWS, and the real estate total cost of occupancy is $35/sf, then the company will save $3.5 million annually. These savings can be invested to curtail layoffs, improve research and sales, or develop premium office space, among other uses. To achieve a similar financial result from sales alone, a typical company with a 10% profit margin would need to increase sales by $35 million.

Savings from removing unneeded square footage can be realized in the first year, and the avoided cost then accrues year after year. Real estate savings reduce the cost structure that drives the pricing of goods and services, making these more competitive. Significant GHG emissions reductions derive from eliminating unused space and reducing commuting by employees. For example, eliminating 100,000 sf of office space, can avoid producing 4,000 metric tons per year of CO2e (scopes 1 and 2). This number increased when avoided emissions from reduced commutes are accounted for (scope 3).

14 For more information on this and similar examples refer to Perske, Jordan, Gillespie, Sanquist. Mobility: The New Workplace Imperative. Oct, 2009.
Owners & Investor-Advisors

Owners use the move towards AWS as a competitive advantage by effectively addressing their tenants’ changing needs. They reduce the redundancy and obsolescence in their portfolios by providing additional flexibility in lease terms as well as space design. Owners who offer shorter leases and re-configurable spaces with a focus on collaborative spaces rather than enclosed private offices, as well as multiple-sizes of conferences rooms, are able to retain and attract large, global employers as tenants. This approach also implies the adoption or anticipation of advanced technology that enables virtual work. In short, owners design, or re-design, their spaces for greater flexibility and adaptability, collaboration, performance, and sustainability. Progressive owners offer more sustainable, higher quality workplace environments. Some owners are including the provision of business centers and full office equipment to tenant companies who want to outsource office space provision to third parties rather than own or lease their space. Firms catering to this market include Regus Business Centers, Carr America, Metro Office, and Workspace Group, among others. Premium, co-located office solutions, often referred to ‘incubator offices,’ are proliferating as well. Owners can charge higher rent for the spaces and services that meet the needs of corporate users who have rightsized their portfolios. SRER Member-Client the US GSA, for example, is using AWS to differentiate its workplace services. The agency offers innovative workplace solutions to government agencies defined by spatial equity, environmental health, flexibility, comfort, technological connectivity, reliability, and sense of place.15

Owners and investor-advisors both benefit from understanding and responding to the current market drivers behind tenant deployment of AWS. Besides re-designing office spaces, owners enhance and protect the value of portfolios by repositioning their assets to meet tenants’ evolving needs. They remove low-quality office spaces and buildings and re-direct investment to higher-quality, appropriately designed and serviced facilities. Owners and investor-advisors seek competitive advantage by strengthening their presence in, or relocating to, more strategic locations – urban areas, the city core, and in proximity to transportation corridors, especially public transit. All these approaches help to ensure lower vacancy rates, higher rents, and long-term competitiveness. Investor-advisors can gain deeper insights into corporate tenants’ investments in mobility and work place flexibility from across all their assets, the better advise owners.

1.4 Key Drivers for Adopting AWS

Leading companies find significant benefits to implementing AWS. These are summarized in Table 2 below.

Table 2. Key drivers for adopting AWS.

<table>
<thead>
<tr>
<th>Key Driver</th>
<th>Definition</th>
<th>Examples</th>
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<tr>
<td>Reduced Costs</td>
<td>High vacancy rates have resulted in corporate demand for enhanced space utilization and reduction of unneeded space. Reduced RE footprint (office, parking) leads to reduced RE costs (energy, water, IT infrastructure, rent, maintenance, etc). Flexible, configurable workplaces also reduce churn costs. Reduced commuting costs are a direct benefit to employees.</td>
<td>Many global corporations have found 30-50% of the work space is empty at all times during the work day in all office locations. Telecommuting has reduced McKesson’s real estate cost by $2 M/yr. IBM saved $75 M by 1996 in RE costs. Historically, Dow Chemical and Nortel save over 30% on non-RE costs.</td>
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<tr>
<td>Reduced Carbon Impact</td>
<td>Reduced carbon footprint as a result of reduced RE footprint, operations, and commuting is of growing importance to RE executives. Larger, global firms use emission reductions as a key measure to AWS success. Most of them have established public goals and targets for reduced environmental footprints.</td>
<td>Gensler’s study indicates that if 40% of US companies had a mobile program, in 10 years US can save 1.2 billion metric tons of CO2. Cisco’s telework program reduces auto emissions by 30,435 tons of CO2 annually.</td>
</tr>
<tr>
<td>Employee Attraction &amp; Retention</td>
<td>Talent management is critical to companies to remain competitive as people are their greatest asset. High performance can easily change companies and flexible work options are becoming part of the benefit package offered to employees. Until recently, employee demand increased work-life balance has been the main reason for adopting AWS. Employees offered great flexibility have reported greater job satisfaction, stronger commitment to the job, higher level of engagement with the company, increased loyalty.</td>
<td>In a compensation survey of 1,400 CFOs, 46% cited telecommuting as second only to salary as the best way to attract top talent. According to the Telework Research Network research, over 70% employees report telecommuting is important in choosing their next job. According to SHRIM’s global study retention of employees (89%) is affected positively by the implementation of AWS. Increased demand for work-life balance will have a major strategic impact on the workplace in the coming years, according to 57% of HR professionals. Companies lose $10-30,000 when an employee leaves a job related to the investment in recruitment, training, onboarding, etc. Replacing a higher paid worker can cost as much as 78% of employee’s annual salary.</td>
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<tr>
<td>Increased Human Outcomes</td>
<td>Work flexibility results in significant increases in employee engagement, productivity, and satisfaction. Lower levels of stress, fewer office distractions and interruptions from participating in AWS also improve human capital outcomes. Less time commuting also translates into additional time dedicated to work. Mobility and novel office space design positively impact innovation and collaboration as well.</td>
<td>Based on studies and anecdotal evidence, AWS results in productivity increases from 10 to 40%. For telecommuting alone, over 2/3 of employers report increased productivity among their remote workers. Best Buy, British Telecom, Dow Chemical and many others show that teleworkers are 35-40% more productive. Compaq increased productivity with up to 45%. At Sun Microsystems, employees saved on average an hour a day by not driving during peak hours. Of that hour, they used 60% for work. According to Gensler’s survey, 48% of responding employees claim to work more diligently when offered AWS options.</td>
</tr>
<tr>
<td>Increased Agility</td>
<td>AWS enhances real estate flexibility. Companies use AWS to shrink, grow, reorganize, accelerate merger and acquisitions based on business needs and market changes.</td>
<td>EMC, Cisco, Lenovo, AMD, and Oracle grow their workforce, while shrinking their RE portfolio in North America and EU and relocating facilities to Asia. They move to lower cost to compete with firms in emerging markets by moving away from one-person-per seat cost structures. HP has reduced its global RE footprint by 62%.</td>
</tr>
<tr>
<td>Key Driver</td>
<td>Definition</td>
<td>Examples</td>
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<tr>
<td>Enhanced Brand</td>
<td>AWS implies the promotion of sustainability practices and creation of healthier, higher quality work environments. Some companies benefit from promoting telecommuting to clients to promote their products that enable remote work.</td>
<td>Companies are increasingly aiming at “Branded Sustainability.” Employees feel greater loyalty to employers if they are committed to sustainability. Stanford University study shows that 77% of recent MBAs are ready to forgo some income to work for a company with a sustainability strategy. Technology companies such as AT&amp;T, Microsoft, Cisco, Oracle, IBM, and Intuit, among many others, use AWS to both enhance their brand and showcase their technological solutions.</td>
</tr>
<tr>
<td>AWS Regulations</td>
<td>New regulations promote the adoption of AWS by large firms in order to increase employee diversity and inclusion.</td>
<td>In US, the Telework Enhancement Act (Dec 2010) requires Federal agencies to establish policies allowing certain employees to work remotely. In UK, the Employment Act (2002) introduced new employment legislation designed to help working parents. Parents with young and disabled children will have more new options for and a right to request flexible work to facilitate childcare.</td>
</tr>
</tbody>
</table>

3. Interview with Gensler. 27 April, 2011.
16. Interview with Gensler. 27 April, 2011.
17. IFMA Distributed Work Study 2009.
20. http://www.whitehouse.gov/search/site/Telework%20Act
Initially, leading executives focused on attracting and retaining employees by offering them greater work flexibility as reflected in a 2009 SHRM survey (see Fig 4). According to the most recent study, “soft” employee-centric considerations have been replaced by more “hard” economic (cost savings) ones. This implies that executives have discovered business benefits for promoting AWS that go beyond the HR-related benefits. GHG footprint reduction, in addition to real estate footprint reduction, is of increasing importance. As the pressure to curb GHG emissions and energy use grows, and as relevant metrics become available, executives are increasingly focusing on measuring efficiency and environmental impact (see SRER Enterprise Energy and Carbon Accounting Report, 2011). Today, they consider AWS a major means for enhancing their company’s sustainability strategy (see Fig 4).

Figure 4. Shifting priorities for AWS adoption from “soft issues” to “hard measurements”


### 2008

<table>
<thead>
<tr>
<th>Benefit Category</th>
<th>2008</th>
<th>2009</th>
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<tbody>
<tr>
<td>Employee Work / Life Balance</td>
<td>81%</td>
<td>79%</td>
</tr>
<tr>
<td>Employee Attraction / Retention</td>
<td>69%</td>
<td>66%</td>
</tr>
<tr>
<td>Cost Savings</td>
<td>66%</td>
<td>66%</td>
</tr>
<tr>
<td>Space Optimization / Increased Capacity</td>
<td>63%</td>
<td>54%</td>
</tr>
<tr>
<td>Business Agility</td>
<td>56%</td>
<td>53%</td>
</tr>
<tr>
<td>Employee Productivity</td>
<td>53%</td>
<td>32%</td>
</tr>
<tr>
<td>Improved Collaboration</td>
<td>50%</td>
<td>35%</td>
</tr>
<tr>
<td>Access to Customers Colleagues and Co-Workers</td>
<td>50%</td>
<td>29%</td>
</tr>
<tr>
<td>Sustainability / Eco-Responsibility / Reduce Carbon Footprint</td>
<td>50%</td>
<td>25%</td>
</tr>
<tr>
<td>Business Continuity</td>
<td>44%</td>
<td>4%</td>
</tr>
<tr>
<td>Other</td>
<td>16%</td>
<td>4%</td>
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### 2009

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<td>29%</td>
<td>29%</td>
</tr>
<tr>
<td>Sustainability / Eco-Responsibility / Reduce Carbon Footprint</td>
<td>25%</td>
<td>25%</td>
</tr>
<tr>
<td>Business Continuity</td>
<td>4%</td>
<td>4%</td>
</tr>
<tr>
<td>Other</td>
<td>4%</td>
<td>4%</td>
</tr>
</tbody>
</table>

17 http://www2.corenetglobal.org/dotCMS/kcmsAsset?assetInode=4910770
According to workplace experts, the motivation for AWS adoption as a way to increase occupancy rates has also changed, chronologically as follows:

1. Leverage seats to encourage staff to spend more time with their clients
2. Leverage seats to ensure RE savings
3. Leverage seats to align with new work styles and utilize space more efficiently
4. Leverage seats through greater occupancy density to promote innovation (only in past 2-3 years)\textsuperscript{18}

1.6 Value Chain Leading companies use AWS to create long-term sustainable value by enhancing the entire company’s service chain. Providing better workplaces and greater flexibility increases employee productivity and satisfaction. These increased human outcomes for employees translate into greater employee loyalty and, consequently, into customer satisfaction. The overall result is revenue growth and greater profitability for the company (see Fig 6). In 2008, Gensler conducted a survey of a random sample of 900 full-time employees in diverse US industry sectors. The survey confirms the quantifiable impact of the physical work environment on business success. Top-performing companies, defined by financial strength, high-level of employee engagement, and stronger market as well as brand position, were found to provide significantly higher-performing work environments than average companies. Gensler has developed a Workplace Performance Index (WPI) to score the effectiveness of office design and found that as the WPI score rises, indicating more effective workplace design, the three-year average profit growth of companies increase by up to 28.2%. Even average companies experience profit growth of 18% when their WPI score goes up. Average companies with a WPI score of 72 show profit growth of 18% compared to 16% at companies with a 12-point lower WPI score (see Fig 7 and 8).\textsuperscript{19}

Figure 5. The service profit chain.

Figure 6. Profit increase over three years due to high-performing work environments.

Figure 7. Profit increase over three years due to high-performing work environments in average and top-performing companies
1.7 AWS Deployment Trends

Global Trends

Results from New Ways of Working’s Benchmarking Study 2010 (which covered 103 organizations, including Fortune 100 companies, representing over 4.5 million employees) indicate that most of the AWS programs deployed by participants are relatively new. Of the surveyed employers that have an AWS program, 80% had adopted the program within the past five years. Survey participants identified the recession of 2008-2009 as a significant impetus for AWS adoption as a way of reducing overhead expenses. Participating employers are using a variety of AWS options including:

- Offsite locations such as home-based workplaces (89%)
- On-site flexible or unassigned drop-in spaces (82%)
- Non-company offices such as client sites (37%)
- Satellite offices (35%)\(^\text{20}\)

A global IFMA survey in 2008 indicates that:

- 56% of the member companies offer telecommuting
- 37% offer a virtual office
- 15% offer a remote telework center. \(^\text{21}\)

According to CoreNet Global’s 2008 study of over 400 corporate real estate executives, the majority of whom come from organizations with over 1,000 employees:

- 90% of the companies implement AWS
- 100% of companies implementing AWS relate the program to reduction in energy costs and increased employee satisfaction \(^\text{22}\)

The following are leading AWS trends:

- Technology and accounting companies have been the early adopters of AWS, with the former still at the forefront of AWS deployment as means of enhancing collaboration and innovation. Consulting, research, and health care firms are also very likely to offer AWS strategies. Some of the largest banks are becoming more open to change. \(^\text{23}\)
- Attracting and retaining employees was reported more often by large companies (67%) as a reason they offer AWS compared with small (44%) and medium (47%) companies. \(^\text{24}\)

\(^{21}\) http://www.ifma.org/resources/reports/pages/31.htm
\(^{22}\) http://www2.corenetglobal.org/dotCMS/koAsset?assetinode=4910770
\(^{23}\) Interview with Gensler, 27 April, 2011.
• Publicly owned companies (24%) and government agencies (39%) are more willing to offer a more ‘green’ workplace through AWS compared to privately owned companies (9%).

• Public sector organizations cited the highest use of home-based work programs and lowest participation in virtual offices strategies.

• Innovative physical workplace design, work at multiple office locations, and occasional off-site work are found to be more effective strategies than work from a third place (home, coffee shop, traveling) for employees directly involved with knowledge and creative work, where person-to-person communication is key to innovation.

Some of the most prominent global firms are now embracing the latest and most advanced trend in AWS - 4th Generation Officing, i.e. the services of third parties to provide the office space and equipment a la carte. Differences in culture, perception about office and personal space, organizational readiness, management style, and technological penetration, are cited as a reason for difference in AWS adoption rates and level of maturity of strategies between regions. The highest adoption rates are observed in North America and the European Union (EU). Government agencies in the EU seek a direct engagement with companies to educate them on the need for mobility, and partner with them on ‘workplace mobility management.’ As a result of the Mobility Management Conference (2009), EU agencies are discussing possible regulations aimed at decreasing the need for private transportation to and from work. Real estate professionals often claim that AWS implementation rates and maturity levels are behind throughout Asia and the Pacific Rim due to cultural differences. However, survey data contradict such perceptions and indicate that the level of adoption of AWS in the region is still significant. However, AWS adoption in the Middle East, Africa, and Latin America lags behind Asia-Pacific. (See SRER Member Briefing Alternative Workplace Strategies, Regional Policies, and Local Culture, 2011, for more information).

As companies serving a market identify an opportunity to increase market share, they tend to adopt more comprehensive programs in APAC and EMEA. Despite regional differences, AWS are clearly on the rise globally.

In the US, various surveys indicate the following trends among companies:

- 50% of the time workplaces are empty \(^{28}\)
- Nearly 80% of workers would like to have more flexible work \(^{29}\)
- 79% of companies allow some employees to use AWS \(^{30}\)
- 35% of companies have a mobility program, and 26% are developing one \(^{31}\)

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\(^{28}\) Interview with Gensler. 27 April, 2011.
\(^{29}\) http://www.umass.edu/family/pdfs/2008nse.pdf
\(^{30}\) http://www.umass.edu/family/pdfs/2008nse.pdf
\(^{31}\) Interview with Gensler. 27 April, 2011.
• **38% of people** who did not currently telecommute said they had job-related tasks that they thought they could perform from home\(^{32}\)

• **Most common locations for remote work are the home, car, and client site**\(^{33}\)

Telecommuters are most often **40-year-old male college graduates** in a higher income household. \(^{34}\)

**Forecasts**

According to the International Data Corporation study *World-wide Mobile Worker – Forecast and Analysis 2009-2013*, one of the most comprehensive studies available, the following will be observed in the next 2 years:

US has already the highest percentage of mobile workers (72.2% of the workforce in 2008) and will remain the most highly concentrated market, with 75.5% of the workforce being mobile in 2013.

Asia-Pacific (excluding Japan) (APeJ) represents the largest total number of mobile workers, with 546.4 million mobile workers in 2008 growing to 734.5 million (37.4% of the total workforce) in 2013. This means that 62% of the world’s mobile workforce will be based in the APeJ region.

Japan’s mobile worker population will total 49.3 million in 2013, representing 74.5% of its total workforce.

Western Europe’s mobile workforce will enjoy a steady compound annual growth rate (CAGR) of 6% over the forecast period to reach 129.5 million mobile workers (50.3% of the workforce) in 2013, surpassing the total number of mobile workers in US.

The rest of the world – Canada and the emerging market countries in Central and Eastern Europe, Middle East and Africa (CEMA), and Latin America – will see the mobile worker population grow to 153.2 million by 2013. As with APeJ, the low penetration of mobile workers in the total workforce (13.5%) today signals significant growth potential in these regions.\(^{35}\)

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1.8 Space Utilization Trends

Many global firms are reporting high workstation vacancy rates. For example, Intel Corporation found that 60% of their workstations were empty at all times. Most studies show an average 40%-60% vacancy range. A major reason for this is the necessity to be on the road and meet with clients as well as the increasing need for collaboration, especially in certain knowledge and design sectors, where teamwork often happens outside the workstation. This makes the reduction and grouping of workstations as well as reconfiguration of private offices and cubicles an effective AWS strategy. Redesigning office space and removing unneeded space account for two of the most direct ways to cut real estate costs and GHG emissions, as depicted in Figure 10 below.

Figure 10. Strategies for cutting property costs
Source: http://www2.corenetglobal.org/dotCMS/kcoAsset?assetInode=6097543

DTZ’s Global Occupancy Costs: Offices 2009 survey (conducted in 2007-8), a guide to total office occupancy costs across 114 business districts in 49 countries and territories, indicates a reduction in average space per workstation worldwide. As shown in Figure 11 below, the global average for corporate space allocation per workstation dropped to 146 net usable square feet by the end of 2008, compared to 162 net usable square feet in 2007. The largest decline was recorded in Central and South American locations – 109 net usable sf/workstation in 2008 compared to 133

36 http://www2.corenetglobal.org/dotCMS/kcoAsset?assetInode=6097543
net usable sf/workstation in 2007. In Asia Pacific and Western Europe, space allocation continues to fall due to souring rents and lack of space, especially in buildings with large floor plans. Average space allocation remains almost unchanged in North America – from 234 to 232 net usable sf/workstation between 2007 and 2008. The largest space allocation was recorded in Washington D.C., at 275 net usable sf/workstation (unchanged), while the lowest, at 82 net usable sf/workstation, was posted in New Delhi. Note that ‘area’ for this data is defined as the net usable area, i.e. space functional to the occupier and including – if exclusively used by the occupier – internal circulation, meeting rooms, lift lobbies, toilets and pantries, but excluding structural columns and common areas such as stairwells, lifts, lift lobbies, external walls, vertical ducts, and common passages not used exclusively by the occupier.  

The public sector is aggressively updating its space allocation standards as well. In the early to mid-1990s, US GSA, for example, adhered to the Temporary Regulation D-76 which established a standard for primary office work area of 125 occupiable sf/person (‘occupiable’ is defined as work space area excluding associated storage and special spaces), with up to 22 % added for support space, i.e. for a possible maximum overall office allocation of 153 occupiable sf/person. Other US agencies still followed the outdated standard of 135 occupable sf/person. The average US government space utilization in the period 1992-1996 was 200 usable sf/person compared to the US private space utilization of 250 usable sf/person (‘sf’ defined as office plus associated storage and special space). The 200 usable sf/person approximates GSA’s 153 sf/person standard and the 200 usable sf/person benchmark when storage and special space per person is added.  

Figure 11. Space utilization standards by region (net usable sf/workstation) 2009


<table>
<thead>
<tr>
<th>Region</th>
<th>Space Utilization (net usable sf/workstation)</th>
</tr>
</thead>
<tbody>
<tr>
<td>North America</td>
<td>232</td>
</tr>
<tr>
<td>Western Europe</td>
<td>158</td>
</tr>
<tr>
<td>Middle East/Africa</td>
<td>144</td>
</tr>
<tr>
<td>Asia Pacific</td>
<td>130</td>
</tr>
<tr>
<td>Central &amp; South America</td>
<td>109</td>
</tr>
<tr>
<td>Monitoring &amp; Targeting</td>
<td>102</td>
</tr>
</tbody>
</table>

The public sector is aggressively updating its space allocation standards as well. In the early to mid-1990s, US GSA, for example, adhered to the Temporary Regulation D-76 which established a standard for primary office work area of 125 occupiable sf/person (‘occupiable’ is defined as work space area excluding associated storage and special spaces), with up to 22 % added for support space, i.e. for a possible maximum overall office allocation of 153 occupiable sf/person. Other US agencies still followed the outdated standard of 135 occupable sf/person. The average US government space utilization in the period 1992-1996 was 200 usable sf/person compared to the US private space utilization of 250 usable sf/person (‘sf’ defined as office plus associated storage and special space). The 200 usable sf/person approximates GSA’s 153 sf/person standard and the 200 usable sf/person benchmark when storage and special space per person is added.  

---

Table 3. Comparable office space utilization rates

<table>
<thead>
<tr>
<th>Source</th>
<th>Description</th>
<th>Usable SF Per Person</th>
</tr>
</thead>
<tbody>
<tr>
<td>BOMA 1997</td>
<td>Experience Report U.S. private sector</td>
<td>245*</td>
</tr>
<tr>
<td></td>
<td>U.S. government sector</td>
<td>204*</td>
</tr>
<tr>
<td></td>
<td>Canada private sector</td>
<td>220*</td>
</tr>
<tr>
<td></td>
<td>Canada government sector</td>
<td>292*</td>
</tr>
<tr>
<td>Arthur Andersen LLP</td>
<td>Private sector (target)</td>
<td>250</td>
</tr>
<tr>
<td></td>
<td>Technology firms (actual sample)</td>
<td>206</td>
</tr>
<tr>
<td>Lucent Technologies</td>
<td>Occupancy density targets</td>
<td>174 – 190</td>
</tr>
<tr>
<td>Mobil Corporation</td>
<td>Overall target</td>
<td>225</td>
</tr>
<tr>
<td>Dun &amp; Bradstreet Corp.</td>
<td>Standards for headquarters</td>
<td>190 - 200</td>
</tr>
<tr>
<td>Australian government</td>
<td>Planning figure</td>
<td>161 to 194</td>
</tr>
<tr>
<td>State of Virginia</td>
<td>Maximum allowed per person</td>
<td>250</td>
</tr>
<tr>
<td>State of Texas</td>
<td>Current statewide average</td>
<td>234</td>
</tr>
<tr>
<td>State of Missouri</td>
<td>Current statewide average</td>
<td>200</td>
</tr>
<tr>
<td>State of Oregon</td>
<td>Maximum allocation (threshold)</td>
<td>200</td>
</tr>
<tr>
<td>U.S. Government</td>
<td>Overall average</td>
<td>200</td>
</tr>
</tbody>
</table>

* Data converted from BOMA rentable

While many leading companies include unassigned collaborative space as part of AWS, private offices and open-plan workstations remain dominant (see Fig 12). Space allocation for private offices has fallen to the 100-200 sf range. Space allocation for open space plans ranges from 40 to 60 sf/person based on work type. Geographic location and regional practices result in the greatest variation of space allocation standards. Private office standards remain most consistent, with +/- 13% variance worldwide. Great diversity is observed for open-plan layouts (in Europe open-plan offices are 20-30% smaller than in North America, and in Asia the delta with North America was as high as 55%). Historically, office space outside of North America has been more geared to support teamwork and consequently, open-plan oriented. Therefore, floor plates outside of North America have traditionally been smaller by comparison. Some of the variance is attributed to building code differences, including requirements for proximity to by natural light requirements.

Even when designing flexible workplaces, companies still determine space allocation standards based on seniority and job function (see Fig 13). 39

1.9 Barriers

The most frequently cited obstacles that companies face in adopting AWS are not related to technology or infrastructure, but rather to concerns about organizational culture, management, general resistance or fear of change, and lack of buy-in by department heads (RE, HR, and IT) whose leadership and support are key to program implementation (see Fig 14). Concerns about compliance with regulations for controlling confidential information and network security exist as well, but companies are easily overcoming these.
Figure 14. Barriers reported by the Alternative Workplace Benchmark Study

2009 (N=130)
2008 (N=32)
* no data available from 2008 survey

** for mobility devices, connectivity fees, office supplies, furniture, and other ways of supporting workers


Table 4, lists the major barriers, in order of magnitude, identified by surveys, workplace consultants, and SRER Member-Clients. Common solutions are offered in each case. Strategies for overcoming these barriers will be discussed in greater detail below, in Section 2 Decision Framework and Industry Best Practices.
Table 4. Major barriers and solutions or responses.

<table>
<thead>
<tr>
<th>Barrier</th>
<th>Solution/Response</th>
</tr>
</thead>
</table>
| Company leaders’ concerns about organizational culture and resistance to or fear of change | • Most companies are moving in this direction already  
• New technology and management practices can keep culture intact  
• AWS facilitates desired and needed change management  
• Employees, especially high performers, expect change  
• Employee and manager surveys and space usage metrics allow for feedback loops, adjustments, and improvements |
| Managers concerns about:                                               | • Telework assignments or agreements  
• Training and education  
• Development of goal-centered dialogue, performance reward systems  
• Studies indicate greater engagement and satisfaction due to AWS leads to increased productivity  
• Scheduled meeting times, group activities  
• New networking technology, including social applications |
| • remote employees productivity                                       |                                                                                     |
| • damage to group culture and team dynamics                            |                                                                                     |
| Human Resources                                                        | • Studies indicate AWS attract and retain high performers  
• AWS allows recruitment of top talent regardless of location  
• AWS pilots help identify and resolve any concerns  
• Tax returns and work permits account for home-based work and work from locations in which the company has no office  
• Provision of training and education |
| • lack of endorsement                                                  |                                                                                     |
| • legal, safety, health concerns                                       |                                                                                     |
| • tax implications                                                      |                                                                                     |
| Information Technology                                                | • Informal mobility practices lead to non-secure access to the network; formalizing AWS is an opportunity to ensure network security  
• Savings in RE can be reinvested into technology; many technology options are available  
• Bandwidth is cheaper than ever; savings in RE can offset costs |
| • lack of endorsement                                                  |                                                                                     |
| • concerns about technology costs                                      |                                                                                     |
| • concerns about bandwidth costs                                       |                                                                                     |
| Real Estate                                                            | • Studies show that average occupancy is 40-50%; elimination of unneeded space and consolidation of space is most direct means for cost-savings  
• Savings in RE can be reinvested in higher quality, strategically located offices |
| • lack of endorsement                                                  |                                                                                     |
| Employee concerns of losing space                                      | • focus on redesign of office space rather than remote work in places (ex: Middle East, Asia), where cultural perceptions and practices are stronger  
• savings in RE can be reinvested in higher quality, healthier, more productive office space  
• technology and Social Media allow for new ways of expressing individuality (as opposed to dedicated office/desk)  
• Collaboration is not lost but enhanced through mobility and technology |
| Funding                                                                | • Savings in RE offset costs; provision of cell phones and laptop is a common practice even for traditional workers  
• Savings exceed costs |
| • Provision of equipment (laptops, software, etc)                      |                                                                                     |
| • Administering and implementing program                               |                                                                                     |
| Existing, older, real estate                                           | • Explore all possible cost-effective upgrades and focus on remote work options |
| • Hard to modify and upgrade                                           |                                                                                     |
| Union Concerns                                                         | • Identify and present employees’ benefits of AWS to unions (saved commuting time and costs, productivity and satisfaction increases, better work-life balance) |
| • Working after regular hours, weekends, and holidays                  |                                                                                     |
Section 2: Decision Framework and Industry Best Practices

Key Takeaways

• Leading companies are adopting integrated AWS solutions such as next generation officing, defined by full mobility, and distributed, third party space provision and maintenance.

• Executives follow a step-wise, iterative process for the AWS planning, implementation, and evaluation to maximize benefits.

• Top companies establish a tight cross-functional team led by the heads of RE, HR, and IT, and supported by C-suite, EH&S, marketing, communications, and workplace consultants.

• Leading executives find that strong stakeholder engagement, making a business case, effective workforce and business goals analysis, investment in supporting technology, and scenario building are critical components of the initial phases of AWS adoption.

• The best companies establish company-wide AWS policies and standards, while allowing for variations and focusing on different AWS options across regions.

• Executives establish both ‘hard’ and ‘soft’ measures to evaluate AWS effectiveness and to ensure continuous improvement.
2.1 AWS Framework

Approaches to AWS

The organizational readiness of companies to adopt AWS differs and this impacts the level of employee mobility they are ready to embrace. Figure 15 below classifies AWS into four types of solutions based on the level and mode of mobility. The categories follow a progression from basic to more advanced forms of mobility. The first solution, ‘Internal Mobility,’ includes workers who move within one office building or campus. The second solution, ‘External Mobility,’ includes working from home or across multiple offices that belong to the same company. Companies with a highly mobile workforce have adopted the concept of the third solution, the ‘Virtual Office’, to describe the workplace as wherever an employee happens to be working. The ‘Virtual Office’ involves working at client sites and so-called ‘third places’ that are neither an office nor home, such as cafes, libraries, FedEx Office stores, airports, etc. A few leading companies such as Microsoft and Nortel have adopted, or are in the process of adopting, the ‘Fourth Generation Office’ which involves shifting the entire RE strategy towards the utilization of ‘fourth places’ managed by companies such as Regus Business Centers, Carr America, Metro Office, and Workspace Group, rather than leasing traditional office space. This solution is defined by use of advanced communication technologies and by very flexible contracts for access to these spaces. In the ‘Virtual Office’ and ‘Fourth Generation’ solutions, the company aims at maximizing elimination of investment in its own office facilities.

This progression, however, is not chronological. Leading companies are found to deploy several AWS solutions simultaneously or embrace a higher-order solution before exploring a lower-order one. Companies adopt AWS types mainly based on the comfort level of managers to allow workers more flexibility. This is often dependent on job type, specific tasks, and experience as well as overall organizational readiness, including cultural transformation. Where managers require that employees physically work in the office, companies adopt Internal and External Mobility options. As they develop confidence that employees can do their work productively and collaborate more effectively outside any of the offices, companies progress to the Virtual Office and Fourth Generation Office solutions.
1. Internal Mobility (on-site; working and moving within a dedicated office)
   - group workstations
   - open office
   - hoteling*
   - free address

2. External Mobility (working across multiple-offices of the same company or home)
   - home-based work
   - remote/satellite offices
   - telework centers*
   - hoteling * (b/n offices)

3. The Virtual Office (full mobility)
   - ‘third places’ (cafes, libraries, airports, train stations)
   - clients site
   - on the road

4. The Fourth Generation Office (outsourcing office & equipment provision and maintenance to 3rd parties)
   - fully furnished flexible offices world-wide (Regus, Metro Office, Workspace Group)
   - tailored solutions
   - no/short lease
   - fourth places

AWS Options

AWS serves as an umbrella for diverse flexible work options that can be grouped into three major categories: **work location, work schedule, and office space design**. Some overlap exists between the categories (see Table 5 below).

The major enablers of an AWS program include:

1. **HR policies and practices**, including training, and employee support
2. **IT policies, practices, and technology**
3. **Change management and communications**
4. **Space planning and design**

Whether or not a company has established a formal AWS program, many employees move around internally and externally, in relation to their assigned office, to accomplish their tasks. HR and IT policies often do not account for the tools and processes necessary to enable them to conduct mobile work efficiently. Therefore, many employees develop workarounds for remote work and take it upon themselves to procure the necessary supporting technology. They either incur the entire costs for the purchases, or get them reimbursed by concealing them as other allowed expenses. Even more troublesome is the insecure access to the company’s IT network associated with informal mobility practices. Amending HR and IT policies eliminates such problems, increases transparency, and enables employees to effectively and safely pursue their tasks at any point. Leading executives are aligning work procedures, technology, communication, and workplace design and locations with evolving employee work practices by formalizing and further developing mobility programs.

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Table 5. AWS options

<table>
<thead>
<tr>
<th>Category</th>
<th>Sub-categories</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Alternative Workplace Location</strong></td>
<td></td>
</tr>
<tr>
<td><strong>on- and off-site</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Home-based work</strong>: the most prevalent form of telecommuting, i.e. substituting the physical commute with telecommunication. Sometimes telecommuting is equated with home-based work.**</td>
<td></td>
</tr>
<tr>
<td><strong>Hoteling</strong>: temporary work spaces assigned through a reservation system; typically used by mobile workers but also used by any worker not near an assigned workstation.**</td>
<td></td>
</tr>
<tr>
<td>• Open desk or unassigned desk: a desk used by several people at different times</td>
<td></td>
</tr>
<tr>
<td>• Office hoteling: work at office HQ, other offices, and shared facilities</td>
<td></td>
</tr>
<tr>
<td><strong>Free Address</strong>: multiple offices or workspaces shared by individuals on a first come, first-served basis.</td>
<td></td>
</tr>
<tr>
<td><strong>Remote or satellite offices</strong>: working at other offices rather than the employee’s assigned office.</td>
<td></td>
</tr>
<tr>
<td><strong>Telework centers</strong>: offices set up close to a majority of people who might otherwise drive or take public transit. Usually feature the full complement of office equipment and less often support staff (receptionists). Telework centers allow employees to reduce commute time yet still work in a traditional office setting. Some are set up by individual companies while others are established by independent organizations for shared use by multiple companies.**</td>
<td></td>
</tr>
<tr>
<td>• “Third places”: non-office locations such as cafes, FedEx offices, libraries, etc.</td>
<td></td>
</tr>
<tr>
<td>• “Fourth place”: Fourth Generation Officing, i.e. using rentable business centers.</td>
<td></td>
</tr>
<tr>
<td><strong>Client site</strong>: use of client workspace by site-based teams performing consulting work.</td>
<td></td>
</tr>
<tr>
<td><strong>Flexible Work Scheduling</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Flextime</strong>: a work schedule with varying start and end times, within the limits set by company policy. Employees still work same number of days and hours per week but are allowed to trade some early morning or late afternoon non-core work hours. Originally established to allow employees to avoid commuter rush hours. Some policies also allow trading of some core hours.**</td>
<td></td>
</tr>
<tr>
<td><strong>Compressed work week</strong>: a work schedule that condenses a standard work weeks into fewer, longer days. Sometimes implemented as ‘summer hours,’ with a half-day on Fridays.</td>
<td></td>
</tr>
<tr>
<td><strong>Job-sharing</strong>: two people share tasks and collectively do the work of one full-time equivalent employee.</td>
<td></td>
</tr>
<tr>
<td><strong>Part-time work</strong>: working fewer hours than the established, traditional 40-hr week.</td>
<td></td>
</tr>
<tr>
<td><strong>Innovative Workspace Design</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Reduced space</strong>: reduced space allocation per workstation, achieved by eliminating some or all personal storage and reducing worktop area.</td>
<td></td>
</tr>
<tr>
<td><strong>Desk sharing</strong>: several employees share a desk during the work day.</td>
<td></td>
</tr>
<tr>
<td><strong>Grouped workstations</strong>: grouping of desks next to each other, which results in more efficient use of space compared to individual cubicles or desks.</td>
<td></td>
</tr>
<tr>
<td><strong>Zoned workstations</strong>: placing workstations by job type or team in relatively close proximity.</td>
<td></td>
</tr>
<tr>
<td><strong>Mixed-in workstations</strong>: placing workstations of different type (size, configuration) next to each other.</td>
<td></td>
</tr>
<tr>
<td><strong>Open workstations</strong>: Open office design and touch-down areas defined by absence of walls or partitions.</td>
<td></td>
</tr>
<tr>
<td><strong>Semi-open workstations</strong>: cubicles, team spaces, and work lounges defined by some but not complete wall separation or enclosure, such as screens, low partitions, and curtains.</td>
<td></td>
</tr>
<tr>
<td><strong>Support spaces</strong>: spaces that have not been planned for continuous work at but that have evolved to support some work-related tasks such as discussions, laptop use, writing, talking on the phone, etc. This includes booths, quiet spaces, shared print areas, kitchens, lounges, and recycling stations, among others.</td>
<td></td>
</tr>
</tbody>
</table>
Alternative Workplace Location

Companies support mobile employees who are either ‘occasionally mobile’ or ‘full-time mobile.’ Home-based work, considered one of the most viable low-cost options, and hoteling are still the most commonly used AWS options in the US. Based on the latest American Community Survey data, just over 2% of the US workforce (2.8 million people, not including the self-employed or unpaid volunteers) considers home their primary place of work. About 20-30 million US employees work at home at least one day a week.²

Flexible Workplace Scheduling

In US, part-time schedules are a prevalent AWS option, with six out of ten (58%) organizations offering this arrangement to their employees. Large organizations are found to be more likely than small organizations to offer formal part-time schedules.

<table>
<thead>
<tr>
<th>Flexible Scheduling Arrangement</th>
<th>Formally</th>
<th>Informally</th>
<th>Neither</th>
</tr>
</thead>
<tbody>
<tr>
<td>Part-time/reduced-hours schedules</td>
<td>47%</td>
<td>11%</td>
<td>42%</td>
</tr>
<tr>
<td>Telecommuting from other locations</td>
<td>38%</td>
<td>22%</td>
<td>40%</td>
</tr>
<tr>
<td>Flextime with “core hours”</td>
<td>35%</td>
<td>16%</td>
<td>49%</td>
</tr>
<tr>
<td>Compressed workweek</td>
<td>26%</td>
<td>12%</td>
<td>62%</td>
</tr>
<tr>
<td>Transition period part time</td>
<td>21%</td>
<td>15%</td>
<td>64%</td>
</tr>
<tr>
<td>Break arrangements</td>
<td>15%</td>
<td>16%</td>
<td>69%</td>
</tr>
<tr>
<td>Shift flexibility</td>
<td>14%</td>
<td>9%</td>
<td>77%</td>
</tr>
<tr>
<td>Nextime, “core hours” do not apply</td>
<td>13%</td>
<td>17%</td>
<td>70%</td>
</tr>
<tr>
<td>Telecommuting from a satellite location</td>
<td>12%</td>
<td>14%</td>
<td>74%</td>
</tr>
<tr>
<td>Job-sharing</td>
<td>8%</td>
<td>3%</td>
<td>89%</td>
</tr>
<tr>
<td>Phased retirement</td>
<td>8%</td>
<td>7%</td>
<td>85%</td>
</tr>
<tr>
<td>Part-year work</td>
<td>1%</td>
<td>2%</td>
<td>91%</td>
</tr>
<tr>
<td>Alternating location</td>
<td>3%</td>
<td>4%</td>
<td>93%</td>
</tr>
</tbody>
</table>

Table 6. Flexible scheduling arrangements offered by companies

Innovative Workspace Design

A 2008 report by Herman Miller and Gensler indicates that whereas in 1999 space allocation was 73% individual and 27% group, by 2005 that had shifted to 52% individual and 48% group. Seventy percent of companies that have reconfigured their space have converted individual space to open, collaborative spaces; and 50% have reconfigured their spaces to have more conference rooms.³

Generally, companies that adopt AWS achieve the majority of productivity and efficiency gains through the roll-out of modern technologies company-wide, while the majority of RE cost savings and improved agility are realized through the more effective use of space through innovative workplace design, as demonstrated in Fig 16 below.⁴ MIT, Harvard, and Gensler studies indicate a correlation between innovative workplaces design and improved communication, concentration, and productivity (refer to SRER Member Briefing Employees Productivity and Satisfaction in Relation to Alternative Workplace Strategies, 2011).

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³ http://www.hermanmiller.com/MarketFacingTech/hmc/research/research_summaries/assets/wp_Why_We_Meet.pdf
⁴ http://www2.corenetglobal.org/dotCMS/kcoAsset?assetInode=9933581

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![Figure 16. Benefits categorized in relation to the use of technology and workplace design](http://www2.corenetglobal.org/dotCMS/kcoAsset?assetInode=9933581)
Industry best practices require the deployment of AWS according to three major phases – planning, implementation, and evaluation. In the following pages, we describe the steps involved in each phase as identified by leading companies.

**Planning**

SRER Member-Clients and other leading companies recommend that executives follow a step-wise planning phase including engaging relevant parties and undertaking a detailed initial assessment. This requires additional upfront time but saves significant time later in the process. Recommended steps as part of this phase are:

- Make a fact-based business case to the C-suite
- Adopt an integrated evaluation of AWS benefit
- Ensure **strategic stakeholder engagement**
- **Align AWS goals** with existing corporate, RE, business goals
- Assess **space allocation, occupancy, and mobility patterns**
- Map work processes
- Conduct **Pre-occupancy Evaluation (POE)** to identify needs, concerns
- Assess policies, technology, work styles, workplace
- **Identify change management needs**
- Identify AWS options and scenarios
- Draft **design principles**
- Estimate cost savings, RE and space utilization reductions/avoidance, emission reductions, and productivity increases
- Select the most effective, relevant scenario
As part of best practices, top companies form an initial project team led by a senior champion who makes the business case for AWS to the C-suite. This ensures continued leadership and support. Companies document vacancy rates, work patterns, retention and recruitment, and IT security to make a compelling business case from at least three perspectives – RE, HR, and IT. In that regard, executives find it critical to conduct space utilization studies, if they have not done so recently.

Leading executives view the benefits of AWS in an integrated way, evaluating the environmental, financial, operational, human, and branding aspects. Using a Balanced Scorecards approach proves effective in identifying and documenting benefits from adopting AWS as part of the company’s portfolio-wide sustainability strategy (see SRER Portfolio-wide Sustainability Strategy Report, 2010, on use of Balanced Scorecards). SRER Member-Client the US GSA makes use of a Balanced Scorecard to assess its workplaces. According to Gensler, many clients still need help with making the business case to the C-suite, but all clients go through this step. 5

The initial project team ensures strong, strategic engagement from all stakeholders, i.e. senior management, middle management, employees, and key business functions such as RE, HR, IT, and EH&S. RE executives have traditionally initiated AWS implementation but find it necessary to partner with HR and IT to ensure success. IT heads have embraced workplace innovation more quickly than HR executives, who have started to understand the benefits of mobility only in the past two years. Project teams demonstrate the positive impact of AWS to retention and recruitment rates to ensure support from HR. They also bring IT heads on-board by explaining that strengthening network security depends on formalizing mobility practices. Finally, the team seeks to connect with sustainability experts at the company since, many times, the bridge between RE and EH&S is not in place. 6

The team evaluates the business and RE goals and establishes AWS goals that are in alignment. For example, American Express’ program was mainly dictated by business goals. AWS has to be integrated into the overall enterprise sustainability strategy of the company. CoreNet’s study shows that in 2008 only 27% of companies related AWS to sustainability. While this percentage has increased since then, many companies still have adopted AWS programs without tying them explicitly with sustainability.7

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5 Interview with Gensler. 27 April, 2011.
7 http://www2.corenetglobal.org/dotCMS/kcoAsset?assetInode=4910770
Table 7. AWS benefits to stakeholders


<table>
<thead>
<tr>
<th>Employees</th>
<th>HR</th>
<th>IT</th>
<th>Finance</th>
<th>CRE</th>
<th>Sustainability</th>
</tr>
</thead>
<tbody>
<tr>
<td>A tool to balance life and work</td>
<td>Helps attract and retain most talented employees</td>
<td>Leverages technology making IT a partner rather than simply a governor</td>
<td>Saves money freeing up space that can be disposed</td>
<td>Uses real estate assets better and provides measurement to prove it</td>
<td>Reduces carbon generated by heating, lighting, cooling, maintaining square footage</td>
</tr>
<tr>
<td>Introduces a formalized way to be managed by objectives</td>
<td>Helps employees balance work and life</td>
<td>Formalizes security and access controls</td>
<td>Spending can be delayed until buildings can be disposed</td>
<td>Saves money</td>
<td>Reduces car trips</td>
</tr>
<tr>
<td>Provides better tech tools and support</td>
<td>Invests in people, not buildings</td>
<td>IT investment can be funded with savings from real estate</td>
<td>Accommodates consolidations and mergers more easily</td>
<td>Aligns portfolio with needs of workers</td>
<td>Delays the need to construct new buildings</td>
</tr>
<tr>
<td></td>
<td>Elevates the role and training of good managers</td>
<td></td>
<td></td>
<td>Can be rolled out opportunistically</td>
<td>Frees money that can be spent on sustainable initiatives</td>
</tr>
</tbody>
</table>

Establishing the initial baseline is critical. This includes assessing space utilization and mobility patterns by geographic region, building type, business unit, and work type. When it comes to occupancy rates, studies need to take a representative sample into account and incorporate more than one measurement method to ensure greatest accuracy.

In parallel to a space utilization assessment, the responsible executives map the existing work processes. This involves conducting activity analysis to determine dominant work modes, level of task interdependency, and grade level for different job types. The analysis ideally goes in two directions: starting from the individual and moving through the manager and department all the way to the business, and the reverse.\(^8\) Staples used this two-directional analysis to gain additional insights about work activities and their dependencies. Issuing a customized Workforce Performance Survey with a focus on AWS (i.e., Pre-occupancy Evaluation (POE)), to capture employees’ fears, pre-conceptions, stereotypes, concerns, needs, and expectations should be part of this step. In addition to surveys, interviews with focus groups are found to provide additional insights into work styles.\(^9\) For instance, American Express’ Steering Committee held visioning workshops to develop its program. SRER Member-Client the US GSA conducted one-day charretes with its design and workplace consultants, as well as observational studies and interviews with focus groups.\(^10\)

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\(^8\) Gensler uses the approach: individual->work->manager->department->business and the reverse.

\(^9\) Interview with Gensler. 27 April, 2011.

\(^10\) http://www.gsa.gov/graphics/pbs/WorkPlace_Matters_FINAL508_lowres.pdf
Leading executives evaluate the organizational readiness of the company, including existing management policy, technology, work styles, and workplace models. A full evaluation of organizational structure covers deconstructing departmental activities, and identifying change management needs and feasibility. Most executives and workplace consultants consider the emphasis on corporate culture and readiness unnecessary, as mobility is already a way of doing business at most companies. Instead they view AWS as an integral part of the change management process, i.e., as a tool for implementing and facilitating organizational and cultural transformation that is already underway.

A final step of the planning phase is developing AWS scenarios. The project team identifies the set of AWS that: support corporate, RE, and business needs; are most cost-effective; lead to maximum emission reductions and other positive impacts. SRER Member-Client the US GSA prepared carbon reduction scenarios based on different percentage of mobile workers.11

Spatial Models

The physical ramifications of the alternatives are also explored through the preparation of appropriate spatial responses and workplace models, i.e., determining the location of main offices vs. satellite offices, consolidation of buildings, redesign of workspace, etc. **Consultants often use Geographic Information Systems (GIS) to** calculate commute times as well as determine employee commute paths to the office and real estate markets that are advantageous for consolidation, selling, or sub-leasing. Data from in-person audits or RFID tagging is incorporated to determine actual space occupancy of individual buildings, which helps space planners analyze why some areas are underutilized while others are fully occupied. Space planners use all this information together with data from each business unit about their space requirements to create a gap analysis. Executives use the analysis to define how much space can be removed, consolidated, added, or relocated. ‘What if’ scenarios can be run in the database and visualized on a stack plan for buildings and a block plan for floor utilization.12 **SRER Member-Client the US GSA uses a Facility Match Tool**, a set of drawn and written criteria, to assist in choosing office buildings and sites “that are conducive to an emphasis on business values, human capital, and desired results.” 13

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11 [http://www.gsa.gov/graphics/pbs/Leveraging_Mobility_508_compliant.pdf](http://www.gsa.gov/graphics/pbs/Leveraging_Mobility_508_compliant.pdf)
13 [http://www.gsa.gov/portal/content/103975](http://www.gsa.gov/portal/content/103975)
Workplace Design Principles

Executives, together with expert consultants, draft high-level design principles for effectively utilized collaborative office space. A good workplace design facilitates social interaction between employees, while preventing distraction. Open-floor offices, for example, enhance group work but tend to be noisier. Consultants address this by incorporating design solutions that address acoustical needs as well as offer a variety of space options for all kinds of work modes through careful planning. Appropriate zoning, noise barriers, accounting for flows and public vs. private edges, programming space according to the needs of employees by task and position, and designing space to support teamwork and collaboration should be core considerations (see a list of Principles below) (refer to SRER Member Briefing Design Principles for Alternative Workplace Strategies, 2011). Nortel, in collaboration with HOK, focused on the physical aspect of space that supports collaborative work and established global design standards are known as “Studios@Nortel.”

Determining the right amount of enclosed room offering privacy, semi-enclosed, and open spaces to be provided is also part of the process. While moving to less individual space, executives consider what the right number and size of conference rooms needed are. A Herman Miller study shows that, on average, conference rooms are used 30% of the time they are available. Part of the reason is that many times reservations are not kept. The effective utilization, i.e. having the space fully occupied, also implies shifting towards smaller sizes of such rooms. SRER Member-Client Oracle, for example, has already moved towards more and smaller meeting rooms. Multiple-configurations of conference rooms, as well as any other group space, allows users to choose the best fit for the particular type of meeting being held.

Flexible workplace design, including smart furniture design, reduces the time and cost of reconfigurations and on-going operations and maintenance. For example, SRER Member-Client the US GSA created an Adaptable Workplace Lab to demonstrate that using easily reconfigured furniture can save 90% of reconfiguration costs, and reduce reconfiguration time from days down to 90 minutes. Early planning also reduces costs for improving acoustics later on as well.

General design principles for workplaces

**Spatial considerations that reduce resource consumption**

- “Aspire efficient building configurations with favorable ratios between façade and floor area
- Design efficient footprints for workstations to guarantee a relatively low building heat load
- Avoid complex building configurations and high-rise buildings as they require more building material

**Spatial considerations that reduce waste production**

- Provide sufficient building flexibility (i.e. buildings that can accommodate various functions)
- Provide sufficient spatial flexibility (i.e. floor plans that can house various office concepts)
- Provide sufficient workstation flexibility (i.e. stations that can be used by any employee)


**To support idea generation and collaboration:**

- “Offer people a variety of meeting room choices so they can select the best configuration for a particular type of meeting.
- Give people control over the size and configuration of a space. Most meetings evolve and space must support the changes. If the space has been carefully planned, it can flex enough to support these mid-meeting changes.
- Include tools for making ideas visible and provide easy access to all kinds of technology tools.
- Make the meeting spaces big enough that participants can freely stand, stretch, walk around, and, in general, vary their posture. Also, provide enough circulation space that they can huddle or share the same perspective when looking at a computer screen or document.
- Locate group workspaces near moderate traffic paths or ebb-and-flow spaces (casual meeting spaces not owned by one team) to promote cross-fertilization and encourage chance encounters: “Interactions result largely from movement patterns and spatial visibility that make workers available for recruitment into conversations.”

Space design needs to improve not only space efficiency, collaboration, and communication but also indoor environmental quality and occupants’ well-being.

**Overall Evaluation**

As part of best practices, executives estimate the impacts of the various AWS scenarios in terms of: space utilization and RE reduction; cost savings; energy reductions; GHG reductions; and employees’ productivity and satisfaction. They then select the alternative that is most effective and closely aligned with corporate, RE, and business goals.
Implementation

As in the planning phase, leading executives recommend following a step-wise implementation process. The following key steps are identified:

- Establish a cross-functional team
- Hire consultants
- Manage the re-design and repositioning of office space
- Revise the HR and management policies, procedures
- Establish a technology platform, including web-based toolkits
- Develop marketing strategy and provide training
- Configure and implement pilots
- Conduct Post-occupancy Evaluation (POE) to evaluate, adjust
- Establish company-wide policy and standards, accounting for local culture
- Provide portfolio-wide IT platform
- Dedicate budget

Executives **ensure cross-functional integration** and expand the initial project team to formally include heads of RE, HR, IT to form the core team, with RE taking a leading role. The core team is responsible for most of the strategic and tactical decisions. Other executives from EH&S, accounting, and the legal department are included as part of the extended team. In the case of SRER Member-Client Oracle as well as Microsoft, the initiative has been a responsibility primarily of the RE team. Very different from this model, at AT&T, the effort started at grassroots and is now carried out by a cross-functional team.

Outside **consultants and vendors are selected and contracted** as part of the extended team to help with most of the actual work related to conducting studies, re-designing spaces, developing baseline calculations, defining metrics, etc. Utilizing AWS strategists, change management strategists, designers, landscape architects, cultural specialists (anthropologists, sociologists), and technology vendors, among others, has proved invaluable. Bain & Company, BP, Deloitte, KPMG, Lockheed Martin and PNC, among others used Gensler’s services, while Nortel, American Express, GSA, and Microsoft contracted HOK’s Advance Strategies team.
Securing support from C-suite, marketing, and communication departments ensures program success. In many cases, offices establish local teams and means of communication and collaboration among them. The use of web tools and dedicated website for accessing and exchanging information is found to greatly facilitate the process.

To configure the pilot, each of the units within the core team (RE, IT, HR) has specific roles and duties in the AWS implementation (see Table 8 below).

RE Role

RE leaders manage the process of redesigning office space, including new layouts for office workspace and re-configuration of office locations and size portfolio-wide (disposing of unneeded space, consolidating office space, designating core offices and satellite/remote offices, etc). They compile and maintain a RE-related portfolio database by utilizing an integrated Computer Aided Facility Management (CAFM) or Integrated Workplace Management Systems (IWMS) solution interfaced to a CAD and GIS (see SR Inc Member Advisory Real Estate Information Software, 2011). Updated space occupancy data is incorporated as well. This real estate asset portfolio database is made accessible to staff within the company via a portal.  

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HR Role

HR representatives revise the HR policy to account for flexible work options, delineating the approval process and eligibility criteria for participation and recognized types of work status (e.g., traditional, home-based, remote-worker, etc). Reimbursement policies for networking technology and other mobility-related costs, career development, and performance tracking are determined as well. Often, local offices find it necessary to amend the language and HR policy based on local regulations or other specifics. Executives account for changes in the way employees report to their supervisors, i.e. establish a new management policy. To ensure maximum accountability, they often draft and use a Telework Agreement or Assignment that serves as a contract between employees and managers about how and by when work will be accomplished. Education and training are key HR responsibilities. Often, executives help develop a compensation and reward system based on performance rather than in-office presence.

IT Role

The IT representatives are responsible for providing the necessary IT support, a major enabler of AWS. This implies specifying and selecting a secure network platform; supplying equipment (laptops, webcams, cell phones), collaboration applications (teleconferencing, file sharing, etc.) software, and user support; and developing web-based toolkits (online HR application form; surveys; reservation system, etc). Executives recognize that face-to-face meetings still have their place in transferring tacit knowledge and communicating knowledge that is difficult to articulate. In that regard, they focus on advanced telepresence options as superior to other virtual media and closer substitutes for in-person contact than phones, as a best practice. Telepresence compensates for the lost intimacy of face-to-face communication, which decreases perceived accountability, responsibility, trust, and potentially, honesty. This is especially important for first time contacts during team meetings, where the ‘emotional capital’ between people has not been built through previous in-person meetings. SRER Member-Client Oracle has installed Oracle Telepresence rooms which allow remote teams to collaborate more easily and executives to meet more quickly. SRER Member-Client the US GSA offers telepresence in some of its regional offices.

Referring to visual artifacts (sketches, blueprints, etc) is also critical to collaborative imagining and more intimate communication. Video conferencing corrects for this in some cases, but in others, such as with architects or
engineers working on a blueprint, even telepresence will be sub-optimal: “Imagining, then, can be ‘a product of, and resource for, group interaction, especially in problem-solving situations.’” 19 Perkins + Will, a leading design firm, uses telepresence to enable its designers to better communicate from different offices. In such cases where face-to-face interaction and use of artifacts aids creativity and synergies, executives consider other in-person AWS options (meetings at third, fourth places, clients sites, etc) rather than independent remote work.

Once the pilot configuration is over, the HR and marketing and communication departments develops a marketing strategy, including marketing materials to make all stakeholders and especially employees aware of the

specific flexible workplace options and requirements. The provision of in-office and online training for both managers and employees is critical to the successful launch the program.

Pilots should be conducted to test what works and what does not. Pilots are ideally implemented in a number of locations and across all business units, building types, and suitable work types as to provide an accurate sample for post evaluation. Still, many firms skip this step, which leads to inefficiencies, additional costs, and increased risk of legal and safety issues as well as employee concerns. Pilots for the various on-site and off-site AWS are conducted in select locations. After the pilots have been implemented and sufficient time has passed (usually at least 3-6 months), executives administer a Post-occupancy Evaluation (POE) survey for both employees and managers to assess the effectiveness of the pilots. Many companies conduct several POEs at different times to make any necessary adjustments to the pilot. Examples include Bank of America, HP, MetLife, Nokia, Nortel, among many others. SRER Member-Client the US GSA administered a comprehensive, interactive pilot, WorkPlace 20.20, in an effort to develop and test workplace solutions for improving the organization’s performance and act as a catalyst for both more innovative work environments and change management.20

After evaluating the pilots and accounting for the findings, executives implement AWS company-wide for maximum benefit. This involves establishing high-level AWS policy and standards. According to studies, currently only 15% of most leading firms have global standards program.21 Only 6% have formal workplace standards globally, while 31% have such standards, but vary by work type.22 Company-wide targets are set as well. Sometimes, executives have to address varying starting points (in terms of organizational readiness, IT preparedness, space utilization rates, etc) across regions and thus set different regional targets initially, while following the same corporate AWS approach and policy.

Standardization and Local Culture

Reconciling the drive towards standardization with the need to recognize regional differences is necessary. Conducting local analysis by region helps account for cultural specifics, mobility patterns, work styles, and local regulations that may require amendments to the company-wide policies and standards.

According to some executives and workplace consultants, local context (including building codes, employment and union regulations, and technical standards) is of great importance when selecting AWS options (see SRER Member Briefing Alternative Workplace Strategies, Regional Policies, and Local Culture, 2011). For example, they find telework and home-based work to be well suited for North America where homes tend to be larger, while work from ‘network of places’ that are not home but rather corporate places within the portfolio are suited for India and China, where affiliation with the company implies belonging to a physical office space. Home-based work and work from third places is found to work well in Singapore, Australia, and Japan. In Europe, employment regulations (access to natural light, work hours during holidays and weekends) preclude flex time and certain AWS options. The closer proximity of work, home, and civic centers makes executives focus on an interactive workplace greater rather than on home.23 According to other leading firms such as Nortel, however, people have very similar work styles and mobility patterns and thus, it is the level of adoption of technology and available bandwidth rather than anything else (such as apartment size in the case of homework) that matters for adopting the same AWS options company-wide. In terms of design, Herman Miller’s research shows that within all countries, 97% of workstations follow global guidelines.24 Adopting company-wide policies and design standards that are high-level and comprehensive, allowing for variations and focus on different AWS options by region helps achieve a balance between standardization and differentiation.

Company-wide IT, Financial, Educational Support

Configuring IT platforms and support company-wide enables the successful implementation of AWS. This includes dedicating budget to the AWS programs as well as providing on-going training and education. As with the pilots, the team gathers data throughout the implementation process and evaluates the program to enable continuous improvement and capture any new opportunities.

Evaluation

Top companies continuously gather data and evaluate both the AWS pilots and company-wide program in order to ensure continuous improvement. Recommended steps as part of the evaluation process include:

- Define relevant KPIs and Metrics
- Gather Data (choose effective methodology)
- Evaluate All Impacts
- Share Results and Lessons Learned (internally & externally)
- Continuous Improvements

In 2008, a survey of Fortune 500 companies identified that almost a fifth (19%) did not establish KPIs to measure the effectiveness of their AWS program. In 2009, this culture began evolving as executives from top companies started to place strong emphasis on metrics to measure the effectiveness and success of AWS. Executives first monitored AWS success using quantitative metrics, reflecting core business drivers. Topping the list were footprint reduction and cost reduction. These preceded “soft” measurements such as employee satisfaction and productivity.

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Figure 22. Evaluation

Figure 23. Pre-2008 KPI used by Fortune 500 companies to measure AWS effectiveness

Source: JLL Rethinking Occupancy Metrics for Improved Occupancy Planning, May 2010

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Defining relevant KPIs and placing equal emphasis on both hard (space utilization, total cost of occupancy, energy, GHG emissions, IT security) and soft metrics, (employee engagement, productivity, and satisfaction; retention and recruitment; and disaster recovery) is necessary to capture the full range of benefits. Leading companies such as American Express, AT&T, HP, Microsoft, and Nortel have already comprehensively assessed the results of their AWS programs.

**Hard Metrics**

Effective KPIs for most key hard metrics of AWS success are listed in Table 9 below. Most of these are FTE-based metrics as they more accurately account for mobility patterns.

<table>
<thead>
<tr>
<th>category</th>
<th>representative KPIs</th>
<th>example units</th>
</tr>
</thead>
<tbody>
<tr>
<td>space utilization</td>
<td>FTE per workstation</td>
<td>persons / workstation</td>
</tr>
<tr>
<td></td>
<td>usable floor area per workstation</td>
<td>workstations / sf</td>
</tr>
<tr>
<td></td>
<td>usable space to support space</td>
<td>% [unitless]</td>
</tr>
<tr>
<td>total cost of occupancy</td>
<td>annual cost per workstation</td>
<td>$ / (workstation x yr)</td>
</tr>
<tr>
<td>energy use</td>
<td>energy use intensity</td>
<td>BTU / (sf x yr)</td>
</tr>
<tr>
<td>C02e emissions</td>
<td>C02e emissions intensity</td>
<td>pounds / (sf x yr)</td>
</tr>
</tbody>
</table>

**Jones Lang LaSalle** proposes frequency-based metrics to evaluate total cost of occupancy (TCO) and space utilization as illustrated in Figure 24 and 25 below.

<table>
<thead>
<tr>
<th>category</th>
<th>other KPIs</th>
<th>example units</th>
</tr>
</thead>
<tbody>
<tr>
<td>space utilization</td>
<td>annual cost per FTE</td>
<td>$ / (FTE x year)</td>
</tr>
<tr>
<td></td>
<td>usable floor area per FTE</td>
<td>sf / FTE</td>
</tr>
<tr>
<td>total cost of occupancy</td>
<td>annual cost per usable floor area</td>
<td>$ / (sf x year)</td>
</tr>
<tr>
<td></td>
<td>annual cost per gross floor area</td>
<td>$ / (sf x year)</td>
</tr>
<tr>
<td>energy use</td>
<td>energy use per FTE</td>
<td>BTU / (person x year)</td>
</tr>
<tr>
<td></td>
<td>energy use per workstation</td>
<td>BTU / (workstation x year)</td>
</tr>
<tr>
<td>C02e emissions</td>
<td>annual C02e emissions per FTE</td>
<td>pounds / (FTE x year)</td>
</tr>
</tbody>
</table>
Space Utilization

Space utilization is one of the most important measures. It consists of three components – allocated, reserved, and utilized space. Executives are still struggling to get the third and most critical component right. As previously noted, traditional officing is characterized by 50% average utilization, and AWS programs aim to increase this to 85%.27

To obtain effective metrics, the first step is to establish a clear definition of ‘square footage’ and ‘floor area’ as based on total area, usable area, net usable area, rentable area, or workspace area according to a specific standard (IFMA, BOMA, IPD, etc.) to ensure robust calculations and comparisons across the portfolio (see Benchmarking Real Estate Portfolio Sustainability, 2011). Some organizations, such as SRER Member-Client the US GSA, find that the usable square footage based on BOMA’s definition, as opposed to the total or rentable square footage which artificially raises utilization rates, is a more effective and focuses attention on how the mission-critical spaces (work spaces and not support spaces) are utilized. Executives also define ‘workstation’ in terms of its boundaries (the desk and associated critical support space) and type (cubicle vs. open-space layout). Establishing consistent definitions or conversions remains a challenge for most firms.

The **FTE-based metrics have proved to be very effective** for assessing space utilization in light of more mobile work options (see *SRER Benchmarking Energy Use, CO2 Emissions, and Space Utilization*, 2011). Ideally, a disaggregated FTE analysis of space utilization considers the different workstation configurations (closed, semi-closed, open space workstations). For example, SRER Member-Client McKesson conducts such disaggregated sf/FTE analysis for office locations with significant percentage of mobile employees. SRER Member-Client the U.S. GSA is considering moving from towards sf/FTE. For its flexible workplace space, Cisco calculates the sf/person housed, where ‘square feet’ is defined according to BOMA's rentable square feet and ‘person housed’ is defined as the badged personnel requiring office space within a Cisco facility, regardless of duration or frequency of this requirement. However, many companies still use the more straightforward square foot per employee measure, which does not account for employees working remotely or part-time.

**Energy**

While TCO already accounts for utility costs, leading executives track energy use carefully due to the importance of a disaggregated analysis from a sustainability standpoint. The most effective KPIs relate to energy use intensity (kBTU/sf), energy use per FTE, and energy per workstation (see Table 9 above).

**Cost of Occupancy**

Most companies successfully measure the total cost of occupancy (TCO) to capture cost reductions from increased occupant density (shared space), occupancy rate, and the elimination of unneeded space. The most effective metrics, as reported by top companies, is **total cost per workstation**. The total cost includes rent, insurance, utilities, operations, maintenance, and management costs, etc. Many companies, such as SRER Member-Client Oracle, also use cost per person served to account not only for the cost related to space but also the cost of technology and training, among others factors. This cost varies greatly by location. According to IFMA's 2008 annual survey, the annual average cost per person served for the US was $8,500/workstation (including rent, utilities, maintenance, security, insurance, etc), while in the Bay Area this was $20,000/workstation.28

GHG Emissions
Real estate executives are increasingly looking at aggregated GHG emissions and measuring their GHG footprint. Today, they are interested in measuring emissions relative to revenues as well as emissions per employee. As with space utilization, however, companies are struggling with how to capture emissions data and how to attribute reductions to AWS specifically. The process is very much in a state of flux. It is easier to measure emissions associated with a building, and harder to measure those generated outside of it. Top companies with a significant percentage of mobile employees, such as SRER Member-Client Autodesk and Adobe, have already accounted for scope 3 business travel and employee commuting emissions. At the same time, even top-performing companies do not account for home-based work emissions (see SRER Report Enterprise Energy and Carbon Accounting, 2011). Workspace consulting firms are developing simple models for capturing emission reductions due to AWS deployment.

IT Network Security
Evaluation of IT network security is of great importance to IT executives. Casual, informal mobility exposes the network to firewall breaches and unsupported devices and applications. Such incidents are measurable and preventable, and IT executives are therefore motivated to support the AWS team in this regard, as well as in the deployment of key enabling technologies.

Soft Metrics
Engagement, Productivity, Satisfaction
Employee engagement, productivity, and satisfaction, cannot easily be measured and quantified. However, executives consider them important and legitimate measures of AWS success. AWS re-engages rather than disconnects employees with the company as they undergo training, participate in workshops, collaborate more, and get acquainted with new technology supporting the program, as opposed to staying secluded in cubicles or private offices. HR executives at top companies have shown that the more engaged an employee, the more productive he or she is. Highly engaged employees perform up to 20% better than their peers.29 SRER Member-Client the US GSA considers employee engagement critical, and thus assesses it through a 12-question Gallup survey: “employee

engagement is a critical factor in an organization’s overall effectiveness.” The US GSA survey shows 70% of employees were more proud of their organization and 69% felt better about their well-being as a result of their participation in AWS programs.30 Increases in productivity and satisfaction due to more innovative workplaces have been identified across the board. The average productivity increase is found to range anywhere between 10-40%. According to expert workplace consultants, what matters more than determining the exact percentage increase is to focus on removing barriers to productivity and identifying what makes employees productive. 31

Retention and Recruitment

The additional flexibility offered affects the retention and recruitment (RR) of employees. RE executives are seeking closer alignment with HR executives to account for RR due to the high costs of turnover (terms of on-boarding, equipment, training, etc.). Surprisingly, HR tends not to be motivated by work-life balance issues until these affect the RR metric, which is when and why HR executives join the core AWS team. 32 Also, isolating AWS impacts on RR from other considerations to stay or leave a job (compensation, job satisfaction, personal reasons) is challenging.

Disaster Recovery

Companies lose significant amounts of money when they have to close a facility even for a day due to unexpected emergencies. If they do not have mobile workers, this means that all employees who are assigned to the facility do not work on that day. This is less of a problem for companies with a significant number of remote employees who can complete their work from another location. In such cases, AWS becomes a key element of disaster recovery. 33

While research shows that over one third of companies do not track AWS results, leading executives define a continuous data gathering process for the KPIs they have defined, including the methodology and frequency for collecting data. Energy use and TCO assessments are relatively straightforward to track, compared to space utilization, GHG emissions, and human capital outcomes, discussed below.

Space Utilization

Accurately tracking space utilization presents a significant challenge. It is hard to obtain accurate data of space utilization as this requires real time, location-specific measurement to determine which spaces are actually occupied (as opposed to being allocated or reserved). **Best practices include measurement on an hourly basis** across different geographic locations to gain deeper insight into work pattern dynamics. This is accomplished through manual counts of occupants over several days at selected locations. SRER Member-Client the US GSA, Prudential UK, and Nortel, among others, have conducted such studies. Such one-time space utilization studies cannot, and need not, be done on regular basis as they are costly and time consuming. However, they are very effective in establishing the company’s baseline when making the business case to C-suite during the planning phase, as well as at ‘inflection points,’ when executives have to decide whether to eliminate or add office space. 34

Hoteling reservation software companies such as AgilQuest, PeopleCube, DeskFlex, among others, are proliferating. Increasingly advanced reservation systems makes it easier for companies to use the reservation data for their assessment. One emerging method for assessing space utilization involves IP address tracking. This simple, cost-effective method offers great promise in resolving the problem of identifying actual occupied space rates.

What is found to be a best practice is to combine multiple data gathering methods to ensure maximum accuracy. SRER Member-Client the US GSA, for example, uses its payroll code system, hoteling AgilQuest software, and badge-in system. Nortel combines badge-in, parking, cafeteria, and remote access data to ensure more precise calculations. Nortel has also automated the data gathering process. SRER Member-Client McKesson recommends focusing on the deployment of technology that improves and automates the data management process as much as possible. SRER Member-Client Cisco uses its Lenel badge-in system data with built in contingency and finds the method alone accurate enough to evaluate space utilization.

The most common methods to gather occupancy data are:

- Security access or badge monitoring - often accounts only for facility entry, not exit
- Hoteling reservation software – does not account for no-shows or users who use spaces without registering

34 Interview with Keith Perske. Senior Workplace Strategist (eBusiness Strategies). May, 2011.
• Parking – accounts only for car users, and may not correctly account for car pooling
• Cafeteria – accounts only for cafeteria users
• On-the spot manual space surveys – cannot be done frequently enough to account for business cycles and peaks
• Self-reported surveys – unreliable; often subject to bias or inaccuracy
• Electronic occupancy sensors – often accurate, but costly
• Remote IT access – only accounts for remote workers
• Fixed line phone use – locations are well known
• IP address use – most recent method, holds promise for more accurate and reliable tracking
• Cellphones – tracking systems can determine the presence and movement of phones

GHG Emissions

When measuring GHG emissions, leading executives measure scope 1, 2, and 3 emissions associated with each building. It is critical to assign telecommuters to a specific office (employee tag) to better account for avoided scope 3 emissions from commuting (see SRER Report Enterprise Energy and Carbon Accounting, 2011).

Engagement, Productivity, Satisfaction

Executives assess employee engagement, productivity, and satisfaction through company-wide surveys. Leading companies administer either POEs or Workforce Surveys, with focus on AWS, to both employees and managers at least once a year. Evaluating both perspectives is necessary to establish legitimate findings. SRER Member-Client Oracle conducts such company-wide surveys twice a year in certain locations. SRER Member-Client Cisco is conducting an on-going customer satisfaction survey which addresses workplace evaluation and is moving towards developing separate survey for employees. AT&T conducts a telecommuting survey to assess both productivity and satisfaction.

Measuring sick days taken does not provide a robust proxy for employee productivity, and companies have accordingly shifted towards more customized assessments. Survey questions usually ask employees to agree or disagree with certain statements (with a scale ranging from “strongly disagree” to “strongly agree”) or evaluate the importance of certain workplace aspects. For example, Gensler has developed a Workplace Performance Index (WPI) to help Boston Properties, Bank of America, Credit
Suisse, Deloitte, HP, MetLife, and Nokia, among others, in assessing the productivity and satisfaction increases due to the adoption of AWS. SRER Member-Clients Oracle and Visa have developed their own customized comparable quantitative assessments.

Executives comprehensively evaluate the effectiveness of AWS on a regular basis to make appropriate adjustments. To assess the overall success, they look at RE costs and footprint reductions, GHG emission reductions, and human capital outcomes. Benchmarking the AWS options against each other helps executives determine which solutions work better and are more cost-effective. However, many companies do not yet disaggregate the evaluation process by AWS solution due to the level of data granularity and analysis required.

One of the greatest challenges that companies face is related to the difficulty of attributing cost reductions or productivity increases specifically to AWS. For example, SRER Member-Client Oracle does not calculate the elimination of unneeded space as a function of AWS but embeds it as part of the real estate management. Space utilization impacts are hard to determine due to dynamic nature of Oracle’s portfolio due to frequent mergers and acquisitions.

Executives **share results and lessons learned of AWS deployment** internally and externally. This helps make the business case for AWS stronger to ensure continuous support, including funding, by C-suite. Based on results, the responsible team can present a better case for making changes to the program. Executives also find it useful to document benefits in case studies available to the public. These serve as great marketing material for showcasing technology and enhancing the company’s brand. SRER Member-Client Cisco has published case studies on its program, including quantifiable benefits. SRER Member-Client the US GSA has published about 14 case studies identifying challenges, solutions, and results.
2.3 Industry Best Practices

Nortel Networks

Motivation

Nortel, unlike many other companies, has had a comprehensive way of looking at AWS. David Dunn, Head of Workplace Innovation, and Global Leader, Real Estate at Nortel, noted that the company has always aimed at balancing environmental, financial, real estate, and human benefits as much as possible to achieve a win-win-win-win.\(^{35}\) The company aimed at achieving significant space consumption efficiency to significantly reduce costs and RE footprint by 50%. Sustainability and ‘green pride’ have been of importance to both the corporation and individuals.\(^{36}\) Nortel also uses AWS to enhance work-life balance, innovation, and productivity. In 2003, the UK passed legislation about flexible work for parents with children under six years of age and, thus, regulatory compliance is also a driver.\(^{37}\)

\(^{35}\) Interview with Nortel. 10 May, 2011.


\(^{37}\) http://www.flexibility.co.uk/flexwork/general/aprilchanges.htm
Nortel has found that AWS is a means to improve business effectiveness: “it makes sense for staff in Europe to participate in conference calls with colleagues in North America in the evenings, from their own homes. ‘This gives more flexibility to the ways we do business.’” 38 The last and related element is Nortel’s marketing interest, like other telecom companies, in encouraging its clients to consider teleworking and use its technological solutions that enable remote work.39

AWS Program

Nortel has for a long time successfully implemented an integrated AWS with focus on telecommuting and shared office space. Participants have various work responsibilities – as executives, managers, sale and marketing staff, ‘road warrior,’ technical support staff, project managers, software developers, and training instructors. Currently 12,000 of the company’s 35,000 employees are teleworkers, of which 3,000 are full time and 9,000 are part-time.40 Since 2001 Nortel deployed a global Integrated Work Environment Strategy (IWE) and policy. 41

Planning

In 2004, Nortel conducted a detailed space utilization study by country for a representative sample of 10% of all employees, and determined that the average global occupancy was 50% at any time of the work day, with higher rates observed in Asia. Based on this vacancy study, Nortel set aggressive space reduction targets. It used multiple ways to gather data that nobody could dismiss and that would get a lot of attention – full 2-day manual count of people by dedicated staff, badge, cafeteria, parking lot, and remote access IT data (which has proved an effective way to determine how many people work remotely at any time). 42

Nortel, in collaboration with HOK’s global Advanced Strategies Team, carefully analyzed the physical attributes of office space, and the way technology is woven in. The team considered the implications of mobility, reasons for going to the office (more social, cultural, educational than work-related), circulation, amenities, public versus private edges, and team spaces that have identity: “[The goal] was to really design for teams not individuals…spaces that are all about sharing, creativity, innovation,” shared David Dunn. He explained that zoning by function was adopted to resolve any concerns about acoustic and other disturbances.

38 http://www.andrewbibby.com/telework/nortel.html
39 http://www.andrewbibby.com/telework/nortel.html
40 http://www.flexibility.co.uk/cases/location/nortel.htm
42 Interview with Nortel. 10 May, 2011.
Nortel introduced telecommuting and Alternative Officing (New Wave Officing) in 1995. In the early 2000s the company issued a Workspace Protocol for smaller workstations, and a single universal simplified baseline. They intended to achieve a global average of 200 sf/person served by any facility. The policy framework defines four employee categories based on level of mobility and to success. The IWE has been collaboratively executed by the RE, HR, and IT departments. Nortel has also partnered with HOK and Regus, a global provider of workplace solutions. Nortel established regional teams who populate and share data related to the program (participation, space utilization, etc) via dedicated website. Getting senior executive recognition and support for embracing mobility as part of Nortel’s DNA has been key. 43

Nortel established about eight pilots at the same time in each of the world regions it operated, across all business units, building types, and work types, to learn the most and fundamentally change the way the enterprise functioned. The program was rolled out company-wide soon after, with a corporate level policy and goals. Executives did not find any significant obstacles, due to regional cultural differences, to adopting the same approach in all locations: “The world has moved towards a consistent, ubiquitous reality…it is about team settings that are similar and mobile, virtual strategies that are almost identical…components of space are pretty similar around the world,” explained David Dunn. Home-based work or customized office space has not posed special challenges in implement-

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ing the program in Asia, contrary to widespread speculation. The starting baseline has been different in each region, and therefore, initial regional targets differed based mainly on the level of technology adoption and bandwidth availability rather than apartment size (for home-based work) or cultural perceptions. Densities of occupancy and higher RE premiums in Asia related to higher expectations, but over time such differences have disappeared. The only true local changes involve language adjustments to the HR policy.

Post-occupancy Evaluation (POE) was conducted 3 and 6 months after each project to assess AWS effectiveness. Looking at the data for constant improvement of tools and strategy to be applied to the subsequent project as well as seizing the next (?) opportunity has been a critical step of the process. 44

Approval and Set-up Process
The approval procedure requires the employee to complete an online telework application and secure approval from his line manager. Nortel has developed a detailed self-administered questionnaire to be completed by employees, which evaluates the ‘psychological, environmental and personal aspects of work-at-home’. Based on a point score, employees are assigned a flexible work status. Once permission is granted, IT staff begins the technical process of installing an ISDN line and configuring the home equipment (furniture, printers, fax machines, etc). The HR department issues a revised employment contract and issues a health and safety checklist to be completed by the employee. The company practices management by objective setting, performance monitoring, and pay-for-performance. The entire process takes up to 4 weeks.

Optional workshop-based seminars are provided for both remote managers and teleworkers, with formal training built into the telework program globally. Training uses online web based tools as well as some face-to-face sessions depending on the region. The multiple online tools help employees to telework properly, establish their-home-based office, and receive online training.45

Nortel emphasizes the importance of technology for all four categories of worker. It provides powerful remote access tools (Nortel VPN Client, SSL VPN, Remote Access Manager, WLAN) to connect remote workers to cor-

44 Interview with Nortel. 10 May, 2011.
45 http://www.andrewbibby.com/telework/nortel.html
porate applications and with each other. Helpdesk support and remote diagnostics and fixes are available in case of any problems with remote access. 46

**Telecommuting**

Nortel's interest in telework originated in US and Canada. Nortel's most concerted effort has been in Richardson, Texas, where the company launched an incentive pilot in October 1998 which lasted a year. It offered to pay employees who became full-time teleworkers the sum of $2400 ($200 per month), payable in six monthly installments. Employees required their manager's approval to participate, and had to in return give up their office space entirely. Hundreds of employees participated, and the savings on property, from recovered office space, were equivalent to eliminating the square footage area of a four-story office building. The great success of the pilots in US and then UK and mainland Europe led Nortel to implement a mature program globally. 47

**Office Design**

The team implemented the same design standards in most locations worldwide. The latest global design standards are known as “Studios@Nortel” for leadership, sales, project, and base studios. The idea behind the design standards is to also reinforce the company's band and identity of teamwork and creativity by making all offices easily recognizable as Nortel's. 48

**4th Generation (4G*) Office**

Since 2008, Nortel has moved from its current 3rd generation ‘Alternative Officing’ to a new 4th Generation ‘Virtual and Experiential Officing’ by introducing a virtual, on-demand office solution. This involves using the worldwide business centers of a third party - Regus. Employees can access any Regus business center around the world by using their Nortel Universe card to book a workspace or meeting room. Nortel has created a 4G* support platform of ‘virtual sites,’ incorporating teleworking, utilization of Regus Business cards, and hotel business centers and meeting spaces. All 4G* offices are hyperconnected, green, and experiential. Zones of activity are tied to the business need and experience sought

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46 [http://www.flexibility.co.uk/cases/location/nortel.htm](http://www.flexibility.co.uk/cases/location/nortel.htm)
(social, educational, sustainable, healthy, self-managed, temporal, team, and brand driven). Nortel’s motivation has been to accommodate an extremely mobile workforce and retain young, talented populations.

In addition to embracing an unprecedented degree of mobility, Nortel also aimed at addressing the historic physical growth that had not been well-managed. David Dunn explained that what triggered the move to 4G* was the realization that the most expensive sales and marketing offices were utilized by each employee for only few hours a week. With the new strategy, there are no leases for many sites, and cost is based on utilization and demand. Sellers and marketing agents will be mostly ‘out of the office.’ The goal has been to achieve a 90% free address work style.

The idea has been to close all small sites (<200 people) and consolidate remaining offices into a minimum set of Core Sites and Regional Business Centers.

Based on the experience with the program at Nortel, executives have identified seven key factors for successful program implementation. Ensuring each of the following pieces is critical:  

- Senior executive ‘Godfather’  
- Buy-in from line management  
- Strong teamwork between IS, HR and facilities management  
- Early customer wins and show cases  
- Innovative marketing  
- State of the art technology  
- Efficient processes and use of electronic tools

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49 http://www.andrewbibby.com/telework/nortel.html  
50 Interview with Nortel. 10 May, 2011.  
52 http://www.andrewbibby.com/telework/nortel.html
Impacts

Real Estate Reduction

Real estate cost savings are also substantial. The initiative has resulted in the accelerated elimination of about 150 sites, and major associated operational cost savings. 53Nortel has 70% new properties since IWE was launched, at less than the established global average 200 sf/employee (compared to the historical 350sf/employee). The company has achieved a 25% overall space demand reduction and 25% consumption reduction portfolio-wide, leading to significant operational cost savings (see Table 11).54

The firm estimated in 1998 that its telework program was bringing in savings of over $8 million annually from reduced real estate costs. 55 Nortel calculated that home-based workers cost on average £2,000 per year, whereas an office based worker cost on average £15,500 in rent and operating costs. This means that home-based workers can each save the company over £13,000 annually. 56

Table 11. Projected operational savings (including rent) from rolling the 4G* Officing. In reality, savings have been surpassed.


<table>
<thead>
<tr>
<th>Nortel’s “Presence”</th>
<th>YE 2008</th>
<th>Scenario</th>
<th>Net impact</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Core Sites</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Nortel leased or owned</td>
<td>21 globally</td>
<td>8 globally</td>
<td>Saving $97M annually</td>
</tr>
<tr>
<td>• Serviced &amp; operated by Nortel</td>
<td>(7.3M Sq. Ft)</td>
<td>(4.1M Sq. Ft)</td>
<td></td>
</tr>
<tr>
<td>• Leveraged for face-to-face work and R&amp;D</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Housing for anchor investments such as critical labs and data centers</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Situated to support more than 200 local workers</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Regional Business Centres</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• To support customer presentations &amp; meetings collaborative requirements</td>
<td>156 globally</td>
<td>21 globally</td>
<td>Saving $54M annually</td>
</tr>
<tr>
<td>• No anchor investments (labs, data centres)</td>
<td>(1.6M Sq. Ft)</td>
<td>(0.4M Sq. Ft)</td>
<td></td>
</tr>
<tr>
<td><strong>Virtual Sites</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• “Pay as you Go” Regus Space globally</td>
<td>up to 950 or more globally+ all telework locations</td>
<td>Additional $17M Saved through Mgmt Action/Reduction</td>
<td></td>
</tr>
<tr>
<td>• Hotel Business Centres &amp; meeting spaces (with temporal branding)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Other innovative solutions (e.g. 3rd party videoconferencing centres)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Telework</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

53 http://www.andrewbibby.com/telework/nortel.html
55 http://www.andrewbibby.com/telework/nortel.html
56 http://www.flexibility.co.uk/cases/location/nortel.htm
Productivity and Satisfaction

According to multiple surveys, 94% of teleworkers believe they are more productive when working remotely, and 65% of managers have confirmed this. The reported average increase in productivity is 15-20%, i.e. an equivalent to additional 1.2 hours of work per day which translates into $450,000 daily in increased productivity when applied to the 3,000 full-time teleworkers. 57 Teleworkers are considered some of the highest performing and most valuable employees. They have been least impacted by downturns, which further proved the benefits of mobility.58

Satisfaction has also increased. Surveys indicate teleworkers are 11% more satisfied and 41% more motivated compared to non-teleworking colleagues at Nortel. The company earned EPA’s “Best Working Place for Commuters” award.59

American Express

Motivation

American Express launched a global BlueWork program to allow for flexible work options. The motivation has been increasing innovation and productivity, while lowering real estate costs. 60 Additional drivers include staff retention and attraction, customer satisfaction, planning efficiency for maximum flexibility in light of rapid headcount growth, brand enhancement, and technical excellence. 61

AWS Program

The focus of BlueWork is a smart, flexible, high-performance work environment that supports the firms’ business objectives. The BlueWork program has identified four types of work spaces: 62

- Hub - employees with jobs that require face-to-face time in one of the company’s office locations
• Club – employees that go into a hub office no more than three times a week either because they work part time or work some days from another location, such as home or another campus. Club employees check into a hub office and are given space to use that day.
• Roam – employees usually working on the road, such as sales people or someone with client management responsibilities, who have no office.
• Home - employees who are given a stipend to work from home.

Figure 29. American Express open workspace.
Source: CoreNet Global Summit, March 2011

Implementation

The project has been a joint effort by the HR, global RE and global IT teams at American Express. The firm established a cross-functional Steering Committee, led by “Change Champions” and “Migration Managers,” to engage the relevant parties, make the business case for BlueWork, formulate the project vision, goals, and design objectives. The program strategies were dictated by business goals. The Committee conducted visioning workshops, shared lessons, and developed metrics. A communication and educational strategy were developed as part of the program. Technology and a web-based tool, the BlueWork Change & Communications Toolkit, have been provided to employees to enable Blue Work.63 Pilots have been conducted in chosen location. After benefits have been quantified in case studies, the program has been delivered globally.

63 Source: CoreNet Global Summit, March 2011.
Success is assessed in four categories: (1) financial performance, (2) customer satisfaction, (3) employee engagement, and (4) technical excellence. Real estate footprint and related costs have decreased. The average annual cost avoidance related to real estate optimization has been $17–20 million. Increase in collaboration and innovativeness has been reported by most office, especially in Sydney, Singapore, and London. Stakeholder engagement early on and continuous participation has been identified as critical to program success.

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64 CoreNet Global Summit, Berlin 2008.
65 CoreNet Global Summit, March 2011.
Table 12. Results of BlueWork at American Express’ headquarters.
* per 100 people; Source: CoreNet Global Summit, March 2011.

<table>
<thead>
<tr>
<th>Workplace and Meeting Room Statistics</th>
<th>POD (Headcount 753)</th>
<th>POA (Headcount 851)</th>
</tr>
</thead>
<tbody>
<tr>
<td>VP offices</td>
<td>35</td>
<td>33</td>
</tr>
<tr>
<td>Hub W/S</td>
<td>794</td>
<td>715</td>
</tr>
<tr>
<td>Study workstation (shared)</td>
<td>0</td>
<td>94</td>
</tr>
<tr>
<td>Touchdown (shared)</td>
<td>10</td>
<td>76</td>
</tr>
<tr>
<td><strong>Total Workplaces</strong></td>
<td>849</td>
<td>1088</td>
</tr>
<tr>
<td>Large meeting (&gt;12 pax)</td>
<td>2</td>
<td>7</td>
</tr>
<tr>
<td>Medium meeting (8–10 pax)</td>
<td>2</td>
<td>8</td>
</tr>
<tr>
<td>Huddle (4–5 pax)</td>
<td>12</td>
<td>24</td>
</tr>
<tr>
<td>Focus room (2 pax)</td>
<td>5</td>
<td>23</td>
</tr>
<tr>
<td><strong>Total meeting spaces</strong></td>
<td>21</td>
<td>62</td>
</tr>
<tr>
<td>Pantry seating</td>
<td>99</td>
<td>95</td>
</tr>
<tr>
<td>Informal lounge seating</td>
<td>32</td>
<td>53</td>
</tr>
<tr>
<td>Phonebooth</td>
<td>0</td>
<td>16</td>
</tr>
<tr>
<td><strong>Total breakout space</strong></td>
<td>131</td>
<td>164</td>
</tr>
<tr>
<td>Training Room</td>
<td>3</td>
<td>3</td>
</tr>
</tbody>
</table>

EU neutrality

\[\text{neutral}\]

\[\text{migration to flex working}\]

\[\text{new – shared at 2:1}\]

\[\text{increased by > 200% - shared at 2:1}\]

\[\text{workplace availability improved by 13%}\]

\[\text{increased by 300%}\]

\[\text{increased by 400%}\]

\[\text{increased by 100%}\]

\[\text{increased by >400%}\]

\[\text{300% increase in meeting space}\]

\[\text{neutral}\]

\[\text{increase by 160%}\]

\[\text{new facility}\]

\[\text{20% increase in breakout discussion space}\]

\[\text{neutral but offset by landlord conference facility and GBT offsite with new facility}\]

**AT&T**

**Motivation**

AT&T has adopted AWS to enhance workspace efficiency, employee productivity, and quality of life. Work-life balance is the most important driver for the program implementation, as expressed by both employees and managers.

**AWS Program**

AT&T has implemented a comprehensive AT&T Employee Telework Initiative. As of the mid-1990s, at least half of the managerial and professional staff had telework arrangements. By the end of 2010, the program had approximately 12,000 participants.

**Planning**

Initially, AT&T explored telecommuting as a means of meeting the federal Clean Air Act requirements. AT&T conducted preliminary studies and initial assessment of impacts in the 1980s.

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Implementation

The company tested telecommuting projects (Los Angeles, Phoenix) in the early 1990s. After six months, the company conducted surveys and, based on the highly positive impacts, implemented a corporate telecommuting policy in 1992. It launched an educational initiative for telecommuting, including pamphlets, videotapes, and training courses. 68 A cross-functional team from HR, property management, security, procurement, EH&S, and IT have shepherded the program. Despite top-down support, the approach was largely grassroots, initiated by employees.

AT&T developed a website “portal” to act as a guide for potential participants and simplify the approval process. 69

The company focuses on the use of technology to enable maximum mobility. AT&T provided mobile and remote access technologies to more than 130,000 employees to enable virtual work and collaboration among distributed team from any location.

Impacts

According a telecommuting survey of over 11,000 employees and their supervisors in August 2010, increased productivity and satisfaction were among most significant benefits of the program. 92% of telecommuters indicated that telecommuting does help them achieve a better work-life balance. The survey also indicated significant productivity increases, from 15 to 20%, by enabling employees to perform work away from their central job locations. 98% of supervisors ‘agree’ or ‘strongly agree’ that employees are more productive when working from home.

Time savings were also significant for employees due to avoided commuting time (an average round-trip commute time per employee is, on average, 54 minutes). 94% of respondents indicated that they dedicated the time saved to family life or as additional productive time for working.

GHG reductions were also documented. Telecommuters avoided 175 million commute miles per year, with annual fuel savings of approximately 8 million gallons. This implied a net reduction of an annual 76,273 metric tons of CO2-equivalents (CO2e) emissions. 70

68 http://www.ecatt.com/case/brief/att.htm
Microsoft

Motivation
Microsoft has developed flexible workplace options to support businesses in making “well-informed and fiscally-sound real estate decisions” as well as support “innovation and productivity for employees and their businesses through the investment in workplace solutions that match business objectives.” Collaboration both among employees and between employees and customers is a key driver. Showcasing technology is yet another important driver.

AWS Program
The program emphasizes more open work environment for improved collaboration. The program offers a variety of workspace types, including effective conference rooms and other supporting spaces. The goal is to provide space that supports internal and external mobility.

Figure 31. Microsoft’s variety of flex workspaces.
Source: CoreNet Global Summit, September 2010.
Planning

In 2004, Microsoft conducted workplace research and set the following initial objectives which were:

- Reduce space and operational costs by using space efficiently
- Align planning metrics, terminology, and best-practices globally, based on research
- Avoid reinventing design for every project by providing consistent guidance on how the workplace “kit-of-parts” goes together

Implementation

Following its research, the company developed a Workplace Advantage Program (WAP), including New Global Sales Guidelines. The effort was led by Microsoft RE&F.

Microsoft updated WAP in 2009 based on evaluation of program and further research. The 2009 goals included:

- Update work completed in 2004/2006
- Verify workplace trends at Microsoft & externally
- Understand building performances
- Validate WPA impact
- Solicit feedback from Field/BD’s

Use data to develop workspace strategy & guidelines 71

Microsoft has regional Workplace Strategists that utilize a special Workplace Wizard tool to assess the space needs of each office, provide training, and gather feedback. Microsoft maximizes the use of advanced technology, including its own products, to enable flexible work.

The firm advertises multiple “Telecommuting and Part-time Jobs” on its recruiting website.

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71 CoreNet Global Summit, September 2010.
Microsoft has recently received multiple Diversity and Inclusion corporate awards and recognitions for empowering those who cannot commute frequently to work for various reasons, including female workers and people with disabilities.
Section 3: SRER Member-Client Case Studies

Key Takeaways

Some SRER Member-Clients:

- Have successfully designed and implemented AWS on company-wide level, offering some similar as well as different AWS options customized to their company’s needs.
- Had fairly balanced motivations for AWS deployment – cost reductions, environmental responsibility, and increases in productivity and collaboration.
- Have deployed supporting technology to different degrees, based on the level of AWS advancement and cost considerations.
- Believe they can benefit from defining more relevant metrics to evaluate their AWS in terms of energy, RE footprint, and emission reductions and employees’ productivity and satisfaction to document the impacts of the programs.

SR Inc has surveyed SRER Member-Client companies in order to provide insights to why and how leading executives are deploying AWS. The analysis includes the specific motivation behind the adoption of AWS as well as the execution process from design and stakeholder engagement through implementation to evaluation. SRER Member-Clients have also shared what they consider to be the greatest benefits and challenges as well as best practices associated with EECA deployment. Impacts of the program, including cost savings, are provided as well.
3.1 Cisco

Cisco’s Connected Workplace (CCW) has been developed over the past decade and is now the global standard for all future workspace deployments. CCW has three components and each is equally important to meet the needs of the business and its workforce.

CCW = Environment + Policy + Technology

Cisco Connected Workplace environment is a configurable and flexible workplace that emphasizes collaboration. CCW provides a variety of space types to support choice and flexibility for individuals and teams in an updated and modern facility.

Cisco is one of the world’s largest technology companies, specializing in the design of consumer electronics, networking, voice, and communications technology and services. Headquartered in San Jose, California, Cisco has a portfolio of 21.5 million square feet (554 buildings across 90 countries), about 84,500 employees, and annual revenue of $40 billion as of 2010. The company is a leader in Corporate Social Responsibility with strong commitment to both environmental and social issues. Cisco is rated the number two IT company on 2010 Carbon Disclosure Leadership Index (CDLI) and tied as the number one IT company on the Carbon Performance Leadership Index (CPLI). Among other awards, Cisco is number six on US EPA List of Green Power Purchasers (2010), recognized by Forbes as one of America’s 10 Greenest Companies (2010), and ranked 12th overall and 6th in its industry in Newsweek’s Green Ranking (2009).
Policy takes two forms. The first is the globally approved Space Policy enabling Cisco to assign group space to business units in both legacy and shared environments in which they are located. The second policy is Flexible Work Practices (FWP) which allow employees to freely choose where they work both inside and outside the office. Enabled by leading edge technology solutions, progressive workplaces and policies, individuals and teams have more flexibility to determine how, when, and where they work by selecting the spaces and the places that are most appropriate.

**Motivation**

CCW provides a solution for multiple workforce and portfolio challenges that Cisco as a dynamic company faces:

1. **Portfolio Optimization**

Cisco’s global security / badge-in platform enables WPR to review the utilization data of each building across the 554 building portfolio. Although the data is not perfect, it provides a clear picture of the efficiency of the portfolio. Approximately 54% of the seat capacity is utilized on any given day. This low utilization rate is due to the mobile nature of the workforce.

![Figure 34. Portfolio optimization at Cisco](image)

Source: Cisco February 2011 Balanced Scorecard

2. **Portfolio Flexibility**

Delivering real estate is a long term and time-consuming process. Mapping real estate provision to the cyclical growth and reduction of geographical business demands is difficult to predict. CCW provides Cisco with the flexibility within the portfolio to grow and shrink with business demands, making the portfolio highly efficient.
3. Diverse and New Work Styles

A bi-annual Work Profile Survey is sent to 25% of the global workforce. Each survey provides a minimum 11,000 self-reported responses. Since 2008, WPR have identified five common work styles used globally across all functions: 1) highly mobile, 2) campus mobile, 3) remote/distant collaborator, 4) neighborhood collaborator, and 5) workstation anchored. Each office/campus has a different proportion of these work styles. Traditional environments do not support these differences as they only provide a solution for assigned and unassigned workers but do not reflect the true work style of the population.

The needs of the workforce are changing, as reflected by statistics below, and CCW aims to address these changes.

The Cisco Connected World Report states:

- 61% of employees globally believe they do not need to be in an office to be productive
- 66% of employees globally place a higher value on workplace flexibility than salary
- 32% of employees globally rely on more than one mobile data device during their typical workday

The report discusses the findings for 1,303 end users and 1,309 IT decision makers who completed an online survey between August 16 and September 7, 2010.
Cisco’s 2010 Work Profile Survey reports:
• 38% of employees work in a different location than their manager
• 47% of collaboration is with employees in different time zones
• 89% of our employees spend some time per week telecommuting

4. Evolving Workforce and Talent Management
Cisco’s multiple work options support work-life integration, development, and Cisco’s productivity goals. FWP are designed to improve Cisco’s ability to recruit, engage, and retain talent, as well as reinforce its culture of trust, empowerment and inclusion. Cisco’s employee population contains four generations of workers: (1) Traditionalist, (2) Boomer, (3) Gen X and (4) Millennial. Each generation has different traits, leadership styles, career aspirations, values, and reward perspectives. CCW supports each of these groups to maximize Cisco’s ability to attract and retain talent in the long term.

5. Sustainability
Improved efficiency of the portfolio, increased mobility of the workforce and a movement towards unassigned working arrangement provides a highly compelling sustainability program, which supports Cisco’s greenhouse gas (GHG) reduction goal.

Planning
Cisco’s alternative workspace program has evolved over the past 10 years. It began with a Proof of Concept (POC) project in San Jose. Since that time several other POC’s have been undertaken with numerous other groups within the business. Significant amounts of data have been collected through pre- and post-move surveys which have been used to determine design performance.

Historically, there has been no directive to deploy CCW. It has always been an option for business groups who have expressed a desire to improve collaboration and utilization of their global resources. The first group to adopt CCW as a strategy was the global sales organization who wanted to maximize the use of back of house spaces, while increasing the space for front of house customer engagements. Since then several other groups have also requested CCW implementations to support their business needs.

In 2009, Cisco made the decision to actively position CCW as its standard deployment strategy for all future projects. A new initiative was imple-
mented and a **vision, strategy and execution plan** developed to tackle all the complex issues to be addressed.

WPR adopted the X-Team concept as developed by Deborah Ancona and Henrik Bresman in their book *X-Teams: How to Build Teams that Lead, Innovate and Succeed*, which focuses on developing highly successful teams.

**Implementation**

The new initiative from 2009 has been the cornerstone of WPR's Strategy and Execution Plan. Executives from HR and IT as well as outside consultants (workplace strategists, cultural anthropologists, architects, designers, psychologists, sociologists, among others) support the team.

**Space Policy and Design Standards**

Focused on data analysis of the significant POC pre- and post- move data, the global company workplace survey and the global customer satisfaction results, executives have refined the work environment to a global solution set of space types. These are deployed in varying proportions depending upon the group types, utilization rate and local knowledge of requirements. Cisco’s CCW Programming Template, provides interactive guidance for the local teams to design the space. A key concept is to align similar groups in neighborhoods to increase the level of collaboration. The following core space types have been developed:

**Neighborhoods**

- **Open Plan Workstations**: A standard work space for an individual. Used for a variety of daily tasks, ranging from focused work to project team work.
- **Audio Privacy Room**: An enclosed, non-reserveable meeting room to support informal meetings, conference calls, personal conversations, and concentrated work.
- **Open Meeting Space**: An open area to support casual meetings and knowledge sharing between small groups and ad hoc individual work areas. May also function as a place for visitors.
- **Quiet Room**: An enclosed room for individual work that requires privacy or concentration, such as phone calls or focused work.
- **Touchdown**: An unassigned bench or small individual work setting (of seated or standing height) for employees and visitors to do short-term work on a computer and to make phone calls.
• Print Station: An alcove, for printing, scanning and faxing. Centrally located to individual workstations yet separated from adjacent work areas.

• Personal Storage: Neighborhood-owned and -managed for temporary day use storage or individually assigned generally away from the workstations.

• Group Storage: Group storage that is owned and managed by each neighborhood.

Floors
• Project Team Rooms: An enclosed space designed to support project-focused teamwork for extended periods of time, impromptu meetings and group teleconferences.

• Open Project Spaces: A semi-enclosed area with a table and seating that can be easily rearranged to encourage ad-hoc and informal interactions within and across teams.

• Conference Rooms: Enclosed, reservable meeting space for formal collaborations and various sized group discussions.

• E-cafés: A café space designed to support informal social interaction in an energizing atmosphere. The space is provisioned with a kitchenette, storage and a variety of seating options.

• Break Rooms: A semi-enclosed space to serve as a destination for conversation and refreshment. The space is provisioned with a kitchenette, vending/coffee, and storage.

Building
• Multipurpose Room: An enclosed, reservable room to serve a variety of activities for large groups of people.

• Visual Privacy Room: Enclosed and private room for sharing content or engaging in activities that require visual privacy.

• Recreation Space: An enclosed, reservable space for recreational use by employees, suitable for social gatherings and rejuvenation.

• TelePresence Rooms: Enclosed, acoustically and visually private rooms for high resolution video conferences using Cisco technology.

• Post Office: An open or enclosed and space for mail distribution and collection, office services and supplies, and copiers/fax/printers.

• Reception: The initial and principal point for welcoming customers, visitors and staff.
• Labs: There are a variety of lab space types that fulfill all stages of a product’s development cycle.

• Briefing Center: An enclosed space dedicated to FSO customer/partner briefings, whether in person or virtual.

Campus

• Executive Briefing Center: An enclosed customer-facing space dedicated to customer/partner briefings, specialized demo zones, technology exhibition space, etc whether in person or virtual.

• Security Facilities Operations Center: A centralized alarm-monitoring and emergency dispatch center, responsible for dispatching emergency response teams.

Figure 36. Space types at San Jose Campus, Building 12, Floor 4.
Source: Cisco Documents.
The global Space Policy was developed for all organizations and was presented to all executive level leaders in the organization for their approval. The policy is now globally endorsed and forms the cornerstone of the CCW solution. The policy, delivery team specification, training and change management materials developed to support local level implementation by Cisco’s in-house WPR staff and its global outsourced partners. Business units, rather than Cisco Workplace Resources (WPR), determine specific space uses of their group assignment. Space is assigned based on organizational size, utilization, space type needs, and local business intelligence. Selected existing offices have been retrofitted to new design standards. This process has been slower and more complex for acquisitions, which represent a substantial percentage of Cisco’s portfolio. The company constantly acquires new properties, through merger and acquisition (M&A), and needs to understand culture, work patterns, and dynamics at each location prior to making any changes in accord with its flexible workplace guidelines and policies.

**HR Policy and Approval Process**

HR played a key role in developing a mobility solution for employees. Cisco’s multiple work options support work-life integration, development, and Cisco’s productivity goals. FWP are designed to improve Cisco’s ability to recruit, engage, and retain talent, as well as reinforce our culture of trust, empowerment and inclusion.

The following options, which require a formal FWP agreement process and are subject to FWP eligibility criteria.

- **Off/On Ramp** – Allows employees to take a career break while still being connected to Cisco.
- **Part Time** – Refers to employees working fewer hours than the regular work week (including Job Sharing).
- **Remote Work** – Employees work at home primarily and are not allocated any workspace in a Cisco building.

Employees follow a simple process, which consists of completing a request and getting an approval (steps may vary depending on the option and country location). Approval is based solely on the manager’s discretion. After the assessment and open conversations, employees who are approved sign a Cisco Remote Worker Agreement Form with managers. Managers and employees collaborate to maximize the employees’ productivity and address their needs. Managers are responsible for communicating the FWP arrangement as well as reviewing and updating em-
ployee goals. Managers make use of several online tools to complete the CCW transaction. Cisco is still working on improving how employees report to their supervisors.

Informal FWP are options most employees likely use on occasion with support of their manager. While there is no formal process, participation in any informal flexible work option is solely at the discretion of the manager.

- **Flex Time** – Variation in regular work hours or work schedule.
- **Telecommuting** – Any work done away from a Cisco location.

**Technology**
Cisco’s advanced technology, including Web 2.0, empowers employees to work virtually anywhere, improving communication, collaboration, and productivity. All employees are provided with the necessary equipment and technical assistance. Every laptop has virtual collaboration tools such as WebEx, video software and IWE for use in any location. Hardware solutions such as Wireless, Security, Unified Communications (including Extension Mobility), TelePresence, Global Print Solutions and Smart +Connected Real Estate have become common place.

**Evaluation**
WPR evaluates program effectiveness through a Balanced Scorecard, including space utilization and cost savings assessment. All data is compared against industry benchmarks.

Cisco has not yet tracked the exact number of employees participating in the program. An estimate is available based on badge-in data.

**Space Utilization**
Cisco measures space utilization in terms of square feet per person housed. For owned properties, ‘square feet’ is the area obtained from building drawings polyline to BOMA standards for rentable square feet (net interior gross area minus major vertical penetrations. For leased properties, ‘square feet’ is the area obtained from space measures documented in lease contracts for leased properties. ‘Persons housed’ is the number of badged personnel requiring office space within a Cisco facility, regardless of the frequency or duration of that request. Remote workers who work full time at home, on-site workers that do not require any workspace (ex: janitor, café worker), associate site workers that do not require any workplace, and off-site workers that may visit occasionally customer sites are excluded from the definition.
Cisco uses a programming template, created during a project initiation, for all projects with CCW designation. The template lists quantity and square footage for various components. The template also includes key physical attributes of a CCW project.

Cisco estimates work space utilization based on badge data (unique badge-ins per day, per available space to perform work) with built-in contingency, which has been collected for the past three months (March-May 2011). The badge data helps categorize employees into the accepted work styles. Only allocated buildings that use a Lenel badge-in security system are included in calculation of this metric. Any seats in spaces that are reserved or under construction are excluded from the calculation. Badge-ins are captured at the building level from any badge reader at any time of day. Once the first badge swipe is detected, the badge ID is not counted again that day. Each badge ID falls in one of 3 ‘buckets’:

- Persons assigned to the building
- Persons assigned to an off-site building (i.e. not the same campus)
- Persons assigned to an intra-site building (i.e. another building in the same campus)

For the metric, only the first two types of badged demand are used due to the skewing effect of the last type (e.g. visitors to cafes). Qualified business days are every day at the building level, if the ‘show-up rate’ is at least 20%. Total Seat Capacity is defined as the sum of Primary Seat Capacity and Extended Seat Capacity.

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TOTAL SEAT CAPACITY:
Total Seat Capacity: The sum of Primary + Extended Seat Capacity: each resource counted as 1.

PRIMARY SEAT CAPACITY:
Primary Seat Capacity: The sum of Open Plan Workstations, APRs, Cubes, and Office as determined from polylined building drawing. Physical count or estimation is used when no drawings exist.

Primary Capacity Seats have the following attributes/use guidance:

- Are part of a group assigned Space Envelope
- Specific use is determined by the client through its SMT (Sustaining Management Team)
- Can be allocated to one individual via client SMT
SUSTAINING MANAGEMENT TEAM

Sustaining Management Team: a team of client (typically leadership) who is responsible for managing (proper) usage of a CCW environment.

SPACE ENVELOPE

Space Envelope: A group assigned set of Open Plan Workstations and APRs as determined by the group’s Badged per Person Housed. Within a Space Envelope, the client group determines proper use of their resources to support their business objectives.

EXTENDED SEAT CAPACITY

Extended Seat Capacity: The sum of Quiet Rooms (Focus Rooms) and Touchdowns as determined from polyline building drawings. Extended Seat Capacity is additional seating that supports the work environment but is not intended as a primary workplace. On days when the office may be in an “overflow” situation, extended capacity can be used to support additional workers. These resources are further defined as having the following attributes/use guidance: Cannot be allocated to one individual.

GHG Emissions

Cisco is in the process of calculating carbon footprint reductions due to program implementation. The results are expected to be significant.

Productivity

Employee productivity is measured through a variety of self-reported surveys (Pulse, CSAT, Workprofile Survey). Opportunities exist to measure annual performance rating against work style, although detailed analysis has yet to be undertaken.

Impacts

Currently, 11.4% of the global portfolio (554 buildings and 21.5MMft²) has a CCW classification. The program has allowed Cisco to increase the number of employees without increasing its real estate footprint, while effectively supporting the workforce by offering choice and flexibility. Cisco has benefited from increased real estate agility, which has decreased costs to reconfigure space and ensured better use of space, including easier disposition. The company has preserved and enhanced its presence in premium urban settings (with less allocated square footage per employee with new group-assigned layout), while allowing sales representatives to take full advantage of CCW options and thus, eliminating the need for multiple suburban sales offices.

Cisco has experienced increased collaboration and communication. According to a detailed survey, 82% of employees believe communication has improved. The company has also benefitted from attraction and re-
tention of top talent as well as enhanced employee productivity and satisfaction (based on independent employee surveys before and after the implementation of the program). 77% of employees prefer the new work environment and 82% have experienced an increase in satisfaction. The company has thus, improved its reputation and increased customer satisfaction by up to 12%.

The new office designs resulted in enabling more sustainable practices such as more efficient use of HVAC, daylight harvesting, fewer materials in furniture, and 50% less network cabling, among others.

Figure 37. Cisco’s identified benefits from more flexible work options.

Source: Cisco Connected Workplace presentation. 2010.

Challenges
Two major issues exist for the deployment of CCW. The first is ensuring the implementation of a detailed change management program for employees converting to the new environment. The second is overcoming traditional “entitlement” perspectives.
There are also concerns about noise and foot traffic. Some of these concerns are part of the adoption process of the new space, but the team is investigating ways to decrease these issues through design, construction practices, and technology.

**Cost**

The cost of implementing the program has been minimal. The main cost has been retrofitting existing offices. All new projects follow the new standards, and there is no appreciable added cost compared to the old standards. There is minimal cost for supporting remote workers, as all employees are given laptops and cell phones regardless of work location.

**Savings**

Savings have been significant. These include reduced spend on moves, adds, and changes to offices. Savings are re-allocated to increased cleaning services and improvements. There are other savings in real estate, office furniture, and IT infrastructure (reduced cabling by more than half, reduced equipment in network distributor rooms, number of printers reduced by a factor of ten). The greatest savings come from space reduction after the introduction of unassigned space types and the provision of space based on need rather than headcount. With design to the new standard, 140 employees work comfortably where 88 would work in a traditional environment. Cisco estimates that real estate costs have been reduced by 37%, and workplace services by 37%. Related energy savings are also substantial.

<table>
<thead>
<tr>
<th>Category</th>
<th>Savings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Real estate rent</td>
<td>37%</td>
</tr>
<tr>
<td>Accommodating more people in the same amount of space</td>
<td>37%</td>
</tr>
<tr>
<td>Construction</td>
<td>42%</td>
</tr>
<tr>
<td>Building a smaller space than typically required for 140 employees</td>
<td>42%</td>
</tr>
<tr>
<td>Workplace services</td>
<td>37%</td>
</tr>
<tr>
<td>Reducing utilities and maintenance costs, and nearly eliminating the costs of moves, adds, and changes for workspaces through the use of flexible furniture settings</td>
<td>37%</td>
</tr>
<tr>
<td>Furniture</td>
<td>50%</td>
</tr>
<tr>
<td>Purchasing less (and less expensive) furniture than typically used in cubicles</td>
<td>50%</td>
</tr>
<tr>
<td>IT capital spend</td>
<td>40%</td>
</tr>
<tr>
<td>Spending less on switches and switch ports</td>
<td>40%</td>
</tr>
<tr>
<td>Cabling</td>
<td>60%</td>
</tr>
<tr>
<td>Reducing the number of wired IP cables required per workspace</td>
<td>60%</td>
</tr>
<tr>
<td>Equipment room space</td>
<td>50%</td>
</tr>
<tr>
<td>Racking fewer switches because of wireless infrastructure</td>
<td>50%</td>
</tr>
</tbody>
</table>

Table 14. Cisco’s financial savings.

Source: How Cisco Designed the Collaborative Connected Workplace Environment presentation. 2007
Table 15. Calculated savings for Cisco’s headquarters in San Jose.

<table>
<thead>
<tr>
<th>Typical floor in San Jose</th>
<th>Traditional</th>
<th>Cisco Connected Workplace</th>
</tr>
</thead>
<tbody>
<tr>
<td>Usable Area</td>
<td>49,000 sq. ft.</td>
<td>49,000 sq. ft.</td>
</tr>
<tr>
<td>Work Space</td>
<td>70% individual, 30% collaborative</td>
<td>30% individual, 70% collaborative</td>
</tr>
<tr>
<td>Use Pattern</td>
<td>Traditional, Assigned</td>
<td>Flexible, Unassigned</td>
</tr>
<tr>
<td>Design Capacity</td>
<td>300 (fixed)</td>
<td>440 (nominal)</td>
</tr>
<tr>
<td>Enclosed Meeting Spaces</td>
<td>16</td>
<td>72</td>
</tr>
<tr>
<td>Usable Area / Capacity*</td>
<td>163 sq. ft.</td>
<td>111 sq. ft.</td>
</tr>
</tbody>
</table>

Source: Cisco Connected Workplace presentation. 2009.

Table 16. Energy savings from Cisco Connected Workplace in its headquarters in San Jose, Building 14.

* The 44% reduction in cooling tonnage is a reduction potential, not an actual reduction as with wattage.

<table>
<thead>
<tr>
<th></th>
<th>Traditional Cisco Office Building 18</th>
<th>Connected Workplace Building 14</th>
<th>Percent Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of employees</td>
<td>300</td>
<td>400</td>
<td>33% increase</td>
</tr>
<tr>
<td>Wattage per square foot</td>
<td>2.6 W / ft2</td>
<td>1.7 W / ft2</td>
<td>36% reduction</td>
</tr>
<tr>
<td>Wattage per employee</td>
<td>423.9 W</td>
<td>178.7 W</td>
<td>58% reduction</td>
</tr>
<tr>
<td>Total Wattage</td>
<td>127,169 W</td>
<td>71,476 W</td>
<td>44% reduction</td>
</tr>
<tr>
<td>Total BTUs</td>
<td>433,646</td>
<td>243,733</td>
<td>44% reduction</td>
</tr>
<tr>
<td>Total Cooling Tonnage *</td>
<td>36 Tons</td>
<td>20 Tons</td>
<td>44% reduction</td>
</tr>
</tbody>
</table>

Source: Cisco IT Case Green Office Design. 2007

Lessons Learned

Cisco’s team shared the following lessons learned from their implementation of the Cisco Connected Workplace:

1. Ensure full support from C-suite to make the policy work. Ideally, obtain written confirmation from every executive and program several months for this task.

2. Provide comprehensive change management strategy and support.

3. Provide comprehensive and integrated technology platforms, including laptops, VPN access, broadband remote or mobile internet, cell/smartphones, videoconferencing, instant messaging, etc.
3.2 Oracle

Oracle Flex Program

Oracle has deployed Alternative Work Strategies since the early 1990s. In 2007 these were rebranded as Oracle Flex Program, which was first launched in North America in March 2008.2 The program offers four options:

- **Assigned, Standard Workspace**: for traditional employees who are typically in office every day, 1:1 employee to seat ratio.
- **Hoteling**: for flexible employees that are in office on average 5+ days per month. Defined by an average of a 4:1 ratio of employees to seats. This ratio does vary slightly by region. Seating is a combination of both cubicle and office and it may be reserved through an internal reservation system (Beehive).
- **Mobile Center**: for flexible employees who come into the office less frequently than hotel workers. Typically, they come in less than 1 day per week or 4 days per month.
- **Remote Work**: for employees working mostly from home. Employees who live outside a reasonable commuting distance from the office, typically 60 miles from the office. If they need to be in an office, they would use space in the Mobile Centers.

Figure 38. Free address space in Tokyo (left) and flex space in Copenhagen (right)

Oracle is one of the world’s most complete, open and integrated business software and hardware systems companies. Headquartered in Redwood Shores, California, United States, Oracle employs 105,000 people worldwide with annual revenues of $26.8 billion. Oracle has a total portfolio of 28 million square feet globally. 6.1 million square feet of space are subleased to others, or on the market *(data as of FY10 end of year).*

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The focus of the Oracle Flex Program has been on open, shared office arrangements (a combination of open cubicles and offices), flex seating, and mobility. Flexible work schedules are also an option, but are not formalized, and is up to the individual manager's discretion. The program allows for both ‘occasionally mobile’ and ‘fully mobile’ employees.

About 35% of the workforce participates in the Flex Program globally, with highest adoption in North America, especially in the US due to high levels of workforce mobility. EMEA follows in adoption rate and the program there follows the rules and guidelines of the specific countries and worker councils. In APAC, participation in the Flex Program varies by country. There are several factors that contribute to the lower numbers in APAC: 1) smaller residences preclude employees from working remotely; 2) working and having a space in an office is seen as a symbol of status; 3) varying job types and worker’s skill levels may require on site supervision.

In short, the worker councils in EMEA and the cultural differences in APAC do affect Oracle’s participation rates overseas.

**Motivation**

There are several key drivers for implementing Oracle’s Flex Work Program:

- Real Estate (RE) footprint reduction and contained growth, which translate into significant financial savings.
- Employee flexibility and productivity
- Ability for Oracle to attract and retain talent in a competitive market place
- Ecological responsibility by reducing employee travel to and from the office, energy consumption and waste
Planning

Oracle’s Flex Program has evolved over the past 10 years as with many other companies’ programs. Oracle did research on what competitors were doing to learn from them. The program at Oracle was designed and developed prior to the acquisition of Sun Microsystems.

Figure 40. Evolution towards formal, global Oracle Flex Program.

Volunteer hoteling in Oracle existed from 1998 through 2008. The formal program kicked off in 2007 and was implemented in March 2008. Specific lines of business (LOB) were initially targeted based on their work profiles and functions. The first groups considered for the program were North America Sales and Consulting and Services and Support. These groups are typically more mobile in nature given their work function.

To insure success of the program it followed 4 critical criteria:

Figure 41. Oracle’s approach to its Flex Program

- **SIMPLIFY**: Make the program understandable and easy to participate in.
- **STANDARDIZE**: Establish a set of guidelines and common support spaces throughout the portfolio.
- **CENTRALIZE**: Data, reporting, country requirements and documentation.
- **AUTOMATE**: Establish technical tools to monitor and support the program.
  - Reservations system (Beehive)
  - Surveys (regionally implemented on a yearly basis)
  - Utilization tools (reservation system, badging, etc.)

The team assembled a variety of test fits to see what impact hoteling would have on the various downsizing initiatives. They applied different utilization levels, presented several options and supporting data to SVPs, and worked with them to identify a good fit for their group prior to select-
ing the 4:1 employee to seats ratio for hoteling in Oracle’s North American Region (NAM). This ratio for hoteling varies by LOB and country. The utilization thresholds in terms of days employees need to be present in the office per month vary by department. Managers’ utilization levels are still voluntary.

Implementation

At the onset, the Flex Program was a Real Estate and Facilities (RE&F)-driven project. It was supported by the regional teams that saw cost savings opportunities based on several groups not frequenting the office enough to warrant dedicated spaces. The business case for the Flex Program was made to and supported by the VP of Global RE&F and the CFO. RE&F established close partnerships with the targeted business units to review the program, opportunities and end state benefits (BU cost savings based on reduction of allocated space). As the program became embraced by the lines of business, HR and IT were engaged to help support the growth of the program. HR has included Oracle’s Flex Program (AWS) in its employee HR handbook. IT has continually upgraded tools, applications and infrastructure to support our mobile population (VPN, Wireless, Laptops, printing, Smart Phone, VoIP). Oracle hired HOK, a leading design firm, to help with the design and reconfiguration of space for greater collaboration and increased customer experience as well as related signage. At the same time the marketing department branded the program for global visibility by providing products such as:

- Workspace signage
- Welcome kits
- Wall posters
- Banners

Figure 42. Oracle’s Flex Office marketing materials.
Documentation for Oracle’s Flex Program is posted to each regional website as well as the Global RE&F internal home page. This includes guidelines, best practices, and FAQ’s, which vary slightly from region to region. North America established principles and standards prior to the other regions. On-going projects include RE&F’s Global Programs team developing corporate standards based on a recent assessment of local governments and local regulations for over 20 countries. A report was distributed to all countries to help them understand the appropriate level at which standards should be set, what the programs should include, and how they should be managed. The evaluation has also helped identify where local laws require an amendment or support documentation.

Pilots
As referenced earlier, the Flex Program was initially rolled out in North America field locations where there was a higher concentration of Sales, Consulting, Service, and Support LOBs. Based on the success of this initial pilot it was then rolled out to other offices and LOBs. Continued marketing by RE&F to managers and employees was an important part of implementation and program growth.

Based on benchmarking from other companies ratios were used to determine the number of seats or workspaces needed for initial implementation. These were further refined by Oracle RE&F as the actual office utilization was determined via reservations, walk-through observations, and badge data.

Space design
The overall design of the office space (cubicles and offices) was not significantly altered and did not differ much from this used to support the assigned population. This decision was based upon feedback from end users who specifically expressed they did not want the flex office space to be differentiated. However, where Oracle had opportunities to design the offices due to renewals or relocations, user feedback and input into the design was obtained; i.e. Tokyo, etc. Some Oracle field sites have areas configured with touch-down seating and with multiple small workstations in the room (mobile centers). A critical component was placement and signage to denote the workspaces available to the Flex population. Online floor plans and on-site signage depict these areas. Offices embedded more flexible space in terms of seating arrangements, based on different business needs (phone calls, conference meetings, working alone).
Most regions established and published a standard seating configuration. Implementing wireless technology in buildings has been an important element of the program.

Figure 43. Oracle’s Tokyo office was the first free address location.

Technology

Majority of Oracle employees, assigned or flex, are initially provisioned with a laptop, VPN, cell phone VoIP, and mobility card for wireless access, making the transition from assigned to flex seamless. Based on this up-front provisioning Oracle does not need to provide any special IT infrastructure for employees working from home. Recent in-office technology
has included the installation of Oracle Telepresence rooms which allows remotes teams to collaborate more easily and executives to meet more quickly.

The company is in the process of maximizing technology utilization and is looking into next generation workplace technology for remote employees. Beside video options for individual laptops, the IT team is investigating how to use additional wireless (IP Communicator, networked multifunctional devices) and phone strategies to further support mobility: “IT is continuously looking to ensure that their IT roadmap includes items that support flexible work programs.”

Oracle is using several avenues for monitoring overall space utilization which encompasses its Flex Program seating. It has an internal reservation tool, Beehive, that allows mobile employees to reserve workspaces along with badge summaries that give a daily site utilization count. Additional tools are being investigated to further monitor the usage and health of the program.

Approval Process

Even with specified LOBs fitting nicely into the Flex Program the final approval for participation comes from the employee’s direct manager. Discussions are held, expectations are defined and Oracle’s standard annual review process is used to measure the employee’s deliverables and performance.

In some countries, such as Canada, an additional “formal” agreement between manager and employee is required by law. Specific country laws define the requirements or documentation needs for Flex workers.
Eligibility Criteria

Certain job functions such as sales and pre-sales representatives, consulting, services and support (employees who spend more time on the road for customer visitations) are deemed most suitable. Engineering job families are less likely to be as “flexible” given their need to collaborate on projects or the need to be in or near their labs.

All employees can request to participate in the program; however, their manager has final approval.

Evaluation

Space Utilization

Oracle has estimated that about 35% of employees, globally, participate in the Flex program.

The breakout of how many seats are required to support that population is done by the ratios used for each Flex category. These may increase or decrease based on usage. The following tools are simultaneously used to measure utilization:

• Reservations
• Badge Data
• Walk-throughs

Additional refinements of these tools are in process and new utilization tools are under review.

It is important to note that “Vacancy” and “Utilization” are two very different and distinct measurements. Today the reservation system and badging would give Oracle the best view at utilization on Flex seats. Oracle is currently engaged in a badging project to obtain this information.

On a monthly basis Oracle does report its vacancy numbers; however, the industry is now looking at actual utilization versus vacancy as a true representation of site usage and efficiency.

Oracle’s average global vacancy rate is approximately 21%. It is difficult to measure vacancy or utilization on Flex seats specifically if reservation tools are not regularly used and the portfolio is dynamically changing. Oracle typically sees increases in vacancy rates after an acquisition occurs. Once consolidation plans are executed the vacancy rates decline. Oracle makes every attempt to quickly integrate the new company. Where applicable,
the Flex program is offered as an option; and new employees are encouraged to take time to acclimate to the new corporate culture and local space, familiarizing themselves with Oracle operations and work styles.

Oracle uses a square feet per head count as a primary metric for space utilization. Secondarily, the company uses head counts per seat ratios, square feet per person, square feet per workspace, and cost per workspace. The 4:1 ratio for hoteling for NAM turned out to be consistent with the actual utilization of space by participants, who were in workspace fewer than 7 days a month. This ratio is amended appropriately for countries outside of NAM as well as LOBs.

Oracle’s global target is to achieve 180-185 square feet per person, where ‘square feet’ is consistently defined by all regions and includes common and shared areas, circulation, and restrooms. The actual number will vary by region and be affected by the percentage of owned campus locations which have more space allocated to amenities and labs. Latin America and APAC lead with metrics lower than those just noted. In EMEA Oracle is now targeting 150 square feet per person as the company builds out new spaces. US metrics are slightly higher than those noted above however, the US has a larger percentage of owned campus sites in the portfolio housing significant lab infrastructure.

Below is a sample of how Oracle, through the use of the Flex Program and utilization monitoring, has reduced its footprint.

<table>
<thead>
<tr>
<th>Location</th>
<th>Total Office Based Headcount</th>
<th>Pre Hoteling RSF</th>
<th>Post Hoteling RSF</th>
<th>RSF Reduction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Costa Mesa</td>
<td>162</td>
<td>40,264</td>
<td>25,273</td>
<td>14,991</td>
</tr>
<tr>
<td>Troy</td>
<td>95</td>
<td>43,978</td>
<td>24,858</td>
<td>19,120</td>
</tr>
<tr>
<td>Chicago Area</td>
<td>402</td>
<td>133,761</td>
<td>88,550</td>
<td>45,211</td>
</tr>
</tbody>
</table>

**Benchmarking Flex Options**

The various flex options are not evaluated separately and benchmarked against each other on a portfolio level, but some regional offices may do such assessments. Regional offices improve programs based on the feedback they receive regionally.

Most offices implement the same set of flex work strategies. What varies is participation. Headquarters participation is lower due to the presence of software and hardware engineers who work on site, compared to sales offices where the workforce is more mobile.
Oracle is now hosting a monthly Global Planning Forum where regional teams can share their experiences and information on best planning approaches including Flex Program implementation. The Forum is comprised of the regional planning manager and directors and run by Oracle’s Advanced Planning Group.

Impacts

Benefits and Savings
From the company’s perspective the greatest benefit has been reducing real estate footprint and RE&F costs. This has resulted in a reduced GHG footprint, including significant emission reductions related to commuting: “From a sustainability perspective, we have a lot less impact when employees work from home,” shared Becky Abell and Carol Leipner-Srebnick.

The Flex Program has been an integral part of Oracle’s M&A process. In the case of the Sun merger and acquisition, Oracle’s existing excess space and implementation of its Flex Program resulted in the ability to close 73 Sun locations in North America since Feb 15, 2010. Similar progress with consolidation is occurring in other regions.

Cost savings or avoidance result from the site being vacated and either 1) leases terminated 2) subleasing through the remaining term of the lease.

It is difficult to extract and track direct energy cost savings as these costs are embedded in the overall REF costs and vary by region and site.

Other benefits include but are not limited to:

• Employee flexibility
• Costs and time saved due to reduced commute
• Job satisfaction
• Autonomy
• Retain top talent
• Increased productivity (commute hours turned into work hours)
Challenges

HR Alliance and Change Management
As with many other companies one of the major challenges is the participation of HR during the program life cycle. A program of this nature is best executed through the joint efforts of Real Estate & Facilities and HR. Although HR is partnering to help expand the program it does not own the Flex Program in Oracle. As such, it is up to the regional planning teams to implement and be the change management driver, a role HR typically takes. RE&F & IT then act as the ‘arms’ that supply the infrastructure solutions for implementation.

Cost Tracking
Since Oracle’s Flex Program has been in place for over 10 years it is an embedded part of how Oracle reviews, sizes, and delivers space. As such it is difficult to “peel” out the direct savings of just the program itself. Oracle measures savings or cost avoidance based on the overall ability to reduce square feet and thus costs. The more people that participate in the program less square footage needed. On average it costs Oracle $8,900 - $9,000 annually for a seat.

Manager Support/Perceptions
Causing a paradigm shift among management may often pose a hurdle. There’s a common myth about being “on site” versus being ‘out-of-sight”, and being able to achieve the goals of the department. Additionally, in some corporate cultures, assignment of office space is seen as an entitlement of the position. Oracle strives to break the mold.

Program Costs
There are no “additional” costs associated with the Flex Program. As mentioned above, each employee is equipped with a laptop, voice device, and VPN. General provisioning for remote workers runs approximately $5,000 per employee. This amount is less for Hoteling and Mobile workers.

This cost covers: Laptop, cell, PDA, Printer, home setups (furniture, connectivity), and supplies.
If approved by the manager, cell or PDA charges are centrally billed.
Lessons Learned  Oracle shared the following lessons learned when asked about effective flex work program implementation:

1. Communication, marketing, and understanding are three key elements for obtaining buy-in and ensuring effective program implementation.

2. Corporate level support is critical for marketing the program and for change management.

3. Establishing a cross-functional team and obtaining start-to-finish support from HR and business departments is critical.

4. Identify how the space is best utilized (i.e. more and smaller meeting rooms) results in higher customer satisfaction.

5. Technology is a huge element in the success of a program. Future improvements to the program may focus on redesigning and re-configuring workspace with an emphasis on IT infrastructure as well as providing better access to data to report on performance and results.
3.3 GSA

AWS Program

GSA has used the workplace as a strategic resource and has realigned work settings in response to the need for a more innovative workplace. GSA has traditionally offered two AWS options for all its employees: the ability to work from home on an occasional basis and alternative scheduling. In the mid-1990s, the agency started to lease telework centers in the DC area for its mobile employees, but due to the low demand, the strategy was not as popular as anticipated. Participation in home-based work, an option for some workers on case-by-case basis, slowly but steadily increased in popularity.

Most home-based employees work one day per week outside the office. GSA supports full-time home-based workers, on condition that all HR issues are addressed, such as those related to security of information and satisfactorily performance levels. Currently, GSA is exploring the option of extending its home-based work strategy to more employees for more than two days a week. This opens up the possibility of desk sharing, a viable AWS for many GSA employees. A first step in this direction is the agency’s adoption of hoteling. While it has been deployed only for

Figure 55. GSA’s headquarters in northwest Washington.

GSA is the central agency for acquiring products, services, and workspace for the Federal government. The agency manages 8,600 federally owned or leased buildings. The value of these managed assets is about $500 billion. GSA’s goal is to eliminate its impact on the natural environment and use its government-wide influence to reduce the environmental impact of the Federal government, as reflected by its 2010-2015 Sustainability Plan. The agency has committed to continually reassess its operations to wring out waste, eliminate pollution, and align all of its activities to deliver a Zero Environmental Footprint. ¹

¹ http://www.gsa.gov/graphics/admin/GSA_Strategic_Sustainability_Performance_Plan.pdf
about a year and still not implemented on portfolio level, demand by leadership and acceptance by employees is quickly expanding, especially in the Washington DC area.

In terms of space design, GSA has moved towards more open-plan layouts and shared workstations. The agency focuses on providing not only more efficient and collaborative spaces but also productive and healthy work environments, defined by improved indoor air quality, natural light, acoustics, thermal comfort, and views.

Figure 46. AWS options for GSA employees.
Source: GSA documents.

Motivation

The motivation to adopt AWS in their own space comes from multiple directions, shared Ryan Doerfler, a Senior Workplace Strategist, GSA Public Buildings Service. “Over the past few decades, GSA has increasingly consisted of knowledge workers that require collaboration in order to succeed. Coupled with advances in technology, facilitating greater levels of employee mobility has been a natural step, especially for employees that are often meeting with clients or visiting project sites.” Therefore, it has been easy for GSA to be an early adopter of telework, which readily fits with the agency’s organizational culture and business needs.

Unlike private sector companies, GSA has to comply with the President’s memorandum from 10 June, 2010 on “Disposing of Unneeded Federal Real Estate,” that directed agencies to scrutinize and eliminate excess real property. “The elimination of total floor area is the most direct way to reduce real estate costs,” explained Ryan. All federal agencies are required to demonstrate clear progress in this area, and appropriately adopting AWS provides a viable means of accomplishing the needed

Quality of life from employees’ perspective has also been another prime consideration in the implementation of AWS. Other motivations include maintaining agency-wide continuity of operations in the case of emergency, as well as meeting agency sustainability goals.

Planning

At GSA, AWS has not been introduced as a new concept, since working away from the office due to the need to meet with clients on regular basis has always been a common practice and part of the organizational culture. The deployment of a formal AWS program has happened gradually and organically with wide acceptance across the board. The vision for AWS came from the highest level, i.e. the GSA Administrator Martha Johnson.

When the opportunity arises to implement AWS, GSA follows a Strategic Requirements Development process that includes an intensive organizational analysis and thorough understanding of the work patterns of its employees. The analysis covers the type of business conducted at different locations, employees’ job types and task interdependency, how much time employees spend at meetings vs at their desks, limits necessary on the type of distractions (especially noise levels) for work modes requiring focused work, etc..

The Strategic Requirements Development process considers three perspectives in equal portion:

- Occupants (employees) - an understanding of self-assessed mobility and interaction levels, prioritization of workplace components, and satisfaction with the workplace’s performance is collected through online surveys and focus groups.
- Leaders – an understanding of the organization’s business goals and potential changes in the organization’s operations is achieved through a visioning session and exploratory leader interviews.
- Independent consultants – the impartial analysis of employee and leader feedback is often obtained from workplace consultants. Additional analysis may include observational techniques that systematically recorded the ways the workplace is used and how work is done.
Figure 47. Visioning workshop.

Figure 48. Workplace considerations when developing AWS at GSA.
Source: GSA documents.

The foundational knowledge that is gained from this process is the work patterns of each type of employee. GSA’s work-pattern methodology, used for the past several years, allows for systematic examination of all
the different job functions, and placement of the information in a structured format to be able to draw conclusions and draft recommendations. Two factors determine a work pattern:

- **mobility** - how the employee distributes their time between their individual workspace, other locations within the office space, working at home, and other work locations

- **interactions** – when at the individual workspace, whether the employee’s work requires above average levels of interaction (e.g., supervisors and employees meeting, call center operator with phone calls) or above average levels of concentration (e.g., writing a complicated report).

These work patterns, described in Figure 49 below, suggest the mix of AWS that best matches GSA’s needs. For example, employees who are predominantly desk-bound/concentrative are the best candidates for aggressive home-based work programs as this work can be accomplished more efficiently at home, where disturbances observed in an office setting do not exist.

![GSA's Work Pattern Matrix](image)

This evaluation also impacts design implications, especially in terms of acoustics and lighting. An organization that is predominantly interaction/externally mobile would likely have a much more open and flexible workplace neighborhood than an organization that is desk bound / concentrative, as illustrated in Figures 50 and 51 below.
GSA's work pattern methodology further forms the foundation for recommended space allocations, as illustrated below.
Table 18. Recommended space allocations.

Potential space savings: 36 externally mobile and interactive workers can be accommodated in the same amount of space as 24 deskbound and concentrative workers.

<table>
<thead>
<tr>
<th>work station</th>
<th>recommended size</th>
<th>work style/habit</th>
</tr>
</thead>
<tbody>
<tr>
<td>deskbound assigned</td>
<td>48 sf – 64 sf min.</td>
<td>Interactive: People spend the majority of work hours at their desks while interacting with others or talking on the phone. Because their work involves more noise, their arrangement differs from the style to the right. Concentrative: People spend the majority of work hours at their desks and focusing on individual tasks, so they need more space in the office and an arrangement that minimizes disruption.</td>
</tr>
<tr>
<td>internally mobile</td>
<td>36 sf – 54 sf min.</td>
<td>Interactive: People work in various locations around the office or in the building; they interact with others when at their desks. Concentrative: People work in various locations around the office; they need to focus on individual tasks when at their desks.</td>
</tr>
<tr>
<td>externally mobile</td>
<td>30 sf – 48 sf min.</td>
<td>Interactive: People spend significant amounts of time working away from the office, so they need less space in the office. When in the office, they tend to interact with others and need collaboration space. Concentrative: People spend significant amounts of time working away from the office; they need to focus on individual tasks when at their desks and need arrangements that minimize disruption.</td>
</tr>
</tbody>
</table>

Source: http://www.gsa.gov/graphics/pbs/Leveraging_Mobility_508_compliant.pdf

The agency often conducts surveys, focused on AWS, for any project. This informs the programming of space. The GSA prepared recommendations on what needs to be delivered to support telecommuting, home-based work, and hoteling in terms of physical reconfiguration of space, IT, etc. The agency also developed hypothetical scenarios to examine the impacts of AWS based on general assumptions and criteria, including percentage of remote workers in relation to RE savings, commute time savings, and emissions savings through the use of GSA’s Carbon Footprint tool.3 The significance of the carbon modeling exercise relates not so much to the accuracy of forecasts but to the beginning and continuous improvement of a carbon evaluation methodology for AWS.

AWS is integrated into GSA’s overall sustainability strategy, specifically its Sustainability Performance Plan. Some specific goals include:

- Reduce or limit growth of building related scope 1 and 2 emissions by increasing efficiency of space use.
- Reduce or limit growth of scope 3 emissions related to employee commuting by incorporating mobility into space planning.

3 www.carbonfootprint.gsa.gov
• Support implementation of GSA’s Sustainability Guiding Principles in existing leased private and federal space by supporting green furnishings, flexible workstation layouts and other initiatives which help reduce energy, improve indoor environmental quality and reduce the impact of materials.

• Support diversion of solid waste from landfill by source reduction using furnishings standards which prefer flexible benching systems and demountable partitions to more material-intensive systems furniture and fixed wall construction.

Figure 52. Hypothetical scenarios for emission reductions due to AWS.
Source: http://www.gsa.gov/graphics/pbs/Leveraging_Mobility_508_compliant.pdf
Currently, all applicable senior leadership at GSA is in charge of AWS implementation. The Office of the Chief People Officer, the organization responsible for human resource policy, confirms GSA policies are in-line with federal-wide policies established by the Office of Personnel Management. When an AWS is implemented, any technology requirements are addressed by the CIO’s office.

GSA has established architecture-design and planning principles but no formal policies and guidelines. The general principles are based on the survey data collected from employees. The lack of formal standards does not ensure consistency but allows for great innovation and customized solutions at local level. One of the principles is to design for flexibility, which will also allow for decreased costs, including churn costs. The idea has been to ensure highly adaptable reuse of existing furniture rather than replacing it at a greater cost and environmental impact.

GSA leverages technology advances both at a corporate level and for the more highly mobile works. Most recently (June, 2011), GSA changed its national e-mail service to a cloud-based Gmail. Not only will this provide additional levels of security for this information, it will also be an additional step to completely untethering its knowledge workers. GSA is also piloting hoteling software for making conference room and workstation reservations, and is implementing Cisco Telepresence technology in its 11 regional offices. This later technology will be available to other federal agencies at a reimbursable cost. For those mobile GSA employees, the agency provides Blackberries and laptop / docking station computer configurations.

Taken collectively these technological steps further support the implementation of AWS, especially broader adoption home-based work.

GSA did not need to implement telework or home-based work, as these programs developed and were established organically. However, in 2002, GSA launched WorkPlace 20|20, a research and development program to identify strategic ways of realigning the workspace with changing needs. Its focus was the intersection of business, people, processes, and workspace. GSA quickly found that WorkPlace 20|20 was very time consuming due to the focus on high-end customized rather than standard solutions, which meant the program could not scale. From 2006 – 2009, GSA retooled the WorkPlace 20|20 processes into the current Strategic Requirements Development approach, a means for providing customized workplace strategies for any type of project, regardless of size or location.
GSA collects feedback through multiple avenues to inform and improve its program. The Office of Personal Management helps out with surveys as they determine all standards the agency needs to follow. Telework surveys are distributed by the Telework Management Office a year. GSA intends conducting more detailed Post-Occupancy Evaluation (POE) surveys on project-by-project basis six to twelve months after project is complete. This latter feedback method is the most direct measure of program success.

**Eligibility Criteria and Approval Process**

All employees are eligible for the teleworking and flexible schedule options. Hoteling and home-based work are available only on case-by-case basis to certain employees and at specific locations. For all options, employees need to obtain approval from their supervisor. The majority of employees easily get approval. Only certain positions such as mechanical engineers, building managers, or employees dealing extensively with paper files, do not easily lend themselves to remote work, or at least not on full-time basis. Once approval is granted, the decision can be retracted only if the manager determines that the employee is performing well.

**Evaluation**

GSA realizes that work-process improvements can be accomplished through thoughtful AWS implementation, as illustrated in Figure 53. However, metrics that are accepted agency-wide or across federal government does not exist. To resolve this, the agency is currently investigating methods for benchmarking the different AWS options it offers, as well as hard and soft metrics to evaluate the overall effectiveness of its program. Areas of particular interest include space utilization, GHG emission reduction, employee productivity, satisfaction, and engagement, which are described further below.
Figure 53. Linking work-process change to measures of success


<table>
<thead>
<tr>
<th>WORK PROCESS CHANGE</th>
<th>Better project integration and coordination across groups</th>
</tr>
</thead>
<tbody>
<tr>
<td>WORKPLACE STRATEGY AND SOLUTIONS</td>
<td>• Improve awareness and informal communication by reducing internal barriers.</td>
</tr>
<tr>
<td></td>
<td>• Support group work by providing a greater variety of shared meeting spaces.</td>
</tr>
<tr>
<td>MEASURES OF SUCCESS</td>
<td>• Improvements in communication and interaction within and across groups.</td>
</tr>
<tr>
<td></td>
<td>• Improved customer satisfaction.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>WORK PROCESS CHANGE</th>
<th>More sharing of customer knowledge</th>
</tr>
</thead>
<tbody>
<tr>
<td>WORKPLACE STRATEGY AND SOLUTIONS</td>
<td>• Encourage information sharing and integration of information about project status by providing centralized project files.</td>
</tr>
<tr>
<td></td>
<td>• Support internal work flexibility and mobility with wireless technology.</td>
</tr>
<tr>
<td>MEASURES OF SUCCESS</td>
<td>• Timeliness of project progress and completion.</td>
</tr>
<tr>
<td></td>
<td>• Improved customer satisfaction.</td>
</tr>
<tr>
<td></td>
<td>• Improved knowledge of customer.</td>
</tr>
</tbody>
</table>

The client engagement process, conducted over a period of several months, led to a comprehensive workplace strategy:

• Create a culture and work processes that are more collaborative and geared toward achieving common goals.

• Use the workplace to convey the organization’s values and demonstrate its expertise to customers.

Space Utilization

Traditionally GSA has measured space utilization by calculating the usable area (sf) per employee rather than FTE-based or area per workstation metrics. With the adoption of AWS, however, the agency wants to re-examine the space utilization key performance indicators to better account for shared desks and hoteling. GSA considers using a square foot per FTE as the most suitable KPI for assessing space utilization. GSA has conducted time-space utilization study at several of its office locations through systematic observations over several weeks.

GSA has not established any specific targets for the various work environments that it occupies. Currently the average space allocation is roughly 200 usable square feet/occupant as defined by the ANSI-BOMA standards. GSA does not use rentable square feet as this introduces an element that cannot be directly controlled by GSA, i.e. the amount of common spaces, such as elevator lobbies, that exist in the building.
GSA is pursuing more refined methods of measuring space utilization by segmenting the calculations into space types. By looking at individual workspaces (e.g. cubicles, private offices), support spaces (e.g. conference rooms), and mission-critical spaces (e.g. law enforcement firearms storage) separately, GSA develops more refined AWS-related targets. For example, desk sharing will proportionally reduce the individual workspace utilization ratio while having a small impact on support spaces which are necessary for all personnel at the same time during all-employee staff meetings. Segmentation also avoids the situation where a leader is willing to sacrifice a meeting room the organization needs so the larger director’s office can be retained. Isolating support spaces is critical and by doing so, allows for the creation of optimal workplaces derived from GSA work pattern approach. Mission-critical spaces would be largely immune from reduction unless the core-mission of the agency changes, such as the elimination of a program.

GSA is also investigating other methods of measuring the adoption of AWS. The agency uses its payroll code system to determine the number of days employees work from home. Data from AgilQuest’s hoteling software is available to determine how long and how often certain types of spaces are reserved. Turnstile data for some of its buildings also provide occupancy levels, however the data is based on swipe in upon entry but not upon exit of a facility.

Energy Use
GSA will be looking into how energy use is affected where office space is reduced but occupancy in remaining space is densified and an increased share of work is done offsite.

GHG Emissions
GSA did not set specific GHG emissions goals as tied to AWS initially. In 2011 the agency’s Sustainability Plan identified projects and processes where AWS contributed to per capita energy reductions and identified a need to align space actions with greenhouse gas reductions goals. For future projects, the agency will estimate not only cost-savings but also carbon impact.
The agency already estimates employee commuting emissions through commuting surveys and the Carbon tool. A number of manual inputs and assumptions are required, including modal split, distance traveled, etc. Going forward, GSA plans to calculate emission impacts attributed to AWS on portfolio level.

**Engagement, Productivity, and Satisfaction**

GSA administers Tenant Satisfaction Surveys in all buildings on an annual basis. This survey measures the performance of the building, such as air quality, as well as building services. GSA also distributes a 12-question survey by Gallup which focuses on the engagement level of the employee, considered a reliable predictor of organizational effectiveness.4

GSA is trying to define ways to better capture productivity increases for knowledge workers due to its mobility programs, beyond the managers’ performance evaluations of each employee. The agency does not rely on self-reported data or use productivity indices, except for its headquarters, which made use of Gensler’s Workplace Performance Index (WPI) to measure space effectiveness and related impacts on employees’ productivity. The WPI is a web-enabled pre-and post-occupancy assessment tool that scores work mode, work space effectiveness for work modes, time spent as well as quality of each type of work space (including layout, light, air, storage, furniture, privacy/access).5

**Impacts**

**Challenges and Benefits**

Some of the challenges include additional burden placed on employees. AWS, especially work at home programs, are considered a benefit and not a requirement. Should the employee choose to work at home, they are responsible for covering most direct costs, such as internet fees and office supplies, as well as carrying back and forth their laptop or have their own computer with VPN installed at home. Other challenges are existing local policies that are perceived to be immutable, such as wet signatures on official government documents. Considering that AWS is an employee-choice, identifying and adjusting these policies is not a prior-

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4 http://www.gsa.gov/graphics/pbs/WorkPlace_Matters_FINAL508_lowres.pdf
ity. Incorporating AWS as part of a standard, required business practices is somewhat limited given anticipated union objections to changes in the employer-employee work agreement.

From the employer’s perspective, AWS results in significant benefits by making employees more satisfied and productive, while reducing real estate costs. From the employees’ perspective, AWS allows for better work-life balance. However, employees run the risk of working too much. Employees are responsible to 1) recognize if they are working too many hours remotely due to constant requests via Blackberry or email, and 2) stay connected with the agency and other team members. To ensure ‘mental sanity,’ the agency provides managers and employees with training to prepare and enable them to manage work time and load.

**Savings**

GSA found greatest benefit in less lost time due to commutes. This is a direct benefit to employees but also to the agency as workers usually dedicate the saved time to work-related activities.

**Costs**

The deployment of AWS adds minimal cost to the agency. GSA employees use government-issued cell phones and other equipment that would be used anyway. Employees are required to have a land line and allowed to use their home phones to satisfy the requirement. Office supplies and internet used at home are paid for by the employee and are not reimbursed.

**Lessons Learned**

Based on its experience with AWS, GSA shares the following lessons learned:

1. It is never too early to prepare the workforce for change. Proactively engaging employees helps eliminate fear. The more employees are part of developing the solution, the more effective the AWS strategy is. Executives must promote an open, collaborative process and not be afraid of employees’ responses.

2. Unions should be engaged as early as possible and be treated as real stakeholder in the outcomes.

3. Executives should not be too enamored by any solution prior to testing if it works for their company or organization as it may not be the right fit. Executives need to do initial assessment, but not necessarily a pilot, prior to implementing any specific AWS option.
4. Infrastructural inertia due to legacy office systems may result in sub-optimal space utilization, which will evolve over time and companies/organizations need to design for maximum flexibility.

5. Executives should create a culture and work processes that are more collaborative and geared toward achieving common goals.

6. Executives should use the workplace to convey the organization’s values and demonstrate its expertise to customers.

3.4 SRER Member-Clients Lessons Learned

SRER Member-Clients have shared both successes and failures in deploying AWS. SR Inc has synthesized these lessons learned below.

1. AWS is about **aligning workplace and technology with the way employees already conduct work**.

2. **Proactive stakeholder engagement** is critical. This includes establishing an aligned, cross-functional team with start-to-finish support from RE, HR, IT and C-suite and engaging employees.

3. **Building a legitimate business case**, includes RE, HR, IT, and EH&S perspective as well as a real employee value proposition. This forces executives to gather facts and undertake assessments.

4. **Technology is available, mature, and effective**. It is expected to advance significantly in the next several years, and therefore, executives design for maximum IT flexibility.

5. **Formal, comprehensive assessments of the program helps executives determine** what works within the unique company’s context as to make appropriate adjustments and maximize benefits.
Section 4: Sustainable Value Creation

Key Takeaways

- While AWS is not new, today leading companies seek to integrate AWS as part of their portfolio-wide sustainability strategies.
- Executives have recognized an integrated AWS, combining both mobility and space components, is a necessary response to support already existing and anticipated work styles and business needs.
- Executives deploy AWS company-wide for maximum benefits after making a compelling business case, conducting an initial assessment, and testing pilots.
- Executives reconcile the drive towards standardization with the importance of recognizing cultural and other differences on the local level, including special requirements based on different job responsibilities and functions.
- Leading executives ensure continuous improvement by rigorous evaluation of the AWS program in regard to both ‘hard’ and ‘soft’ measures of success.

In this section, SR Inc synthesizes recommendations for successful AWS based on the primary and secondary case studies (in sections 1 and 2 above), as well as conversations with workplace experts. Leading companies create sustainable value portfolio-wide through the effective implementation of AWS. To create such value, executives adopt: 1) AWS as part of the overall portfolio-wide sustainability strategy, 2) relevant AWS options, and 3) AWS company-wide to maximize benefits.
AWS has direct relevance to corporate users, and very important for owners and investor-advisors to understand. Corporate users deploy AWS directly as they benefit directly. As the relevance for them is greatest, the recommendations in this section are specifically targeted for them. Owners and investor-advisors acknowledge the accelerated change in the market place and the attempt by large companies to shrink their RE portfolios as well as to relocate some of their facilities more strategically. They benefit from understanding and responding to changes by accommodating tenants’ needs for more flexible, adaptable, and strategically located workplaces, which accommodate constantly evolving advanced information and communication technology, through portfolio repositioning and optimization.

**AWS as Part of Sustainability Strategy**

Today, leading RE executives incorporate AWS as part of the company’s portfolio-wide sustainability strategy rather than adopt it as a program on its own. They have clearly identified the links between the multiple AWS benefits and greater sustainability – environmental, financial, and social.

<table>
<thead>
<tr>
<th>WHY? Adopt AWS as Part of the Company Sustainability Strategy</th>
<th>Enhance sustainability strategy to maximize cost-savings and value-add:</th>
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<tbody>
<tr>
<td></td>
<td>− Rightsize portfolio</td>
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<td></td>
<td>− Reduce costs</td>
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<td></td>
<td>− Mitigate environmental impacts</td>
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<td></td>
<td>− Increase human capital outcomes (engagement, productivity, satisfaction)</td>
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<td>− Enhance brand</td>
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<th>WHAT? Adopt Relevant AWS Options</th>
<th>· Combine mobility and space planning strategies</th>
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<tr>
<td></td>
<td>· Align with business goals, work patterns, and job functions</td>
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<td></td>
<td>· Consider enablers of AWS</td>
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<tr>
<td></td>
<td>· RE, HR, IT, regulations</td>
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<td></td>
<td>· Acknowledge corporate, and especially local culture</td>
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<th>HOW? Adopt AWS Company-wide</th>
<th>· Make a business case to secure on-going executive support</th>
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<td>· Establish cross-functional team</td>
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<td>· Conduct initial assessment and pilots</td>
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<td>· Deploy AWS company-wide for maximum impacts</td>
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<td>· Evaluate AWS effectiveness comprehensively for continuous improvement</td>
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Figure 54. Summary chart for sustainable value creation for corporate users through the effective AWS deployment.
Executives use this framework to more effectively reduce costs, mitigate risks, and create opportunities. From a company’s perspective, executives adopt AWS in order to:

• Advance the business strategy by enhancing collaboration, innovation, productivity, and satisfaction for employees and customers
• Rightsize and enhance portfolio
• Reduce overhead costs
• Reduce environmental impacts
• Enhance RE agility
• Retain top talent to remain competitive
• Improve human capital outcomes
• Enhance branding
• Comply with regulations

In response to the employee perspective, executives adopt AWS in order to:

• Provide employees with additional flexibility for better work-life balance
• Accommodate diverse work styles and generations in the office
• Enhance engagement, productivity, and satisfaction
• Reduce employees’ commuting time and costs

Leading companies identify the inter-dependency and synergies of the two perspectives to optimize cost savings and value-add which, consequently, improve the company’s bottom line. Executives are increasingly deploying AWS as a major means for reducing costs and mitigating environmental impact. This is reflected in the fact that they place greater emphasis on ‘hard’ metrics in the evaluation of AWS, such as space utilization, GHG emissions, energy use, and total cost of occupancy. In addition, they have recognized the relationship between enhanced human capital outcomes and increased company profits. The intent to increase engagement, productivity, and satisfaction by creating more flexible, collaborative, and healthier workplaces is at the core of the adopted design principles, HR policy, and IT support. In that regard, executives are developing and improving relevant metrics and methodologies for assessing these ‘soft’ benefits.
Relevant AWS Options

Leading executives design and implement an integrated AWS program by exploring and deploying all company-specific AWS options both for office and non-office locations. Leading companies combine the mobility and space planning strategies to achieve maximum results. To optimizing their portfolios, they use spatial planning not only to transform their own office space design but also reposition facilities strategically portfolio wide (location of core offices, satellite and remote offices, etc.) as well as other spaces (client sites, homes, etc.). RE executives use mobility and design in parallel to:

- Increase the potential occupancy and effective utilization of their buildings (through reduced space standards, maximized space utilization, etc.)
- Remove unneeded office space from the portfolio at an accelerated rate
- Avoid the addition of new space to host the equivalent number of employees hosted in the optimized office buildings
- Strategically reposition sites

Executives choose the relevant mix of AWS options to accommodate the evolving work style patterns and business needs within what is feasible. AWS options are selected depending on whether they are aligned with the business strategy and goals. While overall work modes within the company are important, they consider what options can be made available, and to what extent, to different job types and functions. Companies try to progress quickly towards more advanced AWS solutions, all the way to Fourth Generation Officing, by providing greater flexibility and mobility early on. At the same time, they take into account the availability, advancement, and constraints associated with key enablers of AWS - technology, HR policies, and local regulations.

Culture, understood as both corporate and local culture, is another key issue executives take into account when identifying the ‘right AWS mix.’ Executives consider corporate culture and organizational readiness when recommending certain AWS options. This, however, proves to be less of an obstacle as executives find that many of the employees are already partially mobile and work varied hours, so that adopting AWS programs for remote work only means formally recognizing existing patterns rather than introducing changes. In other words, executives consider AWS as an integral part of the needed and desired change management process. At the same time, executives are increasingly focusing on the more chal-
Lenging issues related to local culture. They try to reconcile the drive to standardization of AWS standards and policies with local culture, practices, and needs. To do so, executives allow regional offices to amend company-wide AWS practice to better suit their local context.

In sum, executives adopt the relevant AWS (combining mobility and space planning strategies) after they have considered all of the following:

- Alignment with business strategy and goals
- Evolving work styles and needs
- Specific job functions and responsibilities
- Available and future IT support
- HR support
- Local regulations
- Corporate culture
- Organizational readiness
- Local culture, practices, and needs

Company-Wide AWS

Leading executives implement AWS on portfolio-wide rather than on project by project basis to maximize impacts. They first make a legitimate business case, including at least RE, HR, and IT perspectives, and then align AWS goals with corporate, RE, and business goals early on to ensure continued support and leadership across different departments and on highest level. Second, they establish a core, cross-functional team with high-level representatives from the RE, HR, and IT, supported by the C-suite, as well as marketing and communication experts, on on-going basis. While RE leaders take a prime role in AWS implementation, they are increasingly seeking closer alignment and support from their HR and IT groups in recognition that each of the three departments need to contribute to make the program successful.

Executives conduct initial assessments and pilots, which help establish a baseline, buy time later, and ensure fewer mistakes when adopting AWS on portfolio-wide. Only after these are completed do executives deploy company-wide AWS polices and standards, while also allowing for regional amendments.
For continued success, executives evaluate the established company-wide program. They clearly define relevant KPIs and metrics, data gathering, and assessment methodology for:

- Space utilization
- Total cost of occupancy
- Energy
- GHG emissions
- IT network security
- Employees engagement, productivity, and satisfaction
- Employees retention and recruitment
- Disaster recovery

Executives document all impacts attributed to the practice of AWS and share results internally and externally through reports and case studies. This further aids in making the business case long-term and to introduce any amendments to the program.

In conclusion, the underlying principles for AWS best practices include:

- Design for flexibility
  - Provide a mix of activities and work styles
  - Adopt a flexible planning module that is easily adaptable
  - Provide easy to reconfigure furniture design
- Design for collaboration and performance
  - Shift from individual to shared, collaborative work spaces
  - Provide multi-configurations of work spaces
  - Reinforce community and culture
- Design for sustainability
  - Optimize space occupancy
  - Eliminate unneeded space
  - Provide healthy, high quality environments
- Design to support evolving technology
- Reconcile standardization with culture
- Integrate brand identity
- Ensure departmental integration and alignment
- Increase transparency and accountability
  - Better communication
  - Manager-employee agreements
• Provide education
  – Provide training to managers and employees
  – Raise awareness across the organization
• Evaluate constantly
  – Develop relevant KPIs and metrics (hard and soft)
  – Combine several assessment methodologies to ensure accuracy
• Quantify benefits and share results
Section 5: Implementation Guidance

SR Inc is developing this section to providing actionable information and implementation guidance in the form of tools and resources for effective AWS deployment.

Currently identified tools and resources include the following:

5.1 Supporting Information

- SR Inc consulting on AWS policy development and deployment is available
- Multiple Member-Client studies of AWS in specific sectors can be requested
- Making the business case for AWS, including industry examples: http://www.cvworkingfamilies.org/system/files/Business%20Impacts%20of%20Flexibility.pdf
- SR Inc Member Briefing *Employee Productivity and Satisfaction in Relation to Alternative Workplace Strategies*, 2011
- Sloan Networks Top Resources for AWS, including case studies across diverse industry sectors: http://wfnetwork.bc.edu/template.php?name=shrm
5.2 Organization Culture Assessment Tools

- Organizational Culture Assessment Instrument (OCAI), measuring current and preferred organizational culture: http://www.ocai-online.com/products
- Culture Assessment Survey and Cultural X-Ray Assessment, providing a cultural snapshot: http://www.culturesync.net/services/cultural-assessment
- Lominger Tools and Services: http://store.lominger.com/store/lominger/en_US/list/categoryID.19951900?resid=TgCz2AoBAiYAAENfB@QAAAAt&rests=1308668888610

5.3 Design and Policy

- SR Inc Member Briefing Design Principles for Alternative Workplace Strategies, 2011
- SR Inc Member Briefing Alternative Workplace Strategies, Regional Policies, and Local Culture, 2011
- Sample Policy Documents: http://www.teleworkresearchnetwork.com/sample-documents
  - Sample Telework Policy
  - Sample Telework Agreement
  - Sample Teleworker Assignment
- Sample Forms and Courses: http://www.hr.upenn.edu/quality/work-life/flexoptions/Documents/Default.aspx
  - Sample Flexible Work Option Proposal
  - Sample Flexible Work Arrangement Agreement
  - Sample Flexplace Agreement Addendum
  - Training Materials / Courses

5.4 Evaluation

- SR Inc Pre-occupancy Evaluation
- SR Inc Post-occupancy Evaluation
- Miscellaneous Pre-occupancy Evaluation (by workplace consultants, SRER Members)
- Miscellaneous Post-occupancy Evaluation (by workplace consultants, SRER Members)
- Gensler’s Workplace Performance Index (WPI)
• Telework Savings Models and Calculators:
  - http://www.teleworkresearchnetwork.com/custom-calculator
  - http://www.teleworkexchange.com/about.asp

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Member-Clients should contact SR Inc with any questions or comments. Member-Clients who have Alternative Workplace Strategies deployment best practices that they wish to share with other Member-Clients are encouraged to do so for inclusion in future updates of this report.