The Remote Working Revolution

Executive Summary

Remote working has emerged as a key factor driving corporate success. Employees can expand their working day, operate more productively – and in many respects lead healthier lives. Employers save on office overheads, are not limited to hiring those able to relocate to where they're based and get better performance from their staff.

Companies are overcoming their concerns about remote working, and the technology to enable it is improving steadily. Nevertheless, remote working solutions need to be planned carefully. As groups become more dispersed, efforts need to be made to preserve a strong corporate identity, while more efficient monitoring of employee work targets becomes vital. Executives considering a shift to remote working need to think through a wide range of issues such as which jobs are suitable for remote working, which technologies are needed, how to provide remote worker access to applications on their corporate networks in a secure way, management training and how best to re-deploy office space.

In the fourth in the series of four thought leadership articles written by AT&T in cooperation with the Economist Intelligence Unit, we gain a deeper understanding of executives' current thinking on remote working. The Economist Intelligence Unit conducted a global survey of 254 senior executives on behalf of AT&T. Based on the findings of this survey, as well as in-depth interviews with business leaders, this paper draws a number of key conclusions:

- **A strong swing has taken place in favor of more flexible working arrangements over the last 12 months.** In a similar survey carried out in 2003, 46% of executives said that almost none of their staff work from home regularly; this declined to only a third in 2004.

- **Companies view providing remote access to their corporate network as their key technology objective.** It is viewed by 81% of executives as a "critical" or "important" network goal. Although there are significant concerns about security risks, most executives do not see this as a barrier to implementing telework programs.

- **Adoption of technologies that are highly supportive of remote working – such as broadband and Voice over IP – is rising sharply.** The survey shows that one in five companies currently use VoIP for remote working, and that 79% expect to be doing so by 2006.

- **Maintaining regular communication between managers and remote staff is central to the success of a remote working scheme.** Far from undermining employee supervision, remote working can impose good management practices by requiring efficient monitoring of employee work targets.

- **At least one-third of office space costs can be cut through remote working.** It is these 'hard' benefits that catch the eye of board members. The soft benefits, such as increased productivity and the scope to employ staff who live out of commuting range, are trickier to measure but are too often overlooked.

- **Productivity gains associated with flexible working schemes can be substantial.** A recent study showed that two-thirds of remote workers in Europe had achieved higher productivity, and that absenteeism had been significantly reduced in some countries.

Thinking Outside the Cubicle

A 30-minute commute to work wastes an average of six working weeks a year. But the technology – and practical experience – exists to allow employees to spend part of that time working at home, in an environment that suits them better and saves on their employers' overheads. Indeed, the sheer number of hours demanded from workers today – especially those operating internationally – means that a more flexible, but elongated, working day makes more sense. Executives are waking up to this and are equipping their employees to work where, and when, they want to.

A recent survey carried out by the Economist Intelligence Unit on behalf of AT&T found that, for most company executives, giving their remote workers full access to the corporate network is one of their highest priorities. When asked about which network performance attribute was most critical to their business, 81% described as either 'critical' or 'important' the ability of their employees to gain full access to network applications from remote locations.

Clearly, remote working is uppermost in most executives' minds today when drawing up their technology strategies. Yet some are plunging in too hastily whereas others are being excessively cautious – both risk failing to reap the rewards flexible working arrangements can offer. Bob Semple, a partner with PricewaterhouseCoopers, responsible for global risk management solutions, believes that often companies ''want complete flexibility, but haven't paused to think it through.''

This white paper will examine the uptake of remote working today and how executives can best prepare their companies for it.

Home Truths

Both employees and employers stand to gain from embracing remote working. This is borne out by the results of the European Union's 'SusTel' (Sustainable Teleworking) study[1], the largest European investigation to date into the impact of remote working. The study, which was carried out between 2002 and 2004, involved research in five European countries and included 30 case studies and six surveys of teleworkers. Some of the more interesting findings were:

The Lie of the Land

Walk into almost any office today and you will find more than a few desks empty. Cash spent on sponsoring unused desks is going down the drain. This loss has been calculated at around $10,000 annually per workspace by the International Telework Association and Council. A survey carried out by Economist Intelligence Unit for AT&T shows that in 26% of companies, half or more employees already work regularly from home and that this should rise to one-third by 2006. The entire workforce is becoming more mobile. In 28% of companies, half or more of employees are on the road at any given moment, and this proportion is set to rise steeply over the next two years, as will the ratio of employees working predominantly at customer sites.

As remote working becomes more common, the office is likely to evolve into more of a meeting place, and not somewhere for solo work. If the work can be done on one's own, why be there?

See next page for corresponding questionnaire.

- Two-thirds of remote workers said they achieved higher productivity; 60% said the quality of their work had improved.

- In the UK, remote working was found to reduce absenteeism by around 70%.

- In most cases, teleworking encourages staff to develop important skills such as time management and independent thinking.

- In Germany, 94% of BMW's remote workers reported increased job satisfaction, whereas 90% said their take-up and implementation of new ideas had improved.

- Around 90% of UK remote workers reported enjoying a better quality of life and work-life balance despite working longer hours.

What proportion of your workforce…	Almost no one	Less than one-third	About half	Roughly two-thirds	Almost everyone
				% of employees in 2004	
				% of employees in 2006	
Works from home on a regular basis?	33% 23%	41% 43%	9% 14%	8% 9%	9% 10%
Is on the road at any one time?	15% 12%	57% 52%	14% 22%	10% 10%	4% 5%
Has a company laptop?	7% 4%	44% 29%	22% 21%	12% 21%	14% 24%
Has broadband at home?	19% 8%	35% 22%	22% 25%	12% 17%	12% 27%
Has a company wireless telephone?	15% 8%	33% 30%	15% 16%	14% 17%	22% 29%
Is given financial and material help by the company to set up an office at home?	58% 39%	27% 34%	7% 14%	3% 8%	4% 6%
Has a softphone (a phone application on the PC or laptop)?	70% 34%	19% 31%	6% 18%	3% 10%	2% 8%
Is a part-time, freelance or temporary worker?	48% 36%	39% 44%	8% 13%	3% 3%	2% 3%
Works predominantly at customer sites?	44% 35%	35% 36%	12% 16%	5% 9%	4% 4%

The SusTel study also revealed that remote working is increasingly popular with older people, particularly those who want a paid transition into retirement, are fed up with commuting or have a retired partner at home. In some countries legislation is contributing to the embrace of remote working by requiring that companies offer more flexible working conditions to parents with young children. Overall, remote workers find work more rewarding as they are subject to fewer disturbances and are able to concentrate on completing tasks to a higher standard. For job applicants, the option to work remotely has become a key consideration in choosing a position; conversely, the option is an important factor in reducing staff turnover.

Though white-collar workers are most often associated with remote working, it is by no means restricted to office-based jobs. For instance, utility companies are finding it efficient to supply field engineers with wireless mobile devices that they can use to download schedules at home before going directly to the customer armed with the relevant data. British Gas, a UK utility, is one example of a company pursuing this strategy, and all of its more than 7,000 field engineers now work remotely.

According to the latest survey carried out by the Economist Intelligence Unit for AT&T, 64% of executives consider sales functions suited to remote working. Nearly 50% of respondents considered customer service functions suitable, and 40% research and marketing functions. By contrast, only 26% deemed remote working suitable for senior management, and just 18% were in favor of it for those performing financial functions. However, AT&T's Director of Teleworking, Joseph Roitz, believes executives are looking too narrowly. "Remote working applies across the board to knowledge workers," he says. "It's not job types that are important. It's about culture and technology."

Which of the following functions are best suited to remote working, in your view? Check up to three functions.		
Sales	160	64%
Customer-service staff	121	49%
Marketing	100	40%
Research	100	40%
Senior management	65	26%
IT	59	24%
Finance	44	18%
Don't know	9	4%

Managing a Dispersed Workforce

So how can the right culture and technology be fostered? When planning for remote working, PricewaterhouseCoopers' Mr. Semple believes that executives should start by asking: "What are users' requirements, and how can they be satisfied?" Nowhere is this felt more sharply than at PDI, a U.S. supplier of outsourced sales and marketing services to the bio-pharmaceutical industry. PDI employs several thousand sales representatives and managers who market pharmaceuticals and medical devices to members of the medical profession, and 90% of its workforce is now working remotely. Most employees receive instructions (including on regulatory compliance issues) and send reports from their home PCs via the corporate network. The company is currently phasing in handheld PCs.

Echoing a key finding from the Economist Intelligence Unit survey, Jessa Kilgore, director of workforce management systems at PDI, says one of her firm's principal technical challenges has been to give workers access to more online resources on the corporate network. Another has been to imbue a workforce scattered 'from Maine to Hawaii' with a sense of corporate identity. Ms. Kilgore says PDI is building a network that will allow its remote workers to 'come into a virtual office' when they log on, and video and real-time information sharing will support this. She points out that the rapid growth rate in the company's workforce – from 100 part-time sales staff in 1994 to more than 3,000 full-time staff today – would have been impossible without remote working technology.

Once freed of having to gather employees in a single place, companies can adopt far more flexible recruitment strategies. As AT&T's Mr. Roitz puts it: "The talent pool is not limited to local talent, or to people who have the ability and desire to relocate their families." However, these opportunities often get overlooked, with the benefits of remote working being seen primarily in terms of lowering costs rather than boosting productivity.

Our survey shows that this misconception appears to have lodged in the minds of executives. There seems to be a lingering view that unless workers are physically monitored, they won't work. Indeed, 'the difficulty of monitoring output of remote workers' emerged as the main perceived obstacle to implementing remote working. It is true that managers have to get used to dealing with staff they can't see. But as Mr. Roitz says "Telework forces managers to do what they should be doing anyway." There is no reason why, if there is a proper system of setting targets, output will not be managed as efficiently as before. In fact supervising remotely should instill a better style of management by demanding regular communication between manager and remote team member and better monitoring.

What are the main obstacles to implementing remote working in your company? Check up to three obstacles.		
Difficulty of monitoring output of remote workers	119	48%
Loss of perceived benefits of face-to-face contact	113	45%
Company operates in intensively client-facing environment	83	33%
Incomplete access to all network applications and content	83	33%
Opposition from senior management	76	31%
Security concerns centered on remote working	75	30%
Costs of ensuring remote workers have decent access to company network	69	28%
Perceived threat to company culture	70	28%

The loss of face to face contact – which also emerged in the survey as one of the strongest concerns of executives – poses a more serious challenge. Improved communications using Voice over IP technology (VoIP), can assist in keeping people in touch. Similarly, personal blogs on the corporate web site, recording out of the office experiences, can help to build a sense of community in the diffused workforce, as do bulletin boards. A recent study in Malaysia shows that the breadwinner status of male remote workers often gets questioned, as they aren't out at work; this type of issue needs to be aired. If appropriate, companies also need to design ways of maintaining face-to-face contact, for example through weekly or twice weekly meetings at the office, and to recognize that remote working will not suit all employees.

By the same token, an advantage of workers moving from verbal to email or other web communication is expanding the written documentation trail. This can assist not just in meeting compliance requirements, but also in other areas such as documenting user needs for IT system requirements. In addition, more communication in writing means it will be easier to share information on a company's intranet, aiding knowledge management throughout the firm.

Executives Often to Blame for Security Lapses

Executives themselves are often the main culprits when it comes to endangering corporate security while working remotely. Apart from leaving screens with sensitive information on by swimming pools, or while taking a 'comfort break' in Business Class, at least one director is known to have actually checked his mobile in at an airport – and never seen it again.

Many executives dislike security on their mobiles and desktops and the hurdles it raises, but expect everyone else in the organization to respect it. Policies need to be in place to cover everyone physically on the move. Peter Houppermans, of the PA Consulting Group, points out that though they may have downloaded a virus on their laptop when traveling, executives are often not in a position to re-connect to the Internet in order to access a cure. Indeed, an executive could be the one to launch a destructive virus onto the company network when re-connecting to it from his or her mobile.

In order to ensure the success of a remote working solution, it is vital that HR, IT and facilities management work closely together to ensure that each respective area is properly addressed. Board level support is required to coordinate this, just as attention needs to be paid to providing training and advice to local managers, as these are the people that may face the biggest adjustment. In order to ease the transition, companies should consider what financial help they are prepared to give to employees – for example, with broadband charges – to set up their home offices. The ergonomics and health and safety issues raised by employees working at home must also be reviewed.

The perceived threat to company culture voiced by many executives in our survey must not be overlooked. Remote working brings radical changes, and corporations will need to look at ways to maintain corporate identity amongst remote workers.

Security and Business Continuity

A recent report from the Internet security testing specialist NTA Monitor found that eight out of ten legal firms that operate remote working solutions were at serious risk of leaking confidential client information. Lawyers working remotely using portable PCs at client sites posed the greatest threat. However, according to our survey, executives from all industries view the fact that remote workers have full access to the network and applications as one of their main security risks; 86% are concerned about security of remote working, and 30% believe it leaves the company 'extremely vulnerable' to security breaches.

Interestingly, executives do not see these security concerns as an obstacle to implementing remote working programs – in fact, security emerges as less of an obstacle than in the 2003 survey conducted by the Economist Intelligence Unit. With some basic precautions, a large remote working population should not present a serious security threat. After all, today's large companies often have hundreds of customers and external suppliers from around the world accessing their networks.

Moreover, improvements in security technology have allowed for more secure access to the network, and the ability to preserve integrity and confidentiality of information. Virtual Private Networks (VPNs) are widely recommended for most companies as a first line of defense against security breaches. The browser security technology Secure Sockets Layer (SSL) is fast gaining popularity as the protocol for VPNs. This encryption technology is used, for instance, by the U.S. pharmaceutical services company PDI, discussed above. The most common protocol for dial-up and broadband is Internet Security Protocol (IPSec); though less flexible, it includes software in the employee's PC combined with a secure ID card that generates one-time token codes every 60 seconds. With the user's 4-digit PIN, this provides time-sensitive login information. Authentication software is also placed on the network, which makes it possible to define access based on time of day, day of week or by user.

There is a growing body of opinion that remote and mobile users should have a dedicated 'business needs only' PC for their work. "Remote workers should have a company-only machine for accessing the corporate network – controlled by the corporation," says Peter Houppermans, a security specialist with the PA Consulting Group. "Corporate IT has to make the assumption that a home PC is insecure."

As always, the biggest security threat stems not from the technology itself, but end-users. Remote workers must be educated on the proper security procedures to employ. If a company already has sound security practices in place – for example regular maintenance of firewalls, remote anti-virus updates and staff training for protecting their own and their company's data – remote working should also be secured properly.

Although not recognized as a critical factor by the executives surveyed, business continuity is an important by-product of remote working. In the Economist Intelligence Unit survey, business continuity was rated lowly as a factor driving the shift towards remote working, and the vast majority of companies said they would have less than 80% of their workforce available to work from an alternative location in the event of a disaster. However, a dispersed workforce can help companies to minimize disruption following a disaster, or even during extreme weather conditions such as those experienced in Florida in the summer of 2004. For example, thousands of AT&T employees based there kept working from home during the hurricanes that kept them away from the office.

For each of the questions below, please click on an approximate percentage figure.										
	10% or less	20%	30%	40%	50%	60%	70%	80%	90%	100%
What percentage of your real estate (office space) costs do you think your company could reduce if more people work from alternative locations?	36% 89	27% 66	17% 43	7% 18	10% 24	1% 2	1% 2	1% 3	1% 2	0% 0
What percentage of your employees do you think could work effectively from alternative locations, including their homes, given the appropriate support?	17% 43	24% 59	20% 50	11% 27	11% 27	7% 17	2% 5	4% 11	1% 3	3% 7
What percentage of your company's departments are working virtually, i.e., in teams where most people work remotely?	50% 124	13% 33	11% 28	6% 14	8% 20	3% 8	2% 4	4% 9	0% 1	2% 6
In the event of a disaster, what percentage of your employees would be able to work effectively and immediately from an alternative location (including their homes)?	19% 47	18% 44	16% 40	8% 21	13% 32	4% 9	7% 17	7% 17	3% 7	6% 14

Broadband Tips It

Two technologies are particularly supportive of remote working: broadband and Voice over IP (VoIP). Adoption of both is rocketing. The 2004 Economist Intelligence Unit survey showed that, in the case of 46% of companies, broadband – an essential requirement for home-working – is now installed in the homes of half or more of the workforce, up from just 27% in 2003. Moreover, this proportion is set to leap further to 70% in 2006. These figures reflect the findings of the 2004 American Interactive Consumer Survey conducted by The Dieringer Research Group[2]. In 2003 there were 4.4 million remote workers working at home with broadband. By 2004 the number had grown to 8.1 million, an 84% increase. Meanwhile research in Europe shows the number of broadband subscribers rising just as strongly[3].

Our survey also shows that 21% of companies today use VoIP for remote working, and that 79% of executives expect their companies to be doing so in two years time. In addition to lowering telephone costs, VoIP gives a remote worker more functionality at home than is available with the traditional office-based private branch exchange (PBX). For instance, the office phone number can be routed for use at a home office, and VoIP opens the possibility of creating a virtual call center, for example by re-directing calls to the right staff members wherever they happen to be. In this respect, employers may elect to assign headquarters numbers to remote workers in an effort to promote a customer perception that they are always talking to headquarters staff. Another benefit of VoIP is the additional flexibility provided by its speed of provisioning: employee locations can be reconfigured easily, without the need to reprogram the PBX or involve the telecoms service provider.

The part played by broadband and VoIP in boosting telework cannot be underestimated. "Broadband has tipped it," says Sun Microsystems' CIO Bill Vass.

POINT OF VIEW

Strategies to Make it Work

In a remote working scheme, staff at all levels get the freedom to work where and when they want – as enjoyed by the self-employed – but with the security of belonging to an organization. However, in order to ensure that the basic elements of a successful remote working scheme are in place, companies need to do the following:

Sun Turns Up the Heat

Sun Microsystems has converted 17,000 employees to its 'iWork' scheme for remote working. This is a radical move by the California-based company: more than half its workforce now have no assigned office. Instead, they can reserve shared work places or work from home. Through iWork, Sun is cutting 30% of its office space.

Employees have to get used to the somewhat disconcerting idea of working 'anywhere, anytime – on anything – using any device'. One of those who has relinquished any permanent office is Sun's CIO Bill Vass. "We see offices like parking spaces," he says. "Moving offices becomes as easy as using a car." Likewise, the first to arrive gets the best offices spot. Although office space is being reduced sharply, Mr. Vass says he can now reserve space for up to two weeks when visiting one of the company's offices abroad, whereas previously he would have struggled to find a desk. But the freedom to do 'everything all the time' does require an adjustment on the part of workers. "Remote workers need to be more focused on delivering to goal sets," says Mr. Vass. He also warns of pushing out the workforce before the technology is ready.

Central to iWork is a network of 'thin client' desktop devices called 'Sun Rays'. Employees are given a smartcard, and just need to carry it around and insert it in to any Sun Ray desktop. Up pops their own set of applications within seconds. Sun finds other technologies such as instant messaging and conference calls particularly useful for iWorkers. Also, whiteboarding comes in handy for diffuse design engineering teams.

Sun executives believe that employees give back about 60% of the time they save through not having to commute and through suffering fewer disturbances. The rest they keep for themselves. According to Mr. Vass, persuading employees to work remotely has not been difficult, although 'old-school' managers can put up resistance. So can iWork really be called voluntary? Internal survey data shows that employees' overall satisfaction with iWork now runs at 73%. With the reduction in office space and improvements in productivity, Sun calculates overall savings in 2004 of more than $100m through iWork, which it hopes to increase to $140m annually once the scheme has been implemented in full.

- Carry out an audit throughout the company to find out which jobs are suitable for remote working. Ask the employees themselves. Though ripe for telework, their job may benefit from only one or two days per week off-site.

- HR, IT and facilities management need to be brought together to manage a remote working program effectively. None can do it single-handedly.

- Engage the support of departmental managers. They are often the sticking point for remote working programs, as they perceive it as a threat to their control.

- Avoid hasty implementation. The technology and HR issues must have been fully resolved or the solution will flounder. How to maintain a distinct corporate culture among a diffuse workforce also needs careful consideration.

- Security in the form of a VPN is recommended. A home is not inherently less secure than an office and is likely to have fewer strangers passing in and out!

- Consider offering to finance home office equipment and to pay for monthly broadband charges.

- Ensure that interaction between managers and remote workers is sustained – and includes regular appraisals. A remote working program cannot succeed if this is overlooked. Local managers are more likely to need encouragement and training in order to adapt to the remote working environment than their subordinates.

[1] From SusTel web site

[2] Source: International Telework Association and Council

[3] Source: DSL Forum

Putting VoIP Through its Paces

One of the biggest global trials of VoIP's impact on the remote worker is underway. Twenty-three multi-nationals are taking part in AT&T's VoIP Global Remote Worker trial. The trial participants are equipped with a portable VoIP telephone adapter which, when plugged in to a DSL or cable modem broadband connection at home or in a hotel, uses the AT&T CallVantage℠ Service. They range from middle managers up to top executives, from a wide range of companies.

The six-month trial kicked off in Hong Kong in July in 2004 and now also covers Australia, Singapore and the UK. Early feedback shows that the participants are pleased with the online provisioning tools and support. Once up and running, the most useful features have proved to be instant conferencing – where up to 10 users can join in–and 'talking email', where a voice message attachment can be sent to someone in a different time zone who wouldn't particularly fancy a briefing at 2am. According to Adrienne Scott, AT&T vice president global VoIP, who leads this trial, the VoIP service allows users to have the same phone number wherever they go and to side-step expensive wireless global roaming charges. Moreover, 95% of the participants have found the voice quality acceptable – something which has often dogged VoIP in the past.

AT&T has had to get to grips with various types of broadband in the different countries, Ms. Scott says. It has had to find out how different broadband providers operate, and its customer care staff has had to be thoroughly prepared.

For more information, contact your AT&T

Representative, or visit www.att.com/business.

POINT OF VIEW

Appendix: 2004 AT&T / Economist Intelligence Unit (EIU) Survey Results

254 executives worldwide participated in an online survey on networking and business strategy for this white paper. Our thanks are due to everyone who participated.

Note that answers may not add to 100%, because of rounding or because respondents could give multiple answers to certain questions.

Survey Demographics

In which country are you located? (Regional representation)	
Europe	40%
North America	27%
Asia-Pacific	21%
Latin America	8%
Middle East/Africa	3%
Other	1%

Which of the following best describes your title?	
Board member	6% 14
CEO/COO/President/Managing director	30% 73
CFO/Treasurer/Comptroller	3% 8
CIO/Technology director/Chief knowledge officer	5% 13
SVP/VP/Senior executive	15% 36
Manager	33% 81
Other, please specify	8% 20

What are your main functional roles?	
Business development	40% 100
Customer service	12% 30
Finance	19% 48
General management	41% 101
Human resources	3% 8
IT	15% 37
Legal	4% 11
Marketing and sales	24% 60
Operations and production	15% 38
Risk	8% 19
R&D	6% 16
Supply-chain management	3% 8
Strategy and planning	34% 84
Other, please specify	4% 11

What are your company's annual revenues in U.S. dollars?	
$500M or less	61% 152
$500M to $1G	9% 22
$1G to $3G	8% 21
$3G to $8G	4% 9
$8G or more	11% 27
Not applicable	7% 17

What industry are you in?	
Agriculture and agribusiness	0% 1
Automotive	2% 5
Chemicals	2% 5
Construction and real estate	2% 6
Consumer goods	4% 9
Education	2% 4
Energy and natural resources	6% 14
Entertainment, media and publishing	2% 6
Financial services (non-insurance)	15% 37
Government/Public sector	2% 4
Healthcare, pharmaceuticals and biotechnology	5% 12
Insurance	2% 5
IT services	7% 16
Manufacturing (durables and equipment)	11% 26
Professional services	15% 36
Retailing	2% 6
Technology	4% 9
Telecoms	4% 11
Transport, travel and tourism	8% 19
Other, please specify	6% 15

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