



## **Teleworking and Broadband: The Psychological Impact of Technological Innovation**



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**Gaston Prospère starts his day early.** Awake at 5:30, he's generally in his office and ready to start work at, oh, 5:45 or so. Unless he stops in the kitchen for a bagel, in which case he might not make it until 5:50. With a twitch of his mouse he wakes up the computer in his home office and, since his broadband connection is always on, checks the email from his global colleagues that arrived as he slept.

With another click he lets his Instant Messaging application know he's there ... hangs his coat over his chair, as it were, letting the others on this team know he's up and running, just as if he were in the next cubicle. In just a couple of minutes his colleague, Marie Confrère (another early bird) notices his "coat" and says good morning. Gaston grabs a quick coffee and chats for a few minutes with Marie before getting back to his task at hand: a progress report for his manager on the collaborative documentation project he and his team have been working on. After working for a couple of hours, Gaston makes a quick breakfast, and then hops in the shower. It wouldn't do to attend his upcoming videoconference unshaven and in his pyjamas, after all, and he has to take his car in at 11:30 for a tune-up.

Gaston is a broadband teleworker, one of a growing number of people taking advantage of technology and an evolving business and economic environment to change the way we work, the way we interact with colleagues, management and customers, even the way we live.

This paper looks at teleworking in today's global business environment, helps define what it is, who does it, and why, and looks at the less tangible issues surrounding the psychology of working remotely and how broadband helps teleworkers and their companies. We define the "golden rules" for organizations considering implementing teleworking or for employees considering starting teleworking themselves.



#### **WHAT IS TELEWORKING, ANYWAY?**

**Teleworking** — sometimes also called “telecommuting” or, more recently, “eWork” — is the ability and agreement for a worker (an employee or a self-employed worker) to perform some or all of their work (generally on a regular basis) at a location outside of the traditional office. To add a little context, “outside of the traditional office” can be:

**The employee’s home** — the traditional view of teleworking, where the employee works from home one or more days a week.

**A virtual/mobile office** — the “road warrior,” equipped with the communications tools and technology required to do their job from wherever they are, at home, at a customer location, in transit, etc.

**Hoteling/Hot Desking** — the use of non-designated offices by employees who are off-site on a regular basis. Hotel offices are generally reserved by employees as required and are equipped with everything they need to conduct business.

**A satellite office** — a fully-equipped office not at the main office that is made available for employees to reserve space to work closer to their homes one or more days a week.

**A telework center** — this is similar to a satellite office, except that the space is used by employees of more than one company, and is normally operated independently. Employers are charged for the use of the space and services by their employees.

# TELEWORKING GOES MAINSTREAM

Today's teleworkers are writers, accountants, researchers, auditors, sales people, data entry clerks, call center staff, and more.

While the traits below are important for any successful worker, it's doubly important that a teleworker be:

- > Motivated and responsible
- > Able to work without supervision
- > Goal oriented
- > Good communicators
- > Fully aware of the organization's policies and procedures
- > Successful and comfortable with their current position
- > Adaptable
- > Committed to teleworking

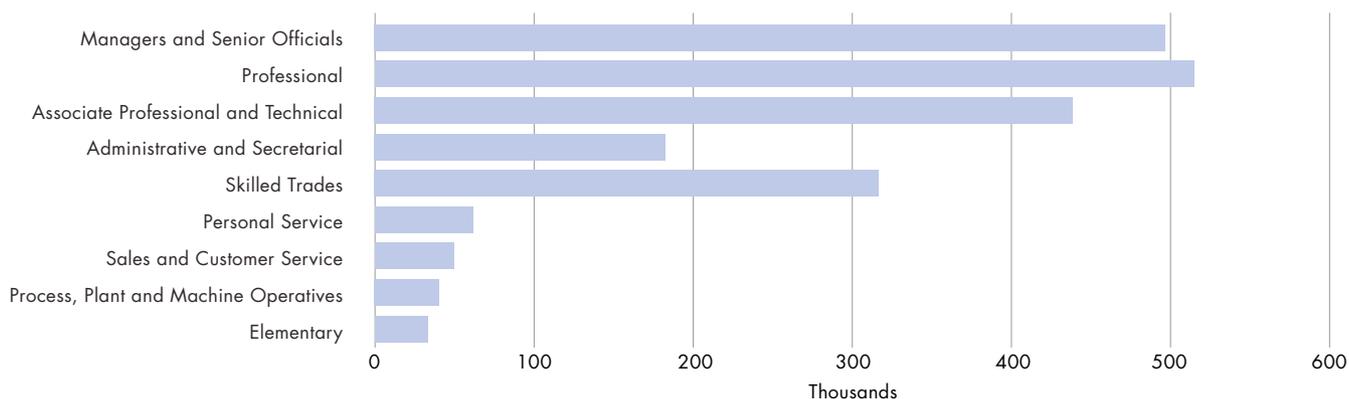
Successful teleworkers are their own bosses; they can motivate themselves, manage their own time, evaluate and correct their own work, and

put all these skills together to work effectively. They don't have a high need for socialising, and can cope well with some isolation.

As importantly, the home teleworker must have personal and domestic circumstances compatible with working from home, and be prepared for the potential adjustments or accommodations they'll need to make in their home environment, such as:

- > **Space:** Is there space to set up an office in the home, ideally a separate room? A separate room helps teleworkers keep home and work life separate, and avoid domestic distractions.
- > **Family circumstances:** Some people's family circumstances will favour telework, while those of others will make it difficult.

**Figure 1: People Employed in Teleworking by Occupational Group  
United Kingdom; Spring 2001, Not Seasonally Adjusted**



\*Occupations are coded according to the 2000 Standard Occupational Classification.

Small children in the home can make telework less feasible. On the other hand, telework may be advantageous if there are older children or an elderly relative who need an adult on site, but don't require full time supervision. Responsibility for domestic chores may also be an issue: it is not usually practicable for a teleworker to carry out a substantial amount of domestic work during working hours, although small chores may make a welcome break from work.

- > **Childcare:** For a parent returning to the workforce, or whose spouse wishes to do so, childcare arrangements are critical. It is usually impossible to combine responsibility for small children with effective telework.

Some jobs are a better fit for teleworking than others. The chances for teleworking success improve if the job:

- > has preset and easily measured deliverables and start and stop times, allowing management and senior staff to more easily set expectations;
- > can be completed independently, performed easily outside of the office environment without disrupting the workflow
- > is portable, with all required resources easily taken home and/or accessed online
- > can take advantage of long periods of concentration that might be difficult to find in the office

Have a look at the sidebar below for a list of tasks that might be suitable for teleworking.

## DOES THIS SOUND LIKE YOU?

Here's a list of tasks that might be suitable for teleworking. If you see yourself or your staff doing these types of tasks much of the time, teleworking might be right for you or your organization.

- > Analysis
- > Auditing reports
- > Calculating
- > Computer programming
- > Data entry
- > Design work
- > Drafting
- > Editing
- > Evaluations
- > Frequent travel
- > Graphics
- > Onsite client visits
- > Planning
- > Preparing budgets
- > Preparing contracts
- > Project management
- > Reading
- > Record keeping
- > Research
- > Spreadsheet analysis
- > Telephone work
- > Typing
- > Writing

# THE PSYCHOLOGICAL ISSUES OF TELEWORK

Like all worthwhile endeavours, teleworking is not without its pitfalls, and needs careful implementation and management to avoid some very real dangers. The most common — and most influential — of these potential hazards all hinge around communication and contact. Here are a few of the issues that need careful attention:

## Social Isolation

We're social creatures, we homo sapiens. As we're growing and learning, we spend much time and effort perfecting our social personas, learning how to interact with people one-on-one, in group situations, in business and personal arenas both. It is very disconcerting, then, for some to find themselves in an environment where the skills they've learned — based generally on personal interaction — are no longer as effective as they were in a more traditional work environment. There's a danger of feeling "out of the loop" when teleworking, too far from the water cooler to properly build the relationships with colleagues and management upon which we've come to rely.

Successful teleworking requires us to learn new communication skills, and take advantage of communication technology to fill the interaction gap. Broadband applications such as instant messaging and video conferencing help maintain a sense of presence, of being part of the team, as does broadband's "always on" nature. A teleworker is as accessible and available as the person down the hall ... perhaps even more so. Equally importantly, extra effort must be made to plan good old personal interaction, team-building exercises and initiatives that cement a sense of belonging and security in all members of the team, remote or otherwise.



The truth is, though, that all workers are different, and circumstances change. Even with the availability of the best technologies and management some workers aren't ideally suited for isolation, and need to be in a social environment to function effectively. And even the best teleworker may be adversely affected by isolation during times of personal stress or crisis (e.g., relationship issues, bereavement, etc.). Open and frequent communication is the key to identifying and managing issues such as these.

### Performance Management

Some teleworkers are in danger of experiencing a sense of loss of professional identity and progress, owing to the lack of spontaneous interaction with management, and the reduced opportunity for performance

feedback from supervisors. Some teleworkers also perceive (rightly or wrongly) that teleworking will lead to reduced visibility with their supervisors and, consequently, reduced opportunity for advancement and favour. Some also fear that because they're out of sight, they're out of mind, and prime candidates for downsizing in tough times. On the flip side, management worries about a loss of control, and reduced productivity and security. Above all, management and work styles based on communication and relationships, not control, need to be implemented. Managers need to plan regular performance feedback and recognition for staff, and put in place measures to promote trust. That performance feedback needs to be based on results — milestones and deliverables — and not process. And here again, broadband access eases the way: telephony functions such as call

divert, voice mail, follow me, etc., mean colleagues or clients trying to contact teleworkers only have to call one number, maintaining the perception that the teleworker is always in the same place; video conferencing gives a more personal feel and sense of presence to conversations between management and remote staff and collaborative work tools allow real teamwork.

### Effectiveness

In most conventional businesses, the most effective place to do work has traditionally been at the office, largely for two reasons: location and perception. The office generally holds the resources needed to perform the job, and the means to work with those resources (whether they are files, systems, people ...). And the perception

## THE "GOLDEN RULES": BUILDING BLOCKS FOR SUCCESSFUL TELEWORKING

The success of any venture depends on a strong foundation, and teleworking is no different. Here are five "Golden Rules" that should be applied to any teleworking initiative to help guarantee payback:

- 1 VOLUNTARY PARTICIPATION
- 2 MANAGEMENT SUPPORT
- 3 COMPREHENSIVE TRAINING
- 4 A COMPLETE "OFFICE AT HOME"
- 5 MAINTAINING THE LINK

### 1 VOLUNTARY PARTICIPATION

Because commitment to the effort by employees is so vital, participants in a teleworking program must be volunteers, who understand the importance of teleworking issues such as space, isolation, family circumstances, etc. and have planned appropriately to address them. Participants should be offered the opportunity based on criteria discussed earlier and be allowed to take partial ownership of the initiative.

### 2 MANAGEMENT SUPPORT

Senior management support is critical to ensure proper training and resource allocation. Managers need to realize that interacting with teleworking staff may need more management time, not less, and requires a management style based on coaching, communication and relationships, not control. Management needs to establish clear rules about accessibility, discuss issues of "workaholicism," carefully plan feedback and staff recognition programs, and put in place measures to promote trust and demonstrate fairness.



of some of the more traditional managers has been that workers aren't as effective if they can't be seen. It quickly became clear in the early days of teleworking, however, that people can be effective when not in the office as long as the proper management, support mechanisms and expectations were in place. The limitation then was related to location, and systems and processes that weren't *designed* for teleworkers, but were only *accommodating* them.

Fortunately, times change. Broadband *is* designed for teleworking, and ensures that teleworkers have the same access to all corporate systems as their in-house colleagues — all databases, email and collaborative work systems, and corporate applications for time and

progress reporting. Further, teleworkers may even have the advantage of being able to work more naturally than others, since they have the ability to access these systems at their leisure, rather than only during business hours (leaving time during the business day for personal errands, a game of golf ... dynamic time-shifting as work priorities permit). People who work with colleagues or clients in different time zones can plan their work time appropriately, not having to leave home to use office-based conferencing systems. Time shifting has its own set of hazards, though, with the potential to be "always on duty." To avoid burnout, clear schedules need to be created and communicated that establish on and off hours (recognizing that some of those off hours may be during conventional business hours).

Open and thorough communication and planning among management and staff (both teleworkers and office workers) is crucial. People must be given all the information they need to make proper judgements and evaluations.

The bottom line is that the key to alleviating such concerns about teleworking or the effectiveness of teleworkers is the development of a clear and well-communicated set of policies to govern your teleworking program. See the sidebar for some of the "Golden Rules" of teleworking that we've found to be effective answers to the concerns outlined above.



### **3 COMPREHENSIVE TRAINING**

Training for both managers and teleworkers is important. To accommodate a new way of working, managers should learn to manage outcomes and behaviours, not process. Teleworkers may need training in technology and online collaborative work (and they should receive this training online, if at all possible), self and time management, and policy and legal issues.



### **4 A COMPLETE "OFFICE AT HOME"**

In order to feel that they can be as productive (or more productive) as teleworkers, employees need to be provided with equipment and communications that are as good as those in the office. A separate, dedicated space should be established that is mindful of ergonomic and health and safety issues. If work visitors are to be received at home, then the image of the workspace needs to be considered. All tax, insurance, and expense procedures should be clearly established, and adequate support for the set-up process should be provided.

### **5 MAINTAINING THE LINK**

For teleworkers, technical support is vital, not just during "regular" business hours. Teleworkers need access to supplies and support staff, with high-quality online support available. Teams should meet regularly to promote contact between teleworkers, managers and on-site staff (face-to-face meetings are important to build and maintain trust); informal communications are also important, especially for social contact, office politics, and teleworker visibility.

# THE BENEFITS OF TELEWORKING

But why do it? Why telework? Well, this doesn't happen often in life but where teleworking makes sense it's a win-win-win situation. Case study after case study demonstrates the real benefits of teleworking, from increases in productivity to improved quality of work and quality of life.

In a survey of almost 2,000 teleworkers at British Telecom earlier this year, 78 percent of respondents said they are more productive owing to reduced disruption, commuting time and stress, and more control over where and when they work. BT says it saves £35m a year in office space, recruitment costs and absenteeism alone. Teleworkers at BT are proving to be four times less likely to take sick days, averaging three days off a year compared with 12 for office-based staff. See the sidebar for some more stats.

Teleworking benefits employees, employers, and even the community and ecosystem. Here's a quick summary of some of the available benefits:

## Employer Benefits

- > Save on real estate and other operating costs
- > Attract and retain employees
- > Increase productivity and job performance
- > Increase employee job satisfaction and morale
- > Reduce employee absenteeism
- > Increase customer satisfaction through more flexible service delivery
- > Comply with government regulations (e.g., clean air regulations, family leave requirements, etc.)
- > Be prepared for disaster and recovery with the business continuity advantages of teleworking



## Employee Benefits

- > Increase job satisfaction
- > Lower stress levels
- > Reduce commute time
- > Balance the demands of work and family
- > Increase flexibility and improve work environment
- > Increase disposable income (fewer business clothes, reduced dry cleaning, reduced gas/travel expense, reduced childcare)
- > Increase privacy, reduce interruptions
- > Gain more accessibility to more jobs for the handicapped and disabled
- > Gain access to geographically remote opportunities

## Community Benefits

- > Decrease air pollutants
- > Decrease traffic congestion
- > Increase neighbourhood safety
- > Reduce number of latchkey kids

## SOME INTERESTING TELEWORKING STATISTICS

"... increased productivity is valued at \$65 million annually. When real estate and job retention savings are included, AT&T saves more than \$100 million every year due to telework." *(AT&T, August 2002)*

Two thirds of teleworkers responding to a 2001 International Telework Association and Council (ITAC) survey expressed increased job satisfaction. Eighty percent feel a greater commitment to their employer. *(ITAC 2001)*

82 percent of teleworkers said that balancing work and family responsibilities was a significant advantage of telework; about 70 percent are more satisfied with their current job and personal and family lives; 56 percent of teleworkers who received competing job offers said that they factored telework into their decision to accept or reject the offer. *(AT&T 2002)*

About 25 percent of IBM's 320,000 workers worldwide telecommute from home offices, saving \$700 million in real estate costs. *(IBM, Oct 2002)*

The Oregon Office of Energy has estimated that telework programs in the Portland area alone saved more than 2.9 million vehicle miles and more than 138,000 gallons of fuel annually in the two years following August 1995, for an annual savings of more than \$173,000 and an annual reduction in carbon dioxide emissions of more than 2.7 million pounds. *(Oregon Office of Energy, July 2000)*

Employees who telework can save their employers \$10,000 each in reduced absenteeism and job retention costs ... teleworkers save 52.9 minutes of commute time each workday ... the self-reported productivity improvement of home-based teleworkers averages 15 percent, while telework-center based employees reported a 30 percent improvement. *(ITAC 2001)*

## BROADBAND:

# MAKING IT ALL POSSIBLE

We've all been hearing about teleworking for many years now, and have likely relegated it to the back lot as slow, unwieldy, complicated, and really only for situations that require accommodation on the part of the employer to meet an employee's special needs. And that's been largely true.

Until now, the main teleworking tools have been a laptop PC and a dial-up or ISDN modem, resulting in employees who essentially have access only to email. They were prohibited by the slow data speeds from accessing files or databases on the enterprise Intranet or network. As important was their limited access to enterprise voice services. People calling a remote worker had to call the office and then be redirected or leave a message for a call back from the remote worker. Common office phone features such as conference calling, voice mail notification, call forwarding, among others, were not available.

This state of affairs often left teleworkers feeling disconnected, not part of the social and business fabric that provides us with feelings of accomplishment, security and success. In some cases it left them unable to perform the same functions in the same time and manner as their colleagues in the office, unable to access certain corporate systems. And just as critically, the common perception of teleworking's limitations has prevented countless corporations and individuals from taking all but the most tentative steps toward a real teleworking solution.

*Enter broadband.*



***“... the UK does not use broadband as widely as some countries, although adoption of the technology has accelerated here in recent months. One reason for this growth is that firms are increasingly using broadband to connect to teleworkers ... the growing availability of broadband is likely to encourage more organisations to develop their own telework systems.”***  
*(IT Week, Oct 2002)*

At a May 2001 roundtable discussion on broadband and business productivity in Washington, D.C., William Mularie of the Telework Consortium said “... broadband will facilitate what could be the killer application, human-to-human communications such as telecommuting.”

At that same discussion, AT&T's Brad Allenby said that AT&T saves millions of dollars each year in real estate costs and stepped-up productivity owing to teleworking. The biggest barrier to

telework at AT&T in the short run is the lack of availability of broadband, Allenby said. Employees who work outside the office want to be able to interact with others in “psychologically comfortable” ways, he said, including being able to handle large files and having speedy access to corporate systems.

With fast connection speed, always-on convenience, no telephone line required, and the growing number of broadband networking services available specifically tailored for teleworking, broadband is the essential first service for teleworkers, providing them with high-speed access to enterprise data resources. Indeed, it's a brave new world out there, and broadband is helping the emerging teleworkforce work better, smarter, faster and more efficiently than ever before.



## BROADENING OUR EXPERIENCE:

# TELEWORKING AT ALCATEL

Because of the technological nature and global span of our operations, teleworking has long been a reality within Alcatel. As broadband infrastructure has been deployed in the towns and cities where our employees live we have started to use broadband to enhance the teleworking experience for our staff.

To gain more formal experience and to track the results more carefully, Alcatel Bell, our Belgium company, launched a pilot teleworking program in September 2001.

With the principle objective of reducing employees' commuting time, 25 percent of the staff — 1000 workers — were designated as teleworkers (that is, performed one or two days of teleworking per week). Of that number, 38 percent had prior teleworking experience.

All volunteers, the teleworkers represent several areas of the company, including engineering, marketing and commercial staff.

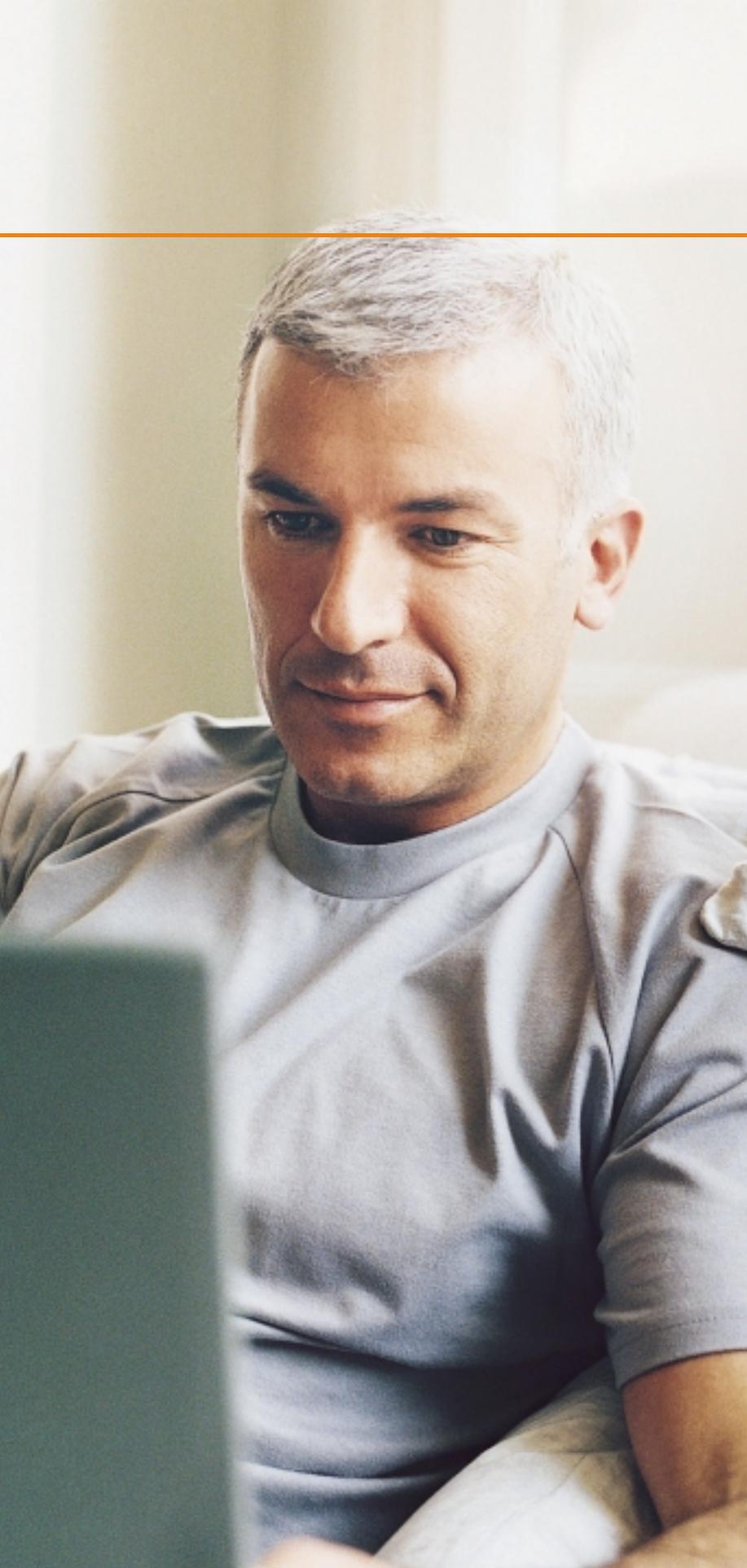
To broaden our experience in France, Alcatel launched a test project in October of 2002.

100 of our employees on two sites offer sales, marketing and customer support functions while working one to three days per week from home. They've been provided with DSL equipment, a modem, and voice over IP capabilities.

As an added measure of support, we've created a dedicated intranet web site for our teleworkers and their managers with the aim of providing user-driven access to information, services and online training.

In the United Kingdom we have 120 teleworkers, and are upgrading to broadband from ISDN. As DSL roll-out accelerates in the UK, we expect to realize significant savings on ISDN Network access and to greatly increase the flexibility, morale and effectiveness of our teleworkers.





### **For More Information**

As the market leaders in broadband networking, Alcatel is committed to helping service providers deliver a new generation of entertainment, business and communications services over broadband access networks to their residential and business customers. For more information, visit [www.alcatel.com/carriermarketdevelopment](http://www.alcatel.com/carriermarketdevelopment)

This paper was written by David Hills, with input and assistance from Dr. Karol Szlichcinski.

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Dr. Karol Szlichcinski has worked in the telecommunications industry for much of his career. He started his career in applied psychology research, with BT (formerly Post Office Telecommunications), and has managed his own independent consultancy practice for the last ten years. Karol is a Chartered Psychologist, Principal Member of the Association of Business Psychologists and Fellow of the Institute of Management Consultants, and European Editor of the journal Behaviour and Information Technology.

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