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Introduction

This report, commissioned by Kodak, sets out to understand how people use digital imaging technologies within their relationships, particularly in the context of the current global economic climate.

Our research, conducted in UK, France, Germany, Italy and the US, uncovers a growing mindset towards ‘reconnectivity’ and we explored this in order to understand the role that can be played by technology and digital imaging. As an intrinsic part of this, we examined the ways that lifestyles are ever more digitally and technologically enabled, and we looked at how people are using these technologies to communicate with each other. We particularly looked at these issues in light of the fact that, ultimately, human beings are ‘hard wired’ to connect with each other, and that they increasingly feel a need to experience deeper bonds with others face-to-face.

We conclude that digital experiences are becoming more familiar and thus are seen as trustworthy, emulating the sentiments of a close human relationship. It could be argued that advanced digital interaction is, in fact, very ‘human’, as it allows people to converse on multiple levels, thus deepening the level of the interaction. In the future, digital imaging technologies will support new forms of face-to-face contact. The question of what the future holds for all generations remains to be answered, regardless of their ‘digital birthright’.

Our global desk research and expert interviews were supported by online and telephone-based quantitative surveys of 2,500 consumers across Britain, France, Germany, Italy and the US. The material gathered was analysed to identify and quantify what, why, where and how digital/imaging technologies are already being used to enhance relationships, and how this may develop in the future. All statistics quoted within this report, unless otherwise stated, are from the results of this survey.

Reconnectivity drivers

This section of the report describes how and why reconnectivity has emerged as a global mindset, and how digital/imaging technology is changing and supporting everyday behaviours and contexts where face-to-face interaction is desired or needed.

Assumed connectivity

Despite the recession, demand has not waned. Innovation and lifestyle choices mean that technology continues to be a priority for consumers. As a result, more and more people are technologically enabled to reconnect to others, wherever they are, in a variety of ways.

More and more people now own multiple devices that allow different forms of communication, so reconnectedness is nearly almost always possible without requiring face-to-face contact. Modern individuals assume that the members of their social and professional networks will have access to key devices such as mobile phones, laptops and digital cameras. As a result, communication is quick and effortless, and this often means that longer periods of time can be spent apart from friends and family, without fear of emotional ties weakening.

This is true both for 'digital natives', born into a world of instant connectivity, and an older generation that has had to consciously adapt to such a world. 'The older captains of industry are using video conferencing at the moment, but the schoolkids are hot on their heels,' points out psychologist Jackie Thomas. 'Teenagers might text, safe from rejection behind their cell phone screens, and then go on to reveal their innermost secrets and longings on Facebook. The most technophobic pensioner will master Skype in minutes if it means she gets to see her grandchild on screen. Grey power will trawl the net as much as any teenager – when it suits them.'

The digital native generation's familiarity with technology, and expectations of it, mean that it is increasingly seen as a normal part of communication. A range of devices provide reconnectedness that can be quicker, easier, inexpensive and more practical than face-to-face contact. It is thus reasonable to expect that technology should come to supersede physical interaction in some instances. Ultimately, digital natives' adoption of technology and their ease with it suggests that, while the human need for physical interaction and communication will remain great, 'virtual' or technologically assisted 'face-to-face' will become more of an option.

Peep culture

In the six years since the likes of MySpace and Facebook were developed, social networks have entered mainstream culture. Whether they are used as online photo albums for students to display their antics or as indispensable networking tools for City professionals, social networks provide a virtual link to friends, relatives and colleagues – and even to people with whom we only interact and socialise online.

Technology keeps a constant log of our lives, from the texts we send to the photos uploaded onto Flickr after a night out, to the Twitter feeds that detail the way we think, feel and act at any given moment. Hal Niedzviecki, author of *The Peep Diaries*, calls this 'Peep culture'. In Peep culture, 'life is lived on constant record because you never know when you're going to want to be able to rewind something, see it again, share it with a family member, use it as evidence, sell it to the highest bidder, or post it on your blog.' This constant record is a never-ending story that allows social networkers to tell others about their lives in a way that is engaging, interactive and, most importantly, real.

This culture is fostering an almost exhibitionist streak in younger generations, as digital natives embrace social networking - revealing all about their every move and thought. The secret diary has been replaced by an open book to be read by all, whether they are friends, family or even strangers. The ubiquity of digital imaging technology means these moves and thoughts are increasingly chronicled in photos and videos, with the result that, people can remain constantly aware of the happenings in the lives of others. Personal lives are shared much more openly, illustrated with photos taken moments ago and uploaded immediately, allowing friends and family to browse through the activities of loved ones whenever and wherever. The increased mobile accessibility of social networks has served to encourage the proliferation of impulsive updates and uploads, via mobile phones, smart phones, pocket video cameras and an array of wifi internet hotspots.

Russell Townsend, co-founder and MD of digital creative agency Clusta, believes that in the immediate future, social networking will gain even more traction. 'Many more businesses and individuals will really learn how to wield the power of social networking to get people's attention effectively, and there will be a much wider integration,' says Townsend. 'In the future, this kind of integration will be so ubiquitous that people will take it for granted.' People will thus not only become more familiar with social networking but also dependent upon it, as a means of communication and reconnectedness as well as of expression.

Time is money

The recession has had a global impact, its shockwave felt at different times and with varying force. Some currencies have managed to stand firm, while others have fallen or wavered erratically. Though there is still some fragility, the recession is officially over in Germany and France. This is reflected in the attitudes expressed by respondents across various regions about what they feel affects them the most at the moment. UK respondents consider the recession (39%) and employment concerns (38%) important, as do respondents in the US, where 69% feel affected by the recession. In France, however, respondents feel their lives are currently more affected by the internet (49%), friends (43%) and climate change (37%), for example. As the UK, the US, Italy, Spain and the Netherlands are predicted to be next to move onto more secure financial ground, concerns in these countries will move away from finance and instead focus on family and friends. Asked what moments they'll treasure most in the next ten years, the top answer, from all countries was not career success but seeing the birth of children and grandchildren.

The economic climate has made people far more aware of their financial situation and more discerning as consumers. Purchases have to deliver quality, service and emotional value, all of which have superseded the pull of mere indulgence and luxury excess. After a turbulent period that has threatened both jobs and bank balances, spending time – rather than money – with loved ones is of real importance.

An ING Direct survey of nine countries found that the economic crisis had strained relationships, particularly in the US, where nearly three in ten (29%) Americans felt their relationships had suffered. This compares to 12% in Germany and 24% in France. Clearly, the need to reconnect with friends and family to enjoy a happier, more solvent, future is great. Technology that can help to serve and complement this need is therefore considered a solid investment, capturing and preserving time spent together and aiding communication when apart.

Working for the weekend

The working world is almost at odds with face-to-face connectivity, as communication by email or conference call is increasingly encouraged to maximise efficiency and minimise costs. More than 600m people worldwide work excessively long hours, with the UK regularly ranked as the worst offender. More than a quarter of British workers put in over 48 hours a week. Furthermore, the UK also has the highest European percentage of those who work on Saturdays (38% against the European average of 25%), Sundays (27% against 15%) and at night (13% against 9%).

In a culture where time is money, clients and colleagues need an efficient, rapid communication flow where meaning is conveyed and professional relationships maintained. Video-conferencing technology, for example, is improving and now seeing progress into high definition (HD) for greater clarity. Video conferencing cuts air miles and is becoming regarded by some companies as a greener alternative to face-to-face communication. It maintains the power of body language, which can play a strong subliminal role when it comes to influence, persuasion and reassurance.

The power of visual imagery cannot be ignored; what a person sees can have a strong effect on their psychology and physiology, affecting ideas, perceptions, feelings and behaviour. A recent study by Kodak found that photos can motivate people to contact friends and family, and 98% of Americans feel that seeing a visual image of loved ones provokes positive feelings of connectedness. As more people look beyond their local area for career opportunities in bigger cities or even different countries, feeling connected to family and friends is becoming increasingly important.

Face-to-face communication with loved ones for the modern professional can mean a short commute or a long-haul flight. The daily demands of the modern world mean we do not always have the time or resources to be able to enjoy this physical interaction. As a result, those with busy working lives are looking at how they can adopt various forms of technology to maintain relationships with those close to them, to prevent the unravelling and disintegration of social ties.

A 2009 ING Direct survey found that many people believe the current economic climate will force them to retire up to 10 years later than originally expected, with Germany (43%) and the UK (27%) particularly concerned by this. Time spent away from the career treadmill, and the people it is spent with, are becoming increasingly precious and meaningful. However, reconnecting with others is just as important in the workplace.

Reconnectivity trends

This section of the report describes the new contexts and occasions where digital/imaging technologies are supporting reconnectivity. It highlights the new technologies themselves, as well as identifying new typologies by behaviours, contexts and forms of communication, both global and local, that still feel intimate and real.

There are times when it is not practical or possible to see a friend, relative, partner or colleague face-to-face, however much we may wish to. Time constraints as well as physical distance commonly keep people apart. Differences in behaviour between age groups and genders can also impact on our ability, motivation and willingness to reconnect with others face-to-face. Technological developments, however, are evolving to bridge the gaps, making virtual reconnectivity a possibility.

The home office

As businesses seek to combat the economic crisis, longer working hours, increased workload and the threat of redundancy have meant many professionals are spending more time at the office and less with family and friends. In addition to this, with more people looking further afield for job opportunities, feeling connected with loved ones is crucial - now more than ever before. In the current climate, as feelings of distance grow both mentally and physically, an increasing number of people are using technology to correct the balance. Working from home means professionals can spend time with partners and children, while maintaining efficient working relationships via a number of devices.

Scaling the career ladder has meant many professionals have spent more time seeing their families on digital photo-frames or desktop backgrounds than face-to-face. However, combining success and family time does not have to be an either/or choice. Flexible working hours are becoming an option that is increasingly widely available as companies realise its benefits on employee morale and productivity. The benefits of flexible working hours are clear and highly seductive to many professionals. This kind of remote working enables people to prioritise family and friends without compromising efficiency and communication with clients or colleagues.

The 3-D workplace has proved that virtual reality can not only maintain but also intensify and improve face-to-face communication between co-workers and clients. The power of imagery is already allowing 'techxecutives' to attend virtual meetings in the form of avatars. Cognitive cues from contextual layout and audio communication aid reconnectedness in ways that mirror the real world. For example, seeing the 3-D avatars of fellow colleagues gathering outside a virtual conference room would lead to the assumption that a meeting is about to start. It would then be natural to talk to those colleagues about the content or timing of the meeting, just as if attending a physical meeting. Virtual face-to-face communication can be quick and efficient, to aid the completion of tasks without unnecessary debate and over-complicated discussion.

However, it can also encourage more in-depth communication, particularly between those normally kept apart by distance; there are no worries about time constraints or needing to return to the office. Virtual reality can thus provide a greater freedom to communicate with others, either economically or at more leisurely pace, to ultimately achieve a better outcome.

As flexible working hours and virtual environments become increasingly available, the opportunity to reconnect with friends and family through technology such as virtual reality will be open to more professionals who are currently constrained by the bricks and mortar of their office.

Village people

Technology is frequently associated with the modern metropolis and fast-paced, forward-thinking lifestyles. However, technology is particularly essential in small towns and rural outposts where it can connect, encompass and immerse. Broadband internet is now regarded as an essential rather than a luxury; the UK's Commission for Rural Communities even calls it 'the fourth utility'. Government schemes and local initiatives in various countries are working towards total connectivity across their regions. As a result, an increasing number of people who live outside areas of urban sprawl are establishing face-to-face contact with family and friends via technology.

Living in a remote part of the countryside is a key factor that would influence Britons to choose technology-based contact over face-to-face; 41% say this would cause them to use technology, with 45% of people who actually live in the countryside citing it as a factor. In France, 45% of people from rural areas also cite it as a factor, as do 55% in Germany and 33% of Italians. Over half (57%) of Americans consider living in a remote part of the countryside a key factor that would make people in the US choose technology-based contact over face-to-face contact, especially urbanites in New York (63%), Washington DC (77%) and San Francisco (71%).

Broadband Internet's Value for Rural America, a report issued by the United States Department of Agriculture's Economic Research Service, found that, while an estimated 55% of American adults had home broadband access in 2008, this was only true for 41% in rural households. This shortfall was attributed to a lack of broadband connectivity in rural areas. The US federal government received requests this year for a total of \$28bn from groups that want to expand high-speed internet service in the US, and the American government has made \$4bn in loans and grants initially available. One of the ways this money will be used is to connect rural communities to the internet.

Germany has one of the biggest digital divides between rural and urban broadband connectivity in the EU. In 2007, just 12% of homes in rural Germany had broadband internet. The European Commission allocated €45m in June 2008 to be spent on promoting widespread and affordable broadband services in Germany's rural areas; however, an August 2009 study by global consultancy Booz & Company found that Germany was spending only €1.50 per head on next-generation broadband networks. The world leader, Australia, spends the equivalent of €1,500 per head.

Elsewhere in Europe, in the UK 30% of homes do not have internet access, according to the Office for National Statistics. Around 37% of UK homes cannot currently access the internet through a broadband connection because they are in a rural location too far from a telephone exchange. 'Of course, everyone in the UK can get broadband – but at a price,' says Dr Charles Trotman, head of rural business development at the Country Land and Business Association. 'We believe that broadband is as essential as the basic public utilities, such as gas, electricity and water. As this is the case, the public have a right to expect an adequate broadband service at an affordable price, irrespective of where they live. Broadband can make a difference to peoples' lives, particularly in the social context by encouraging greater inclusion.'

Efforts are being made to ensure rural communities become connected and research shows that, once this happens, people in rural areas are keen to play an active role in the progression of innovative technology that aids reconnectedness. The use of mobile phones in rural areas is already higher than the national average, and at least 50% of people in all regions surveyed consider mobile phones have made communicating with friends and family easier and better.

Technology has already transformed relationships for those in rural areas, between friends (11%), family (9%) and colleagues (5%) in the UK, by allowing increased and more frequent communication and the sharing of video, images and news to create a greater sense of closeness and inclusion. In France and Germany, technology has transformed relationships between friends (13% and 16% respectively), family (10% for both countries) and colleagues (10% and 8%) for those who live in rural areas. In Italy, for country-dwellers technology has transformed relationships between friends (8%), family (8%), and colleagues (12%). In the US, the transformation percentages are 10% between friends, 8% between family members and 12% between colleagues for rural dwellers. Overall, key relationships have been not only improved but radically changed for the better by technology for around one in ten people living in the countryside.

One way that technology can transform relationships with others is through helping to revive a community's civic health, encouraging bonds between residents as well as with those further afield. Connectivity helps to prevent isolation, insularity and the entrenched opposition to change that can occur in rural areas. The Southern Rural Development Center in the US, through its Rural E-Commerce Extension Initiative Grants Program, has actively encouraged residents in rural areas in the southern states of the US to promote connectivity for this very reason.

At present, acceptable broadband speeds and strong mobile phone signals are the major concerns for those in rural areas who wish to connect. As further action is taken by governments and local schemes to achieve this, more innovative technology will come more widely accessible. There is already much anticipation: 13% of those who live in rural Britain think augmented reality will improve face-to-face contact with others, while 15% believe holographic and high-definition technology will help maintain F2F and 17% believe virtual reality will improve face-to-face contact. In France, 15% of those in rural areas think virtual reality will improve face-to-face contact, and 18% think holographic technology will do the same. Others feel face-to-face communication will be improved by augmented reality, such as respondents in Germany (12%) and Italy (19%), while a quarter of Americans overall (25%) think face-to-face communication will be improved by high-definition technology incorporated into the likes of mobile phone screens and portable video devices.

In the future, more and more people in remoter regions will be able to take advantage of advances in technology already being experienced by city-dwellers. The sharing of these technologies and the narrowing of the geographical digital divide will mean more people will be able to reconnect. This will not only benefit interpersonal relationships but will also boost the rural economy.

The 'here and now's

Even when people are face-to-face, frequently they are consciously recording the moment for posterity, their mindset already in the future rather than the present. This trend towards preserving the present by thinking of the future means a growing segment is not so much living in the moment but living ahead of it and analysing its worth.

This worth is calculated by how much of the moment is recordable, measurable by creative status updates on Facebook and Twitter and illustratable by videos and pictures that others will want to click on and pass to others. Even when reconnecting face-to-face in the same physical space, people are thinking of those who aren't there and how they can be incorporated into the reconnection experience. For example, video footage taken at a concert can be uploaded for friends to watch on a social networking page. Executives can send Tweets to update co-workers and shareholders on the success of a business deal, while parents can use webcams and Skype to invite relatives living abroad as virtual guests to a family gathering.

In 1974, an estimated 1bn Polaroids were taken, fuelled by the camera's immediacy for delivering a photo in the here and now. The present day digital photographer demands more. An estimated 40m photos are taken every single day with Kodak digital cameras. Amateurs or enthusiasts can take photos using digital cameras or mobile phones and upload them instantly to social networks, allowing potentially millions of people to share in the here and now. Devices such as the Kodak Zi8 Pocket Video Camera have been designed so that photos and videos can be uploaded to Facebook or YouTube at the click of a button.

One reason behind the initial success of social networks was self-promotion. MySpace launched a number of music acts and celebrities due to its ability to provide free promotion. For individuals, social networks initially offered a platform to promote their latest career success, purchase or relationship status to as wide an audience as they wish. This self-endorsement triggered improved self-esteem - users felt connected to others by seeing a stream of updates from friends and family, and a sense of togetherness by knowing others are connected to them. Now, the social networks are just as much about communication as self-promotion.

Visited by over two-thirds (67%) of the global online population, social networks and blogs have become the fourth most popular online activity, even ahead of responding to personal email, according to new research by Nielsen Online. Facebook continues to be the most popular social network worldwide, especially in the UK, where it has the greatest reach at 47%, and the site is visited monthly by three in every 10 people online globally. Almost a quarter of the site's total user base, 65m people, use Facebook Mobile. Additionally, a 2009 study of 200 Americans by Pace University, New York, found that 99% of those surveyed had a profile on a social networking site and 89% had used the photo features available.

Men are particularly likely to constantly update their social networking pages, with sites like Facebook acting as running commentaries on their every move; 43% of British men are always connected to their friends and 49% are always updating their social networking page. In other regions too, it is men who are most preoccupied with maintaining their online profile. In France, men are more likely (59%) than women (41%) to constantly update their social networking page. There is a similar scenario in Germany (63% of men and 38% of women, and in Italy (67% of men, 33% of women).

Numerous psychological studies have found that men are less likely to express their emotions than women. In 1995, psychologists Graham Wagstaff and A M Rowledge concluded that men were far more likely to adopt a stoic response rather an emotive one. Simon Baron-Cohen, author of *The Essential Difference*, suggests that testosterone is responsible for the male brain being tuned into the practical rather than the emotional. This would explain why men are more likely to commit time to relationships that require little emotional investment. For example, 18% of British men see their clients at least once a week, compared to 13% of women, and 6% see their bank manager at least once a month, compared to 2% of women. The trend towards men committing to more practical relationships is also evident in other regions; for example, 13% of French men see their clients at least once a week, compared to 9% of women, and 9% of American men see their bank managers once a week, compared to just 1% of women. However, though men are less likely to express their emotions, this does not mean they do not express them at all.

Social networking pages provide an ideal setting for men to express their thoughts and feelings. A practical networking tool, social networks can be viewed as a credible application that does not explicitly imply emotional intimacy. Social networks can also pander to behaviours such as male bravado and the desire to express success to others in a way that is graphic and illustrative but not perceived as inappropriate.

Reconnectivity comes of age

Social networks have also become such a part of modern culture that using them comprises an element of complying with the social norm. Research by Facebook, for example, found that the number of photos that users upload is not dictated by whether their friends show approval or comment on the pictures. Rather, it is based on how many photos users' friends have uploaded: quite simply, a case of keeping up with the virtual status quo.

Digital natives are more likely to be preoccupied with preserving the moment in order to reconnect with others rather than with those actually around them at the time; 10% of people who constantly update their social network page are aged 18-24. As social networks become embedded in modern culture, future generations can be expected to adopt such behaviour with increasing fervour. This means more and more reconnectivity will be possible online, which raises the question of whether men will increasingly choose to reconnect online to reveal their lives in intimate detail when away from others rather than with them. It also suggests that a growing number of people will find their relationships are improved by technology when apart, rather than when together: at moments of contact, they are too busy engaging with capturing the moment and have no time to reflect on the events unfolding as they happen.

While their grandchildren are likely to be digital natives, having grown up in a world that offers instant connectivity, people aged over 60 are far less familiar with the wealth of benefits modern technology can offer. Barriers to technological access for the over-60s include the bewildering array of devices on offer, and the assumption of an existing understanding of complex processes. However, an increasing proportion of people over 60 are using technology as a means of communication and opening up the possibilities of face-to-face reconnectivity. Technological innovations are being developed specifically to aid the older user and render the technological experience more democratic.

Though uptake has been slow, the presence of older generations online is becoming more and more apparent. According to a British survey of 7,000 over-50s, commissioned by Just Retirement, among those who had a broadband internet 90% relied upon it as a means of communication. Of this percentage, one in five respondent was over the age of 70.

This is not to say that the digital divide is no longer apparent. According to the Office for National Statistics, 90% of 16-24-year-olds had accessed the internet within the last three months, compared to just 24% of those aged over 65. This is supported by estimates that only 4% of those aged 16-24 have never used the internet, compared to 71% of over-65s. However, while the divide remains, it is no longer a chasm. Since 2006, the most significant growth in the number of recent internet users has been among the mature generations, a rise of 60%. The number of people in this age group who had never used the internet also dropped by approximately 12%. In 2009, 52% of older web users log onto the internet every day or almost every day.

The implication of greater internet usage by older generations is that more will have access to devices that make the most of its capabilities, from webcams and instant messaging to newer innovations that involve augmented reality. The Broad Reach of Social Technologies report by Forrester Research has already revealed that 70% of people online aged over 55 are using social media pages, and 12% of those are uploading images and video content. Among the over-60s, 5% prioritise time to update their social networking profile.

This adoption of technology by generations beyond the teenager is reflected in the behaviour of the older American family. Forrester Research has found that two-thirds of older families in the US – classed as parents over 40 with children – have broadband internet, and are frequent purchasers of laptops, MP3 players, HDTVs and portable GPS devices. The research also found that older families tend to have the most phones per household, with 57% owning at least three, and are also more likely to own a Microsoft Xbox games console than any other group.

Wish you were here

One of the barriers for older generations wishing to use modern technology is getting to grips with the interfaces and language that are so familiar to digital natives. New innovations are beginning to counter this problem. For example, computer keyboards are being developed that marry assistive and augmented reality technologies. The application of these technologies means that elderly users with limited use of their hands can still write emails and access the internet, while information augmented with various forms of interactive media, such as computer graphics and sounds customised to the user's needs, makes the experience smoother and more user-friendly.

Other forms of technology that aid face-to-face reconnectedness are also being adopted. Among over-60s in Britain, 72% regularly use their mobile phones, 4% more than 18-24-year-olds (68%). Three quarters of over-60s in Britain regularly use digital cameras and 40% use laptops. A more smaller, more dedicated proportion of people over 60 also regularly use devices as varied as webcams (15%), portable video devices (9%), mobile games consoles (6%) and smart phones (5%).

At present, almost one in five grandparents in Britain (18%) say they never see their grandchildren face-to-face, while 7% see them once a year and 4% see them every few years. There is a similar scenario in other regions, with the majority of grandparents in France (33%), Germany (18%), and the US (31%) seeing their grandchildren face-to-face once a year. Grandparents and grandchildren see each other more frequently only in Italy; 23% see each other face-to-face at least once at a week and 24% once a month, compared to 10% who reconnect once a year.

The infrequency of face-to-face contact between grandchildren and grandparents can be partly explained by the two generations being in different places in their lives, both literally and figuratively. The embracing of technology by both generations, however, means that communication may be greater between the two when apart, with visual technologies still creating a sense of togetherness. Nearly a third (31%) of those over 60 want to be able to see and contact other people face-to-face, while keeping technology an important part of the experience. However, an enthusiasm for increased reconnectedness amongst the older generation, and growing confidence and trust towards technology, will benefit relationships with loved ones who have already embraced technology.

Perhaps more than ever in this economic climate, holidays are cherished. Everyone has their own idea of what a dream holiday would encompass, from palm trees and beach hammocks to Inca temples and city lights. Holidays deliver memorable moments, with memories of exciting activities and stunning vistas being a better souvenir than any gift shop memorabilia. Naturally, people wish to share these memories and relive them with others. This was once encapsulated by the 'wish you were here' sentiment scribbled on a postcard; now technology allows travellers to virtually bring their friends and family on holiday.

The working world is also not constrained by borders or oceans, with trade, deals and clients to be made in countries around the world. Business travel, therefore, has become an integral part of the young professional's life. Travel is not only important in terms of appreciating the market firsthand. Conference calls and emails may serve day-to-day contact from afar but face-to-face communication is still pivotal in business. Among British Airways business customers surveyed by the Harvard Business Review, nearly nine out of ten (87%) said they regarded face-to-face meetings as essential for 'sealing the deal' in business transactions.

In the UK, 41% sightsee and travel at least once a year and 19% prioritise regular overseas travel. Among these, a quarter (24%) are office workers, a fifth (21%) are retired and a third (33%) are casual workers. Travelling overseas is also a priority for people in France (24%), Germany (11%), Italy (15%) and the US (11%).

The virtual holiday is increasingly coming into its own as more immersive experiences become available, ranging from the jet-set to the fantastical. Online hotels and embassies cater for virtual tourists, and virtual tour operators guide and advise those exploring an ever-changing online landscape.

Virtual technology benefits those looking to travel but still stay in touch with loved ones as it can bring people together into the same space, experiencing the same stimuli while interacting with one another. This can be particularly beneficial for those who would not normally be able to travel great distances, such as elderly grandparents or those with small children.

Reconnectivity futures

Key moments

We actively seek to share and remember life's key milestones once the moment has passed, reliving them through recorded forms of technology. In recent years, devices such digital cameras, personal video cameras and smart phones have been used to capture these moments. As new technologies evolve, in ten years' time new and exciting ways to not only relive and share the moment but be re-immersed in it will become available to the consumer looking to reconnect.

We are likely to wish to share many milestones with others, from a child's first steps to the moment they walk down the aisle. However, there are also moments that are highly subjective and personal, and that are more about an individual enjoying a particular experience. From buying a dream car to attending an iconic live event, such moments are ones that do not call for families and friends to be there in person, but many have the desire to incorporate them into the experience once it has taken place.

Baby's first photo

The birth of a child is a private moment between the parents that is then shared with friends and family. It is the most treasured moment in people's lives across all the regions, for over half of people in the UK (52%), France (53%), Germany (57%), Italy (59%) and the US (62%). This moment is invariably recorded by technology for posterity, whether on a video camera in the delivery room or a snapshot of the baby with its proud parents, emailed or texted to loved ones. In the future, baby's first photo will no longer be static but will literally capture the moment via all the senses. Such technology will invite the viewer into the moment, to reconnect in a far deeper way.

Photos are no longer just for albums and scrap books, but are instead uploaded onto Twitter with ongoing status updates, attached to emails and displayed in digital photo frames. In the future, the physical photograph currently kept in wallets or stuck on walls will also evolve to become more than a static moment. Multi-sensory technology may evoke sound and smells, as well as sight. Babies' first photos may not only show how they looked when they were born, but also convey the sound of their crying or the smell of the fresh blanket they are wrapped in. Multisensory technology being pioneered by Americhip has already been used in a number of creative ways, including incorporating sound, sight, scent and taste into the Tobacco Free Florida campaign. Such innovation may be applied to the photograph of the future; imagine an image of baby in the garden including the smell of spring or a shot of a child baking with their mother allowing viewers to taste the muffins? Applying technology in this way would result in a strong emotional response, and encourage a true sense of being in the moment for those not physically present.

The way a camera 'sees' its subject could also evolve. Technology is already available that lets cameras take a photo only when a person in the shot is smiling. The Kodak M381 digital camera can recognise up to five faces and adjust its settings accordingly. In the future, features such as Smart Capture may come to recognise not only the setting and environment, but also understand body language and scenario, picking out the icons of key moments such as birthday cakes and mortarboards and knowing what their presence in the photograph means.

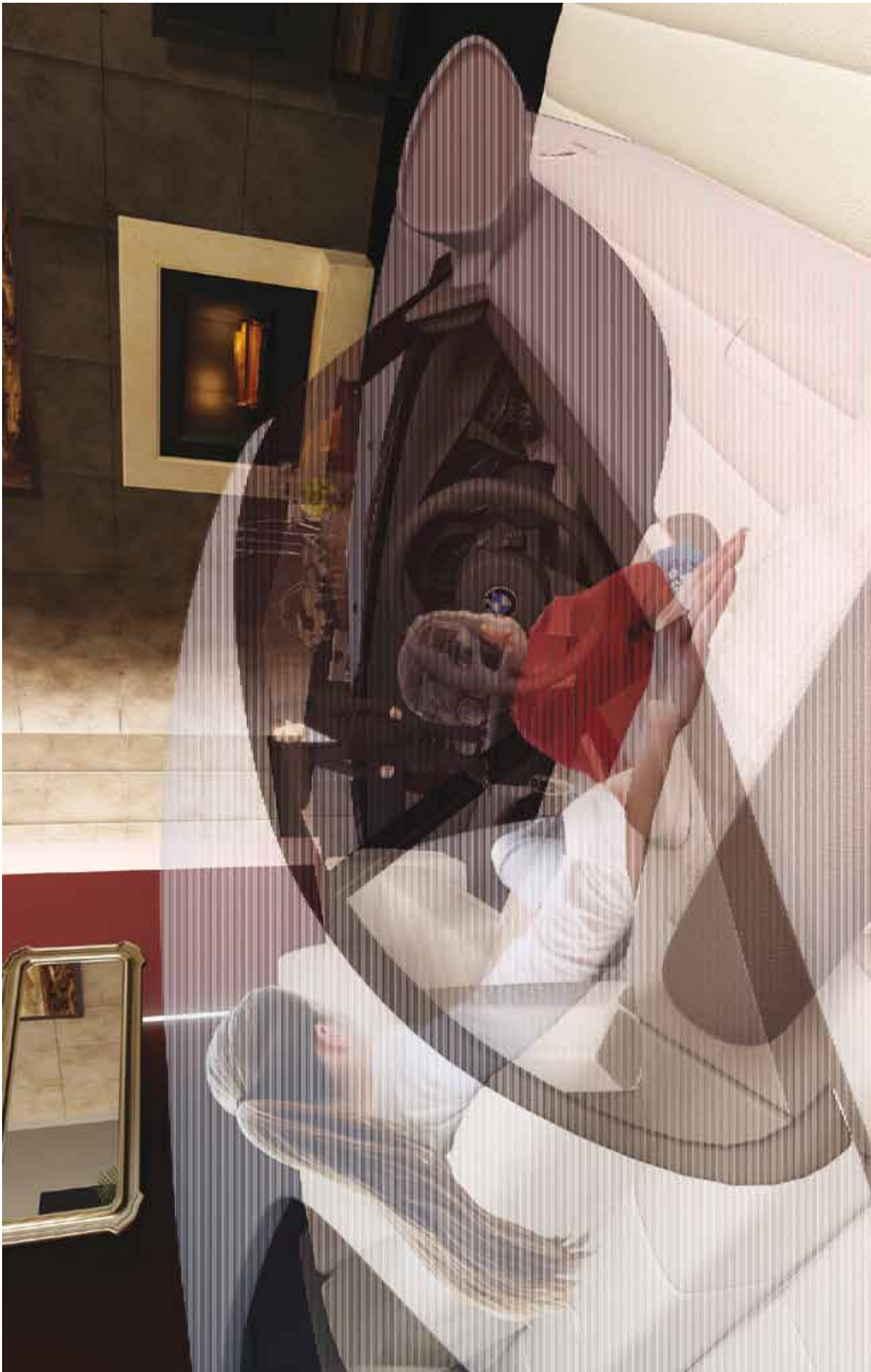
According to the research and development team at Kodak, the world of still images and video is increasingly being viewed as a single space. 'In the future, we expect any video device to be able to stop at a single frame and produce a still image. Likewise, most still cameras even today have video capabilities and those will become increasingly sophisticated. Clearly, we can expect digital capture devices to mimic the capabilities of human vision more and more.'

Our respondents are already keen to embrace this innovative technology; 18% of UK respondents feel that technology could enhance the way a child's birth and subsequent steps are captured and shared, as do 16% in Germany and 17% in Italy. A particularly high percentage in the US (30%) and France (28%) feel the birth of a child could be enhanced by technology. Interestingly, apart from in Germany, more women than men in all the regions surveyed feel this way. This suggests that, far from being perceived as intrusive, technological innovations could become very much part of the parenting experience, from birth onwards. Parents can capture the moments, share them with others, and look back themselves in years to come.

Childbirth itself is unlikely to become an occasion that friends and family can be part of face-to-face; but the way it is subsequently shared to allow others to be a part of the experience will become highly personalised. Face-to-face reconnectedness in this instance will go to make baby's first photo a sensory experience that transforms the physical photograph.

OPPOSITE : SHARING BABY'S FIRST STEPS: KODAK SAYS FUTURE IMAGING TECHNOLOGIES WILL HELP PEOPLE SHARE IN SPECIAL EVENTS AND MOMENTS WHEN THEY CAN'T BE PRESENT.





Buying a dream car

From the Bentley to the Lotus, the Aston Martin to the Pagani Zonda, dream cars are a symbol of wealth and luxury and a purchase that many dream of; 16% of UK consider this a moment to treasure, as do people in France (16%), Germany (23%), Italy (32%) and the US (42%).

Pleasures for drivers of a dream car include the way it drives, the way it feels, and the gadgets it packs under the bonnet. These are features that are not always easy to convey to friends and family who aren't there in person to join you in the driving seat. Augmented reality (AR) is one way the experience of buying a dream car can be shared with loved ones without having to be at the showroom or on the road.

Keith Ellwood, creative technologist at Cosmic ID, thinks augmented reality is particularly well suited for consumers who want to look at products and show purchases to others. 'In terms of purchasing products like cars, for example, physical objects can be displayed in 3-D, downloaded by anyone and then held in their hand as a 3-D model that can then be exploded to reveal its intricate parts, for example. If it's something that's a representation of a model, an item or a physical entity then it can be displayed, interacted with and presented to multiple people at the same time.'

BMW has won Brand Republic's accolade for the best AR campaign so far, for its 2009 online campaign for the BMW Z4. AR gave consumers the opportunity to experience the car and interact with it virtually; they were able to manipulate the vehicle in ways that showcased its attributes. By creating a holographic image using printed codes and webcams, AR allows a printed piece of paper to be held up to a webcam to give the illusion of a three-dimensional object in front of the viewer. Downloaded as an application from the internet, the technology allowed users try out different features of the car, represented in AR, as well as allowing a virtual Z4 to be 'driven' across desks or floors, much like a remote-controlled car. In the future, applications could be downloaded that allow cars to not just be driven around as a 3-D model, but to surround potential customers with a lifesize re-creation that can actually be sat in. Friends and family could then chat to the new owner on the phone or online and be talked through the car's various features – far more of an experience than just a conversation.

Augmented reality already has its followers. In the UK, 16% believe it will help maintain contact with friends and family and 13% believe it will actually intensify contact. In France, 19% think contact would be intensified by AR, 16% in Germany think it will help maintain contact, and 19% in Italy and 24% in the US think contact will be improved by AR.

The possibilities for AR's incorporation into memorable moments, how we share them and how we communicate with others, are vast. 'You could receive a message from a client to your mobile phone, hold it up to your computer screen and someone would appear projected out of your phone and start talking to you, much like Princess Leia in the first Stars Wars film. I think that's the future,' says Keith Ellwood. And, he adds, 'We're nearly there.'

The launch of a mobile AR application called Layar for Android-based G1 mobiles has been dubbed the world's first augmented reality browser. It is an example of how AR can affect the way we see and personalise the world around us, whether in our dream car or on foot. The Layar system combines a digital compass and GPS co-ordinates and, by scanning the landscape, the software overlays data such as properties for sale or Wikipedia entries and tourist information. What makes this use of AR interesting for family and friends is the possibility of displaying Twitter 'tweets' and geotagging points of personal interest. This means that, in the future, people will be able to discover highly personalised tags that relate to moments in the lives of loved ones: maybe the spot where a cousin was proposed to, or a tweet about a best friend's recommendation for a restaurant in the area. This will reconnect people to others by contextualising their physical environment.

OPPOSITE : SHOWROOM IN THE LIVING ROOM: ACCORDING TO KODAK'S 'FUTURE OF RECONNECTIVITY REPORT', FUTURE TECHNOLOGY WILL ALLOW PEOPLE, SEPARATED BY DISTANCE, TO SHARE EXPERIENCES, LIKE THE PURCHASE OF A DREAM CAR

Seeing a live event

A live event is often highly memorable. World Cup matches, concerts and arena tours generate memories not only of what happened, but of the unique atmosphere of each event. Of our UK respondents, 42% see a live show at least once a year and 19% a live sporting event. In France, 36% see a live show at least once a year and 20% see a sporting event at least once a month, while 34% of Germans see a live show at least once a year and 23% see a sporting event at least once a year. Italians and Americans are also fans of live shows (36% and 44% see one once a year) and live sport (23% and 42% annually). Across the board, between a third and a half of these live-event aficionados think technology could enhance the experience, from 36% of people in the UK to 51% in the US.

The atmosphere and sense of 'being there' is an important part of the appeal of a live event. This can be difficult to re-create on screen. Live streams are becoming more popular and more available on a range of devices. Most recently, Apple broadcast the first iPhone live stream of a concert event, using a design that can automatically detect available bandwidth and adjust it to protect against interruption. The introduction of HD handset screens will aid clarity, but 3-D technology is one way to make the viewer feel much more immersed and part of the live experience.

After a seemingly dormant period, 3-D technology is beginning to return to the public consciousness via leaps in technology showcased in the cinema. Film director James Cameron, who pioneered the switch from celluloid to digital film-making with the leading modern 3-D digital camera in 2003, will release the 3-D film *Avatar* in December 2009. In the run-up to its release, 10 British cinemas a week are already upgrading to the digital projection systems necessary to show the 3-D experience, while Odeon is replacing two thirds of its celluloid projectors with 3-D digital models. This is in line with a commitment shown by a number of film studios; Pixar and Disney, for example, are now committed to producing every new animated film in both 2-D and 3-D versions. The obvious next step will be to move solely into 3-D film, a move that will have a huge impact in other areas.

As a consequence, in the future live events could also be shown in 3-D in cinemas. The National Theatre's recent production of *Phèdre* was a success in a number of countries when it was shown in cinemas this summer; 3-D can turn the cinema screen into a stage. Advances in film and television technology often stem from each other, and 3-D television may not be as far off as we think if a common standard can be agreed upon. A 3-D experience would mean footage of live events could capture the most impressive angles to immerse and excite the viewer. In the future, home movies could be played in 3-D on HD televisions or laptops.

It is not only film that is getting the 3-D treatment, according to Kodak's research and development team. Kodak scientists are actively looking at ways that 3D imaging could be used, notably in the world of digital cinema and home video.

Gus Desbarats, chairman of UK design consultancy TheAlloy, notes that 3-D technology is not limited to film. 'The main 3-D work that we have been doing is making the interaction space more three-dimensional; in other words, while pushing buttons on flat things on flat screens, in your mind you're actually reaching through the screen into a three-dimensional space where you might move something around or interact with a real object. Rather than getting a result from a computer interface by pushing a button, you will be moving things, sliding things, stroking things, squeezing things and doing the kind of things you would be doing be real objects. There is a lot of work going on, for example, with handheld mobile devices and three-dimensional viewing spaces to create a more gestural interface.'

There is a certainly a market for 3-D technology amongst those looking to reconnect. At present, 16% of people in the UK and 14% in Germany think this technology could help maintain contact with others, while 18% in France, 19% in Italy and 25% in the US think 3-D technology will help improve contact.

'It will all become much more seamless,' believes Desbarats. 'At the end of the day, the ideal is just being with someone. If you're talking about communication technologies where 3-D technology and augmented reality can come together, if you're wearing a certain pair of specs and you decide you'd like a conversation with your girlfriend, then you can have a conversation with your girlfriend, even if she happens to be 3,000 miles away. As far as you're concerned, she'll be sitting in a chair next to you because a reproduction of her, like a 3-D scan or an avatar, will be there. The basic science to do this stuff is there. It just needs bandwidth, processing power or storage, and all those things are progressing exponentially.'

OPPOSITE : 3D PARTY: IN THE FUTURE, IMAGING TECHNOLOGY WILL CREATE AN EXPERIENCE THAT'S ALMOST AS GOOD AS ACTUALLY BEING THERE, SAYS KODAK.



Case study A

Kris Kim, 22, student, Bay Area, California, US

Case study B

Tiffany Bui, 23, graduate, Orange County, California, US

Both my parents are immigrants to the US. My mother is from Spain and my father is from Korea. I am closer and thus keep more in contact with my mother's side of the family, which is large and all over the place. The majority of my family resides in Spain but some of my cousins live in the UK. Both my grandfathers are dead but both my grandmothers are alive and I like to talk to them as often as possible. In spite of the large distances between us, we are a close-knit family.

The older generation really struggles with technology, at least in my family. It is too unfamiliar and stressful for them. However, my Spanish grandmother really enjoys her digital picture frame that changes the photos it shows since it allows her to enjoy all her memories and family members, of which there are many! With my grandmothers and some of the aunts the only way to contact them is the phone and sometimes email. My Spanish grandmother is 91 years old and does not have any inclination to learn about new technologies. Thus, with her and my Korean grandmother, we send pictures through the mail and speak to them on the phone.

However, with the younger more technologically savvy people in my family the best ways to keep in touch are Facebook and Skype. Before the invention and globalisation of both those technologies it was hard to keep in touch with my cousins and their lives always seems far off and unreal. Now it's so easy to communicate. Skype works best for having a face-to-face conversation but Facebook and other chat-like tools allow for quick messages which provide a colloquial feeling to long distance relationships. Sometimes just commenting on a photo can make my relationships with my cousins more real and tangible because the act is so common and unspectacular.

I think now that seeing family is more expensive, technology is playing a huge role in maintaining close relationships. Technology often gets a bad reputation for destroying live communities and replacing them with imagined, digital communities but the recession has shown that technology can also enable 'real' relationships. It is a comfort to know that if anything happens I can contact my family abroad.

There have many far too many family moments I've missed but I have been able to feel a part of them due to Facebook photos or an email. While I was away in Spain I missed the birth of my nephew but Facebook photos and Skype really made me feel like I was not missing out completely.

When my boyfriend left for three months for his work training, everything was done through emails because of the time difference. I would email him pictures, upload pictures of what I was doing and places I went to onto Facebook. I would be at the beach and snap a picture of me on the beach and the water, then text message him that instantly. To show him how I was feeling, I would send him e-greeting cards a lot.

I believe, regardless of whether a person is a man or a woman, if they love someone such as their mother, father, brother or sister, no matter how busy they are, they would still make time to keep the relationship afloat and maintain its closeness. However, I do think men and women behave differently in how they do this.

For an example, my boyfriend only goes on the internet for specific reasons and needs, such as to email a specific friend he had in mind, look at houses, read the news, go to direct sites for tickets or his bank account. I go on the internet to discuss makeup in community forums with other women, watch music videos, chat with friends, read gossip websites and check out the latest fashion trends. Women are complicated. We do not want to know one thing. We want to know five or six things at once. Men? They want to know one and only one, if that is their goal. They stick to it. When they want something answered, they usually want to know immediately and do not waste any time.

I make an effort with my relationships. My relatives on my mom's side live in Virginia, Oregon, San Jose, San Francisco and Oakland so I don't get to see them often because of their locations. I stay in touch with them, though, by using cell phones, email, texts, Facebook, AIM and Gmail chat. I like to take pictures of everything I do, even down to the food that I eat, then send it off to whoever I want to share it with to show them what's going on in my life and bring them a little closer to me that way. If they mean a lot to me, no matter how busy I am, I make time, even if it's just a brief email to say hello. I text my friends a lot.

Case study C

Sènami Astrid Houndete, 24, Paris

In France, where I am most of the time, I see my friends very often so we just have physical contact, in the real sphere more than in the virtual one. However, I have spent a lot of time in Santa Cruz, Benin, Austria, Germany and Switzerland so I have friends all over the place. I stay in touch with my friends from Benin and Ghana thanks to the internet and text messages, although not Skype because the connection is slow and cuts off all the time in those countries. I have met a lot of people from very different countries and we keep in touch by mail and organise weekend trips sometimes to visit one another.

I use Facebook the most because it is the cheapest way to communicate, and also the most practical when you have different time schedules and because of jet lag. People can answer whenever they want and you can say much more than in a text message.

I have some friends that I haven't seen for four years. Without technology, we would certainly have lost track of one another. Facebook has especially been very useful to get back in touch with people I had lost.

I can't get in touch with the older generation through new means of communication, because they are very slow in using those. Even my parents have problems with Skype. If I want an answer, I'd rather talk to them on the phone.

There is a big difference between Paris, where most people travel a lot, and the very small cities, where most people tend to be anchored in the local. The first category has an extensive use of technology because of intense travelling and international networks, the second category doesn't use technology as much. I have friends in Nancy studying pharmacy who don't even have an email address or the internet at home because all they do is local.

Even with technology, you need to have physical contacts with people, otherwise you lose the bounds, especially because you can't share everything, especially intense emotions, through technology alone. For real friends and beloved ones, physical contact is essential but technology can help you fill the gap.

Case study D

Jane Dewar, practice manager,
Bowman Riley Architects,
Yorkshire, UK

Once you've benefited from the flexibility that comes from secure remote access to CAD files, applications and other business data, there's no going back. Just taking Bowman Riley as an example, we invested in the NetStarIP service just under a year ago and currently have 10% of our staff using it to work from home. I anticipate that number will increase threefold over the next 18 months. The key issue that we had to address was communicating to staff that we weren't expecting them to work all hours if we provided them with the option to work from home. Once staff realise that we aren't expecting them to work through their weekends then they are more likely to make full use of the ability to work from home.

For example, we have directors who use the remote access facility to enable them to work at home and concentrate on special projects without interruptions from colleagues. This greatly boosts productivity. In addition, last year's UK legislation extended the right to request flexible working to all parents of children under 16. Having a remote working facility that can be enabled on request allows us to meet those guidelines, retain talented staff and boost productivity as well as giving us a strong contingency plan in the event of severe weather that could prevent staff from travelling into work.

I can get my staff up and running on a secure connection within ten minutes of them requesting the flexibility to work from home. For example, if an architect has a client meeting in London, they can connect from home and get secure access to all the CAD files that they need rather than having to drive all the way into the office before setting off. This remote working facility also allows us to quickly respond to requests from staff who need to work from home in peace and quiet, or to accommodate parents who need to work flexibly if their children are off school.

We run two offices in Skipton and Leeds. With an MPLS network to support them, Bowman Riley Architects can now also take advantage of VoIP communications between the two offices. As increased broadband speeds become accessible even in the most rural areas and as wifi and mobile broadband technology becomes more ubiquitous, we'll see more and more business applications that harness those networking technologies for home working, remote working and collaboration. Most of these remote working technologies will be accessed 'in the cloud'. In other words, ISPs will host the software running on servers in their data centres and sell business services, rather than businesses installing and looking after the technology for themselves.