

PROGRAMME: "NICE WORK"

PRODUCERS: CAROLINE BAYLEY & JULIE BALL

PRESENTER: PHILIPPA LAMB

BBC REPORTER: MIKE JOHNSON

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Tape transcript by MAREE SHILLINGFORD

LAMB: Hello. Today we're looking at how technology is going to change life for office workers. Talk to the techno-wizards and they'll tell you that tomorrow's employees will be liberated from the tyranny of regular hours and the grind of the daily commute, free to work any time, any where, thanks to cordless technology and access to the internet wherever they happen to be. But they have been telling us this for well over a decade now and most of us are still slogging into the office every day. So will it ever happen and, if it does, what will it mean for workers who might find that, rather like their laptops, they're expected to be on line 24/7. Now Phillip Ross is with me. He's one of those technology wizards. He runs a company called the Cordless Office which advise their clients on how to do just that, install and run wireless or Wi-Fi technology and change the way their people work. Phillip, we're going to be looking at what the technology can actually do in a minute. Let's start with the basics. What exactly is Wi-Fi?

ROSS: Well Wi-Fi stands for Wireless Fidelity. It's a term that's been around now for almost ten years. It's a consumer term, behind it is a standard from a body in New York which has a technical standard, but it's about taking the cable out of the office and letting people connect wirelessly back to office systems and servers. So Wi-Fi is about wireless Ethernet, it's about ridding the building of cabling and installing radio access points around the building and then letting people connect their devices, laptops and tablets and computers back to those access points without the need for physical cable.

LAMB: So how's it going to change the office as we know it, how will it look different, apart from the fact there aren't any cables?

ROSS: Fewer cables obviously, but the office will begin to look very different. I think the key driver is giving people choice over where and how they work, and what we found is people who are enabled with Wi-Fi laptops choose to work in different locations, and therefore building designers are beginning to rethink what a building, a work place, should look like. There are really two types of emerging trend. One is a move toward shared spaces, people have no desk of their own, they share team spaces and collaborate and they also work much more in social spaces, cafes and brainstorm areas.

LAMB: Okay, we'll talk about that a bit more later. But what is it actually like to work the Wi-Fi way? Our reporter, Mike Johnson's, been finding out. He's been talking to people whose employers are taking the new technology on board and investigating what it's doing for them and their staff.

JOHNSON: Well your local council might not be the first place you'd think of as being in the vanguard of new technology, but here at Lewisham Town Hall in South East London, a pilot project is under way to examine the potential for wireless working. It gives council staff access to their office computer files without having to be in the office. Now if this project is successful, talk is that it could help spark the introduction of mobile working across the public sector.

WICKS: My name's Polly Wicks. I work as a project officer here at the London Borough of Lewisham. If I come in to work in order to work, I've already got my office equipment with me that goes home with me and it comes to work with me. Today I'm sitting at this work space, tomorrow I'll probably sit at another work space, if I come into the office, I may even sit in another office altogether.

JOHNSON: Polly Wicks is one of around 50 staff at Lewisham Council now adjusting to the wonders of working without wires. Her portable computer doesn't need cables to link to the council's own computer network. A series of wireless transmitters, now scattered throughout the building, do the job instead, which means Polly doesn't need a permanent desk, she can work where she likes, even the tea bar, and even at home because the council's installed a wireless transmitter there too.

WICKS: It's enabled me to be flexible about whether I come into the office or whether I work at home. On average I'd say I probably work about two days a week at home. You're not tied to a clock where you're looking at hours between 9 and 5, for example.

JOHNSON: So you concentrate more on getting things done, rather than literally how many hours you're in an office for?

WICKS: Yes absolutely. It's all about actually achieving, it's not about just filling in the hours.

JOHNSON: But as a result the Wicks household has had to undergo a certain amount of adjustment.

WICKS: There are advantages and disadvantages. It requires a different mindset, not just for me but also for my family as well, because to see me at home, the initial urge was for them to think if I'm at home then I'm not at work. So they had to get used to the idea that I could be working at home or I could be working at work.

JOHNSON: Lewisham wants to extend mobile working to almost 4,000 staff. Already, for example, some social workers are taking electronic notes on hand-held computers when they're out on visits. Early results suggest more people are spending more time working at home. According to project manager, Lorraine Trenchard, that's posing a big challenge for the bosses too.

JOHNSON: So as an employer, how do you know that they're actually working when they're at home?

TRENCHARD: We've had to change our whole way of managing staff really, that's been a whole learning point. It's less about seeing somebody in your team but it's quite difficult to give up that kind of control when you're used to having a group of people who you can see and sort of monitor visually.

JOHNSON: Do you trust them more?

TRENCHARD: Yes, I think that's one of the issues that it's a whole change into a different management ethos.

JOHNSON: We've come now to the offices of the big American IT company, Cisco Systems near Heathrow Airport. Now as you might expect for a firm which sells computer kit, all Cisco's 1400 British employees are equipped to do their jobs wirelessly. But what does that actually mean for their everyday working lives?

KELLARD: My name's Sue Kellard. I'm executive assistant to the managing director of Cisco UK in Ireland. He's obviously a very busy person and I need to be contactable for the whole time that he needs to be contactable. I can just take my laptop with me and I've got it all there to hand, everything I need. My diary, my boss's diary, my email, I've got his email. I can listen to my voicemail on my PC.

JOHNSON: So you can hear your office phone messages from anywhere in the world as long as there's a wireless zone?

KELLARD: Yes, yes. So whoever's left me a message on that will come out on my PC.

JOHNSON: For Sue, as with the Lewisham workers, anywhere in the world includes home too.

KELLARD: Yes. I'm now contactable 24/7, which is okay, I like to be contacted if my boss needs to get hold of me. So it's down to me to balance it, it is it's down to me, it's down to every employee.

JOHNSON: That also means employees at the very top. David Critchley is Cisco's director of Strategy and Planning. Equipped with his wireless laptop, David can now work during what used to be dead time away from the office, places like airports and hotels as well as at home. But if he's hardly ever off the job, who stands to gain most? David or his company?

KRITCHLEY: You have to have discipline which is a personal thing around work lifestyle. Whilst I see the benefits of working wirelessly, I don't work all hours that God sends. I mean I do talk to my family, I am human, I do watch the TV and, you know, and thank God. I think it's more a question of that I don't have to go to the office to get my work done. Productivity benefits, work both ways. I think yes, the company probably gets more out of me, but equally I can work more flexibly. So I think it is a win win.

LAMB: David Critchley ending that report by Mike Johnson. I'm joined now by two experts in the technology field to talk about the implications of all this for the rest of us. James Woudhuysen, he's a professor of Forecasting Innovation at De Montford University, Ian Keen is with the IT consultants, Gartner. Professor Woudhuysen, if I can start with you. Do you think that Wi-Fi

is going to fundamentally change working life for most office workers in future, or will it remain a niche thing?

WOUDHUYSEN: I think it's more than a niche, but not nearly as universal as we'd all like it to be. Of course there are all these fears, usually exaggerated, about how the work will follow you everywhere you go. I think the real problem is that, especially in the public sector, there won't be the investment to universalise Wi-Fi and therefore we won't see the kind of productivity benefits that I think it could bring. So I think it will be the property of large companies and IT companies like Cisco and the fears about continuously being on line 24/7 will continue and so will the predictions about how we're all going to be freed by it. So you've got to keep a balanced attitude. It's neither Armageddon nor is it liberation.

LAMB: So you don't see work sprawling even further into our private lives than it already does?

WOUDHUYSEN: Oh no, I think, as I say, it's more than a niche. The really interesting thing about this is that when we're talking work style, it seems to me we're getting off the point of innovation and productivity. We're talking about where and how you work, rather than the substance of the work itself, does it make a difference and so on. And people like to talk about payment by results, but that for me often suggests a radical disregard of the process by which we get results. So you can say, look I trust my employees, they can go home, they can do it anywhere, any how, wherever they like, as long as they give me the result, it's fine. But then they might drive themselves to distraction, that's often exaggerated, or they just might be rather inefficient, watching the tele, letting in the neighbours and all of that. So you've got the coffee machine at home syndrome. So it may interfere with our private lives and it does too much, but it also interferes with the proper job of work, moving ahead, introducing progress and innovation.

LAMB: Phillip Ross, if we can work anywhere, do you think we're going to see companies cutting back on office space, because their people just won't all be there at the same time, they won't need the office space?

ROSS: I think that's true. I think if you walk into an average office today anyway, most space is empty at any one point in time and you always hear from corporates, there are never enough meeting rooms. So there's always a mismatch in today's world. I think as people begin to work in new destinations, and that includes public access, wireless hot spots like libraries and cafes, as well as the home, there will be a redefinition of what the office is. I think we'll find new office spaces and those will be smaller and I think they'll offer new types of space to those people as they need it, when they need it.

LAMB: It's interesting that, isn't it, because organisations who do this at the moment, also they wouldn't force people to work remotely if they didn't want to. But clearly if they take those cost savings on board, cut back on their office space, can you see a time when staff are told that's what you've got to do. We don't have a desk for you here?

ROSS: There are some organisations that have done that, they have taken that route of telling staff, we have no longer a fixed desk for you, you book a space and come in when you need to. And, on the whole, that's been well received. I think staff are embracing the new-found freedom of not having to commute in for two or three hours every day to a business district but choosing a community office or working from home one day a week or working from a client site. So I think that freedom has been well received by people.

LAMB: Ian Keen, all this flexibility does sound great. The fact is take-up is actually very slow, isn't it? Are employers not convinced that the cost of all this is worth the benefit?

KEEN: We're getting there. We really are getting there now. The technology, for example, Wi-Fi technology is now in the majority of business PC's, business laptops PC's out there. More than half of UK businesses with medium and large offices are at least experimenting with Wi-Fi. But these things take time. Basically it's a matter of people understanding what benefits can be gained from Wi-Fi.

LAMB: And they're worried about security, aren't they, that's the big fear?

KEEN: They certainly are and they should be worried about security, and one of the issues with Wi-Fi is a lot of businesses basically found that they had Wi-Fi operating in their premises without actually sanctioning it. People just bought in a base station, you can buy one for £50, bring it in and hey you have flexibility. No security switched on as standard. So basically, yea, security is an issue but it can be addressed. But what businesses must do is have a policy on it and articulate that policy and not stick their heads in the sand which unfortunately a lot of businesses are still doing that.

LAMB: Well regardless of security fears, Wi-Fi is spreading. So will there be anywhere in the future where you won't be able to whip out your phone or your laptop and get on line to the boss. Well not if Wi-Max takes off. Nowadays we're all getting used to Wi-Fi hot spots in cafes and airports where you can down a quick cappuccino and get on line cordlessly at the click of a mouse. There are about a 1,000 of them in London alone nowadays. Wi-Max is the same idea but on a far bigger scale. Now, Jim Baker is chief executive of Talabria which operates Wi-Max in parts of Kent and Essex. Jim, what exactly is it, how does it work?

BAKER: Well Wi-Max can really be thought of as the sort of next generation Wi-Fi. Wi-Max is a standard, it's an acronym for world-wide interoperability for microwave access if you really care about that. But the most important thing about Wi-Max is because it's a standard, equipment is going to become as commonplace for Wi-Max in the future as it is for Wi-Fi. That's the belief anyway.

LAMB: Just to take you back to the basics, Wi-Max essentially covers much bigger geographical areas.

BAKER: It does. It has a wider range, it has higher capacity.

LAMB: How big are we talking about?

BAKER: Well it depends. There are a number of ways in which you can apply Wi-Max because it's a standard. It could range anywhere from a mile or so in a typical urban setting up to maybe 10 or 20 miles if it's being used to join communities together.

LAMB: So you can cover whole towns, whole cities with a Wi-Max network?

BAKER: Potentially, that's correct, yes.

LAMB: And how do people use it? This is primarily aimed at companies, at businesses, rather than individuals?

BAKER: Well it is to start with and that's mainly because of the cost of the technology, right now it's quite high. But within several years we hope to see Wi-Max becoming a standard on laptops. Intel, who are really mainly behind Wi-Max, have committed to putting Wi-Max on the centrino platform by 2007. So I think ultimately we'll see it as a mobile platform as Wi-Fi is today.

LAMB: So as it stands at the moment, a business that was in a city which was covered by a Wi-Max network would pay you to be able to access the network?

BAKER: Ultimately that's correct. One of the problems with sort of wire-line technologies is they have a limited range. ADSL, which many people are used to, has a range of only about 6 miles from the local telephone exchange, and that's not as the crow flies, that's how the cable is laid. Wi-Max has an opportunity to get well beyond that range. One of the ironies is that a lot of the new developments that are going on for both housing and businesses are on the outskirts of towns. The telephone exchanges are generally in the middle of towns and so copper-based technologies have a problem in getting high capacity out of those areas where people want to live and work.

LAMB: Ian Keen of Gartner, Jim Baker's planning to get Wi-Max up and running, I think all over the big Kent towns soon. Are we going to see a turf war breaking out between Wi-Fi and Wi-Max?

KEEN: I think we're going to see several turf wars. Don't forget 3G as well. Yes, the thing to remember is there's no one perfect wireless technology. We expect, give it another one or two years, most users will be quite accustomed to using at least four or five different wireless technologies for different needs. And so yea, in a way they're complementary. Service providers are going to have turf wars and that should bring benefit to users, lower prices.

LAMB: Well what's the logical extension of all this? I'm sorry we need to move on to that really. If technology means we'll all be spending less time with colleagues in traditional offices, will we see a shift, not just in how we communicate with them, but how much we do it? Big companies with large numbers of people in different locations are already realising that valuable knowledge is seeping out of their organisations because their staff aren't sharing it with each other before they move on to other jobs. Now they're trying to harness that knowledge and Larry Prusak is an expert in the field of knowledge management, as it's known, is on the line from Boston in the States. Larry, how would you define knowledge management, what exactly is it?

PRUSAK: It's a collection of policies and procedures in organisations to help firms know what they know, to incent people to share knowledge, to occasionally capture it. Just work around knowledge in various ways.

LAMB: Companies are getting very pre-occupied with appointing people to manage knowledge within their organisations. Why is it so important?

PRUSAK: Well because you can't make much money making things in the West anymore. With the globalisation of the economy, China and India being integrated into the global economy, almost all manufacturing, and a great deal of what we call back-office work, is going to be outsourced to India and China. Capital chases cheap labour and you can certainly see that. Therefore the work that will be left, certainly in the UK and the US, will be knowledge-type work. Not everyone will be bio-physicists for sure, but there'll be knowledge-like work, design, wit, judgement, entertainment, plus the traditional knowledge roles.

LAMB: So it's the slightly intangible things that need to be held onto.

PRUSACK: It's no question, absolutely.

LAMB: Well earlier I spoke to Cathy Bautista who's head of knowledge management at the giant consumer goods group, Unilever. They've been using knowledge management there on projects as diverse as making tea bags more user friendly and helping their farmers to grow more tomatoes. So I asked her how they do it?

BAUTISTA: It would be a combination of ways of bringing people together to share and apply what they know. It's also about communication. But also it's about making information and knowledge available to them in the wider organisation in the form of reports and IT tools.

LAMB: So essentially at its most basic level, it's about sharing information and about sharing best practice.

BAUTISTA: It is definitely about sharing best practice, for example, something as simple as teabags. Isn't it irritating if you dunk a teabag into your cup and suddenly the string pulls out just as you've put it into the water. We don't know ourselves in coming in a production line that the string will fall off the teabag. So what actually happened here was there was an individual which thought well, let's solve it together and so they put together a workshop where they brought the experts from all over the tea factories, and in some cases they encountered that it did and they had some techniques in terms of solving it. But they were able together to assess which of the techniques was actually based at solving the problem and therefore they were able to implement something that they together chose as the right thing to do.

LAMB: Isn't this really what people used to do standing round the coffee machine and chatting, you know, when perhaps they had time to do that? You're sharing information, sharing ways of doing things?

BAUTISTA: Definitely. People standing around the coffee machine solve a lot of problems. Now the beauty of it is in bringing this into a more structured setting such that it becomes part of the culture of the way people work, so that you generate solutions for any issue that way.

LAMB: So you've been focusing hard at Unilever on knowledge management for a number of years, particularly recently. Have you found it a tough idea to sell to colleagues and indeed to management?

BAUTISTA: What was actually tough was coming up with a programme that would actually be quite practical. Making it part of the way they work and not something on top of what they already do is the challenge. So being able to set up workshop processes or a sequence of activities that would actually help them achieve this became our group's mission. We have something called communities of practice and that has led to measurable results. So did you know that as far as tomatoes are concerned you need a lot of water?

LAMB: Right.

BAUTISTA: And would you ever think the techniques used from arid countries like Israel could be used in humid countries like Brazil.

LAMB: Okay. I've got a feeling you're going to tell me about that.

BAUTISTA: These people were experts on tomato growing and they shared as much as they knew about tomatoes as they liked. So it was just an opportunity for them to share. It was an open conversation about well what do we know about it? The result was quite extraordinary. What the field trials resulted in when they actually implemented what they knew in Israel in Brazil, was that it boosted production by about 30% and cut the use of fungicides and pesticides by about 50% and 25% respectively. So those are measurable results just resulting from people coming together.

LAMB: It sounds from what you're saying that you physically put people in a room together where you can, don't you, rather than actually do this via web logs or email. Is that right?

BAUTISTA: Well we actually promote with the people that we work with and said that they at least meet face-to-face once. So by bringing people together in one room, some elements of trust, because you know whose these people are, you've met them physically, is developed and then they can choose together whether they're going to continue with their relationship through virtual ways such as collaborative work space on the internet or how they manage their email etc.

LAMB: I was talking there to Cathy Bautista. Larry Prusack, Unilever are obviously putting knowledge management to practical use there but can you ever really harness the essence of a great team which has produced a fantastic idea or a product and then gone their separate ways? Isn't that just too intangible?

PRUSAK: Well you can certainly give them a network so that they can stay in touch. You can also distribute members of the team to new teams so they can bring the techniques they learned back to the new team. But every organisation's.....

LAMB: But if they've actually left...I'm sorry to interrupt you, if they've actually left the organisation which obviously does happen, doesn't it?

PRUSAK: Once they leave the organisation, which happens all the time, you're absolutely right, the social contract is somewhat broken between individuals and large corporations. Once they leave, it's certainly worthwhile putting in place Alumni networks, putting in place various ways so they can stay in touch. Most people like talking about their work, so give them an opportunity via

networks, via IT mechanisms to let them stay in touch with people who are still there.

LAMB: Well before they leave though, what do you recommend organisations do to actually tap into that knowledge before it disappears?

PRUSAK: Well I know there's a lot of talk about capturing knowledge, but frankly it can't be done. One can't capture knowledge. You can incent it, you can help create environments and conditions where knowledge is more likely to flourish, as you've just heard from Unilever, but you can't capture it. It's not captureable, no more than love is.

LAMB: So it's actually about creating office culture where people want to share information, is that what you're saying?

PRUSAK: I would say the culture and getting the incentives right where people, not so much financial incentives, that counts, but those are the people who are rewarded, the people who are admired, the people who achieve various promotions are those who share knowledge willingly.

LAMB: Let's move on to talk about some of the technology tools Larry that companies use to do this. Tell me about web-logs, I mean these seem to be proliferating. Perhaps you can just describe for us exactly what they are and how they work.

PRUSAK: Well web-logs are individuals who set up their own websites and talk about what suits them for the day. It's done by some very prestigious professors, it's done by cranks.

LAMB: Companies do this as well, don't they? Managers at companies have started writing web-log. Do you think anyone reads them?

PRUSAK: Well, I think people use them as signals, signals to express interest in a subject, but people don't necessarily read every word or take them as the gospel truth, but they see, well this person's writing a lot about opening up plans in the middle east, therefore they must be interested in this and it stays in their minds. So when that subject comes up in various committee meetings, they call on that person. It's really a market signal within an organisation that I know about this and I'd like others to know that I know it.

LAMB: Well, one of the other internet tools for sharing information is something called a wiki. These are websites but what's unusual about them is that when you visit them you can add your own thoughts or indeed material to the site if you want to. Angela Beazley is from one of the biggest wikipedia, which is a huge on-line encyclopaedia. She's on the line from Colchester. Angela, how does it work?

BEESELEY: Well Wikipedia's got about 1.5 million articles in over 100 languages and any internet user can go on to the site and click an edit link and start contributing to the encyclopaedia straight away. So basically anyone can just come along and edit the encyclopaedia and therefore contribute their own knowledge and add to that.

LAMB: Okay, the immediate question in my mind is that if anyone can add bits or edit other people's bits, how can we trust the content?

BEESELEY: Well the site's constantly being reviewed by other users. Every edit shows up on a recent changes page, every new article appears on an automatically generated list of new pages. Users can also choose to watch articles that interest them so they would then check any new edits that happen in those areas.

LAMB: What would you say gives this the edge over a paper-based encyclopaedia?

BEESELEY: The fact that it's constantly being edited means it's always going to be up-to-date and new events adds to the encyclopaedia straight away. It can also be checked by any user. So it's in a way more trustworthy because anyone can check it and make corrections straight away.

LAMB: Larry Prusak, this is knowledge management on a global scale, really isn't it? Could you see companies like Unilever using something like this to communicate knowledge and ideas to staff round the world?

PRUSAK: Sure. I think it's a very interesting idea. In large corporations of course they're hierarchical, so there's a matter of power and politics involved here too, how much do they feel that the expressions of interest are equal between a worker on the floor and a senior vice-president. But it really shows up how knowledge is really a social activity and a social process. It's not an individual. People really enjoy talking about what they know, learning from others.

LAMB: I think this really does assume that people working in offices have time to read and absorb all this stuff. Do you really think that they do? Isn't it a bit like all the emails that pour on to our desktops every morning? You filter it and you dump the stuff that isn't actually crucial. Doesn't this fall into that bracket?

PRUSAK: I think people, when they see something that interests them that will help them do their job or they just want to know it, they'll go for it. There's no such thing as too much knowledge, the way there's no such thing as too much caring or affection or anything good in the world. There just is not enough time to get to it.

LAMB: Professor Woudhuysen, I think one final thought, we've talked about how electronic communication is going to mean that people will spend less time in the offices, they will become nomadic workers, working all over the place instead. If employers kill off this idea of a traditional corporate family, all working together, is it realistic to expect their people to actually want to share information, aren't they going to feel more independent, less inclined to share?

WOUDHUYSEN: Well I don't think it's a technological question. The unpreparedness people have to share knowledge is to do with the force of internal competition within companies, who's going to get promoted, as Larry says, who's going to make it to CEO, who's going to win those share options?

LAMB: So it's knowledge as power, it's displaying knowledge as power?

WOUDHUYSEN: Yeah, and it's not a technological question. I think the wider thing to ask is, will nomads share knowledge? Well if they've got some knowledge in the first place, because it's all very well to transfer Israeli tomato growing techniques to Brazilians, but pioneering the techniques in the first place, the development of new knowledge, not the transferring of existing knowledge, is one of the things that I understand by knowledge management. I think your comparison with email where you're constantly transferring and communicating and there's a lot of noise to a fairly modest signal, is very apt, if I may say. I think the glancing encounters around the office canteen where we all learn so much and we all are aware of each other, most people would call that dumbing down. And when Larry speaks about a new premium on design, wit and entertainment, I'm not sure whether he's talking about playing games in the office. There's plenty of that going on with Wi-Fi as well.

LAMB: That's a whole other conversation. I think that's about it for this week. My thanks to all my guests. You'll find our website at bbc.co.uk/radio4/nicework. I'll be back with another live edition of Nice Work same time next week.