Revenge of the nerds

How companies dream the future

A Research Note for
BT Corporate Clients

19 March 1999

The only way of discovering the limits of the possible is to venture a little way past them into the impossible.

Arthur C. Clarke

6 years ago, at a conference on retail and financial services, Dr Stephen Emmott presented his latest thinking to businessmen and bankers.

He explained that the Internet and electronic commerce would change every element of their business.

He was almost laughed off the stage.

“It was”, he recalls, “the most humiliating moment of my career”.

4 years later, Kicki Wallje-Lund, Vice President of Strategic Marketing and Business Development for NCR, convinced Chairman Lars Nyberg to back a radical idea: a Knowledge Lab, hot-housing new ideas for the future.

She asked Stephen Emmott, himself a graduate of BT’s hugely influential research lab, to become its Director.

Today, it helps some of the world’s biggest banks understand the future they face – and points out the way forward if they are to thrive in it.

Based on interviews with practitioners and Directors at British Telecom, NCR, Sainsburys, Shell and the Chatham House Foundation, *Revenge of the nerds* explores how organisations have gone about creating a space to ‘dream the future’.

It’s a contribution to work happening among several players, from large corporates to recent Government initiatives, like the DTI’s *Future Unit* and *Innovate Now* programme of lectures, finance and education.

So how is it done? What are the rules? Where are the visionaries? And how do you set them to work?

Dreaming the future: *seven rules*

Rule 1: *embrace the space*

Technology is driving change, and the pace is picking up. The old rules no longer apply. New thinking is essential – and requires support from the top.

Rule 2: *fast solutions, not slow development*

The classic 'product development cycle' is simply too slow. Fast, imaginative solutions are at a premium. Solve *some* of the problem *fast* – and get a new product to market.

Rule 3: *uncertain times need flexible people*

The right people are young, passionate, technologically astute – and highly sought after. Creative space, flexible management and the right incentives will keep you in the game.

Rule 4: *build open units*

To make it work, mix it up. Alongside the usual suspects – technologists, computer engineers and data-crunchers – you'll be employing designers, psychologists, even philosophers. You need a cohesive unit – but one that's always open to new ideas.

Rule 5*: bring the customer in*

Customers and their needs have transformed how we think about business. Technology won't change this. If people don't like, they won't buy.

Rule 6: *use the bottom line*

A business focus is a vital frame for research. So research needs to think business, and business needs to think research. Rewards, competition and pressure will all help.

Rule 7: *share the experience*

Get the future-dreamers out of the lab to meet the company – and let the company into see them, too. Sharing experience adds to the buzz and sends signals about the kind of company you are – or are becoming.

Rule 1: *embrace the space*

After a distinguished international career with Shell, Dr Oliver Sparrow was asked by the Government to set up the Chatham House Forum three years ago. Now with around 20 members, drawn from Government Departments and major companies, the Forum is grappling with the sheer *pace* of change faced by society. Its message to business is simple:

> Increasingly, you're going to *have* to innovate – or you're buried. And innovate even if it *doesn't* make money – just to keep up.

We've all heard this message in one form or another, but while many organisations seem to accept it, their behaviour doesn't really change.

In many ways, this is not surprising. Few organisations have yet managed to develop response times suitable for an environment where, in the words of BT's Head of Organisational Excellence John Simpson, "we're looking ahead to a situation where 'stability' will mean an organisation that stays the same for six months."

Part of the problem lies in the fact that today's change is driven more than ever by technology – and UK senior managers have not always been 'early adopters'. Some, for instance, still work from paper copies of their emails and expect to dictate or hand write replies. And many see web-surfing as an irritating threat to productivity – rather than an innovation that needs to be confronted and understood. As John Simpson argues:

> People are going to *have* to become more technically competent. It just won't do to leave it to their secretaries. Equally, technologists will have be more alert to the business culture.

Consumers, meanwhile, are accepting technology more and more quickly. While it took over 15 years for the majority of people to come to terms with cash points (ATMs), today's innovations are introduced, accepted – and superceded – in half that time. As BT Electronic Commerce Researcher Simon Steward argues:

> What I call the 'ZX81 generation' [*after the cheap personal computer introduced in the UK by Sir Clive Sinclair in 1981*] is becoming the dominant consumer. And as consumers, they're no longer intimidated by technology.

Stephen Emmott, Director of the NCR Knowledge Lab, pinpoints "a recent change in perception among business leaders about the importance of innovation", yet creating a culture of innovation is costly and time-consuming. Which means innovators can expect to meet resistance. Indeed, the NCR Knowledge Lab itself faced 'quite widespread reactionary

opinions' in its early days – the support of senior and influential champions was therefore essential to the Lab's success.

One such champion was Kicki Wallje-Lund, who had been inspired by reading *Competing for the future*[1]:

> One line had stuck with me: 'The trick is to see the future before it arrives.' I couldn't stop thinking 'how could we do that?'. And of course, our customers – and their customers – must have the same problem. So how could we help them?

First, she convinced her immediate boss, and then Chairman and CEO of NCR, Lars Nyberg, of the benefits of 'embracing the space'. Initial resistance – of the kind which often meets any new idea – could thus be overcome because it was clear the project had support at the highest level.

Dr Mark Venables, Director of the Knowledge Group at Sainsburys, received similar support from Sainsburys' Head of Logistics, John Rowe. Dr Peter Skevington, Head of Electronic Commerce Research at the BT Labs, also identifies 'support from the top' as an essential ingredient to success. Regular and positive comment at senior levels, he says, has helped develop a sense that the Labs "are a core weapon in the BT armoury".

[1] *Competing for the Future* (1994), Gary Hamel and C. K. Prahalad (Contributor), Harvard Business School Press

Rule 2: *fast solutions, not slow development*

With support from the top in place, organisations need to think about the appropriate structures to engage with the fast-arriving future.

The first step is to be clear about what can and cannot be achieved. Again, technology is changing the rules. When BT's Peter Skevington talks about the 'old days of research', he means less than 10 years ago. Then:

> You did research, wrote papers, had them reviewed and, if you were lucky, they were published about 6 months later. It was usually at least a year between starting the research and the first person reading it.

Faster communication has massively accelerated the global exchange of ideas, speeding the development cycle considerably. The opportunity to gain competitive advantage by developing a radical new approach slowly – and in secret – is increasingly rare. Peter Skevington again:

> The days when someone had an idea, and it was their idea alone – for a few months or whatever – are no longer around. Using the internet you can almost always find someone, somewhere, thinking along similar lines at the same time.

As a result, what BT researcher Simon Steward refers to as "the antiquated process of product development" has become too cumbersome to deliver results in time.

Organisations are having to learn that the search for "total solutions" carries too many risks. Researchers may: fail to find the right solution; find a solution, but to the wrong problem; or, most galling of all, find the right solution too late.

A much less risky approach is to break down a problem into as many discrete challenges as possible. Each can then be tackled in turn – and tackled as fast as possible. Quick, free-standing solutions can be rushed to market if successful or challenge assumptions if not. Meanwhile, the next solution emerges from the one that preceded it, as mini-strategies are rewritten on the fly.

This *evolutionary* approach challenges basic assumptions about how research is done. As Peter Skevington puts it:

> At the end of the day, most research time is relatively structured. The project is managed through to produce a demonstration, a report, some sort of output…
>
> But we are beginning to see that the idea of vertical integration – the idea, the prototype, developing it – is too slow. So you go for a 'close enough' fit for the market. A buy-and-integrate approach to come up with quick solutions.

Flexibility is the key word for this kind of research – and it's an art, as much as a science. Stephen Emmott, at the NCR Knowledge Lab, talks of 'patterns' which suggest research may be ready to be translated into a commercial project.

There is unlikely to be a single 'eureka moment' to focus on. Instead, teams must learn to work creatively in a context where uncertainty (and risk) are much more diffuse. The question to ask is not 'are we about to find the right answer?', but 'do we believe we are moving (or evolving) in the right direction?' And it's a question that needs asking repeatedly.

Or as a poster in the Sainsburys Knowledge Group offices puts it:

> Failure waits for those who stay with some success made yesterday.

Rule 3: *uncertain times need flexible people*

Adaptability is essential in those who will thrive in times of change – and organisations need to work hard to find the right people to become their future dreamers.

The supply is limited, with a few organisations enormously influential. The BT Labs are well-known through the charismatic work of their Director, Professor Peter Cochrane, and have an enormous number of staff (some 3500 at Martlesham alone). Graduates from the BT Labs – like Dr Stephen Emmott at the NCR Knowledge Lab – have gone onto other projects.

Shell, too, has established an international reputation for its systematic attempts to map the future (mostly through scenario-modelling work) – and a Shell graduate, Oliver Sparrow, set up the Chatham House Forum.

Recruitment in this area is aggressive. In BT's case, Professor Peter Cochrane has high profile slots in the national media and spends 20% of his budget on education and training. Meanwhile, Dr Mark Venables at Sainsburys' Knowledge Group also takes the direct approach:

> I personally recruit by going round universities in the US and Europe and giving seminars. The idea is to attract bright entrants for a couple of years.

Peter Cochrane is convinced that youth is *the* key ingredient, claiming that the 'key institutions are resisting bringing in young people to positions of influence' – a trend he is doing much to reverse, employing a staff that has an average age of just 27. Peter Skevington agrees:

> Staying up with technology is very much a young person's game, so one needs to be bringing in new people all the time.

Simon Steward is one of the younger people concerned:

> I feel culturally entirely different to people just one level above me. And for my generation, it's not satisfying to just be right. We look around and see a revolution going on… Let's face it, whichever way it goes, this stuff's really exciting… and we are doing it – and understanding it. We have an intuition for it, if you like – so use us.

Creative people are, famously, (*sotto voce*) a bit difficult – and, while the new generation may be more intellectually agile, they are also less socially deferential. They're not hardwired into a corporate culture – and perhaps never will be. Kicki Wallje-Lund recognised this:

> I thought: we need young people and people who are a little bit 'crazy'…who can think about crazy ideas..I don't want the Lab people to become 'corporate' – they have to be themselves. It's fun to work with them.

This can mean a different approach to what is regarded as work. As leading 'future thinker' Kevin Kelly points out[2]:

> Wasting time and being inefficient are the way to discovery. The Web is being run by 20-year-olds because they can afford to waste the 50 hours it takes to become proficient in exploring the Web. While 40-year-old boomers can't take a vacation without thinking how they'll justify the trip as being productive in some sense, the young can follow hunches and create seemingly mindless novelties on the Web without worrying about whether they are being efficient. Out of these inefficient tinkerings will come the future.

For the best researchers, space to play in this way is probably an important precursor to creative solutions. Beards, takeaway pizza boxes (with some of the pizza still on inappropriate T-shirts) and extremely peculiar hours are not compulsory – but some kind of space outside the shirt-and-tie mode needs to be carved out.

In part, companies can be relaxed about this seeming 'misbehaviour' at the edges – because once technophiles get the bit between their teeth, they tend to work harder and longer than average. Stephen Emmott at NCR comments:

> Yeah, we have people who regularly sleep under their desks! And some of our best performers take 4 months holiday, but then they've been doing 10am-4am, 7 days a week, month after month and not taking any holiday – so they need it!

As play solidifies – and new products and services begin to take shape – the question of rewards for effort is raised. The best researchers are few and far between. Their value in the marketplace continues to rise. This raises several problems for corporates. Dr Mark Venables of Sainsburys on the problems of rewarding high-flying but often very young researchers:

> We're just starting at that…there's a kind of intellectual paralysis – a recognition that 'we have to do something, but what?' So you've got the guy who has been there twenty-five years, and in comes someone who wasn't born when he started with the company – it's difficult to explain why you might want to pay that person more than him.

Most important, though, is to give bright and sometime impatient people a continual supply of interesting things to do. As Ged Davis, Shell's Vice

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[2] Kevin Kelly, *New Rules for the New Economy* (1997), WIRED Magazine, available (for $5) as an Electronic Editorial Reprint from www.wired.com/wired/reprints/ or e-mail reprints@wired.com

President for the global business environment puts it: 'the key thing we supply is context – a challenging context.' Peter Skevington at BT agrees:

> Of course you need rewards and recognition, but you also need to give them the freedom to explore and drive their ideas through. But also make sure you do that where there's sufficient structure that you can utilise those ideas.

Stephen Emmott believes that businesses will offer bright researchers increasingly irresistible opportunities, predicting:

> A move from a position where academia is seen as the best place for research, as it is now, to one where the best researchers go into commerce. I think we'll see a complete reversal of the situation now in the next 10 years.

If this change happens, it will not just be because business can afford to pay better. As important (or perhaps even more so) will be the ability of business to break the rules that can make university research tedious. As NCR's Kicki Wallje-Lund recalls:

> I went and talked in Universities and said to the bright people I met there 'Why not come and work at NCR?' But they weren't immediately interested, they couldn't see what we would give them, so we set about to make an environment without the usual constraints – and gave them space, and a focus, and started to build a team.

Kicki Wallje-Lund looked for enthusiasts to fill the exciting space she had helped create. When recruiting, she had a 'tick box' for passion. "Without getting that tick, without evidence of passion," she explains, "we weren't interested."

Rule 4: *build open units*

Once recruited, you can't afford to let your future dreamers disappear into the wider organisation. Companies are therefore learning to spin off research units which, given sufficient terrain in which to operate , are lighter, faster – and able to manoeuvre with more ease. In strategic terms, pathfinders and guerillas – not standing armies.

The unit needs to be the right size (as Stephen Emmott says 'most organisations over the size of a hundred people show an increasing tendency to disappear into a bureaucratic mess') and have the right composition.

The trend is towards challenging traditional disciplinary boundaries. Stephen Emmott again:

> There's beginning to be a recognition in a handful of labs that even if you're in a technical company, you can't do research using the usual suspects – computer scientists, electrical engineers and so on. If you look at the future, it's not one that technologists alone will create. So at the Knowledge Lab we have artists, biologists, philosophers, designers, psychologists and so on. For my money, being interdisciplinary is really critical.

Mark Venables at Sainsburys concurs:

> I personally regard maths as very, very significant, but increasingly we're using designers, a psychologist, a couple of physicists. I think a biology background will also be very helpful, touching on this idea of the 'biological age' and looking at virus behaviour, complex systems and so on.

Simon Steward, although an electrical engineer by background, turned to the biology of insect systems for insights and models about where e-commerce might be going. 'After all,' he says, 'it's all about entities out there trying to get resources.'

The unit cannot be allowed to develop closed walls, but instead must act as an organism: both interacting, and swapping resources, with its environment. Mark Venables at Sainsburys sees establishing 'a knowledge-sharing culture' as essential to success. In his view, 'building a knowledge community *leads* to innovation. Innovation is an *output.*' This was, he says, 'a very important conceptual breakthrough – and we marked it by renaming ourselves The Knowledge Group".

Oliver Sparrow, Director of the Chatham House Foundation, makes a similar point:

> Today's 'small world networks' might involve 10-15 people. Think of them as a nest of soap bubbles. A bubble might be separated from another by very little – but never make contact. One person spanning two domains, however, will massively increase the level of contacts.

Visitors are incredibly important. The Sainsburys' Knowledge Group may have only 8 full-time staff, but as Nick Mahony, their Design Innovator, points out:

> There's a constant stream of visitors from elsewhere in the company, and from outside too – from Europe and the US. Innovation by one team should lead to knowledge – but that knowledge needs to be shared. Cross-fertilisation is one way, across a co-operative network – but to be really competitive, you've got to mix it up.

Stephen Emmot agrees that 'in the future, most successful labs will have few employees – and lots of visitors', while Peter Cochrane's devotes extraordinary energy to 'mixing it up'. He founded and now runs two 'virtual universities', ('because the Government wouldn't set one up') with 80 students spending 2½–4 years in what he describes as 'a Top Gun school', providing a technical MSc 'with a dash of business'. Another 20 students, meanwhile, work on MBAs, with the emphasis on business 'but with a top-up of tech'. Schools lectures, consultant lectures, 'people in, people out, prizes, over 300 students in summer and 100 students currently doing work experience' combined with a huge web-presence and newspaper columns all help foster awareness, engagement and the transfer of knowledge.

The blurring of traditional boundaries needn't stop an organisation's edges, either. As John Simpson comments, it can be hard to know where BT stops and the competition starts:

> The big change in BT is a shift towards interdependence and fuzzy boundaries, with joint ventures, competition, collaboration and so on. It won't always be clear cut whether you're working with the competition – or not. In effect, there'll be a blurring of all the boundaries.

NCR developed the Knowledge Lab after selling the idea to its customer base: some of the world's biggest banks. As Knowledge Lab Partners, they continue to make a significant financial contribution and there are regular formal and informal opportunities for networking and knowledge-sharing. Kicki Wallje-Lund:

> I wanted customers to pay – because if you give something away, people don't value it. And we wanted them to do more than just sign a cheque – we wanted them involved, interested. Nowadays they are anxious to know more and about how they can benefit.

Sainsburys, meanwhile, are currently collaborating with Proctor & Gamble, and have a long history of working closely with research institutes worldwide. The core customer base at NCR, their banking Partners, provides a continuing commercial context. Meanwhile the BT Labs have long worked closely with corporate partners in a range of ways, from consultancy to collaboration.

Dr Peter Skevington gives an example based on his recent work for BT on 'electronic signatures' and trust-building through data-certification processes:

> Instead of going into development, we sold it to the business end. We built up a collaborative research-business team for a year, and then launched with the market leaders in the US [Verisign]. We very much see this way of working as the starting point.

The message is clear: whatever works, do it.

Rule 5: *bring the customer in*

Even though the future is being driven by technology, future-dreaming cannot be dominated by technologists. As BT Researcher Simon Steward notes:

> There's a backlog of tech that isn't being marketed, even as there's geometric growth going on.

A recent leaflet from the NCR Knowledge Lab notes the progression from 'hardware' through 'software' to 'humanware' (geeks tend to use the more expressive term 'wetware'). What *is* being widely recognised is the process by which technology becomes invisible as it is turned into a commodity. Stephen Emmott:

> Look at electricity and motors 80 years ago – the advertisements were for motors for blenders, motors for this, motors for that – even for electricity – 'bring electricity to your home'. All of that then became invisible, as in everything with technology.

All three 'labs' have a very explicit focus on the customer relationship. The NCR Lab went as far as defining the term 'relationship technologies', and a further focus within that broad area on 'lifestyle engineering'. 'Our aim', explains Stephen Emmott, 'is to be building technologies that serve one or two elements of relationships: trust, attention, affinity, respect (for example, privacy issues), communication and understanding.'

Trust is at the core of Dr Peter Skevington's work on electronic commerce for BT. 'The full potential of e-commerce will only be realised', he explains in a recent paper[3] if buyers and sellers have the confidence to trade electronically. Work by trusted agents to develop 'electronic passports' and encrypted 'digital signatures' (BT) and 'digital wallets' and 'relationship tokens' (NCR) is all part of that process.

Involving the customer also means exploiting the social sciences like psychology and social anthropology – and ensuring the research about people is at the core of all development. Nick Mahony, also at Sainsburys, sees potentially radical implications:

> The consumer side is a challenge to the innovation process. Everyone has different kinds of knowledge – and a successful innovation process is about combining those different kinds of knowledge. So the customer has a very good

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[3] *From Security to Trust – Creating Confidence to Trade Electronically* (Nov. 1998), Dr Peter J Skevington, Institution of Electrical Engineers Colloquium on E-Commerce. Contact: peter.skevington@bt.com

> sense of their own knowledge and behaviour..and yet this is just one iteration of a whole series of different 'knowledges' which might feed into the marketing process.

Traditional market research is clearly important – though it needs to be better designed, more effectively disseminated and built on a clearer theoretical understanding of how people cope with the 'shock of the new'.

Computing, meanwhile, provides a phenomenally powerful new tool. Sainsburys is using computers to develop a finely-segmented model of its mass market (11 million visits per week), but as Ian Hawkins, a cross-cutting project manager at Sainsburys (who compares his work to that of a football 'sweeper'!) explains, techniques for interpreting and communicating this sort of knowledge are in their infancy:

> As yet there are no agreed models about how to extract meaning from the data. It's really pretty hard, because the data sets are huge and there's lots of noise.

Understanding customer needs is further complicated by the fact that new technology permits new types of behaviour.

Simon Steward at BT cites the idea of 'disruptive technology' from *The Innovator's Dilemma*[4] – organisations consistently fail to exploit innovations because they base assumptions on how customers deal with *existing* technology.

Mapping behaviour patterns which don't yet exist is a challenge that all future-dreamers are beginning to address. Equally challenging – but often neglected – is considering how society as a whole will react to innovations that change basic assumptions about who we are and the world we live in. As John Simpson puts it, 'history is littered with stuff that nobody wanted, but technologists invented'. Organisations therefore need to think very carefully about the ethical, social and environmental consequences of the work they do.

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[4] *The Innovator's Dilemma: When New Technologies Cause Great Firms to Fail* (1997), Clayton M. Christensen, Harvard Business School Press

Rule 6: *use the bottom line*

Future-dreaming calls for organisations to work with their progressive hats on – to challenge existing assumptions, recruit creative people and encourage unconventional working practices. However, as the degree of freedom increases, so does the need to ensure future-dreamers work within the same business environment as everyone else. Lead times, of course, need to be recognised. Kicki Wallje-Lund describes the looseness of the NCR Knowledge Lab's initial remit:

> When we started we didn't know what was going to come out in the end… people asked 'Where's the business plan, what are the outputs?' I said, 'We haven't got one'. They gave me six months!

As the Lab bedded down, however, the commercial context started to develop – partly through the involvement of the Lab's Partners (and sponsors) – 20 of the world's largest banks. 'If half our partners want to commercialise and roll out the research,' comments Stephen Emmott, 'it will happen.' Two years on, and Kicki Wallje-Lund is beginning to see the fruits emerge:

> There are more things coming out now than I could ever dream of..and we'll see in the next year more things coming out and getting access to large markets.

Peter Skevington at BT is equally clear about the Lab's bottom line, stating firmly that 'at the end of the day this place exists to add value for BT'. He goes on to develop the university analogy:

> If it *was* a university, it would be a very *applied* one. The difference between a University and BT Labs is that we focus our creativity on creating new services and adding value. So although originally BT was based on mass market products, increasingly, we're talking about bespoke solutions and seeing technologists here at the labs being used as a strategic and tactical resource for big corporates. For example, the Labs hosts a constant stream of visiting IT Directors and similar level visitors, in groups from two to twenty. An account manager arranges a day of targeted, business-oriented programme of activities, demonstrations, presentations and so on – it's a day of technical contact relevant to their business. It's very business focused.

Far from stifling creativity, this kind of approach stimulates it. Peter Skevington's colleague Simon Steward argues that an entrepreneurial culture should be embedded even more firmly into the process:

> I think the inability of many corporates to grapple with new technology is exacerbated in Britain, because it is without a real entrepreneurial culture. In Berkeley, for instance, they turn up to do MBAs, and set up a company in the

> first year. The aim is to sell it by the end of their MBA. Of 8 sold last year, six went for over 7 figures. We just don't have that kind of culture.

Nick Mahony also sees the entrepreneurial factor as important. He has helped identify a need for a 'Learning Hub' at the Sainsburys Knowledge Group. It will help foster knowledge-sharing and other 'soft' interactions, but also aims to give the research process a hard edge. Competitiveness between individual teams would be encouraged, through spaces where 'promotions' and 'sales pitches' are run. As he puts it, 'leading to increased extremes of chaos and calms.'

Stephen Emmott at NCR cites an interesting way forward developed by Lucent, the research-driven company that spun off from the AT&T Bell Laboratories where he once worked:

> At Lucent, they spin off research teams and give them fake shares – which if the research translates into commercial applications become real ones. So they can – and do – end up as millionaires. In the next ten years, I think most laboratories that are successful will be in the business of giving very high rewards to researchers and running teams who can make successful commercial contributions.

Rule 7: *share the experience*

At the end of the day, future-dreaming is exciting, stimulating and fun.

The traditional model where all innovation is marked top secret wastes an opportunity to help communicate how an organisation is preparing for tomorrow's world. A successful interface with the rest of the organisation – and with the wider world – is essential to help others share the buzz.

All the Labs are exploring how to communicate more effectively what they are doing. Mark Venables sees 'pulling people in from elsewhere in the company' as one way to improve the interfacing, while Ged Davis suggests 'imagination and communication helps – we had one situation which turned scenarios into small pieces of theatre for audiences of three thousand'.

Ged Davis is surely right in identifying narrative as the key. After all, dreams are stories – and a good story demands to be told.

Dreaming *the future*

Revenge of the nerds has been compiled as a result of interviews with a number of organisations who are pioneering new ways of dreaming the future. We gratefully acknowledge the input of the following:

Companies *dreaming the future*

The Chatham House Forum, Royal Institute for International Affairs

Global Business Environment Group, Shell International

BT Labs, BT

The Knowledge Lab, NCR Financial Solutions Group

The Knowledge Group, J Sainsburys

People *dreaming the future*

Ged Davis	Vice President, Global Business Environment, Shell International
Dr Stephen Emmott	Director, The Knowledge Lab, NCR
Ian Hawkins	Project Manager, Knowledge Group, Sainsburys
Nick Mahony	Design Innovation, Knowledge Group, Sainsburys
John Simpson	Head of Organisational Excellence, BT
Dr Peter Skevington	Manager, Electronic Commerce Research, BT
Dr Oliver Sparrow	Director, Chatham House Forum
Simon Steward	Researcher, Electronic Commerce Research, BT
Dr Mark Venables	Director, Knowledge Group, Sainsburys
Kicki Wallje-Lund	Vice President, Strategic Marketing and Business Development, NCR

Companies *dreaming the future*

The Chatham House Forum emerged from discussions with Government about "whether the UK had the machinery in place to make the most of its knowledge resources". Established at the Royal Institute of International Affairs by its Director, Dr Oliver Sparrow, in 1995, the Forum assists organisations think about and plan for their future. Membership includes analysts and planners from business (e.g. BT, Shell, ICL, Halifax, Abbey National etc.) government (e.g. DfEE, DTI, DETR and the FCO) as well as other organisations like the BBC and the Industrial Society. It collaborates with a range of other organisations, with work emerging from the Forum brought together in a series of influential publications and a CD-ROM *Open Horizons*. Dr Sparrow has also presented findings across the UK to thousands of prominent business and public sector decision-makers. New members of the Forum are welcomed.

Follow up references

Unsettled Times (1996), The Chatham House Forum, The Royal Institute for International Affairs, London

Navigating Uncharted Waters (1997), The Chatham House Forum, The Royal Institute for International Affairs, London

Open Horizons: Three Scenarios for 2020 (1998), CD-ROM, The Chatham House Forum, The Royal Institute for International Affairs, London

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Shell are internationally renowned for their contributions to 'dreaming the future'. Pioneering work contributed to wider understanding of modern business thinking, including concepts such as 'the learning organisation'. Shell were instrumental in developing Strategic and Scenario Planning, now considered a key management process. Ged Davis: "our job is to encourage people to think more broadly…to help them think about a wider range of problems." The process emerged in the 1970s, against a background which had emphasised forecasting. Yet as Ged Davis notes, "In the 1970s, forecasting was seen as the *only* way. But there are some things we just don't know about – let's be honest about that. But let's also think about the possibilities. So we start by carefully separating the forecastables and the non-forecastables." He adds that scenarios "can be applied to small units, business units or, more interestingly, across a group of organisations to explore where each is coming from and issues", citing work prior to the end of apartheid, which brought together various groups from all sides and enabled people to think in ways that would previously have been impossible. Recently, Shell have been working with 33 companies from the World Business Council for Sustainable Development exploring what sustainable development might mean – and using this work to help frame policies.

Follow up references

Arie P. de Geus (Head of Planning at Shell for over 3 decades), (1988), Planning as Learning, Harvard Business Review, 66, no. 2 (March/April 1988): 70-74

Challenges: Shell Scenarios 1995 to 2020, at:
www.shell.com.my/about_shell/challenges2.html

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The **BT Labs** is Europe's leading telecommunications research and development facility, employing over 3,500 people. The annual budget is £280 million, of which 85% is devoted to developing short and medium-term communication solutions in direct response to customer demand. BT Labs have an ongoing commitment developing BT's Customer Service System – one of the biggest civilian computer systems in Europe. Other work looks further ahead to provide customer solutions in 5-15 years time. One recent development from this work – about to be marketed – is NetSumm, a text-summarisation application designed for users accessing large quantities of information via the Internet. To date BT has won six Queen's Awards for Technological Achievements for its pioneering work. Perhaps the most well known is BT's work on optical fibre – hair thin glass to replace copper as a transmission medium – which, when announced 30 years ago, was greeted with more than a little scepticism.

Follow up references:

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The **NCR Knowledge Lab** was set up by Kicki Wallje-Lund and Dr Stephen Emmott in September 1996. It is fast establishing itself as one of the world's leading research centres for charting the future of retail banking and electronic commerce, and inventing some of the key technologies and solutions for tomorrow's financial services industry. It works closely with partners from leading banks and universities around the world. A stream of ideas has already emerged from the NCR Knowledge Lab and many have captured the public imagination. These include the Virtual Idol – a web-based interactive soap opera in which the characters can introduce and sell products and services used as part of their lifestyle – and Relationship Tokens: chip-enabled 'fashion tokens' that allow businesses and consumers to communicate and perform transactions across networks. The NCR Knowledge Lab's research teams are also working on more than 20 other projects which range from revolutionary computational approaches for banks to predict the behaviour patterns of their customers to studies of how consumers themselves will react to the new technologies that are emerging.

Follow up references:

Information Superhighways: Multimedia Users and Futures (Computers and People Series), (1995), Stephen J. Emmott (Editor), Nicholas Negroponte, Academic Press, (ISBN: 012 200 4000)

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The Knowledge Group, Sainsburys was set up by Mark Venables as the Innovation Centre in 1994, and renamed The Knowledge Group in 1997 in recognition of the conceptual insight that innovation is an output emerging from a knowledge-sharing culture. The Knowledge Group provides a range of short, medium and long term technological and conceptual inputs to Sainsburys' strategic thinking and business operation. Projects range from direct and immediate business objectives, like the 'Rehearsals project' (examining ways to model and improve the shoppers' experience around Christmas and New Year 1999-2000), and exploring the use of Radio Frequency Identity Tags (originally developed by the US Military to track equipment) to track food-container movements and conditions. Other work has a strong mathematical and agent-driven angle, examining data to predict and improve, for example, in-store 'traffic jams' and ensure ongoing improvements to transport logistics to cut both costs and environmental impact. Collaborative work includes projects to simulate stores ("Simstore") and to examine agent-driven negotiation protocols on the Internet.

Follow up references:

A section detailing The Knowledge Group and its work can shortly by found directly through the Sainsburys website at www.sainsburys.co.uk

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WEBSITES

NEW THINKING, NEW MEDIA	ALL COMMENCE HTTP://
Kevin Kelly, WIRED Magazine	www.wired.com
Harold Rheingold	www.rheingold.com
Virginia Postrel	www.dynamism.com
UTNE Reader	www.utne.com
MIT Labs	www.media.mit.edu
21st Century Metanews	www.columbia.edu/cu/21stC/metanews.html
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Salon Magazine	www.salon1999.com/
PRIVATE SECTOR	
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Sainsburys	www.sainsburys.co.uk
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GOVERNMENT	
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The eCommerce Revolution
Simon Steward (July 1999), BT Technology Journal. Email: ssteward@jungle.bt.co.uk

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