

A tale of two telco's

Lucent has set the standard when it comes to the commercialisation of intellectual property portfolios in the telecom sector. The revenues the company generate still dwarf those of its rivals. But increased competition, combined with high levels of debt and the need to fund further innovation, mean that others are now trying to get in on the act. One aggressive newcomer is BT, which has created structures and employs methods that differ markedly from Lucent's established model. By Joff Wild

Another day, another deal. And this time it is the biggest one yet. On 29th May, BTextact, BT's research, technology and IT operations business, and Korean company LG Electronics Inc. (LGE) announced an agreement that involved the sale of BTextact's voice activity detector (VAD) patents to LGE, along with a family of other patents from the 1990s which improve on the first wave technology.

Originally developed in the 1980s and designed, amongst other things, to detect the presence or absence of voice to prolong battery life in mobile devices, to enable the detection of signalling or information tones and to increase network capacity, the BT VAD patent roster has found its way into a number of international standards, including GSM.

Alongside the VAD sale, the parties concluded a cross-licensing deal which enables LGE to dip into the BT patent portfolio in order to further develop its reach in the mobile communications market, and which allows BTextact access to LGE's portfolio. The deal, said BTextact CEO Stewart Davies, demonstrated the company's commitment to commercialising its intellectual property portfolio to the benefit of shareholders. "The cross-licensing deal means LGE and BTextact will have joint access to a formidable bank of patents, which may not be equalled by any other global technology companies," he concluded.

Although a record breaker, the LGE hook-up is only one of a number of similar deals BTextact has been involved in over recent years. Because of strict confidentiality agreements, most do not receive publicity but, according to Mike Carr, director of research and venturing at the company, and the man responsible for commercialising BT's worldwide

patent portfolio, there have been dozens of deals in the last year with more in the pipeline. "It can take between six and nine months to find the patents that may be of interest and then you have to negotiate the deal. It's a time-consuming process," he explains.

Time consuming and also highly specialised, which is one of the reasons why since the beginning of last year, BTextact has been working with ipValue, a company which specialises in patent licensing and realising the financial potential in rights portfolios. In January 2002, BTextact agreed a six-year deal with ipValue which gives the Silicon Valley-based business the exclusive right to license BT's existing and future patents throughout North America. And serious figures are involved. By the end of year five it is forecast that annual income will have reached \$100 million, a figure that Carr believes is realistic. "Deals have already been done and we actually slightly exceeded last year's aspirational target," he says.

Essentially, ipValue's task is to wade through – or "mine" – the entire BT portfolio of patents in order to identify opportunities for licensing as well as situations where companies may already be infringing BT rights. Where such activity does emerge, the idea is then to negotiate licensing deals as an alternative to litigating through the US courts. In addition, ipValue advises on potential licensing deals in other parts of the world. They were involved, for example, in the LGE hook-up. "They were behind it but not in front of it," says Carr. "They helped us to isolate the patents in question but the deal was done by us," he explains.

New attitudes born in the 1990s

The ipValue deal is only part of a major sea

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change in attitudes towards intellectual property that has taken place at BT over recent years. Originally privatised as British Telecom by Margaret Thatcher's Conservative government in the 1980s, the company initially enjoyed a series of bountiful years operating with a near monopoly in what remained a tightly regulated sector. However, liberalisation in both the UK and Europe, combined with rapid technological advances, meant that by the late 1990s BT was struggling to come up with ways to see off its competition. Under intense scrutiny from investors, the company's board decided that at least part of the solution was to completely reorganise the business. As a result, in 2001 the old company was broken up into five independent companies all of which would report into a central Group board. Each one of them was to cover an individual area of BT's operations.

BTextact was established as the Group's research and engineering arm, with the primary role of developing advanced communications technologies for worldwide application. The nature of the company means that it spends an awful lot of money but does not make products which it can sell into market places. The issue, therefore, is finding the means to ensure that vital innovation continues to take place. "Our job is to supply technology and we have to find routes to get this exploited in order to generate revenue," says Carr.

This is especially relevant when it comes to maintaining the 14,000-strong patent portfolio BT owns: to keep one patent for its entire lifetime can cost up to £120,000 (\$170,000). One of the solutions is to start making that portfolio work for you. This is exactly what BTextact has done. Under Carr, the company has developed a strategy which allows it to exploit the IP rights it owns in a number of ways including sale, licence, joint venture and spin-out. "It is not about being self-funding, it's about getting full value from the patent base we have," Carr explains.

And BT is not the only large telco to have increased its focus on intellectual property over the last few years. Across the world, others are doing the same. In the US, for example, Atlanta-based BellSouth has created two organisations specifically to maximise the value of its rights: BellSouth Intellectual Property Management Corporation is concerned with the protection of company IP; whilst BellSouth Intellectual Property Marketing Corporation's job is to find other businesses looking to tap into BellSouth's pool of patents and know-how. Over the last two years, patent filings have doubled and the company expects

this level of activity to continue into the future. "BellSouth is a leader of innovation in our industry and we have to protect and maximise our benefit from the technology we produce," said Scott Frank, president of BellSouth Intellectual Property, earlier this year. The company's annual income from licensing is reported to be tens of millions of dollars a year.

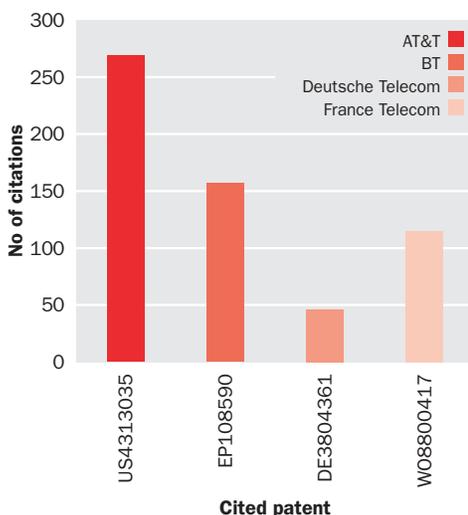
In Europe, both France Telecom and Deutsche Telekom are among the formerly wholly state-owned companies busy moving IP exploitation to the centre of their overall business strategies. France Telecom has a dedicated section on its website which explains the different ways in which it seeks to commercialise its proprietary rights, including licensing, joint ventures and spin-outs. "In terms of structure, France Telecom is, along with BT, the furthest along in Europe. They have both been very clear about what they want to do with these assets," says one industry observer. Deutsche Telekom, meanwhile, has been getting busy by searching out licensing opportunities based around some of its leading patent families. In March 2002, for example, the company announced a deal with QED Intellectual Property Limited, the patent licensing arm of technology development and licensing company Scipher plc, which saw QED appointed to seek licensees for 96 optoelectronic patent families, comprising 542 patents and patent applications covering areas such as photonic crystals, fibre-integrated micro-lenses and optical integrated circuits.

"The Europeans were initially driven by privatisation and then by the opportunities the growing market of the late 1990s brought," says Dr Stephen Potter, managing director of QED's European operation. "Now, however, debt is the issue. They are all under pressure to cut costs and so are looking to make their assets sweat." Potter explains that this has made them much more aware of the value of the IP rights they own. "They are all looking to exploit them much more aggressively than they did in the past," he says.

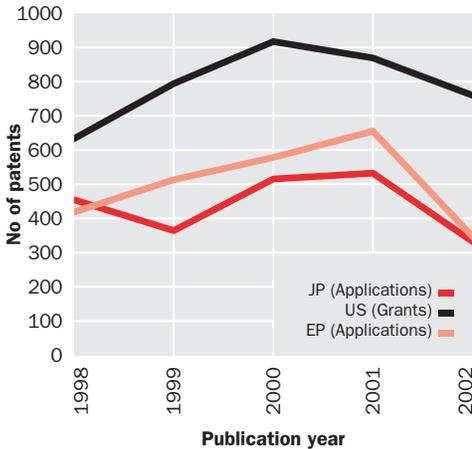
Lucent leads the way

For those who are actively looking to develop revenue through intellectual property, the example to follow is Lucent, which has been doing the job longer than most of its rivals, and also makes an awful lot of money from its activities in the area. "In terms of results, Lucent stands apart from any of the others," says Dan McCurdy, president and CEO of IP consultancy Thinkfire and a former president of Lucent's Intellectual Property Business. "They have built a very strong team of patent creation and prosecution lawyers, as well as a strong

Most single-cited telecoms patent/organisation



AT&T Patent Applications* /Year 1998 - 2002 (Incorporating Bell Laboratories and Lucent)



group of licensing professionals," he adds. Although Lucent will not comment on the revenues it derives from its intellectual property business, reports estimating annual income of around \$500 million are widespread.

Lucent was born as a systems and technology company following the break-up of AT&T in 1996. A constituent part of its operation was Bell Laboratories, one of the world's great R&D facilities. Don Padilla, the current president of Intellectual Property Business at Lucent, believes that the release from the AT&T environment was the catalyst for the emergence of intellectual property as a serious revenue generator. AT&T, he explains, had always paid close attention to patenting but primarily this was for defensive reasons designed to give it the freedom to operate in the fields that it wished without the danger of falling foul of other, blocking intellectual property rights. Whilst this is still an important consideration, current attitudes are far more developed. "Nowadays we have a much clearer understanding that our patents can generate revenues for us from many companies around the world," Padilla explains.

A string of major acquisitions during the late 1990s meant that at its peak the Lucent Intellectual Property Business employed more than 250 people but following a streamlining operation that began three years ago this number has shrunk back to just over 100. The core elements of their task, however, remain the same: to protect the company's IP rights and to generate revenue for the bottom line.

Whilst some of the revenue comes as a result of enquiries from third parties who have got in touch to seek out licences, the majority of income derives from assertive licensing. That is Lucent chasing companies which it

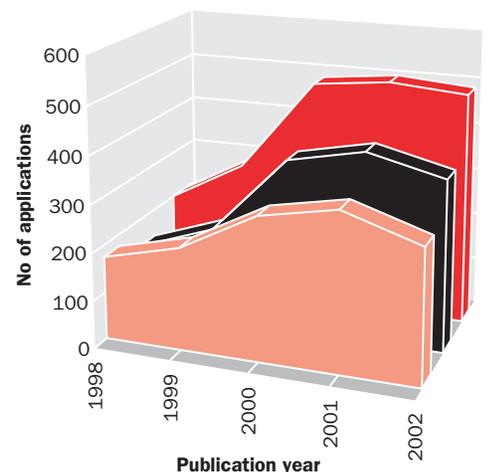
believes are using technology that infringes its intellectual property rights. It is a highly sophisticated operation. "We spend a good deal of time and resource studying other people's products, even to the point of reverse engineering. Once we find something we then approach companies to talk," says Padilla. At this stage, the company in question is usually faced with a stark choice: negotiate a deal or take a chance in court.

When it comes to the negotiation process, Lucent has a series of clear objectives. "We prefer to do five year cross-licensing deals in the patent area," Padilla explains. This means that in return for the use of Lucent patents, the licensee will also make some of its own patents available to Lucent. If these patents are interesting enough, this may be reflected in a reduction to the additional licence fee that company has to pay to Lucent. On other occasions there may be no fee payable at all. But for all licensees, the company says it tries to be fair. "We will license any or all of our patents to anyone and we will do so on a reasonable royalty basis," says Padilla. And when you are dealing with a patent portfolio that numbers more than 25,000 patents worldwide such royalties do tend to add up.

Different approaches

Although the Lucent model has worked very successfully, that does not mean that it has been slavishly imitated by other telcos. In fact, there are major differences between the way in which Lucent does business and, say, the BTextact operation. For a start, the two men in charge have very different backgrounds: Mike Carr is an engineer, Padilla is a lawyer. Then there is the way the IP function is positioned inside each company. At Lucent, intellectual property is a standalone operation. Padilla has a business group, which handles marketing and sales operations, and a legal department, which comprises 30 plus lawyers. Padilla in turn reports into the senior vice-president and general counsel on the legal side and to a senior executive vice-president on the business side. "The company feels that to have one person who knows the business and understands the intellectual property across Lucent is the way to go," Padilla explains. Carr and his team, on the other hand, work inside what is essentially BT's R&D company, with the legal function operating at arm's length. Carr acknowledges it is an unusual structure but believes that organising in this way emphasises the relationship between innovation and driving the business forward. "Patents are a good measure of how original and differentiating R&D work is. By operating as we do, we

AT&T Top 3 Telecoms Technology Trends/Year 1998 - 2002 (Incorporating Bell Laboratories and Lucent)



- Cellular telephone selection/ connection
- Cellular telephone systems
- Stored & forward network switching

driven to work in the right areas for the business which makes it more economic and gives us much more flexibility," he explains.

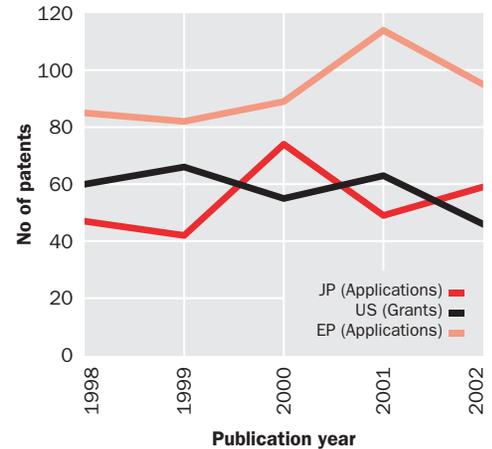
But probably the single biggest difference between the two companies is their approach to the availability of their core technologies. For McCurdy this gets to the very heart of how telcos will approach the whole issue of licensing in the future. His belief is that it is vital to make all technology, no matter how important it is to the operation of a business, available for license "at the right time and under the right terms". In practical terms, this means working with licensees to ensure they have all the information and knowledge they need in order to work the patents they are licensing, even if these patents are central to the licensor's own business. McCurdy admits that this may be a counter-intuitive approach but only if companies are fixated by what he describes as the "illusion of exclusion". That is, by licensing out a company's differentiating technology it will somehow lose its competitive advantage. It's just not true, McCurdy says. Making know-how available alongside patents means that licensors are able to charge more for their licences. What's more, if companies know they have access to know-how as well as patents they are less likely to want to invest in R&D themselves, thus making it more probable the licensor actually maintains its lead in the relevant field or even gets its technology adopted as a *de facto* industry standard. "If you have a business operating on a 10% margin with a 40% share you have an opportunity to access, say, 30% of the market you do not have and charge a 5% royalty when you do it. That can have a dramatic effect on income," McCurdy says.

It is a way of thinking that BTextact has enthusiastically adopted. "These days the economics of the technologies we develop only work if they are available to a bigger market than just BT itself," says Carr. Up to now, however, Lucent has been more cautious although McCurdy says it is something he pushed hard during his time there. "There was real enthusiasm but the timing was not right," he says. Things may be about to change, however. Padilla confirms that, whilst nothing has been decided, the company is currently reviewing whether to begin the development of a programme that would make some of its core technologies available. "It is all about looking at all parts of the business to see if there are opportunities for revenue growth and this could be an area," he says.

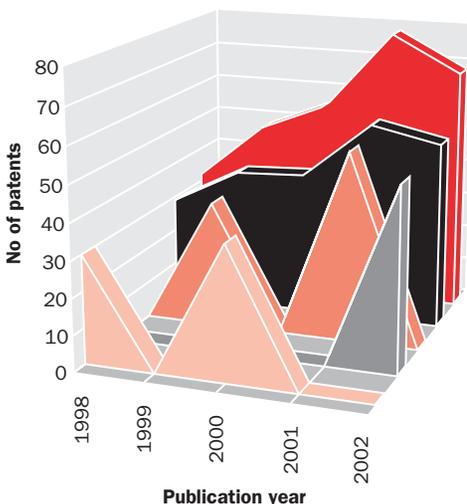
Moving forward

Although BT and Lucent may have differing approaches in some areas in one thing there

BT Patent Applications*/Year 1998 - 2002



BT Top-3 Telecoms Technology Trends/Year 1998 - 2002



- Stored & forward network switching
- Network access & routing control/software
- Internet/Intranet systems
- Digital packet transmission
- Cellular telephone selection/connection

has been a common experience: the extent to which the boardroom has encouraged and facilitated the development of IP commercialisation. "What we are doing affects lots of relationships within the Group and unless other lines of business work with us we will not maximise the opportunities we have. But in all my time I have received only positive support from the board and this has really helped to drive the process forward," says Mike Carr. And it's the same story at Lucent. "My relationship with the board was incredibly important," says McCurdy. "The only way the IP Business works is if it starts from the very top. The board has to be brought in and the CEO has to give things more than just a nod," he explains. Among other things, this means developing proper metrics for the measurement of performance and raising IP in every business review the board conducts. "The board was enormously supportive of me during my time there and it made all the difference," McCurdy concludes.

For telcos in the early stages of their IP exploitation programmes, as well as businesses in other sectors, the lesson is clear. ■

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Telecoms is defined as all patents that fall into the Derwent classification classes of W01 (Telephone and Data Transmission Systems) and W02 (Broadcasting, Radio and Line Transmission Systems) or keywords that have the root "Telecom"

*US applications were published for the first time in March 2001