

The view from the top

ZTE is China's largest telecoms company. It is also a major global player and the owner of one of the world's biggest 4G patent portfolios. And that, says head of IP Haibo Wang, is what makes his job so enjoyable

By **Victoria Wang**

Have you ever read *James and the Giant Peach*, by Roald Dahl? It tells the story of James, a little boy who is sent to live with his horrible aunts when his parents are eaten by an enormous rhinoceros escaped from London Zoo. James is miserable in his new home: he is forbidden from playing with other children, made to do all the chores and shouted out from morning til night. But then one day, something peculiar happens: he finds that a giant peach has grown from the garden. The peach is so big that James can climb inside, where he finds a wooden room at its core. The peach takes James on an extraordinary journey, and after many adventures it eventually lands on the Empire State Building in New York City. People are thrilled at the sight. A little girl from the crowd shouts, "Oh, James, James! Could I please have just a tiny taste of your marvellous peach?" "Help yourself!" James shouts back, "Eat all you want! It won't keep for ever, anyway!" All the other kids in the city join in, and make a feast of the peach. The story ends: "James now had all the friends and playmates in the world."

I find this story enlightening when thinking of China's situation. More and more people are asking what China will do about its intellectual property in the future. That is a good question. Some predict that one day China will become rich in patents

and will aggressively assert its IP rights globally. That sounds chilling: it reminds me of *Wuthering Heights* and *The Count of Monte Cristo*. All great revenge stories end in a triumph of sorts, but with devastating consequences for both the guilty and the innocent. That is why I like James' story. His revenge against misery and solitude is to achieve happiness and friendship. If you think about it, his approach is wiser than that of most adults. So what approach will China adopt when one day it is rich in patents? Can China defy a dark ending and emulate James instead?

For Haibo Wang, chief IP executive of ZTE Corporation, the answer to this question is no longer grounds for speculation: it is an unfolding reality. His company is a leading global provider of telecommunications equipments and network solutions. Founded in 1985, ZTE is now China's largest listed telecommunications equipment business. Its revenues hit US\$10.609 billion in 2010 and have since increased by 33.4%. According to the most recent WIPO statistics report, ZTE ranked number one in terms of the number of Patent Cooperation Treaty (PCT) applications filed in 2011. It led Panasonic Corporation of Japan, last year's champion, by around 400 applications (another Chinese company, Huawei Technologies, ranked third). But PCT patents are just part of ZTE's bulging overall portfolio of close to 40,000 patents. That is one big peach, I'm sure you would agree. It is also a rarity in China's garden. In fact, ZTE and Huawei together once accounted for about half of all PCT filings by Chinese companies.

Patents are a vehicle of value

I started my telephone interview with Haibo by asking how ZTE had managed to

overtake Huawei – especially since apparently some 90% of its patents are fully examined invention patents.

“It is the logical outcome of R&D accumulation,” he answered. “We have so many engineers working on R&D worldwide. How to realise the value of their work otherwise? Patents are a vehicle to embody their efforts.

“In the 2G era, ZTE was not strong in innovation, so you did not see much patenting activity,” he continued. “But then in 3G technologies, ZTE started to catch up with leading international companies. That is when you started to see increased patent filing. When it comes to 4G technologies, ZTE has become a leading player in the industry. This position is naturally indicated by patent numbers. That is why in 2011, ZTE ranked top in PCT patent filings. What I want to emphasise is that technological capabilities must be compatible with rising numbers of patent applications.”

I have met Haibo and his colleagues before, and I know very well that they are consummate professionals. But I still put a harsh question to him, as I also knew that many people would want to know the answer: “In other words, your patents are all intended to protect your technologies, rather than merely for the sake of statistics?”

Haibo did not appear offended. “You know, PCT filing is very costly at country entry level,” he explained patiently. “We are talking about RMB100,000 to RMB120,000 (US\$16,000 to US\$19,000) for each patent application in the United States, or RMB120,000 to RMB150,000 in Europe. For us, it is a cost of about RMB100 million in total. That is a huge sum. When a company spends money, it asks for a return of value. That’s what business is about. I don’t think any company would apply for so many patents if this did not bring in value. Without any commercial value, a company is simply not going to spend that amount of money. Patent filing for the sake of statistics will never get internal buy-in within a multinational – it’s as simple as that.”

Quality counts

“So do you give priority to patent quality?” I asked.

“Absolutely!” he responded without hesitation. “In ZTE, for an invention to have the chance of being filed, it must first pass two filtering processes and then be presented to the company’s patent filing committee. The international filing process



is particularly strict. In short, before an invention is handed over to patent agents, it must have passed several internal hurdles. And the chances of rejection are high. Suppose that we have 6,000 to 7,000 inventions as candidates for filing - about half of these will be rejected internally.”

“So not everyone who wants to file a patent gets the chance?” I mused aloud.

“Definitely not.” He was emphatic. “No company would do that. Plus, a patent must function in synergy with other patents in its landscape in order to achieve the desired effect. Patent filing is a careful, architectural process. It is never done at random.”

I moved on. “The ZTE website says that your technological inventions are guided by market demand. Is market orientation thus your approach to filing?”

“Yes - but when we say that our technological invention is guided by the market, we do not mean that whatever the market demands at that particular moment is what we then pursue. In reality, most of the time we have to lead the market, now that we are already a market leader.”

Though I am no telecommunications expert, I had done my homework and learned that ZTE has a strong patent position in 4G technologies – so I wondered whether 4G technology was an example of this approach.

“We have about 7% to 10% of the total global patents in this technology area,” Haibo replied. “Again, 4G technology is the outcome of the long-term accumulation of innovation. Right now, this technology is about to get commercialised – it is a rising technology; but as yet it is far from taking

Haibo Wang, head of IP, ZTE

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off as far as the market is concerned. ZTE has been innovating in this area - in fact, putting more effort in than many others in the industry. You can imagine, there are so many companies in this industry that 10% represented by one single company means a lot."

"Especially for a Chinese company!" I remarked.

"Ah" - upon hearing this, he paused a second and corrected me - "in fact, in our eyes we no longer distinguish ourselves between Chinese companies and multinationals. Ten years ago, when we looked at Motorola or Nokia, we felt that we were looking up at giants. But now this has changed."

Open innovation worldwide

"Do you mean that you perceive yourself as a multinational, rather than a Chinese company?" This was something new, I thought.

Haibo explained: "It no longer makes sense to do so, when 20,000 out of 70,000 of our employees are local employees all over the world."

"So does that mean your innovation is also globalised - conducted by local R&D centres and their talents?"

"That's right," Haibo confirmed. "Our innovation itself is an open process and is allocated worldwide."

"And you have a talent centre in India?" I was referring to the internal international collaboration in R&D that I had read about on ZTE's website.

"Yes. And not only in India - other countries also have talent centres, as a platform for improved capabilities of employees."

"And you also have a venture capital initiative to encourage internal innovation?" I was curious about other new developments I had learned of from the ZTE website.

"Yes - it helps to create an innovation atmosphere," Haibo explained. "So long as the innovation proposal fits in with our technology and product framework, it has a chance to be evaluated and funded. We started with RMB10 million; and more might be added in future."

"I am glad you mentioned open innovation just now - tell me more," I urged.

"We collaborate in R&D with operator companies as well as with other companies both upstream and downstream. This includes non-telecom technology leaders, such as Microsoft and IBM. We even collaborate in innovation with competitors, such as Ericsson, in certain areas."

Strategic imperatives

I had heard that ZTE is open to licensing out patents for its 4G technologies. I had also heard that ZTE is paying out about US\$110 million in licence fees. I wondered whether a balance lies within reach. "As you know, it was only in 2007 that Japan finally achieved a balance in licence fees - meaning that the fees it received from certain countries equated to those paid out to others. And that was after about a half-century of effort. Not easy. So what is ZTE's position now? And what is your estimation of China's overall situation?"

"I will not comment on the numbers," said Haibo, "but I can confirm that we have indeed paid licence fees for 2G and 3G technologies, as our patent portfolio was not so strong then. Even then, we decided that we would respect others' intellectual property; therefore, we paid licence fees. Our position will be much improved when it comes to 4G technologies. I think that day for ZTE is not too far away. But for China as a whole, there is a much longer way to go."

Then came the moment of truth. ZTE has a big patent portfolio now - so what does it intend to do with it?

Realising the enormity of this question, I approached it from the fringes: "In an article about ZTE, you mentioned that you disapprove of IP being used as a major tool in business competition. Given that it has now almost become fashionable to launch patent wars in high-tech fields such as smartphones, your approach is different. Why?"

Haibo explained his position: "I approve of the value of IP, because IP is the outcome of R&D and it embodies technological innovation. In other words, the results of R&D deserve to be treated as intangible assets and even to be used to generate cash flow, while they can also be applied in technological products. But if IP is used as a major competition tool, it can become problematic under certain circumstances. For example, telecommunications is a very complex system where patents are spread widely among the industry. Almost every manufacturer owns some patents. No one can eventually take advantage of another. If everybody tried to use IP as a competition tool, what would be the impact on the industry? Would it be positive or negative? It's obvious, isn't it?"

"Can you explain a bit more?" I asked - just to make sure it was indeed obvious.

"Let's use Apple's products as an example," he continued. "As a technology



Global ZTE headquarters in Shenzhen, southern China

leader of end products, Apple encountered more IP disputes in the United States than anybody else in 2011. Apple's market success does not spare it from IP litigation troubles. The pain and injury it has had to suffer adds nothing positive to the industry. It merely makes competition more aggressive and adversarial. I do not believe this is healthy. Unfortunately, it seems that more companies have started doing this, having been unable to find a better way to compete. Just as for telecommunications equipment, the IP landscape in end products is complicated and fragmentary. Every manufacturer of end products owns some IP, and thus can potentially attack competitors. This means that Apple products could be threatened with withdrawal from the shelves in many countries. What would be the consequence then? You need only look at the *Weiguan v Apple* dispute in China. Consumers are deprived of an Apple experience - not to

mention the damage to Apple's interests. Would you say that this is a healthy competition scenario?"

If the late Steve Jobs had happened to be gliding past on his rollerblades just then, I bet he would have paused, listened and nodded at what Haibo had just said.

Meanwhile, Haibo continued: "According to our estimation, for a single piece of smart end product, the patent licensing fees that various patent holders have attempted to claim may well add up to 15% to 30% of an average manufacturer's profit, depending on how strong its own patent portfolio is."

But what would that mean for the industry? Haibo seemed to read my mind: "What's the profit margin for average end products? Every manufacturer knows. You can regard yourself as doing well if your profit margin is as high as 20%. Now, what will eat up all this profit? Some patents do not even make much contribution to

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A ZTE 3G station on the southern slopes of Mount Everest



technological progress - they were patented just for patenting's sake. In theory and on a macro scale, the patent system promotes technological and human society's progress, no doubt. But on a micro scale, patenting becomes the gaming of an individual company's interests. There has been more and more discussion as to whether activities at this micro level will promote or hinder technological progress."

It is one thing to be this outspoken if you have no patent portfolio and every reason to be indignant; quite another if you are already rich in patents. Just like Warren Buffet berating tax loopholes for wealthy individuals in the US, it takes integrity and courage to take such a stand. For that, I give credit to Haibo.

"Of course, this does not mean that the other extreme - that is, to dismiss the role of patents in competition altogether - is right," he added. "All I am saying is that the role and effect of patents in competition should be a balanced one. This means that the cost of patents as part of the overall cost of products should be recognised; meanwhile, it should be proportionate and reasonable. There should be a cap value - in other words, a ceiling. For example, when adding up all of the licence fees to be claimed by all patent holders, these should be no more than 5% or 3% of the overall average cost of the product - an affordable and sensible percentage."

In other words, everybody should be

allowed to pay in order to have a juicy bite of the peach without being ripped off. I got that.

See you in court is not always a healthy approach

"Frequent and frivolous patent litigation would inevitably hurt industries," Haibo continued. "Therefore, alternative solutions should be considered. For example, setting up licensing programmes or building a platform for cross-licensing could be positive alternatives. In this way, the system would help to protect patent holders' interests, encourage innovation and promote the progress of industry and society. We should beware of being hijacked by economic activities on the micro scale. The macro system itself does not have this propensity - it all depends on the approach that people take in using it."

Clearly, Haibo is not an advocate of ruthless, *Wuthering Heights*-style vengeance.

On the subject of litigation, I could not help but ask: "Last year, Huawei and ZTE had IP litigation in Europe. That surprised people - two Chinese companies litigating against each other over IP. What's the story there?"

"May I correct you?" asked Haibo. "ZTE did not launch IP litigation overseas against Huawei; Huawei launched the litigation. It gives the impression that two Chinese companies are fighting each other. I mentioned considering ourselves to be a multinational earlier on, and I still think that

Action plan



There are certain issues that Haibo Wang, ZTE's head of IP, believes need to be considered by the telecoms and high-tech industries:

- The industry may want to consider building a patent licensing platform as an alternative to frequent patent litigation.
- Licence fees should make economic sense for the industry's virtuous competition and development - a capped percentage of the product's average cost might be sensible.
- Technological progress should always be the bedrock of patenting - not merely patenting for statistics' sake.

"Vicious competition should not be encouraged," came the response. "Healthy, virtuous competition, guided by the rule of law, should rather be promoted and encouraged. The current pattern of competition has had undesirable effects for the industry."

From my experience, price competition is often a headache for market leaders - I wondered whether that had anything to do with it?

"It is not just price competition," Haibo replied. "What I was referring to is IP competition. When it comes to price competition, I would say that there should be criteria to distinguish virtuous from vicious price competition. You then need to look into the costs and profits of a company. For example, when a product costs RMB50, but you sell it for RMB300, it is questionable whether the market competition is sufficient."

"I'm Lovin' It"

Just as I was about to ask another question, I heard some conversation on the other end of the line, as though someone had approached Haibo.

Indeed, he apologised: "Sorry for the distraction. How much more would you like to talk?"

It was nearly 11pm; I was surprised. "Are you not at home?"

"No, I am still out, with friends."

"In that case," I said, "just one question left."

Haibo is one of the new generation of IP managers. He graduated from the Renmin University of China having actually majored in intellectual property,

and has since spent most of his career with ZTE. Despite running a big IP department with six sub-divisions and permanently juggling several dozen matters - all requiring decisions - he has always made time for his friends. When I have previously called him in the evenings, he has usually been out with friends. So I decided that this final question would be a personal one.

"According to the canon of our Chinese ancestors, a career can follow one of three scenarios. Scenario one: you do it because you are trained to do it. Scenario two: you pursue it with diligence and devotion because you get satisfaction from sacrifice and perfection. Scenario three: you enjoy it simply because you have fun doing it. Which one of these is your experience?"

"I would say enjoy," he replied. "It feels fantastic to see your creative thinking bear fruit and contribute to the value created by a company. It is thrilling to face and to relish competition."

I thanked him and we said our goodbyes and hung up.

But wait! Had I heard him mention something about fruit? I smiled - and a little girl's voice rang in my ear: "Oh, James, James! Could I *please* have just a tiny taste of your marvellous peach?" ...*iam*

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