

# The very industrious Caterpillar

Head of Caterpillar's IP group Dennis Skarvan talks technology, integration and the importance of teamwork

By Sara-Jayne Clover

If metamorphosis is the *raison d'être* of the caterpillar, then US conglomerate Caterpillar Inc was aptly named in more ways than one. Since its inception, the company has evolved from its humble beginnings as an Illinois-based tractor manufacturer to become a sophisticated global entity with an astonishingly diverse portfolio. "People don't always consider Caterpillar to be a technology company," muses deputy general counsel and head of the worldwide IP practice group, Dennis Skarvan. "But we really are, because ultimately, our customers demand it of us."

Caterpillar introduced the first-ever diesel-powered track-type tractors to the marketplace more than 85 years ago, taking its name from the crawling motion of the vehicles' tracked wheels; it went on to develop breakthrough solutions in turbo charging technology, electronic controls and fuel and drive systems, among other things. It remains a world-leading manufacturer of heavy machinery to this day, and as such has played an integral role in shaping the earth's multifaceted landscapes.

But while its roots remain firmly planted in the design and manufacture of tractors, over the years it has expanded its horizons of expertise to encompass new areas such as mining, construction, engines, turbines and financial services. A Fortune 100 corporation reporting more than US\$60 billion in sales and revenues in 2011, Caterpillar recognises that innovation is

crucial to a healthy bottom line and to maintaining a competitive advantage – some US\$2.3 billion was ploughed back into R&D last year, a new record for the company. With R&D teams based across the globe, Caterpillar claims to have at least one engineer somewhere in the world working on improving products for its customers every minute of every day of the year.

## Building and buying

The R&D process can reap scant rewards, however, if it lacks direction. To avoid this, Caterpillar has developed a system in which virtual tools and predictive analysis are employed to ensure a more cost-effective and comprehensive R&D roll-out. One example is a new product introduction process whereby the company's strategic thinkers can monitor where R&D investment is occurring. Skarvan makes extensive use of this. "We can seek out the various business units before they think to come looking for us," he explains. Skarvan's team can then ensure that patent applications are filed at the appropriate stage in the R&D process, and that initial research is being conducted in areas where there are gaps in the market. One of the best ways to achieve this, reflects Skarvan, is by first monitoring and understanding what is already out there. "As IP counsel, it is incumbent upon us to understand the technology being developed within the markets in which Caterpillar operates, not just our own technology," he explains.

That said, understanding a company's latest technological developments and how best to protect them and bring them to market is a vital part of the job of any head of IP. To this end, Skarvan sits on Caterpillar's technology council, along with the R&D manager and the relevant product development managers. Their task is to work

**Dennis Skarvan (right) accepting an ILO Global Counsel Award from IAM editor Joff Wild after Caterpillar was named best in-house IP team for 2011/12 at a ceremony held in New York in June**

## Caterpillar: through the decades and around the world

Some key moments in the international history of Caterpillar Inc:

### 31st May-9th June 1928 – US to Australia

A Caterpillar tractor pulls the Southern Cross aeroplane to the runway in Oakland, California, to start the first-ever trans-Pacific flight.

### 1931-1936 – Nevada and Arizona

Caterpillar tractors help to construct the Hoover Dam.

### 1941-1945

Caterpillar provides support for the US military during World War II.

### 1961-1966 – Japan

Nine Caterpillar machines are involved in the effort to push part of a mountain into the sea during the Kobe Bay Reclamation Project.

### 1962-1977 – India and Pakistan

More than 450 Caterpillar machines work on one of the world's largest earthmoving exercises – the Indus River Basin Project.

### 1969 – US

Caterpillar engines supply power for the Apollo 11 mission to the moon.

### 1975 – Iran

Iran purchases 1,060 Caterpillar machines which will be used to improve the country's transportation and infrastructure systems.

### 1977-1983 – France

More than 200 Caterpillar machines help to construct the first lines for the new *Ligne a Grande Vitesse* (high-speed train).

### 1986-1993 – UK and France

More than 100 Caterpillar machines are used to help construct the Channel Tunnel.

### 1991 – Kuwait

Around 700 Caterpillar machines help to extinguish the 750 oil wells on fire in Kuwait following the first Gulf War.

### 2001 – US

Within hours of the terrorist attacks on 11th September, Caterpillar joins forces with its dealers to provide machines, power and people for the rescue and relief efforts.

### 2004-2008 – Beijing

Caterpillar machines help to construct sites that will be used for the 2008 Summer Olympic Games.

### 2007 – Russia

Caterpillar machines help to construct the 1,100-kilometre Yamal-Ukhata pipeline.

### 2007-2014 – Panama

Caterpillar machines help to construct the Panama Canal expansion.



together to ensure a coordinated effort in technology development and deployment across the company's various product lines. "It is our job to point out how our IP portfolio aligns with product decisions being made in incorporating new technologies," he explains. Skarvan is also a member of Caterpillar's enterprise brand council, which establishes policy and provides governance for high-impact product development, product support, distribution and marketing-related issues relating to Caterpillar's brand portfolio. "The role of the IP team is to provide advice on how branding decisions might generate trademark challenges and to align our trademark portfolio with those decisions," explains Skarvan.

R&D, while imprinted in the company's DNA, is by no means the only way in which Caterpillar obtains new technologies and equipment. Acquisitions have accounted for a significant proportion of growth since its inception – the largest purchase to date being that of Bucyrus International for US\$8.8 billion in July 2011. This deal expanded Caterpillar's offering of mining products, making it the largest and broadest in the industry, and the IP team played a central role in making it happen.

"We in the IP department were part of the core transaction team, brought in earlier rather than later in the process," explains Skarvan. "In addition to leading the IP due diligence effort, we worked closely with other members of the team to review and

structure the purchase agreement to ensure that the IP risks and opportunity were appropriately addressed." Skarvan's own input on the deal also involved logistical matters such as positioning a Caterpillar IP attorney at the company's global mining headquarters to liaise with Bucyrus leadership, and providing early guidance for the transition of the Bucyrus corporate identity to that of Caterpillar Global Mining. The IP team's close involvement reflects a realisation that it was not just for mining equipment that Caterpillar was paying such a hefty price tag. "Although we acquired many valuable tangible items, the IP related to the business – including product designs, patents, trademarks, copyrights and know-how – certainly provides a competitive advantage," Skarvan affirms.

While he appreciates management's recognition of the IP team as an essential player in deal making, Skarvan admits that being an integral part of such a process is not without its challenges. "Major acquisitions represent challenges for the IP team, and legal services in general; you have to be pretty nimble to keep up with all the developments happening within the company," he states. "As with many acquisitions of this scale, the deal can be so fast paced that the beginning is very nearly the end." This usually means operating on a compressed timeline and with lean resources, he explains: the Bucyrus deal required him to work with a small number of senior members of his team across functional

boundaries, rather than having the full faculty to hand. “Although we have a large team with diverse areas of expertise, we could not effectively draw on that diversity because the deal moved quickly and the target was a public company,” explains Skarvan. “I was able to work with two of my deputy IP counsel to cover a wide range of IP issues in the short time allotted for due diligence and negotiation of the purchase agreement.”

**The integrator**

Effectively incorporating the team into deals and other relevant business decisions sufficiently early in the process to have an impact is something that many heads of IP practice groups in large corporations can struggle with. Not so Skarvan. “Caterpillar is very much a process company,” he explains. “The legal services division here is, on the whole, a central function comprising various groups, of which IP is one. These legal groups fit among the different business areas, providing support and ensuring we are part of every process.” Skarvan took over as head of the group in early 2011 and reports to James B Buda, the executive vice president and chief legal officer of law and public policy, who in turn reports to Caterpillar’s CEO and chairman of the board, Doug Oberhelman. The positioning of intellectual property under the legal services umbrella is not something that every head of IP would be happy with, but it is the most obvious choice for Caterpillar, according to Skarvan: “We find that we work so closely with the commercial law group, the litigation group and the different regional legal teams that to have the IP division located anywhere other than the legal division wouldn’t make sense for us.”

Meanwhile, however, there is some movement inside the team itself, as a growing number of Skarvan’s attorneys are being given a desk outside of the IP department at the company’s Illinois headquarters. “We have an increasing number of our IP attorneys located within the various business units, but reporting to me,” he explains. Physically placing those attorneys within the business units gives them a deeper understanding of the day-to-day issues at play and means that they are constantly on hand to provide advice and support where needed.

As well as supervising individuals within different parts of the Caterpillar business, Skarvan has direct reports placed in offices around the world. His team draws together more than 70 people based in China, Japan, India, the United Kingdom and the United States. “When I came to



CAT machinery at work

Caterpillar in the early 1990s, we didn’t have any IP offices outside the headquarter building in Peoria,” he says. The national and international expansion of the department reflects the prominence that IP is now accorded at the company. “In those days, the head of IP didn’t meet often with Caterpillar management or have a role in their strategic business planning process,” he states. But Skarvan now regularly gets together with Caterpillar vice presidents and their staff to explore their IP risks and opportunities.

This shift in the perception of intellectual property as a business asset is one that Skarvan has observed not only at Caterpillar, but across the business world. “It wasn’t long before I started my career that IP departments often reported to the engineering organisation,” explains Skarvan. And the reason for this growing awareness is obvious. “The patent system was founded to foster innovation and has been vastly successful: innovation is advancing at an incredible rate,” he states. “Companies are investing billions of dollars in R&D, and with the advances in the technology to reverse engineer, IP laws remain virtually the only mechanism to protect these very large investments.”

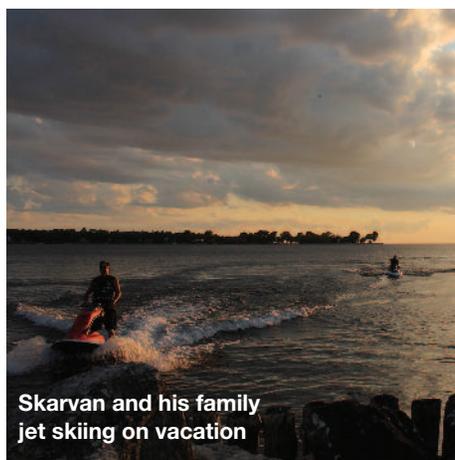
**Fake Caterpillars**

Given that Caterpillar offers more than 300 products to customers in some 180 countries, protecting the company’s rights is an ongoing battle for Skarvan and his team. While a global marketplace affords untold commercial opportunities, it also presents major challenges – with the biggest one often being counterfeiting. “We don’t face the same level of counterfeiting as software companies, for example, but it still harms our brand and our customers,” Skarvan acknowledges. Sub-standard – and often



**CAT facts**

- Founded in 1925 following the merger of CL Best Tractor Company and the Holt Manufacturing Company.
- Based in Peoria, Illinois.
- IP practice group comprises more than 70 people based in China, India, Japan, the United Kingdom and the United States.
- 2011 sales and revenues of more than US\$60 billion.
- Fortune 100 company.
- Invested US\$2.3 billion in R&D in 2011.
- Employs more than 132,000 people, including 8,000 technical experts and engineers.



Skarvan and his family  
jet skiing on vacation

### The man behind the machinery

Skarvan's dedication to his work is unquestionable, but he still manages to find time for the other passions in his life: those of the automotive kind. "You can take the boy out of the car company," he laughs, "but you can't take the car company out of the boy!" Renovating old cars is a particular passion and he is currently working on getting a 1974 MG Midget back into a roadworthy condition.

When not working or tinkering under the hood of a car, Skarvan can be found on the water with his family. He is an avid boater and watercraft rider, having obtained his boating licence in Singapore. He even participated in watercraft testing to provide consumer feedback for a US watercraft magazine. However, these days he most prefers lake vacations and houseboating with his family, happy to drive the waterski boats and watch his three grown children and their friends go tubing and wakeboarding.



Skarvan's latest project:  
a 1974 MG Midget

unsafe – products that falsely bear the CAT logo remain a significant issue for Caterpillar, with respect to both its machinery and engine parts and its branded soft goods, such as footwear. Occasionally, even counterfeit construction machinery and engines are discovered. Responsibility for Caterpillar's anti-counterfeiting activity rests with the trademark and brand protection team based within Skarvan's IP group. The team works closely with the company's internal global security unit to investigate and identify counterfeits, and to provide training to employees and dealers on how to spot and report fakes. "We rely on our own broad legal knowledge and expertise in anti-counterfeiting tools and strategies," he explains. "And on the depth of investigative experience of our global security team, many of whom are former agents of leading law enforcement agencies."

Skarvan recognises that the only way to make any significant strides in anti-counterfeiting is through education and collaboration. To this end, his team partners with customs agencies to educate them on Caterpillar's products. In a similar vein, earlier this year Skarvan shared the company's best practices in customs training with the European Observatory on Infringements of Intellectual Property Rights. Established by the Office for Harmonisation in the Internal Market (OHIM) on behalf of the European Union, the observatory is tasked with scrutinising and feeding back on issues such as communication, training, research and enforcement. "We follow the development of the observatory closely and definitely believe that it is a worthwhile enterprise," states Skarvan. Together with his team, he has provided direct feedback to OHIM expressing support for the enterprise and explaining why the observatory is of value to industry. "We expressly set out our views on the need for the observatory to act as a central research and knowledge organisation and how we believe the observatory can play a lead role as the interface between rights holders and customs authorities across the EU," he elaborates. "We have provided examples of our training materials to the observatory on a shared basis so that it can help other companies to develop best practices, and we hope to learn from the best practices of others."

### America – and the world – invents

In the case of OHIM's observatory, international collaboration and cooperation can pay dividends for all interested parties. However, Skarvan acknowledges that there

is also a more challenging side to operating in an international arena. "As globalisation continues to drive worldwide markets, one of the biggest challenges I see is the need for cost-effective, less complex mechanisms for obtaining worldwide IP protection," he states. "Going forward, I hope to see more companies like Caterpillar take an active role in promoting laws that advance patent systems worldwide to balance the rights of IP owners with the needs of users to continue to do what the patent system was intended to do: promote and foster innovation." Skarvan cites the passage of the America Invents Act as an example of parties with differing interests coming together to achieve balanced patent reform and greater harmonisation between US IP laws and those of other countries.

The legislation, signed into law in September 2011, has not enthused all parts of the US IP community – and not even all initial proponents of reform. Skarvan, however, has praise for what the act has been created to achieve and is cautiously optimistic that – although the finer points of some elements, such as post-grant review, remain to be ironed out – it will strengthen the US patent system in the long term. "I think the passage of the act was a tremendous achievement, but it will take time for people to make use of the new opportunities available to them," he says. "At the same time, passage of the act should have an immediate impact in reducing backlog and pendency time in the US Patent and Trademark Office for patent applications to grant, which is beneficial to everyone."

### Customer service

Indeed, working to achieve such universal benefits is just what Skarvan considers to be the primary function of his team at Caterpillar. Its role is to support the company's various business units, which he deliberately refers to as 'customers' rather than 'clients'. There is sound reason for doing so, he explains: "Caterpillar Inc is my client. Our business units, however, are the connection between our IP practice group and the ultimate customer that buys our product. If we think of our business units as customers, then we are aligned with their thinking, which means considering how what we do on a daily basis benefits the people and companies that purchase our product. If we always keep that thought front and centre, it makes it much easier to guide us in the advice we provide."

The satisfaction of these in-house customers is of paramount importance to Skarvan; and providing a superlative service

is an ethos which permeates the wider company. Consequently, each year Caterpillar conducts satisfaction surveys asking customers to rate the teams which they have worked with. The results for 2012 were recently announced and Skarvan is proud that the IP team achieved an overall customer satisfaction score of 92%. This dedication to service was doubtless a significant factor in Skarvan's team being nominated for, and subsequently winning, an International Law Office Global Counsel Award earlier this year (International Law Office is a Globe Business Publishing Ltd business; Globe Business Publishing is the majority shareholder in The IP Media Group, which publishes *IAM*). Voted for by corporate counsel and law firm partners, the award recognised the IP division as the best in-house IP team in 2012. And awards, it seems, are something to which Skarvan's team is becoming increasingly accustomed: in 2011, it was also the recipient of Caterpillar's most prestigious accolade – the Chairman's Community Service Award – for its work assisting charities in obtaining trademark protection.

The key to best serving customers, in Skarvan's view, is a motivated workforce. Employee engagement is measured in the annual employee opinion survey that Caterpillar has been conducting for more than a decade. Skarvan is heavily involved in the legal services division's efforts to develop action plans in response to scores and comments from the survey. The most recent survey results place the legal services division, including the IP practice team, among the top tier in the company – a position it has typically held for the past five years. "Perhaps you wouldn't expect that from a legal department," says Skarvan, "but it goes back to our people focus and career planning."

Like many heads of IP at multinational organisations, Skarvan is keenly focused on cycle times and time to patent. However, Caterpillar's expectation is that the head of the worldwide IP practice group will be much more than a number cruncher. Skarvan's accomplishment in areas such as leadership and competency is gauged by his direct reports, senior management and



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## Action plan



During his almost 20 years at Caterpillar, Dennis Skarvan has witnessed and been party to changes in internal IP structure and process. But just as significant are those changes that he has observed in the IP world at large:

- Skarvan and some key members of his IP team played a significant role in structuring the US\$8.8 billion acquisition of Bucyrus International in July 2011 – the company’s largest purchase to date.
- Caterpillar’s business units are Skarvan’s customers, not clients. This terminology ensures that he and his team remember at all times that those units are the link between the IP team and the person buying the company’s product.
- Skarvan has witnessed an increase in the recognition of IP as a business asset since he began his career. This he attributes to a vastly successful patent system, and the growing awareness that if a company wants to protect its multibillion-dollar investments in R&D, a patent is pretty much the only way to do it.
- Although anti-counterfeiting may not plague Caterpillar and the manufacturing industry in general to the same extent that it does companies in the hi-tech space, it is still a burden. Skarvan and his team are working with the international community to share best practices – and learn from those of others – in an ongoing attempt to prevent fakes from entering the marketplace.
- Skarvan’s team has won several awards during the past 18 months and is considered by Caterpillar employees to be one of the top few divisions to work for in the company.

peers in an annual survey, and are also included in his own goals for developing the IP team. He agrees with company management that success in the role should be measured on more than filing facts and figures. “The heads of IP departments are often a victim of their engineering backgrounds and focus a lot on metrics,” he says. “At Caterpillar, we are very much a performance-orientated company, and I focus more on our people, their development and their results.”

### Rotating attorneys

And to further develop the skills and enthusiasm of the legal team, Caterpillar has a rotation scheme in place to keep its lawyers engaged. “Regardless of what role you have, it is really beneficial to have a breadth of experience behind you,” states Skarvan. Caterpillar attorneys are thus given the opportunity to serve periods across various practice groups and in areas of law other than their core speciality. This not only allows attorneys to develop new skills and acquire a broader knowledge base, but also ensures that they remain driven and motivated.

“At Caterpillar, we look down the road a few steps and try to provide our people with a variety of experiences,” Skarvan continues. “I don’t think that any attorney wants to do the same thing for the entirety of their career, so we help them manage that.” The programme not only is beneficial for the attorney, but also best serves the entire corporation. “When a business unit comes to an attorney for advice, it doesn’t come to me as an IP attorney, or my colleague as a commercial attorney; it comes to us for a much more rounded approach than that,” says Skarvan. “So the rotation that an attorney does within the legal groups at Caterpillar helps them to become a far more effective adviser to the business.”

On a personal level, Skarvan believes that he himself learned many valuable lessons from serving Caterpillar subsidiaries. Having joined the company’s legal services division in 1993, he then took up a position at Cat Financial in 1996. A consumer-facing division, Cat Financial provides financial solutions for the purchase of Cat machinery and equipment. “We worked very closely with our customers to come up with repayment and insurance terms that worked well for them, because ultimately, if our customers are not successful, we’re not successful,” he recalls.

In his role at Cat Financial, Skarvan became one of the company’s first overseas attorneys, as he moved to Singapore to manage all cross-border and local financing

and to establish offices in the region. “I look back on my years there as a very good training ground,” he says. Some of those lessons, however, were learned the hard way. “There was one financial transaction I was working on in Asia where I spent over an hour on the telephone to local counsel asking questions about how our rights would be protected if the deal we were working on went ahead,” Skarvan recalls. “Most of the answers that came back were pretty negative. So finally, I asked him why anybody would do such a deal. He replied, ‘They wouldn’t!’” While an amusing anecdote today, at the time this experience hit home and has since served him in good stead in management. “You sometimes think that attorneys have all the answers, but what I learned is that the key skill you can have is knowing what questions to ask,” he says.

### Inside and out

And for Skarvan – as for most of his peers in other corporations – management does not stop with the attorneys he has working for him in-house. “We tend to hire outside counsel who have some of the same team traits as the in-house attorneys,” he explains. “Although they are private practitioners, they very much appreciate being part of the Caterpillar network of counsel.” This, he continues, is reflected in the longevity of their relationships with the company: “Some of our outside counsel have been with us for as long as some of our attorneys.”

One of the traits that Skarvan appreciates in any attorney – whether internal or external – is a desire to integrate with the business and its overall strategy. He encourages this among private practitioners by making presentations about the history of the company, its strategy and where the IP function fits in. Outside counsel are also encouraged to communicate with engineers and inventors, and have access to the same internal networks as their in-house counterparts. Furthermore, each year the IP department hosts an IP Day, on which more than 100 people from around the world involved in the management of Caterpillar’s intellectual property are brought together to share insight on the latest business and technology trends, as well as to learn about new machinery. Outside IP counsel are also invited to attend and participate, says Skarvan: “We are all one team!”

Although he has worked in intellectual property for more than 20 years, Skarvan has lost none of his passion for the subject. “The great thing about IP is that you get to combine your interest in technology with

that of the law,” he enthuses. But it could have all been very different. Having enjoyed maths and science at school, and with a father who worked as a design engineer at General Motors, it was a natural move for Skarvan to accept a place at the GM Institute. He graduated in 1984 after majoring in mechanical engineering, with minors in electrical engineering and industrial administration. Seeing promise in the young engineer, GM supported Skarvan while he studied for his engineering master’s at Stanford University, specialising in thermosciences. However, returning to the workforce in 1987, Skarvan felt that his future at GM looked less certain as the company began to founder during hard economic times.

It was at this point that Skarvan decided to reflect upon his options. “I had never considered going into the law until I took a compulsory business law class during my undergraduate degree,” he explains. “I put the idea to one side because of the opportunity to study for my master’s, but the seed was sown.” Skarvan decided to pursue a law

degree during the evenings and in 1990, while still studying, left GM and was hired by a boutique patent law firm in Indianapolis. He graduated from Indiana University School of Law with his *juris doctor* in 1991 and by 1993 had been invited to join Caterpillar. The decision to leave private practice and go in-house was not a difficult one to make. “Some individuals really enjoy the practice of the law – offering legal advice and litigating – and don’t necessarily feel the need to focus on just one client,” he explains. However, it is clear that Skarvan is not that sort of individual. While the law is his metier, it is the success of the Caterpillar business that really drives him: “People who want to be a much larger part of business decisions and part of a team tend to gravitate in-house.” *iam*

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