

Now you see it...

This year's Ocean Tomo US law firm patent quality ratings are published at a time when improving the standard of granted rights has become a hot-button issue. But as the case law continues to evolve and post-issuance reviews prove wildly popular, determining exactly what is meant by 'patent quality' can be tricky

By Richard Lloyd

In many ways, patent quality is as elusive as a white rabbit in a magician's hat. Thanks to case law that is in constant flux and the new post-issuance review proceedings, the validity of a patent – and, in essence, its quality – is easier to undermine than ever. A patent filing that just a few years ago might have appeared to be high quality may now be open to challenge in court or through *inter partes* review. For some patent owners, it is very much a case of now you see it, now you don't.

Of all the recent rulings, it is the Supreme Court's opinions in a string of decisions concerning patent-eligible subject matter that have cast greatest doubt on what should qualify for patent protection and, ultimately, what exactly constitutes a high-quality filing. Cases such as *Bilski v Kappos*, *Mayo Collaborative Services v Prometheus Labs*, *Association for Molecular Pathology v Myriad Genetics* and – most recently and perhaps most controversially – *Alice Corp v CLS Bank* have transformed the landscape around Section 101, that part of the patent statute concerning patent-eligible subject matter.

For prosecution specialists, the challenge now is to ensure that new patent applications can withstand closer examination under *Alice* and any post-issuance review that might be filed against them. This may have made the climate tougher for some patent owners and provided fuel for the critics who argue that patent rights have been steadily eroded over the last decade; but it also appears that the US patent system might have reached an inflection point when it comes to patent quality.

While the Supreme Court refines the case law, the US Patent and Trademark Office (USPTO) has also been doubling down on its commitment to improve patent quality. Since she took over as head of the USPTO in 2014 (first as acting director and then as director), Michelle Lee has made this perhaps the defining issue of her time in office. Among other things, she has established the Enhanced Patent Quality Initiative (EPQI) to help drive the agency's quality quest and appointed the first deputy director for patent quality.

With patent quality at the heart of so many debates around the US patent system, this year we once again asked Ocean Tomo to analyse which law firms have prosecuted the highest-quality patents over the last three years. They did this across four sectors – industrials, healthcare (pharma/bio), consumer electronics and information technology – and also compiled a ranking

of the top 20 firms with the best overall score. For any patent owners considering how their service providers stack up against the competition, the rankings are a must-read.

Ocean Tomo's analysis also provides an opportunity for a broader discussion about how changes in the legal climate and the USPTO's EPQI are affecting patent quality. With the standing of the US patent system in many ways diminished in the eyes of some patent owners, raising standards would send a powerful message to the global patent community.

Taking a lead

Talk to any number of patent owners in the United States and it is difficult, if not impossible, to find anyone who would disagree with the notion that higher-quality patents are better for the system overall. How this can best be achieved is another matter; but in-house IP executives and private practitioners alike interviewed for this piece all said that they are encouraged by the steps being taken to improve standards.

"The outreach has been genuine and energetic," claims Jeff Draeger, director of the patent group at Intel. "I am hopeful; there are parts that are beneficial," agrees Douglas Robinson, Lenovo's director of patent and trademark prosecution.

In response to feedback from stakeholders, the USPTO is looking to establish programmes focused on data analysis; examiners' resources, tools and training; and changes to process. In one of the most recent announcements concerning the EPQI in November last year, Lee revealed the launch of a "Clarity of the Record Pilot" designed to yield more detailed reasons as to why a patent is approved or rejected. She also announced that the agency will be taking steps to improve and add consistency to reviews of examiners' work.

Again, it is hard to find fault with either idea; but to what extent can the USPTO continue to drive down the backlog of patent applications while simultaneously trying to improve quality? The longer an examiner has to review an application, the more rigorous the process should be, resulting in a higher-standard end product. That may not always be the case, and it is fair to say that the USPTO is clearly taking steps that should improve quality without unduly extending the prosecution process. In an interview for this article (see box on pages

“A patent filing that just a few years ago might have appeared to be high quality may now be open to challenge in court or through inter partes review”

TABLE 1. Industrials					
Rank	Attorney name	Average OTR score	Top three companies for each law firm, sorted by highest patent count		
1	Fish & Richardson PC	119.4	Trumpf Inc	52	106.0
			Alarm.Com Inc	32	134.4
			WiTricity Corporation	20	150.9
2	Schwegman Lundberg & Woessner PA	117.3	Raytheon Company	112	116.2
			Honeywell International Inc	103	115.4
			Fraunhofer-Gesellschaft Zur Foerderung Der Angewandten Forschung E V	22	109.8
3	Perkins Coie LLP	117.0	Fraunhofer-Gesellschaft Zur Foerderung Der Angewandten Forschung E V	123	119.8
			Lawrence Livermore National Security LLC	21	131.3
			Lumenetix Inc	17	119.6
4	Abel IP	115.8	Saint-Gobain SA	170	117.1
			Eestor Inc	5	117.7
			Centre National De La Recherche Scientifique	2	110.4
5	Lee, Hong, Degerman, Kang & Waimey PC	113.3	LSIS Co Ltd	190	112.7
			Industry-Academic Cooperation Foundation Yonsei University	9	125.3
6	Hanley, Flight & Zimmerman LLC	112.0	General Electric	83	106.2
			Boeing Company	62	113.0
			Fisher Controls International LLC	55	102.6
7	JC IP Group	109.9	Industrial Technology Research Institute	404	111.1
			FSP Technology Inc	17	87.0
			Integrated Digital Technologies Inc	7	110.3
8	Kinney & Lange PA	109.3	United Technologies Corporation	209	112.1
			Hamilton Sundstrand Corporation	153	108.0
			Otis Elevator Company	18	92.6
9	Keating & Bennett LLP	108.8	Nidec Corporation	141	113.5
			Fraunhofer-Gesellschaft Zur Foerderung Der Angewandten Forschung EV	101	111.0
			Murata Machinery Ltd	80	101.4
10	Klarquist Sparkman LLP	108.8	The Government of the United States, as represented by the Secretary of the Department of Health and Human Services	158	105.8
			Battelle Memorial Institute	60	118.8
			Agency for Science Technology and Research	15	109.4
	Min	108.8			
	Max	119.4			
	Median	112.6			

Top 10-20 based on average OTR score

Ranking based on top firms with patent count (three years) ranked by average OTR score

54 and 55), Lee contends that speed and quality are “two sides of the same coin”.

Whether it can manage these twin dynamics might be missing the point – the point is that it simply must manage them. As one in-house patent executive observes, it is akin to a company managing both short and longer-term business objectives to drive growth and

shareholder return.

Perhaps one key problem for the USPTO when it comes to quality is that, while its changes will most likely take many years to bear fruit, the European Patent Office (EPO) has been winning plaudits for its grants. In the most recent *IAM* benchmarking survey (issue 72, pages 56 to 73), the EPO led the way in terms of quality over

its IP5 peers (the USPTO, the Korean IP Office, China's State IP Office and the Japan Patent Office (JPO)). EPO granted patents were rated as either "very good" or "excellent" by 60% of corporate respondents; that figure increased to 81% when the "good" category was included. In contrast, just under one-third (32%) of the USPTO's grants were rated in the top two categories (increasing to 67% when "good" was included), placing the agency third behind the JPO.

The EPO's more rigorous approach to quality has been

noted by corporate filers for some years. Microsoft, for instance, uses the European Technical Effect Standard as a guide for many of its worldwide filings – a clear indication that any prosecution that follows European lines is likely to pass muster in pretty much any other jurisdiction. Lenovo's Robinson claims that the EPO has been doing a better job than its counterparts for the last 10 years, which he puts down to a number of factors, including its ability to bring in non-patent prior art and more experienced patent examiners –

Quality in the crosshairs

Since she took over as acting director in 2014 (before being confirmed to the role in 2015), USPTO Director Michelle Lee has made improving patent quality one of her key targets. As part of those efforts, she has hired the agency's first deputy director for patent quality in Valencia Martin Wallace and launched the Enhanced Patent Quality Initiative (EPQI), a project designed to improve quality in part through feedback from the patent-owning community. With patent quality such a cornerstone issue for Lee, we asked her why she has placed so much stock in improving grants, how she rates the progress of the EPQI so far and what challenges to this mission remain.

What is meant by 'patent quality'?

A quality patent is one that is correctly issued in compliance with all the requirements of Title 35 as well as the relevant case law, and one that clearly provides notice of the boundaries of the patented technology.

Why is the USPTO so focused on improving the quality of the patents it issues?

Strong patents are increasingly important to innovation and economic development, particularly as our country continues to move towards a knowledge-based economy. A recent research paper, "The Bright Side of Patents" by USPTO Edison Scholar Deepak Hegde and co-authors Joan Farre-Mensa and Alexander Ljungqvist, documented the valuable role that patents play in the growth of start-ups. The study found that approval of a start-up's first patent application increases its employment growth by 36% and sales growth by 51%, on average, over the next five years.

Additionally, participants in the innovation economy need to be able to make informed decisions about what is covered by a patent and what is not, so that they can most efficiently and effectively allocate their limited R&D resources and efforts. For example, it is important to be able to decide accurately whether to license the patented technology, how to design around the patent to avoid infringement and when to settle or fight in litigation. Patents with clear claims and clear prosecution records make arriving at these decisions easier, and give the public confidence that they have arrived at the right decision.

Finally, the timing is right for other reasons too. Pursuant to the Leahy-Smith America Invents Act of 2011, the USPTO has better control over its finances

because it can now set its own fees and has worked with Congress in recent years to keep all of the fees collected. This empowers us to focus even more intently on patent quality as well as other longer-term projects such as deep investments in our IT infrastructure.

We owe it to the American public to produce the highest-quality patents possible – the public has been asking for it and we know it is the right thing to focus on, now and in the long run.

What has been the response so far from stakeholders to the EPQI?

I have been very encouraged by the positive responses we have received from a wide cross-section of the public. This enthusiasm and engagement first became clear at our two-day Patent Quality Summit last year, which 1,500 participants joined in person or via video conferencing. At the summit and through a subsequent request for comments, the USPTO asked a broad cross-section of the public – including patent applicants, litigants, litigators, prosecutors, in-house counsel, licensors, licensees, academics and a former jurist – what the agency could do to further enhance the quality of patents issued. We welcomed input on everything, from big to small, from IT improvements to process, procedure and even policy changes on how to enhance patent quality. We also asked our examiners the same question.

In response to our request for input, the agency received over 1,200 comments and chose to focus initially on about a dozen initiatives, while continuing to be open to input on these initiatives as well as other issues related to patent quality.

What are some of the challenges that the EPQI faces if it is to achieve its goals?

Many of our initial programmes growing out of our EPQI focus on improving clarity of the prosecution record. I think there's a good reason for that. Conceptually, it is difficult to translate the increasingly complex technology springing from the minds of our inventors in clear language within the four corners of a patent.

As with any multifaceted problem, there is no one-size-fits-all solution. So our approach to improve quality must also be multifaceted, flexible and creative.

Some of our initial work includes identifying what we're already doing as best practices and institutionalising those practices. After all, we have examiners who have grappled with these issues for years. This is an important piece of

“they tend to last longer in Europe,” he remarks.

“The EPO has always done high-quality searches, had good results and done rigorous examinations,” agrees Draeger. “It takes a strict view of what the invention in question is based on the original filing and I think there is something to be learned from that. One source of ambiguity and controversy in the US is the more liberal ability to change the claimed invention during the examination process.” It should come as no surprise, he points out, that the Chinese authorities have sought to

shape the country’s relatively embryonic patent system more on the European and specifically German system than on the US model.

Caught in limbo

One of the challenges in gauging the success of the steps taken by the USPTO and the impact of case law and post-issuance reviews on patent quality is that it will take some considerable time before their full effects are felt. The validity of a patent is, of course, primarily tested in

our Clarity of the Record Pilot. Through the Clarity of the Record Pilot, volunteer examiners work interactively with members of our Patent Quality Department. The examiners receive training on the benefits of a clear record and best practices to achieve clarity of the record. Additionally, we are creating listening sessions for the examiners to provide feedback on what is and isn’t working, and to share new ideas. This pilot is now ongoing and my team and I are very excited about it.

But this isn’t all we are doing. Our multifaceted approach also includes learning from our rich data to best identify trends, areas for improvements and next steps. This is why we are working to centralise all of our quality review efforts and data in a single, uniform system. This will allow us to record and use all of the reviews that we’re already doing, through our quality assurance and our supervisory examiners, and to use big data techniques to identify trends and problem areas at much more granular levels.

We have also asked our stakeholders to tell us about topics they think are worthy of a ‘deep dive’ analysis by our team – not about any particular application, but general topics warranting investigation by the agency. The comment period here just closed and we’re currently sorting through the over 70 suggestions received.

On patent quality metrics, last year we retired the use of our old ‘composite’ metric and have started to publish the underlying inputs. In early March, we hope to get input from the public on this change, whether it is more helpful than the old composite metrics and how we might further improve the efficacy of our patent quality metrics.

We are also increasing training for all examiners. For example, over the past six months, we have conducted corps-wide training on the requirements of an enabling disclosure under 35 USC § 112(a). We are now beginning training on indefiniteness under Section 112(b) and how our examiners should provide explanations in the record of why a claim is unclear. That training will run through March.

So in sum, we are approaching a multifaceted challenge from every possible angle, with a focus on producing the best possible work product now and into the future.

To what extent is there an inherent tension between processing applications faster (and continuing to reduce the backlog of applications) and ensuring that granted patents are of the highest quality?

There is a cost to society if we issue a patent (or claim) that should not have issued – just as there is a cost to society if we don’t issue a patent (or claim) that should have issued.

So I don’t agree that there’s an inherent tension there. They are two sides of the same coin.

We must find the right balance, however, because both processing speed and quality are important to the IP community; but of course improved quality takes time.

When can we expect to see the full results of the EPQI?

We have embarked on an unprecedented quest for quality during my time as director of the USPTO and we will continue to do so. While some of the results from this quest will occur in the near term, others will require a longer-term commitment.

The goals I have laid out for the USPTO on quality are ambitious. Addressing quality is not a one-and-done matter. Instead, it is an iterative process and an ongoing initiative. As I know from my experience in the corporate world, any company that produces a truly top-quality product has focused on quality for years, if not decades. Quality must be built into an organisation’s DNA. To support an ongoing focus on patent quality, I created an entire department and a new deputy commissioner for patent quality position, with a sole focus on enhancing patent quality. This department and this executive-level position will far outlast my tenure with the agency, and will ensure that the agency has the resources and the organisational structure needed to focus on improving quality now and in the long run.



Michelle Lee, director, US Patent and Trademark Office

Patent quality has become perhaps the defining issue of Lee’s time in office

“Strong patents are increasingly important to innovation and economic development, particularly as our country continues to move towards a knowledge-based economy”

TABLE 2. Healthcare (pharma/bio)

Rank	Attorney name	Average OTR score	Top three companies for each law firm, sorted by highest patent count		
1	Jackson & Co LLP	168.7	Abbott Diabetes Care Inc	163	169.0
			Therasense Inc	3	168.7
			Deltec Inc	1	135.5
2	Bozicevic, Field & Francis LLP	150.1	Abbott Diabetes Care Inc	260	171.7
			Proteus Digital Health Inc	27	126.4
			Population Genetics Technologies Ltd	14	150.2
3	Shay Glenn LLP	144.7	Amendia Inc	17	163.6
			Si-Bone Inc	16	166.3
			Ivantis Inc	14	158.2
4	Sunstein Kann Murphy & Timbers LLP	139.4	Med-El Elektromedizinische Geraete Gmbh	76	123.5
			Conformis Inc	58	181.9
			Haemonetics Corporation	16	123.1
5	Knobbe, Martens, Olson & Bear LLP	138.1	Dexcom Inc	127	189.5
			Smith & Nephew Inc	54	122.5
			Cercacor Laboratories Inc	32	145.0
6	Shumaker & Sieffert PA	133.8	Medtronic Inc	165	133.7
			Acist Medical Systems Inc	7	124.7
			Minnetronix Inc	4	156.7
7	Schwegman Lundberg & Woessner PA	132.6	Cardiac Pacemakers Inc	289	132.9
			Zimmer Inc	181	132.3
			Starkey Laboratories Inc	118	127.6
8	Rutan & Tucker LLP	132.1	Cr Bard Inc	122	130.9
			Angiomed Gmbh & Co Medizintechnik Kg	3	128.0
			Specialized Health Products Inc	2	145.0
9	Fish & Richardson PC	129.5	Smith & Nephew Inc	57	130.7
			Boston Scientific Scimed Inc	54	115.4
			Nu Vasive Inc	39	188.6
10	Wilson Sonsini Goodrich & Rosati PC	129.4	Pharmacyclics LLC	53	145.5
			Align Technology Inc	45	145.5
			Invuity Inc	21	125.9
	Min	129.4			
	Max	168.7			
	Median	135.9			

Top 10-20 based on average OTR score

Ranking based on top firms with patent count (three years) ranked by average OTR score

the courtroom; but this might not happen for several years after the patent has issued.

To complicate things further, what might be deemed patentable, obvious or indefinite has changed over time, according to court decisions. During the dotcom bubble 15 years ago, for instance, the USPTO had no problem issuing internet-based business method filings which, in light of the Supreme Court's *Alice* decision, might now be judged to be invalid.

The evolving case law on Section 101 shows just how the environment has changed and how the courts' views of what constitutes a quality patent have shifted.

"Section 101 used to be akin to a speed bump – making an invention survive 101 was the least rigorous part of the process," says Mauricio Uribe, a partner at Knobbe Martens Olson & Bear. "Now it has been flipped completely, where you see something pass Sections 102 and 103 and the only remaining issue is whether it is patentable in the first place."

According to Rajiv Patel of Fenwick & West, the changing currents in case law mean that prosecution lawyers now need to focus their patenting efforts on producing "right-sized claims". That means "having a better understanding of the prior art, ensuring

TABLE 3. Consumer electronics/discretionary

Rank	Attorney name	Average OTR score	Top three companies for each law firm, sorted by highest patent count		
1	Lee, Hong, Degerman, Kang & Waimey	128.6	LG Electronics Inc	1,506	128.5
			Digital Networks North America Inc	1	170.5
			Seoul National University Industry Foundation	1	99.8
2	Dentons	127.3	LG Electronics Inc	833	127.3
			The University Of British Columbia	3	137.6
			Board Of Trustees, Rutgers, The State University Of New Jersey	2	165.7
3	Neal, Gerber & Eisenberg LLP	126.3	IGT	600	126.8
			Redbox Automated Retail LLC	7	100.8
			Beverage Works Inc	6	136.7
4	Fish & Richardson PC	124.9	LG Electronics Inc	263	115.4
			iRobot Corporation	96	153.6
			Fujifilm Corporation	57	115.6
5	Schwegman Lundberg & Woessner PA	119.5	Bally Gaming Inc	37	118.9
			Ferrari Spa	35	104.1
			Regents Of The University Of Minnesota	24	129.9
6	Baker Botts LLP	118.3	Columbia University	47	122.4
			L & P Property Management Company	46	110.3
			The Trustees of the University Of Pennsylvania	33	119.7
7	Nixon Peabody LLP	117.6	Bally Gaming Inc	279	122.7
			President and fellows of Harvard College	10	103.8
			Trustees of Tufts College	9	128.6
8	Snell & Wilmer LLP	111.6	American Express Travel Related Services Company Inc	97	126.6
			Toyota Motor Corporation	89	98.9
			Mechoshade Systems Inc	7	124.2
9	Maginot Moore & Beck LLP	111.5	Robert Bosch Gmbh	560	111.4
			Under Armour Inc	26	107.5
			Indiana University Research and Technology Corporation	9	124.3
10	Miller IP Group PLC	111.2	General Motors LLC	209	111.1
			Carnegie Mellon University	3	113.8
			Indian Institute of Technology	1	112.3

Top 10-20 based on average OTR score

Ranking based on top firms with patent count (three years) ranked by average OTR score

an application meets subject-matter eligibility requirements and focusing on the written description in any application”.

Steve Slater of Slater & Matsil adds that part of the prosecution strategy that his firm now follows is to discuss with clients how the technology landscape might develop: “One of the things we try to draw out of the inventors is how the problem they are addressing is likely to change in five, 10 or 20 years.”

Although most of the companies that spoke to *LAM* for this piece have a relatively small number of patents that are affected by the recent uncertainty over Section 101, they still now tend to focus on the more

concrete, technical aspects of any filing as a result.

“In light of Section 101 issues, I’m focusing more on inventions that include a sold technical contribution in the specification and claims, rather than broad stroke ideas and how to employ existing technology,” reveals Patrick Zhang vice president of patent strategy and enforcement at Technicolor.

Waving the wand

It is not just the shifting case law that prosecution attorneys need to consider when determining how to draft a high-quality patent that can survive intense scrutiny. The popularity of post-issuance reviews and

TABLE 4. Information technology

Rank	Attorney name	Average OTR score	Top three companies for each law firm, sorted by highest patent count		
1	Slater & Matsil LLP	133.5	Taiwan Semiconductor Manufacturing Company Ltd	805	136.1
			Infineon Technologies Ag	341	134.2
			Futurewei Technologies Inc	278	134.3
2	Schwegman Lundberg & Woessner PA	132.1	Micron Technology Inc	310	139.6
			eBay Inc	293	141.1
			SAP SE	201	122.3
3	Robinson Intellectual Property Law Office PC	132.1	Semiconductor Energy Laboratoy Co Ltd	1892	132.1
			Ibiden Co Ltd	2	168.9
			NA	NA	NA
4	Nixon Peabody LLP	128.1	Semiconductor Energy Laboratory Co Ltd	321	123.2
			Cummins-Allison Corp	70	166.2
			Ignis Innovation Inc	47	122.6
5	Lowenstein Sandler LLP	126.2	Red Hat Inc	652	122.1
			Symantec Corporation	101	137.0
			Google Inc	60	133.8
6	Park, Vaughan, Fleming & Dowler LLP	125.7	Oracle International Corporation	123	126.1
			Intuit Inc	93	120.8
			Synopsys Inc	85	124.5
7	Fish & Richardson PC	125.3	Google Inc	1678	129.3
			Semiconductor Energy Laboratory Co Ltd	875	128.5
			SAP SE	375	110.1
8	Haynes and Boone LLP	124.8	Taiwan Semiconductor Manufacturing Company Ltd	735	122.5
			Paypal Inc	127	127.7
			Open Invention Network LLC	104	136.4
9	Trop Pruner & Hu PC	124.4	Intel Corporation	374	124.2
			Silicon Laboratories Inc	54	120.1
			Hewlett Packard Development Co LP	37	139.1
10	Baker Botts LLP	123.8	Fujitsu Ltd	288	118.4
			Dell Products LP	170	119.6
			Atmel Corporation	159	128.0

“When you draft claims, you must assume the patent is going to be litigated; and whether it’s an *inter partes* review or district court litigation, we’re talking about the same thing”

Top 10-20 based on average OTR score

Ranking based on top firms with patent count (three years) ranked by average OTR score

inter partes reviews in particular have led to myriad validity challenges in the America Invents Act era.

While no one is doubting their popularity, there is more debate over the actual impact of *inter partes* reviews. “Good patent practitioners have always been aware of litigation risk,” insists Jason Chang, senior legal counsel for intellectual property at AT&T. “In my opinion, when you draft claims, you must assume the patent is going to be litigated; and whether it’s an *inter partes* review or district court litigation, we’re talking about the same thing.”

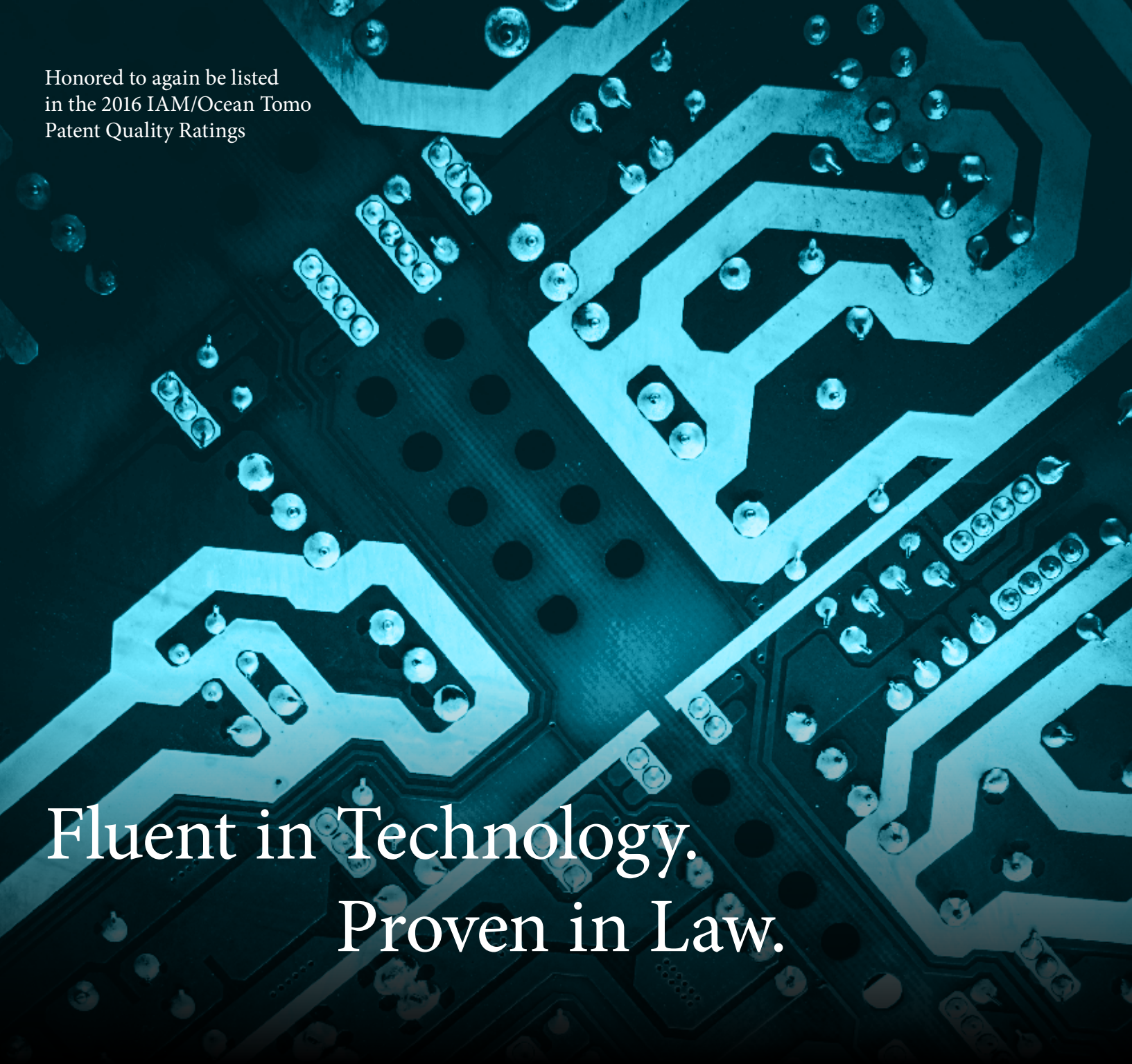
But for others, the very real threat that *inter partes*

reviews now pose to validity undermines any steps to improve patent quality at the USPTO. “You can always improve the quality of a product, so it’s hard to argue that the USPTO can’t improve patent quality,” insists one senior IP executive. “But part of the problem is the high cancellation rate in *inter partes* review proceedings. Patents going into *inter partes* review were issued some time ago, so it leaves the business community wondering whether they should rely on patents at all.”

That comment raises a broader point about how questions around patent validity and, ultimately, quality are influencing patenting strategies and how companies

TABLE 5. Overall, all industries

Rank	Attorney name	Average OTR score	Top three companies for each law firm, sorted by highest OTR score		
1	Slater & Matsil LLP	133.1	Taiwan Semiconductor Manufacturing Company Ltd	875	136.1
			Infineon Technologies Ag	402	133.7
			Futurewei Technologies Inc	278	134.3
2	Schwegman Lundberg & Woessner PA	129.2	Micron Technology Inc	310	139.6
			eBay Inc	293	141.1
			Cardiac Pacemakers Inc	289	132.9
3	Lee, Hong, Degerman, Kang & Waimey	126.5	LG Electronics Inc	1502	128.6
			LSIS Co Ltd	172	113.8
			LS Industrial Systems Co Ltd	18	102.4
4	Meyertons Hood Kivlin Kowert & Goetzel PC	125.7	Apple Inc	676	129.2
			National Instruments Corporation	193	128.8
			Sun Microsystems Inc	72	114.1
5	Fish & Richardson PC	125.5	Google Inc	1678	129.3
			Semiconductor Energy Laboratory Co Ltd	875	128.5
			SAP SE	375	110.1
6	Haynes and Boone LLP	124.9	Taiwan Semiconductor Manufacturing Company	746	122.3
			Paypal Inc	127	127.7
			Open Invention Network LLC	104	136.4
7	Fenwick & West LLP	123.1	Google Inc	224	127.3
			Facebook Inc	166	123.0
			Synopsys Inc	97	123.2
8	Denton	121.7	LG	1621	121.6
			Soletanche Freyssinet	12	102.9
			Genelux Corporation	9	151.6
9	Nixon Peabody LLP	120.9	Semiconductor Energy Laboratory Co Ltd	321	123.2
			Bally Gaming Inc	279	122.7
			Bayer Health Care LLC	82	139.0
10	Blakely, Sokoloff, Taylor & Zafman LLP	119.5	Intel Corporation	744	123.7
			Apple Inc	410	124.1
			Kabushiki Kaisha Toshiba	196	104.3
11	Knobbe, Martens, Olson & Bear LLP	118.8	Kabushiki Kaisha Toshiba	537	103.9
			Samsung	803	109.5
			Qualcomm	289	131.5
12	Perkins Coie LLP	118.6	Micron Technology Inc	158	127.5
			Fraunhofer-Gesellschaft Zur Foerderung Der Angewandten Forschung EV	123	119.8
			Netapp Inc	98	115.2
13	Baker Botts LLP	117.3	Brother	721	108.5
			Thales	357	103.4
			Fujitsu Ltd	288	118.4
14	Sterne, Kessler, Goldstein & Fox PLLC	116.0	Broadcom Corporation	997	122.1
			ASML Netherlands BV	221	104.0
			Google Inc	163	113.4
15	Fletcher Yoder PC	114.4	General Electric	441	107.2
			Apple Inc	183	118.6
			Illinois Tool Works Inc	127	110.2
16	Alleman Hall McCoy Russell & Tuttle LLP	112.9	Ford Global Technologies LLC	719	118.8
			Kawasaki Jukogyo Kabushiki Kaisha	88	96.8
			Kyocera Document Solutions Inc	76	110.2
17	Morrison & Foerster LLP	112.3	Apple Inc	243	131.9
			Dyson Technology Ltd	189	101.0
			Sharp Kabushiki Kaisha	180	107.2
18	Kilpatrick Townsend & Stockton LLP	112.1	Oracle International Corporation	352	117.5
			Seiko Epson Corporation	344	98.7
			Adobe Systems Inc	273	110.8
19	Banner & Witcoff Ltd	111.3	Brother	1059	107.5
			Nike Inc	294	116.2
			Comcast	169	117.4
20	Mintz Levin Cohn Ferris Glovsky and Popeo PC	111.1	SAP SE	204	102.0
			Hyundai Motor Co	200	107.1
			Kia Motors Corporation	81	106.9



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The eye of the beholder

What exactly do people think of when they hear the term 'patent quality'? Your response may vary widely according to which sector you work in, whether you are looking to assert patents and whether you have been on the receiving end of a dubious infringement suit. As views can vary so much, we asked a number of patent executives what they thought patent quality meant. Here are their responses.

"Patent quality is a major focus of what we do, but it's not about the volume of patents that a company files. When I think about quality, I think about a patent's strategic value and its validity. It's about a patent that will stand up to analysis by an opponent and one that is of value to our company."

Doug Robinson, Lenovo

"Patent quality for me is separate from patent value and invention quality. It means a clearly valid patent and a patent that clearly defines the

scope of what would represent infringement of that patent. If patents are drafted more clearly, in my mind, that means you have a higher-quality patent, which means fewer disputes and patents that are more easily transacted."

Russell Binns, AST

"High patent quality means that each patent granted is appropriately obtained, has a high probability of meeting all the statutory requirements if and when it is enforced, and covers a technology providing a competitive advantage in the market. It's a high bar and the landscape does shift after the fact – recently quite dramatically. It's not economically feasible for the USPTO to do a scorched-earth search on every patent, so there will be gaps at times in the prior art considered."

Jeff Draeger, Intel

"The focus has to be on the claims. Are good claims being allowed in view of the appropriate

prior art? Are these claims ultimately going to be valid and enforceable?"

Jason Chang, AT&T

"The first thing that needs to be said is what patent quality doesn't mean. It's not about the quality of the invention or the value of the invention or the value of the patent. You can have an invention that is a tremendous technical achievement but has little commercial value or is poorly described in a patent application. When they think about patent quality, most people consider whether the statutory requirements have been met and in that regard they are talking about validity. But I would go a bit further and add whether the applicant and examiner have facilitated a robust enough examination such that they have addressed all possible issues including claim ambiguity."

Manny Schechter, IBM

Action plan



Patent quality continues to rise in importance as an issue inside the United States:

- The USPTO's steps to improve patent quality have met with widespread support but no one doubts they will take time to have an impact.
- As the United States tries to improve the overall standard of patent grants, it is suffering in comparison with Europe where the EPO is generally seen to have

taken a lead on quality in the last 10 years.

- The risks of patents being found invalid through *inter partes* reviews and the confusion around patent-eligible subject matter mean that it is harder than ever to determine the quality of some patents.
- Changes in the case law and the threat of *inter partes* reviews mean that patent filers are concentrating on the technical aspects of their inventions.

derive value from their patents. In simple monetisation terms, the combination of shifting case law and the advent of *inter partes* reviews has had a chilling effect on patent values and the patent deals market, as more companies have come to question the quality of what is in their portfolios. As one IP in-houser points out, "No patent is worth more than \$300,000 to \$500,000 because that is all it's going to take to invalidate it in a review."

Recently there has been some evidence that the number of deals being inked is on the rise again, but

most accept that values remain well down on the highs of four or five years ago. That may not be an immediate concern for players not seeking to monetise their patents; but as all companies derive some value from their intangible assets, it should nonetheless be on their radars.

And for those companies that are hunting down deals to grow their portfolios, the new normal has had a significant effect. "When you are looking into a portfolio, you can't dig into every patent in the same way that someone is going to do in a re-exam," Zhang points out. "In my opinion, you are better off trying to identify a number of key assets that are bulletproof that will survive re-exam and have a good 101 footprint."

Ultimately, how patent owners derive value from their patents is of relatively little concern to the USPTO. Its primary focus right now is on the quality of the filings that it grants; and while it might win plaudits for its various initiatives aimed at raising standards, there is no doubt that this will be a lengthy task. Everyone in the market accepts that patent quality is not something that can be improved overnight. "I have a lot of sympathy for the USPTO," concludes Draeger. "There's no magic wand for quality." **iam**

Richard Lloyd is IAM's North America editor, based in Washington DC