Pharmaceutical Innovation Index 2017

White paper:
Celebrating the most innovative companies in pharma

The **path-to-market design** practice

IDEA Pharma

Pharmaceutical Innovation Index 2017:

2017	Companies	Change	2016
1	Biogen	+5	6
2	AbbVie	+3	5
3	Gilead Sciences, Inc.	+1	4
4	Johnson & Johnson	-3	1
5	Takeda	-3	2
6	Baxter	+1	7
7	Merck & Co.	+9	16
8	Novo Nordisk	-5	3
9	Bristol-Myers Squibb	+10	19
10	Celgene	-2	8

To explore more fully which companies occupy Pharmaceutical Innovation Index (PII) positions 11-30, please visit www.ideapharma.com/pii.

Overview:

The most eye-catching change in innovation for 2016 from the previous year was the fall in the number of new agents approved by the FDA, 22 for 2016 versus 41 and 45 in 2014 and 2015 respectively.

Five agents being licensed at the end of 2015, plus the large number of complete response letters issued by the FDA pushing approvals into 2017, means that this fall is not as bad as at first sight,

Cancer, infectious diseases, haematology and CNS remained the leading therapeutic areas, accounting for 73% of the approvals, versus 71% in 2015.

Research spending, now at $154 billion across the industry, has kept growing, if modestly, but the results of those spends continues to change with big pharma spending 46% of the industry R&D budget but only garnering 36% of the approvals versus 41% in 2015.

What did change, however, was the companies getting the approvals. The high performers of recent years, GlaxoSmithKline (GSK), Johnson & Johnson (J&J) and Novartis did not get a novel drug approval in 2016. Neither did Amgen, AstraZeneca (AZ), Bayer and Bristol-Myers Squibb (BMS). In all, seven of the 13 historic big pharma companies, which received 14 approvals in 2015, came up empty-handed in 2016. That fact that innovation is being driven increasingly by smaller, more agile companies, was highlighted big pharma only gaining 8 of the 22 approvals: Eli Lilly, Merck & Co. and Roche accounted for six of those, Sanofi and Pfizer getting one each.

In both years, the same percentage of drugs (41%) were prized first-in-class therapies targeting novel modes of action, which was also the percentage of 2016 agents approved with orphan indication status. Biological drugs gathered the majority of the approvals for the first time (55% versus 39% in 2015), extending the trend of recent years.

We cannot leave 2016, however, without referring to a series of one-off events, which includes the latest in the long line of agents which have fallen over in Alzheimer's, solanezumab from Lilly; Trump's election and Brexit, both of which will impact pharma long term; Shire and Baxalta Inc.'s $32bn deal to form the largest company that focuses on rare diseases, which completed in June; Pfizer & Allergan's failed $160 billion merger which has only increased

speculation that Pfizer intends to split and spin out its major business units. Pharma was painted in a bad light with press stories of price hikes, starting with Valeant's Isuprel and Nitropress, but it was Turing's decision to raise by 5,000% the U.S. price of toxoplasmosis drug Daraprim that caused the most furore. This has allowed quieter voices to step forward, accept pharma's social responsibility and begin the process of developing a meaningful code of ethics and conduct.

The Pharmaceutical Innovation Index (PII), now in its seventh year, provides a systematic and objective assessment of how well the top 30 companies perform in successfully bringing new medicines to market and commercialising them.

The big news this year is that J&J has lost the top spot, which it had held for 4 consecutive years, being leapfrogged by Biogen (up 5 to first), then AbbVie and Gilead (up 3 and 1 respectively). Takeda, Novo Nordisk and Celgene fell, but remain in the top 10. Two big players returned to the top 10, Merck & Co and BMS, at the expense of Otsuka and AstraZeneca.

Some of what underpins the performance of the top 10 companies in this year's PII (and the three big fallers) is provided in the commentary below:

BIOGEN [1]

More than 90% of **Biogen's** revenue continues to come from multiple sclerosis (MS), with Biogen's Tecfidera continuing to fight it out with Novartis' Gilenya for market leadership. Already dominant in treating MS with Tecfidera, Tysabri and interferons, Biogen consolidated further by launched Zinbryta which it will co-market with AbbVie. However, major threats are looming in MS, including Roche's Ocrevus (ocrelizumab) and Celgene's ozanimod, with both firms predicted to become major market players, although Biogen has reacted smartly by acquiring MT-1303 (with the same mechanism of action (MoA) as ozanimod) for just $60 million in up-front payments from Mitsubishi Tanabe.

Biogen's longer term hopes in this area were damaged with a major study failure. Looking at reversing or repairing MS changes with an innovative Phase 2 study of anti-LINGO-1, an antibody intended to stimulate regrowth of the myelin sheath, the agent did not meet the primary endpoint of the SYNERGY trial as well as its secondary efficacy endpoint. This failure heightens the need for Biogen to expand into new therapeutic areas. Biogen's commitment to replenishing and supplementing its portfolio is reflected in its Freshness Index rankings with its 5 and 3 year scores being 53% and 47% respectively (versus average scores of 22% and 11% across all the PII companies), ranking it 4th and 3rd in the 2 categories. Gavyza was approved in 2016 for follicular lymphoma (having already been approved for chronic lymphocytic leukaemia) which should drive growth of the currently small oncology franchise.

The company continues to progress its Phase 3 assets in Alzheimer's disease, non-Hodgkin's lymphoma and spinal muscular atrophy, and earlier stage studies in Parkinson's disease and amyotrophic lateral sclerosis (ALS).

Having divested its non-core haematology business, Biogen is looking to leverage its manufacturing and commercial capabilities and scientific expertise through Samsung Bioepis, its joint venture with Samsung Biologics that develops, manufactures and markets biosimilars as well as through other strategic contract manufacturing partners. Under its commercial agreement with Samsung Bioepis, Biogen will market and sell Benepali, an etanercept biosimilar referencing Enbrel, and Flixabi, an infliximab biosimilar referencing Remicade, in the E.U. Enbrel and Remicade represent >$20 billion sales globally, primarily in rheumatoid arthritis and other autoinflammatory diseases. This willingness to maximise existing success, broaden its portfolio and indication base, and the ambition to supplement its pure R&D focus with a commercially driven move into biosimilars sees Biogen rise 5 places in the PII to top the table for the first time.

ABBVIE [2]

All eyes remained focussed on the performance of Humira, the blockbuster drug from Illinois drug maker **AbbVie Inc**. Thankfully for the company, Humira continued to perform well despite increased competition from the presence of new drug classes and the biosimilar threat posed by the FDA approved Amjevita (Amgen), which based on expectations to be available in 2017, was quickly sued for patent infringement by the company.

AbbVie also fortified its position with its J&J partnered oncology molecule, Imbruvica, with FDA approvals in marginal zone lymphoma (MZL), positive results from a registration-enabling Phase 2 study in patients with chronic graft-versus-host-disease (cGVHD), and warm reception following the presentation of 5-year follow-up data in CLL/SLL at the American Society of Haematology annual meeting. In hepatitis C (Hep C), Viekira Pak performed well against competition from Gilead and Merck.

One of the main reasons for the rise of AbbVie by 3 places to second in this year's PII is the promising pipeline consisting of no less than 12 final stage clinical programs. Bolstered with the acquisition of Stemcentrx and the gained rights of Rovalpituzumab Tesirine, data from the TRINITY study in solid tumours is expected mid-2017. Both assets in the immunology pipeline, Risankizumab (anti-IL 23 monoclonal antibody) and ABT-494 (selective JAK-1 inhibitor, were reported to be on-track. Unfortunately, the PARP breast cancer candidate veliparib (in combo with chemo) missed its survival targets in a mid-stage trial, however AbbVie are hopeful it can perform in an ongoing, larger late-stage study.

AbbVie also announced a series of research collaborations with healthcare innovators to advance early-stage research in oncology and immunology. These include Pure MHC (discover peptide targets for T-Cell receptor therapies in cancers), Dong-A-ST in South Korea (use of MerTK inhibitors in conjunction with immune-oncology therapies) and Zebra Biologics (the discovery of agonist antibody therapeutics for inflammatory diseases).

GILEAD [3]

Gilead Sciences is a research-based biopharmaceutical organisation that discovers, develops and commercializes innovate drugs, specializing in areas of high unmet need. Founded only 30 years ago, Gilead has had a meteoric rise in sales revenue with 2017 perhaps being a pivotal year with some its major historical earners slowing, yet with the company continuing its aggressive R&D drive and a declared aim to widen its therapeutic base. Nonetheless, the company rose to number three in the PII, up one place from the previous year. The company continues to dominate hepatitis C virus (HCV) and HIV. Q3 2016 sales for HIV rose 20%, driven by Gilead transitioning sales to TAF-base products, with Genvoya overtaking ViiV Healthcare's Triumeq in October. Hepatitis C virus (HCV) was more of a mixed bag. Kudos for the approval and launch of Epclusa (sofosbuvir/ velpatasvir), the first treatment for all 6 genotypes of HCV. Against that, the HCV market may have peaked already and AbbVie and Merck & Co. have next-generation offerings in development.

Gilead has long declared an aim to widen its range of therapeutic areas and indications and possesses the industry's most promising pipeline in NASH (non-alcoholic steatohepatitis), and hepatitis B virus (HBV), both of which could be major growth drivers. Add in late stage studies across 15 separate diseases in haematology/ oncology and inflammation/ respiratory, plus separate developments in cardiovascular and Ebola, and may soon no longer be known as "the HepB/HIV company". Momelotinib's Phase 3 failure in myelofibrosis was a rare failure in a year of steady, if unspectacular, progress across a wide front.

Never shy in aiming at high pricing, the company has sought to balance this with innovative access progressive and a willingness to work information with generics companies, particularly in developing markets. Surprisingly in the eyes of many, Gilead has refrained from major purchases, despite a declared willingness to consider this option. Instead, it has continued to selectively harvest products and technologies all designed to add long term to the R&D process.

J&J [4]

A big turn up for the books in this year's PII was not seeing Janssen Pharmaceutical Companies of **Johnson & Johnson** perched at the top the table, as has been the case over the previous four years. The company based out of New Brunswick, NJ, encountered a tricky start to 2016, first with a preliminary thumbs-down decision from the U.K.'s National Institute for Health and Care Excellence (NICE) to blood cancer star Imbruvica in chronic lymphocytic leukaemia (and later in Waldenstrom's macroglobulinaemia). Fierce new competition also emerged in the psoriasis arena, impacting Stelara, however a Crohn's approval certainly alleviated this squeeze. To add to the woes, J&J lost a battle to protect its blockbuster Remicade from encroaching biosimilar competition, thereby clearing the way for Pfizer to launch its copy of the $4.5 billion drug. And a new observational study with real-world data in the novel oral anticoagulant field showed an advantage for Boehringer Ingelheim's Pradaxa (dabigatran) over market-leader Xarelto (rivaroxaban).

On the positive side, Darzalex (which is approved for multiple myeloma patients who've failed on three previous regimens), posted 'standout' data in myeloma, cutting progression risk by 63%. Experts are already touting Darzalex to be the next billion-dollar sales drug. In 2016, the first year on the market, Darzalex sales totalled $572 million and it is expected to climb dramatically in 2017 due to the FDA expanded label allowing Darzalex to be used alongside Revlimid in patients that have already received just one prior therapy. J&J's Type 2 diabetes drug Invokana performed well in 2016 and there are encouraging signs of efficacy from a Phase 2 Type 1 diabetes study.

Several new collaborations were also announced with Bird Rock Bio (CB-1 targeting antibody namacizumab, in Phase 1 (NASH)), Amorsa Therapeutics (developing new treatments for depression) and Synthetic Genomics (using RNA to treat infectious diseases) to name but a few.

And it would be impossible not to mention the recent (January 2017) announcement of the $30billion acquisition of Actelion Ltd, the Swiss based pulmonary arterial hypertension (PAH) specialist. Although this acquisition has no bearing on the placement of J&J in this year's PII, the addition of Actelion's speciality in-market Tracleer (still dominating the $5billion global market) and new assets (Opsumit, Uptravi and Veletri) will expand J&J's repertoire, spanning the entire spectrum of PAH and ensuring a significant presence in Switzerland.

TAKEDA [5]

2016 was the year of the *reorg* for **Takeda**. Having promised "a year of growth", CEO Christophe Weber looked to deliver on his promise by reorganizing its R&D units in the U.S. and Japan to focus its the core therapy areas. With a looming loss of U.S. patent on top selling drug Velcade (bortezomib) and further losses expected after 2020, a host of new meds are planned to help Takeda become more profitable.

One such new med is Takeda's dengue vaccine, TAK-003, which commenced its 20,000-patient global Phase 3 study to challenge Sanofi's first-to-market Dengvaxia. Remarkably this came just days after a $312million R&D deal with the U.S. government into another mosquito-borne disease, Zika.

Takeda's oral drug Ninlaro (ixazomib), touted as a replacement for injectable Velcade in multiple myeloma, didn't quite live up to its expectations, at least in Europe. The EMA's Committee for Medicinal Products for Human Use (CHMP) offered a negative opinion, blocking an EU introduction based on the lack of compelling evidence from the subgroup data. Additional data from the TOURMALINE program will be presented for re-examination in 2017. In the U.S., however, Ninlaro reported $58.3 million in sales during the second quarter, which tee up the drug to fulfil blockbuster expectations of $3billion a year at peak. However, a price tag of reported $8,670 per 4 weeks may render the drug uneconomical versus soon-to-be generic Velcade.

A research collaboration with a U.S. based private biotech, Ovid, will see the New York company help move TAK-935 (a selective CH24H inhibitor) into Phase 1b/2a trials in rare paediatric epilepsies, including Dravet syndrome, Lennox-Gastaut syndrome and Tuberous Sclerosis Complex. Takeda also announced a partnership with Vanderbilt University and Texas Digestive Disease Consultants to develop a digital program to help both patients and physicians manage inflammatory bowel disease. And the winner of the recent in-house "Shark Tank" challenge saw MedStartr partner develop a smart pillbox and companion app to address the complex issue of depression and patient needs outside the doctor's office.

And hot-off-the-press, Takeda acquired U.S. drug maker Ariad Pharmaceuticals for $5.2billion in January 2017. As part of the deal, Takeda will get access to Iclusig (leukaemia) and Brigatinib (lung cancer, approval expected in April 2017).

BAXTER [6]

Having lost out on the acquisition of Gland Pharma, **Baxter** closed the year with news on the purchase of global generics company Claris Injectable Ltd. for $625million. The purchase adds three additional manufacturing sites in India, 11 approved drugs in the U.S. and a robust pipeline, allowing the combined company to launch seven to nine new products a year, with a bold claim of 15 products a year beyond 2019. The intention of the Illinois based company is to grow its global sterile injectable prowess, which at an estimated value of $40billion it's not hard to understand why.

Baxter faced increased generic competition with its cancer medicine cyclophosphamide, however sales in nutritional therapies rose on the back of the EU launch of Numeta G13E, an intravenous (IV) supplement for preterm new-borns using proprietary technology as well as continued momentum with their new Automated Peritoneal Dialysis (APD) system, featuring the Sharesource Connectivity Platform, a two-way remote patient management system for home dialysis therapy. In total Baxter delivered 20 meaningful innovation launches / extensions and geographic expansions in 2016 whilst at the same time introducing cost saving and efficiencies which allowed the company to hit its highest adjusted operating margin since the Baxalta spinoff, justifying its 6th place in this years PII.

MERCK & CO [7]

It's a welcome return for **Merck & Co**. into the PII top ten, having been placed 16th in 2016. A year on and Merck seem to have turned a corner, reporting a 5% year-over-year upswing in sales in the third quarter. Keytruda, Merck's immune-oncology star, will undoubtedly take the headlines. News of the breakthrough designation for Keytruda in lung cancer became a game changing opportunity on the back of the news that Bristol-Myers Squibb

drug Opdivo failed a key lung cancer study, paving the way for Keytruda to steal valuable market share from its rival. Then, having presented the full results of the first-line lung cancer monotherapy study at European Society for Medical Oncology, Keytruda promptly received a nod from the FDA. Results from a Keytruda-plus-chemo combo trial could also open it up to broader use opening the door for use in other cancers. And to top it all off, NICE finally endorsed Keytruda (after previous denials) for use in patients with advanced lung cancer and weighing new data and a new discount.

Elsewhere, Merck's third-to-market hepatitis C drug, Zepatier, came in below analyst estimates (not helped by a delayed launch in EU due to manufacturing issues), however still able to disrupt sales from Gilead and AbbVie. Januvia, the diabetes blockbuster, achieved sales of $1.55 billion yet still fell below analyst expectations. And staying in diabetes, Merck ditched their once-weekly DPP-4 candidate, omarigliptin, in Phase 3. A common theme in the PII top 10 is the threat of generics, with Merck expecting competition with its cholesterol meds Zetia and Vytorin later this year.

And in vaccines, Merck stormed ahead with its ebola vaccine candidate, rVSV-ZEBOV, earning FDA Breakthrough Therapy Designation and the EMA's Priority Medicines status. Sales of Gardasil, Merck's human papillomavirus vaccine, rose by 38% to $860 million. The MMR and varicella vaccines also performed strongly, rising to $500 million from $390 million from the previous year.

NOVO [8]

Novo Nordisk began the year with news on their $1.8 billion manufacturing expansion project in Clayton, NC, eventually employing 1,500 of the community in Johnston County; the beginnings of a new era for the Danish drug maker. 2016 also saw the roll out of Tresiba, the next-gen diabetes treatment granted FDA approval in September 2015 (and Japanese approval in 2012). Even at the outset Tresiba faces a tough time to steal away market share from Sanofi's Lantus and the impending biosimilar which should be available at the end of 2016. Thankfully for Novo, Tresiba presented new data indicating significantly fewer night-time low blood sugar episodes compared with Lantus.

Novo also announced that their glucagon-like peptide-1 (GLP-1) treatment, Victoza, significantly reduced the combined incidence of heart attack, stroke and cardiovascular death in high-risk Type 2 diabetes patients – being the second diabetes drug to demonstrate this in a clinical trial (LEADER study). That said, Victoza steadily lost market share to Eli Lillys' new weekly dosing drug Trulicity. In response Novo promptly filed its once-weekly follow-up GLP-1 analogue, semaglutide, for adults with type-2 diabetes based on the SUSTAIN trial.

Novo also announced its collaboration with California based Glooko, providing remote monitoring software for type 1 and type 2 diabetes patients.

BMS [9]

Bristol-Myers Squibb features in the PII top 10 for the first time since 2014, in what can only be described as an eventful year for the New York headquartered company. Much of the press focussed on the "blow-out" describing the 20% share price plunge upon the news of Opdivo's failure to meet goals in first-line lung cancer. And with Merck & Co. perusal of a biomarker-tailored strategy for PD-1 inhibitor Keytruda in first-line Non-small cell lung cancer (NSCLC) patients, Keytruda could enjoy a monopoly in lung cancer in 2017. Opdivo did, however, manage to succeed where so many others have failed, gaining an FDA approval in head-and-neck cancer and also demonstrating efficacy in Phase 3 gastric cancer (plus approvals in renal cell carcinoma and Hodgkin's lymphoma). Opdivo also sent a message to Roche and their drug Tecentriq by earning a breakthrough in bladder cancer – a market share tussle which will be interesting to watch in 2017. And as a final good news story for Opdivo, the U.K. cost watchdog had a change of heart and (eventually) recommended Opdivo in patients with advanced renal cell carcinoma (RCC) after prior therapy. The Opdivo and Yervoy combination versus PD-1 monotherapy study in first-line NSCLC is showing promise, but so are PD-1/chemotherapy combinations.

In other positive news, the company's oral anticoagulant Eliquis performed admirably in 2016 contributing nearly 18.0% to the company's total revenues in 4Q16.

CELGENE [10]

Celgene Corporation is an integrated global biopharmaceutical company engaged primarily in cancer and inflammatory diseases. It states a commitment to innovative solutions through next-generation solutions in protein homeostasis, immune-oncology, epigenetics, immunology and neuroinflammation.

2016 saw Celgene fall 2 places in the PII rankings from the previous year but this modest change is underlied by a range of extremes and a positive (if it is realised) longer term outlook. In only its second year on the market, Otezla

broke the billion dollar-a-year barrier in plaque psoriasis. Most of these sales were in the US, with EU launches to come, but Otezla appears to have swamped its patient pool so growth will slow. The FDA slapping down Otezla for misleading TV ads will not have helped.

Overall, a mid-table ranking in the Freshness Index (percentage of last year's sales contributed by recently launched drugs) indicates though that other aspects of Celgene's R&D efforts have not delivered recently. Sales increases in Revlimid and Pomalyst / Imnovid were recorded but the rest of the portfolio declined. Revlimid's projected sales increase in CLL were not realised as its new data, although good in their own right, were overwhelmed by results from AbbVie and J&J's Imbruvica which continues to dominate this indication. Looking longer term, Celgene has a relatively narrow pipeline, but 10 of its assets are regarded by analysts as having billion-dollar potential, with 4 of these being multi-billion opportunities. Only ozanimod for relapsing multiple sclerosis is slated for the near future though meaning that this year and next will be about progressing assets through the phases and expanding the labels of already marketed products.

AND FINALLY

Of companies outside this year's top 10, the eye is drawn to **AstraZeneca** which fell from ten to 15, and this could have been worse had not clinical compensated for a poorer commercial performance. Positive read-outs for achieved for Tagrisso in NSCLC and Lynparza in ovarian cancer, and 2017 will see important readouts of first line data for both. The PD-1 agent durvalumab should achieve its first approval (in second line bladder cancer) followed by first line in NSCLC. Against this, loss of U.S. patent exclusivity for the flagship treatment Crestor combined with increased generic competition for Seroquel XR indicates AZ will remain exposed for several years to come.

Aside from the recent takeover as mentioned in the J&J write up, **Actelion** progressed to 17th in this year's PII, which is remarkable progress over the past two years (23rd in 2015 and 29th in 2016). Both Opsumit and Uptravi performed exceedingly well in 2016, which was much needed to compensate for the ageing star Tracleer. News recently hit that the MAESTRO study did not meet its primary endpoint, assessing the efficacy of macitentan in patients with PAH due to Eisenmenger Syndrome. Further analysis awaits…

Solanezumab's failure (again) in Alzheimer's has been mentioned, presumably drawing an end to one of the longest R&D sagas in recent years, although people are still arguing as to whether it was the postulated disease aetiology that was wrong or whether the agent hadn't been used in the right patient subgroup. Despite this, 2016 was a good R&D year in numerical terms at least for **Eli Lilly**, gaining approvals for Lartruvo (olaratumab, soft tissue sarcoma) and potential blockbuster Taltz (ixekizumab, plaque psoriasis), but the big news at year end was the EU approval of baricitinib (Olumiant), rheumatoid arthritis), of which much is expected. This agent, the second JAK inbitor to market, will go up against megabrands such as Humira and Enbrel, so even a modest market share will go a long way to reversing Lilly's fortunes.

And finally, a mention about Japan's **Otsuka**. Whilst falling just outside of the top ten, one innovative news story caught our eye and was deemed befitting for an innovation index such as PII. Facing generic competition with Pletal, the company's clot-fighting $250 million product, Otsuka in collaboration with tech giant NEC, devised an ingenious way to both fend off competition and ensure compliance, which is crucial to the effectiveness of treatment. The result: an internet-linked medicine container will remind the patient to take a pill whilst sending the information of when the pill is dispensed to a smartphone app. The value? Stopping treatment not only significantly raises the risk of secondary stroke, it also has a cost burden on healthcare systems (estimated to cost Japan 1.77 trillion yen ($17billion) / year). Otsuka plans to file a marketing application with the Japanese authorities in 2017.

To see what companies occupy PII positions 11-30, please visit our new PII dedicated website at www.ideapharma.com/pii and do not hesitate to email us at pii@ideapharma.com should you wish to discuss anything.

PII Methodology

Hypothesis:

If two companies each had the same NCE at the same stage of development (end of Phase 1), which company would do the best job of commercialising the product?

Constraints:

Cannot measure this directly, therefore need to deploy surrogate measures.

Each measure or index must exist (somewhere), be gettable (either full or derivable), be useable (compare like with like, transferable), be available across ALL companies under consideration.

Indices identified to date to rank top 30 pharma include (non-exclusive list):

1. Global sales – a measure of the funding available for commercialisation efforts
2. Regulatory efficiency: regulatory success ratio, investment vs company size, progression of assets to next phase, major study successes/ failures, return vs investment, etc.
3. Value proposition, need for product:
   a. Did products achieve reimbursement, HTA approvals?
   b. Did FDA grant expedited processing or breakthrough status?
   c. Developing first in class NCEs or novel mechanisms of action
4. Commercialisation acumen: Sales and marketing spend, overall operating costs, vs turnover, etc.
5. 'Freshness Index' - percentage of company sales generated by products launched in the last three and five years (a measure of a company's ability to "refresh" its portfolio in the face of patent loss, providing a comprehensive portfolio, etc)
6. Snapshot of analyst rankings
7. In addition, IDEA Pharma monitors company websites, annual reports and industry sites to identify single or short- term events that would increase or decrease a company's PII ranking, e.g.
   a. Changes in R&D strategy, research collaborations, etc.
   b. Company restructuring to capitalise on areas of strength, optimisation of portfolios/ franchises
   c. Innovative commercialisation or sales strategies (including social media)
   d. Mergers and acquisitions which would increase a company's ability to generate commercial success

Each of the above are collated by company and weighted to produce the PII.