A Methodology for Intellectual Property Utilization & Beneficiation (IPUB) as a Business Process

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The opinions and statements expressed are my own, and may not be construed as legal advice.

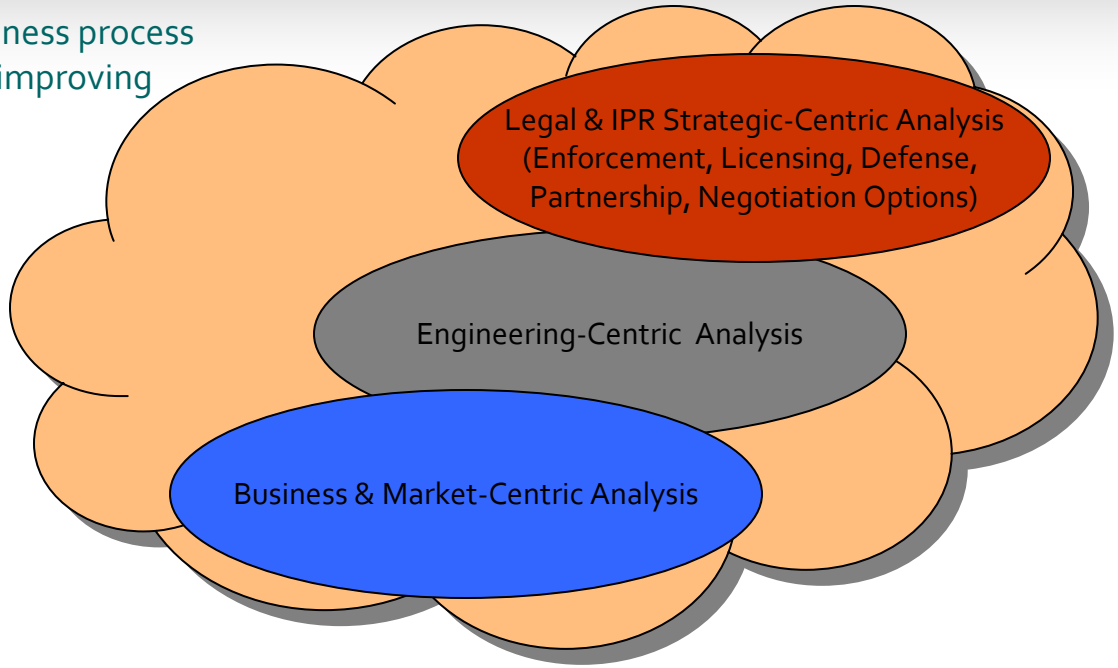
Outline of Presentation

- IPUB as a business process
- Methodology for IPUB
- Patent Qualification Processes & Metrics
- Patent Constellation Creation Processes & Metrics
- Recent changes in the litigation landscape affecting IPUB
- Metrics for improving efficiency and measuring quality
- Summary

IP Strategy as a Business Process – IP Utilization & Beneficiation (IPUB)

A **business process** is a set of coordinated tasks and activities, conducted by both people and equipment, that will lead to accomplishing a specific organizational goal. Business process management (BPM) is a systematic approach to improving those processes

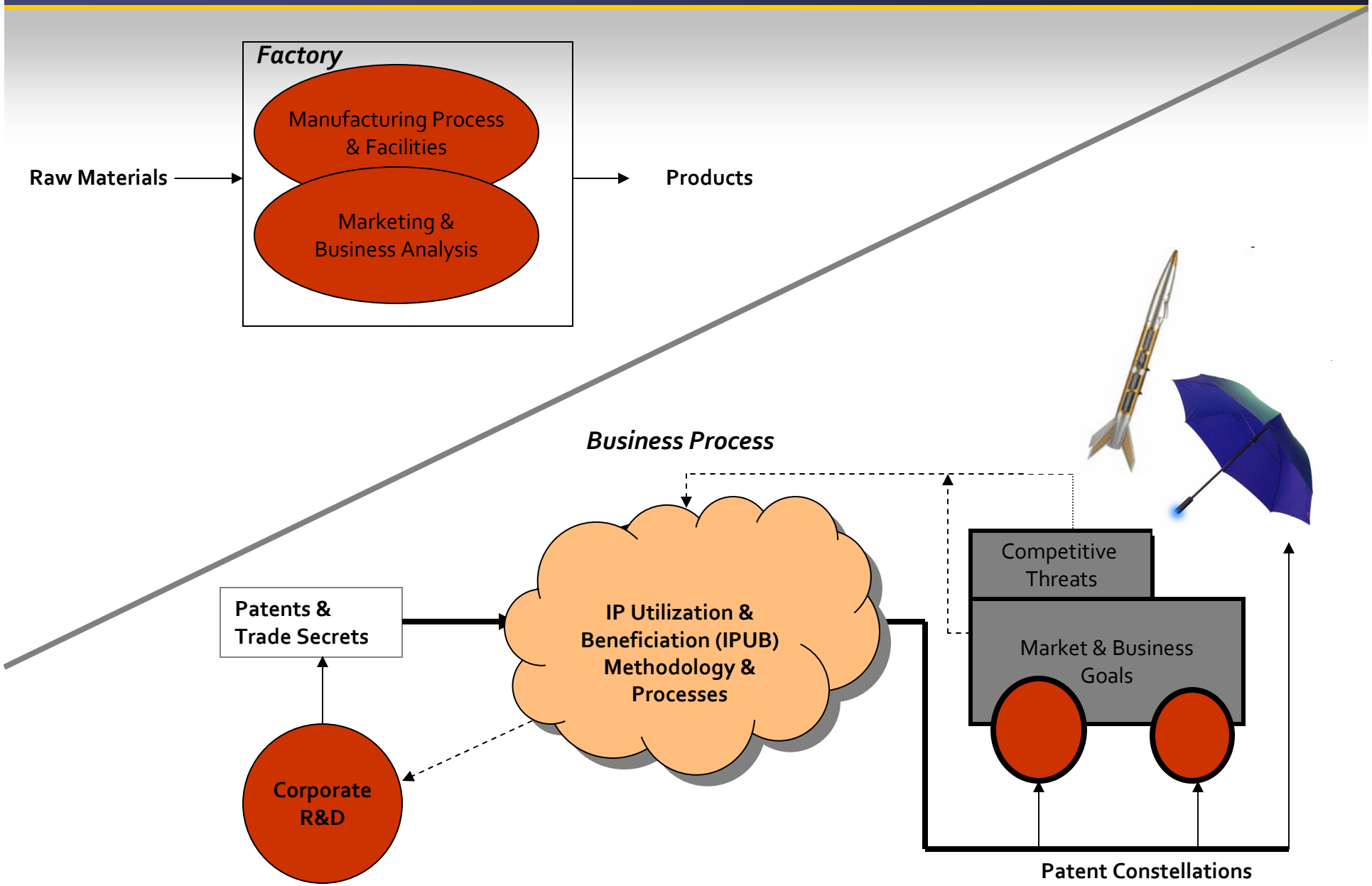
Source: Anonymous TBD



- As proposed, IPUB is methodology & process linking intellectual property (IP) utilization to corporate business objectives, to its competitive strategy, and to its product & technology roadmap

- ***IP Utilization & Beneficiation (IPUB)*** could be a key enabler of corporate success and enhancement of shareholder value.

Patents are "Raw Ingredients" for Success in Business Objectives & Overcoming Competition



IPUB Methodology & Processes

TODAY

A Reactive Approach – Hoarding & Reactive Usage

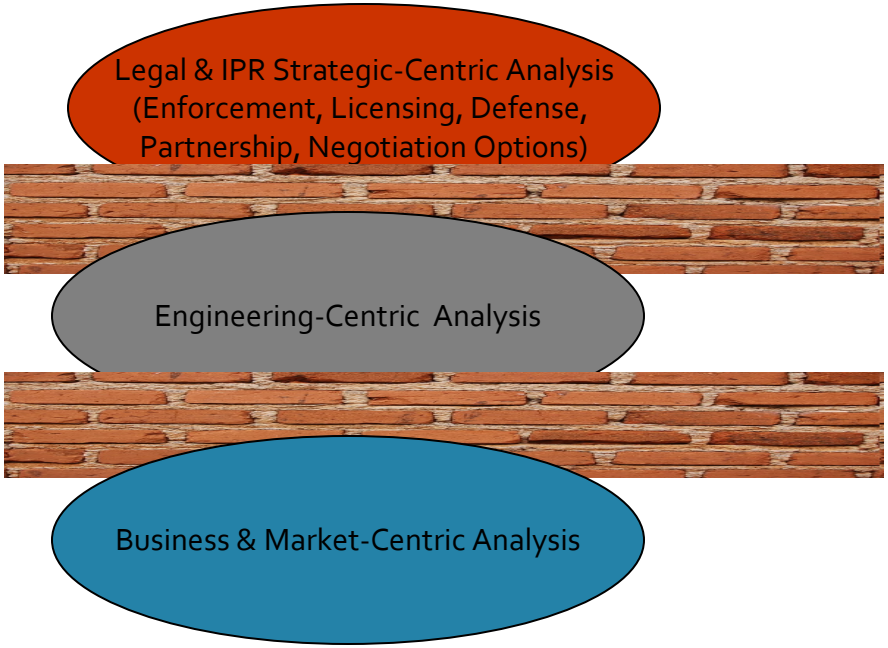
Legal & IPR strategies are reactive not proactive

Engineering analyses are narrow, and not related to overall platform or business/market strategy

Business & Market-Centric Analyses are based on hindsight or competitive threats (e.g., iPhone, WiMax v. LTE)

No processes in place, because no methodology is in place

Usual excuses – No $$$, other priorities (put out "fires"), short term licensing targets and opportunities, and organizations are too large and changing rapidly (functional and market divisions)



TOMORROW

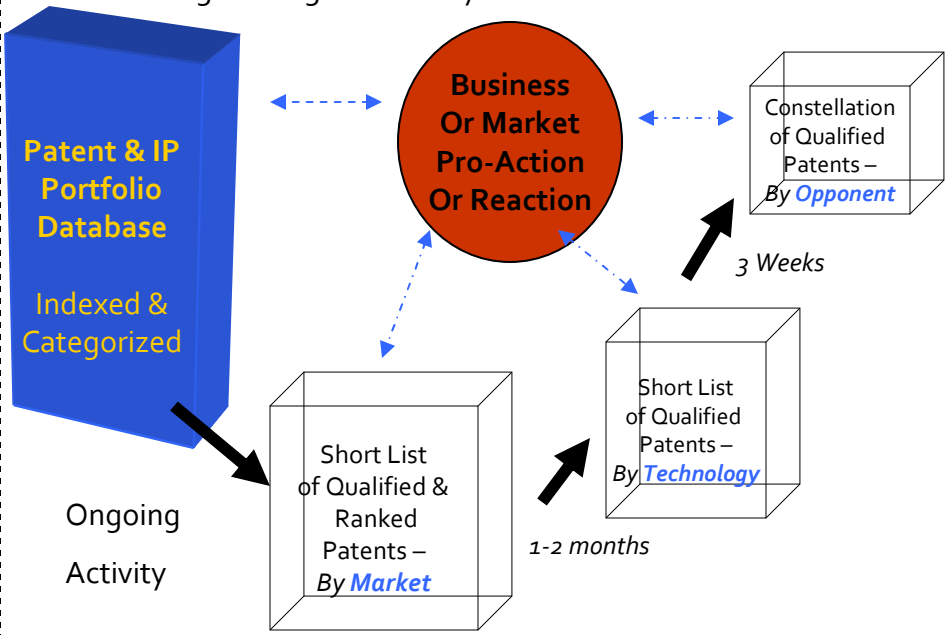
A Proactive Approach – Optimized & Planned Utilization

Methodology & process in place; metrics & adaptation Mechanisms in place to determine patent **utility**

Competitive Necessity, Competitive Parity, and Competitive Advantage as Patent Utility Metrics

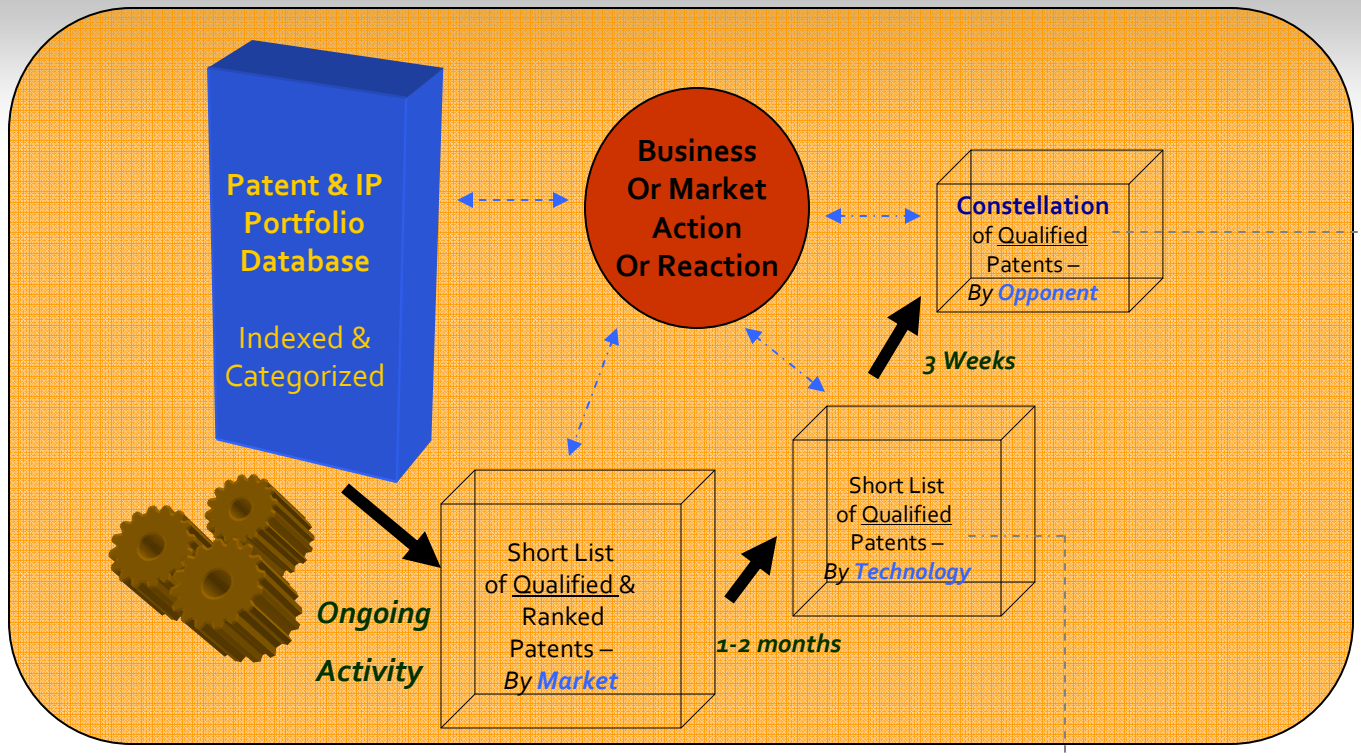
Business & Market Rationale and Goals are established & prioritized

Engineering & IPR analysis follow.....



Patent Utility = Market + Technology + Competitive Value

IPUB Optimization Methodology



Market

- •Mobile Phones
- •Base Stations

Technology

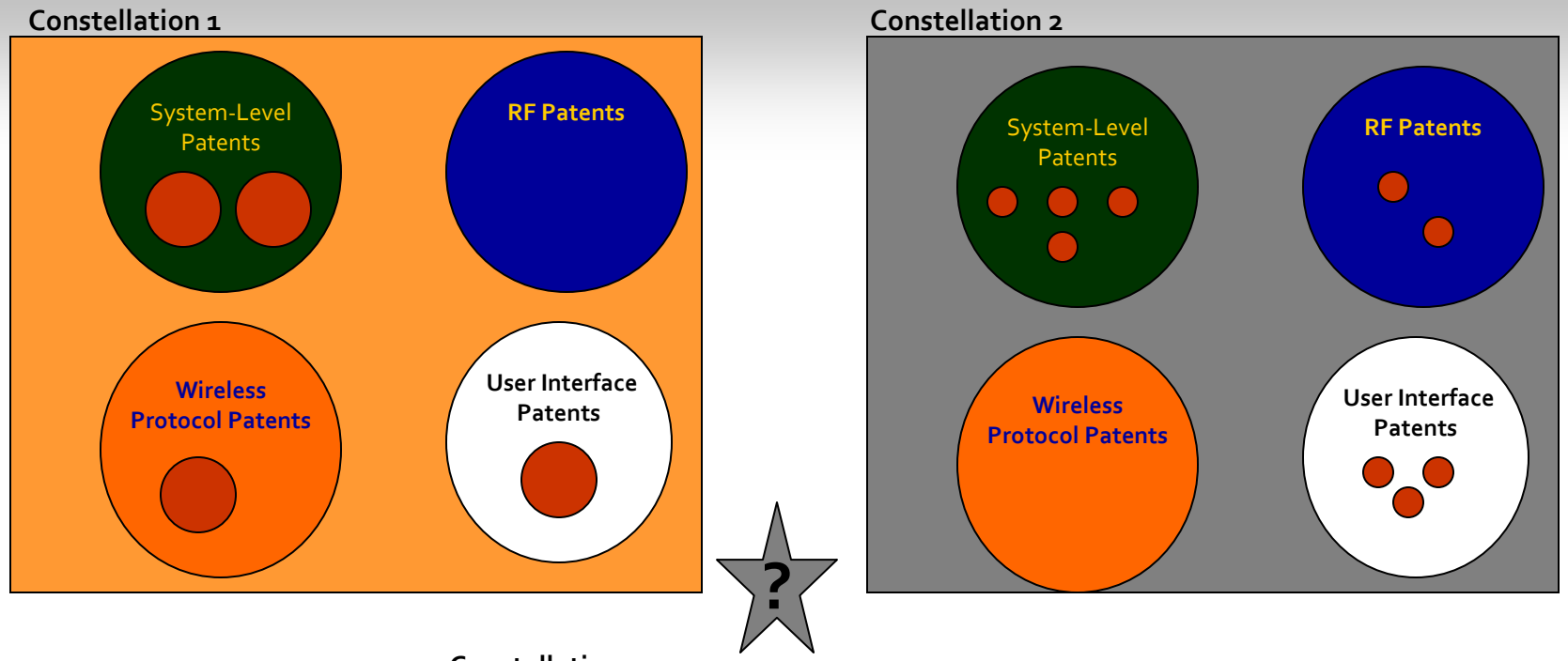
- •Baseband
- •User Interface
- •RF Modem
- •Packaging
- •Power Management
- •Software
- •Wireless Protocols
- •Display
- •Multimedia
- •System-Level Patents

- •Baseband (or DSP)
- •User Interface
- •RF Modem
- •Protocols
- •Display
- •System Patents

Patent Constellation

Litigation or Licensing Negotiation

"Patent Constellation™" Concept – Choice of Alternatives ?



Patent with narrow technology scope and narrow claims

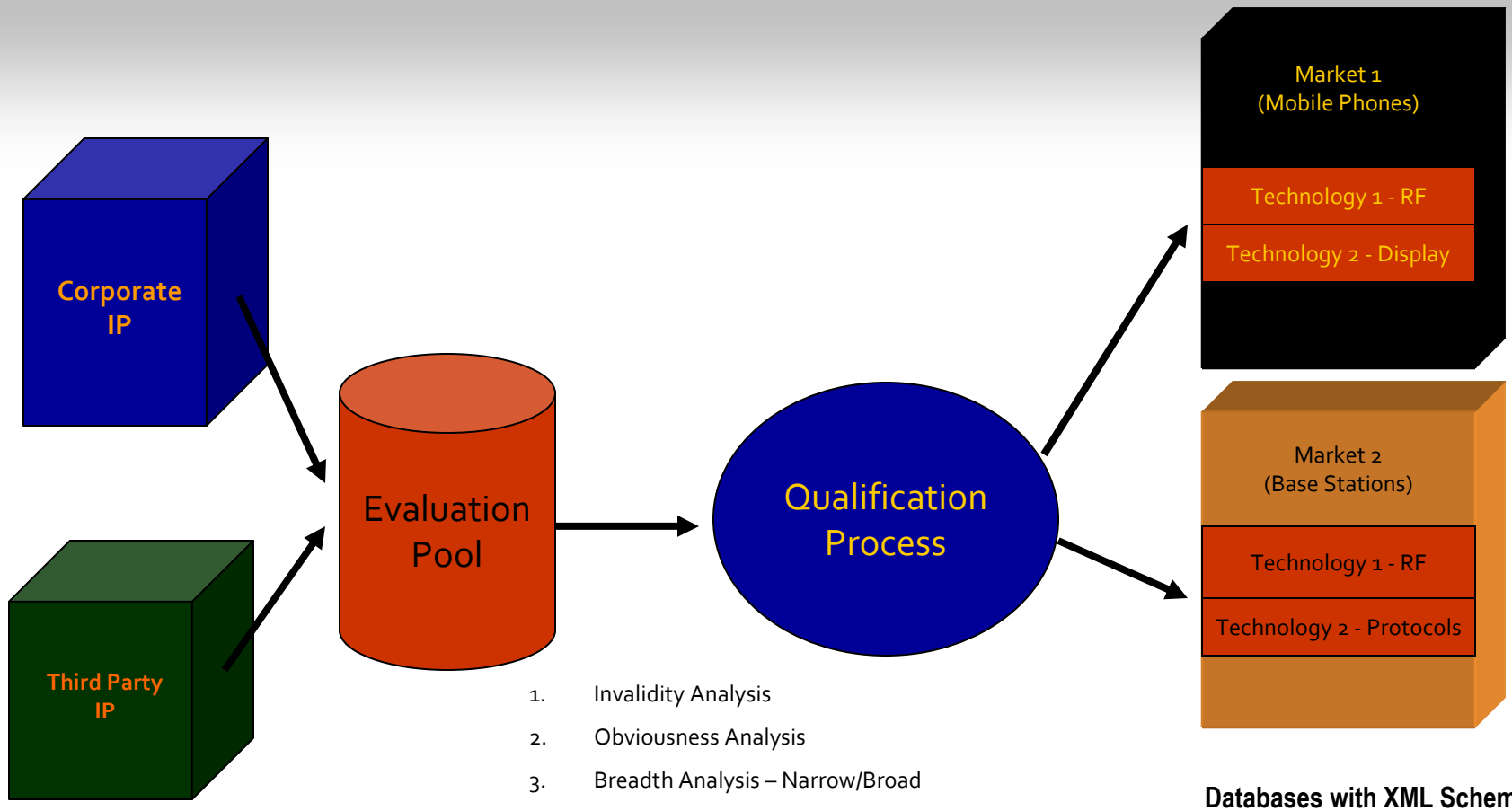
Patent with broad claims

A Patent Constellation consists of a set of related technology areas, each containing a set of qualified patents asserted. The choice of the technology areas and patents is market & litigant-specific.

Impact of Obviousness, (Prior Art, File History), Claim Construction & Competitor Product Infringement Contentions, or Counter-claims, on the choice of the "Patent Constellation" to assert in an offensive or defensive litigation!

Constellation = Cluster = Suite, etc.

Qualification of Patents by Market & Technology

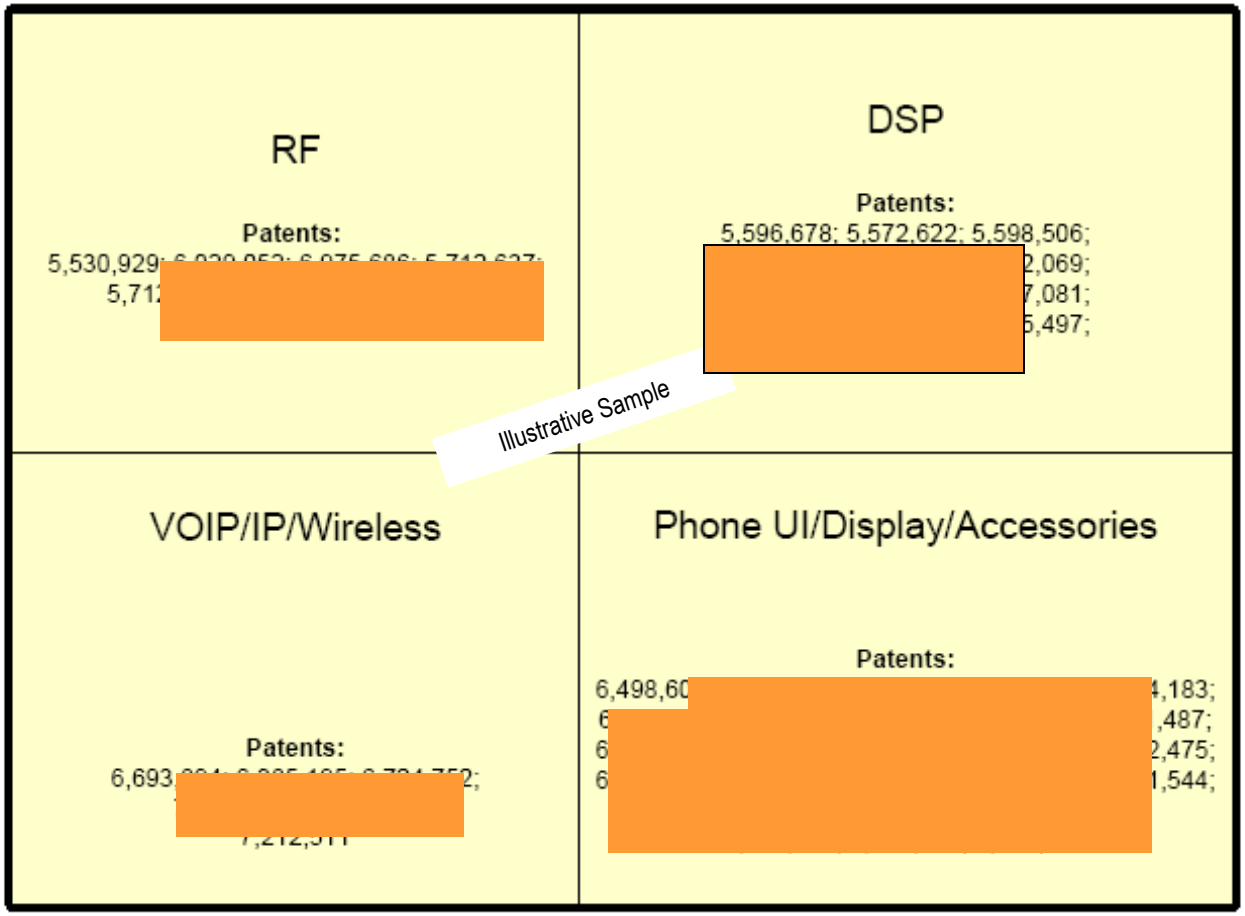


1. Invalidity Analysis
2. Obviousness Analysis
3. Breadth Analysis – Narrow/Broad
4. Prosecution History/Priority Dates
5. Litigation Estoppel & Claim Construction Analysis
6. Standards Relevance
7. Licensing History
8. Quality of Form/Claims Scope

Databases with XML Schema – Accessible over Network

Example of Qualification Process – Manual Analysis

Representative Qualified Database for a Mobile Handset Manufacturer



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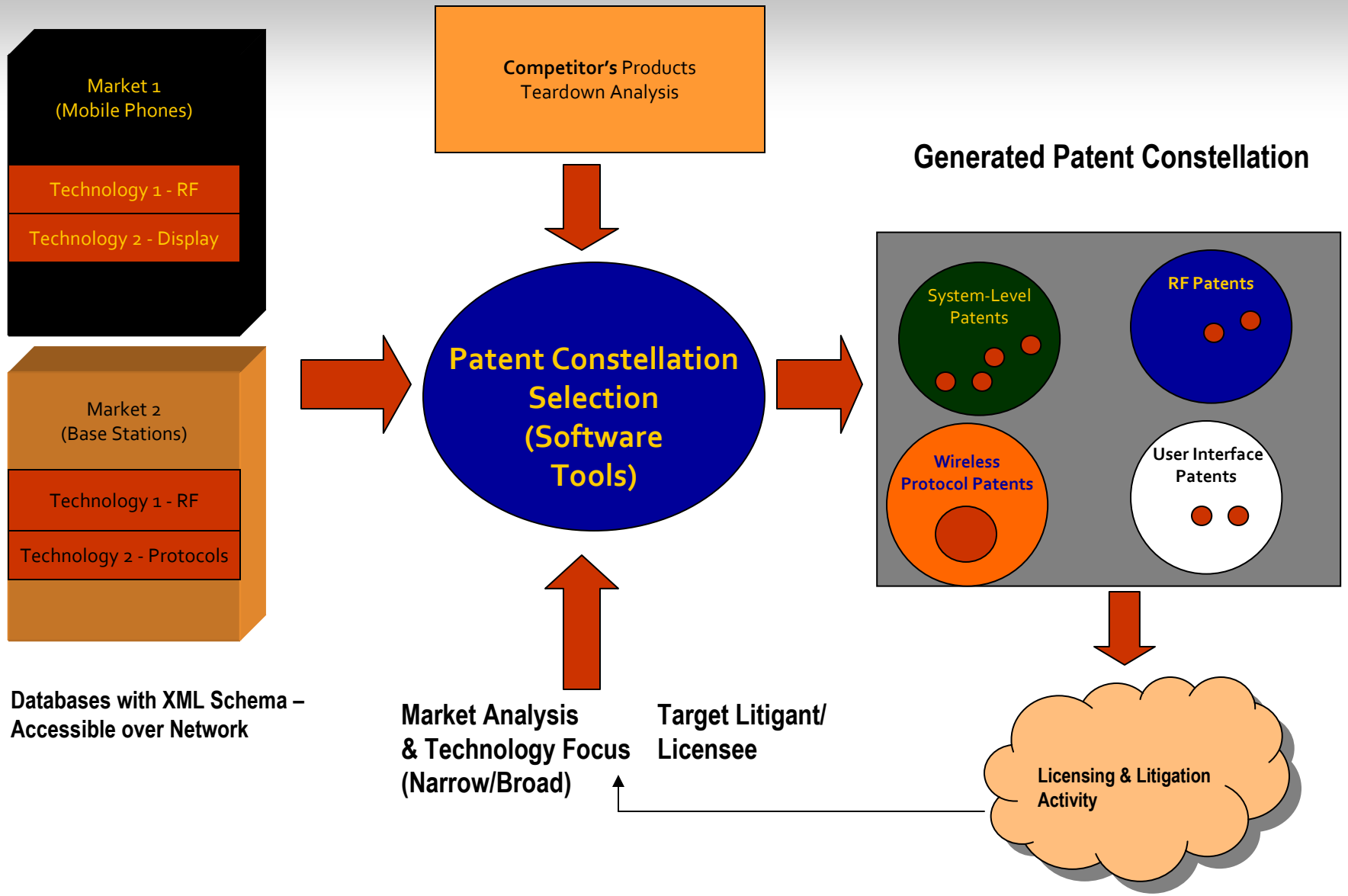
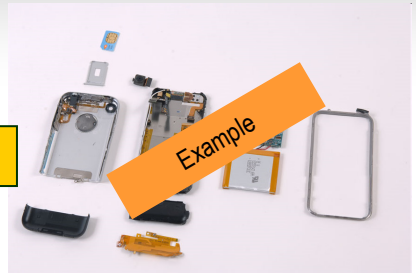
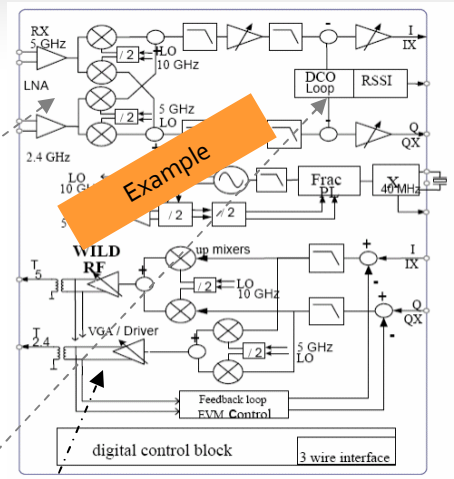
Patent Constellation Creation



Exemplary Patent Constellation Selection/Generation Process

Step 1: Product Teardown





Step 2: OEM Supplier/Vendor Identification & Product Reverse Engineering

E.g., *Acme Inc., Direct Conversion Receiver Architecture..... www.acmecom.com*

Step 3: Technology & Specification Extraction & Mapping to Technology Areas

Multiband, Direct Conversion, DC Offset Compensation, Saturated PA

Market 1
(Mobile Phones)

Technology 1 - RF

Technology 2 - Baseband

Qualified Patent Database

Step 4: Identify Technology Areas (and sub-specialties)

E.g., *RF → Direct Conversion → Multiband Zero-IR/Low IF*
Baseband → Direct Conversion – DC Offset

Step 5: Mapping to Qualified Patents Related to Technology Areas __ Subspecialty & Claim charts

Patent Constellation

Multiband Direct Conversion Rx **RF** Patents	Direct Conversion DC Offset Rx **Baseband** Patents	Saturated Power Amplifier (TX) EER-based Modulation **RF**

Summary of Main Steps in the IPUB Methodology

- **Two major processes**
  - Patent Qualification (offline & continuous)
  - Constellation Creation (in pre-litigation/negotiation phases)

Major Changes in the Qualification Step since 2007

Why is Invalidity Analysis Important in Patent Valuation ?

New Developments Post-2007

That *affect* Patent Constellation Quality

 For information only; do not interpret as legal advice.

US Patent Office Statistics

- **Patent Statistics**
  - 484,995 applications filed in 2007
  - 315,015 applications in 2000

  Nearly half of patent applications become patents !

  - 182,901 patents granted in 2007 (50% US origin)
  - 175,979 patents granted in 2000

- Roughly 40-50% of applications make it as a patent grant.

- Foreign Countries & Patents Granted (2007) - Japan (33k), Germany (9k), UK (3k), France (3k), Canada (3k), Taiwan (6k), Korea (6k), Sweden (1k), Finland (1k), Israel (1k).

- Roughly 280 US corporation and 330 foreign corporations make the bulk of the patent grants.

- Patents in 2007/Total Patents:: IBM (3125/52,227), Canon (1983/34,381), GE (911/34,159), Hitachi (1381/30,755), Toshiba (1519/27k), Matsushita (1910/25k), NEC (600/22k), Sony (1400/21k), Kodak (492/21k), Samsung (2723/19544), Siemens (698/19336), Motorola (411/18984), Texas Instruments (749/15136), Intel (1864/14581), Ericsson (253/4955), LG (682/4118), Nokia (679/2239, 16/1632 NMP), Broadcom (533/2199), Qualcomm (278/2151), Apple (118/1865)

- South Korea corporations (Samsung, LG…) have a 11.6% year over year growth in patents. Corporations residing in other countries had a negative growth in patent grants between 2006-2007.

From US PTO Data

US Patent Litigation Landscape

- 80% of patent litigation cases settle (approximately 3000 infringement suits are filed each year)
- 10-15 % result in a ruling (Roughly 7.5% in a summary judgment & 7.5% in a trial)
- Approximately 100 patent trials start each year (constant over 5 years). 65 are jury trials, and others non-jury trials (e.g., ITC)
- Infringement finding requires a trial in 75% of the cases, and other 25% by summary judgment
- 20% of the verdicts resulted in damage awards – average around $5m
- 20% of verdicts resulted in a permanent injunction.
- Patent litigation lasts 15 months, and summary judgment motions are attempted in 25% of cases.
- Average cost $1-2m per asserted claim per side.
- Patent owners win 24% of the time (2002-2004).

Year	Dispositive Cases	# Won by Patent Owner	% Won by Patent Owner
2002	71	20	28.2%
2003	101	25	24.8%
2004	90	19	21.1%
All 3 years	262	64	24.4%

Observation: 3 out of 4 court decisions are against the patent holder!
Literal infringement decisions favored infringer 3:1
DoE infringement decisions favored infringer 4:1

Janicke & Ren, :"Who Wins Patent Infringement Cases", AIPLA Qtr Journal, Vol 34, No. 1, Winter 2006

US Corporate Patenting Trends

- Product divisions of US corporations filed more patent applications than their R&D divisions in the early 1990s. This trend may have reversed, with corporations' R&D divisions filing more patents. This could be attributed to outsourcing of manufacturing. It could also be related to linking patent filings to R&D success metrics, both for individual career advancement as well as for R&D budget allocation.
- "R&D patents" may differ from "product patents", in that they could be more "far-out" (looking at a longer time horizon), and may also teach several different potential architectures for current and future products in the corporate roadmap. This may imply that the patents filed by R&D divisions may be more amenable to claim construction proposals and modifications (that could favor both offensive and defensive patent actions).
- Due to the broader reach & focus (of R&D patents) in the past fifteen years, US corporations no longer (solely) rely on using patents for defensive purposes, but have found use of R&D patents for obtaining additional licensing revenue and in other offensive options (e.g., acquisition, hostile takeovers, or cross-licensing).
- Due to the broader reach and focus of R&D patents, many of them could be rendered obvious due to prior art or claim construction. Alternatively, due to their broad reach, they may read upon several families of related products of their competitors.
- US corporate patent organizations have traditionally focused on patent prosecution, and only in the past ten years have focused on obtaining licensing revenue and related strategic action; hence IPUB is a new science
- To file and maintain patents in several countries (including US, Europe & Japan), it may cost between $100k to $500k/patent, implying that licensing patents to third parties may be necessary to offset the high costs of developing a large patent portfolio.
- Increasing experience of corporations in two activities: (1) Patents related to industry standards, and (2) Patents utilized by patent "trolls", has caused a change in the way patent cases are classified and litigated. Establishment of joint defense agreements and indemnification arrangements has seen increasing use in the patent litigation arena.
- With rapidly increasing sophistication of technology, integration of multiple technologies (electrical, mechanical, user interfaces, software, processing, and manufacturing), increasing amounts of information (that is available in terms of source code for hardware/software and designs) combined with rapid turnaround times of new products and their phasing out, have made the tasks of prosecuting, litigating, licensing, and settling patents' suits difficult and costly, requiring extensive and intelligent use of discovery, reverse engineering and technical experts in establishing both invalidity and infringement.

(These statements are my broad & anecdotal generalizations and not yet supported by any formal analysis of objective data)

Outcomes as of 2000 in Patent Litigation Cases in US

Bird's Eye View of IP/Patent Litigation (Nature of Suit = 830)

Non-Merit Dispositions			Settlements and Probable Settlements			Rulings and Verdicts		
Outcome	Number of Cases		Outcome	Number of Cases		Outcome	Number of Cases	
Dismissed Without Prejudice	58	3%	Identified Settlements	928	47%	Summary Judgments	129	7%
Lack of Jurisdiction	28	1%	Consent Judgments	146	7%	Judgment on Jury Verdicts	44	2%
Want of Prosecution	41	2%	Stipulated Dismissals	227	12%	Judgment on Bench Trials	22	1%
Default Judgments	31	2%	Agreed Dismissals	0	0%	Judgment as a Matter of Law[224]	5	0%
Voluntary Dismissals (complaint not answered)	241	12%	Voluntary Dismissals (answered complaint)	39	2%	Dismissals with Prejudice	23	2%
						Arbitration	1	0
Subtotals[225]	401	20%		1340	68%		224	11%
Other Dismissals							7	
Total of Outcomes							1972	
Ongoing							62	
Unidentified							47	
Total							2081	

Kesan and Ball, "How are Patent Cases Resolved…" Washington Univ. Law Review, Vol 84, No. 2, 2006

Cases Ending in Ruling of Infringement or Invalidity

Rulings Resulting in Finding of Infringement

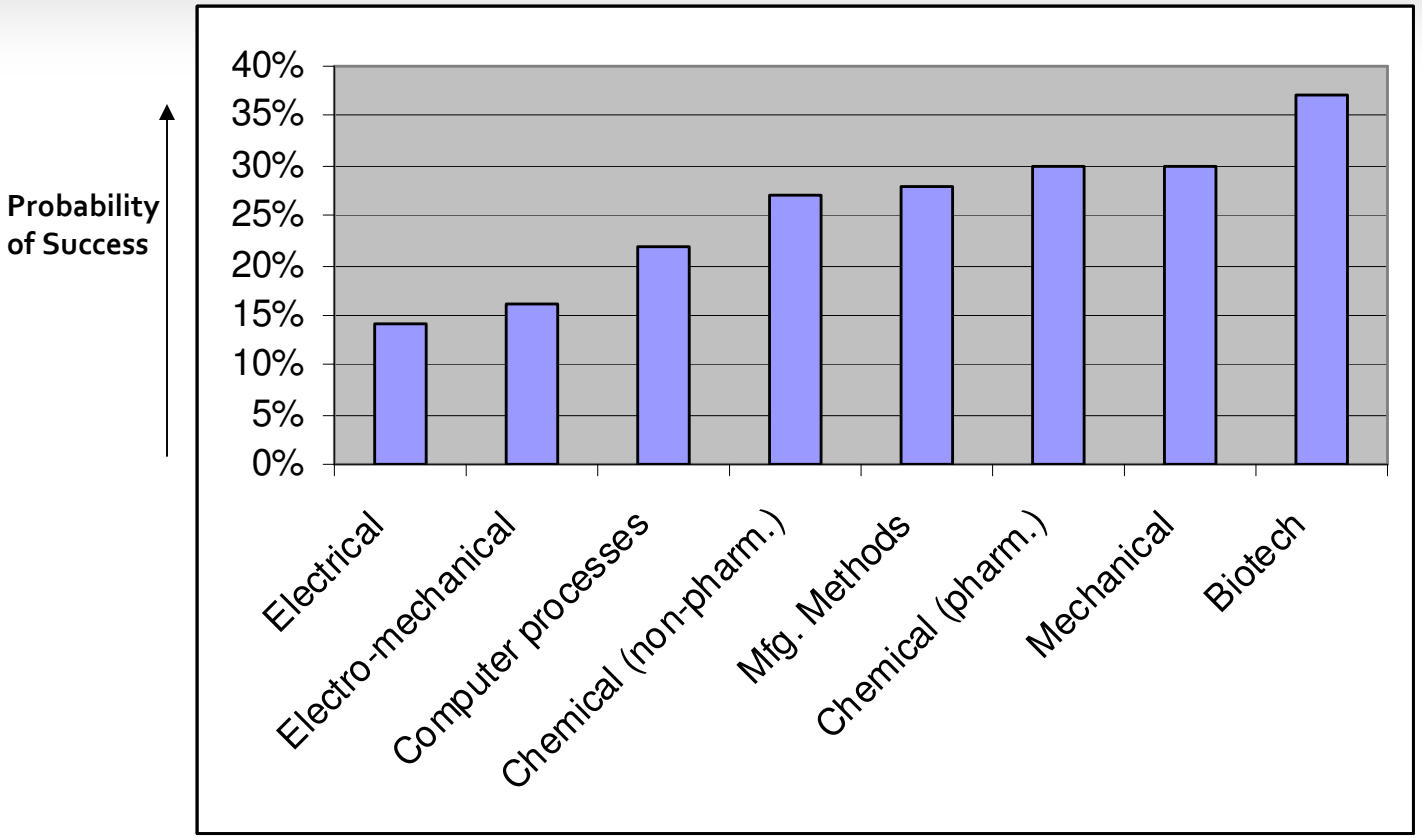
	1995		1997		2000		Total	
	Number of Cases	Percent	Number of Cases	Percent	Number of Cases	Percent	Number of Cases	Percent
Summary Judgment	22	26.8%	29	28.2%	11	12.1%	62	22.6%
Jury or Bench Trial	54	65.9%	44	42.7%	47	51.6%	145	52.9%
Default Judgment	6	7.3%	28	27.1%	33	36.2%	67	24.5%
Total	82	100%	103	100%	91	100%	274	100%
Percent of All Cases	6.0%		5.9%		4.4%		5.3%	

Rulings Resulting in Finding of Invalidity

	1995		1997		2000		Total	
	Number of Cases	Percent	Number of Cases	Percent	Number of Cases	Percent	Number of Cases	Percent
Summary Judgment	21	72.4%	36	85.3%	41	85%	96	81.4%
Jury or Bench Trial	8	27.6%	5	14.6%	7	15%	22	18.6%
Total	29	100%	41	100%	48	100%	118	100%
Percent of All Cases	2.1%		2.3%		2.3%		2.3%	

Kesan and Ball, "How are Patent Cases Resolved…" Washington Univ. Law Review, Vol 84, No. 2, 2006

Chance of Success of Patentee by Subject Area (at Trials)



* Mechanical group had largest number of trials, but others groups were similar in number.

Corporate Entities Fare Many Times Better than Individuals – Golden Rule

Patentee Status

Patentee Status	Estimate Odds Ratio
Level 1 corporate patentee compared to individual patentee	4.44
Level 2 corporate patentee compared to individual patentee	4.62
Level 3 corporate patentee compared to individual patentee	2.97
Level 4 corporate patentee compared to individual patentee	9.16

Rough Indication of Levels

Level 1 = $1-10m
Level 2 = $10-100m
Level 3 = $100m - $1b
Level 4 = $1b + Revenues

Infringer Status

Patentee Income Level (where accused infringer wins)	Estimate Odds Ratio	95% Confidence Limits of Odds Ratio
Level 1 corporate patentee compared to individual patentee	0.225	0.029, 1.77
Level 2 patentee compared to individual patentee	0.216	0.046, 1.02
Level 3 patentee compared to individual patentee	0.336	0.0511, 2.21
Level 4 patentee compared to individual patentee	0.109	0.024, 0.492

Growth of ITC as an Avenue for IP Disputes

Patent Dockets - International Trade Commission and Most Active District Courts

Judicial District	# Active Judges[60]	Avg. # Patent Cases/Judge (1996-2007)[61]	Avg. # Patent Cases/Judge (2004-2007)
N.D. Cal.	14	14.5	15.6
C.D. Cal.	27	9.1	10.4
N.D. Ill.	22	6.2	6.5
D. Del.	4	27.0	34.8
S.D.N.Y.	28	3.8	4.5
ITC	4	4.4	7.2

Empirical Study of Patent Claim Construction … D. Schwartz, William & Mary Law Review, 2009. Draft

Claim Construction Alteration Rates by Court

MOST ACTIVE JUDICIAL DISTRICTS: 1996–2007

Rank	Judicial District	Number of Federal Circuit Claim Construction Appeals (1996–2007)	Percentage of Claim Construction Appeals Reversed, Vacated and/or remanded because of Claim Construction Error	Number of Patent Lawsuits Filed (1995–2005)[135] (rank)
1	N.D. Cal.	84	28.6%	2613 (1)
2	C.D. Cal.	69	43.5%	2260 (2)
3	N.D. Ill.	65	26.2%	1509 (3)
4	D. Del.	54	22.2%	1112 (5)
5	S.D.N.Y.	45	26.7%	1184 (4)
6	D. Mass.	42	23.8%	782 (7)
7	D. Minn.	33	36.4%	743 (8)
8	E.D. Mich.	29	31.0%	669 (9)
9	D.N.J.	28	32.1%	952 (6)
10	E.D. Va.	27	22.2%	555 (14)
11	N.D. Tex.	21	42.9%	591 (11)
11	S.D. Tex.	21	23.8%	466 (19)
13	W.D. Wisc.	19	21.1%	232 (36)
14	W.D. Wash.	18	38.9%	475 (17)
14	D. Col.	18	27.8%	407 (23)

David Schwartz, "Practice Makes Perfect", Michigan Law Review, Vol 107. 2008

Claim Construction Alterations By the Commission[69]

	1996-2000	2001-2004	2005-2007
# claim constructions reviewed	12	22	28
# claim constructions altered	2	3	12
% cases altered	16.7%	13.6%	42.9%

David Schwartz, "Empirical Study of Patent Claim Construction … William & Mary Law Review, 2009. Draft

Success Rate by Law Firm Type (Boutique or General)

	Representing Patentees: **won**/lost	Representing Accused Infringers: **won**/lost
IP Boutiques	**17**/93	**74**/19
General Firms	**42**/83	120/35

Janicke & Ren, :"Who Wins Patent Infringement Cases", AIPLA Qtr Journal, Vol 34, No. 1, Winter 2006

US PTO on Patent Invalidity – Post-2007

- Impact of KSR v. Teleflex on Obviousness

A. Combining prior art elements according to known methods to yield predictable results

B. Simple substitution of one known element for another to obtain predictable results

C. Use of known technique to improve similar devices (methods, or products) in the same way

D. Applying a known technique to a known device (method, or product) ready for improvement to yield predictable results

E. "Obvious to try"—choosing from a finite number of identified, predictable solutions, with a reasonable expectation of success

F. Known work in one field of endeavor may prompt variations of it for use in either the same field or a different one based on design incentives or other market forces if the variations would have been predictable to one of ordinary skill in the art

G. Some teaching, suggestion, or motivation in the prior art that would have led one of ordinary skill to modify the prior art reference or to combine prior art reference teachings to arrive at the claimed invention

Summary of Patent Validity Issues

- New prior art is found (due to revolutionary advances in online databases & associated search capabilities).
- New prior art (without STM) kicks in "post-KSR 2007".
- Over-reaching claim construction by patentees.
- "*Machine or Transformation*" Test for Implementation Patents (Bilski, Federal Circuit 2008)

In *Bilski*, the Federal Circuit held that method claims are invalid under § 101 unless they pass the so-called "machine-or-transformation" test:

> The machine-or-transformation test is a two-branched inquiry; an applicant may show that a process claim satisfies § 101 either by showing that his claim is tied to a particular machine, or by showing that his claim transforms an article.

- "Means plus Function" claim construction arguments, hindsight, & "person of ordinary skill in t he art" arguments dominate
- US Patent Office misses prior art
- US Patent Office does not review actual products on sale at the time of filing.

A systematic review of patents in the qualification process is recommended.

Common Sense Qualification of Patents' Importance (pre-2007)

1. Patent has narrow enough claims to avoid prior art
2. Patent has broad enough claims to read upon infringer's product (yet has an early priority date)
3. Sufficient prosecution and file history to clarify scope of claims
4. Claims are easy to understand and well written (specially Jury trials) with lots of dependent claims
5. Competitors' products have clear technical information available to read upon the patents' claims and assist with construction (discovery problems not an issue, specially when products have multiple foreign OEM vendors)
6. Patents read upon main and vital features of competitors' products (e.g., iPod's touch screen)
7. Patents read upon a technology area that favors patentees in trials or in settlement discussions
8. Patents claims are difficult to work-around, typically as part of a constellation that links the various technology areas.
9. Patents are seen essential to certain standard (s)
10. Standards related to the technology area have a few essential patents (not thousands)
11. Patents have been successfully litigated and licensed in the past
12. Patents have been cited and referred to be frequently in competitors patents
13. Patents that read upon the entire product or system (to increase royalty base and mitigate workaround)
14. Patent receives recognition in industry and professional bodies
15. Patents have a clean history of assignment and inventorship
16. Patents that read on products in a very large market area
17. Patents that are frequently cited in competitor's product and patent applications and brochures
18. Patents that are essential to the company and its future product roadmap
19. Patents that are part of the corporation's own products and product roadmaps are more valuable
20. Invalidity analysis (post KSR 2007 & Bilski 2008) is required to scrub past patents in the qualification process.

Common Sense Evaluation of Patent Constellations

1. Sufficient information about technology areas and specifications of OEM vendor products is required (as obtained from the "teardown" of competitors' products)
2. Key advantages of competitors' products and overlap with the technology areas populated in the qualified patent databases to be evaluated
3. Several constellation choices are to be created and evaluated in terms of claims chosen and claim charts constructed
4. Claim construction analysis (conservative and optimistic) is satisfactory
5. Areas of strength and areas of weakness in the constellations generated are identified to anticipate potential countersuit
6. Areas of strength and areas of weakness are used to identify new IP assets required by the corporation or to be acquired from third parties
7. Prior litigation is to be examined to quantify impact on claim construction content
8. Patent constellation is to be chosen to minimize "workaround" possibilities. This can be done by selecting patents in a particular technology area (of a constellation) through correlation analysis of patents (in another technology area) of the same correlation. Asserting a patent in a technology area of a constellation, may help identification of patents that would be useful for infringement in other technology areas within a selected constellation.
9. Ensuring that the patent constellation reads upon the entire system or product may increase cost base for royalty – this is particular important in mass commodity products that rapidly drop in price from one generation to next (PCs or mobile phones or TVs)

Summary

- I have proposed a "business process" approach to *IP utilization and beneficiation* (IPUB) within corporations
- Two major steps in the IPUB process: (a) patent qualification, & (b) constellation creation.
  - Patent qualification is a continuous and offline process, and requires an upfront investment in resources
  - Constellation creation is automated and proactive with rapid turnaround
- Critical indicators of quality of patents and constellations have been proposed (owing to new developments in the patent litigation arena *post-2007*)
- Methodology proposed is likely to result in a predictable, transparent, efficient, and effective *IP utilization and beneficiation* (IPUB) process for corporations.

Thank you !