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Episode 06:

Using Blue Ocean Maps to Identify Open Spaces in the Patent Landscape

Patent Analytics Webinar Series

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8–Episode Webinar Series

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Episode 01 - Techniques and Analytics for Identifying Valuable Patents and Patents to Abandon
Thursday, April 16, 2020 at 12:00 PM CT

Episode 02 - Using Patent Landscapes to Develop IP Rich Products and Valuable Patent Positions
Thursday, April 30, 2020 at 12:00 PM CT

Episode 03 - Using Prosecution Analytics to Improve Prosecution Efficiency and Identify Wasteful, Unproductive Prosecution Spending
Thursday, May 14, 2020 at 12:00 PM CT

Episode 04 - Using Examiner Analytics to Improve Prosecution Efficiency and Develop Well-informed, Data-Driven Prosecution Decisions and Strategy
Thursday, May 28, 2020 at 12:00 PM CT

Episode 05 - Best Practices for Developing Reliable Freedom-to- Operate Landscapes and Advanced Techniques for Interactive, Reusable BOA Mapping
Thursday, June 11, 2020 at 12:00 PM CT

Episode 06 - Using Blue Ocean Maps to Identify Open Spaces in the Patent Landscape
Thursday, June 25, 2020 at 12:00 PM CT

Episode 07 - Using a Patent Analytics Dashboard for IP Strategy, Competitor Surveillance, and Portfolio Management
Thursday, July 9, 2020 at 12:00 PM CT

Episode 08 - Using Patent Prosecution History Reports to Increase Prosecution Efficiency and Avoid Unintended Estoppel
Thursday, July 23, 2020 at 12:00 PM CT

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Today's Presenters...

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Steve Lundberg
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Fairchild Semiconductor
Black Hills IP

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Compliance Officer
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What exactly are Blue Ocean Analytics and what are they used for?

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Blue Ocean Analytics are the identification of development or invention space by determining:

a) where no/few patents exist AND

b) where innovation in that space will benefit the company*

* In any machine commercial solution, b) isn't provided

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What you will learn today

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- Practical methods of Blue Ocean/Red Ocean mapping
- When they are most useful
- Strategic insights/Business Actions Available
- Overview of tools

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Questions Answered

and

Use Cases

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Questions Answered

- Can we find new areas to patent in
  - Will it help our company
- Is there an alternative innovation space for my product
- Where can I innovate that has few patent obstacles

Use Cases

- R&D Investment
- New Product Development/Patent Planning
- New Feature on Existing Product
- Missed Opportunity Discovery

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WHAT IS A BLUE OCEAN?

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RED OCEAN VS. BLUE OCEAN STRATEGY

Red Ocean Strategy	VS	Blue Ocean Strategy
Compete in **existing** market space.		Create **uncontested** market space.
Beat the competition.		Make the competition **irrelevant.**
Exploit **existing** demand.		Create and capture **new** demand.
Make the value-cost trade-off.		**Break** the value-cost trade-off.
Align the whole system of a firm's activities with its **strategic choice of differentiation or low cost.**		Align the whole system of a firm's activities in **pursuit of differentiation and low cost.**

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Caveat on Blue Ocean Analytics (BOA)

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- Red Oceans are generally profitable
- Blue Oceans may not equal revenue
- Patents alone may not be the whole story
  - NPL review is critical
- Beware the fishing expedition
  - If you don’t have a sense of where you are
  - And how you can transform
  - BOA will become very expensive

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Spatial Concept Maps are not Blue Ocean Maps

https://patinformatics.com/machine-learning-in-patent-analytics-part-3-spatial-concept-maps-for-exploring-large-domains/

- Contour lines do not connote relationships
- Valleys are not white space
- Pretty but not explainable
- Does not quantify disclosure
- Hard to explain…..
  - tf-idf / k-means clustering
  - Force-Directed Placement
- Difficult to teach to C-suite

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Blue Ocean Fundamentals

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Start with a plan of where you want to look

- Have R&D/Marketing engaged at the beginning
- Develop a searching strategy/hierarchy
- Develop a set of “don’t care” items to limit review costs
- Use a taxonomy to capture where to look

Develop a review process

- Blue Ocean is most effective when it iterates
- Revise your taxonomy as more parts become “don’t care” items

When to start a Blue Ocean Analysis

- Do I design a product first?
- Or do I first do the BOA first?

Avoid the Fishing Expedition

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How Deep Do I Go?

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BOA should be considered at different depths of inquiry:

- Taxonomy based review (Using a beer maker example)
  - Top level review: All biotech organisms that produce alcohol $$$$$
  - Next level review: All of the organisms that use grains as biomass for alcohol production $$$
  - Sub level review: All organisms that could produce alcohol from grain $$
  - Sub level review: All organisms that could produce a hop flavored ester $$
  - Sub-Sub level: Any overlap between hop and alcohol organism list. $

Each level has pros and cons

- Top level review is a complete answer to a question posed by Management
- Next level might be a good enough answer
- Sub level answer might answer what a company is able to make a transition to
- Sub-Sub might be what is profitable

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Blue Ocean Beer Simple Taxonomy
Blue = Good Red=Don't Care

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Finding the Relevant Art: Iteration

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Using keyword/semantic search:

- Perform iterative keyword searches
- Zero in on most relevant search results

Using forward/backward citations

- Starting with set of relevant art, do forward/backward citation analysis
- Reiterate

Using time-based criteria

- Find inception point for the technology
- Search in that time period

Using competitors and or tech sectors

- Search competitors
- Search by CPC classification

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Filtering the First Cut

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- Filter out irrelevant results/don’t care conditions
- Identify the relevant results to analyze for BOA
- How to filter:
  - Review stacks of printed patents
  - Review folders full of PDF’s
  - Review in a dashboard
  - Review in a spreadsheet

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Reviewing the ”Pile” for BOA

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Old fashion way

- Look at each patent one by one with design team
- Identify ways to avoid each patent
- Write up a report
- Start over if design changes from scratch

Better way:

- Review an interactive spreadsheet-based BOA map that keys off of key novelty of each patent
- Patent coverage stated in terms readily understood by engineers/scientists
- Note relevance or non-relevance of each patent
- Reiterate design ideas as many times as you want
- Update map as new patents issue
- Reiterate again

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BOA pitfalls/tricks

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Avoid

- Snapshot/One-N-Done
  - Consider Evergreen BOAs
- Single Source Searches
  - Patents/NPL/TM/Web
- Relying on BOA searches alone
- Only using legal team

Do

- Use your/competitor glossary
- Develop Core Concepts
- Develop Synonyms for Claims
- Partner with your Technologist
- Understand equivalents in claims
  - Review File Histories

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How Spec Disclosure levels define BOA

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- **Disclosure level defines how blue is the ocean**
- **Disclosure between Specification/NPL may be…**
  - Abstracted
  - Harmonized
  - Mapped
- **Disclosure levels may be assigned to your taxonomy**
  - Similar to case law headnotes

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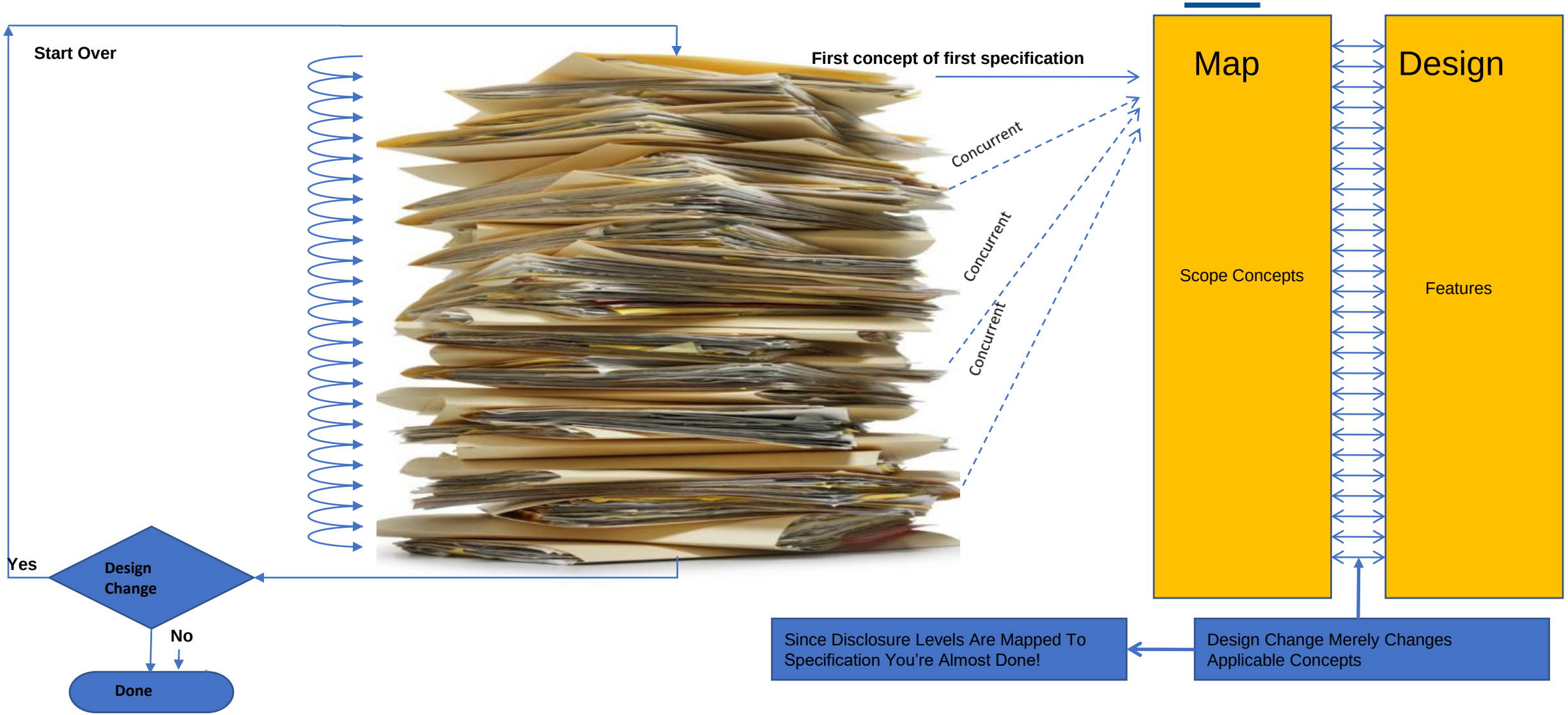
Patent Analysis v. Specification Abstraction



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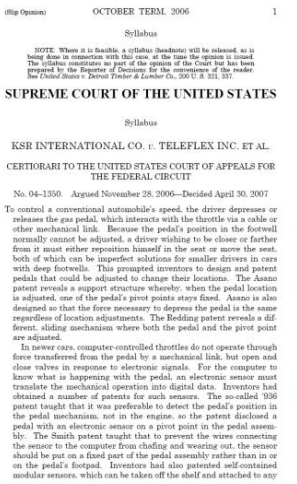
Spec. Abstracting: Case Law vs. Patent Specification



(Slip Opinion) OCTOBER TERM, 2006 1

Syllabus

NOTE: Where it is feasible, a syllabus (headnote) will be released, as is being done in connection with this case, at the time the opinion is issued. The syllabus constitutes no part of the opinion of the Court but has been prepared by the Reporter of Decisions for the convenience of the reader. See *United States* v. *Detroit Timber & Lumber Co.*, 200 U. S. 321, 337.

SUPREME COURT OF THE UNITED STATES

Syllabus

KSR INTERNATIONAL CO. *v.* TELEFLEX INC. ET AL.

CERTIORARI TO THE UNITED STATES COURT OF APPEALS FOR THE FEDERAL CIRCUIT

No. 04–1350. Argued November 28, 2006—Decided April 30, 2007

To control a conventional automobile's speed, the driver depresses or releases the gas pedal, which interacts with the throttle via a cable or other mechanical link. Because the pedal's position in the footwell normally cannot be adjusted, a driver wishing to be closer or farther from it must either reposition himself in the seat or move the seat, both of which can be imperfect solutions for smaller drivers in cars with deep footwells. This prompted inventors to design and patent pedals that could be adjusted to change their locations. The Asano patent reveals a support structure whereby, when the pedal location is adjusted, one of the pedal's pivot points stays fixed. Asano is also designed so that the force necessary to depress the pedal is the same regardless of location adjustments. The Redding patent reveals a different, sliding mechanism where both the pedal and the pivot point are adjusted.

In newer cars, computer-controlled throttles do not operate through force transferred from the pedal by a mechanical link, but open and close valves in response to electronic signals. For the computer to know what is happening with the pedal, an electronic sensor must translate the mechanical operation into digital data. Inventors had obtained a number of patents for such sensors. The so-called '936 patent taught that it was preferable to detect the pedal's position in the pedal mechanism, not in the engine, so the patent disclosed a pedal with an electronic sensor on a pivot point in the pedal assembly. The Smith patent taught that to prevent the wires connecting the sensor to the computer from chafing and wearing out, the sensor should be put on a fixed part of the pedal assembly rather than in or on the pedal's footpad. Inventors had also patented self-contained modular sensors, which can be taken off the shelf and attached to any

Headnotes

Claimscape® Mapping

What is claimed is:

1. A method, comprising:

delivering an electric stimulus from a lead situated within a body to a phrenic nerve at a controlled rate, wherein the electric stimulus is delivered in a region proximate a wall of a heart, wherein the electric stimulus is delivered from an electrode on the lead, the electrode being located on or within the heart.

(+ Attorney)

Disclosure Concepts

- What the spec discloses
  - Limitations
  - Varying Levels of Abstraction

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Output of BOA Mapping

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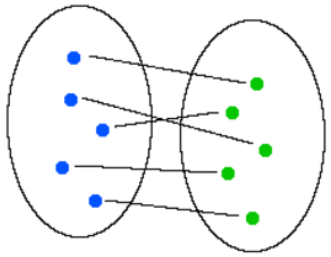

- **Interactive Excel Spreadsheet**
  - Usable by anyone
    - Outside Patent Counsel
    - Inside Patent Counsel
    - Engineers!!!
    - Best Practice = Outside Patent Counsel + Inside Patent Counsel + Engineers
  - Charts the who/what/when/where of BOA disclosures
  - Easily updatable as new patents issue
    - “Chart once, use forever”

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BOA Report Mapping Format

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Title		Title X	Title X	Title X	Title X	Title X
File#						
Patent#/Reference#		X.XXX.XXX	X.XXX.XXX	X.XXX.XXX	X.XXX.XXX	X.XXX.XXX
Current Assignee/Author name		COMPANY #1	COMPANY #2	COMPANY #2	COMPANY #1	COMPANY #2
Filing Date/Effective Date		Aug 14, 1961	May 03, 1985	Jan 06, 1987	Nov 27, 1996	Jul 09, 1997
Priority Date			May 03, 1985	Jan 06, 1987	Dec 01, 1995	Jul 09, 1996
Type Of Entity						
Total Claims/Paragraphs		3/102	37/113	6/110	71/67	51/83
No. Of Claims (Independent)		2	2	2	5	4
DISCLOSURE DENSITY	Patents Mapped					
Bioorganisms that produce Alcohol	38					
Bioorganism #1 that produce Alcohol	38					
Bioorganism #2 that produce Alcohol	34					
Bioorganism #3 that produce Alcohol	15					
Modified Bioorganism #2 that produce Alcohol and Esters	3					
Modified Bioorganism #3 that produce Alcohol and Esters	5					

Prior Art
Ontology

Individual
Patents
(separated by violet and white columns)

Key

- High Density
- Low Density
- No Density noted

Noted densities in Specs

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Key Take-Aways

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- **BOAs involve Multi-sourced Highly Nuanced Data**
  - Detailed Human Analysis - Required
  - Resolve Data Inconsistencies by Hand
  - Claims are Key
- **Machine BOA Mappings are problematic**

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The Schwegman Analytics Advantage

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SLW has been helping its clients find and improve high value patents for over 20 years and has invested heavily in its Analytics processes and tools for the last decade and is now expert at helping.

- More efficient work
- Shorter timelines
- Higher quality and key strategies
- IP Operations
- Fixed Fees/AFAs
- Tracking metrics
- Non-traditional providers

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Thank You For Your Interest
Questions?

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