



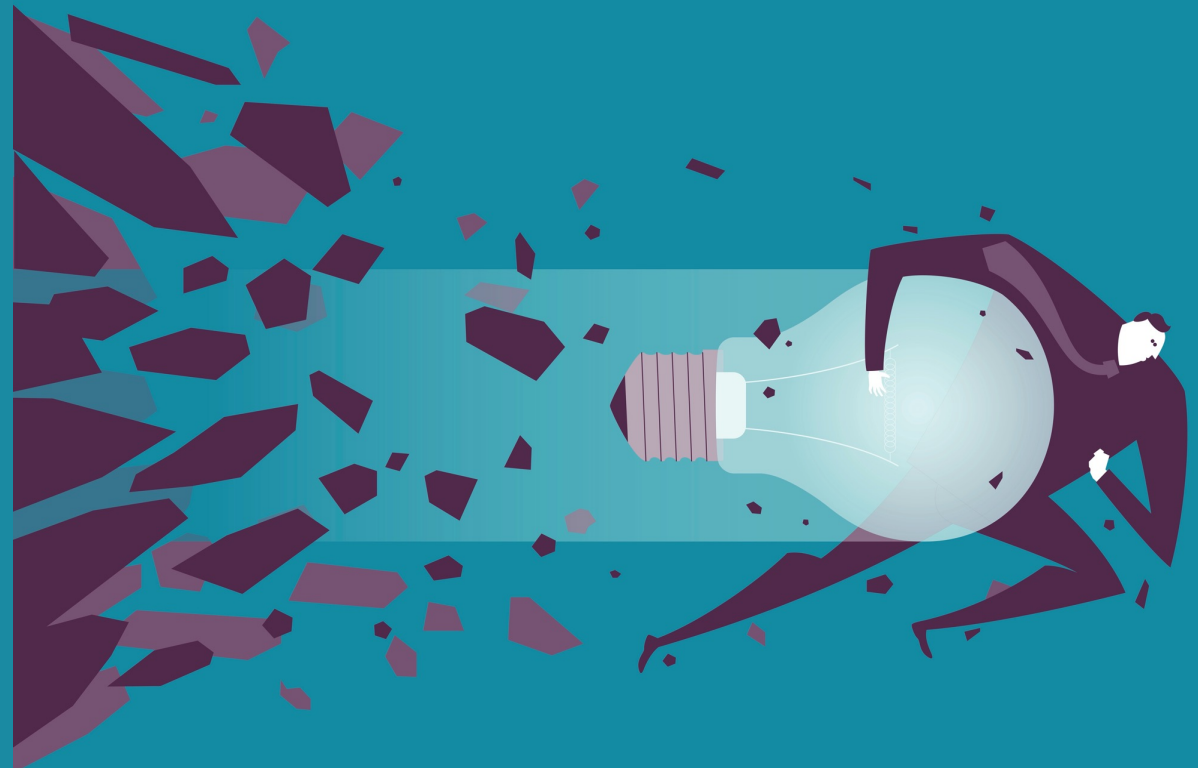
Rigorous empirical  
research on  
intellectual property

## How Weak Are Strong Patents: Patent Holdout and Small(er) Technology Firms

Host: Dr. Claudia Tapia, President of 4iP Council

### Presenters:

- Bowman Heiden, UC-Berkeley
- Matthew Rappaport, UC-Berkeley



# What do we do?



Non-Profit Activities



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Education



Promotion Innovative SMEs



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# For SMEs:

# European Court Decisions:



Which types of intellectual property do you need?

Filter table columns

?	PATENTS	COPYRIGHTS	DESIGNS	TRADE MARKS	TRADE SECRETS
What do they protect?	An invention: a new and creative way of doing something or solving a technical problem. <a href="#">See also</a>	A work: an original intellectual creation. <a href="#">See also</a>	A new and original visual appearance of a product. <a href="#">See also</a>	Distinctive words or signs. <a href="#">See also</a>	Confidential information. <a href="#">See also</a>
Examples of what is protected	Inventive products and processes in all areas of business. For examples of successful inventions by SMEs <a href="#">see also</a>	Audio-visual works, pictures, graphics, architecture, databases, software, designs, literature, music, games, films, books and video, dramatic works. <a href="#">See also</a>	Package, containers, furnishings, graphics, symbols, computer icons, logos, graphical user interfaces, signs and marks. <a href="#">See also</a>	Words, signs, phrases, symbols, logos, etc. <a href="#">See also</a>	Trade secrets. <a href="#">See also</a>
How are my rights protected?	Through contractual means, using or setting of the patent invention. <a href="#">See also</a>	Protects the work being created: automatic copyright protection is granted to the creator of the work. Protects the integrity and attribution of the work. Related rights: Public performance and display of the work. <a href="#">See also</a>	Protects the visual appearance of an object or similar visual appearance for the same kind of products and/or services. <a href="#">See also</a>	Through contractual means, using or setting of the trade mark. <a href="#">See also</a>	Through contractual means, using or setting of the trade secret. <a href="#">See also</a>
How long is my innovation protected?	Up to 20 years. <a href="#">See also</a>	(Lifetime of the author + 70 years after death) (depending on the country). <a href="#">See also</a>	Up to 25 years for registered designs. <a href="#">See also</a>	Indefinite. <a href="#">See also</a>	Indefinite. <a href="#">See also</a>
Do I have to register it?	Yes, filing an application to a patent office is required. Have an patent applications in: <a href="#">UK</a> <a href="#">EU</a> <a href="#">USA</a> <a href="#">Japan</a> <a href="#">China</a> <a href="#">India</a> <a href="#">Australia</a> <a href="#">Brazil</a> <a href="#">Canada</a> <a href="#">France</a> <a href="#">Germany</a> <a href="#">Italy</a> <a href="#">Japan</a> <a href="#">Korea</a> <a href="#">Netherlands</a> <a href="#">Russia</a> <a href="#">Spain</a> <a href="#">Sweden</a> <a href="#">Switzerland</a> <a href="#">Taiwan</a> <a href="#">USA</a> <a href="#">UK</a> <a href="#">Vietnam</a> <a href="#">South Korea</a> <a href="#">India</a> <a href="#">China</a> <a href="#">Japan</a> <a href="#">Korea</a> <a href="#">Netherlands</a> <a href="#">Russia</a> <a href="#">Spain</a> <a href="#">Sweden</a> <a href="#">Switzerland</a> <a href="#">Taiwan</a> <a href="#">USA</a> <a href="#">UK</a> <a href="#">Vietnam</a> <a href="#">South Korea</a> <a href="#">India</a> <a href="#">China</a> <a href="#">Japan</a> <a href="#">Korea</a> <a 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# How Weak Are Strong Patents: Patent Holdout and Small(er) Technology Firms



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**Matthew Rappaport** is the General Partner of Future Frontier Capital (FFC), a pre-seed, frontier technology venture capital fund.

# Competing theories of market failure?

- Arrow Information Paradox – the challenge in forming markets for non-rival goods, such as knowledge.
- Patent Holdup – the opportunistic ability of a “patent holder to negotiate royalties far in excess of the patent holder's **true economic contribution.**” (Lemley/Shapiro)
- Patent Holdout - “an implementer refuses to negotiate in **good faith** with an innovator for a license to **valid patent(s)** that the implementer **infringes**, and instead forces the innovator to either undertake significant litigation costs and time delays to **extract a licensing payment** through a court order or else to simply drop the matter because the licensing game is no longer worth the candle.” (Epstein/Noroozi)

Farrell and Shapiro (2008) asked, “how strong are weak patents,”  
In 2023, we need to ask, “how weak are strong patents.”

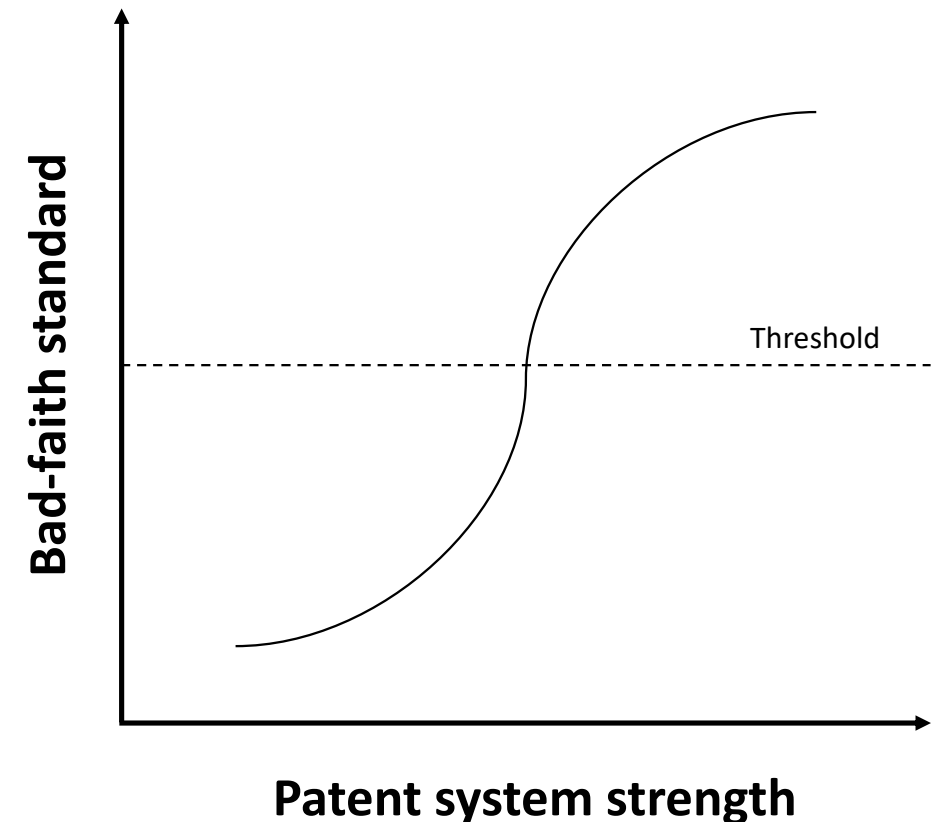
# How weak are strong patents?

- **Intrinsic challenges** - fundamental difficulties inherent in the nature of a technology-based property right system, including:
  - The cost of judicial action
  - The length of time of adjudication
  - The subjective nature of patentability and infringement
- **Extrinsic challenges** - the evolution of technology as well as patent jurisprudence and legislation that can impact the efficacy of existing and future R&D investments and patents, including:
  - Changes to patentability criteria, such as eligibility, non-obviousness, etc.
  - Changes to equitable remedies, such as injunctions, damages, etc.
  - Changes to administrative procedures at the USPTO or district courts.
  - Technological change and convergence



# Patent holdout behavior - bad-faith or rational

- **The legitimacy of granted patent rights**  
When does the challenging of an alleged infringement become bad-faith behavior or is bad-faith behavior now institutionalized in the system?
- **The use of market power against weaker actors**  
When does the use of a superior market power position constitute bad-faith behavior or is bad-faith behavior now institutionalized in the system?
- **The lack of reasonable royalty payments in a reasonable period of time**  
When does the delay of payment for an alleged infringement become bad-faith behavior or is bad-faith behavior now institutionalized in the system through its inherent complexity, cost, and lack of timeliness?



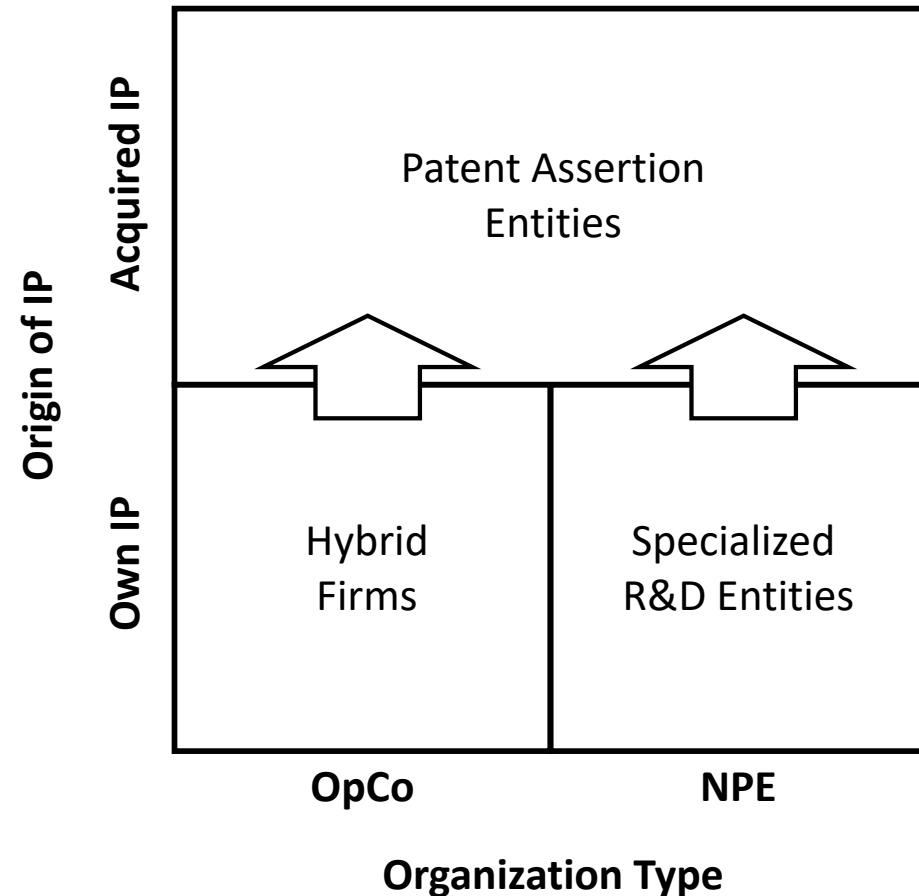


# The economic impact of patent holdout

Patent Licensor Bargaining Power (Patent Holdup)			Patent Licensee Bargaining Power (Patent Holdout)		
Systemic	Systematic	Circumstantial	Circumstantial	Systematic	Systemic

- 1. Circumstantial effect** – a bargaining position is determined by the specific circumstances of the parties. A purely circumstantial effect produces a surplus that is evenly distributed between licensors and licensees (i.e. sellers and buyers).
- 2. Systematic effect** - a pattern of settlement prices based on an institutional context in the market or policy sphere (e.g. the patent system). A systematic effect produces a surplus that favors a specific class of market actors (i.e. either licensors or licensees) predominantly.
- 3. Systemic effect** - a systematic effect that significantly reduces economic welfare through either a loss in static or dynamic efficiency.

# Patent holdout contexts



## Small(er) Technology Firm Criteria

1. Plaintiff is an operating company or non-practicing entity with “own IP”
2. Defendant is a large highly patent litigated firm in the IT/consumer electronics industry
3. Plaintiff is orders of magnitude smaller than the Defendant
4. Resulted in court-awarded damages or consent decree in the ITC

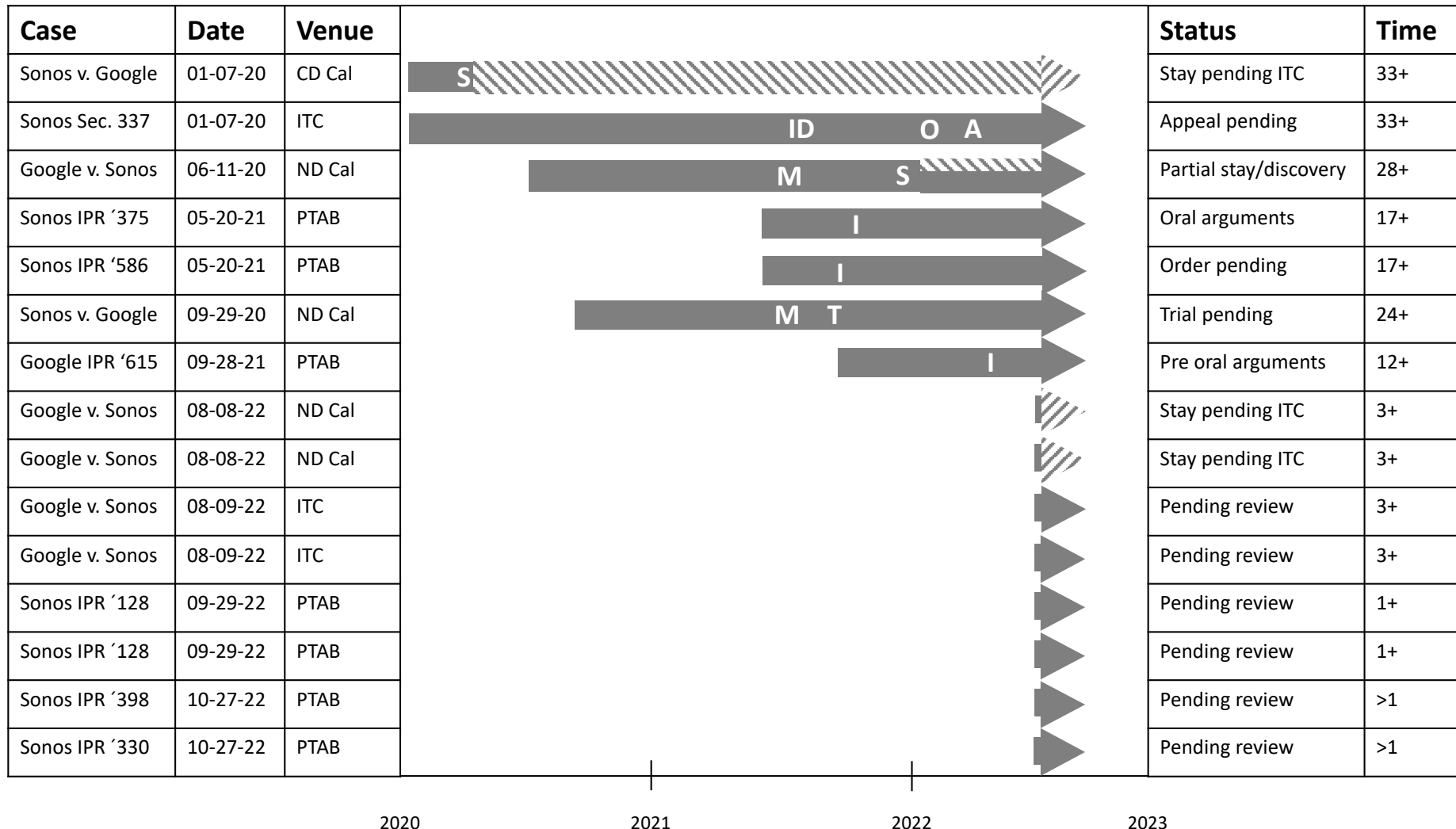
# STF sample and cases

Start Date	Plaintiff	Defendant	Type	Venue	Award	Time (m)	Status
2012-11-06	VirnetX	Apple	NPE	EDTX	\$503M	98+	Appeal pending
2013-04-02	Mobile Communications Technology	Apple	NPE	EDTX	\$24M	25	Settlement
2015-07-03	Personalized Media Communications	Apple	NPE	EDTX	\$308M	73	Unenforceable by prosecution laches
2016-05-17	Prisua Engineering	Samsung	NPE	SDFL	\$4.3M	56	Invalidated by PTAB
2018-02-13	Centripetal	Cisco	OPCO	EDVA	\$2.75B	56+	Vacated for conflict of interest
2019-03-01	Express Mobile	Shopify	NPE	DE	\$40M	30+	Appeal pending
2019-04-16	Vocalife	Amazon	OPCO	EDTX	\$5M	39	Vacated on appeal
2019-04-25	Cirba	VM Ware	OPCO	DE	\$235M	41+	Vacated for lack of standing
2019-11-15	VideoShare	Google	NPE	WDTX	\$26M	34	Final judgement
2020-01-07	Voxer	Meta	OPCO	WDTX	\$175M	33+	Verdict Appeal likely
2020-01-07	Sonos	Google	OPCO	CDCA	N/A	33+	Stay pending ITC appeal
2020-01-31	Ecofactor	Google	OPCO	WDTX	\$20M	32+	IPR appeal pending

## Small(er) Technology Firm Sample

1. A mix of OPCO (hybrid) and NPE (pure licensing) plaintiffs
2. Significant litigation history ranging from 30 to 98 months and counting
3. Only one case has resulted in an actual payment to the STF (MCT v Apple)
4. Three cases were vacated on procedural grounds after years of litigation (Centripetal, Cirba, and Personalized Media Communications)
5. Defendants in most cases employed PTAB to invalidate the patents in suit
6. One case involved the ITC (Sonos)

# Sonos v. Google (2020-present)

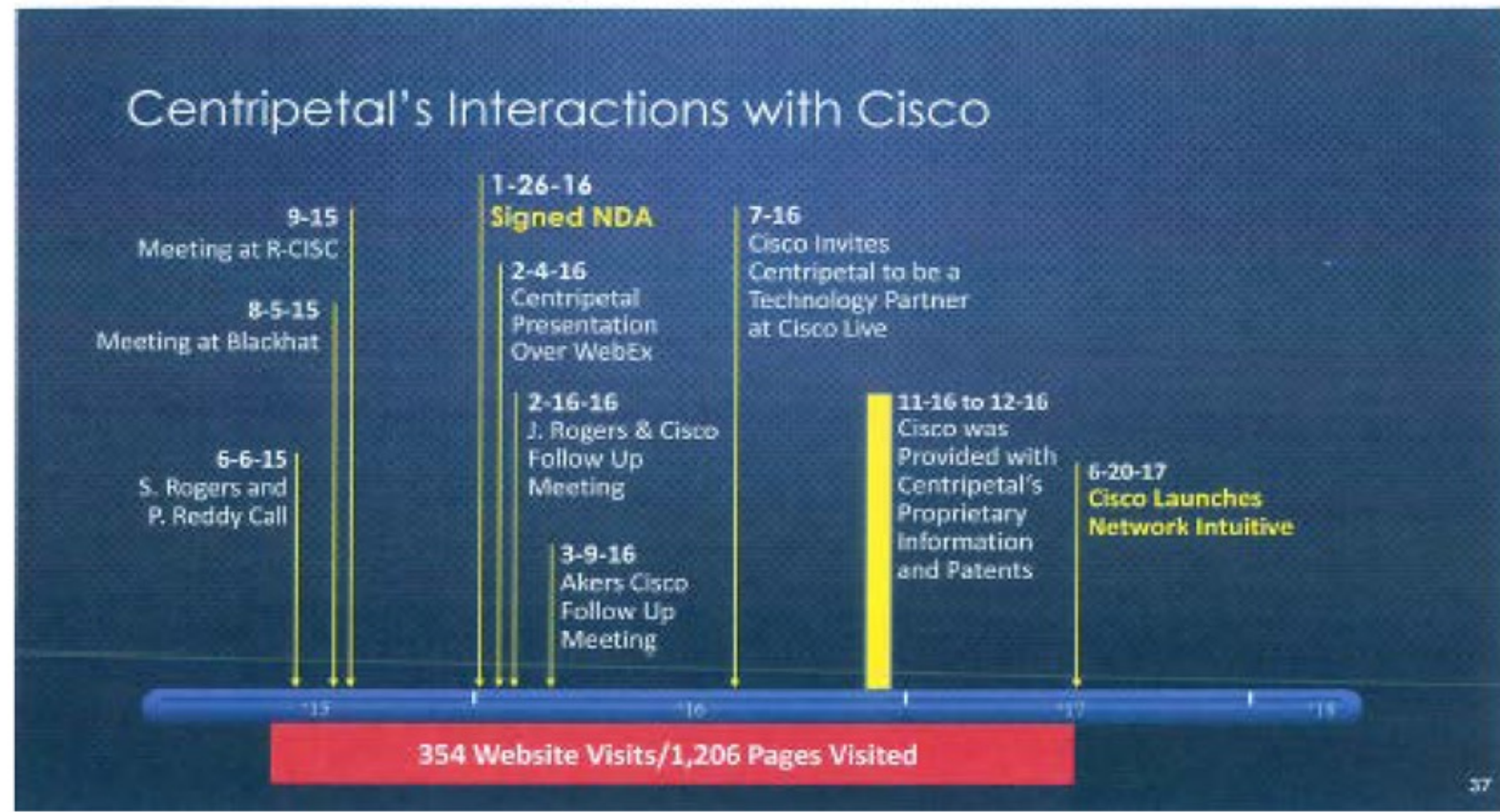


# Sonos v. Google – patent holdout analysis

- Intrinsic challenges
  - Sonos put Google on notice in 2016
  - Court cases ongoing for >37 months and tens of millions of dollars on both sides
  - Despite size difference, Sonos appears financially strong enough to manage the litigation process
- Extrinsic challenges
  - ITC exclusion order as a substitute for injunctive relief after *eBay* (by both parties)
  - PTAB as an alternative mechanism to invalidate patents (by both parties)
  - Growth in multi-technology convergence from wireless speakers to smart speakers
- Patent holdout behavior
  - Multiple parallel international patent infringements initiated by Google
  - Evidence of bad-faith behavior undetermined by the court
- Patent holdout impact
  - Cost of litigation
  - Disruption of business operations
  - Loss of product market share

# Centripetal v. Cisco (2015-present)

## SLIDE 37 FROM CENTRIPETAL's OPENING STATEMENT



# Centripetal v. Cisco – patent holdout analysis

- Intrinsic challenges
  - Infringement began in 2017 with no settlement/final decision yet
  - Court case took 52 months through appeal resulting in a vacated decision over a conflict of interest
  - Fundamental difficulty of the subjective nature of language in a contentious situation (e.g. “immediately” and “also”)
  - Despite size difference, Centripetal’s VC funding has been strong enough to manage the litigation process
- Extrinsic challenges
  - The difficulty to obtain injunctive relief in federal court after eBay
  - Cisco requested an IPR on nine of the eleven patents in suit (succeeding in seven cases)
  - The convergence of cybersecurity technology into network infrastructure
- Patent holdout behavior
  - The court decided for willful infringement and enhanced damages by applying the nine *Read* factors
- Patent holdout impact
  - Would the 2.5x enhanced damages be an acceptable remedy-in-equity for Centripetal had the ruling stand?



# Toward a theory of patent holdout for STFs

- Types of STFs that can experience patent holdout
  - Hybrid OPCOs
  - NPEs
  - PAEs by proxy
- Types of STF behavior in response to patent holdout
  - Forced to litigate
  - Unable to litigate or settle
  - Forced to settle
  - Firm failure
- Patent holdout behavior by alleged infringers
  - Good-faith vs. Bad-faith behavior
  - Rational behavior incentivized by the patent system
  - Rational behavior incentivized by market forces
- Patent holdout impact
  - Circumstantial – anecdotal evidence
  - Systematic – logical incentives produced by a patent system with both intrinsic and extrinsic challenges
  - Systemic – theoretical preconditions exist for industries where patent protection is critical for investment and leverage to enter markets with large incumbent firms

# Thank You!

## Q&A

### Forthcoming Webinar:

Date	Title	Summary
15-03-2023	From Semiconductor to Embracing a Better Life - IP Models for an Innovation Ecosystem at IMEC	The webinar describes IMEC's innovation network models bringing together a world-class infrastructure within the local and global ecosystem of government, universities and industry, to accelerate progress towards a connected, sustainable future and the IP models to support such open innovation.

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