GenAI and the Future of Patent Portfolio Development

Presented by **Ian C. Schick, Ph.D., Esq.**

at **2023 Summit Meeting of GNIPA**
(The Global Network Of National IP Practitioner Associations)

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THE US PATENT ECOSYSTEM

Trending Challenges:

- Attorney productivity
- Operational costs
- Service sustainability

Breakthrough Opportunities:

- Enhance efficiency
- Reduce costs
- Improve services

The connection between
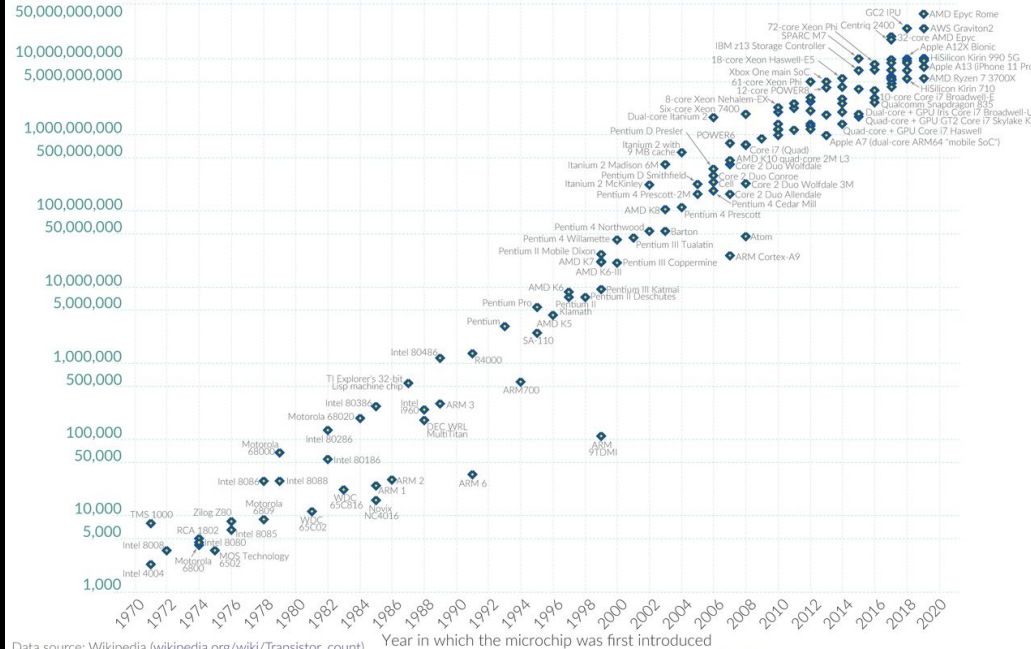
INNOVATION

&

FILING ACTIVITY

TECHNOLOGICAL INNOVATION IS ACCELERATING

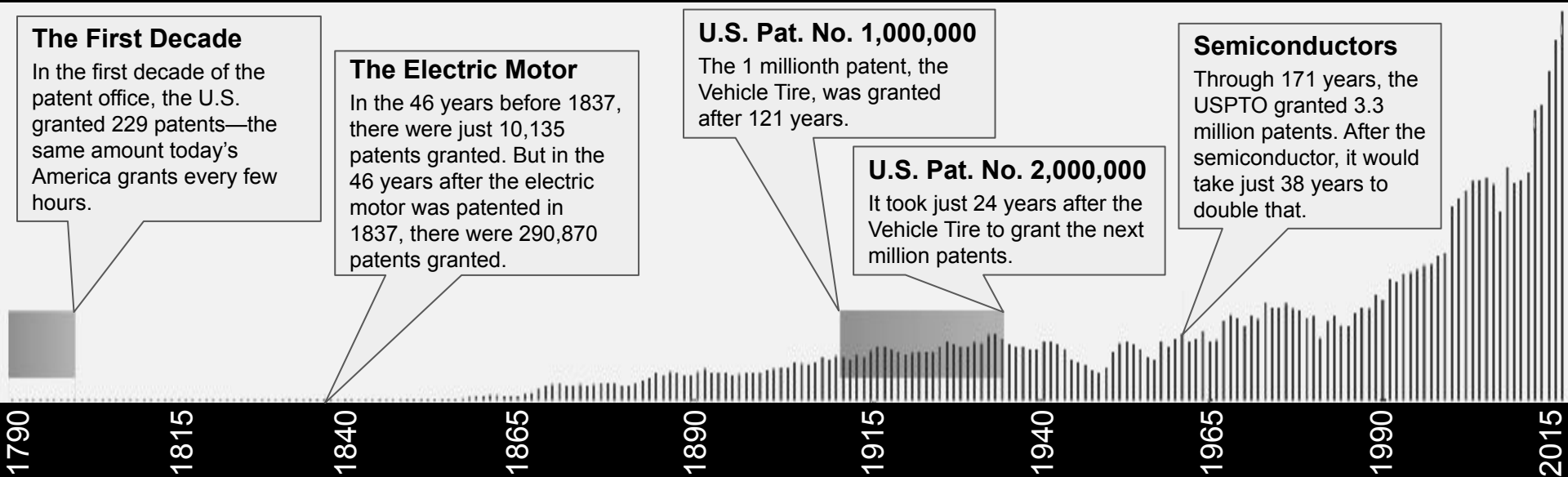Moore's Law: The number of transistors on microchips doubles every two years

Law of accelerating returns
- Applies to all of technology
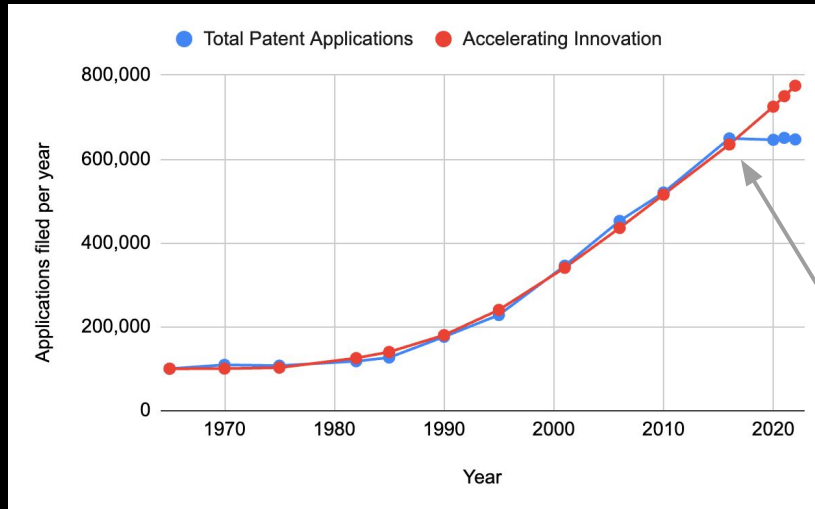- Can be measured with remarkable precision in information based technologies

Examples:
- DNA sequencing
- Communication speeds
- Electronics of all kinds
- Size of technology

# IP KEEPS PACE WITH ACCELERATING INNOVATION
(at least historically)

The First Decade
In the first decade of the patent office, the U.S. granted 229 patents—the same amount today's America grants every few hours.

The Electric Motor
In the 46 years before 1837, there were just 10,135 patents granted. But in the 46 years after the electric motor was patented in 1837, there were 290,870 patents granted.

U.S. Pat. No. 1,000,000
The 1 millionth patent, the Vehicle Tire, was granted after 121 years.

U.S. Pat. No. 2,000,000
It took just 24 years after the Vehicle Tire to grant the next million patents.

Semiconductors
Through 171 years, the USPTO granted 3.3 million patents. After the semiconductor, it would take just 38 years to double that.

1790   1815   1840   1865   1890   1915   1940   1965   1990   2015

SHOULD IP CONTINUE PACING WITH INNOVATION?

What happened around 2016
- Emphasis on Quality?
- Globalized Filings?
- Shift to Trade Secrets?

ARE WE LEAVING IP PROTECTION ON THE TABLE?
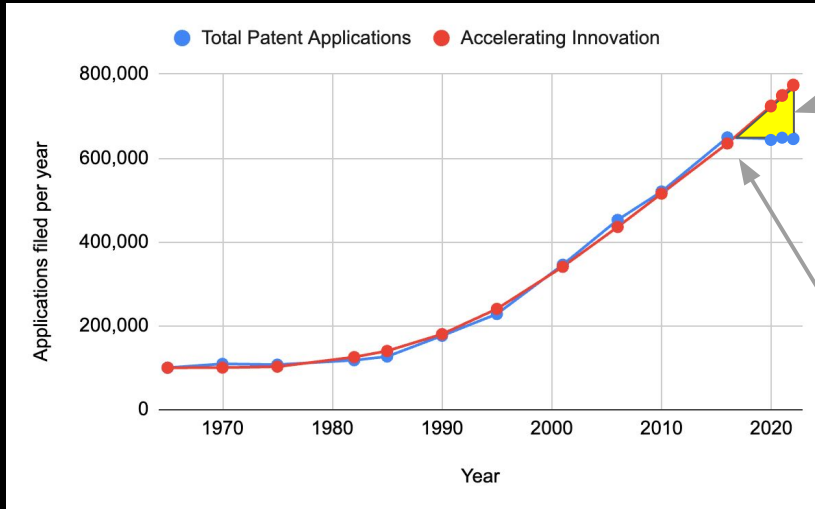
385,000 apps not filed

(if IP protection should keep pace with innovation)

What happened around 2016
- Emphasis on Quality?
- Globalized Filings?
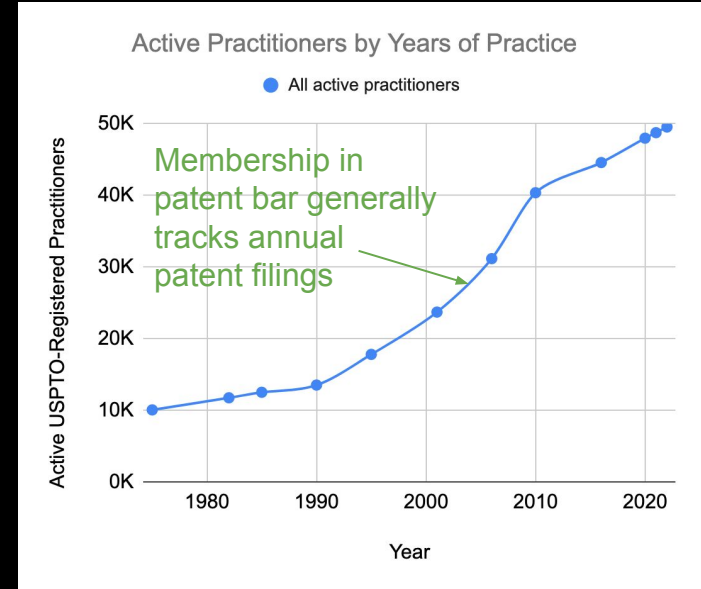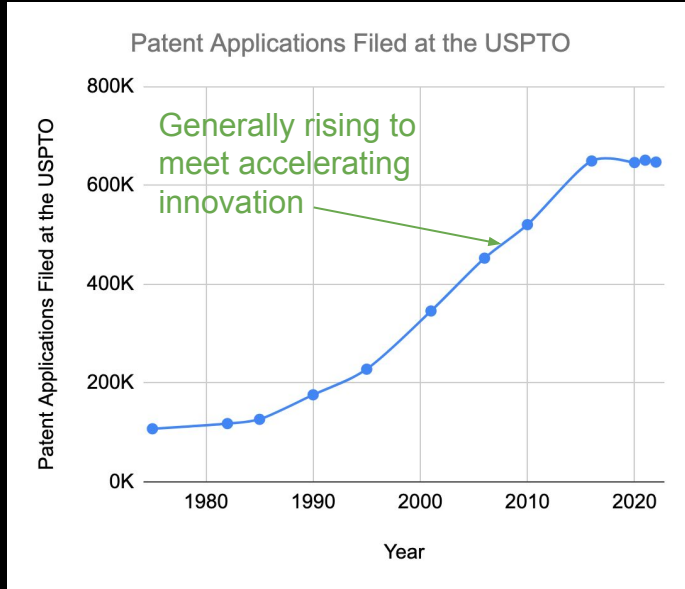- Shift to Trade Secrets?
- **Human Bottlenecks?**

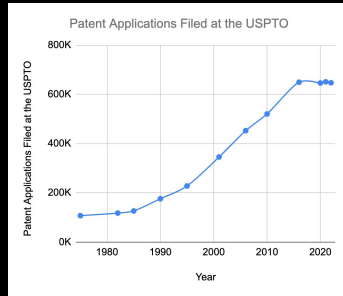The connection between

SERVICE DELIVERY

&

FILING ACTIVITY

INDICATORS OF
DEMAND & LABOR SUPPLY

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AVERAGE PRACTITIONER PRODUCTIVITY
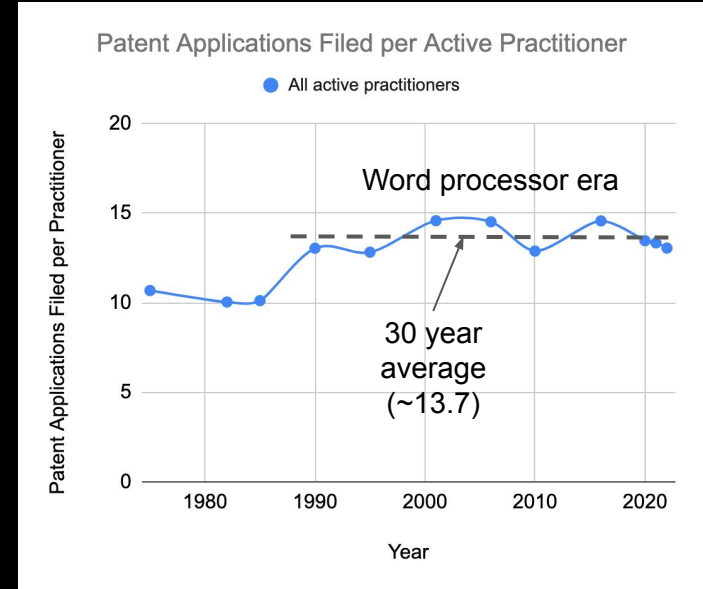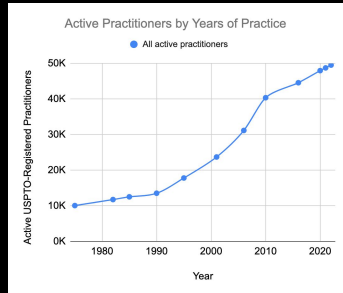
INDICATORS OF LAW FIRM
OPERATIONAL COSTS & REVENUE

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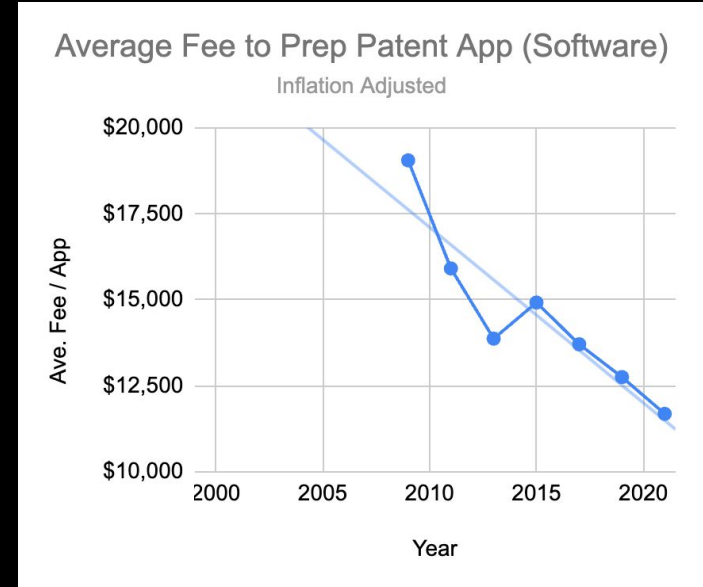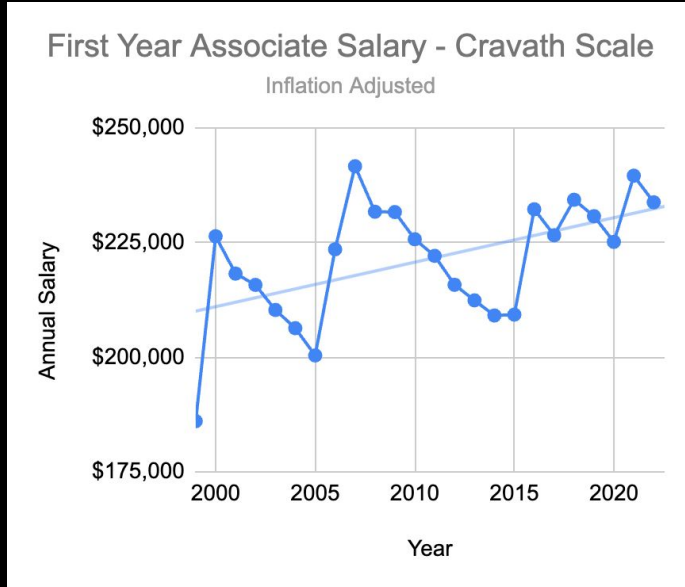
SERVICES SUSTAINABILITY

- Vanishing Law Firm Profits
  - **FLAT**: Practitioner productivity
  - **RISING**: Operational costs (e.g., salaries)
  - **FALLING**: Perceived value (i.e., ave fees)
  - **SAME**: Document requirements
- Trends likely to continue (hope is not a plan)
- Effects on Quality of Service???
  - Timeliness & doc quality

AN UNSUSTAINABLE PATENT BAR

Active Practitioners by Years of Practice

- All active practitioners
- 0-10 years of practice
- 10+ years of practice

What happened around 2010?

- Economic Uncertainties?
- Technology's Allure?
- Education's Burden?

(Y-axis: Active USPTO-Registered Practitioners, 0K–50K; X-axis: Year, 1980–2020)
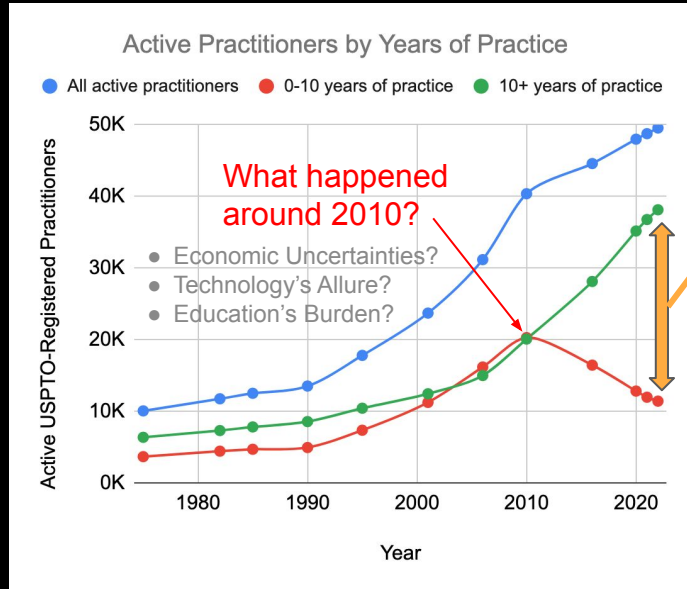
Acute talent imbalance

- Late-career practitioners outnumber early-career almost **4 to 1**

Continuing current path

- Increasing operational costs
- Declining service quality
- Production bottleneck

RECOVERING
SERVICES SUSTAINABILITY

GenAI: A GAME CHANGER
FOR PATENT PROFESSIONALS

- **Empowers patent professionals:**
  - Focus on high-value tasks like strategy and creativity

- **Lowers operational costs:**
  - Automates the mundane

- **Adds new value:**
  - Efficiency in throughput
  - Newly enabled insights and strategies
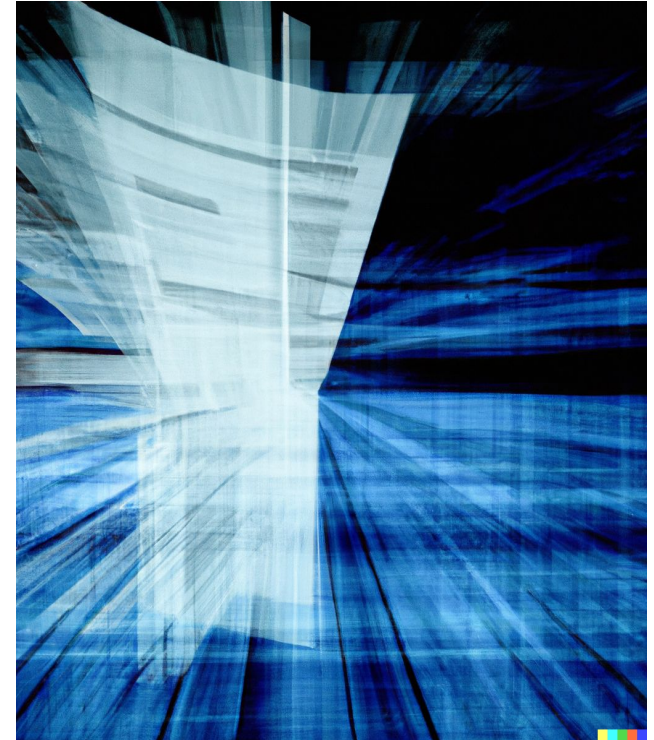
THE OPPORTUNITY

Generative AI:

Can be trained to→

- Understand the language, structure, and requirements of patent applications

- Create <u>entirely new content</u>, tailored to a specific invention and compliant with patent laws and regs

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PERCEIVED RISKS

Data Security   **Confidentiality**   **Hallucinations**

Common Fears & Misconceptions	Reality
Confidential info is accessible to other customers and OpenAI	Prompts and completions (P&Cs) are NOT available to other customers or OpenAI*
Confidential info is used to improve LLM models and services	P&Cs are NOT used to improve OpenAI models, Microsoft or 3rd party products or services*
Hallucinations render GenAI work product untrustworthy	Document generation is more akin to translation; i.e., LLMs are not used as "source of truth"

*https://learn.microsoft.com/en-us/legal/cognitive-services/openai/data-privacy

ACTUAL RISKS

- **WAITING to embrace GenAI for patent development …**
  - Allows competitors to:
    - Gain an intractable lead
    - Embedded advantage
    - Difficult to catch up
- In contrast, being a leader can
  - Position company for success
  - Advance individual careers

FINAL THOUGHTS: THE TIME IS NOW

- Status quo is not sustainable

- Trending realities harm all stakeholders

- Drastically increasing practitioner productivity is essential for patent ecosystem sustainability and prosperity

- GenAI represents the only viable path forward

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