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# The Risks of Shipping Intellectual Property Offshore

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What the EDA Industry Should Consider  
When Outsourcing

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# Introduction

- Outsourcing offshore now affects white-collar workers
  - Outsourcing affects IP rights
  - 3 key countries
    - China
    - India
    - Philippines
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# Economic Data

	China	India	Philippines	United States
Pop'n (m)	1,284.3	1,046	83	286.9
GDP (US\$ b)	1,266.1	505.8	78	10,446
Labor (US\$/hr)	.80	.74	.73	-
Corp. tax rate	33%	40% foreign	32%	15-35%

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# Areas for Concern

- Breach of fiduciary duty
  - Enforcing, protecting IP abroad
  - US federal regulatory breaches
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# Breach of Fiduciary Duty

- Corporation's directors, officers are fiduciaries of corporation and its shareholders
  - Must perform duties in good faith for best interests of corporation with reasonable care
  - Risks offshore
    - Looser control over company functions
    - Less supervision, direction, control
    - Piracy
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# Breach of Fiduciary Duty

- Recommendations
    - Carefully plan supervision, control
    - Clear performance standards, goals
    - Overseas management understands responsibilities
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# Enforcing, Protecting IP Abroad

- Types of IP rights
  - Copyright
  - Mask work\*
  - Patent\*
  - Trade Secret\*
  - Trademark

\*Most important for EDA companies

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# Enforcing, Protecting IP Abroad

## ■ Patent

- Broadest protection
  - Novel, non-obvious, useful
  - 20-year monopoly
  - Laws vary among countries
  - International agreements facilitate international patent filing
    - Patent Cooperation Treaty (PCT)
    - European Patent Office (EPO)
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# Enforcing, Protecting IP Abroad

- Patent – possible subject matter for EDA companies
    - Hardware
    - Software
      - Logic design
      - Partitioning
      - Synthesis
      - Simulation
      - Emulation
      - Testing
      - Verification
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# Enforcing, Protecting IP Abroad

## ■ Patent recommendations

### □ File foreign patents

#### ■ Choose countries strategically

- EDA activities: India, Egypt, Japan, Russia, S. Korea, China, Taiwan

#### ■ Risk: some countries cannot issue and enforce effectively

### □ Outsource only work already patented/invented in US

### □ Write patent claims strategically

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# Enforcing, Protecting IP Abroad

- Patent recommendations, cont'd
    - File foreign patents before disclosing
      - Reasons:
        - Disclosure often bars patentability in foreign countries
        - First-to-apply priority system in many foreign countries
    - Prior art search through international applications
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# Enforcing, Protecting IP Abroad

- Patenting software
    - Types and parts vary by country
    - Over half of countries issuing patents allow software patents
    - Trend: general software patents
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# Enforcing, Protecting IP Abroad

International Software Patent Protection	
China	Inventions using software may be patentable
India	No mathematical or business models, computer programs per se, algorithms
Philippines	No computer programs per se, no loading it onto computer, maybe for computer control if technical effect
United States	Yes

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# Enforcing, Protecting IP Abroad

- Trade secret
    - All US states protect
    - Information that has economic value and reasonable efforts to keep secret
    - Lasts as long as it remains secret
    - Protection varies among countries
      - Some offer no protection, some do not enforce
    - International agreements provide theoretical protection
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# Enforcing, Protecting IP Abroad

- Trade secret examples
    - Sales, marketing competitive information
    - Customer lists
    - Technical information
      - Algorithms, architecture, chip designs, protocols
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# Enforcing, Protecting IP Abroad

- Trade secret recommendations
    - Use contracts, non-disclosure agreements
      - List what kind of information is considered confidential
      - Print in English and language of the country being outsourced to
    - Take reasonable security precautions to prevent access
      - Mark documents as “confidential”
      - Physical security precautions
      - Limit access to certain people only
      - Computer security
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# Enforcing, Protecting IP Abroad

- Mask work
    - Images representing 3-d design of semiconductor chips of more than 1 layer
    - Requires originality
    - 10 years of protection
    - Must register with Copyright Office
    - Protects only unauthorized copying
    - International protection varies
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# Enforcing, Protecting IP Abroad

- Mask work recommendations
    - Do not assume reciprocal treatment abroad
    - Register for mask work protection separately in each country
    - Take precautions to prevent access
    - Use contracts to protect
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# Enforcing, Protecting IP Abroad

- Enforcing judgments in foreign countries
    - US courts may not recognize foreign judgments
    - US courts may defer to foreign judgments if
      - Judgment enforceable in that country
      - Not against public policy
      - Followed proper due process procedures
    - Foreign courts may not enforce US judgments
      - Often, only if there is a treaty or reciprocal agreement
    - Be prepared to hire attorneys in the foreign country if must litigate
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# US Federal Regulatory Breaches

- US export regulations may govern outsourced work
  - Regulated exports
    - Software
    - Technical information or data
    - Defense articles and services
    - Encryption software and systems
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# US Federal Regulatory Breaches

## ■ Recommendations

- ❑ Check relevant department's requirements to see if must obtain a license before outsourcing
  - ❑ Outsource only programming projects that contain no encryption code
  - ❑ Develop encryption software offshore using only foreign origin technology and US non-proprietary (public domain) information and technology
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# Conclusion

- Cost-benefit analysis for which IP protection to pursue
    - Ex. cannot protect information as both patent and trade secret
  - IP laws vary among countries
  - Cannot rely on US-equivalent protection and enforcement
  - Plan outsourced functions carefully
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# About the Authors

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