Building a Patent Search Strategy of an Emerging Technology
Using Citation Information

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Keywords
- Diverging & Developing Fields
- Scientific Terminology ≠ Language of Engineer
- Patents are written by vague terms

Patent Classes
- Absent of proper classes
- Inconsistent combination of classes
- Interdisciplinary Technology

Experts’ Knowledge
- Depends on the Expert
- Technology Experts ≠ Patent Experts
THE NEW APPROACH
Keywords + Citation Network

❖ **Component 1: Systematically selected Keywords**
  - Benchmark records + Natural Language Processing
  - Cleaning & Frequently appeared Keywords

❖ **Component 2: Citation Relationship → Community of Patents**
  - Citing-Cited Patents
    ✓ Overlapped technological Features
    ✓ Knowledge Flow
    ✓ Technological Relatedness (But with unrelated patents too)
  - Patent Community
    ✓ Set of technologically “relevant” patents in Citing-cited patents
    ✓ Exhausted chain of Cited-citing patents

❖ **How To**

Benchmark Records → Keywords → 1\textsuperscript{st} generation → 2\textsuperscript{nd} generation → ... → i\textsuperscript{th} generation

The community of patents
**CHALLENGES**

- **Jurisdictional Heterogeneity**
  - Citation Practice in USPTO vs. EPO
  - IPC coding

- **Inventors’ Citation vs. Examiner’s Citation**
  - Controversy about Noise.
  - Strategic citation of Inventors
  - Irrelevant citation by Examiners

- **Sensitivity**
  - To the 1st generation Patents
  - To the Filtering Process

- **Validity**
  - Very first attempt, Iterative citation
  - Various Technologies?