Rapid Technology Intelligence Process (RTIP)

Alan Porter

Search Technology

ACS March, 2005
A New Dawn in Managing Technology

A. Management of Technology (MOT) has been largely *intuitive*

B. Patent, R&D publication, and business information resources are rich sources of *empirical* intelligence

C. Need to add “B” to “A”

D. Goal = qualitatively better MOT
RTIP: Rapid Technology Intelligence Process

- **Objective:**
  - Pointed & Timely Technology Decision Support

- **Tools:**
  - Desktop access to databases
  - ‘Tech Mining’ approach
  - Standardizing
  - Semi-automating
Tech Mining Players & Process

Technology Intelligence Products

Patent & R&D Publication Databases
Clean, Analyze, Visualize

Data → Software → TIP's

Good Decisions demand both Analytical Products and Expert Interpretation

Expert Opinion
Tech Mining Players & Process

Understanding The Question

Data Selection

MOT Issues

Information Professional

Technology Analysts

Researchers

Manager/ User

Search Results

Developing the Intelligence

Intelligence Products
Tech Mining Steps and Roles (1 of 2)

Select Data Sources and Analytical Tools

Empirical Indicators

MOT Questions

Understanding the Question

MOT Issues

Information Professional
Technology Analysts
Researchers
Manager/User
Tech Mining Steps and Roles (2 of 2)

Information Professional
Technology Analysts
Researchers
Manager/User

Developing the Intelligence Product

Search & Retrieval
Query Refinement
Analysis
Combine with Expert Opinion
Technology Intelligence Product
RTIP Framework

- Understand the Technological Innovation Process
- Spell out Management of Technology (MOT) Issues
- Break out particular MOT Questions
- Identify candidate empirical Indicators
- Identify appropriate Data Source(s)
- Identify appropriate Analytical Tool(s)
- Effect composite Representations, rapidly (1 day)
Technology Information Products: “One-Pagers”

- Compile indicators to answer one technology management issue
- Specialize the answers to fit the questions
# Technology Profile: INTUMESCENT

## Score Card

<table>
<thead>
<tr>
<th>Maturity</th>
<th>Science Base</th>
<th>Increase in Diversity</th>
<th>Growth in New Entrants</th>
<th>Self Citation</th>
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## Top Patent Assignees

<table>
<thead>
<tr>
<th>Assignee</th>
<th>Inventors</th>
<th>Top IPC Classes</th>
<th>Issue Pattern</th>
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<tbody>
<tr>
<td></td>
<td>DWYER, Michael, G. [3]</td>
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<td>Southern, Eric [3]</td>
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<td>Tanner, Robert, Alfred [2]</td>
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<td>Seiler, Jerome, W. [3]</td>
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<td>Heeler, Robert, W. [2]</td>
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<td></td>
<td>De Beer, Marius [2]</td>
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<td></td>
<td>Gort, Pieter [2]</td>
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<td></td>
<td>Jakob, Michael [3]</td>
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<td>Karatan, Gary [2]</td>
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## Major Issue Areas

[Map of major issue areas]

## Companie Last Leaving the Sector

<table>
<thead>
<tr>
<th>Assignee</th>
<th>Number of Patents</th>
<th>Year of Last Publication</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cities Service Oil Company</td>
<td>35</td>
<td>1977</td>
</tr>
<tr>
<td>Imperial Chemical Industries Limited</td>
<td>12</td>
<td>1966</td>
</tr>
<tr>
<td>BFG GLASSGROUP</td>
<td>10</td>
<td>1964</td>
</tr>
<tr>
<td>Monsanto Research Corporation</td>
<td>7</td>
<td>1981</td>
</tr>
</tbody>
</table>
Profile a Technology

- Are there recent advances in Solid Oxide Fuel Cells (SOFC’s) that we need to know about?
What’s Hot in Solid Oxide Fuel Cells?

**Nano-surfaces & rare-earth materials**

Hot Stuff? Nano-surfaces & rare-earth materials

- Activity — % during the last 3 years:
  - 261 articles — 44% last 3 years
  - 72 priority patents — 14% last 3 years
  - 133 family patents — 32% last 3 years

- Conference/Journal Ratio: 10% vs. 29% for SOFC
- New Terms include: chemisorption, free energy, isotope effects, glass-ceramics, surface segregation & diffusion
- Patenting: Siemens-Westinghouse, Allied-Signal, NGK Insulators
Profile an Organization

- Might Ceramic Fuel Cells, Ltd., be the right partner to work with us on this Australian development?
Company at a Glance:
Ceramic Fuel Cells Ltd.

SCORECARD

Investors in the Company:
12 Organizations, including Australian manufacturing, power, gas, investment & government.

Company Patenting Trend

Tech Fit
Tech Coverage
Tech Concentration
Capabilities Spectrum

Hungry?

Top Inventors
Jaffrey [8]
Foger [4]
Badwal [22]

Top Authors
Jiang [22]
Foger [16]
Zhang [9]
Ciacchi [8]
Love [6]

Next Step:
Initiate contact with Foger or Badwal?
Innovating in Innovation Management:
  - Various ways
    - Consumer Products Co.: We do a pilot; retarget – do more; collaborate; hand off

Targets of Opportunity:
  - Stagegate processes
  - Spell out tools & information products at each stage
  - Notable successes

RTIP Initiative:
  - Small consortial development of key tools
  - Gain experience cross-organization on analyses & indicators
Resources

- **Tech Mining**: Exploiting New Technologies for Competitive Advantage,
  Alan L. Porter & Scott W. Cunningham
  (Wiley, 2005)

- VantagePoint (product information, white papers)
  - [www.TheVantagePoint.com](http://www.TheVantagePoint.com)

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