



vantage point



What is VantagePoint?

VantagePoint is desk top
Text Mining Software for
Discovering Knowledge in
virtually any Structured
Text Database



Why Text Mining?

Welcome to the age of too much information.

We can now easily retrieve far more relevant information than is humanly possible to read.





But if we want to use all this information, what do we do?

- Change our perspective on text-based information.
- Get away from our “need to read”
- Treat *text* as DATA
- Use data mining techniques to analyze text

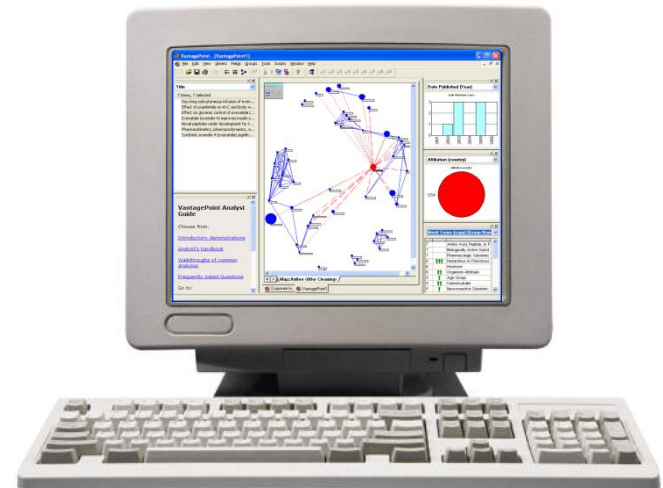
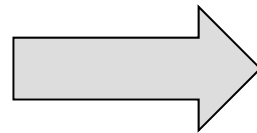
When does Text Mining Work?

- When what you seek is a pattern -- not a specific document
 - There is a distinct difference between “search and retrieval” and “text mining”
- When your information is available in electronic machine readable form
- When your electronic information is accessible via bulk download



What does Text Mining give us?

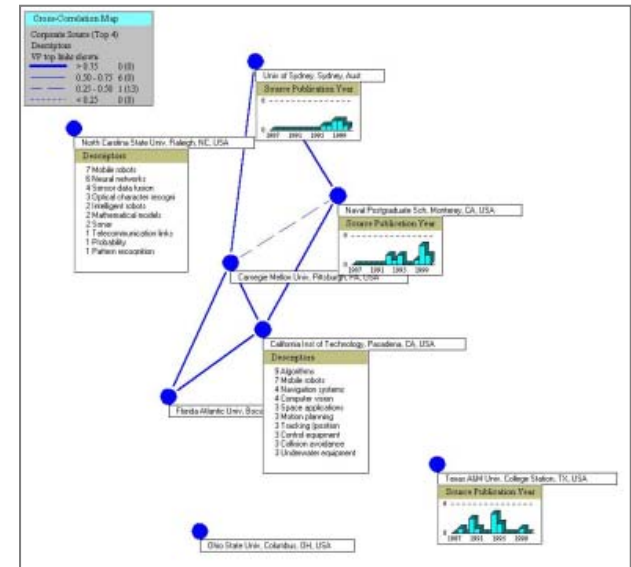
Since text mining allows us to use computers to “read” the information, we can digest far more information than we could before.



What are Patterns in Text?

Patterns in text are the relationships between words or phrases that repeat across many different documents.

For example, if one document mentions “sodium chloride” and “salt” and then another document mentions “sodium chloride” and “salt” and then another and another etc... You begin to assume that “sodium chloride” and “salt” are related.



How do we find a pattern?

Use Co-word Bibliometrics/Co-occurrence statistics to find relationships

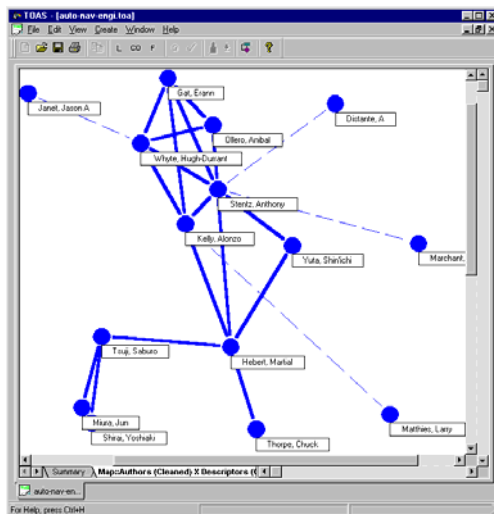
- Count the number of times words appear together in a set of documents
- The higher the co-occurrence, the stronger the potential relationship

Word 1 ↔ **Word 2**

Patterns have Meaning

Patterns that we find represent higher order abstractions within the large text collection.

- In our salt example, we can induce that Sodium Chloride is a salt



Meaning

The Big Why

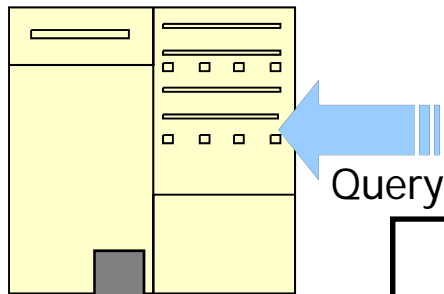
Patterns
=
Knowledge



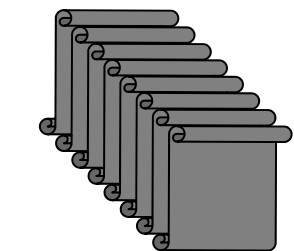
How does VantagePoint work?

- On-Line Hosts
- Internal Databases

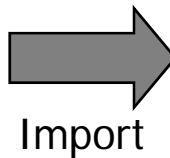
1. Search for information in your structured text databases
2. Download your search results
3. Import the search results into VantagePoint
4. Use VantagePoint to discover patterns within the search results



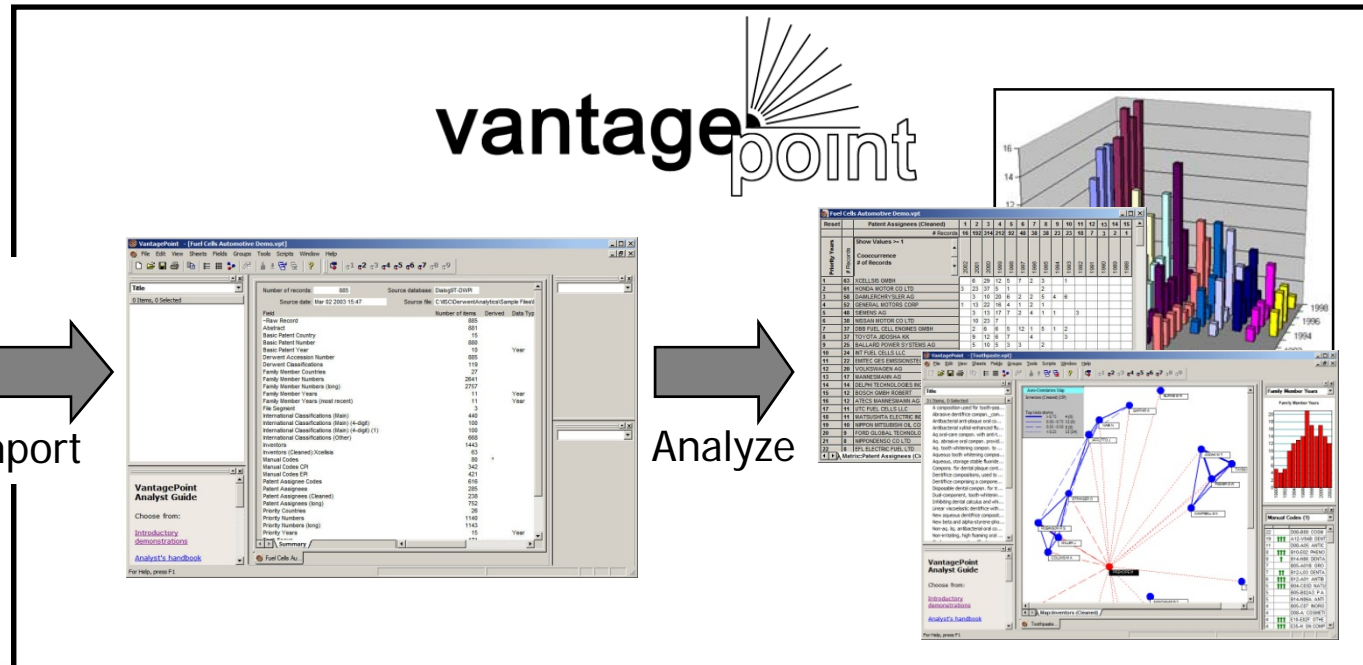
Download



Search Results



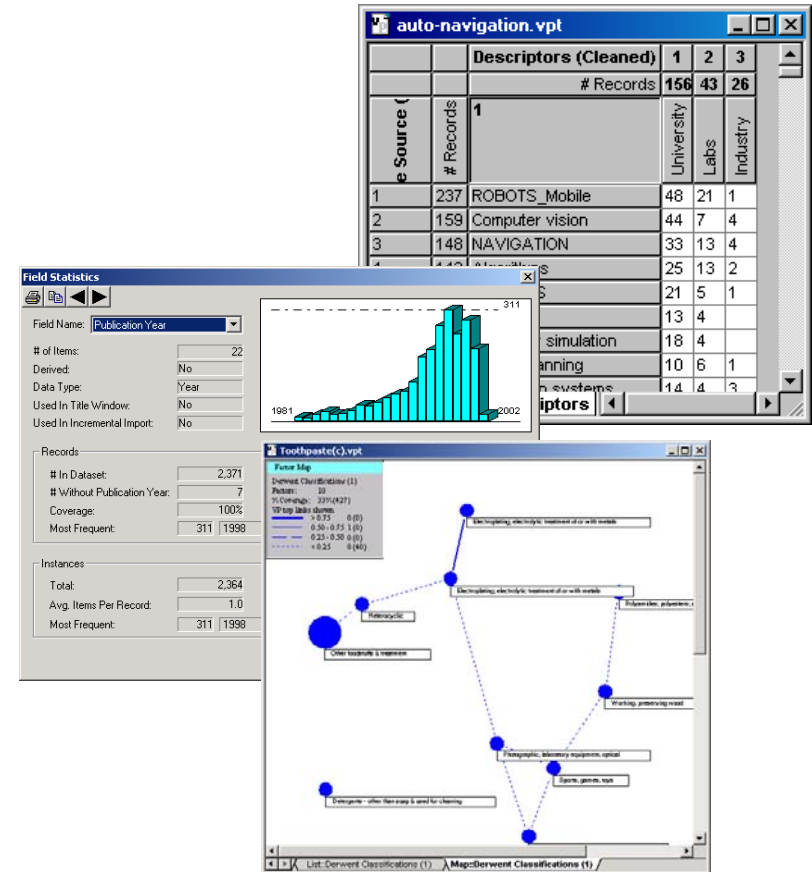
Import



Analyze

What can you do with VantagePoint?

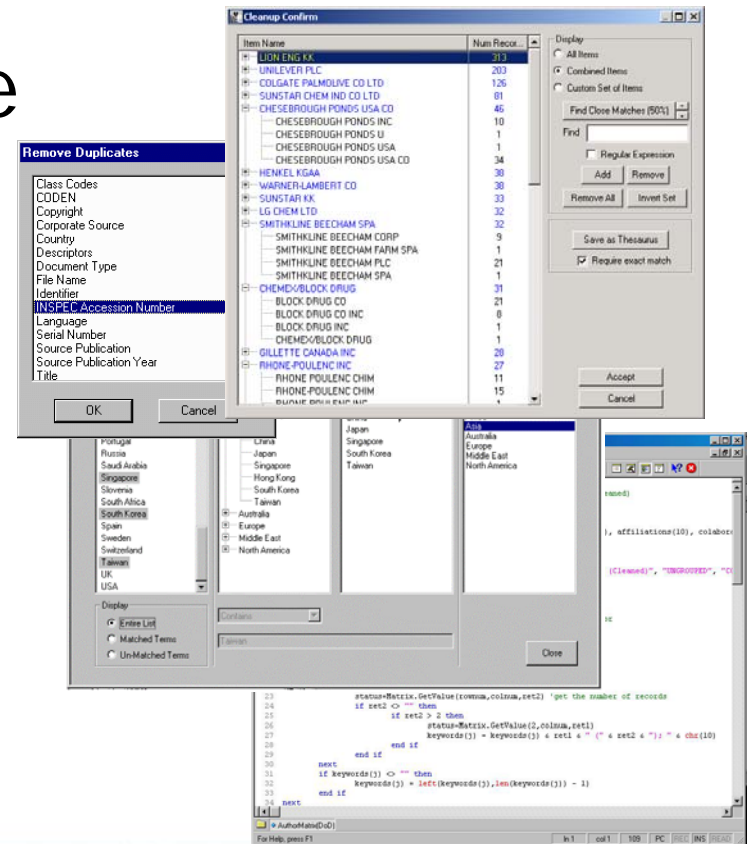
- Analyze Information
- Map Relationships
- Identify Trends
- Develop Indicators
- Automate Your Analysis
- Discover Knowledge



VantagePoint Toolset

VantagePoint has several powerful tools to help the user analyze text

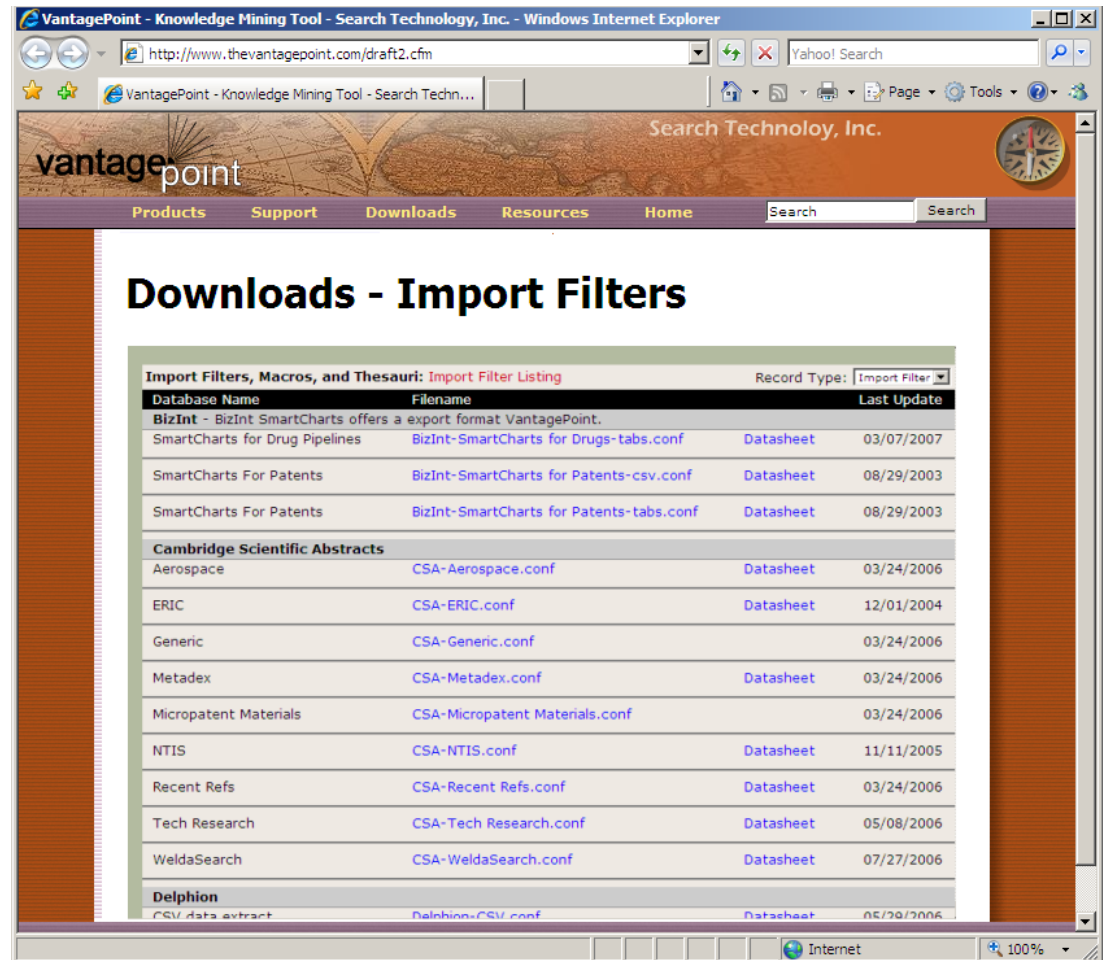
- Data Cleaning
- User Defined Thesaurus
- Visual Basic Scripting
- Import Engine adaptable to hundreds of databases



On-Line Resources

Download ...

- Import Filters
- Macros/Scripts
- Thesauri
- Fuzzy Match Rulesets
- White Papers



VantagePoint - Knowledge Mining Tool - Search Technology, Inc. - Windows Internet Explorer

http://www.thevantagepoint.com/draft2.cfm

Search Technology, Inc.

vantagepoint

Products Support Downloads Resources Home Search

Downloads - Import Filters

Import Filters, Macros, and Thesauri: [Import Filter Listing](#) Record Type:

Database Name	Filename	Record Type	Last Update
BizInt - BizInt SmartCharts offers a export format VantagePoint.			
SmartCharts for Drug Pipelines	BizInt-SmartCharts for Drugs-tabs.conf	Datasheet	03/07/2007
SmartCharts For Patents	BizInt-SmartCharts for Patents-csv.conf	Datasheet	08/29/2003
SmartCharts For Patents	BizInt-SmartCharts for Patents-tabs.conf	Datasheet	08/29/2003
Cambridge Scientific Abstracts			
Aerospace	CSA-Aerospace.conf	Datasheet	03/24/2006
ERIC	CSA-ERIC.conf	Datasheet	12/01/2004
Generic	CSA-Generic.conf	Datasheet	03/24/2006
Metadex	CSA-Metadex.conf	Datasheet	03/24/2006
Micropatent Materials	CSA-Micropatent Materials.conf	Datasheet	03/24/2006
NTIS	CSA-NTIS.conf	Datasheet	11/11/2005
Recent Refs	CSA-Recent Refs.conf	Datasheet	03/24/2006
Tech Research	CSA-Tech Research.conf	Datasheet	05/08/2006
WeldaSearch	CSA-WeldaSearch.conf	Datasheet	07/27/2006
Delphion			
CSV data extract	Delphion-CSV.conf	Datasheet	05/29/2006

Internet 100%

What kind of questions can we answer with VantagePoint?

Who?

Where?

What?

When?

United States Patent [10] 4,932,044
Williams et al. [11] Patent Number: 4,932,044
[12] Date of Patent: Jun. 5, 1990

[54] TISSUE ANALYZER
[55] Inventors: Robert W. Williams; Pasko Rakic, both of Hamden, Conn.
[56] Assignee: Yale University, New Haven, Conn.
[57] Appl. No.: 267,222
[58] Filed: Nov. 4, 1988
[59] Int. Cl. G01N 48/00; G06M 11/02; B24N 7/18
[60] U.S. Cl. 377/10, 350/550, 350/6, 377/112
[61] Field of Search 377/10, 112, 350/507, 350/529, 530, 532/6

[56] References Cited
U.S. PATENT DOCUMENTS
3,721,759 3/1973 Lang 350/530
4,176,376 11/1979 Kamaki et al. 377/10
4,667,333 5/1987 Deindorfer 377/10

OTHER PUBLICATIONS
Frost, Harold, M.D., Henry Ford Hospital Bulletin, 8, "Measurement of Osteocytes Per Unit Volume and Volume Components of Osteocytes and Canaliculi of Man" pp. 208-211, before 11-4-88.
Abercrombie, M., Anat. Rec. 94, 1946, "Estimation of Nuclear Population from Microtome Sections" pp. 239-246.
Perran, M. et al., Journal of the Optical Society of America, vol. 58, No. 5, May 1961, "Tandem-Scanning Reflected-Light Microscopy" pp. 661-664.
Padawer, J., Journal of Royal Microscopical Society, vol. 88, Pt. 3, Jan. 1968, "The Nomarski interference-contrast microscope. An experimental basis for image interpretation" pp. 205-249.
Underwood, E. E., Journal of Microscopy, vol. 89, Pt. 2, Apr. 1969, "Stereology: or the quantitative evaluation of microstructures" pp. 161-180.
Luser, Edmund M., Journal of Neuroscience Methods, 5(1982), "Sholl's Law: The Bone of Computer Microscopists" pp. 201-202.
Gundersen et al., Journal of Microscopy, vol. 131, Pt. 1, Jul. 1983, "Estimation of Volume Thickness Unbiased by Cutting-Deformation" pp. R19-R21.
Howard et al., Journal of Microscopy, vol. 138, Feb. 1985, "Unbiased estimation of particle density in the tandem scanning reflected light microscope" pp. 209-211.
Curci et al., Anat. Rec., 1986, "Computerized Morphometry Using Video-Mixed Microscopic Images and Computer Graphics" pp. 329-337.
Gundersen, M. J. G., Journal of Microscopy, vol. 143, Pt. 1, Jul. 1986, "Stereology of arbitrary particles" pp. 3-45.
Primary Examiner—John S. Heyman
Attorney, Agent, or Firm—Ferman & Green

[57] ABSTRACT
A system is disclosed for counting particles/cells within a counting box of a known volume that is completely inside a transparent section of sample. The box has a changeable height with defined upper and lower limits and appropriately selected width and depth dimensions. It resides completely within the sample and has no surface in common with an exterior surface of the sample. The system includes a compound light microscope that has a depth of focus which is small in relation to the thickness dimension of the counting box. The microscope includes adjustment means for moving the focal plane through a range which is greater than the height limits of the counting box. Display means are provided which show the portion of the sample that is within the depth of focus and user-operated means is provided to enable the user to mark the cells so displayed. Indicator means are further provided to either audibly or visually indicate to the user when the adjustment means causes the focal plane to pass beyond either the upper or lower height limits of the counting box. The indicator means further includes means for accumulating a count of cells within the counting volume as the user operates the marker means. Means are also provided to compensate for optical foreshortening.

7 Claims, 5 Drawing Sheets

... and with the help of a subject matter expert

How?

United States Patent [19] [11] **Patent Number:** 4,932,044
Williams et al. [45] **Date of Patent:** Jun. 5, 1990

[54] **TISSUE ANALYZER**
 [57] **Inventors:** Robert W. Williams; Pasko Rakic, both of Hamden, Conn.
 [73] **Assignee:** Yale University, New Haven, Conn.
 [21] **Appl. No.:** 267,222
 [22] **Filed:** Nov. 4, 1988
 [51] **Int. Cl.:** G01N 33/48; G06M 11/02; B24N 7/18
 [52] **U.S. Cl.:** 377/10; 350/530; 382/6; 377/112
 [58] **Field of Search:** 377/10, 112, 350/507, 350/529, 530, 382/6

[56] **References Cited**
U.S. PATENT DOCUMENTS
 3,721,759 3/1973 Lang 350/530
 4,176,376 11/1979 Kamaki et al. 377/10
 4,667,333 5/1987 Deindoerfer 377/10


OTHER PUBLICATIONS
 Frost, Harold, M.D., Henry Ford Hospital Bulletin, 8, "Measurement of Osteocytes Per Unit Volume and Volume Components of Osteocytes and Canaliculi in Man"—pp. 208-211, before 11-4-88.
 Abercrombie, M., Anat. Rec. 94, 1946, "Estimation of Nuclear Population from Microtome Sections"—pp. 239-246.
 Ferran, M. et al., Journal of the Optical Society of America, vol. 58, No. 5, May 1968, "Tandem-Scanning Reflected-Light Microscope"—pp. 661-664.
 Padawer, J., Journal of The Royal Microscopical Society, vol. 88, Pt. 3, Jan. 1968, "The Nomarski interference-contrast microscope. An experimental basis for image interpretation"—pp. 255-269.
 Underwood, E. E., Journal of Microscopy, vol. 89, Pt. 2, Apr. 1969, "Stereology, or the quantitative evaluation of microstructures"—pp. 161-180.
 Glaser, Edmund M., Journal of Neuroscience Methods, 5(1982), "Sheel's Law: The Bane of Computer Microscopists"—pp. 201-202.
 Gunderson et al., Journal of Microscopy, vol. 131, Pt. 1,

Jul. 1983, "Estimation of Section Thickness Unbiased by Cutting-Deformation"—pp. RP3-RP4.
 Howard et al., Journal of Microscopy, vol. 138, Pt. 2, May 1985, "Unbiased estimation of particle density in the tandem scanning reflected light microscope"—pp. 203-212.
 Garcia et al., Anat. Rec., 1986, "Computer-Assisted Morphometry Using Video-Mixed Microscopic Images and Computer Graphics"—pp. 329-337.
 Gunderson, M. J. G., Journal of Microscopy, vol. 143, Pt. 1, Jul. 1986, "Stereology of arbitrary particles"—pp. 3-45.
Primary Examiner—John S. Heyman
Attorney, Agent, or Firm—Ferman & Green

[57] **ABSTRACT**
 A system is disclosed for counting particles/cells within a counting box of precisely known volume that is completely inside a transparent section or sample. The box has a chosen height with defined upper and lower limits and appropriately selected width and depth dimensions. It resides completely within the sample and has no surface in common with an exterior surface of the sample. The system includes a compound light microscope that has a depth of focus which is small in relation to the thickness dimension of the counting box. The microscope includes adjustment means for moving the focal plane through a range which is greater than the height of the counting box. Display means are provided which show the portion of the sample that is within the depth of focus and user-operated means is provided to enable the user to mark the cells so displayed. Indicator means are further provided to either audibly or visually indicate to the user when the adjustment means cause the focal plane to pass beyond either the upper or lower height limits of the counting box. The indicator means further includes means for accumulating a count of cells within the counting volume as the user operates the marker means. Means are also provided to compensate for optical foreshortening.

7 Claims, 5 Drawing Sheets

Why?



**So... Using combinations of
Who, What, When and
Where we can...**

Easily find linkages....

VantagePoint - [AirBags.vpt]

File Edit View Sheets Fields Groups Tools Scripts Window Help

19 Items, 0 Selected

VantagePoint Analyst Guide

Choose from:

- [Introductory demonstrations](#)
- [Analyst's handbook](#)
- [Walkthroughs of common analyses](#)
- [Frequently Asked Questions](#)

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3	9	9	Univ of Mich, Ann Arbor	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4	7	7	US Air Force	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5	6	6	Automotive Technologies Int Inc	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6	6	6	Chrysler Corp	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7	6	6	Natl Highway Traffic Safety Administration	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8	5	5	Coventry (Lanchester) Polytechnic, Engl	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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16	4	4	Univ of Virginia, Charlottesville, VA, USA	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
17	3	3	Delco Electronics Corp	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
18	3	3	Idaho Natl. Engineering Lab., Idaho Falls, ID	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
19	3	3	PETRI, Inc	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
20	3	3	Simula Government Products, Inc, Phoenix,	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
21	3	3	TEMIC Telefunken Microelectronic GmbH	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

List::Corporate Source (Aff)

Author (After Cleaning)

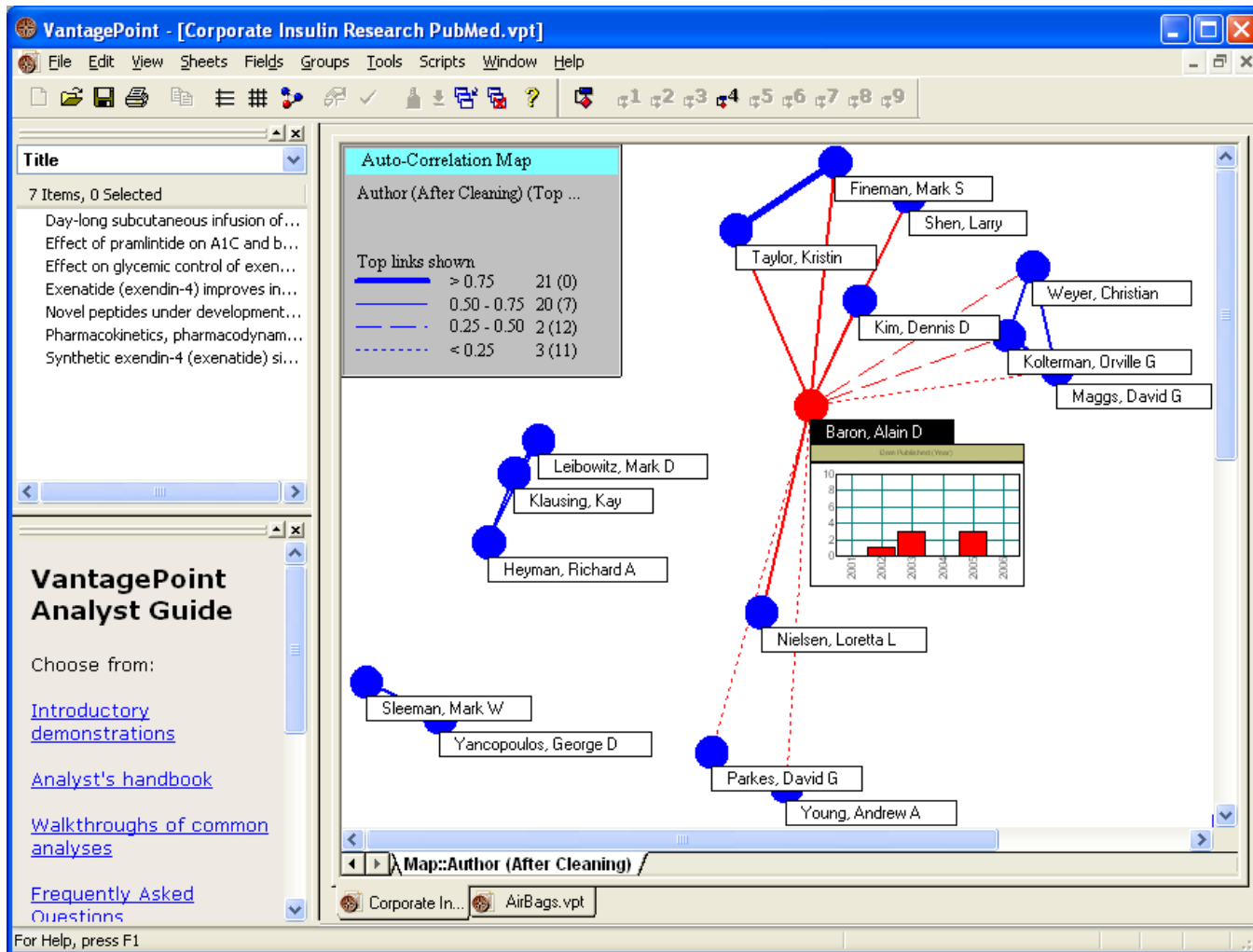
4	4	Deng, Yih-Chang
4	4	Viano, David
4	4	Wang, J. T.
3	3	Andrzejak, Dennis
3	3	Horsch, John
3	3	Lau, Ian
3	3	Chen, T. I.

Treatment Code

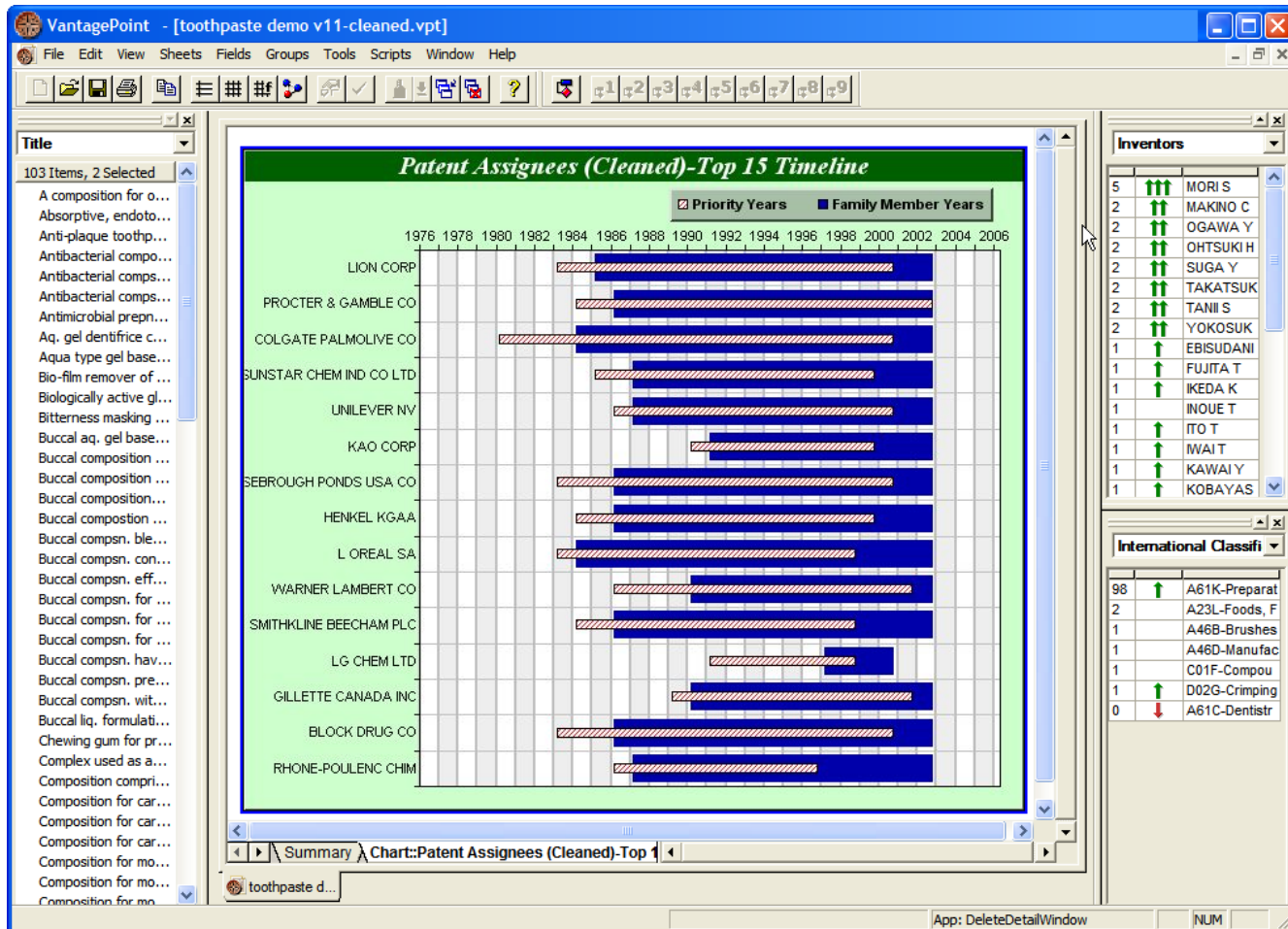
EXPERIMENTAL Applications General Review Theoretical

Publication Year

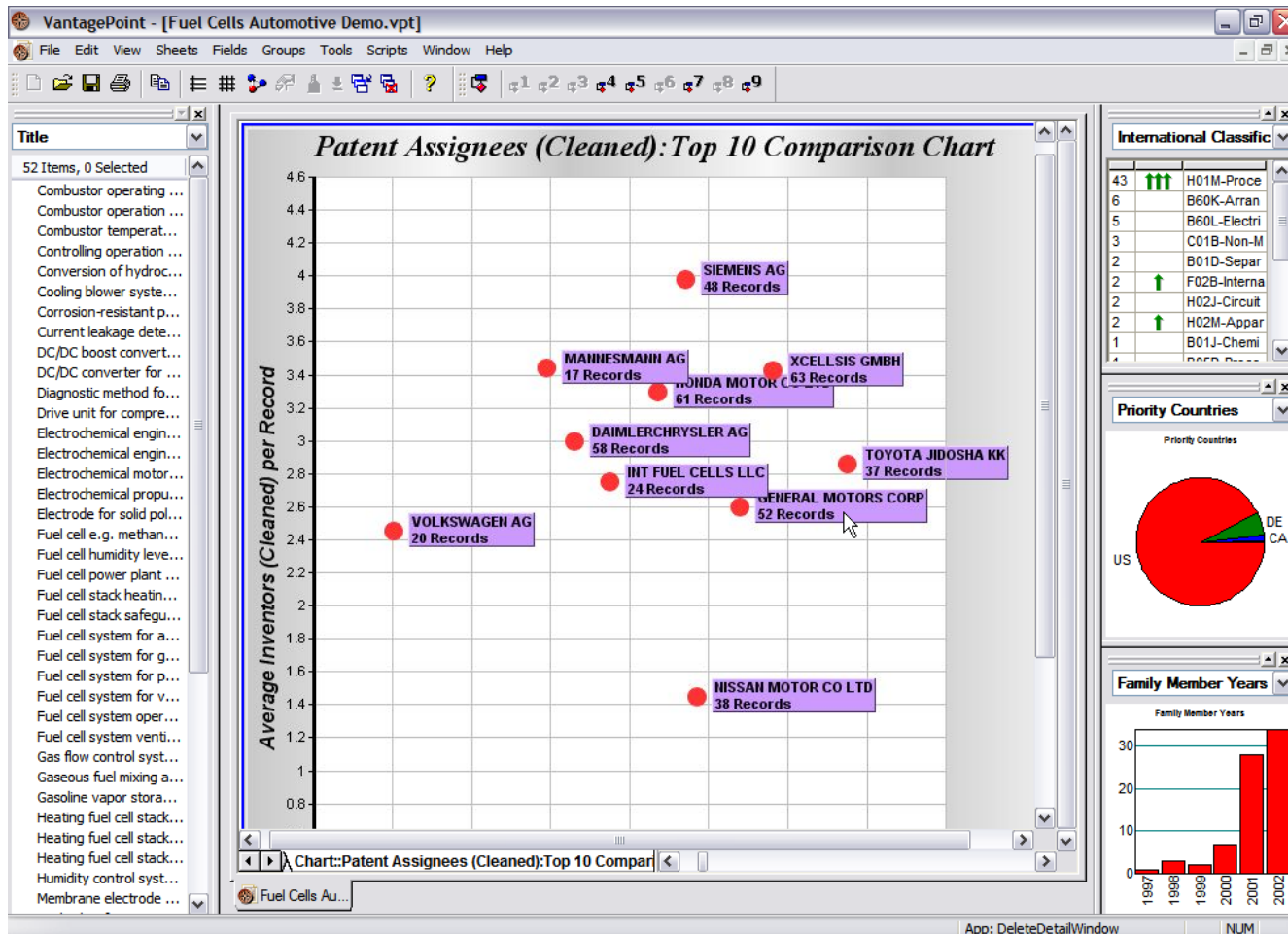
Discover Knowledge Networks...



Identify Trends...



Develop Indicators....



What Questions should I be able to answer using VantagePoint?

Top
Researchers

A screenshot of the VantagePoint software interface. The window title is "VantagePoint - [Corporate Insuli...". The menu bar includes File, Edit, View, Sheets, Fields, Groups, Tools, Scripts, Window, and Help. The main display area shows a table with columns for "# Records", "# Instances", and "Author (After Cleaning)". The data is as follows:

	# Records	# Instances	Author (After Cleaning)
1	13	13	Young, Andrew A
2	10	10	Mutoh, Seitaro
3	8	8	Heinemann, Lutz
4	7	7	Baron, Alain D
5	7	7	Fineman, Mark S
6	7	7	Kim, Dennis D
7	7	7	Kolterman, Orville G
8	7	7	Weyer, Christian
9	6	6	Draghia-Akli, Ruxandra
10	6	6	Haise, T

At the bottom, there is a navigation bar with "List::Author (After)" and "Corporate In...".

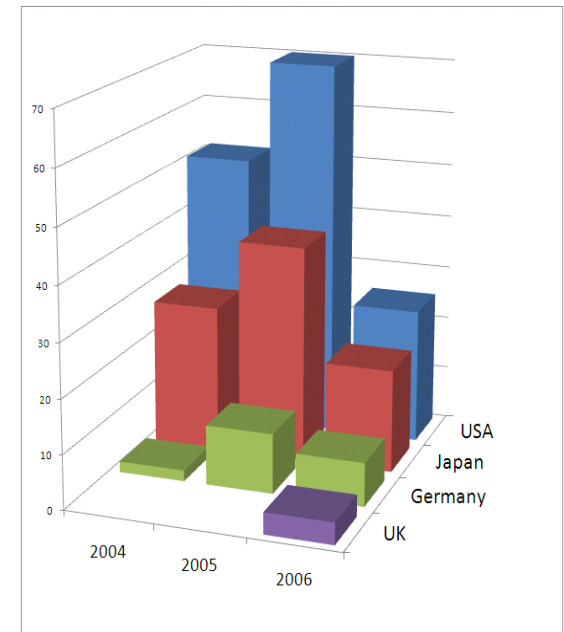
Top
Organizations

A screenshot of the VantagePoint software interface. The window title is "VantagePoint - [Corporate Insulin Res...". The menu bar includes File, Edit, View, Sheets, Fields, Groups, Tools, Scripts, Window, and Help. The main display area shows a table with columns for "# Records", "# Instance", and "Affiliation". The data is as follows:

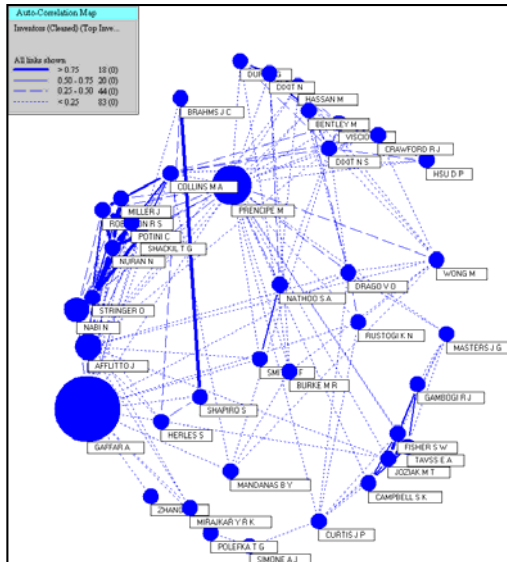
	# Records	# Instance	Affiliation
1	26	26	Amylin Pharmaceuticals, Inc.
2	14	14	Pfizer Corporation
3	12	12	Fujisawa Pharmaceutical Co., Ltd.
4	11	11	Takeda Chemical Industries Ltd.
5	10	10	Ajinomoto Company Inc.
6	9	9	Novartis Pharmaceuticals Corporation
7	9	9	Profil Institute for Metabolic Research Gmb
8	8	8	Amgen Inc.
9	8	8	Genentech, Inc.
10	8	8	Millennium Pharmaceuticals Incorporated
11	8	8	Neurocrine Biosciences, Inc.
12	8	8	Pharmacia Corporation
13	7	7	Adis International Inc.
14	7	7	Aventis Pharma Germany GmbH
15	7	7	Kissei Pharmaceutical Co., Ltd.
16	6	6	ADVISYS, Inc.

At the bottom, there is a navigation bar with "List::Affiliation (After)" and "Corporate In...".

Time
Trends



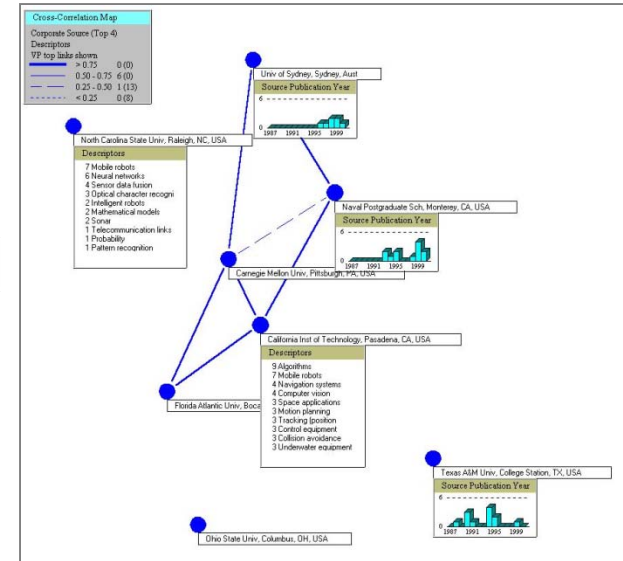
What Questions should I be able to answer using VantagePoint?



Knowledge Networks

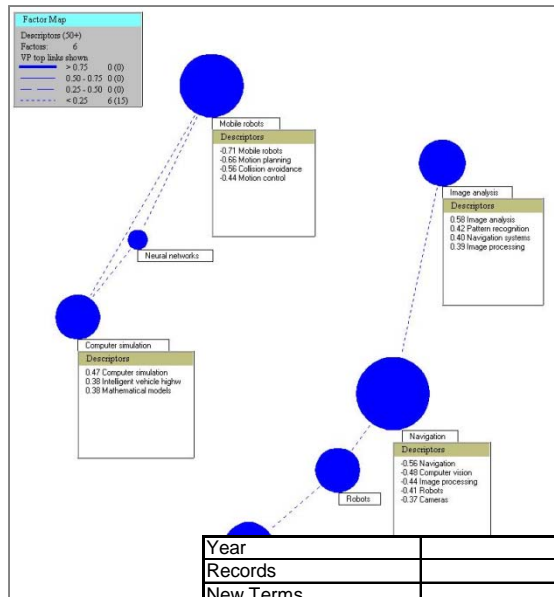
Organizational Strengths

Profiles



Corporate Source	Author	Descriptors	Journal Name
Top 4			
Carnegie Mellon Univ, Pittsburgh, PA, USA[23]	Stentz, Anthony [7]; Kelly, Alonzo [5]; Hebert, M [3]	Navigation [13]; Mobile robots [12]; Computer vision [7]; Collision avoidance [6]	Proceedings - IEEE International Conference on Robotics and Automation [6]; Proceedings of SPIE - The International Society for Optical Engineering [3]; Robotics and Autonomous Systems [2]; Autonomous Robots [2]
California Inst of Technology, Pasadena, CA, USA[16]	Matthies, Larry [3]; Tunstel, Edward [2]; Laubach, S.L [2]	Algorithms [9]; Mobile robots [7]; Navigation systems [4]; Computer vision [4]	Proceedings - IEEE International Conference on Robotics and Automation [3]; Proceedings of SPIE - The International Society for Optical Engineering [2]; Automatica [2]; Proceedings of IEEE International Symposium on Computational Intelligence in Robotics and Automation, CIRA 1997 [1]
Naval Postgraduate Sch, Monterey, CA, USA[12]	Kang, W [2]; Xi, N [2]; Kaminer, Isaac [2]	Algorithms [6]; Mathematical models [5]; Sensors [4]; Motion control [3]	IEEE Conference on Control Applications - Proceedings [2]; AIAA/IEEE Digital Avionics Systems Conference - Proceedings [1]; Dynamics and Stability of Systems [1]; Proceedings of the IEEE Conference on Decision and Control [1]
Texas A&M Univ, College Station, TX, USA[12]	Kehtarnavaz, N [6]; Kehtarnavaz, N.D [3]; Griswold, N. C [2]	Navigation systems [5]; Vehicles [4]; Steering [2]; Error analysis [2]	Proceedings of SPIE - The International Society for Optical Engineering [3]; Intelligent Vehicles Symposium, Proceedings 1994 [1]; Record - IEEE PLANS, Position Location and Navigation Symposium 1994 [1]; IEEE International Conference on Image Processing [1]

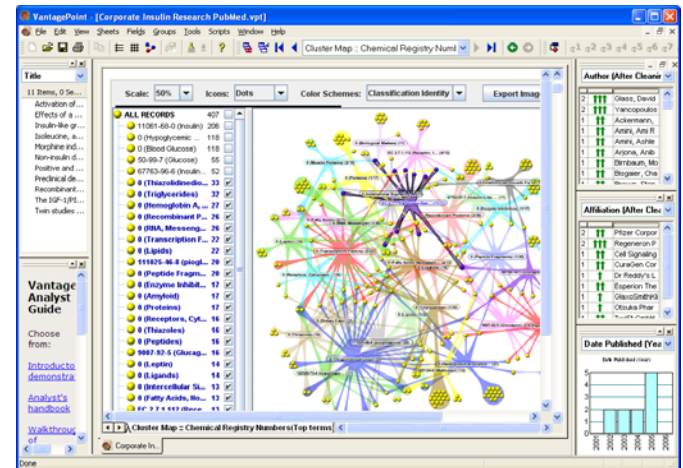
What Questions should I be able to answer using VantagePoint?



Clusters

Interactive Visualization

Concept Migration



Year	1998	1999	2000	2001
Records	94	101	101	78
New Terms	50	53	59	54
New Terms (normalized)	50	49.32673267	54.91089109	65.07692308
	Acoustic devices [3 of 3]	Wavelet transforms [2 of 2]	Unmanned vehicles [3 of 11]	Remotely operated vehicles [12 of 13]
	Pattern matching [2 of 8]	World Wide Web [2 of 2]	Motion estimation [3 of 4]	Bombs (ordnance) [3 of 3]
	Martian surface analysis [2 of 2]	Web browsers [2 of 2]	Uncertain systems [3 of 5]	Radar antennas [1 of 1]
	Personal computers [2 of 5]	Arid regions [2 of 2]	Internet [3 of 3]	Radio systems [1 of 1]
	Backpropagation [2 of 3]	Visualization [2 of 2]	Ordinary differential equations [2 of 2]	Safety devices [1 of 1]
	Electrostatics [2 of 3]	Tracking radar [2 of 2]	Multiplexing [2 of 2]	Monolithic microwave integrated circuits [1 of 1]
	Jamming [1 of 2]	Graphical user interfaces [2 of 6]	Handicapped persons [2 of 2]	Semantics [1 of 1]
	Mine trucks [1 of 3]	Radar target recognition [2 of 2]	Theorem proving [1 of 1]	Receiving antennas [1 of 1]
	Ordnance [1 of 1]	Information retrieval [2 of 3]	Traffic surveys [1 of 2]	Redundant manipulators [1 of 1]
	Optical beam splitters [1 of 1]	Nonlinear filtering [1 of 1]	Autonomous agents [1 of 4]	Railroad tracks [1 of 1]
	Ballast tanks [1 of 1]	Antenna arrays [1 of 2]	Maximum likelihood estimation [1 of 1]	Vector quantization [1 of 1]

When you master VantagePoint, you can...

Quickly Discover Knowledge

Technology Profile: INTUMESCENT Score Card

Maturity	Science Base	Increase in Diversity	Growth in New Entrants	Self Citation

Top Patent Assignees

Assignee	Inventors	Top IPC Classes	Issue Pattern
Minnesota Mining and Manufacturing Company[37]	Graham, Joseph [5]; LANGER, Roger, L. [4]; DYKHOFF, Michael, G. [3]	C09K02114 [4]; C09D00518 [4]; C09K02100 [3]	
Bayer Aktiengesellschaft[19]	von Bonin, Wulf [19]; von Gayzky, Ulrich [2]	C08G01814 [4]; C09K02100 [3]; C09K02114 [3]	
Dixon International Limited[13]	Malcolm-Brown, Tessa [7]; Southern, Eric [3]; Tanner, Robert Alfred [2]	E06B00516 [3]; A62C00314 [2]; C09K02114 [2]	
PPG Industries, Inc.[9]	Ward, Thomas A. [7]; Saines, Jerome A. [5]; Heber, Robert W. [2]	C09G07902 [2]; C09J00502 [2]; C09K02114 [1]	
GLAVERBEL[8]	NoAvailable [3]; De Boel, Marcel [2]; Goellf, Pierre [2]	B32B01706 [5]; B32B00900 [2]; C03C01736 [1]	
AlliedSignal Inc.[6]	Oizak, Richard A. [4]; Jablton, Michael [2]; Kersten, Gary [2]	C08F28300 [1]; H05K00502 [1]; H05K00506 [1]	

Major Issue Areas

Patent Issue Location

Assignee	Number of Patents	Year of Last Publication
Cities Service Oil Company	35	1977
Imperial Chemical Industries Limited	12	1988
BFG GLASSGROUP	10	1984
Monsanto Research Corporation	7	1981

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