

How to leverage patent information to facilitate research performance for individual & institute

SCIENTIFIC

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Agenda

- Thomson Reuters
- The scientific business of Thomson Reuters
- · Why patent information is important for you
- Patent: Derwent Innovation Index (DII)
- "Free" patent website: A comparison



Thomson Reuters

	Financial:	Provides financial applications for over half a million professionals globally
	Media:	Reuters News reaches over one billion people daily
•	Legal:	Westlaw relied upon by 98% of the world's major law firms
•	Tax & Accounting:	Checkpoint used by 99 of the top 100 U.S. accounting firms
•	Scientific:	Used by over 20 million users worldwide
•	Healthcare:	Informing healthcare decisions affecting over 150m lives



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16,000

14,000

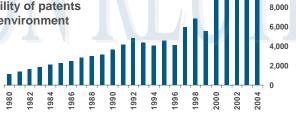
12,000

10,000

Introduction

The past 20 years has seen a 10 fold increase in the patent activity of Academic institutions.

- Greater emphasis on applied research
- Academics are encouraged to collaborate with commercial concerns
- Landmark US legislation in 1980 (Bayh-Dohl Act)
- Creation of technology transfer or technology licensing offices at academic institutions
- Changes in acceptability of patents within the academic environment







	Number of inventions by academic institutions worldwide	Total number of worldwide inventions	% of academic inventions to total
2000	18,414	660,328	2.79%
2001	21,175	710,241	2.98%
2002	23,843	768,159	3.10%
2003	30,547	769,363	3.97%
2004	32,057	800,350	4.01%
2005	42,368	842,744	5.03%
Growth	130.09%	27.63%	

- Academic inventions:
- Patent docs >DOUBLE over 6 years period
- But stands at only ~5% of global filings in 2005



Thomson Reuters (Scientifc): Derwent

5

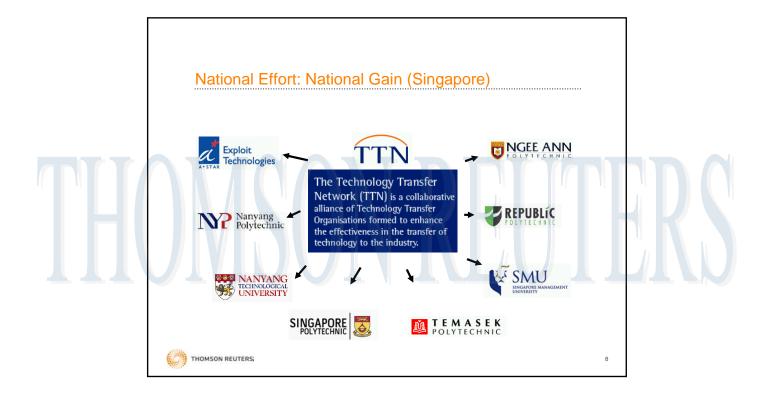
Legal protection & Technology Transfer

 Many academic institutions & polytechnics now have Technology Transfer or Technology Licensing departments that administer the intellectual property rights of the organization.









THOMSON REUTERS

Reality Check . . .

Read patents, not just papers

nature materials | VOL 1 | DECEMBER 2002

"Could university professors performing basic research be successfully sued for infringing patents?"

"Just because a researcher has not been sued does not mean he or she will not be in the near future. And if a researcher has a stake in a commercial startup company that is spun out of university research, she or he may be in for a rude surprise."

Nature Biotechnology, November 08, 2007



Usefulness of Patent for Academics.

"...an awareness of the patent can help academics formulate research questions, find new sources of funding, and most importantly remain in touch with the commercial world and so appreciate when their results are marketable."

> Dr. Ralf Blossey Research Director, CNRS Biological Nanosystems Group Interdisciplinary Research Institute Lille, France



Patent and Non-Patent Relationship

How significance are literatures found in patents ??





11

Reality Check: Patent and Literature Relationship

Rank	Technical field	IPC class	% NPL citations	patent docs*
1	Biochemistry - microorganisms or enzymes	C12N	60.1	295,51
2	Organic chemistry – peptides	C07K	58.6	136,28
3	Biochemistry – measuring or testing processes involving microorganisms or enzymes	C12Q	49.2	102,00
4	Acoustics - speech analysis or synthesis, speech recognition	G10L	43.0	54,943
5	Organic chemistry - sugars, nucleotides, nucleic acids	C07H	35.8	79,793
6	Computing – image data processing	G06T	34.9	65,026
7	Biochemistry - fermentation or enzyme using processes	C12P	33.3	79,54
8	Electric communication technique – transmission of digital information	H04L	32.1	343,1:
9	Medical or vetenary science – preparations for medical, dental, or toilet purposes	A61K	31.6	963,0:
10	Average of all EP applications	all	11.95	4.8 M

are you missing out?

Jacques Michel, B.B., Patent Citation Analysis. Scientometrics, 2001. 51(1):p.185-201



Who needs Patent Information?

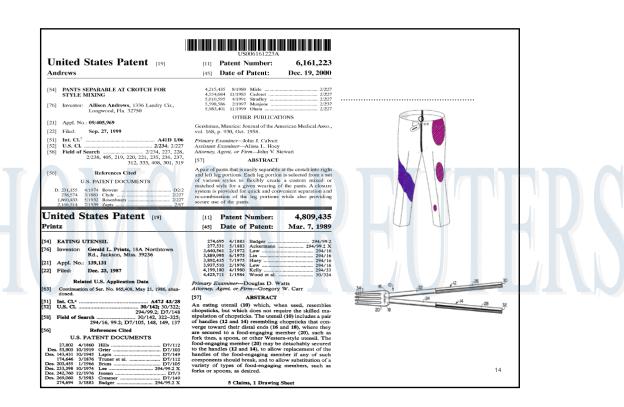
For students and lecturers

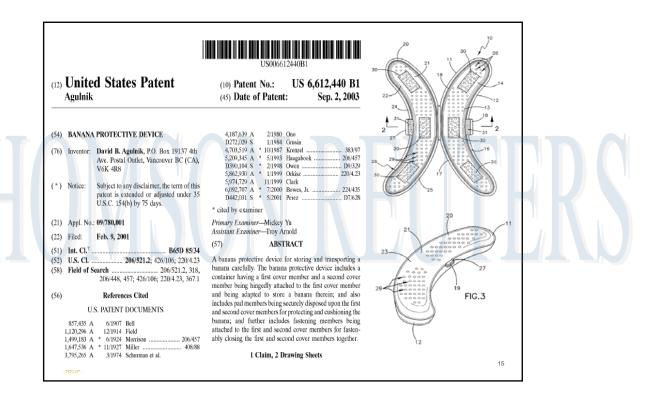
- Complete background information
- Unique information unavailable elsewhere
- · Comprehensive details of each technology
- Inspiration for new techniques and methods
- Research evaluation

For intellectual property administrators and analysts

- Legal protection
 - Prior art searching
 - Protection of existing intellectual property
- Technology Transfer / licensing









Complete Background Information

Patents are the only legally protected forum for the discloser of discoveries. Therefore patents contain a vast wealth of unique information.

Search patent information to avoid needlessly reproducing existing research & make sure you are not infringing some else's intellectual property

• "In turn, about 80% of the technical knowledge contained in patent documents cannot be found anywhere else, not even in trade journals or academic papers." *

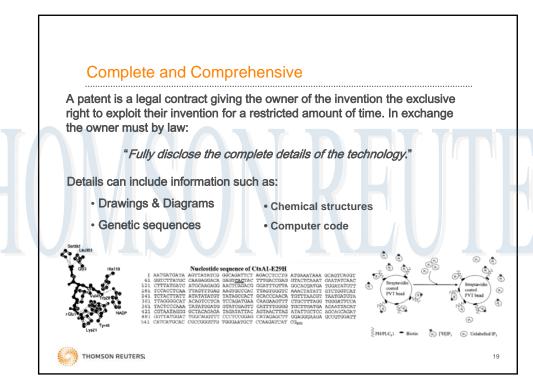
* European Patent Office



Essential Information for Academics

- Patents are no longer limited to corporate research, more and more academic institutions & polytechnics worldwide are registering patents
- Almost every recent Nobel laureate for Chemistry and many of the laureates for Physics and Medicine have published patents.
- Many academics actively patent their research to strengthen their publication portfolio.
- <u>Patents</u>, along with <u>Journals</u> and <u>Proceedings</u> are now considered one of the key sources of information for academic researchers



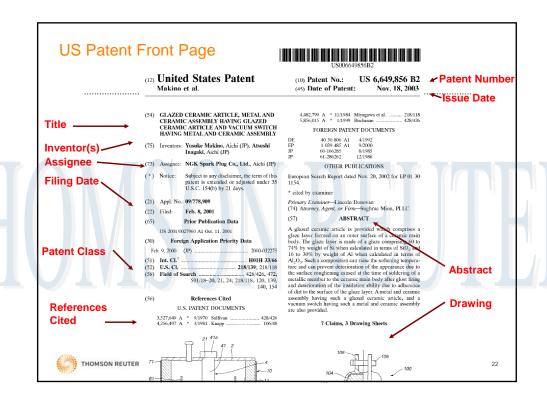


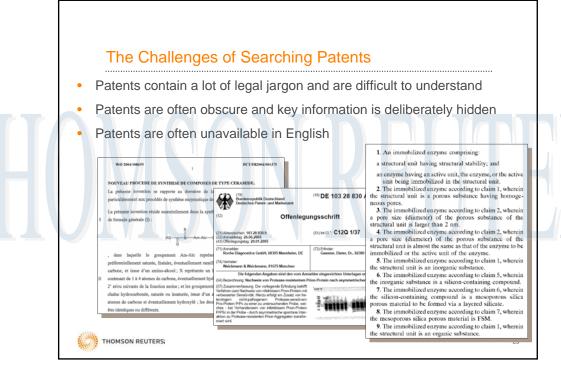


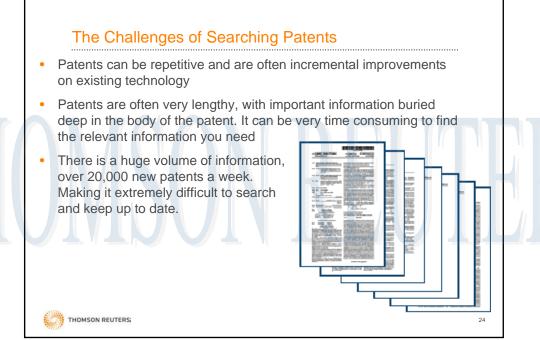
What is Intellectual Property?

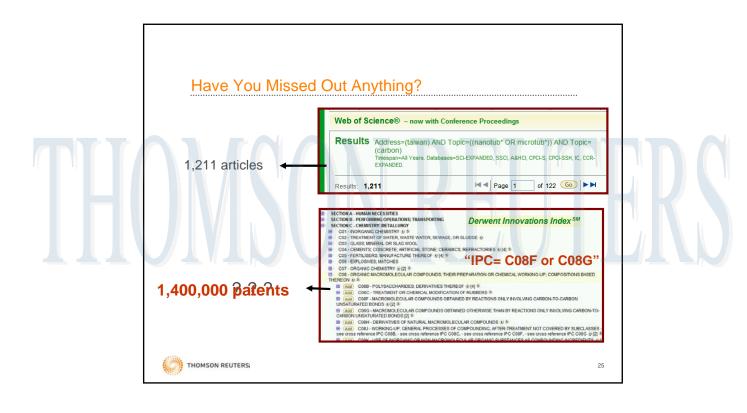
- Copyrights
 - protects original works of authorship
- Trademarks
 - any word, name, symbol, or design used by businesses to distinguish its goods and services from those of another
- Trade Dress (Design)
 - involves the non-functional look and appearance of a product or its packaging
- Trade Secrets
 - information that provides economic value and is not generally known
- Patents
 - governmental grant to the inventor to exclude others from making, selling, using, selling, offering for sale, or importing the patented invention

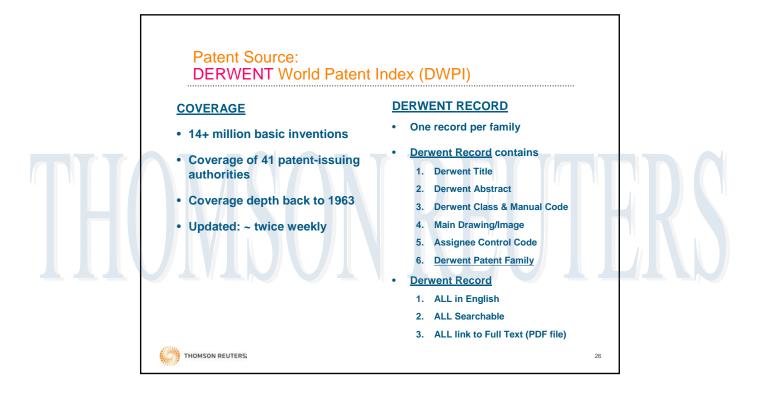


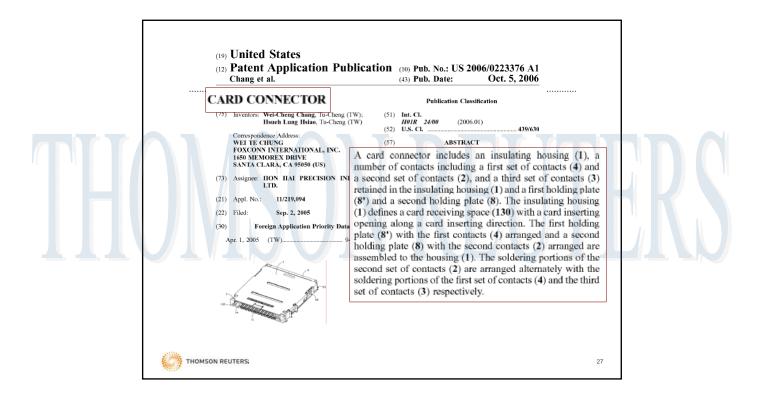


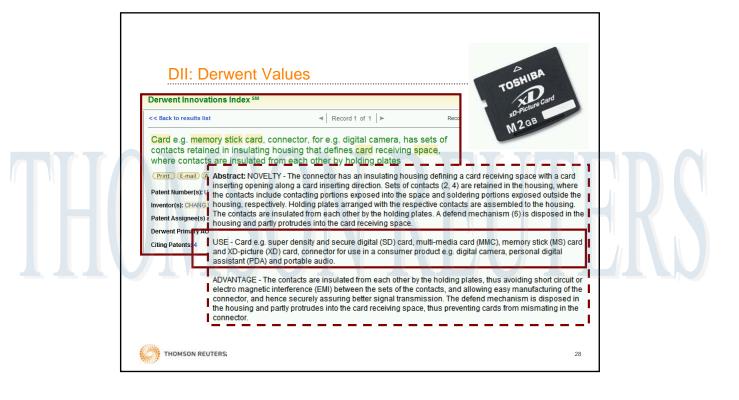


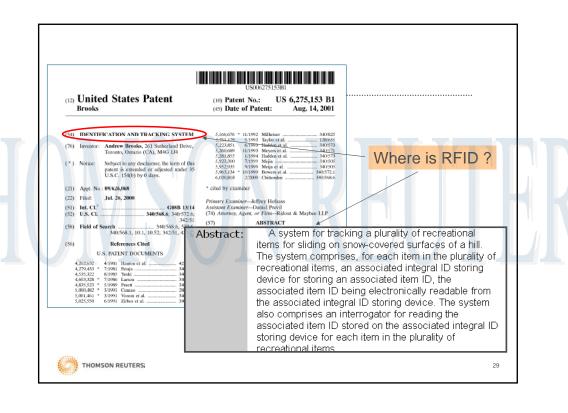


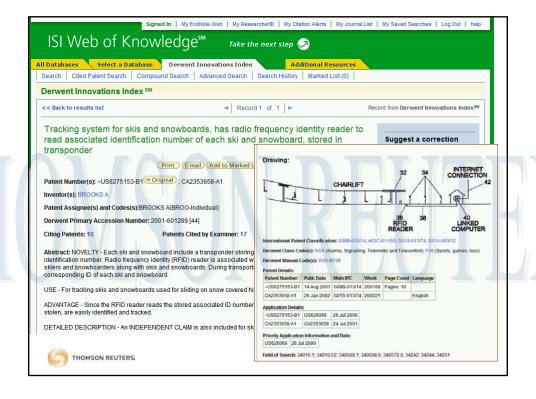






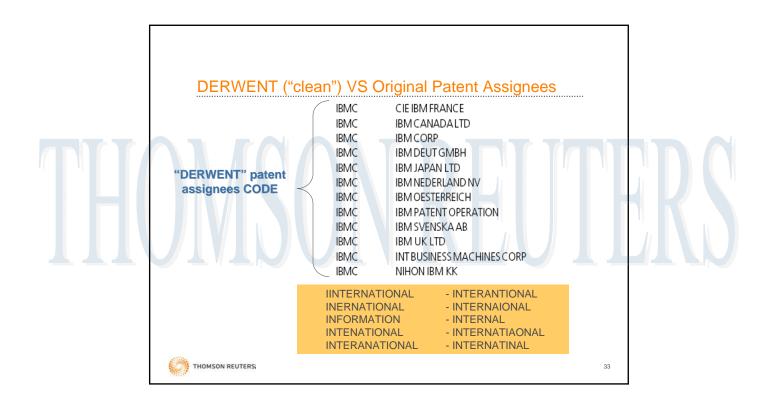


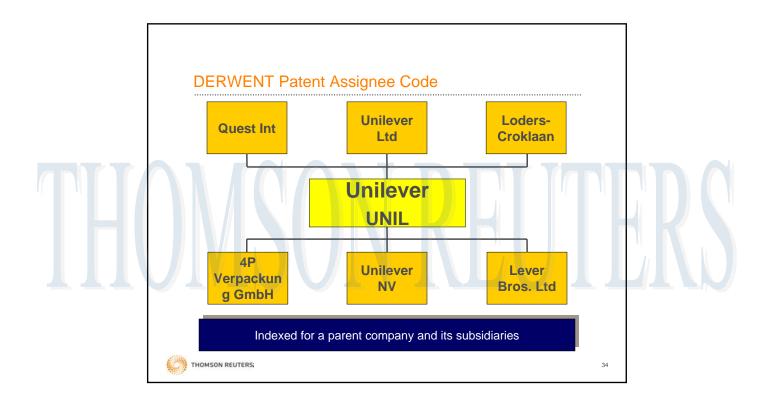


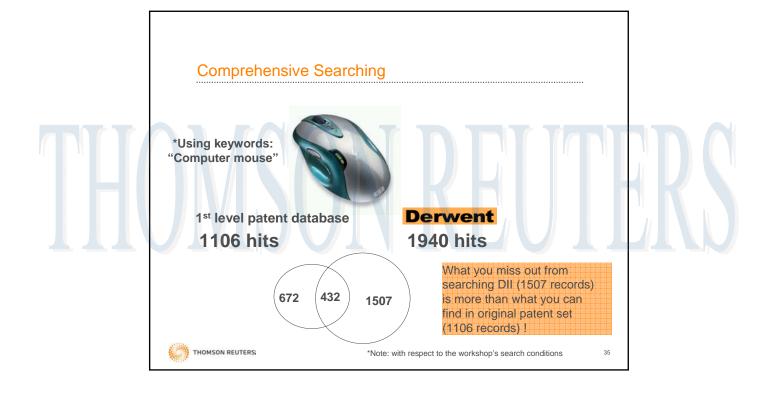


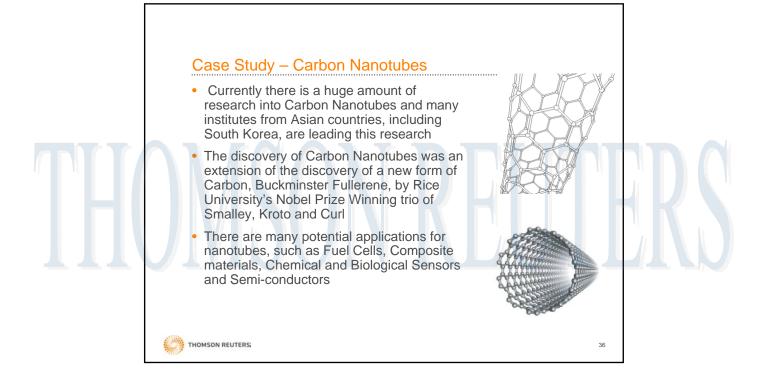




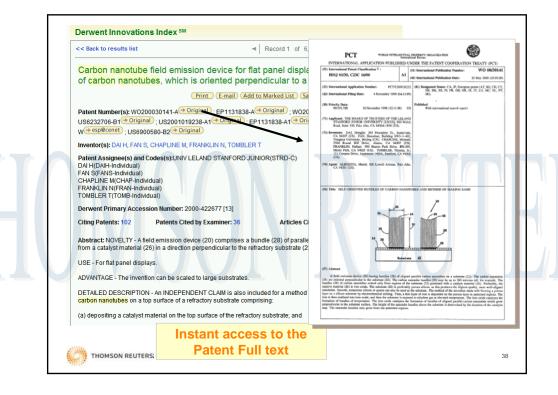


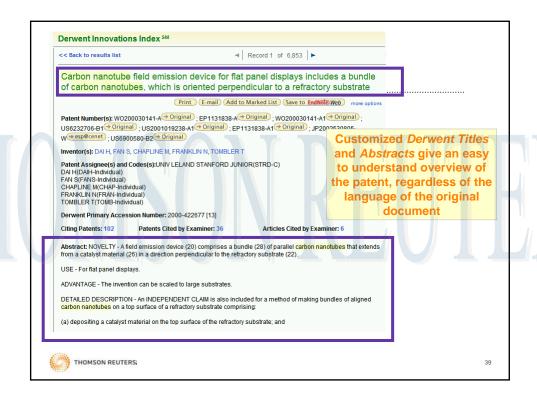


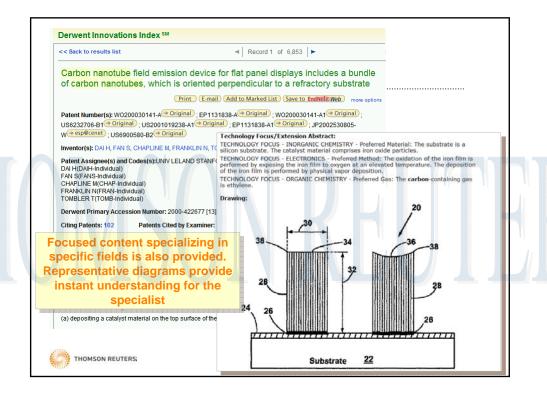


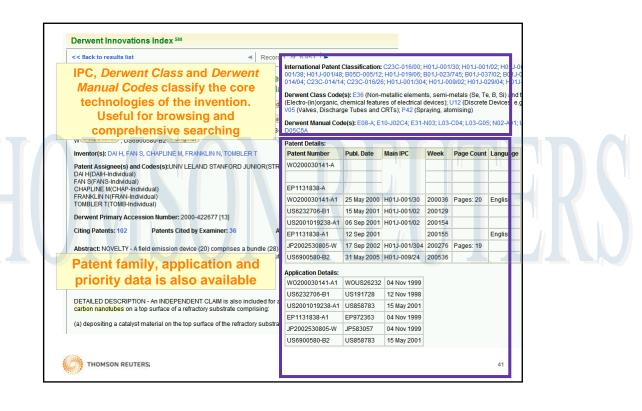


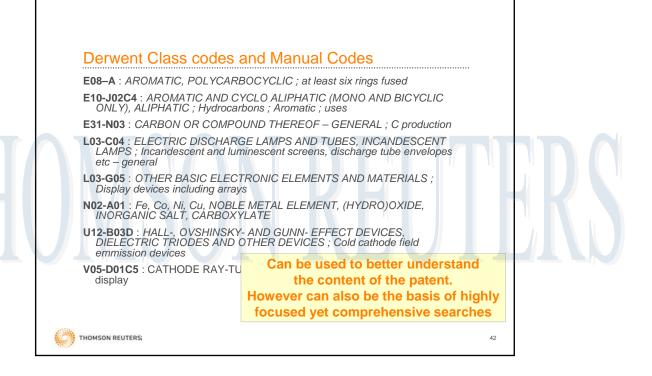


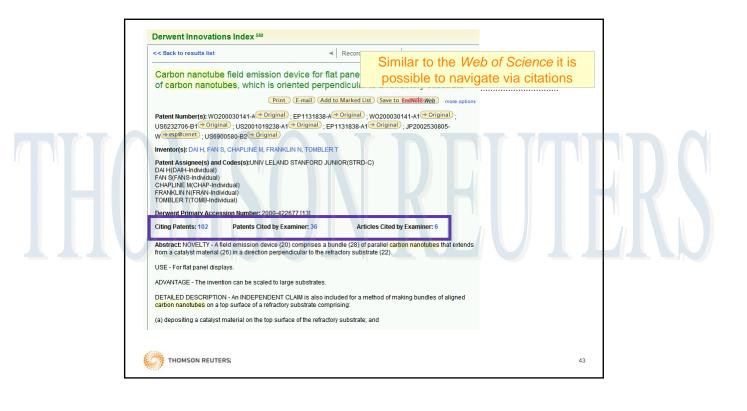


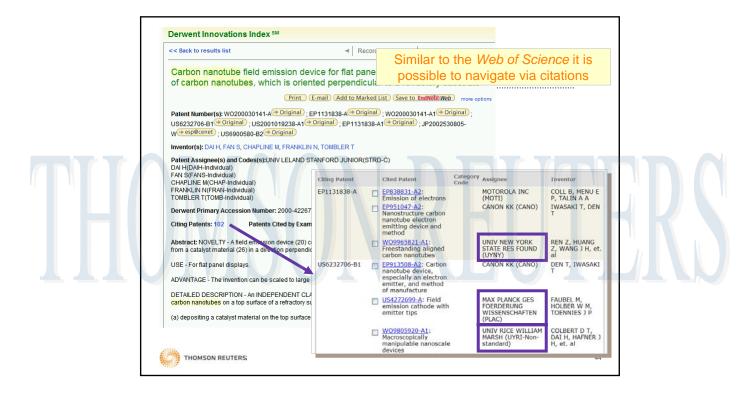




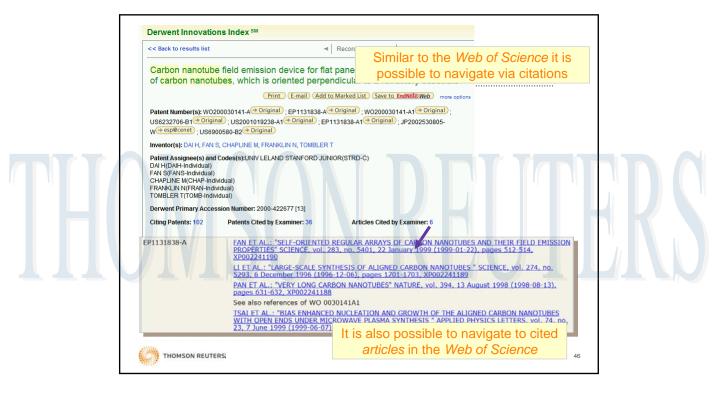


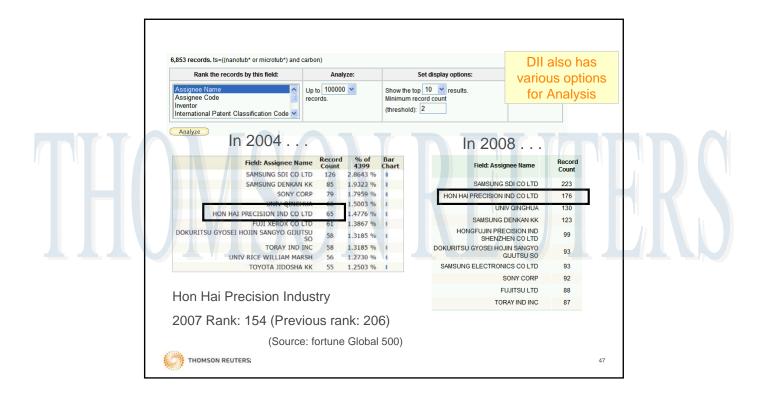


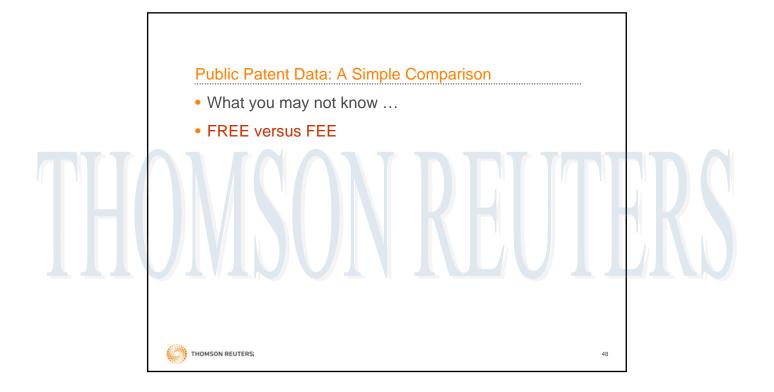


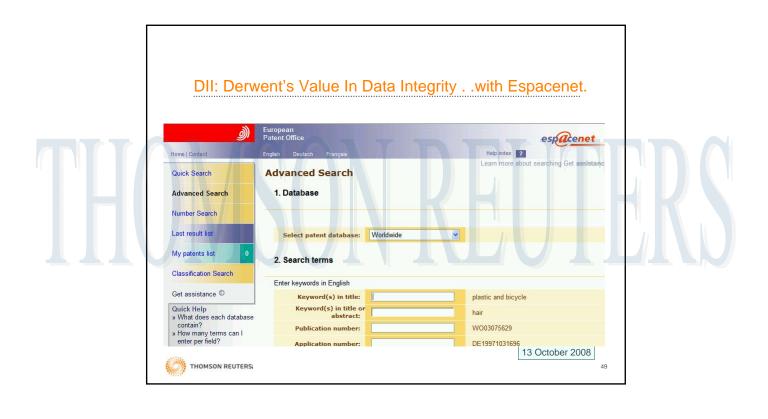


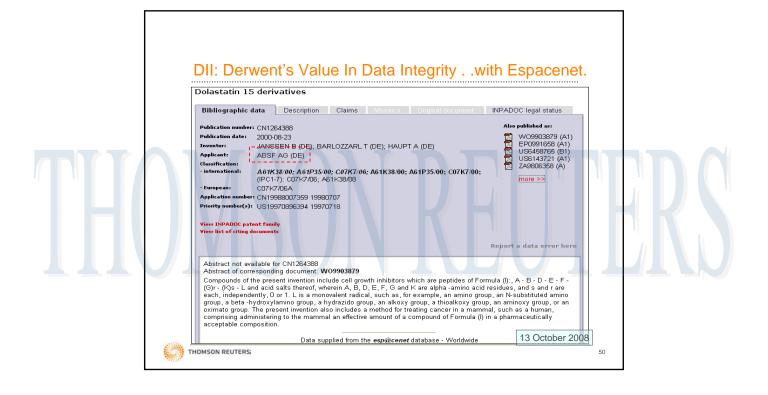
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0	e	possible to navigate via citat	ions
	field emission device for flat bes, which is oriented perper	ndicular to a refractory substrate	
	Print (E-mail) (Add to	Marked List Save to EndNote Web more options	
Patent Number(s): WO20	00030141-A Original ; EP1131838-A	Original ; WO200030141-A1 Original ;	
US6232706-B1 → Origin.	al); US2001019238-A1 Original); EP1	131838-A1 Original ; JP2002530805-	
W→esp@cenet : US690	0580-B2 → Original		
Inventor(s): DALH FAN S	, CHAPLINE M, FRANKLIN N, TOMBLER 1		
		US7015062-B1	2006-2099
DAI H(DAIH-Individual)	Codes(s):UNIV LELAND STANFORD J 1.	Nanostructure pattern manufacture for electronic component by	
FAN S(FANS-Individual)		overlaying parent structure selectively deposited on substrate with organic molecules, each having metal ion coordinating portion	
CHAPLINE M(CHAP-Indiv	ridual)	organic molecules, each naving metal ion coordinating portion	
FRANKLIN N(FRAN-Indiv		PENN STATE RES FOUND PENN-Non-standard)	
TOMBLER T(TOMB-Indivi	dual)	WEISS P.S. TIMIZOK A	
Demuest Drimon, Acces	sion Number: 2000-422677 [13]	Citing Patents: 0 → ORIGINAL DOCUMENT	
Derweilt Pilliary Access	sion number. 2000-422077 [13]		
Citing Patents: 102	Patents Cited by Examiner: 36 2.	US6987302-B1	2006-075
		Semiconductor device used in magnetic random access memory devices and transistor devices, comprises nanotube (201) having	
Abstract: NOVELTY - A fig	eld emission device (20) comprises a	hollow cylindrical shape, and magnetic nanoparticle (206) attached to	
	26) in a direction perpendicular to the	exterior cylindrical surface of nanotube	
		CHEN Y (CHEN-Individual); DANG X (DANG-Individual)	
USE - For flat panel displ	ays.	CHEN Y, DANG X Citing Patents: 0	
		→ DRIGINAL DOCUMENT	
ADVANTAGE - The invent	ion can be scaled to large substrates.		
DETAILED DESCRIPTION	N - An INDEPENDENT CLAIM is also i	US6885010-B1; US2005098720-A1; WO2005048290-A2; Ion source for mass spectrometer, has carbon nanotube emitter	2005-3531
	op surface of a refractory substrate cor	assembly to emit electron beams, and ionization chamber with inlet to	
	or a roll according to a sound to tool	allow beams to enter chamber and interact with gas sample to	
(a) depositing a catalyst r	material on the top surface of the refra	produce ionized sample molecules	
		THERMO ELECTRON CORP (THME); TRAYNOR P J (TRAY-Individual); WRIGHT R G (WRIG-Individual)	
		TRAYNOR P J, WRIGHT R G	
25 (1982)		Citing Patents: 0	
THOMSON REU	TERRO	→ ORIGINAL DOCUMENT	

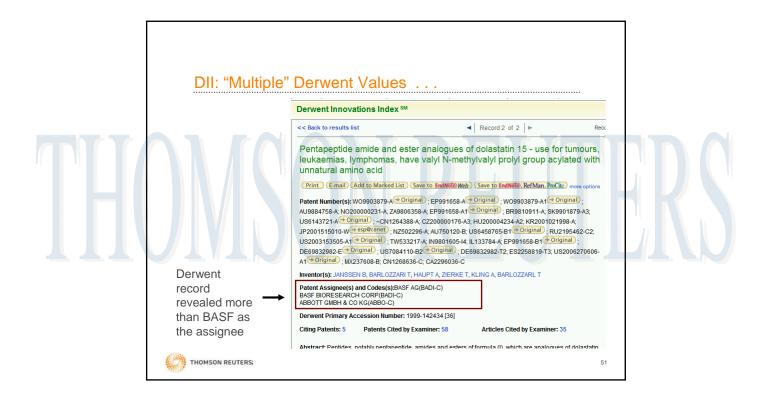


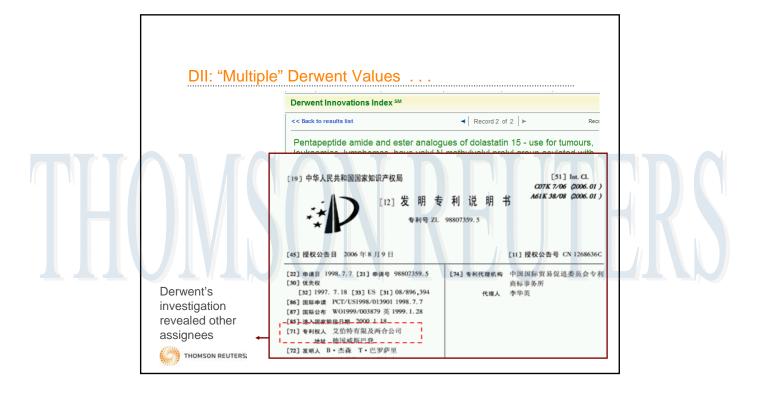


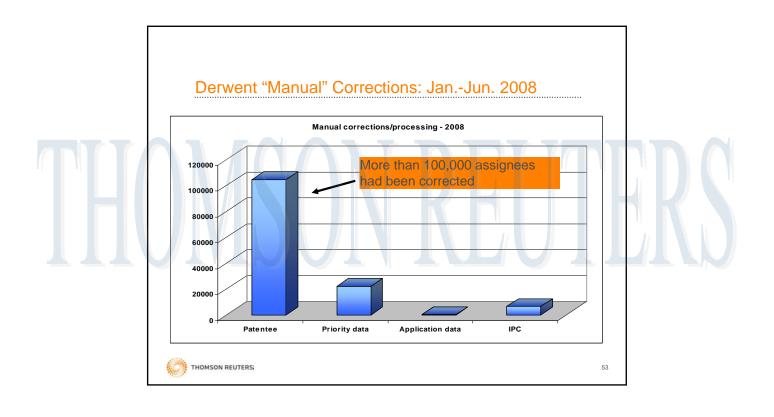


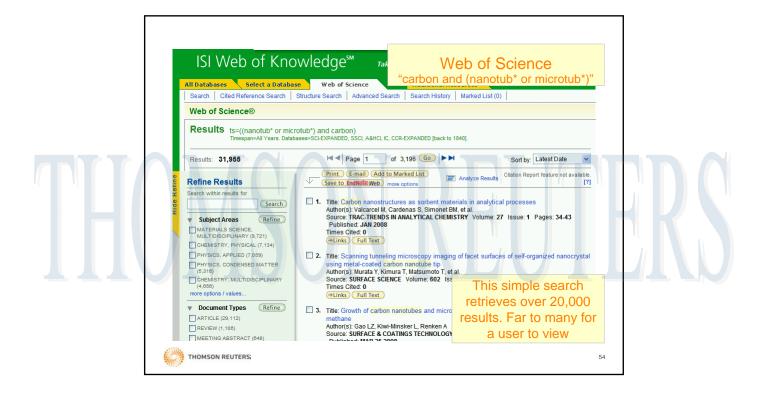












Conclusion

- Scientific and Technology related information should be obtained not only from Scientific journal databases BUT <u>patent sources</u> as well
- Derwent Innovations Index (DII) is the ideal tool for all types of patent searching, but especially valuable for industrytechnical know-how knowledge
- As part of the ISI Web of Knowledge, the ease of use and powerful functionality make DII accessible by any user
- The Web of Science (WoS) is also a superb tool for academic scientific information, and with the integration with DII and links through citations it is easy to see the relationships between journals and patents



