

Evalueserve

Patent Research in Asian Languages



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Barcelona, October 2011

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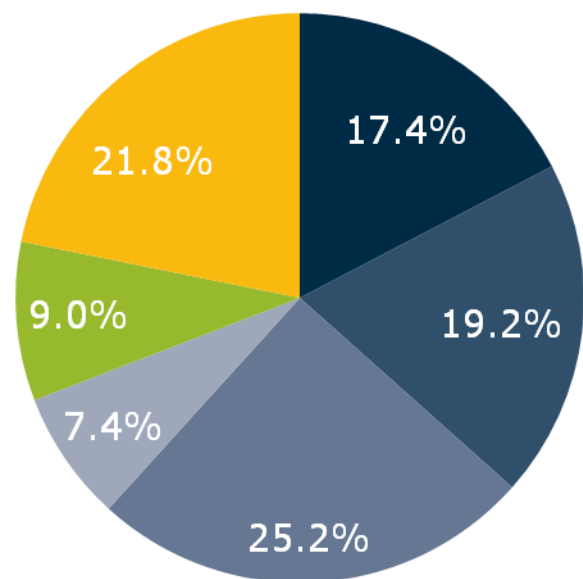
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Status Quo

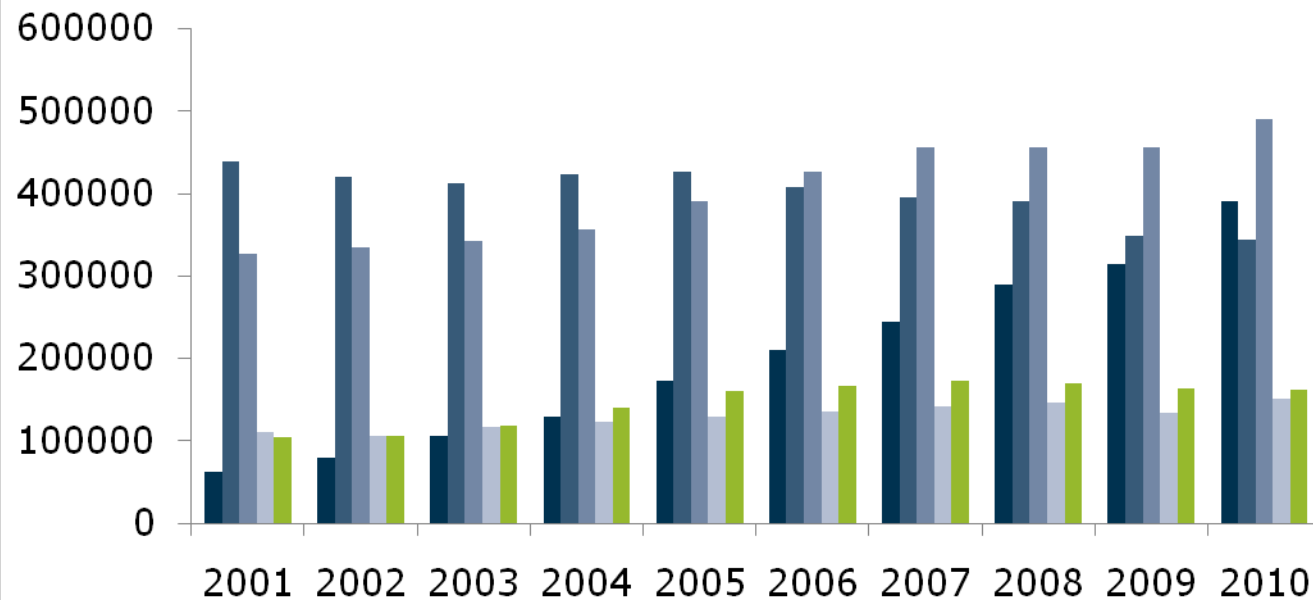
Overview (1/2)

- Japan, China, and Korea are among the top five patent filing countries, accounting for ~45% of the total patent applications filed worldwide in 2009.
- The number of filings in China is still increasing.
- The patent databases in the East Asian languages are vast sources of prior art, particularly in certain technology areas.
- There are challenges in searching for prior art in East Asian language databases.
- Prior art in these languages may be overlooked for lack of a viable tool for the search and analysis.

WW Patent Filing in 2009



Patent Applications in the Top 5 Jurisdictions



China
US
South Korea



Japan
EP
Others

Language

- Language barrier - biggest challenge;
- Bulk human translation - not cost-effective;
- Machine-assisted translation - prone to errors.

Database Coverage

- No universal database can provide full-text patent searching in the three main East Asian languages.
- To search patents from a specific country, the corresponding native language database should be used.

China

SIPO Patent
Database

Taiwan

TIPO Patent
Database

Japan

IPDL of JPO

Korea

KIPRIS

Database Coverage

A handful of commercial databases provide coverage of patents in English for these jurisdictions.

However, the data coverage and information available from these databases are limited compared to the respective native language databases.

Utility Model

- A 10-year patent; relatively easier to be granted and at lower cost
- Detailed English information of utility models is not comprehensive in English databases
- Attracted a fair amount of attention during recent patent litigations in China

Transcription and Transliteration

- The translation from English to East Asian languages can be done based on either pronunciation or on the meaning.
- One single English word would correspondingly have several variants in East Asian languages.
- The translated assignee or inventor names will also have different variations in East Asian languages.

Motorola

摩托罗拉 (Mo Tuo Luo La), 莫托罗拉 (Mo Tuo Luo La), and 摩托罗姆 (Mo Tuo Luo Mu)

Patent

专利 (zhuan li) = 专 (zhuan) means monopoly + 利 (li) means right.

Penicillin

Phonetic Transcription: 盘尼西林 (pan ni xi lin)

Transliteration: 青霉素 (qing mei su)
- green fungi element

Language of Symbols

- Chinese, Korean, and Japanese languages have no alphabet, and words are formed by stringing together two or several characters that may be represented as separate symbols.
- Expertise is needed to generate a rational search string with proper limitation of the meaning of the key words.

No Root and Suffix

- In East Asian languages, different parts of speech present different forms; for example, the noun and verb forms of a word could be two totally different expressions.
- The search skill of stemming, or using wildcards to replace all affixes, is not applicable in East Asian languages searches.

In English we can use 'collect' to search: 'collect', 'collecting', 'collective', 'collection'*

Collect

Verb form - 收集 (shou ji); its noun form is 收藏 (shou cang); its adj. form is 集中的 (ji zhong de)

Objective

To preliminarily determine how English-translated databases compare to Native-language databases when searching East Asian patents, particularly Chinese, Korean, and Japanese patents

Methodology

- Search strings in the native languages are used to search patents in different technology domains, and those belonging to different entities.
 - **Search A:** administration of insulin
 - **Search B:** touch screen for cell phone
 - **Search C:** preparation of polyetherimide (PEI)
 - **Search D:** hydraulic valve actuator
- Corresponding English language search strings are used for the English language search.
- Much effort is put in to maximize the output of the search by using various combinations of keywords.
- Attempts to illustrate the differences in breadth of the various databases

Patent Searching in East Asia

Information Sources

Native Language Databases

CNIPR (Patent database of the State Intellectual Property Office (SIPO) of China)

Patent database of Taiwan Intellectual Property Office (TIPO)

Ultra-Patent (Japanese commercial patent database)

Korea Intellectual Property Information Services (KIPRIS) database

SIPO English patent database

TIPO English patent database

Patent Abstracts of Japan (PAJ)

Korean Patent Abstracts (KPA)

Thomson Innovation

English Language Databases

Patent Searching in East Asia

General Technology Searches (1/5)

	Database	Search String	Search Scope	Publication Date	Results
CN	CNIPR	胰島素 and (口服 or 经口 or 片剂 or 胶囊 or 散剂 or 颗粒 or 乳剂)	Full-text	20090101 to 20110831	7,198
	TI	(insulin or trypsin) and (oral* or (per adj os) or tablet or troche or taballa or capsule or collocystis or pulvis or granular or emuls*)			430
TW	TIPO	(觸屏 or 觸摸屏 or 觸控屏 or 手寫) and (手機 or 移動電話 or (無綫 and (通訊 or 通信)))	Title & Abstract	19700101 to 20110831	33
	TI	(touchscreen or (touch adj screen) or handwriting) and ((cell adj phone) or cellphone or (cellular adj phone) or (mobile adj phone) or (mobile adj telephone) or (wireless adj communication) or telecom*)			6

TI = Thomson Innovation

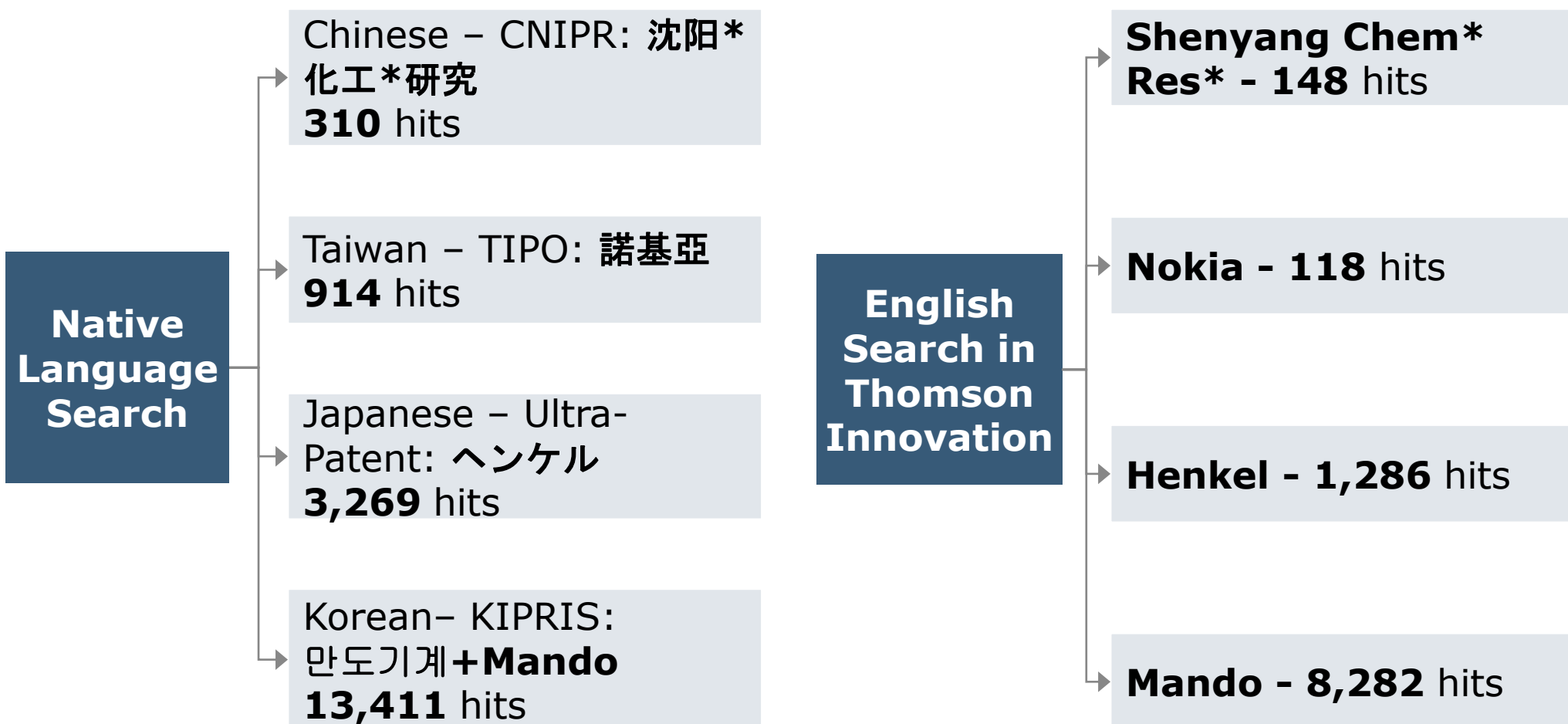
Patent Searching in East Asia

General Technology Searches (2/5)

	Database	Search String	Search Scope	Publication Date	Results
KR	KIPRIS	(PEI+폴리에테르이미드+폴리에터 이미드+"폴리에테르 이미드")*(합성+제조)	Title & Abstract	19790101 to 20110831	105
	TI	(PEI or polyetherimide or (polyether adj imide)) and (prepar* or synthe*)			50
JP	Ultra- Patent	(液圧 or 水圧 or 油圧) and (弁 or バルブ) and (作動 or 駆動)	Full-text	20090101 to 20110831	18,713
	TI	hydraulic* and valve and actuat*			12,218

TI = Thomson Innovation

Assignee-based Search in East Asian Patent Databases Yield More Results Compared to Popular English Databases



General Technology Searches

- The search comparison in four jurisdictions (CN, TW, JP and KR) shows that native language searching is able to generate considerably more results than searching East Asian patents using English.
- The number of results from native language searching is in general ten times more than that of the corresponding English search, **with some notable exceptions.**
- This trend is consistent regardless of whether the databases are full-text or title & abstract.

Note: Detailed search strings and the corresponding results for the comparison are available on request.

Search for Company Names

- In assignee based searches, native language search again proves to be more comprehensive.
- For international companies, they mostly file patents in East Asia through Paris Convention or PCT. English language databases are able to capture most of these patents.
- For domestic companies, native language search is absolutely essential.

**Clearly, native language searching yields more comprehensive results.
The next step is to determine the quality of the results....**

Note: Detailed search strings and the corresponding results for the comparison are available on request.

Conclusion

Advantage of Native Language Search

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Comparison of Native Language Search and Value-added Databases

	Value-added Databases	Native Language Search
Value-added Abstract	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Additional codes, classes	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Advanced Search Options	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Full-text Search	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Search for Company Name Variations	<input type="checkbox"/>	<input checked="" type="checkbox"/>
All Publications Available	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Timely Update	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Comprehensive Claims/Description	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Comprehensive Legal Status	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Conclusion

When to Use Which Approach

English language

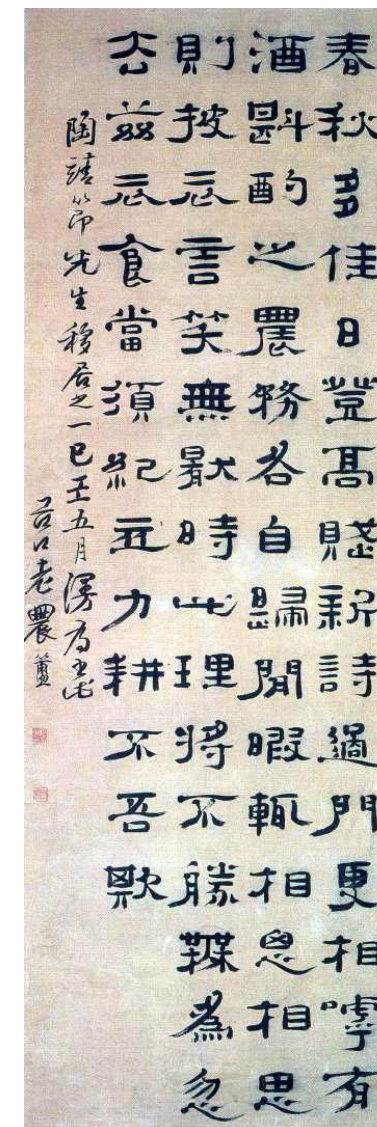
- Brief understanding of a technology
- A quick overview of 'who owns what'
- Patentability assessment of a new invention

**Choice: English language search
(Derwent, Thomson Innovation, etc.)**

Native Language

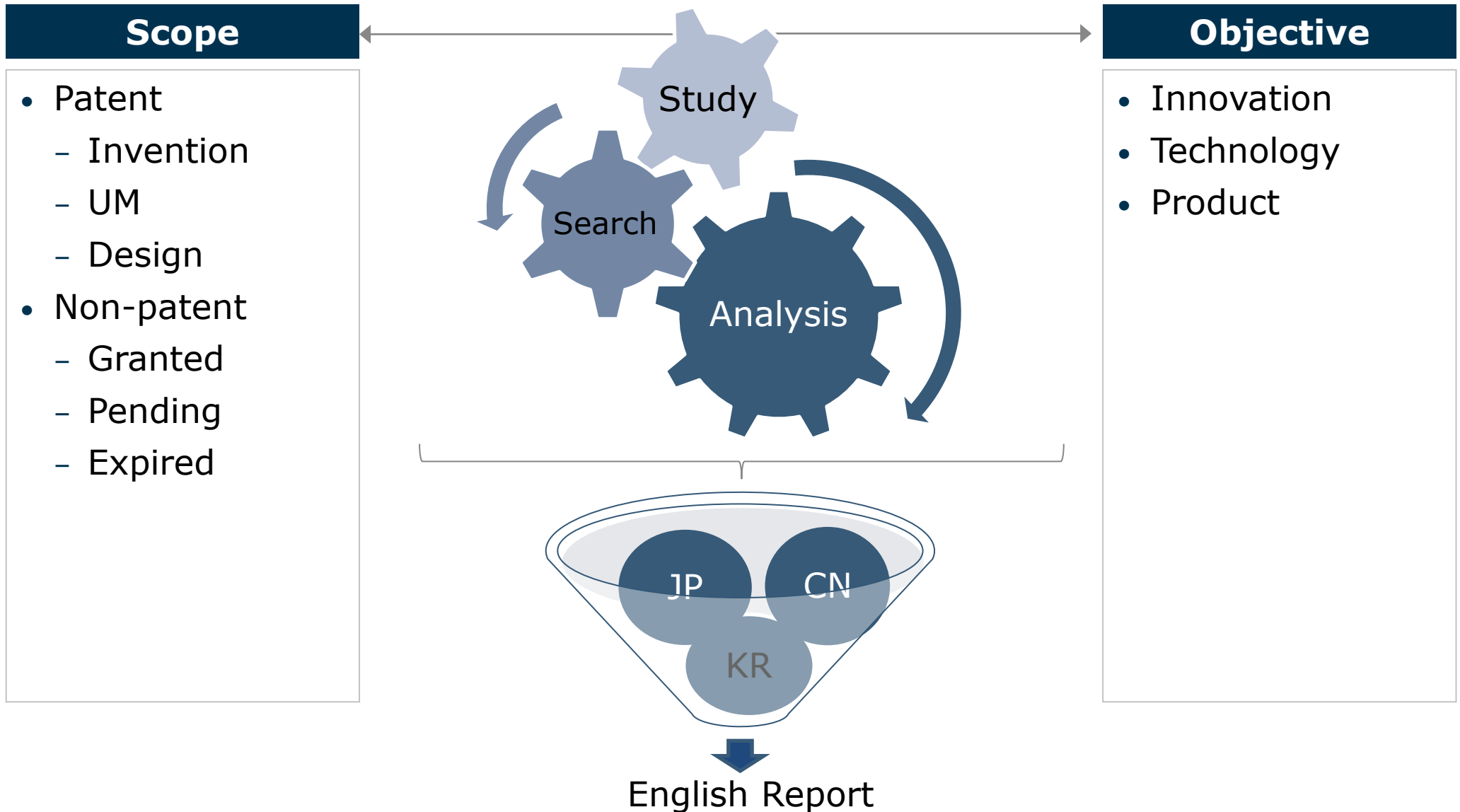
- Invalidity Search
- Freedom-to-Operate Search
- Landscaping & Competitive Intelligence

Native language search is recommended



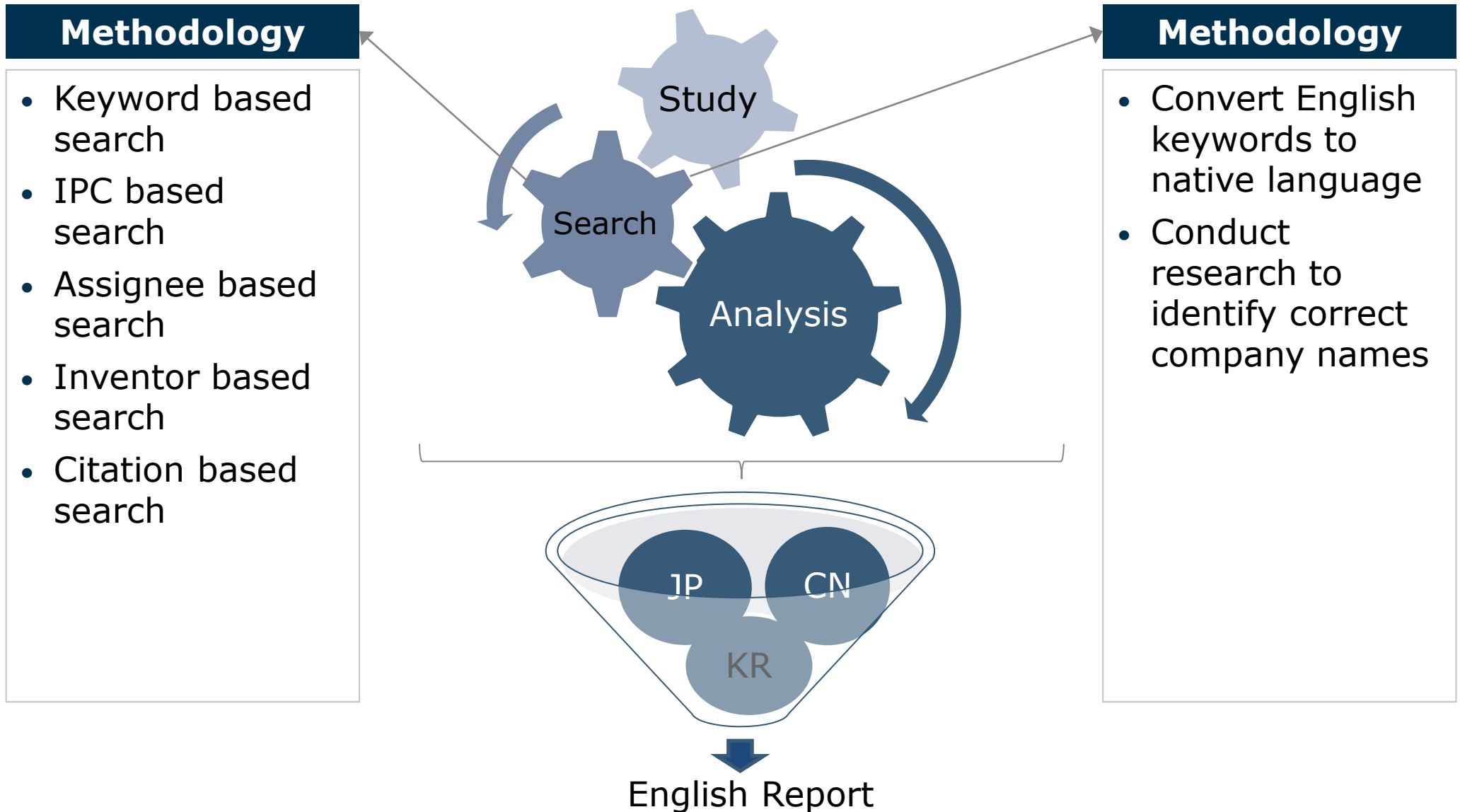
Global Prior Art Search

Evalueserve Methodology (1/3)



Global Prior Art Search

Evalueserve Methodology (2/3)

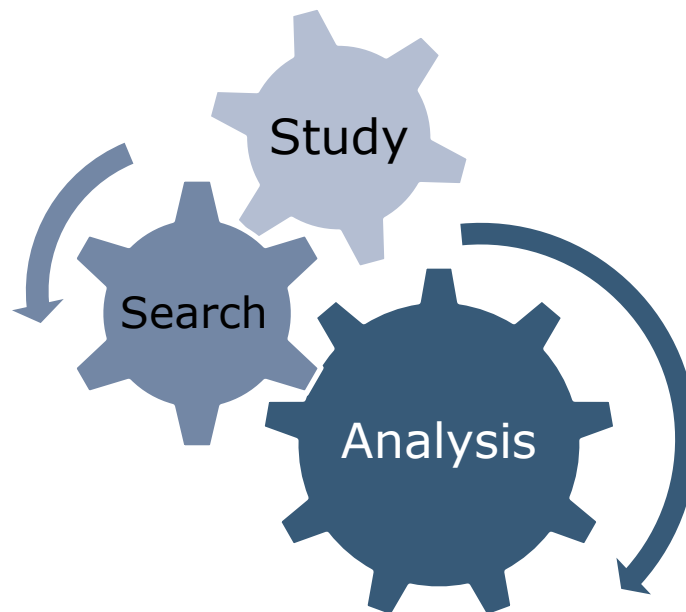


Global Prior Art Search

Evalueserve Methodology (3/3)

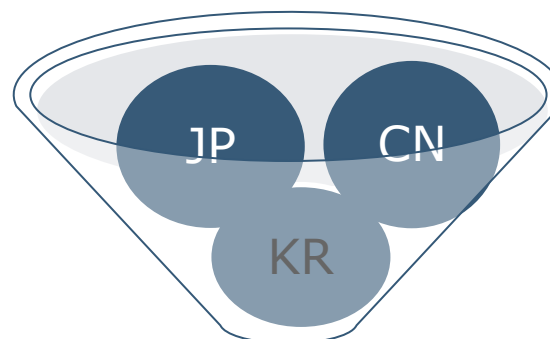
Information

- Taxonomy
- Categorization
- Trend Analysis
- Key Feature Identification
- Patent/Product Mapping
- Bibliographic Details
- Patent Legal Status
- Professional Comment



Solution

- Patentability Assessment
- Invalidation Search
- FTO Study
- Landscape Study
- Patent Watch
- Portfolio Study



Detailed Patent Analysis

Translation

English Report

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Thank you for your attention.

Appendix

List of Patent Databases in East-Asia

Language	Database	Data coverage	Search Field	Data of Results	Wildcard Available?	Additional Features
Chinese	CNIPR	From 1985 Updated weekly	Full-text	<ul style="list-style-type: none"> Bibliographic data Original full-text document 	✓	Search history combination Charts, etc.
Japanese	Ultra-Patent	From 1964 Updated weekly	Full-text	<ul style="list-style-type: none"> Bibliographic data Original full-text document 	✗	N/A
Korean	KIPRIS	From 1948 Updated daily	Full-text	<ul style="list-style-type: none"> Bibliographic data Original full-text document 	✗	N/A
English	SIPO	From 1985 Updated Quarterly	Title or Abstract	<ul style="list-style-type: none"> Bibliographic data English abstract only for inventions Machine translation for full-text document 	✓	No response to a very long search string
	PAJ	From 1976 Updated every ten days	Title or Abstract	<ul style="list-style-type: none"> Bibliographic data English Abstract 	✗	Only three sets of keywords can be used
	KPA	From 1979 Updated monthly	Title or Abstract	<ul style="list-style-type: none"> Bibliographic data English abstract Machine translation (fee-based) 	✗	No response to a very long search string
	Thomson Innovation	CN: From 1985 JP; From 1976 KR: From 1979	Title or Abstract Full-text for limited patents/applications	<ul style="list-style-type: none"> Bibliographic data Derwent title and Derwent abstract English full-text for limited patents 	✓	Search history combination Charts Citation Map, etc.

Objective:

To compare the search results of English and native language searching for Chinese, Korean and Japanese patents

Methodology

- Search strings in the native languages are used to search patents in different technology domains, and those belonging to different entities.
 - **Search A:** administration of insulin
 - **Search B:** touch screen for cell phone
 - **Search C:** preparation of polyetherimide (PEI)
 - **Search D:** hydraulic valve actuator
- Corresponding English language search strings are used for the English language search.
- Much effort is put in to maximize the output of the search by using various combinations of keywords.

Appendix

Simplified Chinese Patent Search – Keywords

Language	Database	Keystring	Scope	Publication Date	Hits
Chinese	CNIPR	胰岛素 and (口服 or 经口 or 片剂 or 胶囊 or 散剂 or 颗粒 or 乳剂)	Title, Abstract		73
			Full-text		7,198
English	SIPO	(insulin+trypsin)*(oral+orally+(per*os)+tablet+troche+taballa+capsule+collocystis+pulvis+(granular*formulation)+emulsion+emulsum)	Title, Abstract	20090101 to 20110831	58
	Thomson Innovation	(insulin or trypsin) and (oral* or (per adj os) or tablet or troche or taballa or capsule or collocystis or pulvis or granular or emuls*)	Full-text		430
Chinese	CNIPR	(触屏 or 触摸屏 or 触控屏 or 手写) and (手机 or 移动电话 or 无线 and (通讯 or 通信))	Title, Abstract		426
			Full-text		10,272
English	SIPO	(touchscreen+(touch*screen)+handwriting)*((cell*phone)+cellphone+(cellular*phone)+(mobile*phone)+(mobile*telephone)+(wireless*communication)+telecom%)	Title, Abstract	20090101 to 20110831	171
	Thomson Innovation	(touchscreen or (touch adj screen) or handwriting) and ((cell adj phone) or cellphone or (cellular adj phone) or (mobile adj phone) or (mobile adj telephone) or (wireless adj communication) or telecom*)	Full-text		1,033
Chinese	CNIPR	(PEI or 聚醚酰亚胺) and (合成 or 制备)	Title, Abstract		59
			Full-text		2,918
English	SIPO	(PEI+polyetherimide+(polyether*imide))*(prepar%+synthe%)	Title, Abstract	20090101 to 20110831	45
	Thomson Innovation	(PEI or polyetherimide or (polyether adj imide)) and (prepar* or synthe*)	Full-text		256
Chinese	CNIPR	液压 and 阀 and (驱动器 or 驱动装置 or 制动器 or 制动装置 or 致动器 or 致动装置)	Title, Abstract		499
			Full-text		4,814
English	SIPO	hydraulic*valve*actuator	Title, Abstract	20090101 to 20110831	259
	Thomson Innovation	hydraulic* and valve and actuat*	Full-text		912

Appendix

Simplified Chinese Patent Search – Assignee Names

Language	Database	Assignee	Hits
Chinese	CNIPR	伊莱利利 or 伊莱莉莉 or 伊来利利 or 伊来莉莉 or 礼来	893
English	SIPO	Eli*Lilly	697
	Thomson Innovation	ELI and LILLY	873
Chinese	CNIPR	思科 or 西斯科	1,832
English	SIPO	CISCO	530
	Thomson Innovation	CISCO	808
Chinese	CNIPR	汉高 or 亨克尔 or 亨凯尔 or 汉克尔	1,037
English	SIPO	Henkel	624
	Thomson Innovation	Henkel	701
Chinese	CNIPR	大众 and 汽车	526
English	SIPO	Volkswagen	332
	Thomson Innovation	Volkswagen	492
Chinese	CNIPR	清华大学	12,686
English	SIPO	(Tsinghua+Qinghua)*univ%	9,026
	Thomson Innovation	(Tsinghua or Qinghua) and Univ*	11,875

Language	Database	Assignee	Hits
Chinese	CNIPR	天士力	862
English	SIPO	Tianshili+Tasly	469
	Thomson Innovation	Tianshili or Tasly	854
Chinese	CNIPR	大唐 and (电信 or 移动)	2,966
English	SIPO	Datang*(Mobile+Telecom)	2,144
	Thomson Innovation	Datang and (Mobile or Telecom)	2,874
Chinese	CNIPR	沈阳 and 化工 and 研究	310
English	SIPO	Shenyang*Chem%*Res%	88
	Thomson Innovation	Shenyang and Chem* and Res*	148
Chinese	CNIPR	宝时得	850
English	SIPO	Baoshide+Positec	648
	Thomson Innovation	Baoshide or Positec	767
Chinese	CNIPR	大连 and 物理 and 化学 and 研究	2,287
English	SIPO	Dalian*Inst%*Chem%*Ph ysic%	1,511
	Thomson Innovation	Dalian and Inst* and Chem* and Physic*	2,140

Appendix

Traditional Chinese Patent Search – Keywords (Taiwan)

Language	Database	Keystring	Scope	Publication Date	Hits
Chinese	TIPO	胰島素 and (口服 or (經口 or 片劑 or 膠囊 or 散劑 or 顆粒 or 乳劑))	Title, Abstract		8
			Full-text		5,693
English	TIPO	(insulin+trypsin)*(oral+orally+(per*os)+tablet+troche+taballa+capsule+collocystis+pulvis+(granular*formulation)+emulsion+emulsum)	Title, Abstract	19700101 to 20110831	8
	Thomson Innovation	(insulin or trypsin) and (oral* or (per adj os) or tablet or troche or taballa or capsule or collocystis or pulvis or granular or emuls*) Jurisdiction- Taiwan	Title, Abstract		2
Chinese	TIPO	(觸屏 or 觸摸屏 or 觸控屏 or 手寫) and (手機 or 移動電話 or (無綫 and (通訊 or 通信)))	Title, Abstract		33
			Full-text		1,766
English	TIPO	(touchscreen+(touch*screen)+handwriting)*((cell*phone)+cellphone+(cellular*phone)+(mobile*phone)+(mobile*telephone)+(wireless*communication)+telecom%)	Title, Abstract	19700101 to 20110831	35
	Thomson Innovation	(touchscreen or (touch adj screen) or handwriting) and ((cell adj phone) or cellphone or (cellular adj phone) or (mobile adj phone) or (mobile adj telephone) or (wireless adj communication) or telecom*) Jurisdiction- Taiwan	Title, Abstract		6
Chinese	TIPO	(PEI or 聚醚酰亞胺) and (合成 or 製備)	Title, Abstract		5
			Full-text		1,359
English	TIPO	(PEI+polyetherimide+(polyether*imide))*(prepar%+synthe%)	Title, Abstract	19700101 to 20110831	4
	Thomson Innovation	(PEI or polyetherimide or (polyether adj imide)) and (prepar* or synthe*) Jurisdiction- Taiwan	Full-text		2
Chinese	TIPO	液壓 and 閥 and (驅動器 or 驅動裝置 or 制動器 or 制動裝置 or 致動器 or 致動裝置)	Title, Abstract		41
			Full-text		1,331
English	TIPO	hydraulic%*valve*actuat%	Title, Abstract	19700101 to 20110831	47
	Thomson Innovation	hydraulic* and valve and actuat* Jurisdiction- Taiwan	Title, Abstract		25

Appendix

Traditional Chinese Patent Search – Assignee Names (Taiwan)

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Language	Database	Assignee	Hits
Chinese	TIPO	禮來	1,038
English	TIPO	Eli*Lilly	339
	Thomson Innovation	ELI and LILLY Jurisdiction- Taiwan	110
Chinese	TIPO	微軟	1,214
English	TIPO	Microsoft	1,159
	Thomson Innovation	Microsoft Jurisdiction- Taiwan	85
Chinese	TIPO	亨克爾 or 漢克 or 漢柯爾	236
English	TIPO	Henkel	125
	Thomson Innovation	Henkel Jurisdiction- Taiwan	41
Chinese	TIPO	交通大學	1,060
English	TIPO	National*Chiao*Tung*University	944
	Thomson Innovation	National and Chiao and Tung and University Jurisdiction- Taiwan	0

Language	Database	Assignee	Hits
Chinese	TIPO	諾基亞	914
English	TIPO	Nokia	906
	Thomson Innovation	Nokia Jurisdiction- Taiwan	118
Chinese	TIPO	戴爾 or 戴尔	336
English	TIPO	Dell	206
	Thomson Innovation	Dell Jurisdiction- Taiwan	56
Chinese	TIPO	雀巢	226
English	TIPO	Nestle	151
	Thomson Innovation	Nestle Jurisdiction- Taiwan	79
Chinese	TIPO	博斯奇 or BSH 寶獅 or 包屈	395
English	TIPO	Bosch	362
	Thomson Innovation	Bosch Jurisdiction- Taiwan	118

Appendix

Japanese Patent Search – Keywords in Title and Abstract

Language	Database	Keysting	Publication Date	Hits
Japanese	Ultra-Patent	(インスリン or インシュリン or トリプシン) and (経口 or 錠剤 or トローチ or カプセル or 製剤 or 乳剤 or 散剤 or 顆粒剤)	19760101 to 20110831	325
English	PAJ	(insulin or trypsin) and (oral or orally or per-os or tablet or troche or taballa or capsule or collocystis or pulvis or granular or emulsion or emulsum)		189
	TI	(insulin or trypsin) and (oral or orally or (per adj os) or tablet or troche or taballa or capsule or collocystis or pulvis or granular or emulsion or emulsum)		182
Japanese	Ultra-Patent	(タッチスクリーン or タッチパネル or 手書) and (携帯電話 or 無線通信 or 遠隔通信 or 電気通信)	19760101 to 20110831	284
English	PAJ	(touch-screen or handwriting) and (cell-phone or cellular-phone or mobile-phone or mobile-telephone or wireless-communication or telecom or telecommunication)		40
	TI	(touchscreen or (touch adj screen) or handwriting) and ((cell adj phone) or cellphone or (cellular adj phone) or (mobile adj phone) or (mobile adj telephone) or (wireless adj communication) or telecom*)		28
Japanese	Ultra-Patent	(ポリ and エーテルイミド) or PEI or PEI) and (調製 or 合成 or 調合 or 作成 or 生成 or シンセシス or 製備 or 製法 or 製造)	19760101 to 20110831	259
English	PAJ	(PEI or polyether-imide) and (preparation or synthesis)		44
	TI	(PEI or polyetherimide or (polyether adj imide)) and (prepar* or synthe*)		157
Japanese	Ultra-Patent	(液圧 or 水圧 or 油圧) and (弁 or バルブ) and (作動 or 駆動)	19760101 to 20110831	12,203
English	PAJ	hydraulic and valve and (actuate or actuator or actuation)		7,316
	TI	hydraulic* and valve and actuat*		7,023

Appendix

Japanese Patent Search – Keywords in Full-Text

Language	Database	Keysting	Publication Date	Hits
Japanese	Ultra-Patent	(インスリン or インシュリン or トリプシン) and (経口 or 錠剤 or トローチ or カプセル or 製剤 or 乳剤 or 散剤 or 顆粒剤)	20090101 to 20110831	12,407
English	Thomson Innovation	(insulin or trypsin) and (oral* or (per adj os) or tablet or troche or taballa or capsule or collocystis or pulvis or granular or emuls*)		5,913
Japanese	Ultra-Patent	(タッチスクリーン or タッチパネル or 手書) and (携帯電話 or 無線通信 or 遠隔通信 or 電気通信)	20090101 to 20110831	16,345
English	Thomson Innovation	(touchscreen or (touch adj screen) or handwriting) and ((cell adj phone) or cellphone or (cellular adj phone) or (mobile adj phone) or (mobile adj telephone) or (wireless adj communication) or telecom*)		2,347
Japanese	Ultra-Patent	(ポリ and エーテルイミド) or PEI or PEI) and (調製 or 合成 or 調合 or 作成 or 生成 or シンセシス or 製備 or 製法 or 製造)	20090101 to 20110831	13,515
English	Thomson Innovation	(PEI or polyetherimide or (polyether adj imide)) and (prepar* or synthe*)		8,762
Japanese	Ultra-Patent	(液圧 or 水圧 or 油圧) and (弁 or バルブ) and (作動 or 駆動)	20090101 to 20110831	18,713
English	Thomson Innovation	hydraulic* and valve and actuat*		12,218

Appendix

Japanese Patent Search – Assignee Names (1/2)

Language	Database	Assignee	Hits
Japanese	Ultra-Patent	(エリー or イーライ) and リリー	2,798
English	PAJ	Eli Lilly	759
	Thomson Innovation	Eli and Lilly	1,522
Japanese	Ultra-Patent	シスコ	716
English	PAJ	Cisco	2
	Thomson Innovation	Cisco	22
Japanese	Ultra-Patent	ヘンケル	3,269
English	PAJ	Henkel	324
	Thomson Innovation	Henkel	1,286
Japanese	Ultra-Patent	(フォルクスヴァーゲン or フォルクスワーゲン)	435
English	PAJ	Volkswagen	151
	Thomson Innovation	Volkswagen	287

Appendix

Japanese Patent Search – Assignee Names (2/2)

Language	Database	Assignee	Hits
Japanese	Ultra-Patent	旭化成	42,385
English	PAJ	Asahi Kasei	11,350
	Thomson Innovation	Asahi and Kasei	13,493
Japanese	Ultra-Patent	三菱重工業	89,714
English	PAJ	Mitsubishi Heavy Ind	78,613
	Thomson Innovation	Mitsubishi and Heavy and Ind	29,309
Japanese	Ultra-Patent	東京工業大学	2,003
English	PAJ	TOKYO INSTITUTE OF TECHNOLOGY	1,673
	Thomson Innovation	TOKYO and INSTITUTE and OF and TECHNOLOGY	1,434
Japanese	Ultra-Patent	財団法人地球環境産業技術研究機構	857
English	PAJ	Research Institute of Innovative Technology for the Earth	445
	Thomson Innovation	Res* and Inst* and Innovative and Technology and Earth	446

Appendix

Korean Patent Search – Keywords

Language	Database	Keystring	Scope	Publication Date	Hits
Korean	KIPRIS	(인슐린+췌장호르몬+"췌장 호르몬"+트립신+췌액)*(내복+경구+정제+테블릿+테블렛+캡슐+알약+트로키+제제+과립+유제+에멀전)	Title, Abstract	19790101 to 20110831	170
			Full-text		19,701
English	KPA	(insulin+trypsin)*(oral+orally+(per*os)+tablet+troche+taballa+capsule+collocystis+pulvis+(granular*formulation)+emulsion+emulsion)	Title, Abstract	19790101 to 20110831	64
	Thomson Innovation	(insulin or trypsin) and (oral* or (per adj os) or tablet or troche or taballa or capsule or collocystis or pulvis or granular or emuls*)	Title, Abstract		71
Korean	KIPRIS	(터치스크린+"터치 스크린"+수서+수기)*(셀폰+핸드폰+휴대폰+모바일폰+이동전화+무선통신+"무선 통신"+텔러콤)	Title, Abstract	19790101 to 20110831	325
			Full-text		18,848
English	KPA	(touchscreen+touch screen+handwriting)*((cell*phone)+cellphone+(cellular*phone)+(mobile*phone)+(mobile*telephone)+(wireless*communication)+telecommunication)	Title, Abstract	19790101 to 20110831	266
	Thomson Innovation	(touchscreen or (touch adj screen) or handwriting) and ((cell adj phone) or cellphone or (cellular adj phone) or (mobile adj phone) or (mobile adj telephone) or (wireless adj communication) or telecom*)	Title, Abstract		216
Korean	KIPRIS	(PEI+폴리에테르이미드+폴리에터이미드+"폴리에테르 이미드")*(합성+제조)	Title, Abstract	19790101 to 20110831	105
			Full-text		26,151
English	KPA	(PEI+polyetherimide+polyether imide)*(prepare+preparation+synthesis+synthesize+synthesise)	Title, Abstract	19790101 to 20110831	51
	Thomson Innovation	(PEI or polyetherimide or (polyether adj imide)) and (prepar* or synthe*)	Title, Abstract		50
Korean	KIPRIS	(유압+수압+액압)*밸브*(구동+가동+제동+작동+액추에이터+액추에이터+액튜에이터)	Title, Abstract	19790101 to 20110831	4,784
			Full-text		33,954
English	KPA	hydraulic*valve*(actuate+actuating+actuation+actuator)	Title, Abstract	19790101 to 20110831	910
	Thomson Innovation	hydraulic* and valve and actuat*	Title, Abstract		865

Appendix

Korean Patent Search – Assignee Names

Language	Database	Assignee	Hits
Korean	KIPRIS	일라이릴리+엘리릴리+일리릴리 +Eli Lilly	1,434
English	KPA	Eli*Lilly	714
	Thomson Innovation	Eli and Lilly	766
Korean	KIPRIS	씨스코+시스코+Cisco	379
English	KPA	Cisco	368
	Thomson Innovation	Cisco	15
Korean	KIPRIS	헨켈아게운트+Henkel	953
English	KPA	Henkel	430
	Thomson Innovation	Henkel	386
Korean	KIPRIS	(제네랄*모터즈)+(제너럴*모터즈) (모터즈*리퀴데이션)+(gen eral*motor)	203
English	KPA	General*Motor	69
	Thomson Innovation	General and Motor	2

Language	Database	Assignee	Hits
Korean	KIPRIS	한미약품+한미홀딩스+(Han mi*Pharm)	312
English	KPA	Hanmi*Pharm	266
	Thomson Innovation	Hanmi and Pharm	167
Korean	KIPRIS	만도기계+Mando	13,411
English	KPA	Mando	9,184
	Thomson Innovation	Mando	8,282
Korean	KIPRIS	한국화학연구원+Korea Research Institute of Chemical Technology	2,858
English	KPA	korea*res*inst*chem*tech	2,573
	Thomson Innovation	KOREA and RES and INST and CHEM and TECH	2,540
Korean	KIPRIS	서울대학교+SEOUL NATIONAL UNIVERSITY	4,493
English	KPA	SEOUL*NATIONAL*Uni	2,566
	Thomson Innovation	SEOUL and NATIONAL and Uni*	2,758