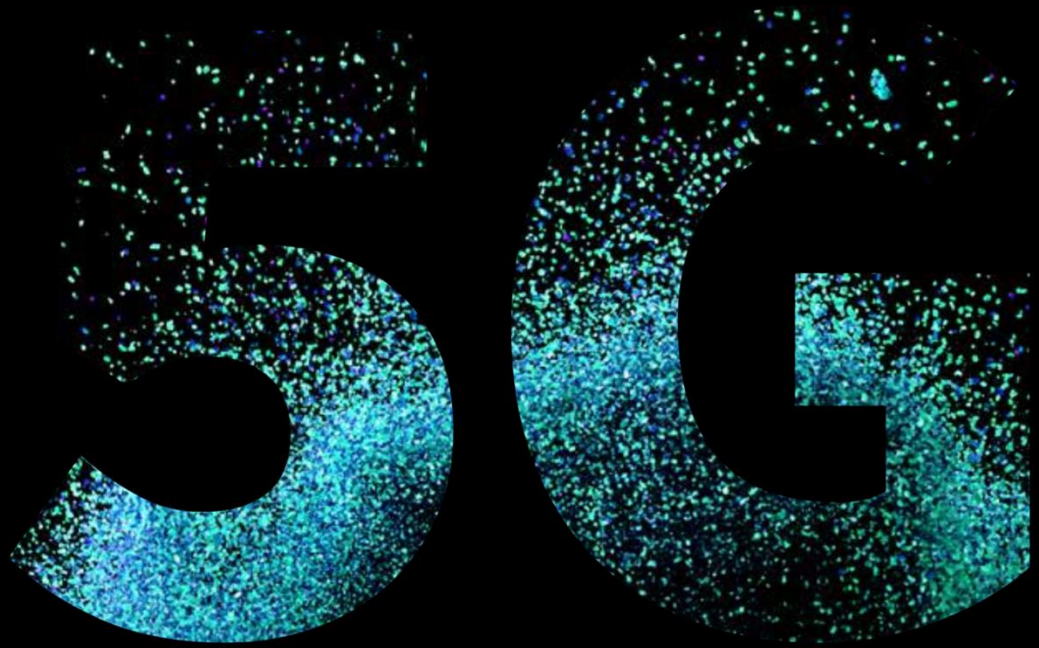


專利全景分析

由科睿唯安為經濟部智慧財產局分析製作

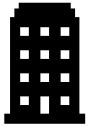
主講人：科睿唯安 Henry Chiu 邱明峻

感謝智慧局專利二組三科的5G專家們
協助我們完成這份5G報告

寫在專利上的「內容」是什麼?

試著把這邏輯從一個「自然人個體」

放大到一個「部門」、一間「企業」、一整個「產業」



寫在專利上的技術內容

微觀來看是一名研發的研究成果展現

宏觀來看是某間企業正在投入的技術

整體來看可以觀察出產業的發展趨勢

眼前數以萬計的5G相關專利

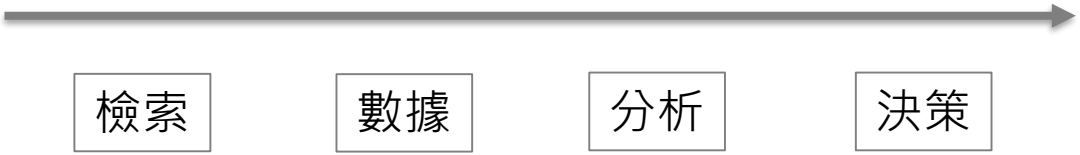
我們知道...

如果我們能分析寫在這些專利上的內容是什麼

理論上

能看出全球在做5G的這群人想要發展什麼技術

從資料到資訊、到知識、到智慧



檢索、分析只是過程中的「基礎建設」

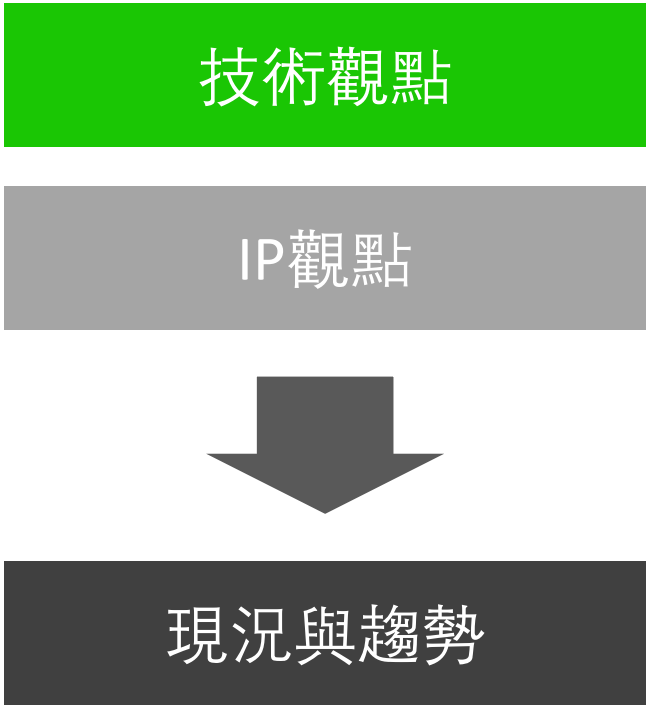
最終目的是讓決策者能根據這些基礎做出決策

專利分析不應僅是各種專利指標的統計

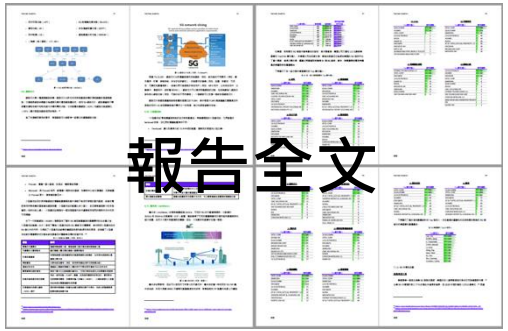
而是能具體解決企業商業問題的「全景分析」

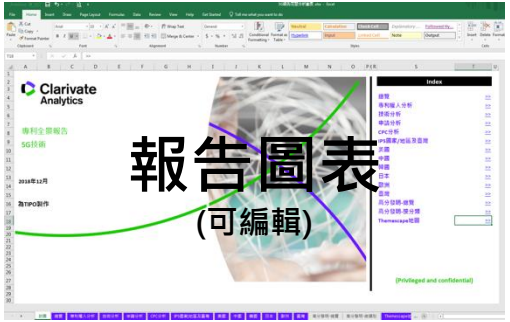
專利全景分析

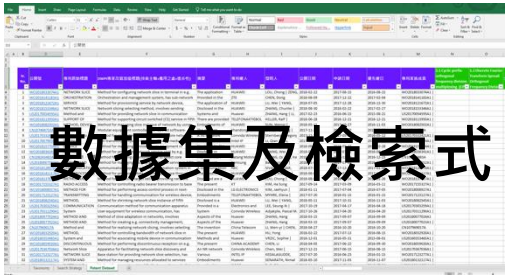
- 一種基於專利調查完整技術現況的方法
- 比一般專利檢索得到的結果更宏觀
- 又比整個產業分析得到的結果微觀
- 常用於當前焦點新技術領域或開發中的技術
- 相較於一般商業分析，專利全景分析更專注於技術，圍繞技術試圖回答相關問題



5G 技術全景報告
Clarivate
Analytics
由科睿唯安為經濟部智慧財產局分析製作


報告全文


Clarivate
Analytics
報告圖表
(可編輯)


數據集及檢索式

5G

基礎技術說明

5G

專利分析

5G

市場訊息及標準

Methodology

分析方法學

BLACKLIST
男
30-35歲
眼鏡
黑色羽絨衣
出現在台北士林
VIP
女
30-35歲
中長髮
大衣
出現在台北士林
VIP

標籤

每件專利都有許多標籤

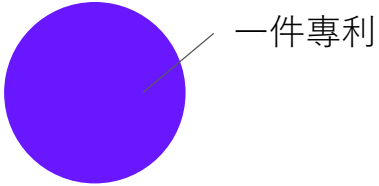
這件專利的IPC分類號為G06F17/30

這件專利是在2001年公開的

這件專利是1997年申請的

這件專利的發明人是Lawrence Page

引用這件專利的公司包括APPLE INC.



它的申請人/專利權人是Leland Stanford Junior University

這件專利被引用了825次

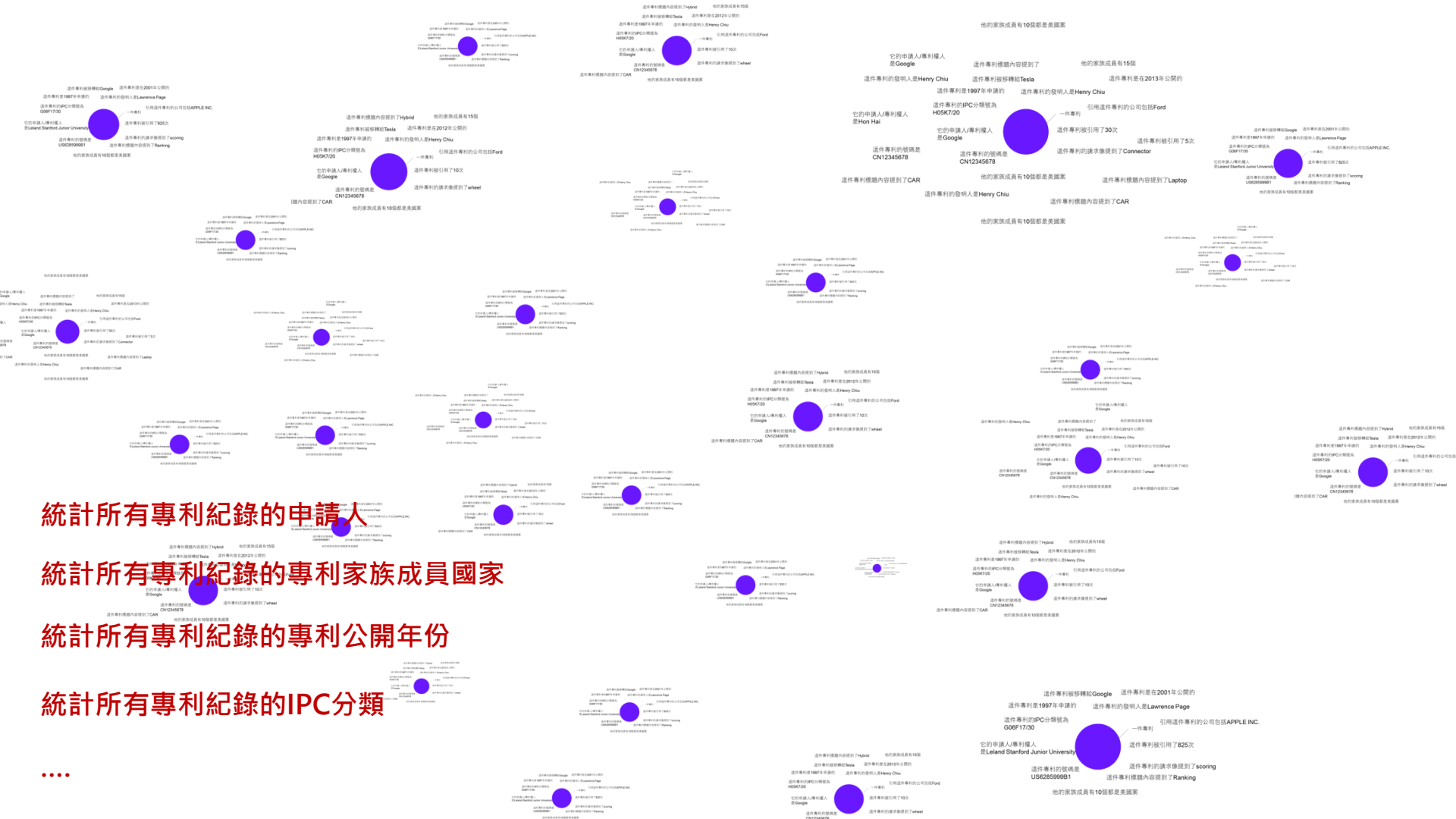
這件專利被移轉給Google

這件專利的號碼是US6285999B1

這件專利標題內容提到了Ranking

他的家族成員有10個都是美國案

這件專利的請求像提到了scoring



統計所有專利紀錄的申請人

統計所有專利紀錄的專利家族成員國家

統計所有專利紀錄的專利公開年份

統計所有專利紀錄的IPC分類

....

分析更多只是統計這些標籤跟基於統計數據作出圖表

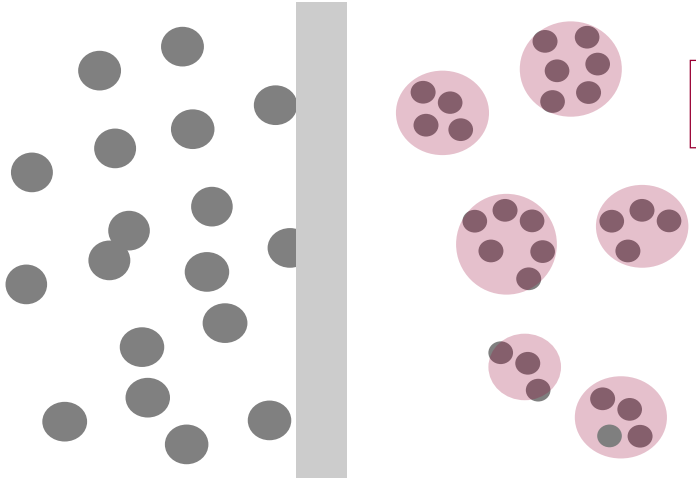
只要獲得資料集，統計基本上是小問題

找到的資料怎麼分類是個學問

“分類有什麼好難的？專利不是已經有IPC CPC了？“

一般常見的技術分類手法

專利檢索結果



技術分類

IPC、CPC…

人工閱讀曠日廢時

跟99%的人做一樣的事情

如何創造價值？

科睿唯安的方法學

從建立技術分類表開始 Taxonomy

決定了整個分析的範疇，報告的技術構成在一開始就先確定，打下基礎後在來建置後續資料分析所需的數據集。

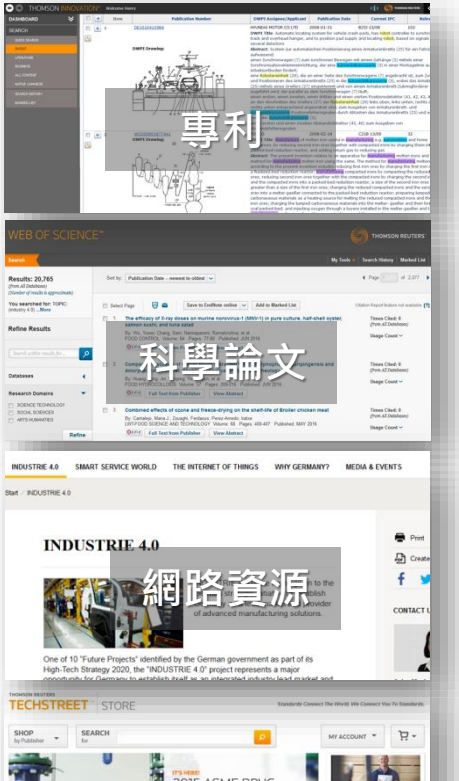
這種作法也可以在一開始就決定分析的顆粒度，宏觀還是微觀？

依據不同的商業目的，即使是同一個主題，每個人所定義的技術分類框架也不一定相同，這是非常正常的。

	Lv1	Lv2	Lv3
主題	技術分類A	技術分類A1	技術分類A1-1
			技術分類A1-2
			技術分類A1-3
		技術分類A2	
		技術分類A3	
	技術分類B		
	技術分類C		

一級分類		二級分類	
1 Waveform	01 波形	1.1 Cyclic prefix orthogonal frequency division multiplexing (CP-OFDM)	01.01 循環前綴- 正交分頻複用（CP-OFDM）
		1.2 Discrete Fourier Transform Spread Orthogonal Frequency Division	01.02 離散傅裏葉變換擴頻正交分頻複用（DFT-
		1.3 Others	01.03 其他波形
2 Channel Coding	02 頻道編碼	2.1 Polar coding	02.01 Polar碼
		2.2 Low density parity check (LDPC) coding	02.02 低密度奇偶校驗（LDPC）編碼
		2.3 Other coding techniques	02.03 其他編碼技術
3 Multiple Access Schemes	03 多址方案	3.1 Non-orthogonal multiple access (NOMA)	03.01 非正交多址（NOMA）
		3.2 Orthogonal Multiple Access (OMA)	03.02 正交多址（OMA）
4 Use cases	04 應用案例	4.1 eMBB	04.01 增強行動寬頻（eMBB）
		4.2 mMTC	04.02 大連接物聯網（mMTC）
		4.3 URLLC	04.03 高可靠低延遲通訊（URLLC）
5 User Centric No Cell (UCNC)	05 UCNC	5.1 User Centric No Cell (UCNC)	05.01 以用戶為中心的無邊界網路（UCNC）
		5.2 ECO State	05.02 ECO狀態
		5.3 Grant Free Access	05.03 免授權接入
		5.4 Hypercell	05.04 超小區（Hypercell）
6 Antenna technology	06 天線技術	6.1 Massive MIMO	06.01 大規模MIMO
		6.2 Beamforming	06.02 波束成形
		6.3 Other Antenna technologies	06.03 其他天線技術

定義出分類框架



7 Licensed Assisted Access	07 授權輔助接取	**7 Licensed Assisted Access**	07 授權輔助接取
8 Network Function	08 網路功能	**8 Network Function**	08 網路功能
9 Network Slicing	09 網路切片	**9 Network Slicing**	09 網路切片
10 Small cell	10 小型基地站	**10 Small cell**	10 小型基地站
11 mmWave	11 毫米波	**11 mmWave**	11 毫米波
12 Numerology and frame structure	12 參數配置與幀結構	**12.1 Self-contained sub-frame**	12.01 自包含子幀
		12.2 Frame Structure	12.02 幀結構
		12.3 Numerology	12.03 參數配置
13 Sidelink	13 側邊鏈路	**13.1 Vehicular communication**	13.01 車載通訊
		13.2 Machine type communication	13.02 機器類型通訊
		13.3 Device-to-device Communication (D2D)	13.03 設備到設備（D2D）通訊
14 Resource Management	14 資源管理	**14 Resource Management**	14 資源管理
15 Other Technologies	15 其他技術	**15.1 Software defined networking**	15.01 軟體定義網路
		15.2 Network function virtualization	15.02 網路功能虛擬化
		15.3 Full Duplex	15.03 全雙工
		15.4 Mobility	15.04 移動

16 Applications	16 應用	**16.1** Industry-**Agriculture**	16.01 產業 - 農業
		16.2 Industry- **Automobile**	16.02 產業 - 汽車
		16.3 Industry-**Cloud services**	16.03 產業 - 雲服務
		16.4 Application - **Emergency services**	16.04 應用 - 緊急網路
		16.5 Industry- **Energy and Utility**	16.05 產業 - 能源和公用事業
		16.6 Consumer-**Entertainment and multimedia including AR/VR**	16.06 消費者 - 娛樂和多媒體
		16.7 Industry-**Healthcare**	16.07 產業 - 健康照護
		16.8 Industry- **Industry 4.0/Industrial automation**	16.08 產業 - 工業自動化
		16.9 Application - **IoT**	16.09 應用 - 物聯網
		16.10 Industry-**Logistic and Shipping, fleet management**	16.10 產業 - 物流和航運、車隊管理
		16.11 Industry- **Retail**	16.11 產業 - 零售
		16.12 Application - **Security and surveillance**	16.12 應用 - 安全和監控
		16.13 Application - **Smart cities**	16.13 應用 - 智慧城市
		16.14 Application - **Smart home/home automation**	16.14 應用 - 智慧家居
		16.15 Industry**- Education**	16.15 產業 - 教育
		16.16 Industry- **Finance**	16.16 產業 - 金融
		16.17 Other applications	16.18 其他應用
17 Others	17 其他	**17 Others (All)**	17 其他(全)
		Others- Access restriction; Network selection; Access point selection	17.01 訪問限制; 網路選擇; 接取點選擇
		Others- Supervisory, monitoring or testing arrangements	17.02 監控或測試裝置
		Others- Quality of Service	17.03 服務品質
		Others- Channel Quality Indication	17.04 頻道品質指示
		Others- Others	17.05 其他

技術分類

相應該分類的檢索式

您用什麼關鍵字、分類號、檢索策略來定義這些技術?

合併檢索結果

Level 1	Level 2	Search Strategies
1 Waveform	1.1 Cyclic prefix-orthogonal frequency plexing (CP-OFDM)	((CTB=("Cyclic prefix-orthogonal frequency division multiplexing" OR "Cyclic prefix orthogonal frequency division multiplexing" OR "CP-OFDM" OR "CP OFDM" OR ((Cyclic?prefix OR "Cyclic M" OR (cyclic?prefix?OFDM) OR (cyclic-prefix ADJ1 OFDM) OR
	ourier Transform Spread	(CTB=("Discrete Fourier Transform S exing" OR (DFT-s-OFDM) OR
	requency Division Multiplexing	Discrete?Fourier?Transform?Spread ng OR "Discrete Fourier Transform Spread OFDM" OR (DFT?s?OFDM) OR
	1.3 Others	(((CTB=(((Universal?Filtered?Multi?Carrier) OR (Universal Filtered Multi-Carrier) OR (UFMC) OR (Universal Filtered Multi?Carrier) OR (Universal Filtered
		CP?OFDM) OR
2 Channel Coding	2.1 Polar coding	CTB=(Polar?cod* OR (polar ADJ1 cod*)) AND ((CTB=(5G OR 5-G) OR ALL=((5G ADJ3 (Communicat* OR standard* OR network* OR technology)) OR (IMT 2020) OR IMT?2020 OR (fifth generation) OR "new radio (NR)" OR (5 ADJ2 generation*) OR (5th ADJ generation) OR fifth?generation)) OR
	2.2 Low density parity check (LDPC) coding	CTB=((low-density parity-check) OR (low density parity check) OR (low?density?parity?check) OR (LDPC)) AND ((CTB=(5G OR 5-G) OR ALL=((5G ADJ3 (Communicat* OR standard* OR network* OR technology)) OR (IMT 2020) OR IMT?2020 OR (fifth generation) OR "new radio (NR)" OR (5 ADJ2 generation*)
	2.3 Other coding techniques	(CTB=((Convolutional ADJ2 cod*) OR Convolutional?cod* OR Turbo?cod* OR (turbo ADJ2 cod*)) AND ((CTB=(5G OR 5-G) OR ALL=((5G ADJ3 (Communicat* OR standard* OR network* OR technology)) OR (IMT 2020) OR IMT?2020 OR (fifth generation) OR "new radio (NR)" OR (5 ADJ2 generation*) OR (5th ADJ
3 Multiple Access Schemes	3.1 Non-orthogonal multiple access (NOMA)	CTB=(("Non-orthogonal multiple access") OR ("Non orthogonal multiple access") OR (Non?orthogonal ADJ1 multiple ADJ1 access) OR ("Resource Spread Multiple Access") OR (Resource-Spread ADJ1 Multiple ADJ1 Access) OR (RSMA) OR (Resource?Spread?Multiple?Access) OR ("Sparse code multiple
	3.2 Orthogonal Multiple Access (OMA)	TAB=((Time ADJ Division ADJ Multiple ADJ Access) OR (TDMA) OR (Time?Division?Multiple?Access) OR (Frequency ADJ Division ADJ Multi DJ Access) OR (FDMA) OR (Frequency?Division?Multiple?Access) OR ("Spatial Division Multiple Access" OR SDMA OR Spatial?Division?Multiple?Ac ND
4 Use cases	4.1 eMBB	CTB=(eMBB OR ("enhanced Mobile Broadband") OR (enhanced?Mobile?Broadband) OR e?MBB OR (enhanced ADJ1 Mobile ADJ 1 Broadba R ("enhanced-Mobile Broadband")) AND (PRD>=(20080101))
	4.2 mMTC	CTB=(mMTC OR ("massive Machine Type Communications") OR (massive?Machine?Type?Communications) OR m?MTC OR m (PRD>=(20080101))
	4.3 URLLC	CTB=(URLLC OR "Ultra-Reliable Low-Latency Communications" OR (Ultra?Reliable?Low?Latency?Communications) OR UR-LLC OR ((ultra-reliable) NEAR2 (low latency communication))) AND (PRD>=(20080101))
5 User Centric No Cell (UCNC)	5.1 User Centric No Cell (UCNC)	CTB=((User ADJ Centric ADJ No ADJ Cell) OR (UCNC) OR UE-centric* OR Uplink-centric* OR Ul-centric* OR ((user ADJ centric) ADJ2 (no ADJ cell)) OR (User?Centric?No?Cell)) AND (PRD>=(20080101))
	5.2 ECO State	CTB=((ECO ADJ State) OR ECO?State) AND (PRD>=(20080101))
	5.3 Grant Free Access	CTB=("Grant Free Access" OR Grant?Free?Access OR ((Grant?Free Access) NEAR3 Access*)) AND (PRD>=(20080101))
	5.4 Hypercell	CTB=(Hypercell OR Hyper?cell OR "hyper cell") AND (PRD>=(20080101))
6 Antenna technology	6.1 Massive MIMO	(CTB=(((advance* OR massive OR "very large" OR hyper) ADJ2 MIMO) OR advanced?MIMO OR advance?MIMO OR Massive?MIMO OR Large?scale?MIMO OR "hyper MIMO" OR ("massive MIMO") OR ("Advanced MIMO") OR ("large scale MIMO") OR FD-MIMO OR (full?dimension ADJ1 MIMO) OR (large ADJ1
	6.2 Beamforming	(TAB=(Beamforming OR *Beamforming OR Beam?forming OR hybrid?beamforming OR "hybrid beamforming") AND ((CTB=(5G OR 5-G) OR ALL=((5G ADJ3 (Communicat* OR standard* OR network* OR technology)) OR (IMT 2020) OR IMT?2020 OR (fifth generation) OR "new radio (NR)" OR (5 ADJ2 generation*)
	6.3 Other Antenna technologies	TAB=(Antenna* OR Aerial*) OR AIC=(H01Q*)
7 Licensed Assisted Access	7 Licensed Assisted Access	CTB=((("Licensed Assisted Access") OR (Licensed?Assisted?Access) OR LAA-LTE OR LAA?LTE OR (Licensed?Assisted Access))) AND (PRD>=(20080101))

不同的專家對技術的定義也不同

價值、差異化、精準度

在這個步驟就能體現

Derwent Innovation Search History 檢索歷史功能

Search History

Feedback | Help

Select History (未完成)5G communication 第五代通... | New Search History | Annotate

PATENT SEARCH (18) | NATIVE JAPANESE SEARCH (0) | LITERATURE SEARCH (0) | ALL CONTENT (0)

FIELDED SEARCH | PUBLICATION NUMBER | EXPERT SEARCH

Smart Search-Topic | Enter key terms or text block

Change collections:
All

((CTB=("Cyclic prefix-orthogonal frequency division multiplexing" OR "Cyclic prefix orthogonal frequency division multiplexing" OR "CP-OFDM" OR "CP OFDM" OR ((Cyclic?prefix OR "Cyclic prefix") NEAR2 OFDM) OR "Cyclic prefix-OFDM" OR (cyclic?prefix?OFDM) OR (cyclic-prefix ADJ1 OFDM) OR (cyclic?prefix?orthogonal ADJ1 frequency?division?multiplexing))) AND ((CTB=(5G OR 5-G) OR ALL=((5G ADJ3 (Communicat* OR standard* OR network* OR technology)) OR (IMT ADJ 202

QUERIES IN THIS SEARCH HISTORY

Note: Select a query to edit it

☑	#	Results	Collections	Search Query	Last Run	Run	Alert	Annotate
☑	16	1545	DWPI, AR App, AR Util, AU App, AU G...	(CTB=(((advance* OR massive OR "ve...	2018-11-12 04:00:04			
☑	15	9296	DWPI, AR App, AR Util, AU App, AU G...	CTB=(Hypercell OR Hyper?cell OR "h...	2018-11-12 04:00:07			
☑	14	9278	DWPI, AR App, AR Util, AU App, AU G...	CTB=("Grant Free Access" OR Grant?...	2018-11-12 04:00:00			
☑	13	9265	DWPI, AR App, AR Util, AU App, AU G...	CTB=((ECO ADJ State) OR ECO?State)...	2018-11-12 03:59:54			
☑	12	9372	DWPI, AR App, AR Util, AU App, AU G...	CTB=((User ADJ Centric ADJ No ADJ ...	2018-11-12 04:00:09			
☑	11	9592	DWPI, AR App, AR Util, AU App, AU G...	CTB=(URLLC OR "Ultra-Reliable Low-...	2018-11-12 03:59:54			
☑	10	9404	DWPI, AR App, AR Util, AU App, AU G...	CTB=(mMTC OR ("massive Machine Typ...	2018-11-12 04:00:07			
☑	9	9504	DWPI, AR App, AR Util, AU App, AU G...	CTB=(eMBB OR ("enhanced Mobile Bro...	2018-11-12 04:00:12			
☑	8	2458	DWPI, AR App, AR Util, AU App, AU G...	TAB=((Time ADJ Division ADJ Multip...	2018-11-12 04:00:15			
☑	7	723	DWPI, AR App, AR Util, AU App, AU G...	CTB=(("Non-orthogonal multiple acc...	2018-11-12 04:00:11			
☑	6	246	DWPI, AR App, AR Util, AU App, AU G...	(CTB=((Convolutional ADJ2 cod*) OR...	2018-11-12 04:00:01			
☑	5	435	DWPI, AR App, AR Util, AU App, AU G...	CTB=((low-density ADJ parity-check...	2018-11-12 04:00:03			
☑	4	483	DWPI, AR App, AR Util, AU App, AU G...	CTB=(Polar?cod* OR (polar ADJ1 cod...	2018-11-12 04:00:18			
☑	3	1086	DWPI, AR App, AR Util, AU App, AU G...	(((CTB=(((Universal?Filtered?Multi...	2018-11-12 04:00:02			
☑	2	1470	DWPI, AR App, AR Util, AU App, AU G...	(CTB=("Discrete Fourier Transform ...	2018-11-12 03:59:56			
☑	1	354	DWPI, AR App, AR Util, AU App, AU G...	((CTB=("Cyclic prefix-orthogonal f...	2018-11-12 04:00:04			

設定自動追蹤，有任何更新通知您

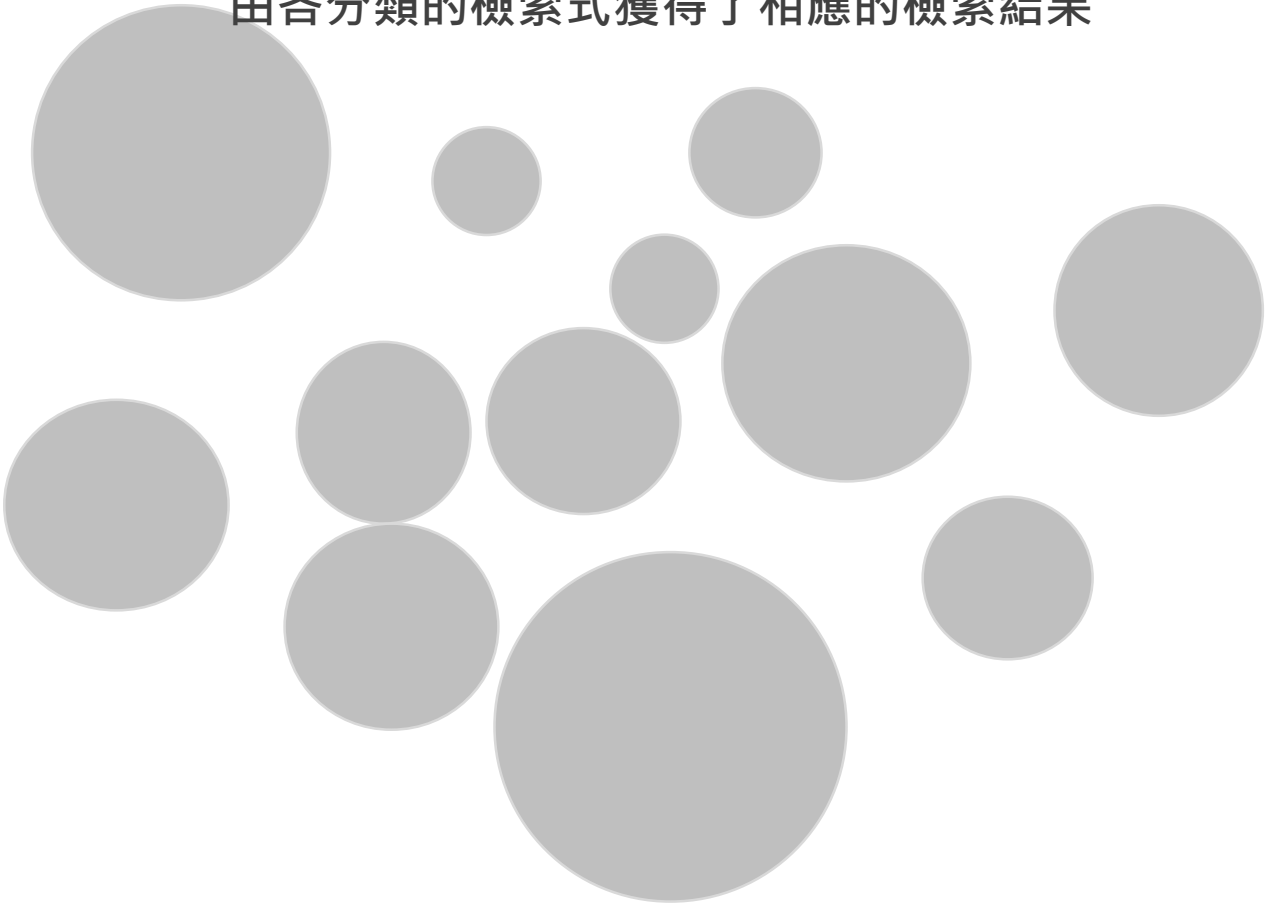
Displaying 1 - 18 of 18

Display 50 records per page

隨時更新最新數據 *(所示數量為專利紀錄數量非家族數量)*

Update Result Count | Delete | Save As New | Append To | Combine | Export | Print

由各分類的檢索式獲得了相應的檢索結果



合併去重後這便是我們待分析的數據集

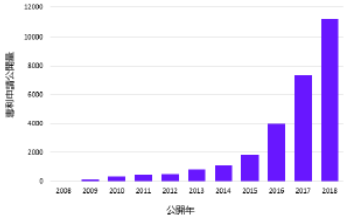


圖 28 基於公開年的發明公開時間趨勢

表 6 基於專利家族公開國家/地區的發明公開時間趨勢

專利公開國家/地區	08	09	10	11	12	13	14	15	16	17	18	總公開量
PCT		27	64	60	54	135	199	371	1052	1968	3152	6974
中國	3	19	73	101	111	132	262	438	908	1709	2711	6237
美國		31	73	110	107	302	252	414	815	1325	2171	5678
韓國		9	30	28	38	53	85	198	441	590	781	2253
歐洲專利局		4	23	50	54	46	88	164	234	572	1001	2236
日本		18	43	62	66	70	68	90	121	246	403	1187
印度			2	12	8	10	9	27	148	312	386	914
[illegible]		6	10	7	7	25	44	36	62	212	259	668
巴西				1	2	2	2	16	14	89	92	218
加拿大		6	12	11	7	10	11	28	40	86	5	216

上表顯示了不同國家/地區的歷年專利公開情況，可以看出，由於公開延遲和隨後的專利家族

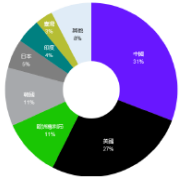
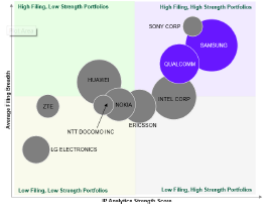
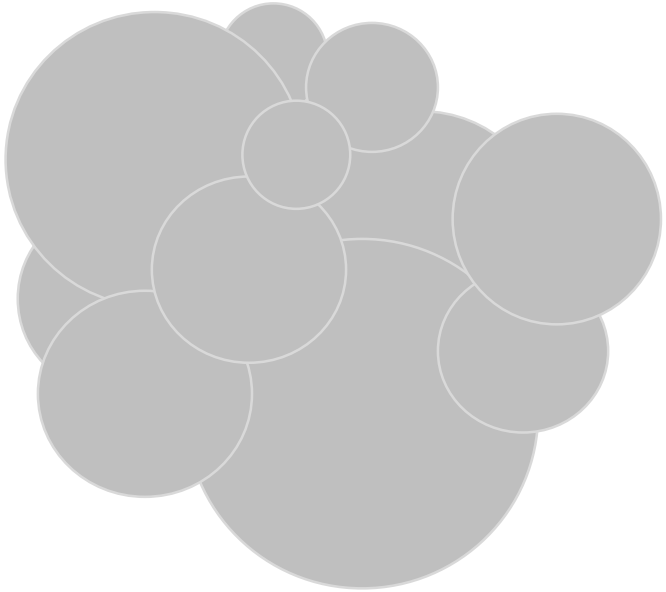


表 9 專利家族成員地理分佈

專利族成員國家/地區	發明總數
PCT	6873
中國	5953
美國	5161
歐洲專利局	2100
韓國	2096
日本	1051
印度	882
[illegible]	633
其他	1479





統計各年份

統計國家/地區分布

統計專利權人

統計發明人

專利強度打分

…

Overview

整體趨勢

12,492 專利家族

DWPI 專利家族

以下稱為發明

2008-2018 年

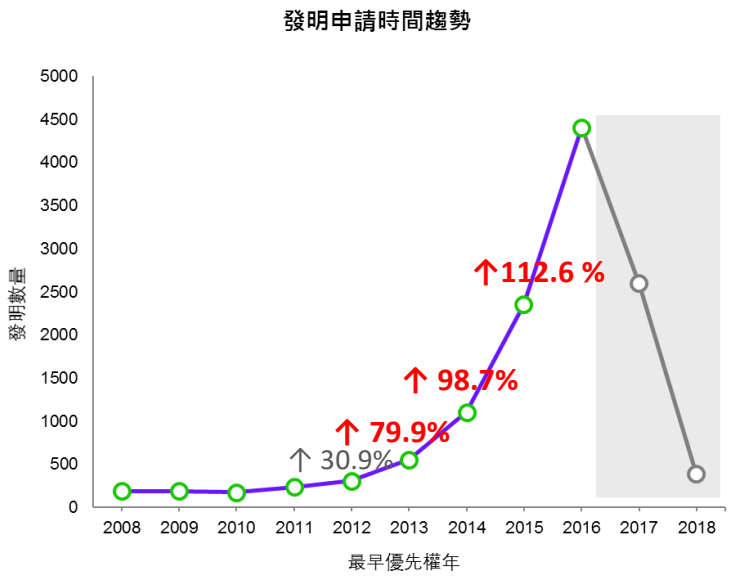
最早優先權年

由於專利公開的延遲2017, 2018年的發明尚未完全公布

17 大類

LV1技術分類

另涵蓋56個LV2技術分類



2018年提交，且已公開的發明約98%的發明來自中國，這可能是由於專利權人選擇了提早公開。

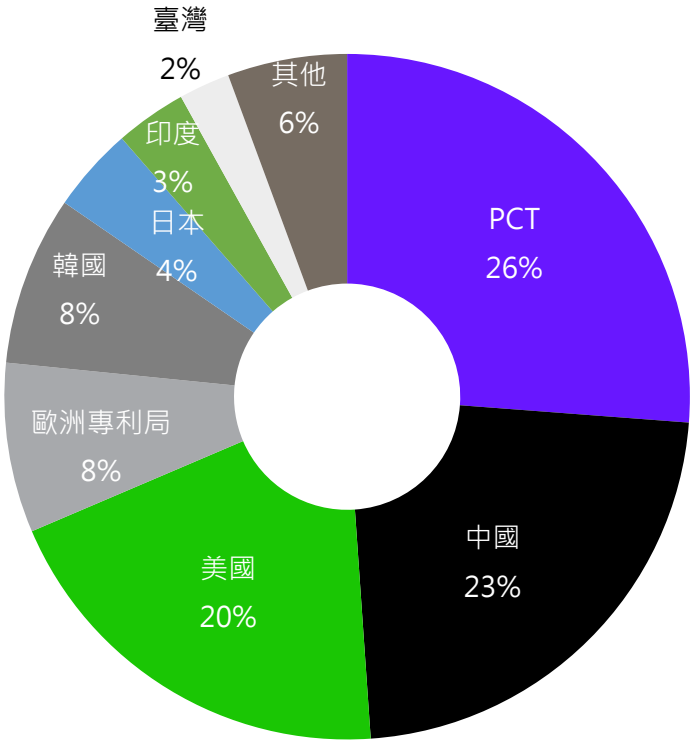
5G相關的發明數量從2012年開始增長，這可能是由於2012年初國際電信聯盟無線電通信部門(ITU-R)開展了 “IMT for 2020 and beyond” 活動，為如今遍佈全球的5G研究活動奠定了基礎。另外，2014-2016年所發生的指數增長，可能是企業為了能夠向標準制定組織提出提案而進行的技術研發。

優先權國家/地區	發明總數
美國	4447
中國	4029
PCT	1388
韓國	1252
日本	653
歐洲專利局	283
印度	166
英國	97
德國	46
法國	34
臺灣	28
其他	69

美國和中國是5G領域的發明創造領先於其他國家/地區。這兩個國家共同貢獻了全球5G發明總量的**68%**左右。

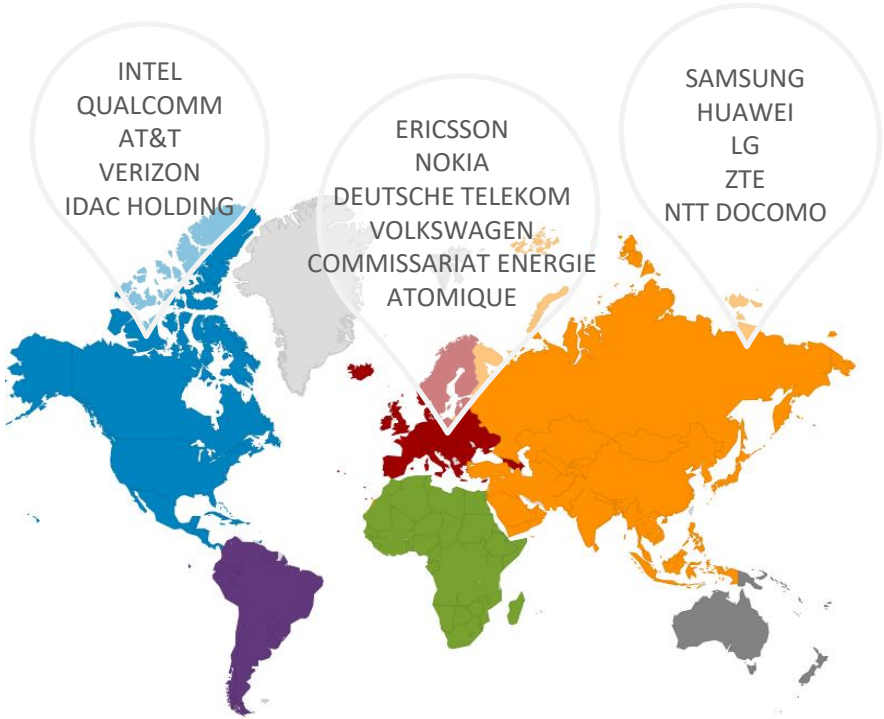
主張臺灣為最早優先權國家的發明，排名整體的第10位（不考慮PCT的情況下），占整個匯集的0.22%。

基於專利族成員國家/地區的發明地域分析



統計專利家族成員至不同國家地區申請的情況，可觀察到申請人非常重視在IP5 (中、美、日、歐、韓) 保護其發明。且有大量的專利是採取PCT 途徑進行專利申請，以獲得30或31 個月的期限用於在指定國家/地區申請專利。

以單一市場來說，又以中國及美國為最。有2%的專利會選擇到臺灣布局。



全球Top5 專利權人

1. 三星 (韓國)
2. 英特爾 (美國)
3. 華為 (中國)
4. 高通 (美國)
5. 愛立信 (瑞典)

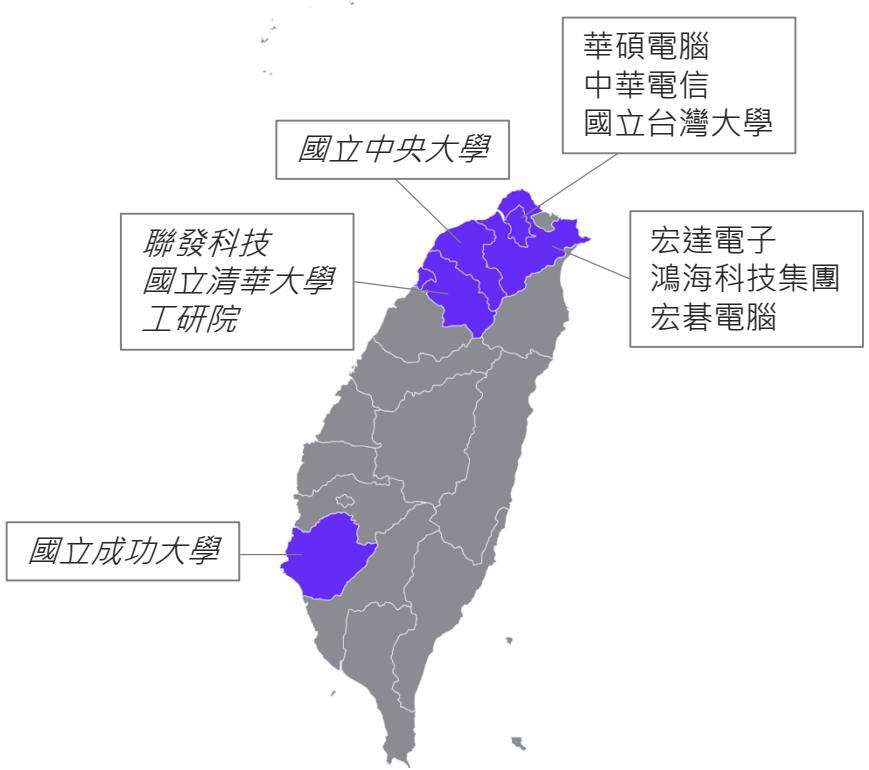
全球Top5 科研機構

1. 東南大學 (中國)
2. ETRI (韓國)
3. 電子科技大學 (中國)
4. 電信科學技術研究院 (中國)
5. 北京郵電大學 (中國)

重要事實

- 三星是5G技術研發的領導者，貢獻了超過10%的發明。緊隨其後的是英特爾和華為，二者發明量幾乎相同。

- 來自中國的東南大學和電子科技大學是在5G領域發明量最多的兩所大學。 韓國的韓國電子通信研究院是5G發明量第二多的科研機構。



台灣 Top5 專利權人

1. 聯發科技
2. 宏達電子
3. 華碩電腦
4. 鴻海科技集團
5. 宏碁電腦
6. 中華電信

台灣 Top5 科研機構

1. 國立清華大學
2. 國立台灣大學
3. 工研院
4. 國立成功大學
5. 國立中央大學

重要事實

- 臺灣的聯發科技在前20位5G專利權人當中排名第16位；HTC排名全球第40位
- 但聯發科技和HTC公司的大部分專利都要求美國的優先權，較少主張臺灣為優先權國家。

Technology Analysis

技術分析

一級分類	發明總數
01 波形	739
02 頻道編碼	513
03 多址方案	567
04 應用案例	403
05 UCNC	119
06 天線技術	2918
07 授權輔助接取	455
08 網路功能	253
09 網路切片	425
10 小型基地站	639
11 毫米波	1218
12 參數配置與幀結構	666
13 側邊鏈路	2663
14 資源管理	3141
15 其他技術	1659
16 應用	4062
17 其他	972

從 **“01 波形”** 到 **“15 其他技術”** 的技術類別集中于發明的一個或多個技術方面。 **“16 應用”** 側重于專利的應用方面。 **“17 5G-其他”** 包含餘下未細分的專利。

在技術方面，14. 資源管理、06. 天線技術、13. 側邊鏈路技術和11. 毫米波是被研究最多的技術。

16 應用	16.01 產業 - 農業	194
	16.02 產業 - 汽車	2013
	16.03 產業 - 雲服務	445
	16.04 應用 - 緊急網路	87
	16.05 產業 - 能源和公用事業	732
	16.06 消費者 - 娛樂和多媒體	563
	16.07 產業 - 健康照護	647
	16.08 產業 - 工業自動化	393
	16.09 應用 - 物聯網	996
	16.10 產業 - 物流和航運、車隊管理	130
	16.11 產業 - 零售	771
	16.12 應用 - 安全和監控	328
	16.13 應用 - 智慧城市	578
	16.14 應用 - 智慧家居	836
	16.15 產業 - 教育	546
	16.16 產業 - 金融	67
	16.18 其他應用	52

在應用領域，汽車產業、物聯網應用和智慧家居是5G 領域中發明數量最多的應用。

一級分類	08	09	10	11	12	13	14	15	16	17	18
01 波形	45	31	32	23	36	55	75	136	187	105	14
02 頻道編碼	5	2	6	5	4	8	25	52	186	210	10
03 多址方案	6	9	5	6	7	7	57	132	215	113	10
04 應用案例	1	1	2	1		1		11	224	160	2
05 UCNC	3	1	1	6	9	8	7	28	39	17	
06 天線技術	51	56	35	71	94	203	312	559	935	499	103
07 授權輔助接取				1		1	65	205	173	10	
08 網路功能	1	1	2	4	4	5	7	13	87	124	5
09 網路切片			2				1	36	240	136	10
10 小型基地站	3	4	15	11	23	53	74	121	236	87	12
11 毫米波	96	91	66	81	93	130	139	170	212	120	20
12 參數配置與幀結構	4	1	1	3	2	4	21	81	379	164	6
13 側邊鏈路	16	25	26	40	51	91	242	597	1024	495	56
14 資源管理	45	36	31	32	64	110	332	720	1204	545	22
15 其他技術	8	13	9	22	18	54	141	347	690	341	16
16 應用	26	32	37	67	64	99	303	733	1563	976	162
17 其他	2	10	8	14	27	43	78	164	336	237	53

這是一個技術類別隨時間而變化的趨勢圖。深色色塊顯示發明活動較多的區域。我們能透過這樣的分析推測技術的興起或衰退的時間點。

二級分類	08	09	10	11	12	13	14	15	16	17	18	發明量	新近性 (2016後)
01.01 循環前綴- 正交分頻複用（CP-OFDM）	9	4	3	5	14	15	23	7	35	29	2	146	45%
01.02 離散傅裏葉變換擴頻正交分頻複用（DFT-s-OFDM）	34	25	22	7	11	7	4	22	54	37		223	41%
01.03 其他波形	3	2	7	11	12	33	51	114	125	57	12	427	45%
02.01 Polar碼				1		3	10	20	92	150	7	283	88%
02.02 低密度奇偶校驗（LDPC）編碼	4	2	5	4	4	5	13	23	87	57	3	207	71%
02.03 其他編碼技術	1		1	1			8	22	42	24	1	100	67%
03.01 非正交多址（NOMA）				1	4	4	30	75	125	91	9	339	66%
03.02 正交多址（OMA）	6	9	5	5	6	3	30	61	93	22	1	241	48%
04.01 增強行動寬頻（eMBB）				1				6	130	97	2	236	97%
04.02 大連接物聯網（mMTC）	1	1	2			1		11	89	28		133	88%
04.03 高可靠低延遲通訊（URLLC）								5	176	120	2	303	98%
05.01 以用戶為中心的無邊界網路（UCNC）	3	1	1	6	8	7	6	19	24	11		86	41%
05.02 ECO狀態							1	3	3			7	43%
05.03 免授權接入					1			1	8	3		13	85%
05.04 超小區（Hypercell）					1	2		6	4	3		16	44%
06.01 大規模MIMO	2	2	2	8	20	95	121	216	256	153	46	921	49%
06.02 波束成形	19	10	5	20	25	47	86	183	424	154	15	988	60%
06.03 其他天線技術	30	44	28	43	50	61	107	174	266	201	44	1048	49%
07 授權輔助接取				1		1	65	205	173	10		455	40%
08 網路功能	1	1	2	4	4	5	7	13	87	124	5	253	85%
09 網路切片			2				1	36	240	136	10	425	91%
10 小型基地站	3	4	15	11	23	53	74	121	236	87	12	639	52%
11 毫米波	96	91	66	81	93	130	139	170	212	120	20	1218	29%
12.01 自包含子幀								9	35	4		48	81%
12.02 幀結構	4	1		3	2	4	20	59	148	39	6	286	67%
12.03 參數配置			1				1	20	228	122	1	373	94%
13.01 車載通訊	5	8	10	22	15	15	93	247	488	268	33	1204	66%
13.02 機器類型通訊			5	7	12	25	87	245	354	162	21	918	58%
13.03 設備到設備（D2D）通訊	11	17	11	11	25	55	104	246	285	127	17	909	47%
14 資源管理	45	36	31	32	64	110	332	720	1204	545	22	3141	56%
15.01 軟體定義網路					1	3	14	38	68	25	3	152	63%
15.02 網路功能虛擬化							3	23	29	17	1	73	64%
15.03 全雙工	1	12	4		3	9	25	74	83	38	4	253	49%
15.04 移動	7	2	5	22	14	43	107	242	556	273	9	1280	65%
16.01 產業 - 農業		2		2	2	2	4	22	101	44	15	194	82%
16.02 產業 - 汽車	9	18	21	35	32	46	160	385	766	464	77	2013	65%
16.03 產業 - 雲服務		1	2	11	6	5	24	67	149	131	49	445	74%
16.04 應用 - 緊急網路	2	2	2	3	2	3	8	19	31	14	1	87	53%
16.05 產業 - 能源和公用事業	1		1	5	7	4	81	143	346	143	1	732	67%
16.06 消費者 - 娛樂和多媒體	9	4	5	8	4	4	15	47	285	168	14	563	83%
16.07 產業 - 健康照護		5	5	9	8	4	81	141	264	121	9	647	61%
16.08 產業 - 工業自動化			1				6	27	230	124	5	393	91%
16.09 應用 - 物聯網			3	4	5		76	178	452	250	28	996	73%
16.10 產業 - 物流和航運、車隊管理		1				2	9	16	41	57	4	130	78%
16.11 產業 - 零售	6	3	6	22	11	20	91	158	304	141	9	771	59%
16.12 應用 - 安全和監控	2	6	5	10	4	13	36	89	106	56	1	328	50%
16.13 應用 - 智慧城市			1		1	1	73	114	264	120	4	578	67%
16.14 應用 - 智慧家居			2		2	7	105	179	390	148	3	836	65%
16.15 產業 - 教育	2		2	9	2	4	67	111	234	113	2	546	64%
16.16 產業 - 金融			1	4	2	5	1	8	18	19	9	67	69%
16.18 其他應用		1			1		2	2	14	23	9	52	88%

我們發現幾個值得注意的子類別。這些子類別的**專利申請總量較少**，但在**近期受到專利申請人的特別關注**。這些跡象可能表明這些領域在興起，並且各家機構可能正在聚焦到這些技術上面。

04.01 eMBB

04.03 URLLC

12.03 參數配置

16.08 工業自動化

MEDIATEK

English

Home > Tek Talk > 5G: What are eMBB, URLLC and mMTC?

Products

Technology

Helio

eMBB 增強行動寬頻，顧名思義是針對的是大流量行動寬頻業務

URLLC 超高可靠超低時延通信，例如無人駕駛等業務，3G響應為500ms，4G為50ms，5G要求0.5ms

5G: What are eMBB, URLLC and mMTC?

Mar 8, 2018 - 8:30 AM - Technology

During its 78th Plenary in Lisbon at the end of December 2017, the 3GPP standards body approved an interim set of specifications for 5G communications. This first set defined 5G New Radio (NR) in Non-Standalone operation (NSA), enabling 5G NR deployments using existing 4G systems.

The specifications of 5G NR in Standalone operation are due for completion in June 2018, which will provide a complete set of specifications for the 5G Core Network that goes beyond Non-Standalone. The 'full' 5G System includes:

- eMBB (enhanced Mobile Broadband)
- URLLC (Ultra Reliable Low Latency Communications)
- mMTC (massive Machine Type Communications)

The initial phase of 5G Non-Standalone deployments focuses on eMBB, which provides greater data-bandwidth complemented by moderate latency improvements on both 5G NR and 4G LTE. This will help to develop today's mobile broadband use cases such as emerging AR/VR media and applications, UltraHD or 360-degree streaming video and many more.

Derwent Innovation (DI)
專利內容圖像分析工具
ThemeScape Map

將專利說明書的內容描述，分析出技術主題，再以圖像化方式表現出來

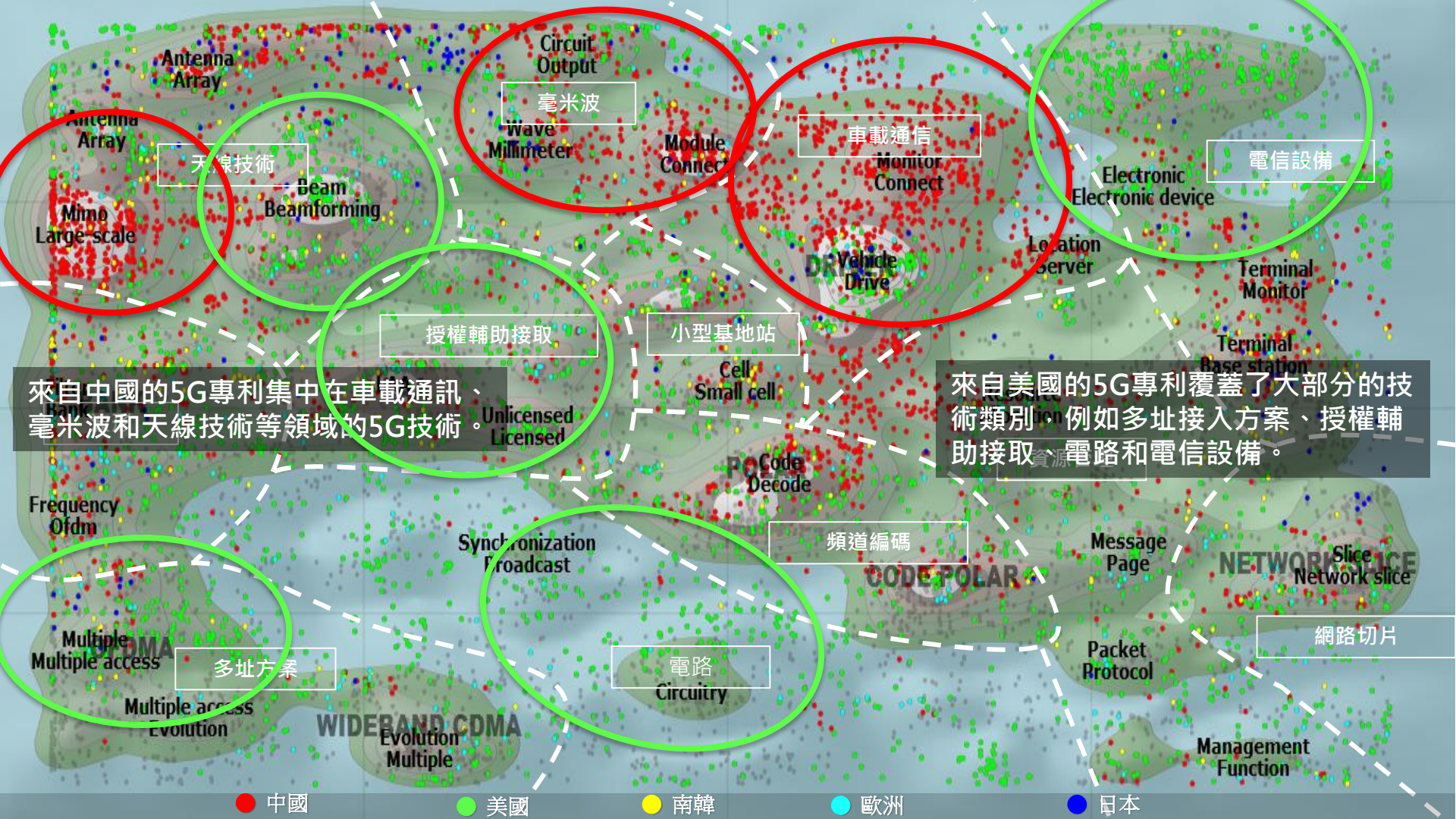
TF-IDF term frequency–inverse document frequency

是一種統計方法，用以評估一字詞對於一個檔集或一個語料庫中的其中一份檔的重要程度。

字詞的重要性隨著它在檔中出現的次數成正比增加，但同時會隨著它在語料庫中出現的頻率成反比下降。

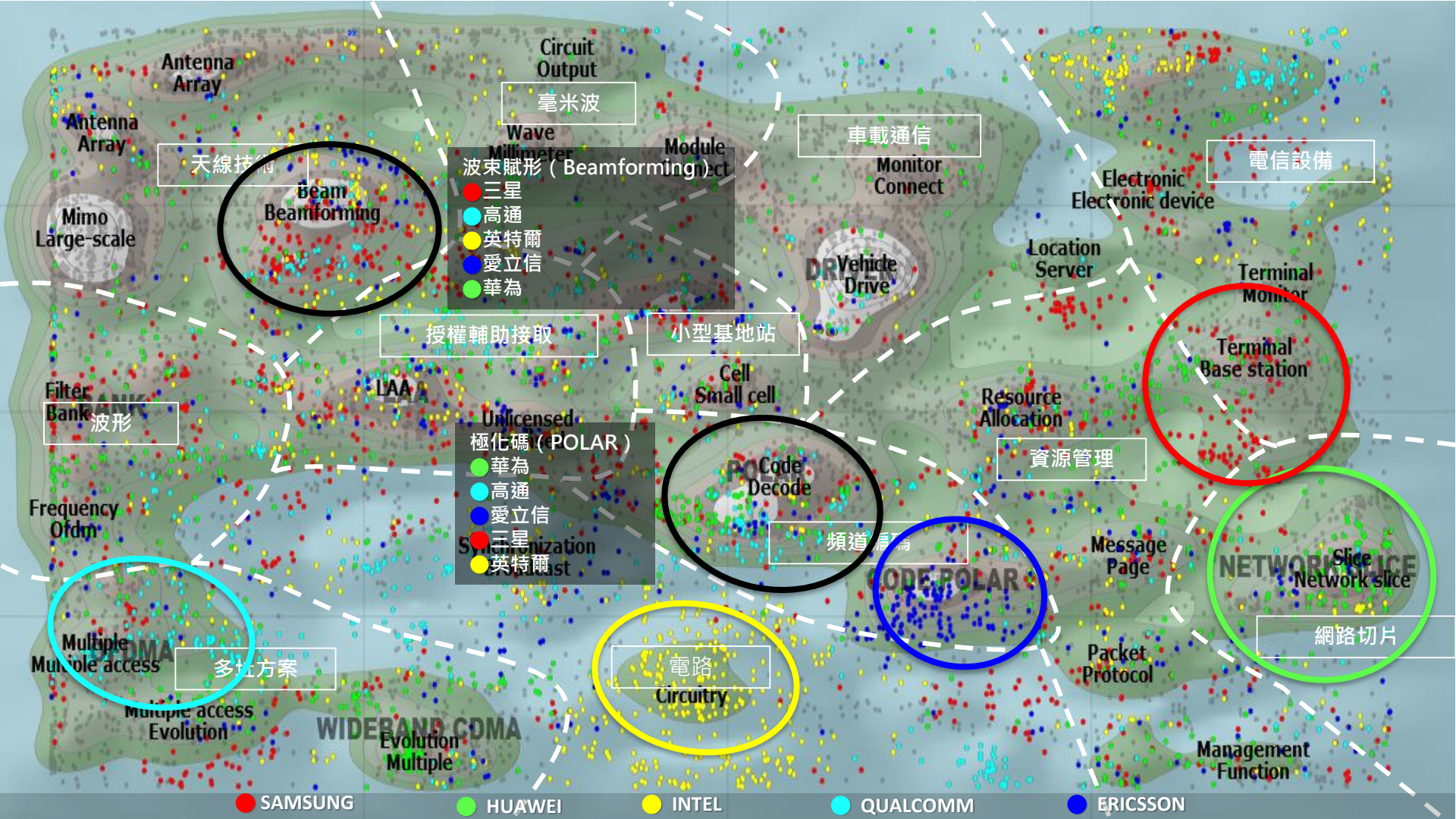
一個點代表一件專利
Publication Number: DE102015107080B3
Title - DWPI: Method for estimating a channel for mobile systems with insufficient cyclic prefix length, involves receiving a signal on sub-carriers of known pilots and sub-carriers of unknown data, and determining an estimate of multi-path components
較多專利聚集在這個主題
將形成白色山峰
黑灰色字體代表
聚集於此的專利
高頻率討論的技術為何
平原/藍海代表此處的專利
與地圖上的其它專利討論著
不太一樣的技術內容
Antenna
Antenna
Array
Circuit
Output
Wave
Millimeter
Module
Connect
Electronic
Electronic device
Location
Server
Vehicle
Drive
Terminal
Monitor
Terminal
Base station
Cell
Small cell
Bank
Unlicensed
Licensed
Code
Decode
Frequency
Ofdm
Synchronization
Broadcast
Message
Page
CODE POLAR
Slice
Network slice
Multiple
Multiple access
Packet
Protocol
Circuitry
Management
Function

Antenna Array
Antenna Array
天線技術
Beam
Beamforming
Mimo Large-scale
Circuit Output
毫米波
Wave Millimeter
Module Connect
車載通信
Monitor Connect
電信設備
Electronic Electronic device
Location Server
Vehicle Drive
Terminal Monitor
授權輔助接取
小型基地站
Cell Small cell
Terminal Base station
Filter Bank
波形
LAA
Unlicensed Licensed
Resource Allocation
Code Decode
資源管理
Frequency Ofdm
Synchronization Broadcast
頻道編碼
Message Page
Slice Network slice
Multiple Multiple access
多址方案
Multiple access Evolution
WIDEBAND CDMA
Evolution Multiple
Circuitry
電路
Packet Protocol
網路切片
Management Function



來自中國的5G專利集中在車載通訊、毫米波和天線技術等領域的5G技術。

來自美國的5G專利覆蓋了大部分的技術類別，例如多址接入方案、授權輔助接取、電路和電信設備。


Antenna Array
Antenna Array
天線技術
Beam Beamforming
Mimo Large-scale
Circuit Output
毫米波
Wave Millimeter
Module
波束賦形（Beamforming）
三星
高通
英特爾
愛立信
華為
車載通信
Monitor Connect
Vehicle Drive
Electronic Electronic device
電信設備
Location Server
Terminal Monitor
Terminal Base station
授權輔助接取
小型基地站
Cell Small cell
LAA
Filter Bank
波形
Unlicensed
極化碼（POLAR）
華為
高通
愛立信
三星
英特爾
Code Decode
Resource Allocation
資源管理
Frequency Ofdm
頻道編碼
CODE POLAR
Message Page
Slice Network slice
網路切片
Multiple Multiple access
多址方案
Multiple access Evolution
WIDEBAND CDMA
Evolution Multiple
電路
Circuitry
Packet Protocol
Management Function
SAMSUNG
HUAWEI
INTEL
QUALCOMM
ERICSSON

Patent strength & Standard

專利強度與標準

01
數量

本研究針對最近五年內擁有 100 項以上已獲准之新發明專利的所有組織，納入分析範圍，新發明的定義為「首次公開於專利文件，且現有技術尚未描述的科技、藥物、商業流程等」，在 *DWPI* 當中，這稱之為「基本」專利項目 (Basic patent)。*DWPI* 收錄了全球 50 家專利核發機關的公開專利，提供創新領域的完整面貌。*DWPI* 將相同發明的後續申請列為「同等發明」，合併為「專利家族」。本分析的計算，係依據專利家族的數量，而非個別專利文件的總數，如此一來，可避免重複計算相同發明的專利。

組織一旦通過數量階段門檻，將繼續接受其他 3 項標準的評估：專利獲准率、專利組合的全球化程度、專利影響力。

02
成功率

並非所有專利申請案都能通過審查程序並成功取得專利。成功率計算的是已公開申請專利 (已提出申請並由專利局公告，但尚未授證之專利) 的發明，與最近五年內贏得專利核准案件的比例，透過專利獲准的件數多寡，評估創新的品質。

03
全球化程度

在主要國家境內所申請的專利保護，亦是重要的指標，反映了組織重視創新與智慧財產的程度。我們根據 *DWPI* 資料庫，計算專利家族成員同時涵蓋四大專利機關的發明數量，所得出的比例即足以反映特定公司是否重視主要國際市場的專利組合。所謂四大專利機關，包括了中國專利局、歐洲專利局、日本專利局以及美國專利商標局。

04
專利影響力

在我們的分析中，發明的「下游」影響，可透過其他公司在申請發明註冊時的後續引用頻率，予以確認。透過 *DPCI* 資料庫，計算最近五年各組織專利的引用次數 (不含組織自行引用)。

總結以上各個領域的分數，德溫特百大創新機構名單於焉誕生。

CLARIVATE ANALYTICS IP 分析強度指數

地理申請廣度
計算專利於不同地區布局的數量。專利申請時分昂貴，布局的區域越多也代表成本提高，對專利申請人而言更具戰略意義（或者相反地，更為投機）。

引用的頻率
基於Derwent Patent Citations Index (DPCI)，計算專利被引用的情況，且必須使用頻率而非引用事件的原始數量以考慮到年份偏差。

核准成功率/及核准專利的位置
基於存在於該家族中的專利核准的地理位置及數量來測量並評分該專利家族，例如在美國、於歐洲專利局、在日本授權等等。

技術廣度
計算不同技術分類數量，我們基於Derwent World Patents Index™分類(DWPI Class)，相較IPC CPC，DWPI分類更廣泛且更深入。

專利生命
基於專利剩餘執行權利的時間，計算專利生命。

每件專利單獨打分後再計算總分

Summary

Derwent Data Analyzer - Final Deck-n.vpt

Home | Refine | Analyze | Report | Editors | View | Help

Style

New Analysis | Open Dataset | Save | Save As | Close | Create Sub-dataset | List | Matrix | Find | Select All | Copy | Paint | Manage Sheets | Delete Sheet

File | Datasets | Add Sheet | Edit | Sheets

Derwent Data Analyzer is up to date

Field	Number of Items	% Coverage	Data Type	Meta Tags
(filters)				
Family Member Countries (Excluding PCT)	1,098	84%		
Family Member Countries (Including PCT)	1,290	99%		
Family Member Countries (Including PCT): Divide at/Pipe (|)	34	99%		
Family Member Countries (Including PCT): Divide at/Pipe (|) (1)	34	99%		
Family Member Years	212	100%		
Filing Breadth (excl PCT)	20	84%		
Filing Breadth Score	3	100%		
Filing Breadth Score (Weighted)	3	100%		
Final Index	990	100%		
Grant Score (Weighted)	9	100%		
Granted EP	1	1%		
Granted JP	1	2%		
Granted Non-Trilat	1	13%		
Granted US	1	13%		
Inventor	10,193	99%		
Inventor: Divide at/Pipe (|)	15,001	99%		
JP Grant Score	1	2%		
Non-Trilat Grant Score	1	13%		
Priority Country	149	100%		
Priority Date - Earliest	2,065	100%		
Publication Number	12,492	100%		
Publication Number (Basic Patent)	12,492	100%		
Quad Filed	1	4%		
Raw Strength Index (Weighted, No Age Score)	209	100%		

Derwent Data Analyzer

Show Hidden Fields

Summary | Matrix::zAssignee: Divide at/Semicolon x Final Index | Matrix::zAssignee: Divide at/Semicolon x Technical Breadth Score | Matrix::zAssignee: Divide at/Semicolon x Technical Breadth | Matrix::zAssignee: Divide at/Semicolon x Filing Breadth (excl PCT) | List::Strength Summary | List::Tech Breadth Score (Weighted

Final Deck-n.vpt

Derwent Data Analyzer

Reset		Publication Number	1
		# Records	921

Strength Summary

Show Values >= 1 and <= 1

Cooccurrence
# of Records

	# Records		1 Very Weak
1	1	AU2017100399A4	
2	1	BR102013007186A2	1
3	1	BR102013011654A2	1
4	1	CA2852080A1	
5	1	CA2947554A1	
6	1	CA2976942A1	
7	1	CN101237306A	
8	1	CN101262239A	
9	1	CN101340410A	
10	1	CN101359962A	
11	1	CN101394391A	
12	1	CN101465695A	1
13	1	CN101505185A	1
14	1	CN101533960A	
15	1	CN101546855A	1
16	1	CN101577368A	1
17	1	CN101594329A	1
18	1	CN101599942A	1
19	1	CN101635921A	
20	1	CN101640738A	1
21	1	CN101645732A	1
22	1	CN101650570A	
23	1	CN101651647A	
24	1	CN101656701A	1
25	1	CN101662492A	
26	1	CN101667601A	
27	1	CN101667672A	1
28	1	CN101667868A	
29	1	CN101674547A	

Reset		zTech	1
		# Records	6793

Strength Summary

Show Values >= 1 and <= 1474

Cooccurrence
# of Records

	# Records		2 Somewhat Weak
1	146	01.01 CP-OFDM	88
2	223	01.02 DFT-s-OFDM	101
3	427	01.03 Others	211
4	283	02.01 Polar coding	217
5	207	02.02 LDPC coding	133
6	100	02.03 Other coding techniques	62
7	339	03.01 Non-orthogonal multiple access (NO	220
8	241	03.02 Orthogonal Multiple Access (OMA)	137
9	236	04.01 eMBB	166
10	133	04.02 mMTC	76
11	303	04.03 URLLC	208
12	86	05.01 User Centric No Cell (UCNC)	28
13	7	05.02 ECO State	3
14	13	05.03 Grant Free Access	11
15	16	05.04 Hypercell	9
16	921	06.01 Massive MIMO	520
17	988	06.02 Beamforming	509
18	1048	06.03 Other antenna technologies	498
19	455	07 Licensed Assisted Access	191
20	253	08 Network function	168
21	425	09 Network slicing	303
22	639	10 Small cell	320
23	1218	11 mmWave	475
24	48	12.01 Self-contained sub-frame	36
25	286	12.02 Frame structure	174
26	373	12.03 Numerology	267
27	1204	13.01 Vehicular communication	588
28	918	13.02 Machine type communication	467
29	909	13.03 Device-to-Device communication (D2	483
30	3141	14 Resource management	1474
31	152	15.01 Software defined networking	87

Reset		zAssignee	1	2	3	4
		# Records	921	6793	2931	1847

Strength Summary

Show Values >= 1 and <= 632

Cooccurrence
# of Records

	# Records		1 Very Weak	2 Somewhat Weak	3 Somewhat Strong	4 Very Strong
1	1206	SAMSUNG	29	449	424	304
2	987	INTEL CORP	21	580	170	216
3	978	HUAWEI	54	632	161	131
4	734	QUALCOMM	3	381	209	141
5	543	ERICSSON	4	329	121	89
6	528	NOKIA	32	303	113	80
7	363	LG ELECTRONICS	17	284	39	23
8	362	INDIVIDUALS	81	185	83	13
9	256	ZTE	18	186	37	15
10	201	NTT DOCOMO INC	3	132	41	25
11	193	SONY CORP	8	88	42	55
12	188	UNIV SOUTHEAST	15	131	40	2
13	168	SHARP KK	18	89	45	16
14	140	ELECTRONICS AND TELECOMMUNICATION	24	40	46	30
15	132	AT & T INTELLECTUAL PROPERTY I LP	5	52	32	43
16	112	UNIV ELECTRONIC SCI & TECHNOLOGY	12	72	23	5
17	102	MEDIATEK INC	1	34	38	29
18	99	VERIZON PATENT & LICENSING INC	1	18	57	23
19	93	GUANGDONG OPPO MOBILE TELECOM CO	2	64	25	2
20	90	CHINA ACAD TELECOM TECHNOLOGY MIL	5	67	11	7

01波形

高分發明	發明強度指數™
EP3079323A1	**137.36**
COMMISSARIAT ENERGIE ATOMIQUE	
10/12/2016	
Filter bank multi-carrier receiver for receiving packet of filter bank multi-carrier symbols, has multiplexer introducing null values instead of last block of samples of packet, without waiting for end of reception of	
DE102015200411A1	**132.27**
APPLE INC	
7/23/2015	
Method for detecting radio frequency interference in radio frequency channel by wireless communication apparatus, involves performing cross correlation over correlation time period, until radio frequency	
US20150256308A1	**127.77**
HUAWEI	
9/10/2015	
Method for supporting wireless communications by network controller for transmitting orthogonal frequency division multiplexed waveforms, involves selecting different multiple access block types from	
US20140254404A1	**120.82**
QUALCOMM	
9/11/2014	
Method for performing over-the-air communication between e.g. cellular telephone and femto node in code division multiple access communication system, involves determining signal for useable portion	
WO2011084038A2	**116.91**
ETRI	
7/14/2011	
Terminal for performing carrier aggregation in wireless telecommunication system, has transmit unit for transmitting received acknowledge information about data to base station using determined uplink	
WO2011125319A1	**116.91**
PANASONIC CORP	
10/13/2011	
Transmitter used in wireless communication system e.g. long term evolution (LTE) system, has controller that sets bandwidth of lowest frequency band as bandwidth of continuous frequency band to	
US20160278050A1	**115.87**
MOTOROLA MOBILITY LLC	
9/22/2016	
Method for scheduling uplink transmissions of user equipment on unlicensed spectrum carrier in long term evolution networks, involves transmitting physical uplink shared channel in portion of remaining	
US20160352551A1	**115.87**
HUAWEI	
12/1/2016	
Method for configuring e.g. massive machine-type communication, with e.g. user equipment, involves receiving indication of value of subcarrier spacing and duration for type of numerology signal applied to	
US20130230017A1	**111.61**
SAMSUNG	
9/5/2013	
Method for transmitting hybrid automatic repeat request acknowledgement (HARQ-ACK) signal for user equipment (UE) in physical uplink control channel (PUCCH), involves transmitting HARQ-ACK	
WO2013144715A1	**111.61**
NOKIA	
10/3/2013	
Signal transmission method used in transmitter of filter band multi-carrier system involves obtaining and transmitting to-be-transmitted signal by framing pilot preamble symbol with modulated data	

02發明強度

高分發明	發明強度指數™
US9088447B1	**114.66**
MITSUBISHI ELECTRIC CORP	
7/21/2015	
Method for communicating data symbols in e.g. vehicular communication network, involves detecting received signal using generalized likelihood ratio test (GLRT) with space-time-frequency basis expansion	
EP3082285A1	**112.95**
CISCO TECHNOLOGY INC	
10/19/2016	
Method for performing cable characterization at link-up and during in-service monitoring to provide best data throughput involves determining quality value for cable based on multiple return loss values and	
US20170111139A1	**107.62**
INTEL CORP	
4/20/2017	
Device for modulation and coding scheme codes in portable wireless communication device, has processor which determines code rate associated with MCS index value based on wireless	
WO2012029614A1	**106.04**
SONY CORP	
3/8/2012	
Data processor has low density parity check encoder that performs encoding with low density parity check code having code length of predetermined bits	
WO2015139248A1	**96.00**
HUAWEI	
9/24/2015	
Method for matching polar code rate for e.g. intelligent telephone, involves interleaving parity bits to obtain first set of bits, and determining rate-matched output sequence based on first and second set of	
US20140112194A1	**95.57**
SAMSUNG	
4/24/2014	
User equipment (UE) e.g. cell phone for use in wireless communication network, performs network-assisted device discovery of other main section by assisting enhanced NodeB in main section in	
EP2482482A2	**92.98**
NEC CORP	
8/1/2012	
Low-density parity-check (LDPC) decoding apparatus has unit which calculates post effective noise variance and log-likelihood ratio (LLR) based on predetermined equation	
CN101958774A	**92.05**
ZTE	
1/26/2011	
Feedback information sending method, involves mapping expanded data on multiple uplink single carrier frequency division multiple access symbols, where each access symbol occupies continuous physical	
US20170331577A1	**91.73**
ERICSSON	
11/16/2017	
Method for operating user equipment (UE) in wireless communication network, involves receiving broadcasted system access information and using received system access information for accessing	
WO2015123855A1	**91.17**
HUAWEI	
8/27/2015	
Method for rate matching linear block code, involves determining mapping function according to congruential sequence and reference sequence, and interweaving target polar code according to	

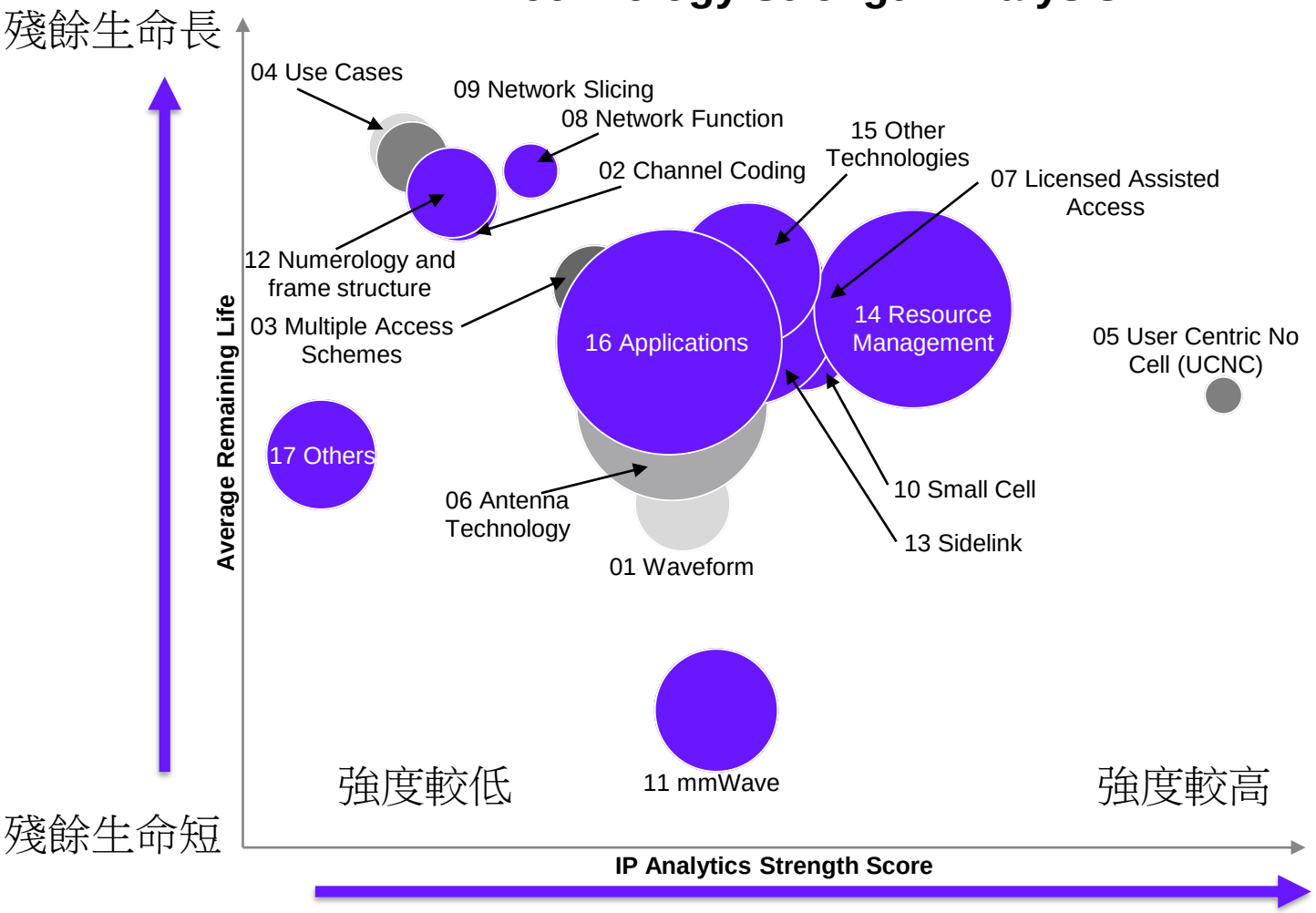
03多項

US20160
INTEL
8/4/201
Wireless a has proce
WO2015
HUAWI
2/12/20
Adapting sparse co
US20170
UNIV N
9/7/201
Method fo transmiss
US20160
HUAWI
7/28/20
Method fo wireless c
WO2014
SHARP
5/8/201
Mobile st downlink c
WO2016
HUAWI
7/7/201
Method fo obtained r
WO2014
INTEL
10/30/2
Beam-for performs
EP2840
NOKIA
2/25/20
Receiver suppressi
EP29113
NTT D
8/26/20
Uplink res communi
US20150
SAMSU
10/8/20
Method fo receiving

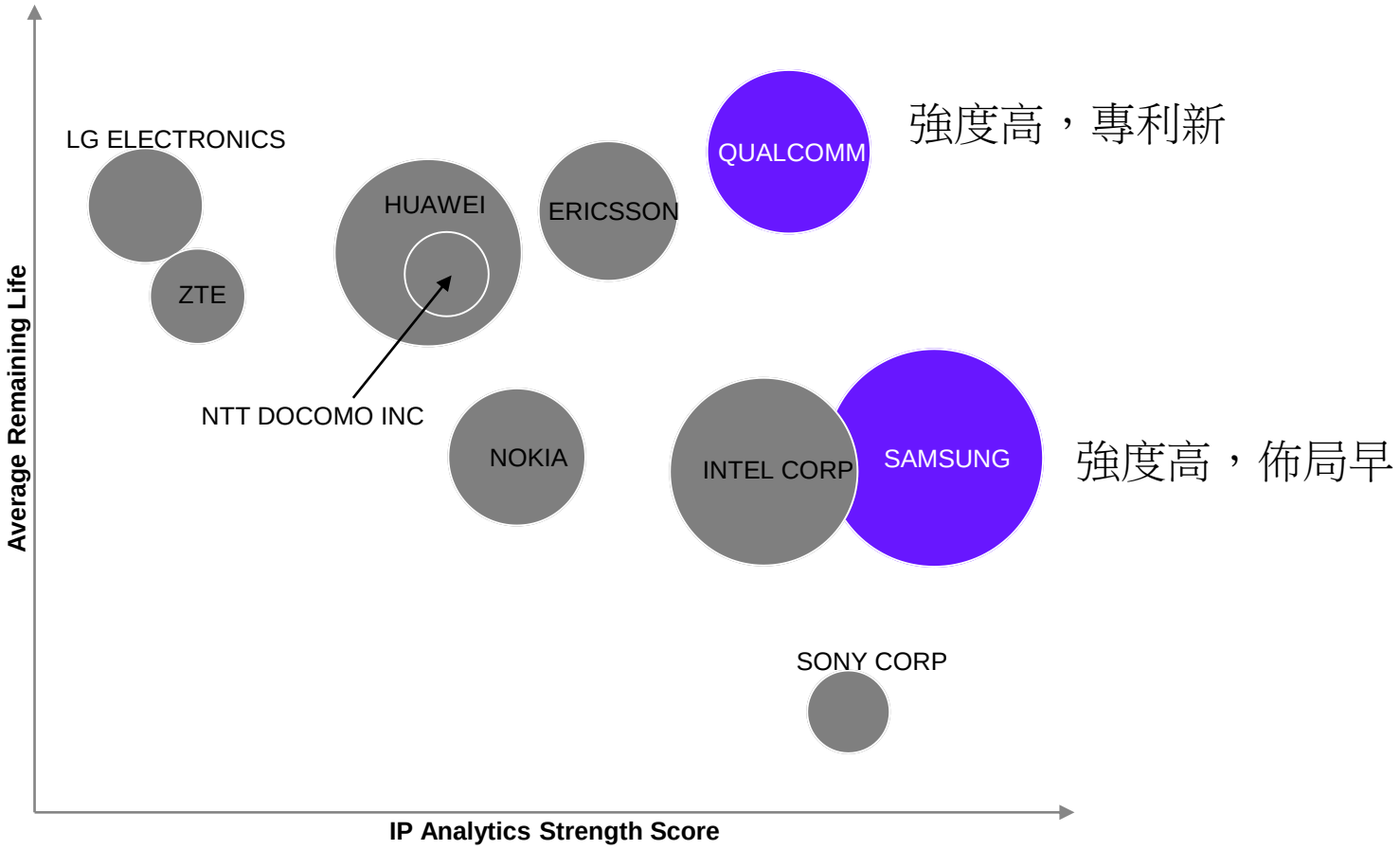
Broad Level Category	IP Analytics Strength Score	Average Remaining Life	Total Inventions
01 Waveform	42.93	16.07	739
02 Channel Coding	37.87	17.89	513
03 Multiple Access Schemes	40.95	17.38	567
04 Use Cases	36.64	18.22	403
05 User Centric No Cell (UCNC)	55.15	16.72	119
06 Antenna Technology	42.69	16.66	2918
07 Licensed Assisted Access	46.31	17.27	455
08 Network Function	39.50	18.08	253
09 Network Slicing	36.83	18.16	425
10 Small Cell	45.68	17.02	639
11 mmWave	43.69	14.83	1218
12 Numerology and frame structure	37.72	17.94	666
13 Sidelink	44.34	17.21	2663
14 Resource Management	48.14	17.24	3141
15 Other Technologies	44.43	17.45	1659
16 Applications	42.63	17.04	4062
17 Others	34.77	16.37	972

Top 10 Innovator	IP Analytics Strength Score	Average Remaining Life	Total Inventions
SAMSUNG	50.76	17.01	1326
INTEL CORP	46.83	16.97	989
HUAWEI	39.08	17.59	982
QUALCOMM	47.41	17.88	751
ERICSSON	43.24	17.71	548
NOKIA	41.13	17.01	531
LG ELECTRONICS	32.56	17.73	374
ZTE	33.76	17.47	258
NTT DOCOMO INC	39.51	17.53	203
SONY CORP	48.79	16.29	196

Technology Strength Analysis



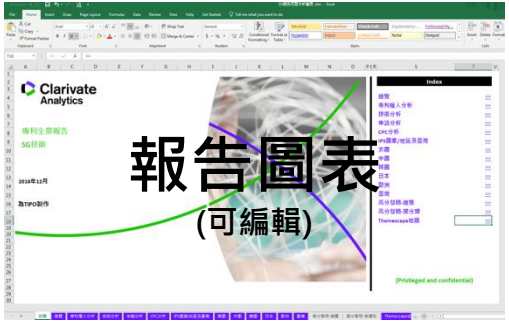
Assignee Strength Analysis

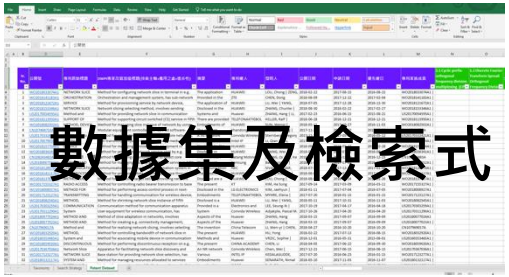


What’s Next?

5G 技術全景報告
Clarivate
Analytics
由科睿唯安為經濟部智慧財產局分析製作

報告全文


Clarivate
Analytics
報告圖表
(可編輯)


數據集及檢索式

如何讓這份報告的「效益」得以延續?

我幫每一個客戶做完報

告後都會教他們做的事

在DI上建立您自己的5G技術資料庫

Derwent Innovation Welcome Henry

Blueprints for Success | Clarivate Analytics

DASHBOARD

SEARCH

QUICK SEARCH

PATENT

LITERATURE

ALL CONTENT

NATIVE JAPANESE

SEARCH HISTORY

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PATENT SEARCH (15) | NATIVE JAPANESE SEARCH (0) | LITERATURE SEARCH (0) | ALL CONTENT (0)

FIELDED SEARCH | PUBLICATION NUMBER | EXPERT SEARCH

Smart Search-Topic | Enter key terms or text block | AND

Assignee/Applicant | Fanuc | Browse | Include Black | AND

((printer AND scanner) NOT inkjet) | AND

(WO OR EP)

ytics Function" OR NWDAF) AND ((CTB=(5G OR 5-G) OR ALL=((5G ADJ3 (Communicat* OR standard* OR network* OR technology)) OR (IMT 2020) OR IMT?2020 OR (fifth generation) OR "new radio (NR)" OR (5 ADJ2 generation*) OR (5th ADJ generation) OR fifth?generation)) OR (CTB=((Mm*1Wave OR mm-wave OR MMwave OR ((Millimeter OR Milli-meter OR mm) ADJ1 (Wave OR band OR Frequency OR spectrum)) OR (Extremely ADJ high ADJ (Wave OR band OR Frequency OR spectrum)) OR EHF))) AND (PRD>=(20080101)))

New | Reset | Save as New | Save | Search

ery to edit it

								Annotate
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9	12748	DWPI, AR App, AR Util, AU App, AU G...	(((UC=(706* OR 714026 OR 345595 OR...	2017-06-21 01:50:08				
8	492	DWPI, AR App, AR Util, AU App, AU G...	(((UC=(706* OR 714026 OR 345595 OR...	2017-06-21 01:49:55				
7	2997	DWPI, AR App, AR Util, AU App, AU G...	(((UC=(706* OR 714026 OR 345595 OR...	2017-06-21 01:51:52				
6	62367	DWPI, AR App, AR Util, AU App, AU G...	(((UC=(706* OR 714026 OR 345595 OR...	2017-06-21 01:50:17				
5	33104	DWPI, AR App, AR Util, AU App, AU G...	(((UC=(706* OR 714026 OR 345595 OR...	2017-06-21 01:50:02				
4	34775	DWPI, AR App, AR Util, AU App, AU G...	(((UC=(706* OR 714026 OR 345595 OR...	2017-06-21 01:50:02				
3	258440	DWPI, AR App, AR Util, AU App, AU G...	(((UC=(706* OR 714026 OR 345595 OR...	2017-06-21 01:50:17				
2	45780	DWPI, AR App, AR Util, AU App, AU G...	(((UC=(706* OR 714026 OR 345595 OR...	2017-06-21 01:49:56				
1	162314	DWPI, AR App, AR Util, AU App, AU G...	(((UC=(706* OR 714026 OR 345595 OR...	2017-06-21 01:51:37				

追蹤檢索式

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FIELDED SEARCH | PUBLICATION NUMBER | EXPERT SEARCH

Smart Search-Topic	Enter key terms or text block		AND
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Title/Abstract/Claims	((printer AND scanner) NOT inkjet)		AND
Country Code	(WO OR EP)		

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QUERIES IN THIS SEARCH HISTORY

Note: Select a query to edit it

#	Results	Collections	Search Query	Last Run	Run	Alert	Annotate
15	25142		13 OR 12 OR 11 OR 10 OR 9 OR 8 OR ...	2018-02-12 12:40:57			
14	705966		13 OR 12 OR 11 OR 10 OR 9 OR 8 OR ...	2018-02-12 12:36:52			
13	23254	DWPI, AR App, AR Util, AU App, AU G...	(((UC=(706* OR 714026 OR 345595 OR...	2017-06-21 01:49:55			
12	16079	DWPI, AR App, AR Util, AU App, AU G...	(((UC=(706* OR 714026 OR 345595 OR...	2017-06-21 01:50:04			
11	22846	DWPI, AR App, AR Util, AU App, AU G...	(((UC=(706* OR 714026 OR 345595 OR...	2017-06-21 01:49:59			
10	3203	DWPI, AR App, AR Util, AU App, AU G...	(((UC=(706* OR 714026 OR 345595 OR...	2017-06-21 01:51:45			
9	12748	DWPI, AR App, AR Util, AU App, AU G...	(((UC=(706* OR 714026 OR 345595 OR...	2017-06-21 01:50:08			
8	492	DWPI, AR App, AR Util, AU App, AU G...	(((UC=(706* OR 714026 OR 345595 OR...	2017-06-21 01:49:55			
7	2997	DWPI, AR App, AR Util, AU App, AU G...	(((UC=(706* OR 714026 OR 345595 OR...	2017-06-21 01:51:52			
6	62367	DWPI, AR App, AR Util, AU App, AU G...	(((UC=(706* OR 714026 OR 345595 OR...	2017-06-21 01:50:17			
5	33104	DWPI, AR App, AR Util, AU App, AU G...	(((UC=(706* OR 714026 OR 345595 OR...	2017-06-21 01:50:02			
4	34775	DWPI, AR App, AR Util, AU App, AU G...	(((UC=(706* OR 714026 OR 345595 OR...	2017-06-21 01:50:02			
3	258440	DWPI, AR App, AR Util, AU App, AU G...	(((UC=(706* OR 714026 OR 345595 OR...	2017-06-21 01:50:17			
2	45780	DWPI, AR App, AR Util, AU App, AU G...	(((UC=(706* OR 714026 OR 345595 OR...	2017-06-21 01:49:56			
1	162314	DWPI, AR App, AR Util, AU App, AU G...	(((UC=(706* OR 714026 OR 345595 OR...	2017-06-21 01:51:37			

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Move | Tags | Chinese Conversion | Groups | Find | Speech | Translator | Salesforce | PhishAlarm

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D

DerwentInnovation@clarivate.com

企業級連接器專利監測 Alert from Derwent Innovation

To Chiu, Henry

Derwent Innovation

企業級連接器專利監測 Alert Results 2019-01-28

Dear Henry Chiu,

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Details about this alert:

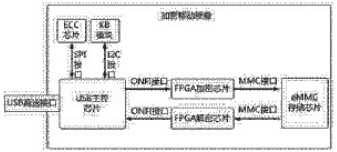
Alert name: 企業級連接器專利監測

Number of results: 17

Results for this alert:

Category: Patent **# Records Found: 17**

Publication Number: CN105740733B



Drawing:

DWPI Title: Encryption mobile hard disk has EMMC memory chip that is connected with FPGA decryption chip through MMC interface, and FPGA decryption chip that is connected with main control chip USB to provide USB high speed interface

DWPI Assignee/Applicant: SHANDONG CHAOYUE NC ELECTRONIC CO LTD, SHANDONG CHAOYUE NUMERICAL CONTROL ELECT

DWPI Abstract:

Abstract-DWPI Novelty

All folders are up to date. Connected to: Microsoft Exchange

追蹤特定專利

高分發明 - 總覽

高分發明	發明強度指數™
US20150271675A1	**137.82**
QUALCOMM	
9/24/2015	
Method for wireless communication in wireless network, involves receiving timing variable from network at device and timing variable is received while device is in connected mode	
EP3079323A1	**137.36**
COMMISSARIAT ENERGIE ATOMIQUE	
10/12/2016	
Filter bank multi-carrier receiver for receiving packet of filter bank multi-carrier symbols, has multiplexer introducing null values instead of last block of samples of packet, without waiting for end of reception of packet	
DE102016118744A1	**137.15**
TOYOTA JIDOSHA KK	
4/20/2017	
Computer implementation method for implementing full-duplex wireless communication, involves sweeping beam of first millimeter wave communication unit, so that beam is aligned with future location of second wave communication unit	
US20150264699A1	**137.10**
INTEL CORP	
9/17/2015	
Primary base station for cross-carrier scheduling on mobile device, causes secondary base station to transmit data in portion of first frame that aligns with second frame of primary base station	
WO2015030240A1	**137.10**
KOMATSU KK	
3/5/2015	
Carrier-vehicle e.g. dump truck used in mining field, has output unit which matches and outputs time data and process log data showing execution condition of processing system	
WO2015103596A1	**137.10**
INTEL CORP	
7/9/2015	

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Patent Record View - US20140301288A1

Record View: US20140301288A1

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WATCH RECORDS

Key Summary Data

Patent: Alive View granted patent
DWPI Family: Alive View Details
INPADOC Family: Alive View Details
Original Assignee: Koc Ali, Hillsboro, OR, US
Optimized Assignee: INTEL CORPORATION
Ultimate Parent: INTEL CORPORATION

Publication D
Expiration Da
Remaining L

FULL VIEW Jump to: Bibliography Abstract Classes/Indexing Legal Status Family Claims

Bibliography

DWPI Title ?

Method for performing small-data radio-resource control (RRC) connection establishment in third generation partnership project long-term evolution network, involves sending reconfiguration message with measurement information element

Original Title ?

ENHANCED NODE B AND METHOD FOR RRC CONNECTION ESTABLISHMENT FOR SMALL DATA TRANSFERS

Assignee/Applicant ?

Standardized: **KOC ALI** **GUPTA MARUTI** **VANNITHAMBY RATH** **JHA SATISH CHANDRA**

Original: Koc Ali, Hillsboro, OR, US Gupta Maruti, Portland, OR, US Vannithamby Rath, Portland, OR, US Jha Satish Chandra, Hillsboro, OR, US

Optimized Assignee/Ultimate Parent ?

Optimized Assignee	Ultimate Parent
INTEL CORPORATION	INTEL CORPORATION

Assignee-Current US ?

INTEL IP CORPORATION

DWPI Assignee/Applicant ?

INTEL CORP (ITLC-C); INTEL IP CO (ITLC-C); INTEL IP CORP (ITLC-C); GUPTA M (GUPT-I); JHA S C (JHAS-I); KOC A T (KOCA-I); KOC A (KOCA-I); OYMAN O (OYMA-I); VANNITHAMBY R (VANN-I)

Record 1 of 1 1 Mark

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Description: 英特爾5G高評分專利追蹤

Owner: henry.chiu@clarivate.com

Standard Trigger Events | Custom Field Trigger Events

- ☑ INPADOC Family Changes
- ☑ DWPI Family Changes
- ☑ Legal Status Changes
- ☑ Citation Changes
- ☑ New Publication Stages
- ☑ Reassignment

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henry.chiu@clarivate.com

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打標籤

Q973

Sr. No.	公開號	1.1 Cyclic prefix-orthogonal frequency division multiplexing (CP	1.2 Discrete Fourier Transform Spread Orthogonal Frequency Divisi	1.3 Others	2.1 Polar coding	2.2 Low density parity check (LDPC) coding	2.3 Other coding techniques	3.1 Non-orthogonal multiple access (NOMA)	3.2 Orthogonal Multiple Access (OMA)	4.1 eMBB	4.2 mMTC	4.3 URLLC	5.1 User Centric No Cell (UCNC)	5.2 ECO State
894	US20180262308A1													
903	US20180132220A1											Yes		
904	US20180124771A1													
910	US20160050635A1								Yes					
913	US20160029359A1													
914	US20180183503A1									Yes				
922	US20150154982A1													
931	US20180242162A1									Yes	Yes	Yes		
933	US20170180095A1													
940	US20160227583A1													
941	US20180167946A1													
947	US20170289619A1													
952	US20180091618A1													
959	US20180225227A1													
970	US20130163544A1													
971	US20130322357A1												Yes	
975	US20140301288A1												Yes	
978	US20150049650A1												Yes	
981	US20140153511A1												Yes	
989	US20140161103A1													
993	US20140153482A1												Yes	
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996	US20160119928A1													
997	US20120046032A1		Yes											
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1001	US20180167920A1													
1004	US20120176989A1		Yes											
1009	US20130182594A1													
1010	US20180092075A1													
1011	US20160135181A1													

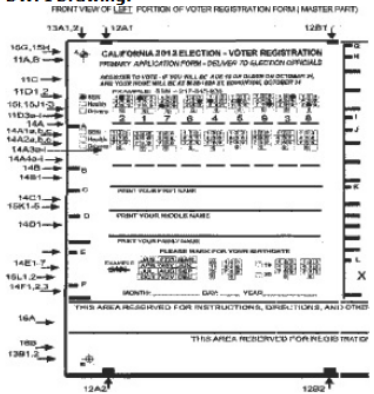
SEARCH RESULTS

2,845 record(s) found out of 110,023,055 searched (display limit 1,000,000) 1356 DWPI families 0 record(s) selected

Displaying 1 - 500 of 1356 | 1 2 3 | Page 1 of 3 | Go to page: Go | Display 500 records per p

	Item	Publication Number	DWPI Assignee/Applicant	Publication Date	Dead/Alive	Count of Citing Ref Patent
	1	US20150012339A1	ONISCHUK D W	2015-01-08	Indeterminate	16

DWPI Drawing:

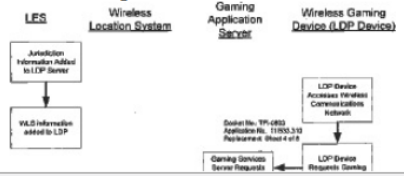


DWPI Title: System for performing voter registration and voter ballot casting, has computerized voting system used by officials for researching voters designing documents, generating documents, and marking each document with unique identifier

Abstract: Officials using computers for research, create lists of Registered Voters, Proxy Voters whom are sent machine readable encoded documents (registration, language choice, voting ballots), optional return containers. Linking each document to correlated receipt(s) by sharing unique Random Symbolic Identifier(s), other Security Elements. For voting privacy, Voters exchange Ballots within their Voting Region. Voters complete document(s), add Personal Security Identifier(s), keep document receipt, send documents to Officials In-Person or by Postal Mail, Delivery Service, Telephone, Fax, Internet, Email, Interactive Television. Officials receiving documents provide delivery confirmation. Document image machine recorded, Identifier correlated, stored. When document timely, valid, authentic—voter information, selections, write-in choices, personal security items are machine read via software template, read data correlated to document RSID, data stored, published to Voter privately accessible data vault. Adequately completed documents are tallied for certifying. Official computers running artificial intelligence programs manage data (security, processing, integrity), communications, devices: availability, workload allocation

	2	IN200902157P4	TRUEPOSITION INC	2010-03-26	Indeterminate	0

DWPI Drawing:



DWPI Title: Mobile wireless device or mobile station locating system for communicating with e.g. personal communications system, has server communicating via data channel with wireless device to be located

Abstract: A system for locating a mobile wireless device is configured to communicate with a wireless communications system via a control plane and a user plane. The user plane includes a data channel, and the system includes a server configured to communicate via the data channel with a wireless device to be located. The server obtains from the wireless device information useful for tasking the wireless location system. The information useful for tasking may include information indicative of at least one cell site neighboring a serving cell site with which the wireless device is communicating. This may include

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	a6_Cladding layer Lv2 / LV4	a1_Substrate_Matena oxide (ex. Ga2O3, LiAl
	a7_Active layer Lv2	a1_Substrate_Structure_Patterned substrate Lv4
	a8_Contact layer	a1_Substrate_Structure_reusable substrate
公司產品- LED		
公司專利強度評估	Select...	
product list		
專利打分	Select...	
Organization	Select...	
產品線A	型號 mobile_1234	

型號 mobile_1234
型號 mobile_3234
型號 mobile_4234
型號 VR_1234

型號 mobile_3234

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Key Summary Data

Patent: Indeterminate

DWPI Family: Indeterminate View Details

INPADOC Family: Alive View Details

Original Assignee: Onischuk Daniel W., Edmonton, CA

Publication Date: 2015-01-08

Expiration Date: - View factors

Remaining Life: -

FULL VIEW **Jump to:** Bibliography Abstract Classes/Indexing Legal Status Family Claims Description Citations Other Custom Fields

QUICK VIEW

-

公司專利強度評估

4. Very Strong

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專利打分

Very strong

Organization

Amazon

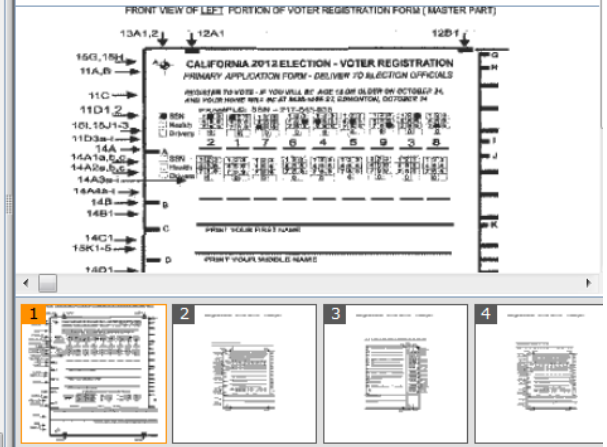
產品線A

型號 mobile_1234

Images | Highlighting

Image 1/31

Zoom (+)



Record 1 of 1356

1 2 3 4 5 6 7

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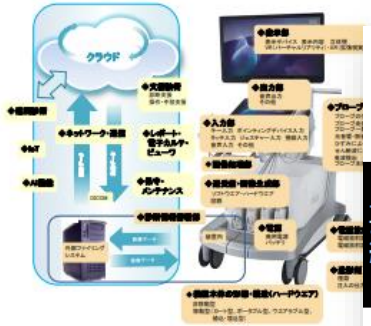
誰能比智慧財產局更應懂得運用專利?

除了「專利相關統計」

能否從專利中挖掘出技術趨勢

給身處戰場中的企業一個方向?

図 1-1　超音波診断装置の技術俯瞰図（主な構成）



写真提供：キヤノンメディカルシステムズ（旧東芝メディカルシステム
https://jp.medical.canon/products/ultrasound/aplio_i_se

図 1-2　超音波診断装置の技術俯瞰図（関連技術）

写真提供：キヤノンメディカルシステムズ（旧東芝メディカルシステム
https://jp.medical.canon/products/ultrasound/aplio_i_se

要約

表 1-1(a)　技術区分表（区分：装置

区分	大分類	中分類	小分類
装置構成	装置本体の形態・構造（ハードウエア）		
		非移動型	
		移動型	カート型
			ポータブル型
			ウエアラブル
			植込・埋込
	送受信・画像生成部		
		ソフトウエア・ハードウエ	
		回路	
	画像処理部		
	入力部		
		キー入力	

いう[画像処理]ではない。	
超音波診断装置が操作者からのコマンドを受け付ける処理に関するもの。注）	
キーボード等のキーを用いた入力に関するもの。	キーボード

- 自動走行システ
- 食品用紙器
- リハビリテーシ

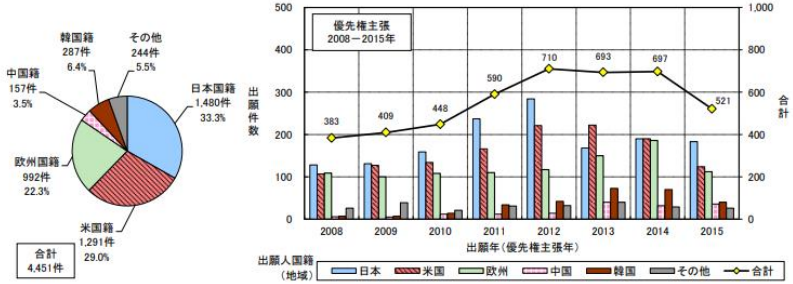
第４章　特許動向調査

第１節　全体動向

１．PCT 出願動向

超音波診断装置全体における出願人国籍別 PCT 出願件数推移及び出願件数比率を図 4-1 に示す。出願件数全体として 2012 年までは増加し、その後 2014 年まで横ばい、2015 年では減少している。出願件数比率は、日本国籍が 33.3%で最も高く、以下米国籍 29.0%、欧州国籍 22.3%、韓国籍 6.4%、中国籍 3.5%と続く。

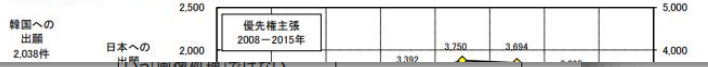
図 4-1　出願人国籍（地域）別 PCT 出願件数推移及び出願件数比率（出願年（優先権主張年）2008-2015 年）



２．出願先国別出願動向

超音波診断装置全体における出願先国別出願件数推移及び出願件数比率を図 4-2 に示す。全体的には 2012 年までは増加傾向にある。出願先国別の出願件数比率は、米国への出願が 30.6%で最も高く、以下日本への出願 27.6%、中国への出願 18.9%、欧州への出願 14.6%と続く。

図 4-2　出願先国（地域）別出願件数推移及び出願件数比率（日米欧中韓への出願、出願年（優先権主張年）2008-2015 年）



平成30日公佈專利申請技術趨勢調查實施主題

專利局進行了專利申請技術趨勢調查，選擇與市場創造和技術領域相關的技術領域作為國家政策推進，並調查這些領域的專利申請趨勢。

在2003財年，我們計劃調查以下主題。但是，關於這些研究主題，將來有可能進行審查，變更等。

另外，請參照2003年度調查計劃的標準調查內容（PDF：272KB）。然而，關於這些調查的內容，將來有可能進行審查，變更等，並且每個主題的實際研究內容可能不同。

研究主題

- 三維測量技術
- 電子遊戲
- 下一代建築技術
- 拉
- 動力輔助套裝
- 人工關節
- 癌症免疫療法
- 樹脂材料和異種材料的連接技術
- 高阻隔薄膜
- 結算系統與虛擬貨幣·電子貨幣
- 電池充電/放電技術
- 存儲類內存

[更新日期2018年2月15日]

聯繫我們

知識產權趨勢團隊，規劃和研究部，總務部，專利局
電話：03 - 3581 - 1101分機2155
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お問い合わせフォーム

到這個頁面的頂部

專利數據是珍珠，只是很多人不知道

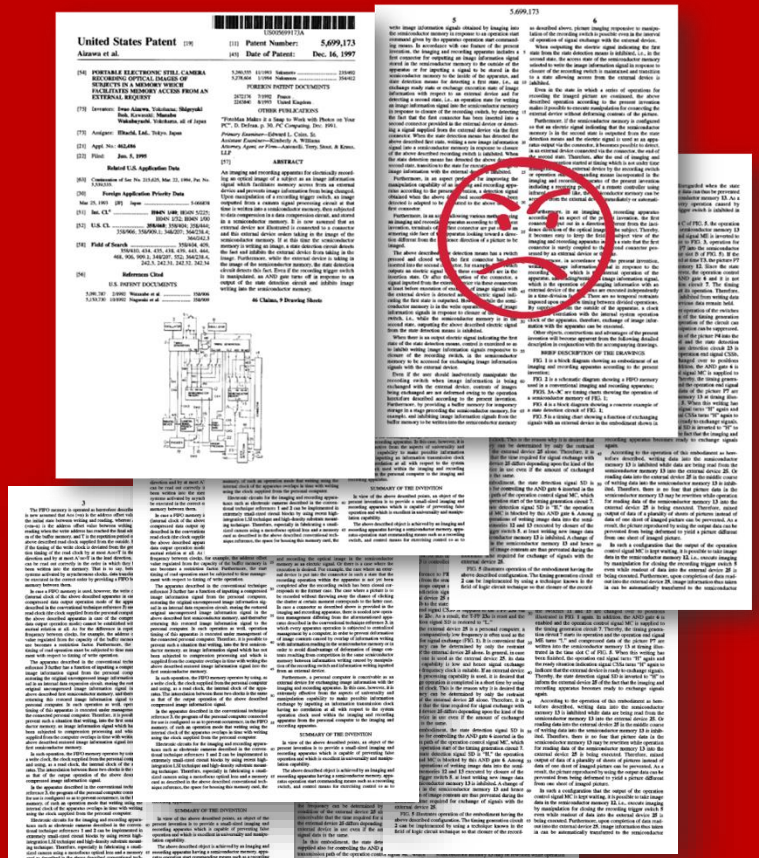
Derwent Innovation上的專家改寫內容

DWPI

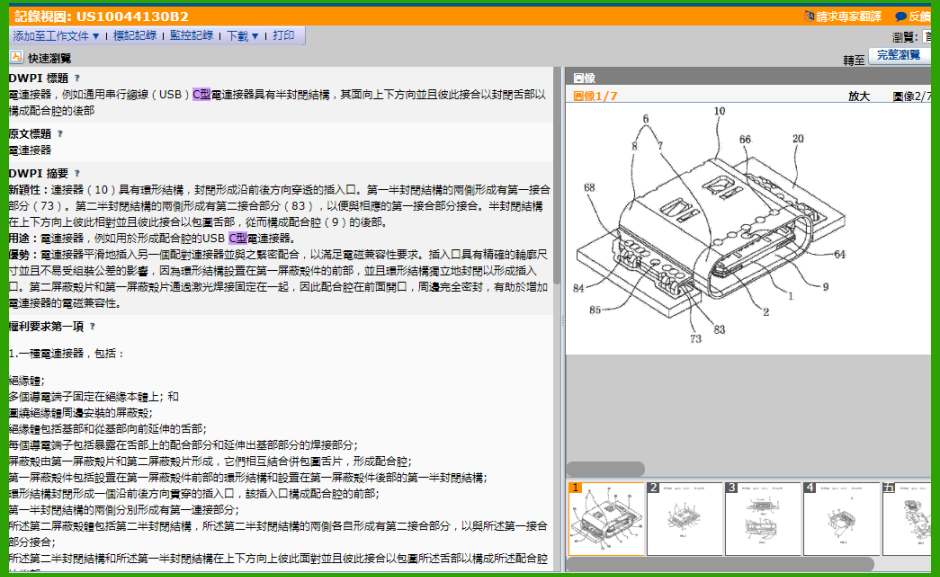
德溫特世界專利索引

Derwent World Patent Index

原始專利



DWPI加工改寫的一頁精華摘要



67年

自1951年開始

900+
專家改寫團隊人員

TESTING APPARATUS

BACKGROUND OF THE INVENTION

1. Field of the Invention

The present invention relates to testing apparatuses utilized in connection with a wind tunnel. The invention particularly relates to a wind tunnel testing apparatus that is suitable for determining fluid forces on a variety of spherical or non-spherical objects, including a sport ball such as a soccer ball.

2. Description of Background Art

A soccer ball conventionally includes a pointed casing that surrounds an inflatable bladder. The casing is formed of a plurality of panels, which are joined together by a stitched together along abutting edges to form a closed surface. The bladder, located on the interior of the casing, is formed of a material that is substantially impermeable to air and includes a valved opening, accessible through the casing, for receiving air. When the bladder is inflated, the bladder expands and places a uniform outward pressure on the casing, thereby inducing the casing to take a substantially spherical shape. In addition, a lining may be formed between the bladder and casing to provide protection for the bladder.

The panels that form the casing of the conventional soccer ball are typically formed from a material that includ synthetic leatherlike, for example, polyurethane or polyvinylchloride fibers. The term regular, when applied to an icosahedron, denotes a configuration wherein each of the twenty faces is an equally-dimensional, equilateral triangle. A regular icosahedron has twenty faces, twelve vertices that are vertices of four faces and twelve vertices that are formed where pairs of five triangular faces meet. A regular, truncated icosahedron is a regular icosahedron, as described, wherein each of the twelve vertices are removed, thereby converting the vertices into twelve pentagonal faces and converting each triangular face into a hexagonal face. Accordingly, a regular, truncated icosahedron has twenty hexagonal faces and twelve faces, of which are equilateral pentagons and twenty of which are equilateral hexagons, and sixty vertices formed where the points of three faces meet.

The conventional soccer ball casing, which is modeled on the regular, truncated icosahedron, includes thirty-two panels composed of twenty equilateral hexagonal panels and twelve equilateral pentagonal panels that are joined together along abutting edges, the stitches being located on the interior portion of the casing. The internal pressure imparted by the bladder causes each panel of the icosahedron soccer ball to bow outward, thereby inducing a substantially spherical shape for the soccer ball.

During a soccer match or practice session, the soccer ball is generally manipulated by the feet of an individual in order to advance the soccer ball toward a goal. More specifically, the individual may kick the soccer ball. When kicked, the soccer ball may follow a trajectory that may be generally along a low, straight path, or curves left or right. Independently of the path of the soccer ball, the soccer ball is the various physical characteristics of the soccer ball, which include, the depth of the seams between adjacent panels, the surface properties of the panels (e.g., rough, smooth, or dimpled), and the dimensions of the soccer ball, the spin and velocity imparted to the soccer ball by the individual also affect the trajectory.

As the soccer ball passes through the air, various fluid forces affect the trajectory, including a drag force and a side force. The drag force operates to slow the overall velocity of the soccer ball, thereby impeding forward motion of the soccer ball. The side force, which is orthogonal to the drag force and the spin axis of the soccer ball, causes the soccer ball to follow a curving trajectory or a downward trajectory. The degree of drag force and side force that operate upon the soccer ball to affect the trajectory depend upon the physical characteristics, spin, and velocity of the soccer ball, for example.

The total drag force upon a soccer ball includes two components, pressure drag and skin friction drag. Pressure drag occurs as a result of shear forces that act upon the soccer ball. As the soccer ball passes through the air, various obstacles within the air contact the surface of the soccer ball and reduce the overall kinetic energy of the soccer ball and slow the soccer ball. Skin friction drag is a function of the surface of the soccer ball, from such as roughness and other forms of drag. For example, particle drag includes pressure drag, which results from a pressure differential between the soccer ball through differences in pressure between a front area and a rear area of the soccer ball. As the soccer ball moves through the air, a wake is formed behind the soccer ball (i.e., a region of low pressure). The pressure differential is a function of the air that extends around the front area of the soccer ball, the pressure within the wake is significantly lower. It is, therefore, a pressure differential is formed between the front and rear areas of the soccer ball. Given the pressure differential, the soccer ball experiences a force, which is generally directed from the pressure drag) impedes the motion of the soccer ball through the air.

The degree to which turbulence affects the trajectory of the soccer ball depends, in part, upon the physical characteristics and velocity of the soccer ball. Turbulence induces flow at an overall velocity, a perfectly smooth sphere separates from the front of the sphere at a relatively low velocity, and depends from the front area of the sphere. Turbulent flow, however, can set down upon the sides of the sphere and suffuse the wake, thereby reducing the pressure differential. In effect, the seams cause the air to become turbulent, thereby causing the air moving over the seams to flow in a manner that is perpendicular to the seams and in a direction that is substantially parallel to the ball. Because turbulent flow, however, can set down upon the sides of the soccer ball substantially parallel to the ball, thereby reducing a substantially

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1926
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1955
SCI
Eugene Garfield 博士發明引文索引

1957
ISI
成立ISI公司

1963
Derwent
Monty Hyams 發行德溫特專利摘要

1980
COMPUMARK
收購商標檢索公司

1997
WOS
推出全方位引文資料平臺Web of Science

2011
Cortellis
推出生技製藥情報資料庫

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Clarivate Analytics
自湯森路透獨立成科睿唯安

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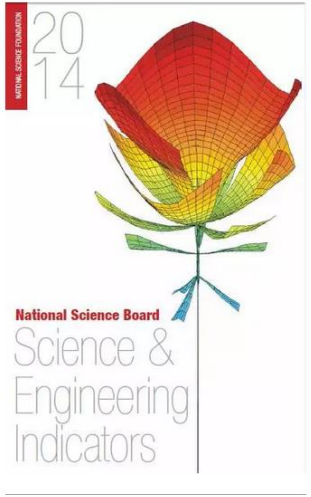

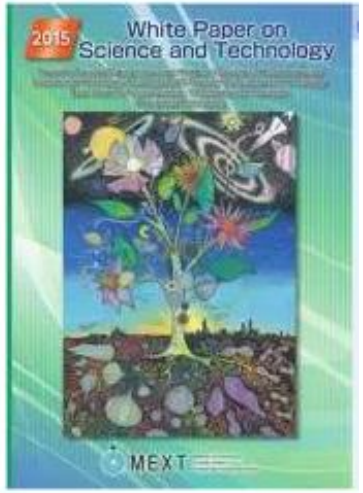

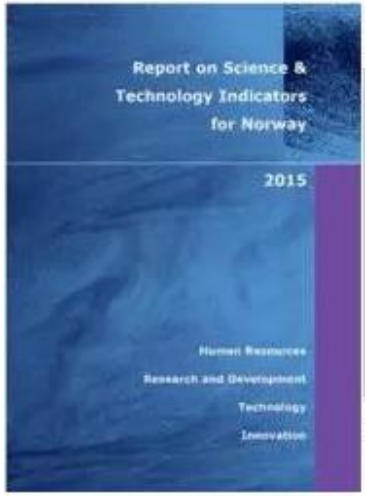

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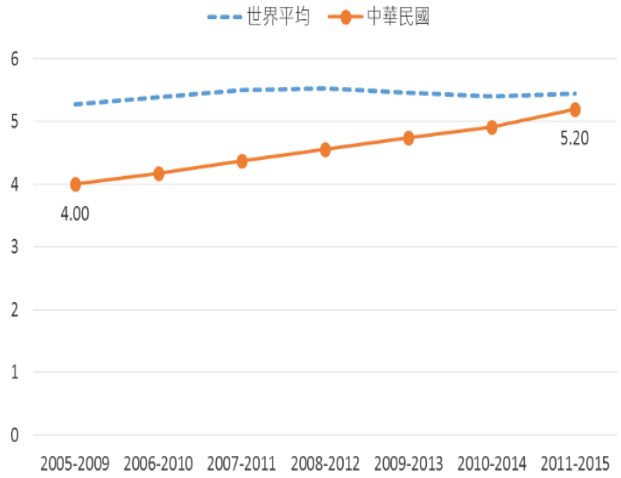
科技政策研究與資訊中心 – 科研能量分析記者會

科政中心舉辦「我國科技研發能量分析」記者會

2016/10/27

我國科學研發能量

國家實驗研究院科技政策研究與資訊中心（科政中心）利用Clarivate Analytics公司（原湯森路透公司智權與科學事業部）資料庫進行國際學術論文分析顯示，近年來我國科學論文發表數量持續上升，目前論文發表篇數為全球第17名，平均每年每百萬人產出1,189篇論文，學術生產力表現在亞洲優於韓國、日本及中國大陸。論文總被引用次數表現平穩，2011-2015年為全球第19名。平均被引用次數逐年增加，已接近世界平均（圖一）。



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科睿唯安 (Clarivate Analytics) 及財團法人工業技術研究院 技術移轉與法律中心，共同舉辦【2018 智權經營策略高峰會】，邀請國內外的產官學專家共同探討如何讓智權工作更緊密結合企業經營策略。

本次活動特別邀請了日本旭化成企業總部智財戰略室 中村 榮 (Nakamura Sakae) 室長，以及友達光電智權處余義勝處長等40多位智權與研發專業經理人進行圓桌會議討論與演講。

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G20作为拥有世界**80%**以上的GDP，**92%**研究开发经费，**90%**以上科研论文以及**94%**的美国专利商标局授权专利的集团，在全球科技创新中表现出的竞争力和活力将决定世界科技创新的未来和方向。

2018年6月25日上午，**中国科学院文献情报中心与科睿唯安将在京联合举办“科技创新的活力与格局——《G20国家科技竞争格局之辩》系列报告发布暨研讨会”**。此系列报告是中科院文献情报中心与科睿唯安历时近一年时间合作完成，分为总体报告及人工智能专题报告，聚焦G20国家的科技发展现状，追踪研究各国总体及人工智能领域的科研表现力和技术创新力，为我国建设科技强国和世界人工智能创新中心提供有价值的信息支撑和决策分析依据。本次研讨会将邀请政府相关部门、学术界以及企业相关领域的专家进行现场解读和研讨。

我们热诚邀请您出席本次会议，从科技、产业和经济等视角共同交流G20国家竞争格局的现状和潜在变化，展望人工智能未来的发展前景和趋势。请于**6月21日前在线注册**参与本次会议。与会人员将获赠《G20国家科技竞争格局之辩》系列报告。

期待您的莅临！

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2018.09.03

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