

# Enhancing Business Competitiveness Through IP Analysis and IP Management

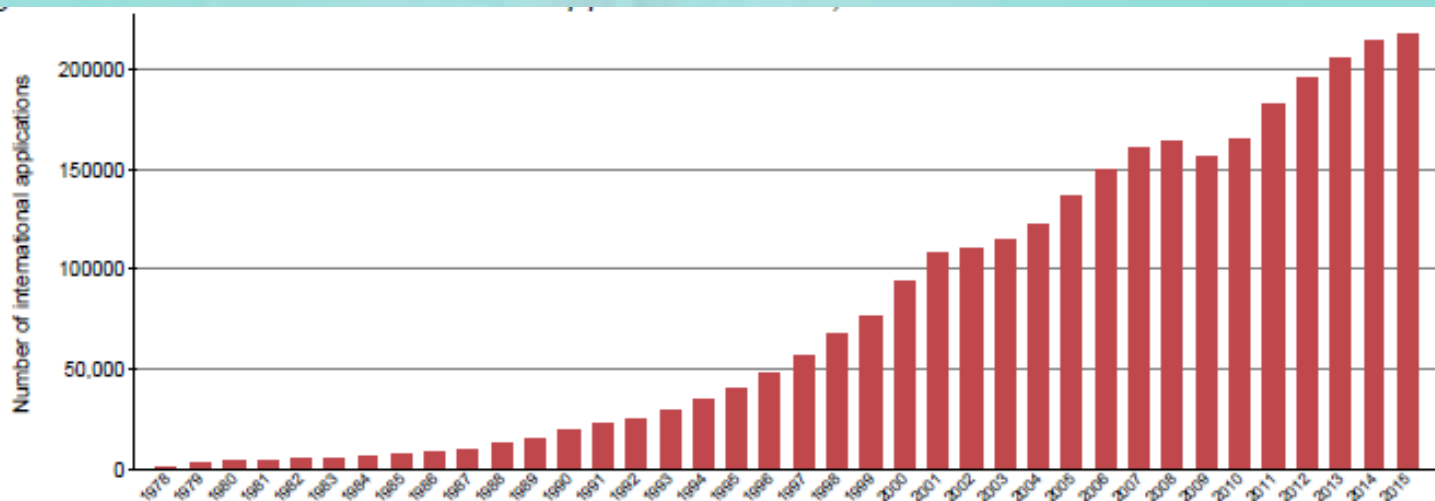
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Chairman  
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4 August 2017

## The needs for companies to develop IP

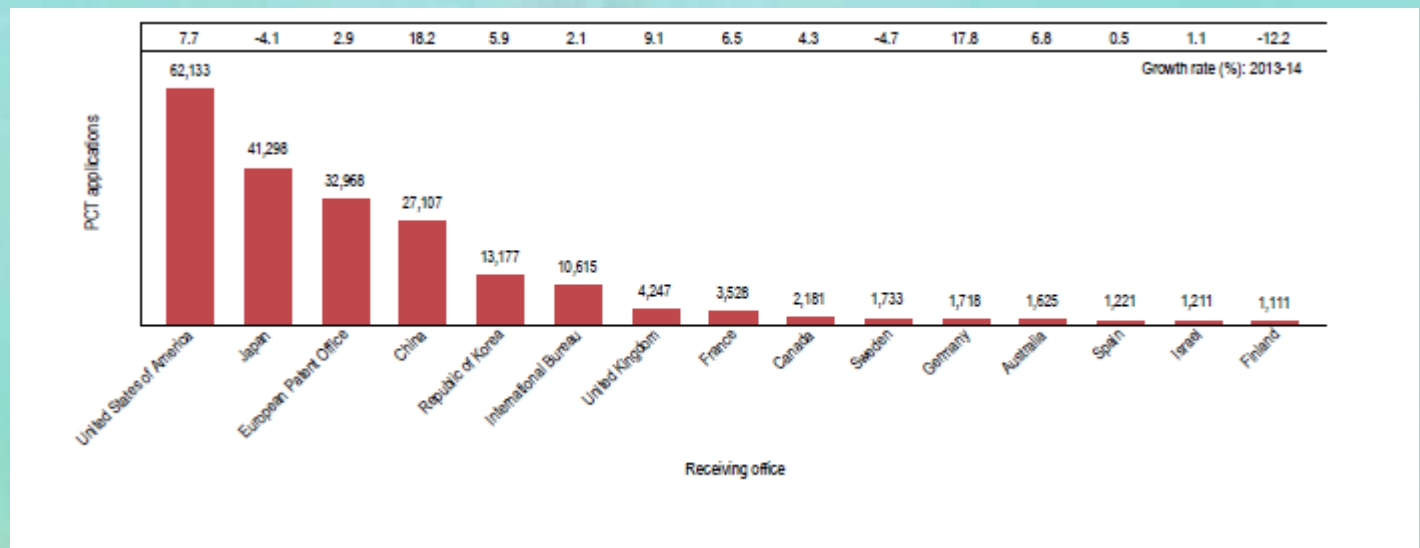
- Increase in worldwide patenting activities
- Ranking For Patent Applications in 2016:  
No. 1 - United States (56,595); No. 2 - Japan (45,239); No. 3 - China (43,168)
- Patents accepted as measure of innovative capacity of a nation
- Worldwide trend towards stronger IPR
- More aggressive enforcement of IPR

# The needs for companies to develop IP



Number of International Applications Filled, 1978 to 2015.

# The needs for companies to develop IP



PCT applications for the top 15 receiving offices, 2013-2014.

## The needs for companies to develop IP

By 2015:

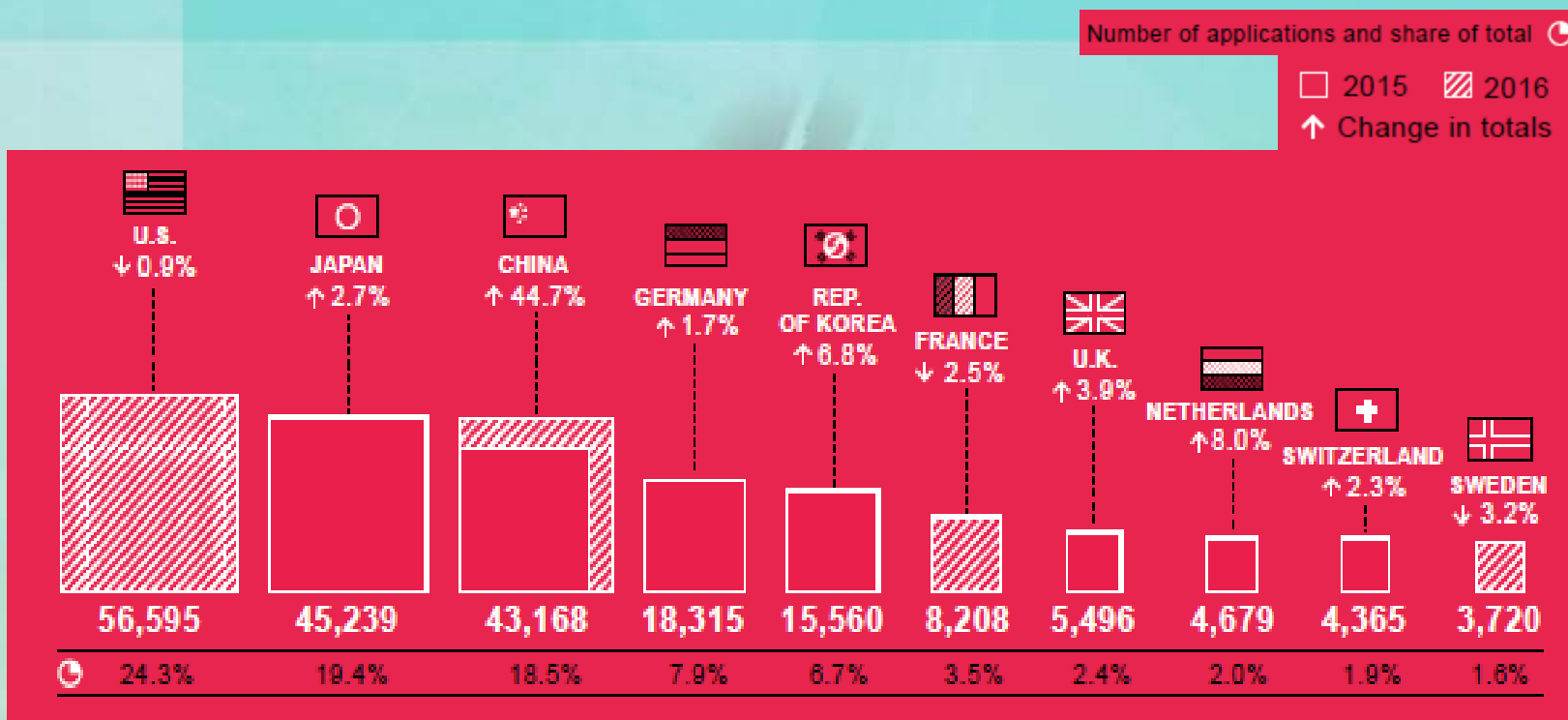
- PCT applications grew by 1.7 %
- Huawei remained the top PCT applicant, with almost 4,000 applications
- Computer technology remained the field of technology with the most applications
- National phase entries grew by 5% worldwide
- China joined the top five list

## The needs for companies to develop IP

2016-2017:

- International patent applications grew by 7.3% to 233,000 in 2016, setting a new annual record
- Three millionth international patent application filed under WIPO's Patent Cooperation Treaty (PCT)
- Total contracting states in PCT increased to 152

# The needs for companies to develop IP



Top 10 countries of origin in 2016 are shown above.

# The needs for companies to develop IP

Overall rank	Change in position from 2014	Applicants	Origin	Applications	Change from 2014
1	0	HUAWEI TECHNOLOGIES CO., LTD.	China	3,898	456
2	0	QUALCOMM INCORPORATED	United States of America	2,442	33
3	0	ZTE CORPORATION	China	2,155	-24
4	7	SAMSUNG ELECTRONICS CO., LTD.	Republic of Korea	1,683	302
5	0	MITSUBISHI ELECTRIC CORPORATION	Japan	1,593	0
6	1	TELEFONAKTIEBOLAGET LM ERICSSON (PUBL)	Sweden	1,481	-31
7	9	LG ELECTRONICS INC.	Republic of Korea	1,457	319
8	13	SONY CORPORATION	Japan	1,381	399
9	1	KONINKLIJKE PHILIPS ELECTRONICS N.V.	Netherlands	1,378	-13
10	15	HEWLETT-PACKARD DEVELOPMENT COMPANY, L.P.	United States of America	1,310	484
11	-2	SIEMENS AKTIENGESELLSCHAFT	Germany	1,292	-107
12	-6	INTEL CORPORATION	United States of America	1,250	-289
13	0	ROBERT BOSCH CORPORATION	Germany	1,247	-124

Top 13 Companies (Business Sector) with the most PCT Applications published in 2015.

# The needs for companies to develop IP

Year	Plaintiff	Defendant	Technology	Award (in \$M)
2009	Centocor Ortho Biotech Inc.	Abbott Laboratories	Arthritis drugs	\$1,673
2007	Lucent Technologies Inc.	Microsoft Corp.	MP3 technology	\$1,538
2012	Carnegie Mellon University	Marvell Technology Group	Noise reduction on circuits for disk drives	\$1,169
2012	Apple Inc.	Samsung Electronics Co.	Smartphone software	\$1,049
2012	Monsanto Company	E. I. du Pont de Nemours and Co.	Genetically modified soybean seeds	\$1,000
2005	Cordis Corp.	Medtronic Vascular, Inc.	Vascular stents	\$595
2015	Smartflash LLC	Apple Inc.	Media storage	\$533
2004	Eolas Technologies Inc.	Microsoft Corp.	Internet browser	\$521
2011	Bruce N. Saffran, M.D.	Johnson & Johnson	Drug-eluting stents	\$482
2014	Masimo Corporation	Philips Electronics N. America Corp.	Device measuring blood oxygen levels	\$467

Top ten largest initial adjudicated damages awarded during years 1996-2015.

# The needs for companies to develop IP—using IP as a competitive tool

- **Value Extraction from IP**
  - licensing of IP for royalty
  - cross-licensing of IP
  - outright sales
  - forming spin-off companies
  - forming joint venture

# The needs for companies to develop IP—using IP as a competitive tool

- **Effective IP Management**
  - strategizing through patent mapping
  - adequate and sufficient protection
  - management of IP portfolio

# Formulating and Developing IP Strategies

Where / who's Competition?  
 How strong is Patent Position?  
 How to protect core technology?  
 Patent Protection  
 Patent Prior Art Search  
 IP Management  
 Invention Review Process  
 Competitive Intelligence

Who are my competitors?  
 What are their strategies?  
 What is their market share?  
 Where are they present?  
 Competitive Intelligence



What is the patent landscape?  
 Where are the gaps?  
 Who are the key Inventors?  
 Patent Mapping & Analysis  
 Competitive Intelligence

What is the market size?  
 Who are key players?  
 Who are new entrants  
 Benchmarking  
 Patent Prior Art Search  
 Competitive Intelligence

## 4 Main Steps in IP Management

- IP Protection (in particular, patent)
  - Novelty; Inventive Steps; Industrial Application
  - Scope and quality of patent claims
  - Cost of filing & maintenance of IP
  - Commercialization of IP
- IP Information Management
  - Avoid potential infringement
  - Manage and share knowledge database
  - Monitor competition and development
  - Understand the state-of-the-art technologies
- IP Analysis & Patent Mapping
- IP Portfolio Management

# IP Protection

- Identify IP within the organisation for protection
  - invention review management seeks to identify useful and patentable inventions through systemic process so as to improve the chance of patentability and to ensure that inventions patented are useful to the company.
- IP documentation
  - to implement methodical documentation system so that important evidential information is properly kept such as (i) particulars of inventors/authors;
    - (ii) assignment agreement; (iii) power of attorney, etc.

# IP Protection

- to record information needed when applying for IP protection such as (i) laboratory books recording invention notes, sketches; (ii) declaration of inventorship; (iii) non-disclosure agreement, etc.
- IP protection
  - to ensure confidentiality of invention before filing a patent.
  - to make sure that the IP portfolio is aligned to the company's overall business strategy.

# IP Protection

- to maximize the fees needed for optimal coverage of IP protection via PCT, Madrid Protocol, Paris Convention.
- for inventions not patented could be kept as trade secret or protected by copyright.

# IP Information Management

- Identify R&D competitors
- Minimise or avoid duplication of R&D
- Establish new applications for existing technologies or products
- Identify solutions to technical problems
- Establish state-of-art technology
- Identify trends in R&D & technology

# IP Information Management

- Identify key inventors or experts
- Identify possible partners or clients
- Establish expiration dates of patents

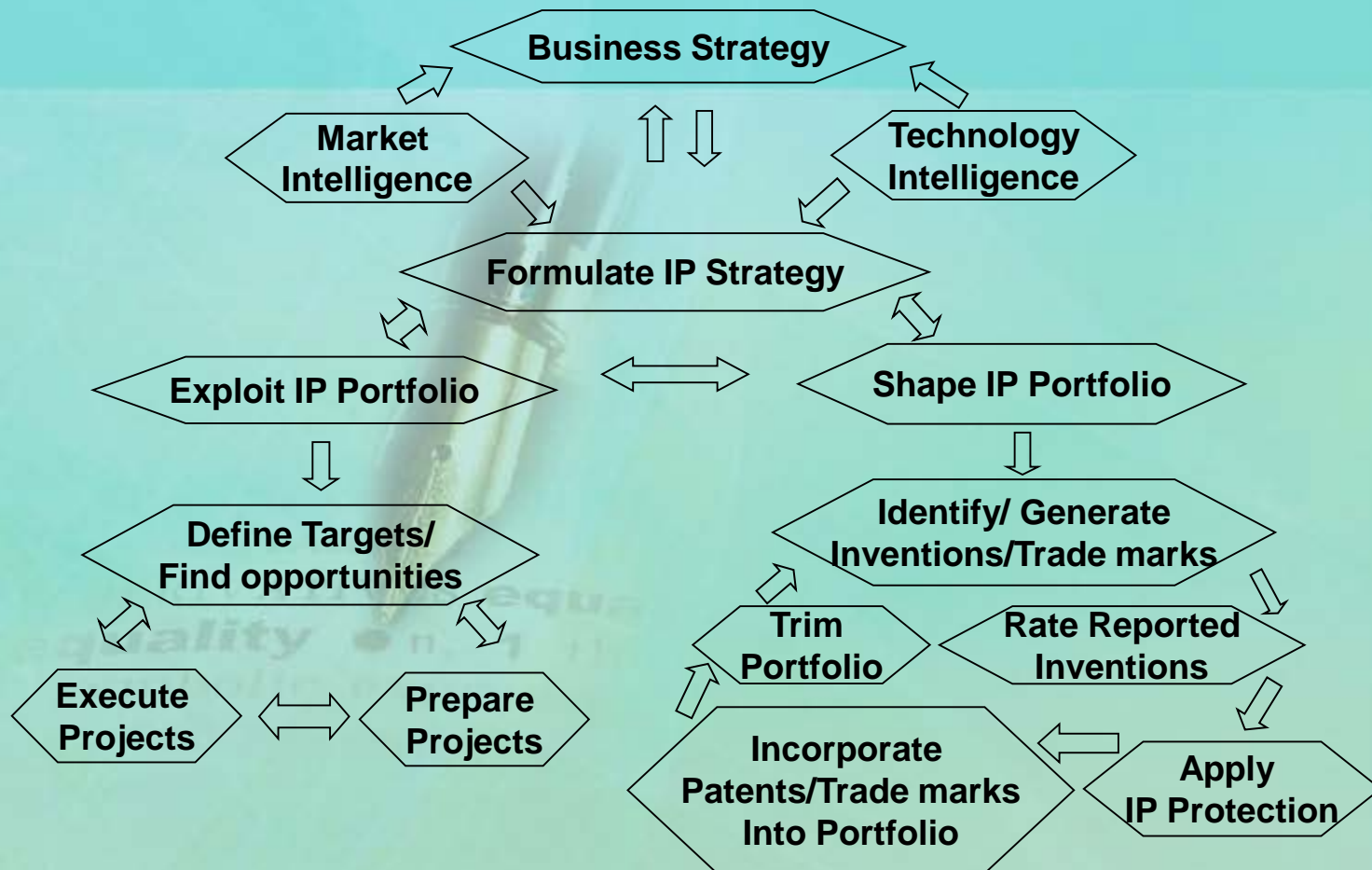
# IP Analysis and Patent Mapping

- **Technology / Research**
  - understand the technology landscape
  - provide a clear picture of technology trend
  - help to identify R&D subject matter to focus on
  - help to avoid duplicate or "me-too" research
  - help to identify technology gaps and the opportunity
  - identifies key innovators and other R&D organisations

# IP Analysis and Patent Mapping

- **Legal**
  - help to identify potential IP infringement that one could avoid
- **Business Strategies**
  - analyses competitors' key strengths
  - develop new application for technologies
  - identify new entrants/players
  - understand the flow of key innovators

# IP Portfolio Management



# Thank You!

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