

FIG. 1



https://en.wikipedia.org/wiki/The_School_of_Athens

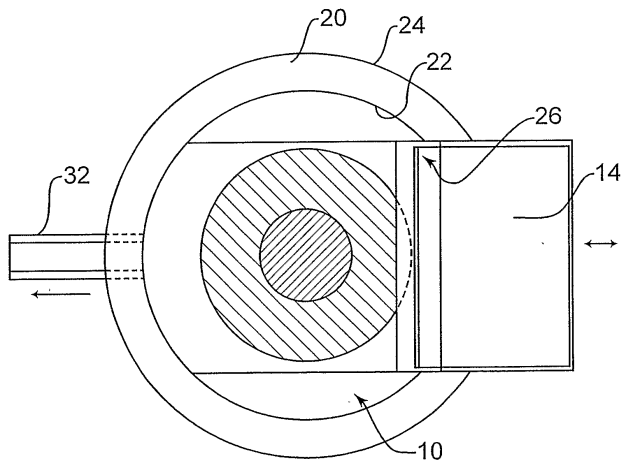


FIG. 2

Patents in Science and Business: Challenges faced by Applicants and The Scientific Community



Roving Seminars: WIPO Services and Initiatives
Hellenic Industrial Property Organization (OBI) Thessalonica, Greece
April 11, 2019

- Speaker: Thomas Henninger, Senior Legal Information Officer, PCT Legal and User Relations Division, WIPO



WIPO | PCT
The International
Patent System

Interest in Technology Transfer

ASTPProton – Knowledge Transfer Europe: Koen Verhoef

“That is what knowledge transfer is all about, ultimately: maximizing the chances that the results or academic endeavor find application in society”.

European Knowledge Transfer ASTP-Proton Survey 2016:

- 12,394 Invention Disclosures
- 1,814 Patents granted (30% licensed)
- 4,598 Start-ups created – 635 Spin-offs created
- €0,55 billion revenue from IP (€43 million spent on IP) – €1.26 billion Collaborative Research Agreements

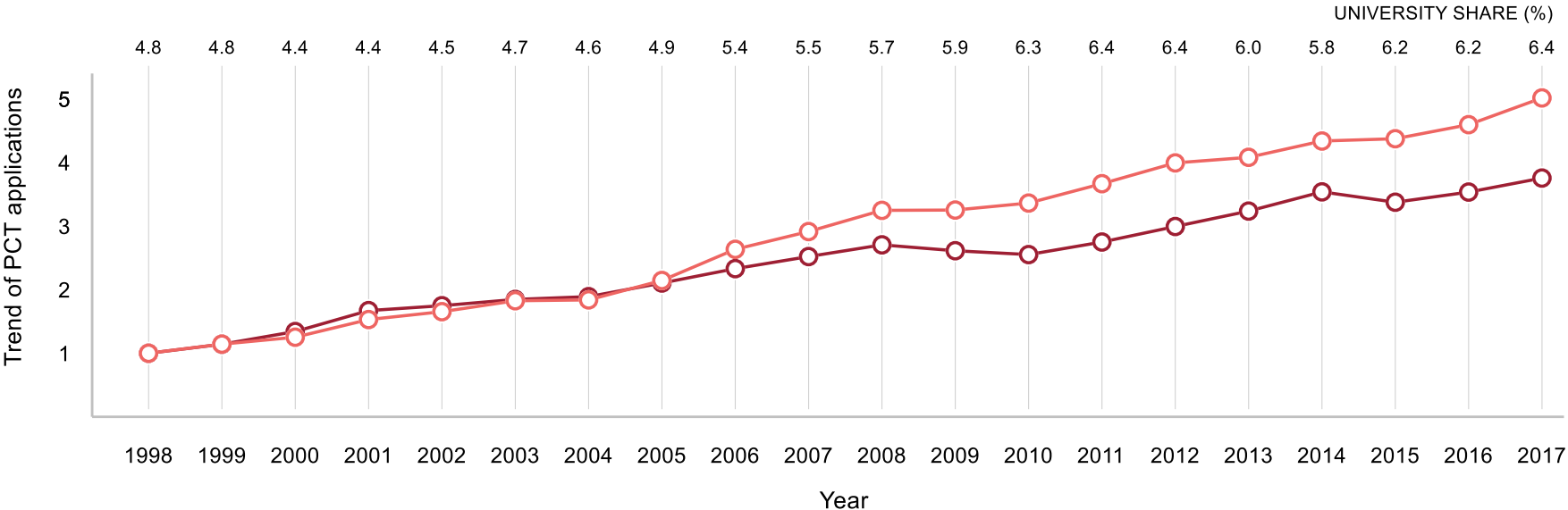
AUTM: AUTM 2017 Licensing Activity Survey:

- US\$3 billion patent licensing revenue (1,080 start-ups)

PCT filings by Universities worldwide

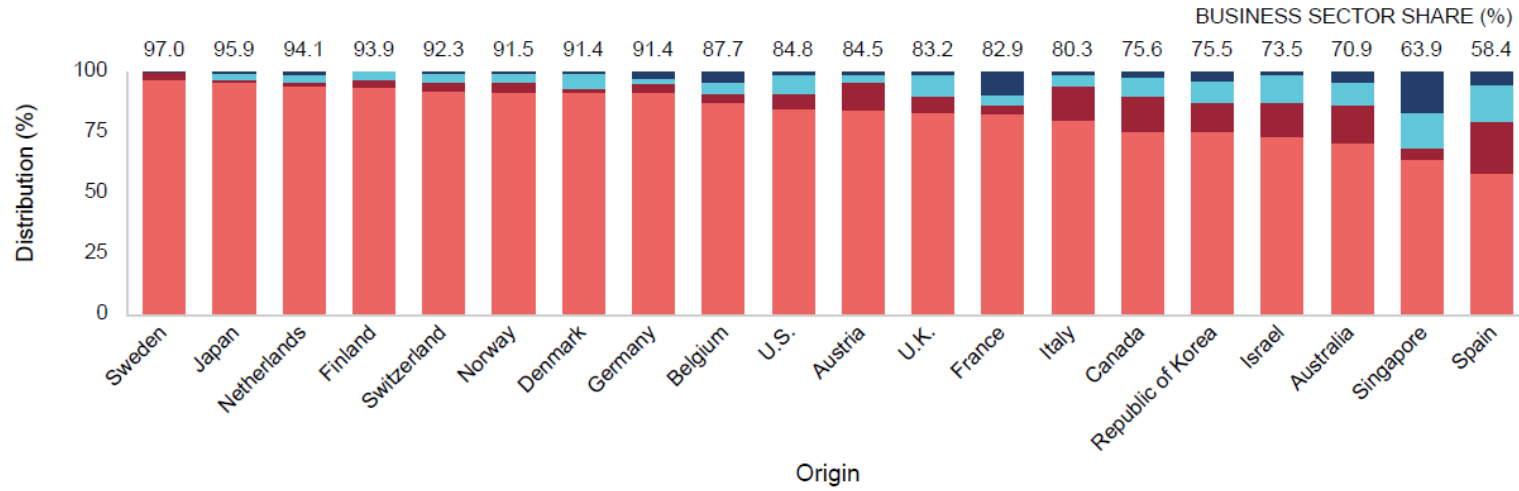
Universities intensified PCT involvement

University share is still very low



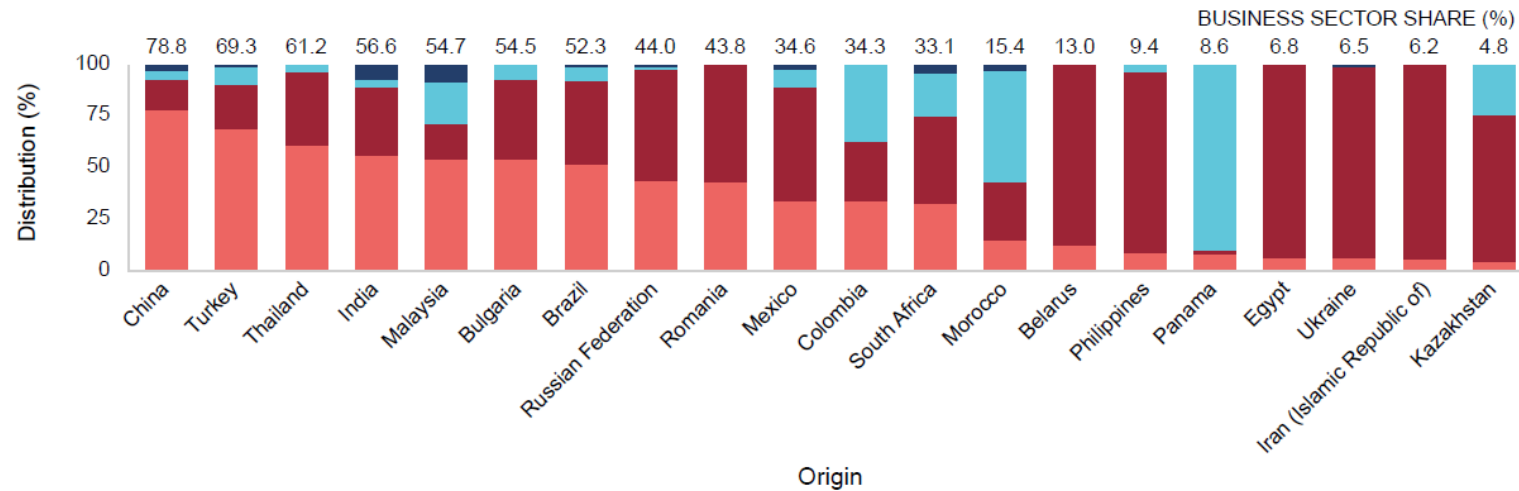
TOTAL PCT APPLICATIONS PCT APPLICATIONS BY UNIVERSITIES

High-income group



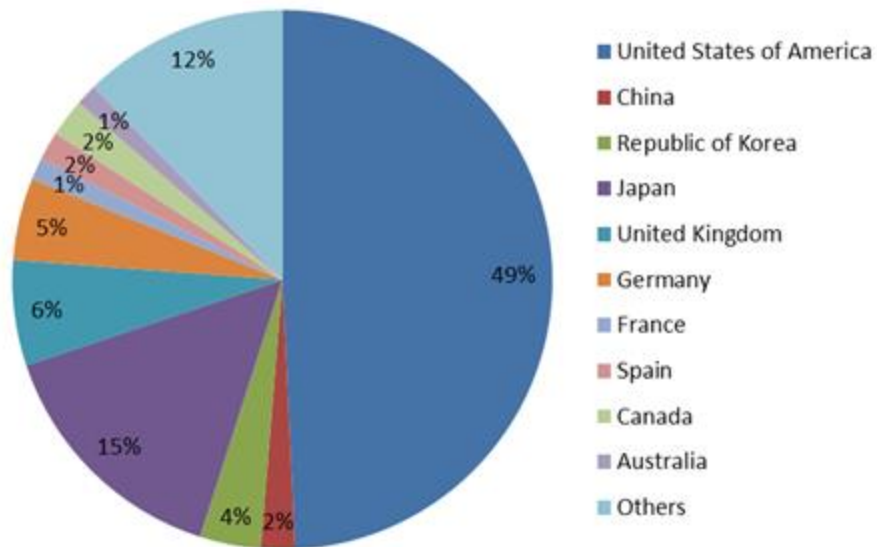
■ BUSINESS
 ■ INDIVIDUAL
 ■ UNIVERSITY
 ■ GOVERNMENT/PRO

Middle-income group

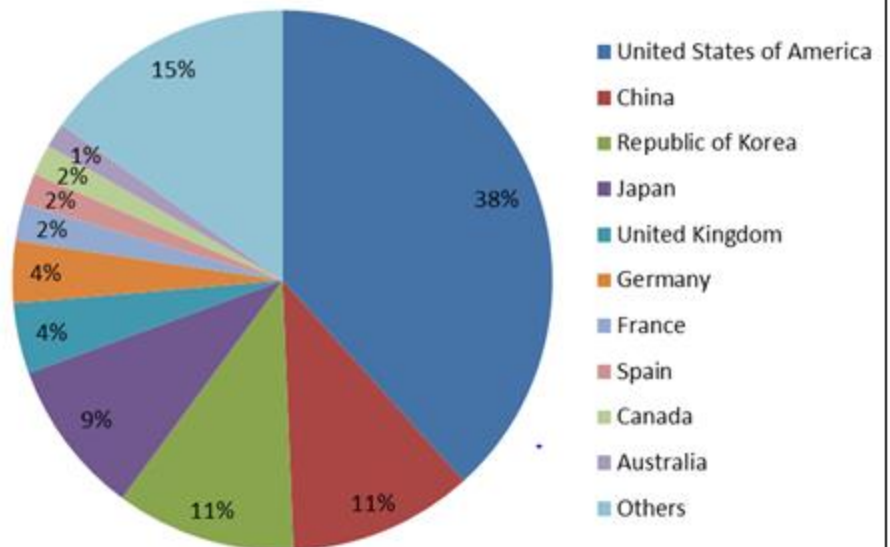


PCT Filings by Universes in Respective Countries

Share of PCT filings for Universities, 2007

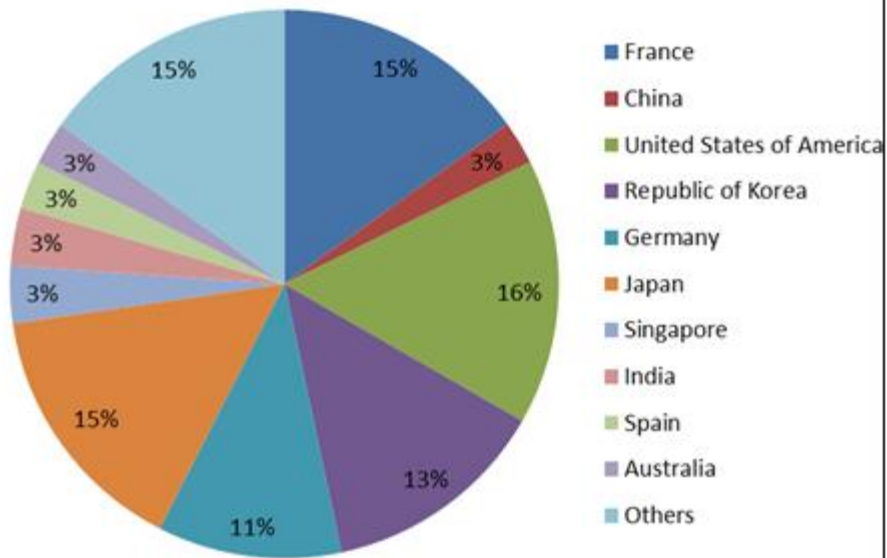


Share of PCT filings for Universities, 2016

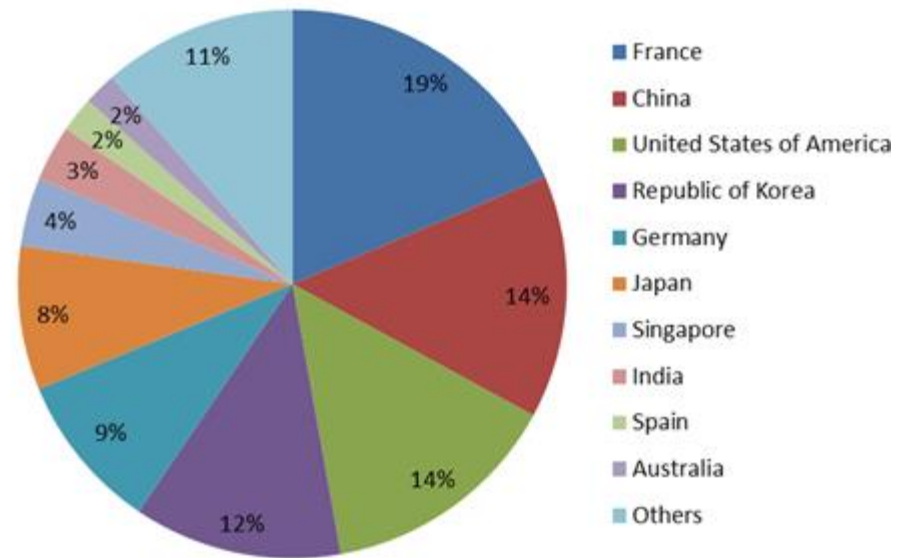


PCT Filings by PROs

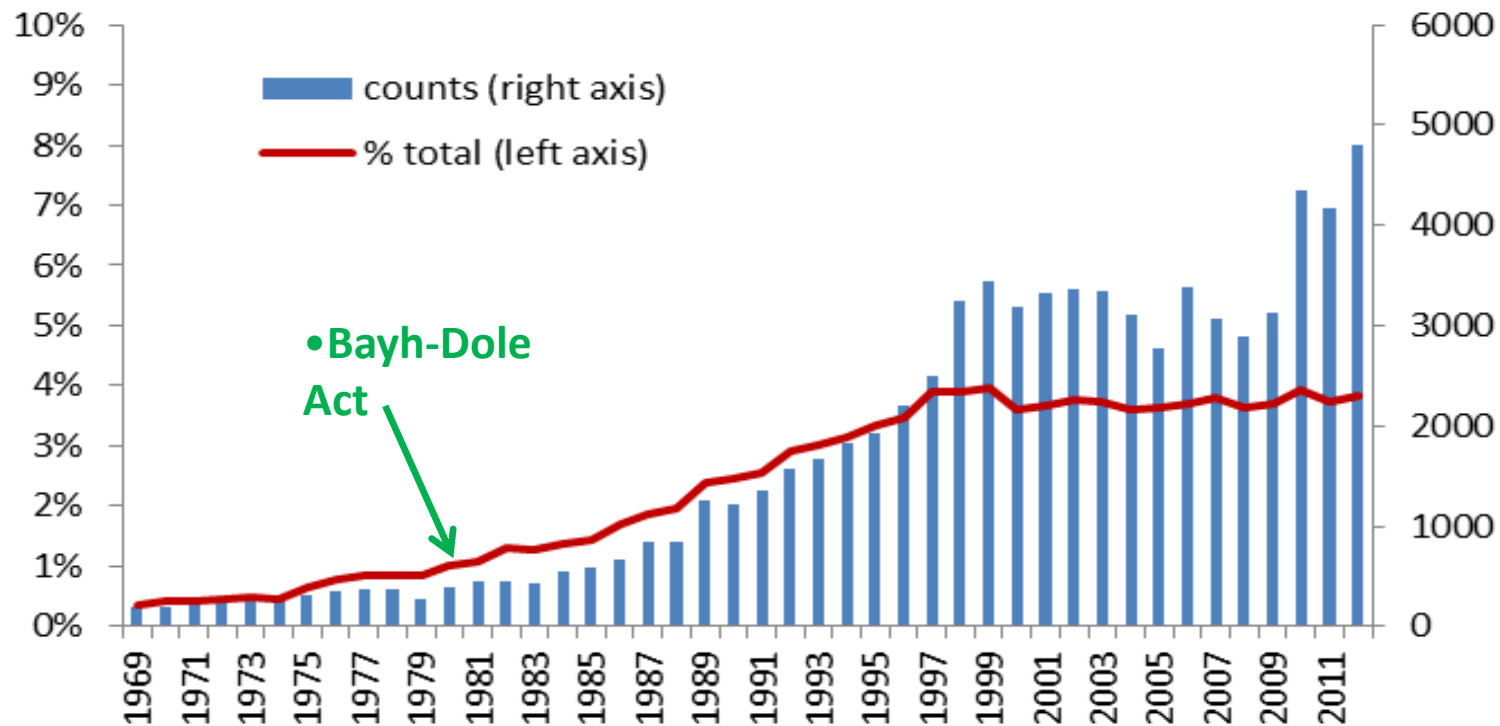
Share of PCT filings for PROs, 2007



PCT filings from PROs, 2016



USPTO patents owned by universities



•Notes: Patents were identified as university owned based on the name of the first assignee.

•Data: USPTO official data from https://www.uspto.gov/web/offices/ac/ido/oeip/taf/univ/asgn/table_1_2012.htm

•Source: Martínez, Catalina and Valerio Sterzi, 2018. University patenting and the quest for technology transfer policy models in Europe, chapter in Varga A. and Erdos K. (Eds.), Handbook of Universities and Regional Development, Edward Elgar (forthcoming)

European IP ownership regimes

Policy and legal changes	Country	Change
Abolishment of the Professor's privilege, to increase scientists' incentives to disclose inventions to universities	Denmark	2000
	Germany	2002
	Austria	2002
	Norway	2003
	Finland	2007
Stronger enforcement of institutional ownership system already in place	United Kingdom	1977
	Spain	1986
	France	1999
	Switzerland	1991
	Belgium	1997
	Portugal	1998
Introduction of Professor's privilege	Italy	2001
Continuation of the Professor's privilege	Sweden	1949

•Source: Martínez, Catalina and Valerio Sterzi, 2018. University patenting and the quest for technology transfer policy models in Europe, chapter in Varga A. and Erdos K. (Eds.), Handbook of Universities and Regional Development, Edward Elgar (forthcoming)

There is no Model that Fits All !

■ Variety of existing models:

- “American” – strong position on institutional IP ownership, licensing;
- UK ;
- “French” – Regional Centers;
- IP Hubs – ASEAN Region;
- “Professor's Privilege” and “Creation for Users” – Sweden;
- Australian Technology Network – Harmonized IP Policies for easier commercialization;
- Intel Science and Technology Centers (ISTCs) – Open Source.

University/PRO applications in Greece 2009-2018

FOUNDATION OF RESEARCH AND TECHNOLOGY - HELLAS/FORTH	13	1.46%	Total 4.4%
UNIVERSITY OF PATRAS	10	1.13%	
NATIONAL CENTRE FOR SCIENTIFIC RESEARCH DEMOKRITOS (NCSR DEMOKRITOS)	5	0.56%	
NATIONAL HELLENIC RESEARCH FOUNDATION	3	0.34%	
NATIONAL AND KAPODESTRIAN UNIVERSITY OF ATHENS	3	0.34%	
BIOMEDICAL RESEARCH FOUNDATION OF THE ACADEMY OF ATHENS	3	0.34%	
UNIVERSITY OF CRETE	1	0.12%	

What are the challenges faced by universities in the patent system?

- Freedom to operate and research exception
- Scientific publication (copyright, public domain and public accessibility) vs. patenting (protection)
- Funding for patenting (fees) and technology transfer
- Patents (and exclusive vs. non-exclusive licenses)
- Licensing to industry vs. university spin-offs/start ups

Advantages of patents:

- Set the boundaries of the invention in the claims
- Help creating markets for technology
- Make invention more visible to patent examiners in other jurisdictions, to prevent others from patenting academic prior art

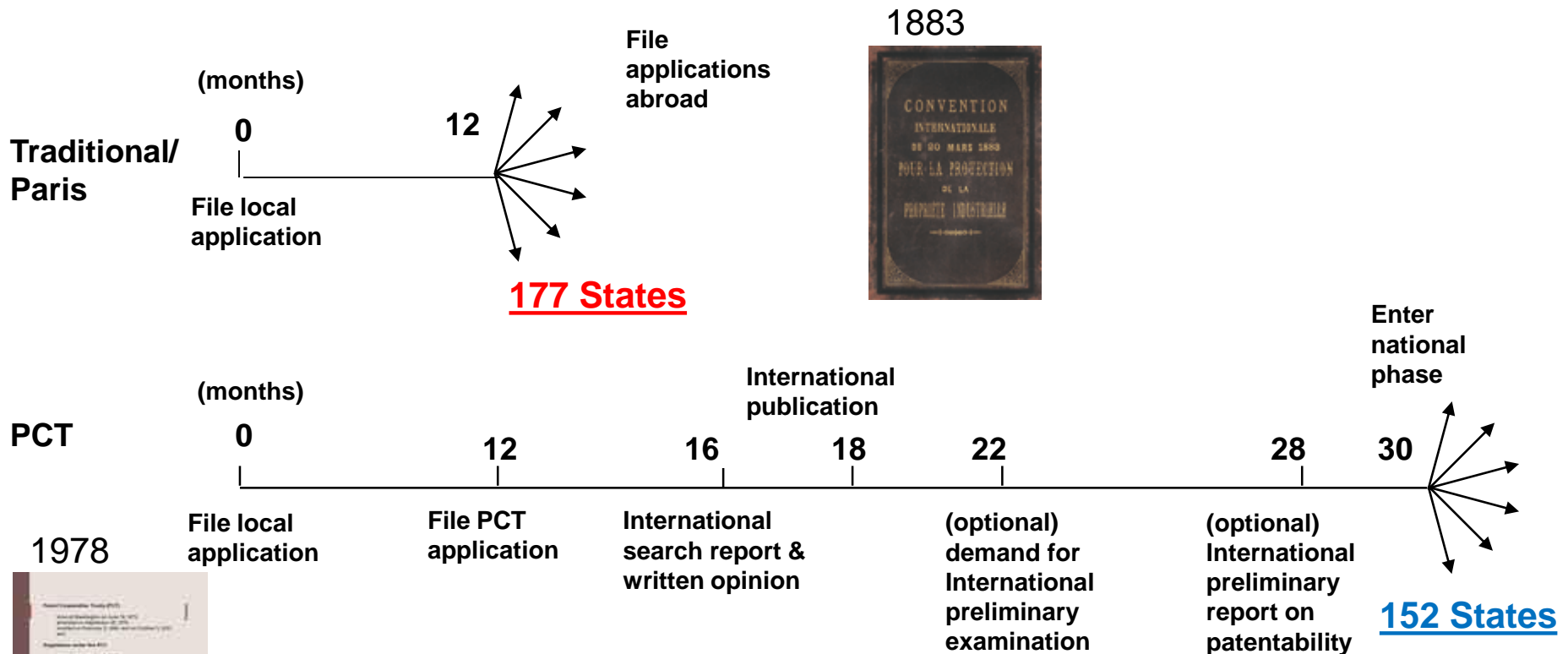


WIPO | PCT

The International
Patent System

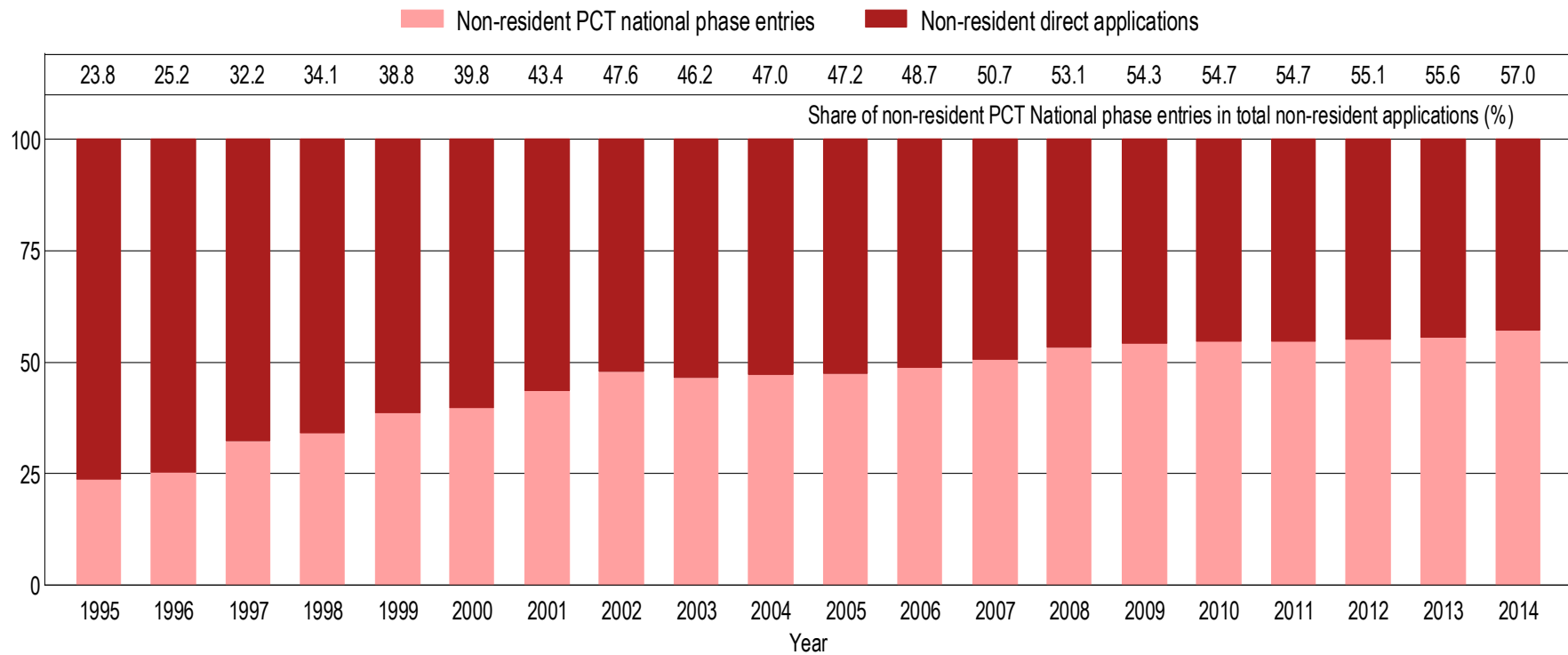
Tools for Universities to get patent protection abroad

Seeking patents multinationally today - Paris system vs. PCT system



Paris route vs. PCT national phase

“Market share”



PCT Testimonial: Inventor

- Professor Shuji Nakamura—co-winner of the 2014 Nobel Prize for Physics for his work on blue LED technology—is quoted in a December 2014 *WIPO Magazine* article:



“... The PCT is critical for these early stage technologies because it gives us the opportunity to protect our patents globally while allowing the market and the technology to mature further before determining which countries might be most valuable to commercial partners.”

PCT Success: Greek Inventor

Epi-LASIK (Laser assisted *in situ* keratomileusis)

WO 03/009789

PCT/IB02/02758

1/14

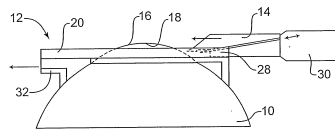


FIG. 1

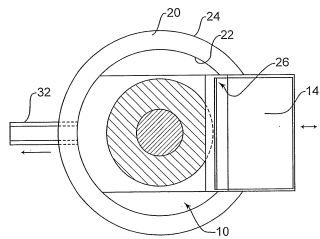


FIG. 2

SUBSTITUTE SHEET (RULE 26)

- Ophthalmolog Ioannis Pallikaris
- Rector at the University of Crete
- Founder and Director of The Institute of Vision and Optics
- Medical Advisory Board Chair for company Presbia
- So far 13 PCT applications as applicant, co-applicant or inventor
- Use of the PCT system for technology transfer and business

PCT/IB2002/002758

Source Patentscope; Wikipedia.

Certain PCT Advantages

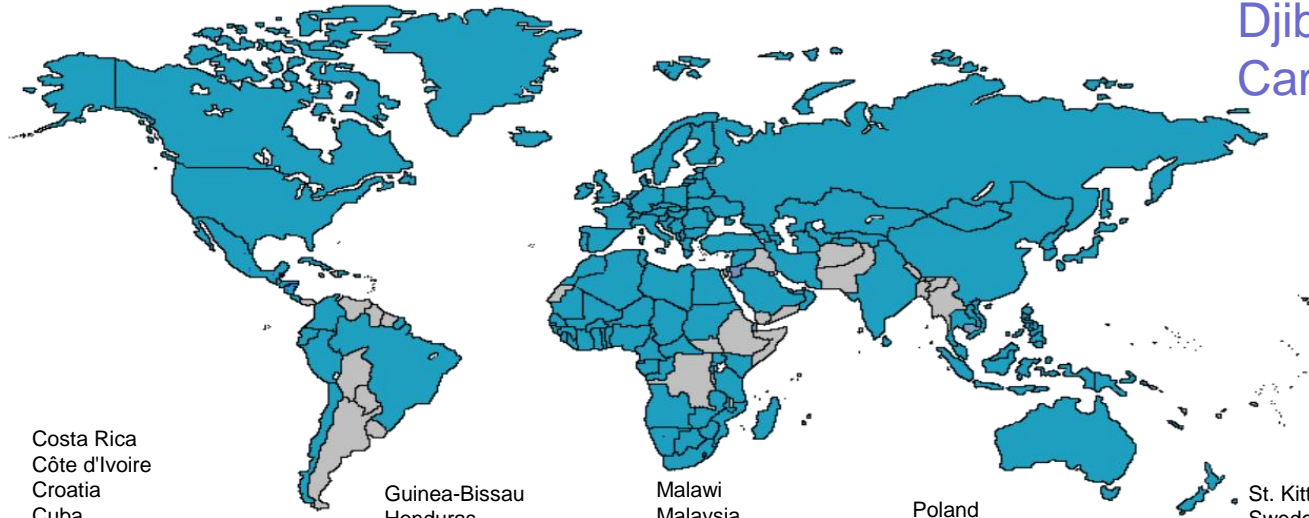
The PCT, as the cornerstone of the international patent system, provides a worldwide system for simplified filing and processing of patent applications, which—

1. postpones the major costs associated with internationalizing a patent application
2. provides a strong basis for patenting decisions
3. harmonizes formal requirements
4. protects applicant from certain inadvertent errors
5. evolves to meet user needs
6. is used by the world's major corporations, universities and research institutions when they seek multinational patent protection

152 PCT States

Recent accessions:

Jordan
Kuwait
Djibouti
Cambodia



Albania
Algeria
Angola
Antigua and Barbuda
Armenia
Australia
Austria
Azerbaijan
Bahrain
Barbados
Belarus
Belgium
Belize
Benin
Bosnia and Herzegovina
Botswana
Brazil
Brunei Darussalam
Bulgaria
Burkina Faso
Cambodia (8 Dec. '16)
Cameroon
Canada
Central African Republic
Chad
Chile
China
Colombia
Comoros
Congo

Costa Rica
Côte d'Ivoire
Croatia
Cuba
Cyprus
Czech Republic
Democratic People's
Republic of Korea
Denmark
Djibouti (23 Sept. '16)
Dominica
Dominican Republic
Ecuador
Egypt
El Salvador
Equatorial Guinea
Estonia
Finland
France
Gabon
Gambia
Georgia
Germany
Ghana
Greece
Grenada
Guatemala
Guinea

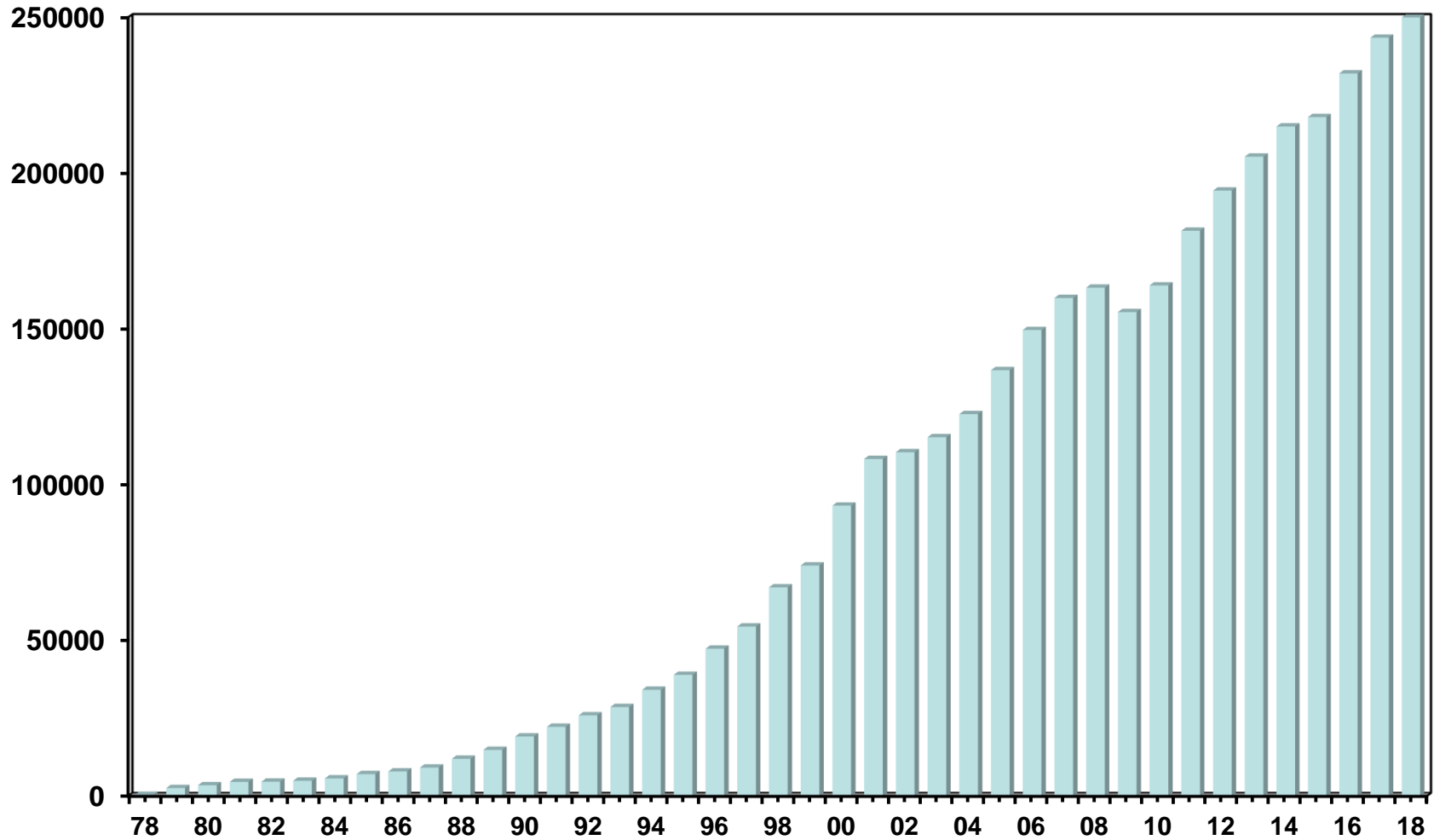
Guinea-Bissau
Honduras
Hungary
Iceland
India
Indonesia
Iran (Islamic Republic of)
Ireland
Israel
Italy
Japan
Jordan (9 June 17)
Kazakhstan
Kenya
Kuwait (9 Sept. '16)
Kyrgyzstan
Lao People's Dem Rep.
Latvia
Lesotho
Liberia
Libyan Arab Jamahiriya
Liechtenstein
Lithuania
Luxembourg
Madagascar

Malawi
Malaysia
Mali
Malta
Mauritania
Mexico
Monaco
Mongolia
Montenegro
Morocco
Mozambique
Namibia
Netherlands
New Zealand
Nicaragua
Niger
Nigeria
Norway
Oman
Panama
Papua New Guinea
Peru
Philippines

Poland
Portugal
Qatar
Republic of Korea
Republic of Moldova
Romania
Rwanda
Russian Federation
Saint Lucia
Saint Vincent and
the Grenadines
San Marino
Sao Tomé e Príncipe
Saudi Arabia
Senegal
Serbia
Seychelles
Sierra Leone
Singapore
Slovakia
Slovenia
South Africa
Spain
Sri Lanka
Sudan
Swaziland

St. Kitts and Nevis
Sweden
Switzerland
Syrian Arab Republic
Tajikistan
Thailand
The former Yugoslav
Republic of Macedonia
Togo
Trinidad and Tobago
Tunisia
Turkey
Turkmenistan
Uganda
Ukraine
United Arab Emirates
United Kingdom
United Republic of Tanzania
United States of America
Uzbekistan
Viet Nam
Zambia
Zimbabwe

PCT Applications



2018: 253,000 applications (+ 3.9 %)

Top Ten GR PCT users 2017

Applicant's name	2017 applications
BIC-VIOLEX SA	10
PHARMATHEN S.A.	8
APIVITA SA	3
KARATZIS S.A. INDUSTRIAL & HOTELIER ENTERPRISES	3
RONTIS HELLAS S.A.	3
NATIONAL HELLENIC RESEARCH FOUNDATION	2
UNIVERSITY OF PATRAS	2
ALUMINCO A.E.	1
ARISTOTLE UNIVERSITY OF THESSALONIKI - E.L.K.E.	1
BIOMEDICAL RESEARCH FOUNDATION OF THE ACADEMY OF ATHENS	1

Many different applicants; mainly SME and also by universities and public research institutions

https://www.wipo.int/ipstats/en/statistics/country_profile/profile.jsp?code=GR

Future Direction of the PCT

--accessibility of system--

- Making PCT accessible to applicants of all types from all Contracting States
 - Currently: 90% fee reduction for individual inventors from certain States, including Greece
 - Future development?
 - Fee reductions (SMEs, universities, research institutes, individual applicants)
 - BR proposal

IP Policy – Real Necessity

- Increasing IP activity in academic institutions;
- There is a huge number of IP commercialization trends – your institution needs to define its best suitable solution;
- Markets are moving – you are concerned!
- Cross – boarder research collaborations – there are multiple technology transfer Projects within the EU;
- Foreign funding for contractual research – you need to agree on leading principles, in particular concerning IP ownership and commercialization rules;
- Expectations huge from society – IP Policy should create favorable, transparent conditions for academic institutions to respond to those expectations;
- Researchers need to be consulted and aware!!

Examples of IP Policy Trends

- Openness of Science – access to information and collaborative work with industry and society;
- Live Laboratories;
- Socially responsible IP Commercialization of research results;
- Creation of partnerships and collaborations;
- Involvement of industry partners in definition of research programs – in order to increase their funding of science;
- Increasing number of start ups (creation of high profile jobs);
- Better use of know how – one of the biggest assets of Academy.

PCT Resources/Information

For general questions about the PCT, contact the PCT Information Service at:

Telephone: +41-22 338 83 38

Facsimile: +41-22 338 83 39

E-mail: pct.infoline@wipo.int

thomas.henninger@wipo.int (+41 22 338 84 29)