

# **THEME 1**

## **The importance of a National Strategy for the Promotion of Intellectual Property and Innovation**

**Barthelemy Nyasse**

**National strategy is important because  
in the process of designing it a  
situational analysis of the whole IP and  
Innovation landscape is carried out**

**Before discussing what this landscape  
analysis entails, let see what is IP and  
Innovation**

**What is IP?**

**What is Innovation?**

**Why IP and Innovation?**

**Why should a national strategy be designed to promotion these items?**

# Intellectual property is

1. a set of principles and rules that regulate
2. the acquisition, the use, the enforcement and the loss
3. of rights and interests
4. in differentiating intangible assets
5. that are susceptible of being used in commerce.

## Article 7 - TRIPS

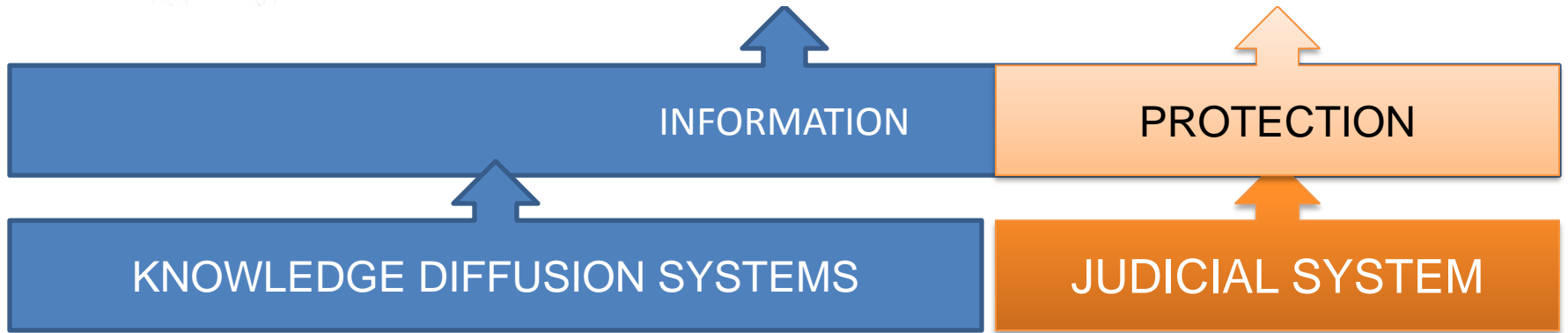
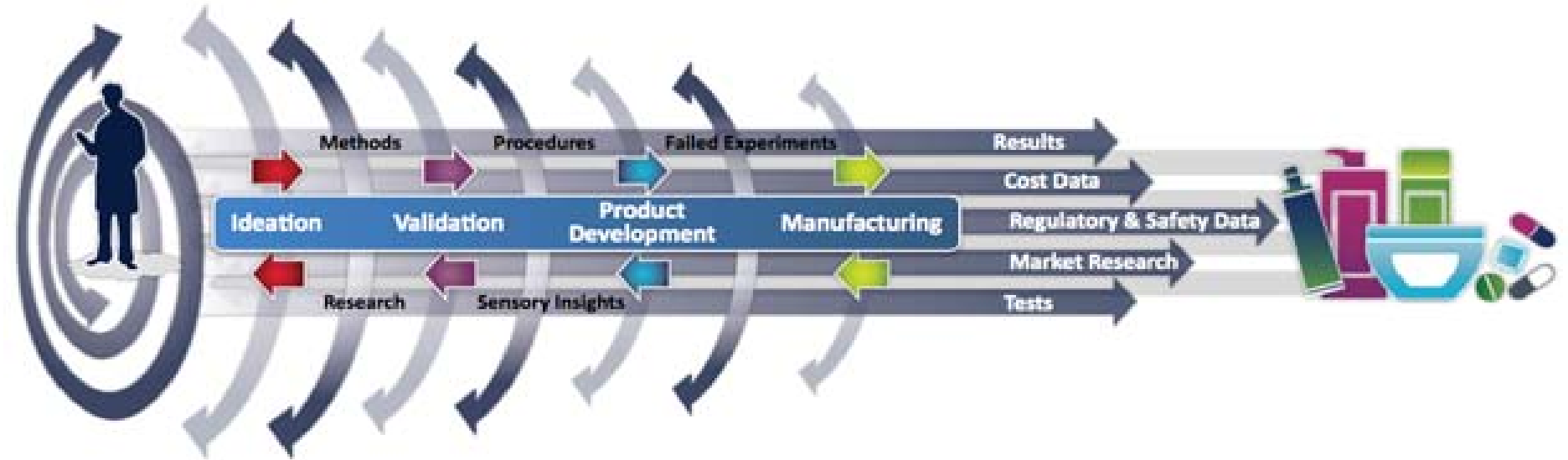
The protection and enforcement of intellectual property rights should **contribute to the promotion of technological innovation and to the transfer and dissemination of technology**, to the mutual advantage of producers and users of technological knowledge and in a manner conducive to social and economic welfare, and to a balance of rights and obligations.

# INNOVATION IS

***The implementation of a new or significantly improved*** product (good or service), or process, a new marketing method, or a new organisational method in business practices, workplace organization or external relations.

Oslo Manual

# INNOVATION SYSTEM/IP ISSUES



**Powerful Strategic Tool**

Developing a national strategy involves carrying out a baseline survey to ascertain the current status of the IP and Innovation system

THE FOLLOWINGS ARE COVERED...



1. Administration and management of IP;
2. Generation of IP by universities, research organizations, businesses, industries, SMEs and individuals;
3. Commercialization of IP and technology transfer by universities, research organizations, businesses, industries, SMEs and individuals;

4. Copyright and copyright industries;
5. Plant variety rights and seed industries;
6. Enforcement of IP rights;
7. IP and public policy.

# **Administration and management of IP**

1. Types of existing IPRs;
2. National IPRs regulations;
3. Basic rules for obtaining protection of IPR (creation, registration, use);
4. Basic rules regarding the ownership of IP protected research results;
5. Specific rules regarding IPR's applying to Higher Education Institutions.

# Development

Promote creativity,  
protection & utilization of  
IPR

- ✓ Formulate PI strategies
- ✓ Subsidize innovations
- ✓ Promote University/Entreprise partnership

Establish PI Infrastructure

- ✓ Define IP laws
- ✓ Create enabling environment for IPR
- ✓ Train IP experts
- ✓ Advocate on importance of IP

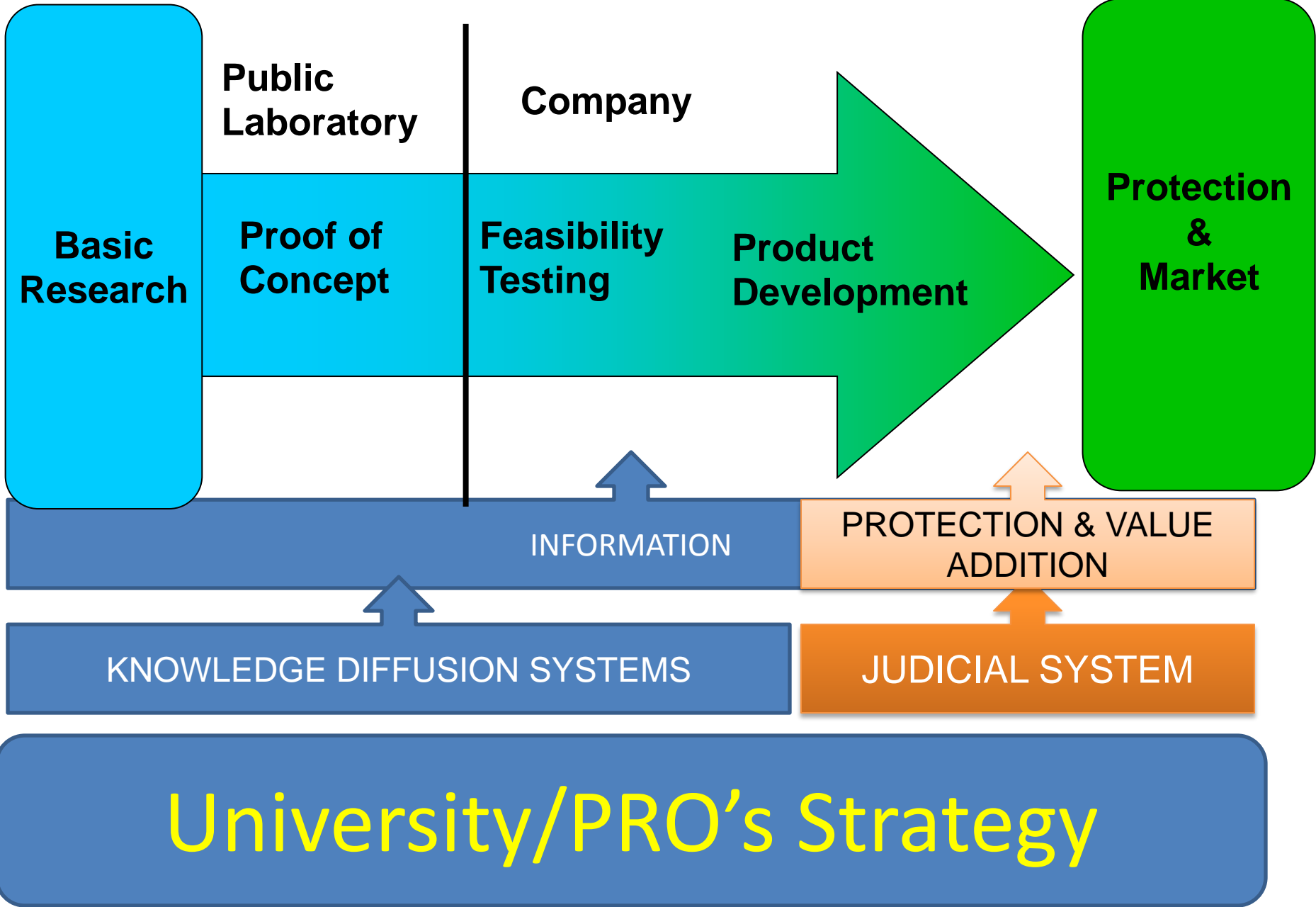


# **THEME 2**

**Support and Reinforce the Management and  
Exploitation of IP in Universities and R&D  
Institutions and in Polytechnics**

Barthelemy Nyasse

# INNOVATION SYSTEM/IP ISSUES





**IP awareness is one of the key strategic issues that needs to be addressed in order to promote the generation, protection and commercial utilization of IP by Universities/PROs.**

# IP Administration or Management?

IP administration predominantly deals with IP asset itself (acquisition, preservation and all legal aspects),

IP administration strives to enable the usage of legal and economic functions of IP:

protection of an invention (patents), to exclusively identify and protect the commercial source of a product or service (trade marks), to block competition (IP rights), and to enable inventory stocks, licenses, etc

# IP management?

IP management is the integration of IP into innovation strategies and business models.

IP management can be divided into three activity clusters:

1. innovation support,
2. portfolio management and
3. IP exploitation.

## Innovation support:

- Analyzing patent literature with a view to entering the sector fast via target-oriented R&D - Target-orientated R&D
- Evaluating patenting chances to avoid double developments and to lower costs - Double developments
- Analyzing the competition to assess a company's position in the field of R&D - Competition analysis
- Analyzing the competition in terms of risk and cost in order to avoid patent infringements - Infringement avoidance

## Portfolio management and

- Selling IP to increase liquidity - Selling IP
- Strategically reducing the duration of a patent combined with an increased frequency of patent registration - Patent strategy

## IP exploitation.

- Evaluating property rights as an asset for rating, financing negotiations and analysis - IP evaluation
- Screening to establish whether IP may be used in other competitively neutral economic fields and its importance for liquidity - IP screening (other usages)
- Strategic use of IP for securing a company's competitive position - Strategic use of IP.

# IP management set of tasks

1. obtaining patent protection and patent (fee) administration;
2. developing a patent- respectively IP-strategy, in- and out-licensing activities;
3. technical due diligence during M&As;
4. patent exploitation and enforcement;
5. litigation management, etc.

# Some of the challenges for PROs

- Low level of IP awareness and inadequate outreach programs;
- Lack of institutional IP policies in universities and research organizations;
- Low level of funding of R&D in universities and research organizations by government, thus limiting the capacity of these institutions to invent and innovate.
- Limited usage of patent information for innovation and invention activities;
- Inadequate IP training and education
- Weak national innovation system

# Supports

Support the generation of IP	Technology transfer managers
Support the protection of IP	IP attorneys, IP drafters and IP examiners
Support the commercialization of IP	IP valuation, IP auditing, IP licensing, IP marketing and negotiations
Support the enforcement of IP	IP enforcement officers; judges, lawyers, police and custom officials
Support the teaching of IP in universities, colleges and schools IP lecturers and teachers	

# Supports

**Prototype development policies and facilities**

**Science, technology and industrial (STI) parks**

can provide the requisite infrastructure to support the commercialization of IPRs from RTOs

**Incubation policy and technology incubators**

to support the establishment of technology incubators.

**The TTO is part of the support infrastructure for the management of IP assets in a university or research organization.**



# Key issues for institutional IP policy

1. Ownership of IP rights from publicly funded research projects.
2. Ownership of IP rights from privately funded research projects.
3. Management of IP in collaborative research projects.
4. Commercialization of IP.
5. Benefit sharing.
6. Research procedures.
7. Disclosure of IP.
8. Filing and protection of IP.
9. Conflict of interest.
10. Infrastructure for IP management.



# THE ROUND TABLE

**The Funding of Scientific and Technical Research:  
The Problem of Exploiting the Results of Research  
Financed by Public Funds**

Barthelemy Nyasse

Universities and PROs play a key role in national innovation systems. Beyond their mission to educate, they must account for substantial shares of total R&D spending.

It is so?

Public funding of research in LAC has emphasized the generation of conceptual knowledge but has been less efficient at energizing technological innovation such as the production of patents

This is reflected in the low level of contribution  
to the global knowledge

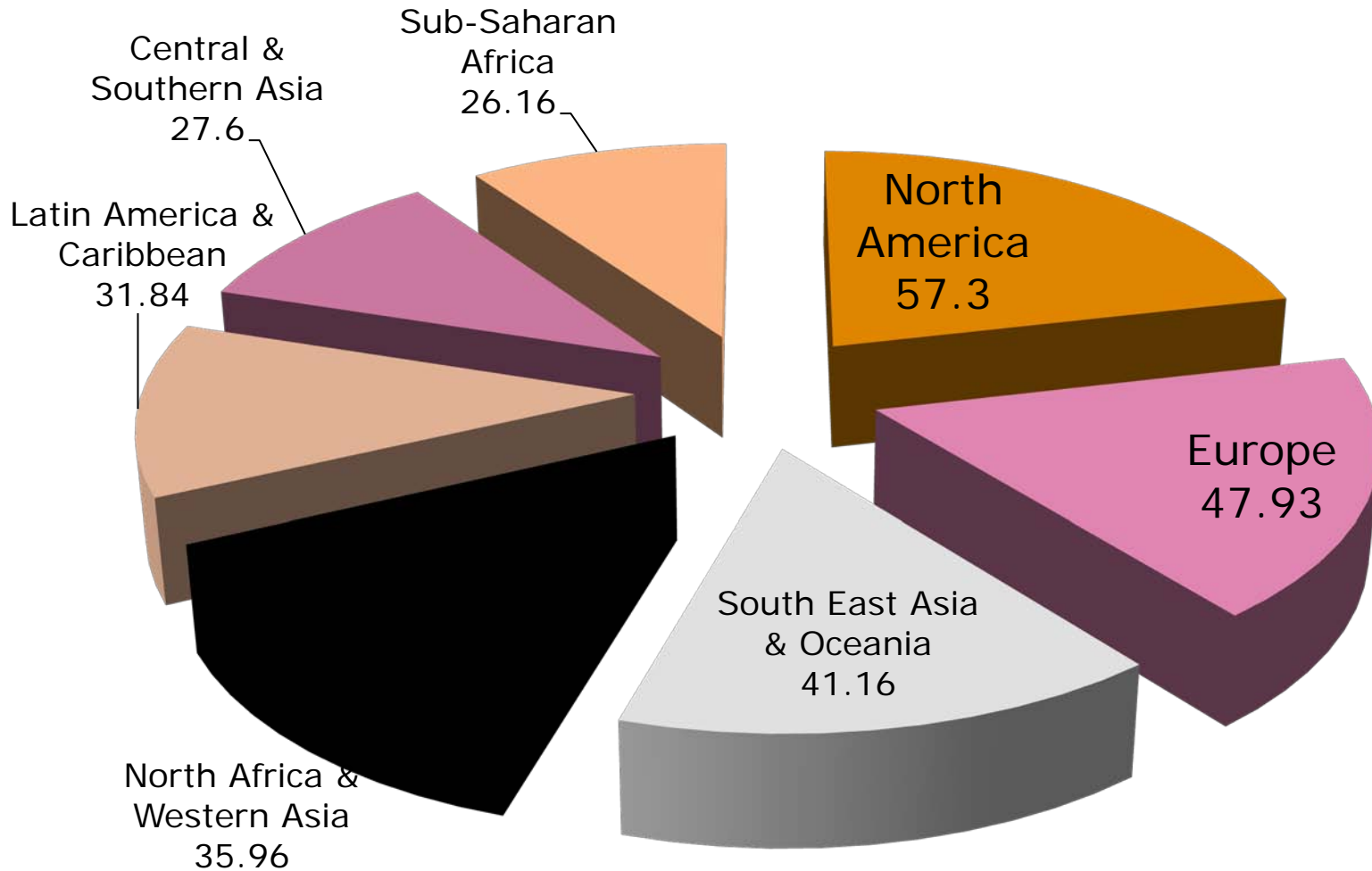
# How does Africa make/use the tool?

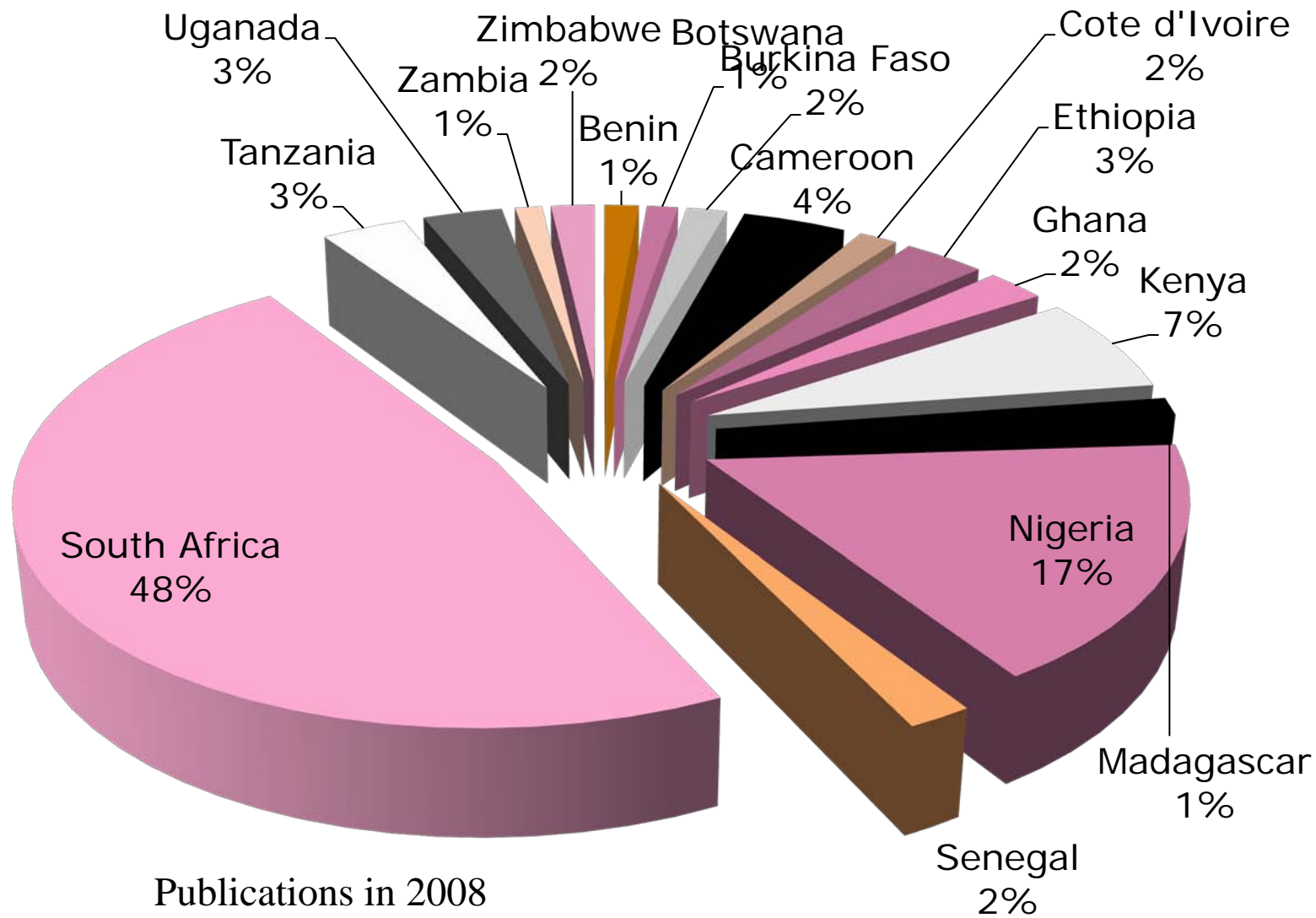
Region	% IP			
	Trademark	Patent	Industrial designs	Utility model
Africa	2.3	0.6	0.7	0.02
Asia	41.1	51.3	81.8	88.5
Europe	35.6	17.4	9.1	10.5
Latin America & The Caribbean	9.5	2.6	1.9	0.7
North America	9	26.6	5.1	
Oceania	2.5	1.6	1.1	0.3

IP Applications by geographical region 2010 - Source WIPO 2011

2005-2009 ~ 706 patents for Africa . German PRO (647) & GB PRO (734) a year (2007)

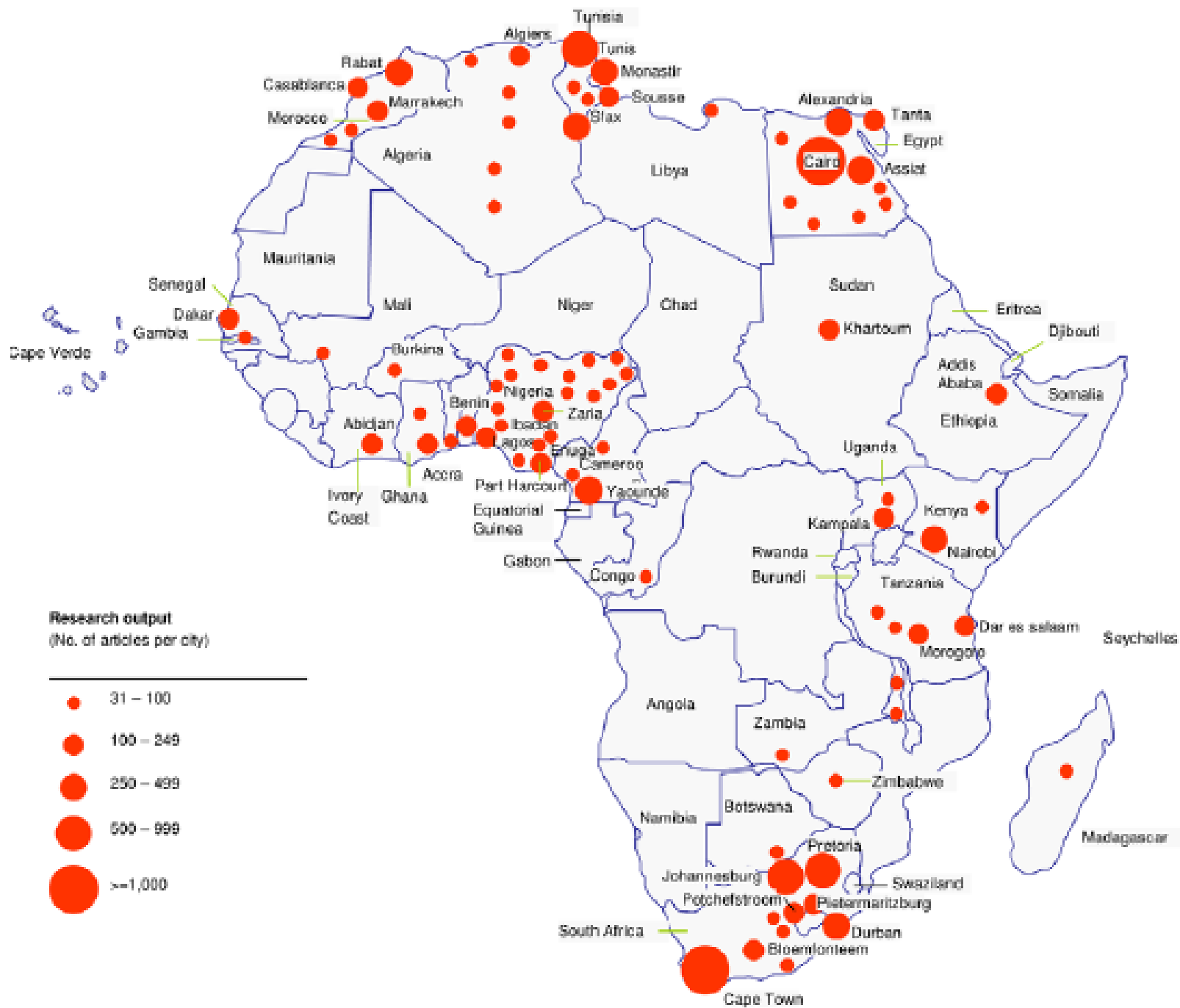
# Global Innovation Index 2012



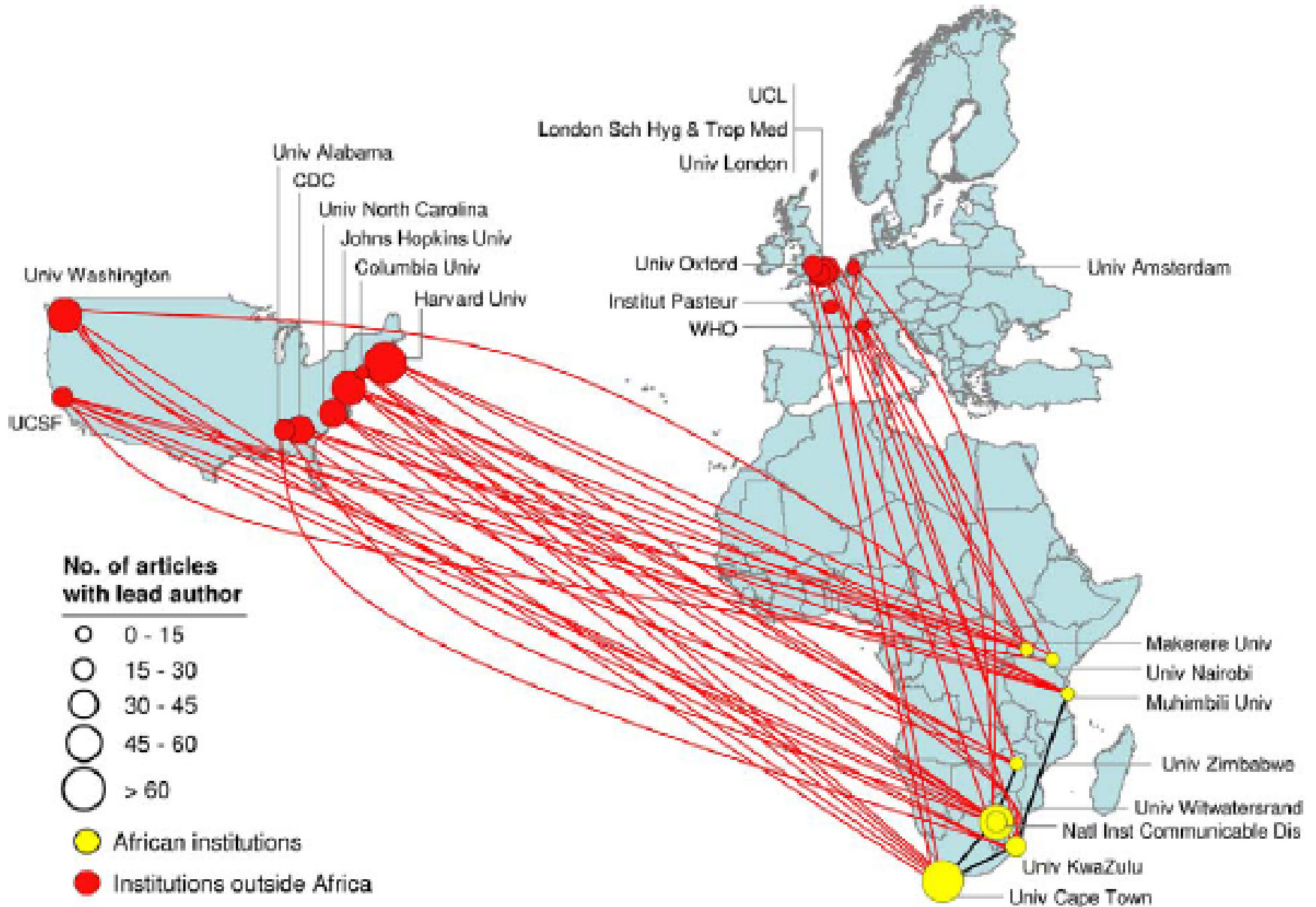


Publications in 2008  
 (11142 scientific articles ~ 1.4% world production)

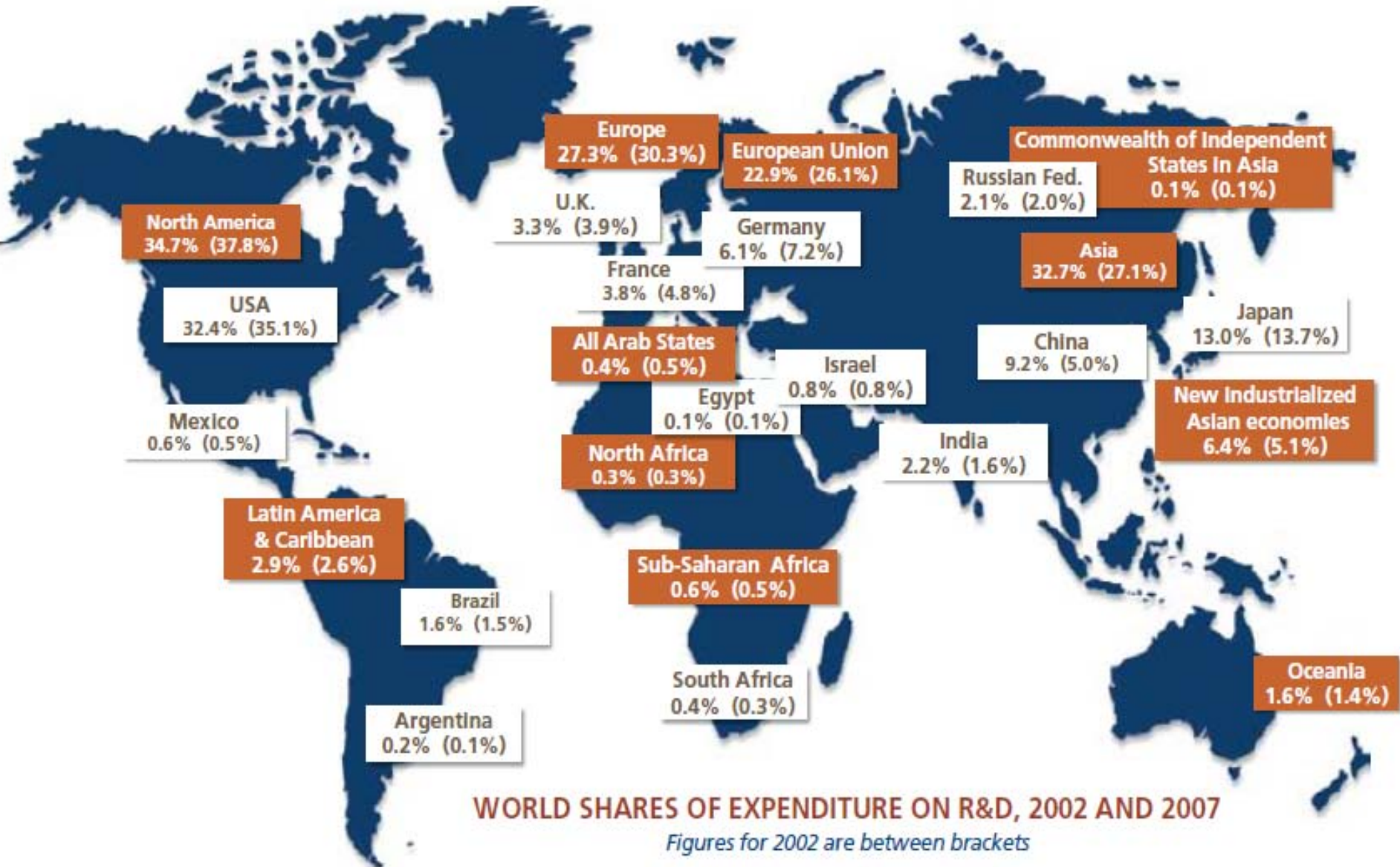




# Low Internal Collaboration



# Low Expenditure on R&D



WHEN QUALITY RESEARCH RESULTS  
ARE OBTAINED THEIR COMMERCIAL  
EXPLOITATION REMAINS A BIG  
CHALLENGE

# Some of the challenges for PROs

- Low level of IP awareness and inadequate outreach programs;
- Lack of institutional IP policies in universities and research organizations;
- Low level of funding of R&D in universities and research organizations by government, thus limiting the capacity of these institutions to invent and innovate.
- Limited usage of patent information for innovation and invention activities;
- Inadequate IP training and education
- Weak national innovation system

# Some of the challenges for PROs

- Lack of IP asset management knowledge and practice, a market economy culture and skilled professionals – necessary for complex transactions.
- Scarcity of an adequate legal framework and guidelines how to negotiate - no clear institutional policies and strategies setting up a framework for technology management negotiations.

# Some of the challenges for PROs

- Collaboration between industry and universities is limited, hindering the transformation of new knowledge into innovation.
- Universities and industry face different incentives and cultures discouraging productive research collaboration.
- No built efficient support systems for technology extension and dissemination
- Insufficient knowledge sharing by universities prevents the productive sector and society from benefiting from the research being conducted by the academic community

# Low level of IP awareness

Survey question	Unable to respond
What is a trade secret	68%
What is a patent	21%
What is copyright	32%
What is a trade mark	51%

**27 November 2012 issue of Forbes magazine**  
survey at UCLA of graduate engineering students



## Low degree of ...

**25%** of **12,516** inventions disclosed to University of California TTOs (1990 -2005) had been patented by 2010, and even fewer had been licensed.

[Nature](#) (507:297-99, 2014)

# What is Lacking ?

- Most universities do not have requisite commercialization support structures to promote commercialization of IP rights e.g., such as TTOs, university companies, technology incubators, prototype development facilities, or science and industrial parks.
- Most financial institutions do not accept IP as collateral for accessing investment finances.

# What is Lacking ?

Necessary Basic Preconditions for Efficient Technology Transfer System

Adequate Legal Framework (national and institutional level)

Organizational Infrastructure (technology management organizations and units)

Funding (government and venture capital)

Skilled professionals (scientists, technology managers, IP professionals, etc.)

Education – to provide sustainable flow of skilled people

Supportive IP System

Market economy experience and a developed private business community

# RECOMMENDATIONS

## *Define Clear Rules on IP Rights:*

Establishing transparent rules and appropriate incentives related to the benefits derived from IP is crucial to encourage researchers to commercialize their ideas.

# RECOMMENDATIONS

a well-funded high quality research system that encourages researchers to do more innovative research and generate technologies and products that can be used by industry

provision of adequate incentives and support to encourage faculty participation especially in disclosing, protecting, and commercializing a university invention

The regulations be put in place that enable universities to claim title to inventions supported by government funding and for their scientists to participate in the commercialization of university inventions to otherwise avoid Problems of Unfair Competition in the Exploitation of Research Results out of Patents and Licenses

Setup and standardized institutional IP policies and ownership in support of technology transfer laws that are mostly patterned after the US Bayh Dole Act

Established IP and technology transfer offices to handle patent filings, and invest in entrepreneurial infrastructure, and services such as business incubation spaces and research parks to support university research and entrepreneurship