

# INTELLECTUAL PROPERTY AND INNOVATION

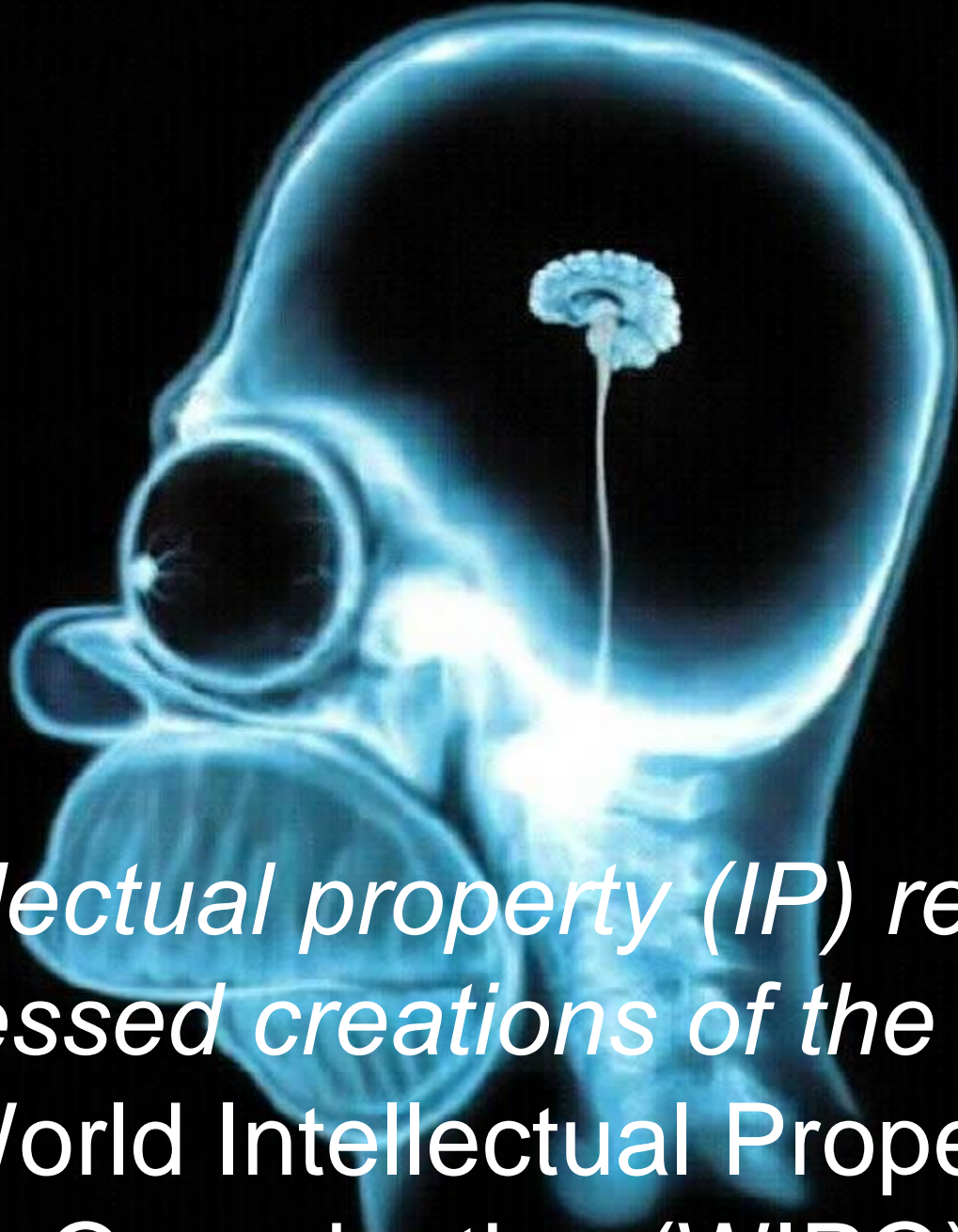
Presented by:

Kavish Seetahal

# OUTLINE

- **What is Intellectual Property (IP)?**
- **Functions of the Intellectual Property Office**
- **Types of IP**
- **Benefits of IP**





*'Intellectual property (IP) refers to expressed creations of the mind'* -  
World Intellectual Property  
Organisation (WIPO)



Naruto takes photo of himself



IP is not monkey's business

# Responsibilities of the Intellectual Property Office (IPO) of T&T

- Granting of IPR's
- Determining of Opposition Hearings
- Making IP information available to the public
- Receipt of International Applications
- Advising the Government
- Patent Information Services
- Public Awareness Campaigns
- Promoting Inventiveness
- Participating in development of International Treaties
- Participating in the development of International Instruments

# Intellectual Property

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graph TD; A[Intellectual Property] --> B[Copyright and Related Rights]; A --> C[Industrial Property]
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The diagram illustrates the classification of Intellectual Property. At the top level is 'Intellectual Property', which is highlighted with a yellow background. This term branches into two sub-categories: 'Copyright and Related Rights' and 'Industrial Property', both of which are highlighted with a blue background. The connections are shown by a central vertical line that splits into two horizontal lines, each leading to one of the sub-category boxes.

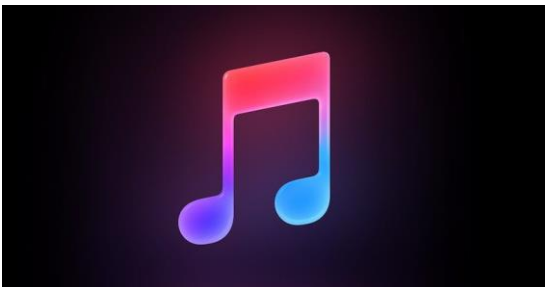
Copyright and  
Related Rights

Industrial  
Property



# Copyright

Protection for Original  
literary and artistic works



PATENTS

TRADE MARKS

INDUSTRIAL DESIGNS

TRADE SECRETS

NEW PLANT VARIETIES

GEOGRAPHICAL INDICATIONS

LAYOUT TOPOGRAPHIES OF INTEGRATED CIRCUITS



# INDUSTRIAL DESIGNS

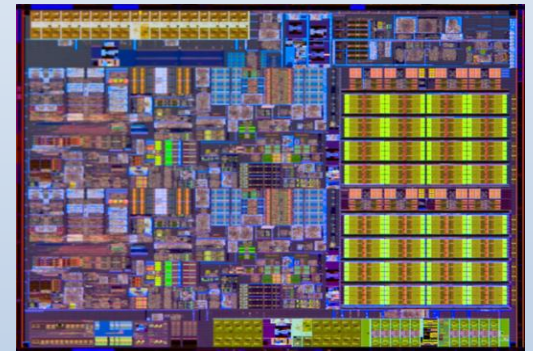


An Industrial Design is the ornamental aspect of an object. In other words, it is that part of an object



# Integrated Circuits

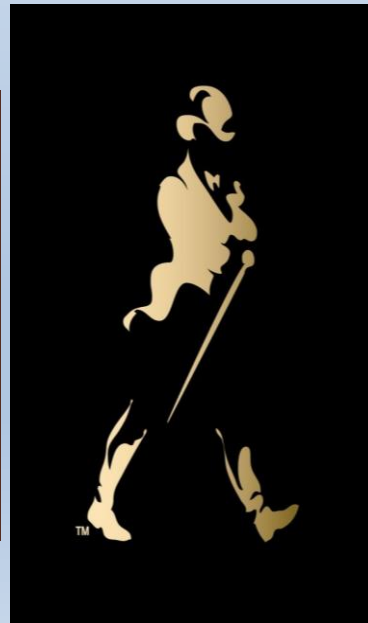
Arrangement of electrical components on a semiconductor.





# TRADE MARKS

Any sign/symbol which indicates source of good/service





# PATENTS

1. Patents protect inventions.

2. An invention is a new technical solution to an existing problem (process/product).



# **TECHNICAL INFORMATION RESOURCES**

- Future IP Academy
- IP clinic
- IPO technical library facility
- Patent Database Search

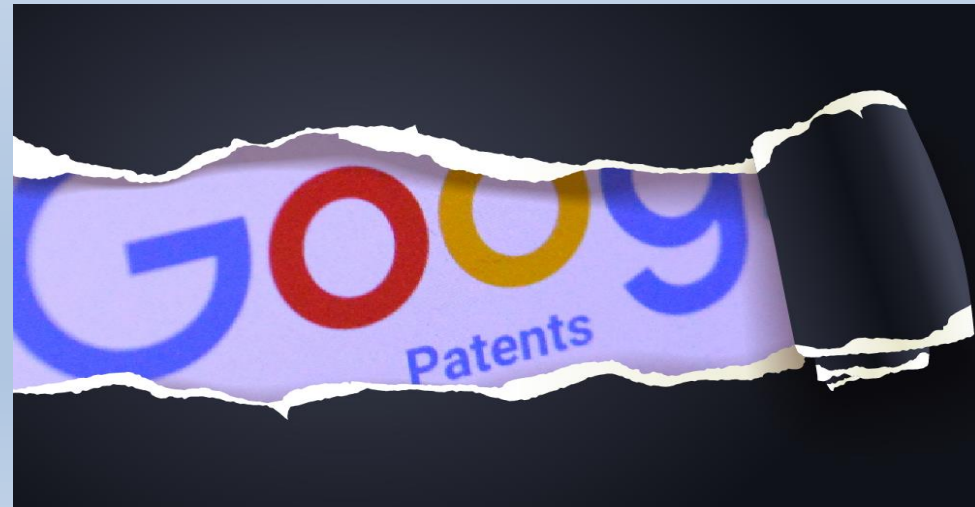
# Patent Searching

**Espacenet**  
Patent search



UNITED STATES  
PATENT AND TRADEMARK OFFICE

**uspto**

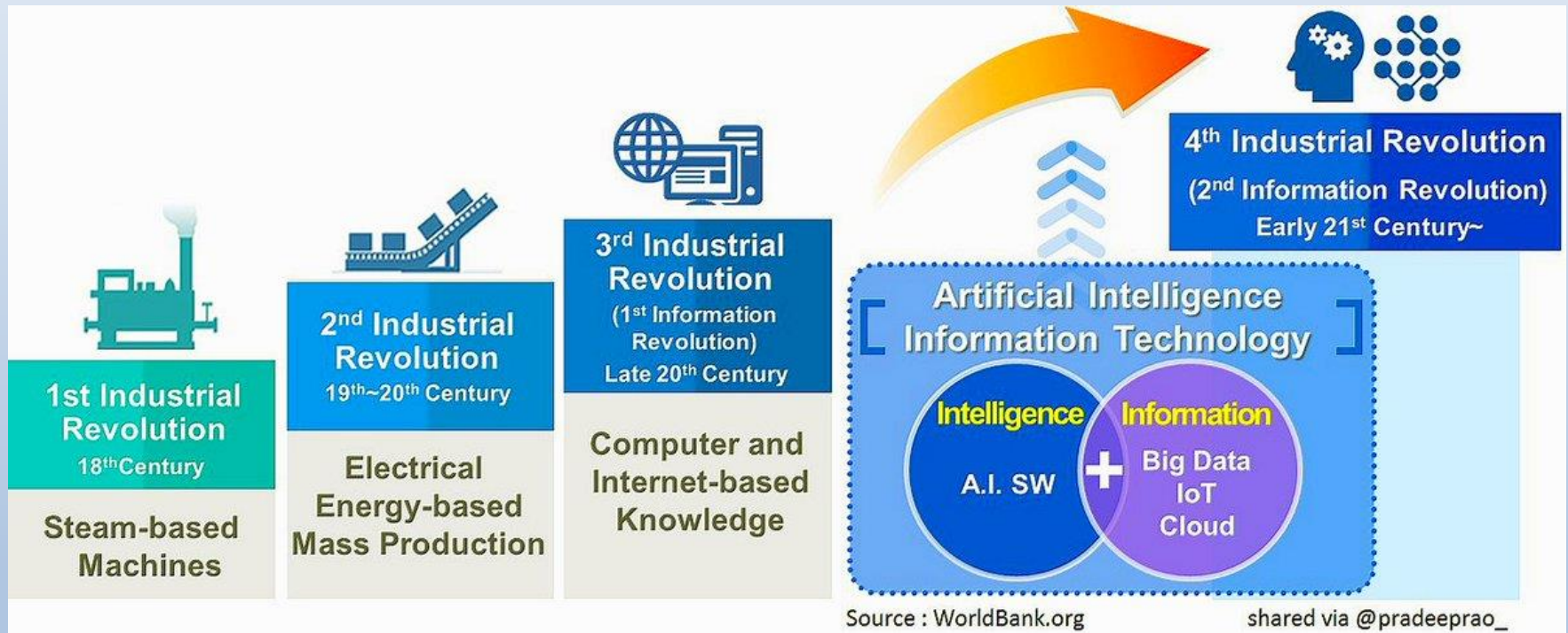




# Basic Functions of an IP System

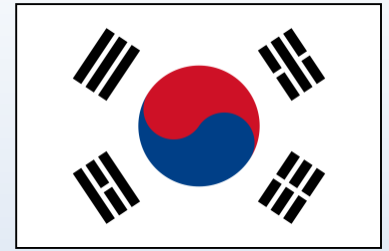
- Facilitate IP CREATION (e.g. patent databases as sources of innovative ideas)
- Provide IP PROTECTION (e.g. protection from illegal reproduction and loss of profits)
- Support IP APPROPRIATION (e.g. higher profits with innovative products, establish good will and reputation in the market and provides value & tradability)
- Prevent IP ABUSES (e.g. unfair competition)

# Fourth Industrial Revolution Technologies



**Emerging technologies bringing about the  
Fourth Industrial Revolution  
= IoT, AI, Big data**

# Korea



IoT

AI

AUTONOMOUS  
DRIVING

BIG  
DATA

3D  
PRINTING

CLOUD  
COMPUTING

INTELLIGENT  
ROBOTS

Technologies Related to the 4<sup>th</sup> Industrial Revolution

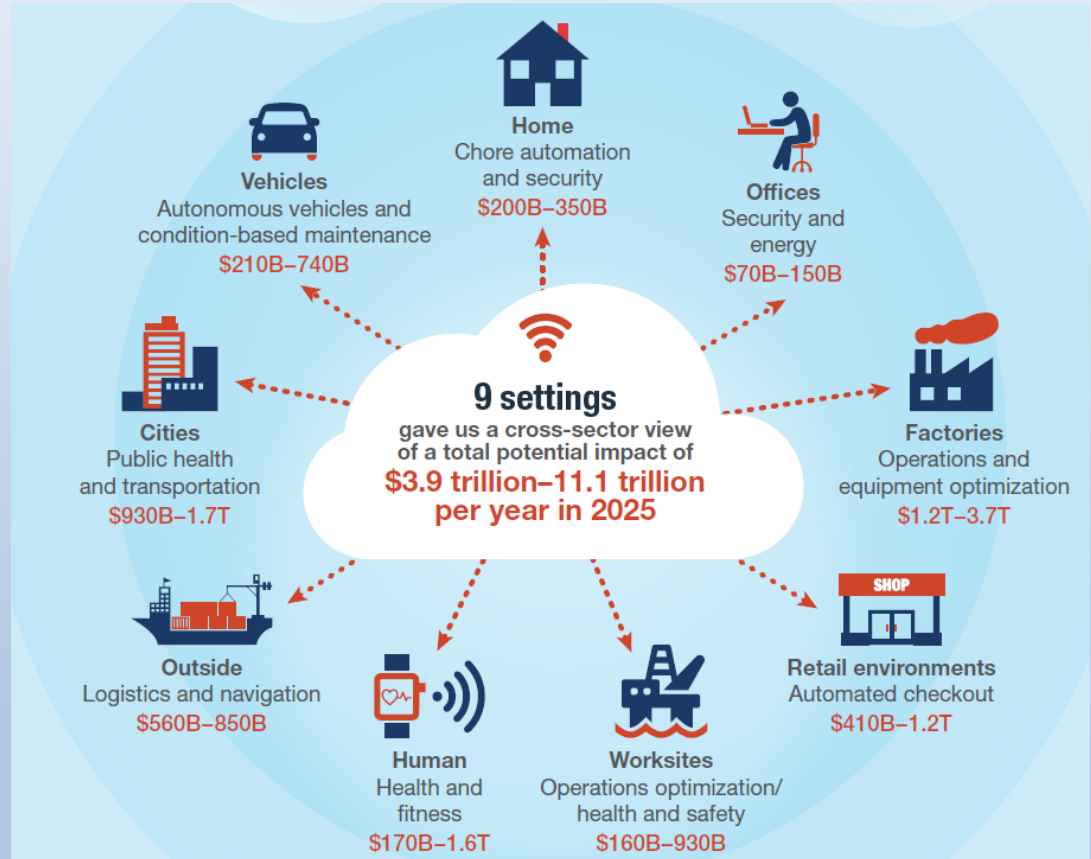
Fast advancements & importance of patenting, examination time reduced from 16 months to 6 months.



# The “Asian Silicon Valley” initiative

## Trends & Current Status

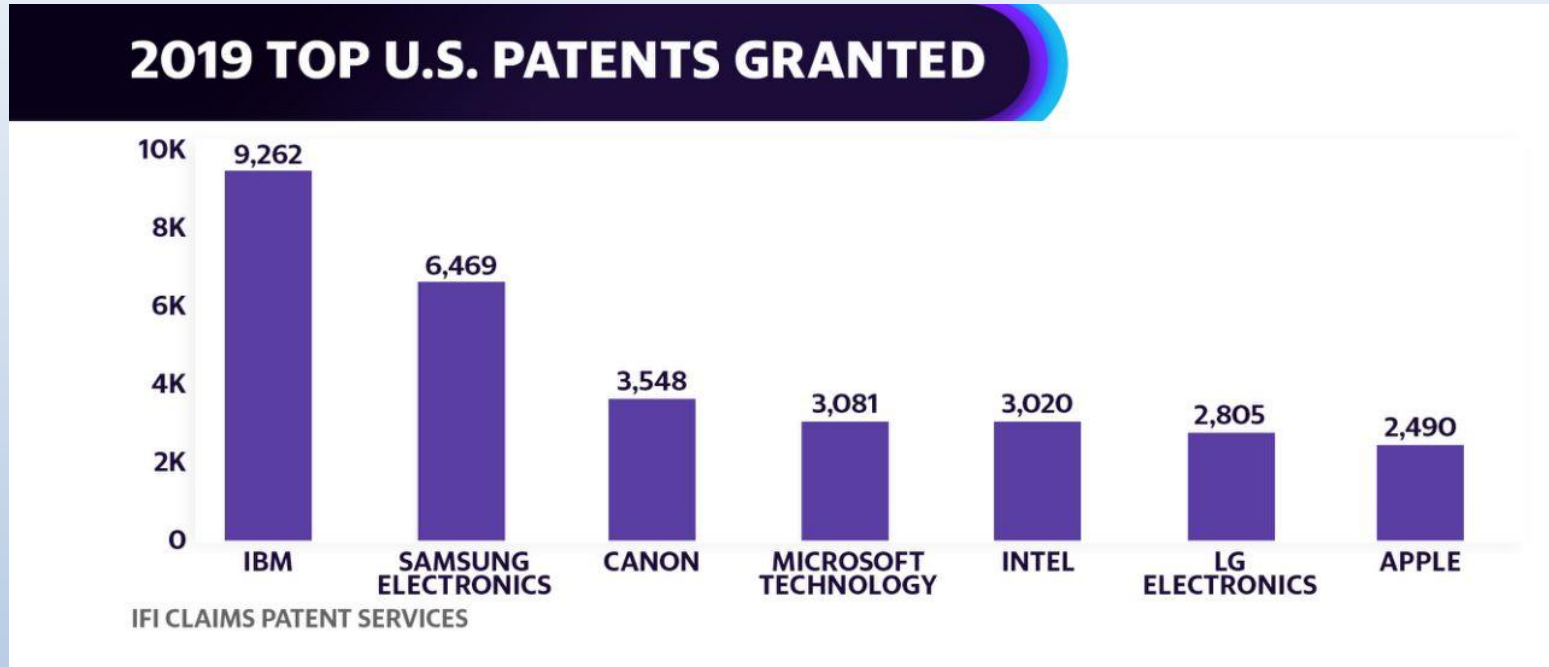
The interconnection via the Internet of computing devices embedded in everyday objects



**Global potential economic impact of IoT in 2025: US\$3.9-11 trillion**

Source: Internet of Things: Mapping the Value Beyond the Hype-Executive summary (MCKINSEY)

# Top Companies Utilizing the Patent System



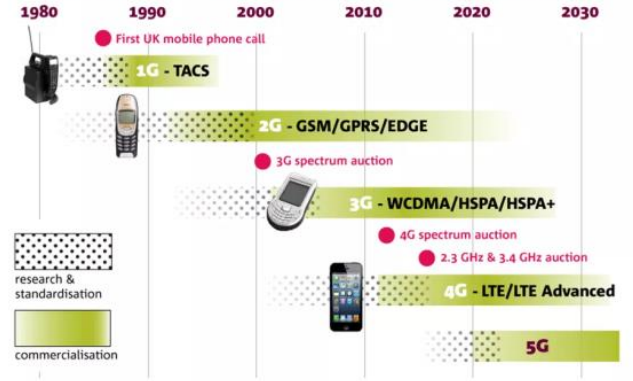
Adapted from: “Companies won a record number of patents in 2019, with Microsoft, Apple and IBM leading the charge”, available online at: <https://finance.yahoo.com/news/companies-won-a-record-number-of-patents-in-2019-with-microsoft-apple-and-ibm-leading-the-charge-212436667.html>

- Growth in patenting corresponds to a new organisation of research that is less centred on the individual firm and more based on knowledge networks and markets

Adapted from: PATENTS AND INNOVATION: TRENDS AND POLICY CHALLENGES, pg. 7, available online: <http://www.dklevine.com/archive/refs4122247000000000502.pdf>



## Evolution of mobile phone communications



## 5G patent publication trend

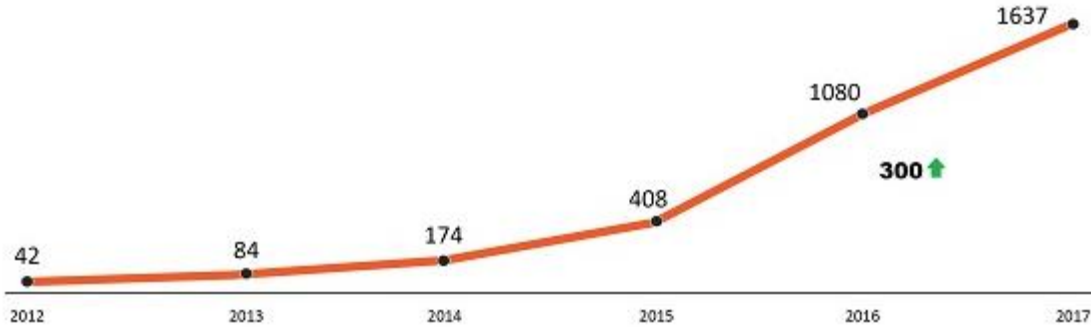


Fig 1: Number of 5G patent publications from 2012 to 2017

## Overall patent assignee distribution



## Top six patent assignees

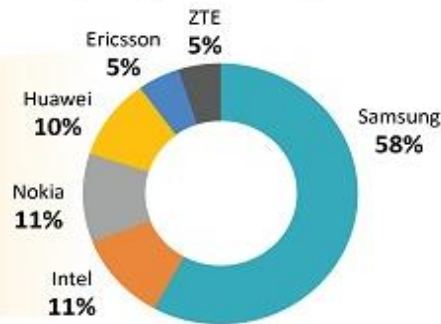


Fig 2: Top 5G patent assignees

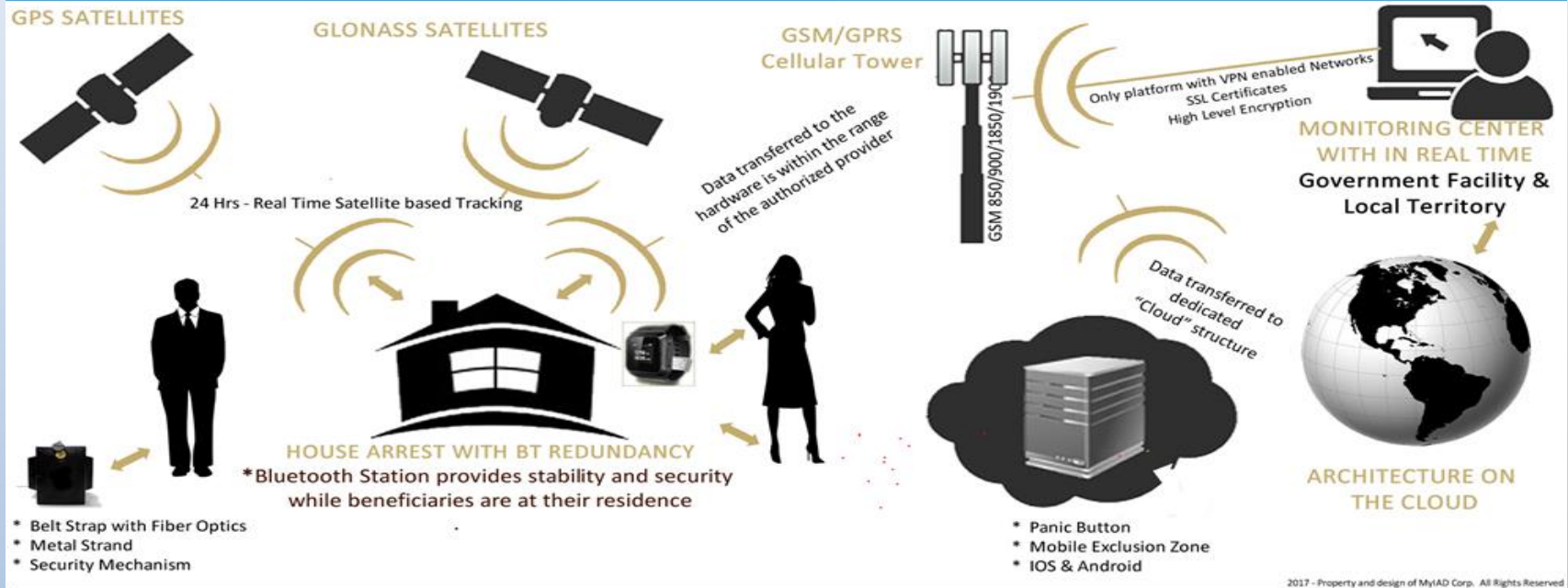
- Increase in the number of related patent publications

- Samsung has a major share with over 600 patents and is followed by other large corporations such as Intel, Nokia, Huawei, Ericsson, and ZTE.



# Examples of inventions that can be implemented in T&T

## Domestic Violence via Active GPS Monitoring



### PATENT INFORMATION

United States Patent : US 8,451,131 (B2)

Title: Offender presence warning system

Filing date: Jul 7, 2009

Inventors: Ohanes Der Ghazarian

# **Economic Rationale for an IP System**

- Provides motivation to innovators by granting them temporary monopoly rights (royalties).
- Disclosure of technical details would lead to wider diffusion of technology after the patent expiry.
- Leads to early disclosure of technical information that would facilitate further innovations.
- Contributes significantly to economic growth.

# Artificial Intelligence to the Rescue

- Artificial intelligence isn't the future; it's the now. Already more than half of *Fortune* 500 CEOs say their company is using these technologies to improve efficiency.

USED A.I. TO  
IMPROVE  
EFFICIENCY/  
REDUCE COST

60%



USED A.I. TO  
CREATE NEW  
PRODUCTS/  
SERVICES

22%



BEST REGION FOR  
INVESTMENT OPPORTUNITY  
IN THE NEXT TWO YEARS

U.S.



← 42%

BELIEVE THEIR COMPANY SHOULD  
ACTIVELY SEEK WAYS TO ADDRESS  
MAJOR SOCIAL PROBLEMS AS PART  
OF THEIR CORE BUSINESS STRATEGY.



SAY CAPITALISM IS NOT IN CRISIS BUT WOULD BENEFIT  
FROM SOME TWEAKING TO BETTER SERVE SOCIETY.

Adapted from, "The 2019 Fortune 500 CEO Survey Results Are In" available online at: <http://fortune.com/2019/05/16/fortune-500-2019-ceo-survey/>

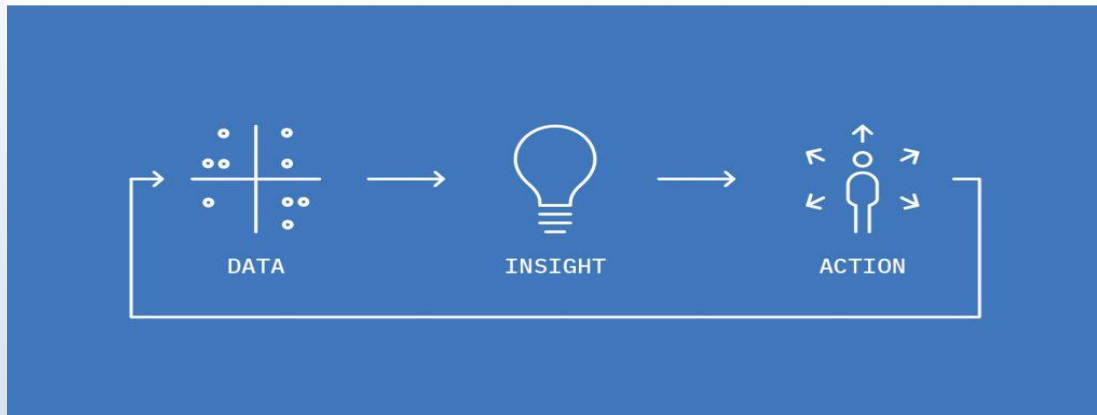


# Role of ICT Sector

ICT sector plays a critical role in diversification; its contribution to GDP has grown significantly since 2006: approximately 3.5% to the Trinidad and Tobago economy



(2019 Ed. Trinidad and Tobago Business Law Handbook, p.167)



# Is the classical IP system still relevant in the new data-driven economy?

“The transformative power of technology is a game-changer in almost all industry sectors”

<https://www.law.com/legaltechnews/2019/10/31/the-ip-industry-must-accelerate-digital-transformation/?sreturn=20200110123033>

**Is there any evidence that countries are starting to adapt their innovation policies to the digital economy?**

“...complex policy questions surrounding data in the digital economy.”

*Francis Gurry, WIPO Director General*





# GLOBAL INNOVATION INDEX 2019


Creating Healthy Lives—The Future of Medical Innovation

## TRINIDAD AND TOBAGO

Adapted from: “Global Innovation Index 2019,” available online at:

[https://www.wipo.int/edocs/pubdocs/en/wipo\\_pub\\_gii\\_2019.pdf](https://www.wipo.int/edocs/pubdocs/en/wipo_pub_gii_2019.pdf)

- Global Innovation Index rank as at 2019 : 91/129
- Global Innovation rank as at 2018: 96

 <b>KNOWLEDGE &amp; TECHNOLOGY OUTPUTS...14.9 103</b>				
<b>6.1</b>	<b>Knowledge creation.....</b>	<b>2.5</b>	<b>118</b>	◇
6.1.1	Patents by origin/bn PPP\$ GDP <sup>⊕</sup> .....	0.1	118	
6.1.2	PCT patents by origin/bn PPP\$ GDP.....	0.1	62	
6.1.3	Utility models by origin/bn PPP\$ GDP <sup>⊕</sup> .....	0.0	63	○ ◇
6.1.4	Scientific & technical articles/bn PPP\$ GDP.....	2.7	106	◇
6.1.5	Citable documents H-index.....	4.0	102	◇
<b>6.2</b>	<b>Knowledge impact.....</b>	<b>35.2</b>	<b>[71]</b>	
6.2.1	Growth rate of PPP\$ GDP/worker, %.....	-2.0	109	○ ◇
6.2.2	New businesses/th pop. 15-64.....	n/a	n/a	
6.2.3	Computer software spending, % GDP.....	n/a	n/a	
6.2.4	ISO 9001 quality certificates/bn PPP\$ GDP.....	2.5	81	◇
6.2.5	High- & medium-high-tech manufactures, %.....	n/a	n/a	
<b>6.3</b>	<b>Knowledge diffusion.....</b>	<b>6.9</b>	<b>124</b>	○ ◇
6.3.1	Intellectual property receipts, % total trade.....	0.0	84	
6.3.2	High-tech net exports, % total trade <sup>⊕</sup> .....	0.0	119	◇
6.3.3	ICT services exports, % total trade.....	0.1	121	◇
6.3.4	FDI net outflows, % GDP.....	0.4	70	

# INTERNET USAGE



942,713 internet users within a population of 1,364,973 in Trinidad and Tobago

**INTERNET USE**

In 2017, 61%, 30% and 9% of web traffic were derived from laptops, mobile phones and tablet devices respectively.

(<https://www.internetlivestats.com/internet-users/trinidad-and-tobago/>)

# MOBILE PHONE PENETRATION

140 mobile phone subscriptions per 100 people, Trinidad and Tobago has one of the highest penetrations of mobile phone coverage in the world (2018 World Bank)

<https://data.worldbank.org/indicator/IT.CEL.SETS.P2>

Demand for the development of apps which offer solutions:

Trini Cars for Sale, Birdie Pirdie, Trini Malls, Trini.com eMarket, Trini 2.0, Trini Shoppers, My Trini Lime





# APPRENEURSHIP

Mobile apps are a key creative sector which deserve strategic consideration:

Assess the impact of use of apps and trends surrounding same

(Candy Crush 3<sup>rd</sup> most played app game in US: Statista 2019)



# Korean Innovation Policy



Ministry of Science and ICT

Ranked No 1 on Bloomberg Innovation Index from 2016- 2019

Top policy priority of the Korean government is aimed at promoting innovation-led growth:

- (1) creating an innovation ecosystem;
- (2) providing support for basic research; and
- (3) securing its global competitiveness in frontier technology capabilities (data, networks and AI)

[Global Trade and Innovation Policy Alliance June 2019:](http://www2.itif.org/2019-national-innovation-policies.pdf)

<http://www2.itif.org/2019-national-innovation-policies.pdf>



Intellectual Property Office  
*Inspiring Innovation, Protecting Creations*

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