Cyber Security and Cybercrime Policies for African Diplomats

12 April 2018 , **AUC HQ**

(3) *Cyber security and Cybercrime landscape in Africa –*
(2) *Threats, challenges and*
(1) *Opportunities of development*

The AU Commission

The GREAT opportunity for Development:
THE DIGITAL REVOLUTION /
TRANSFORMATION

The AU Commission

The Digital Revolution-

- The digital revolution is shaping our lifestyle with more information, more connection speed.

- **Africa needs ICT to transform itself.**

- **With ICT Africa can catch up in the area of Governance (efficient Government), Health (e-Health), Education (e-Education), Agriculture and food security (e-Agriculture), Inter-Africa trade and Integration (e-Commerce, e-Identity) etc.**

- If we miss the turn of Digital revolution, we will end in 21st dominated

Introduction

- All the humans' social organizations, frameworks and policies were leading toward production of goods.
- Until now it has been always about **PHYSICAL and TANGIBLE GOODS!**
  - In a very firm based- centralized way
- The digital revolution has changed it all!!
- The formal frameworks used to design and structure firms/organizations, lead, govern, and value them are becoming obsolete.
- The driving force behind this accelerating change is:
  - a shift from **tangible** to **intangible**,
  - from **physical** to **digital**,
  - and from **firm-based** to **network-based** business models.

New business Model

- **Network-centric Organizations-** creating economic returns by capitalizing on network advantages, such as:
  - co-creation with their customers (**Facebook**);
  - digital platforms (**Amazon**);
  - shared assets (**Uber and Airbnb**);
  - big data insights (**Netflix and Google**).
- The future of the industry/Economy is based on **intangibles** and **networks.**

Network Firm vs Traditional Firm(1)

| Network Firm	Market Value	Traditional Firm	Market Value
UBER	$70 Billions No cars, more than a Million Drivers	HERTZ	$7 Billions a 350 Thousands cars
Airbnb	$24 Billions 1.5 Million Homes for rent- NONE OWNED	STARWOOD	$12 Billion 1,270+ Hotels
WeChat	$84 Billions, 650 Million users, 0 miles of infrastructure build/own	AT&T	$207 Billion Market Cap 122 Millions Phone subscribers 11 Millions of Network Fiber
Alibaba	$200 Billion market zero retail locations	Walmart	$190 Market cap 11,000 Retail Locations

THREATS
&
CHALLENGES

The AU Commission

DIGITAL" BUSINESS" :
NEW WAYS OF MAKING MONEY
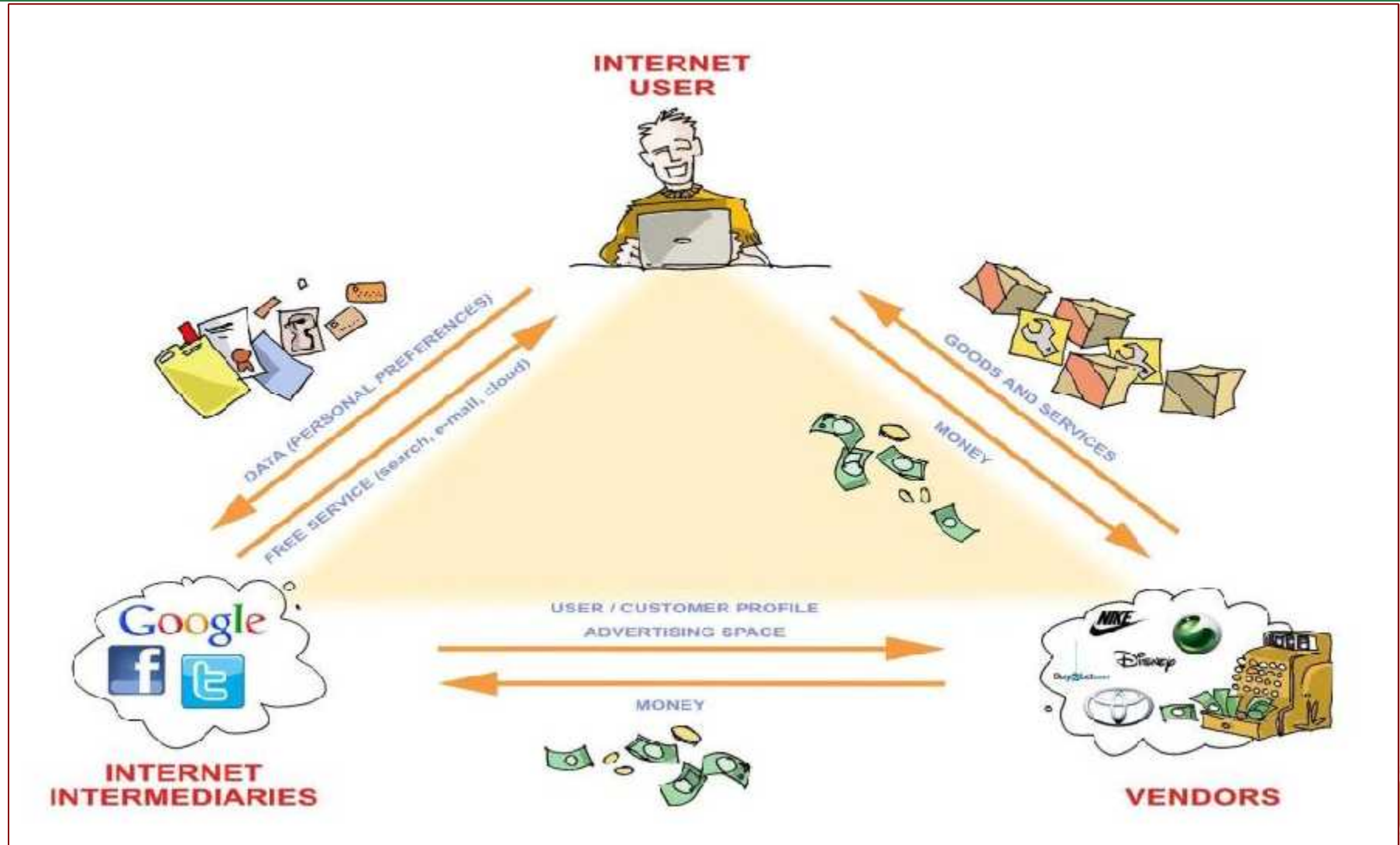
The connected world :
We enjoy the Service – Big data make business

- Every connection time will be used to intensify the collection of data:
  - Internet Browsing, phones, watches, cameras, sensors and all connected objects.
  - The world is now and tomorrow organized in a manner so everyone can produce data.
- This creates business for big data companies such as Facebook, Alibaba, google etc.…
- Companies are trading among them:
  - information about customer's behaviors,
  - GPS data (Geolocation),
  - their interrelation in Social Media etc…
- One company for example- ACXIOM- has detailed information on 700 Million citizens around the world

Our lives are in the computer:
NO IN THE CLOUD!!
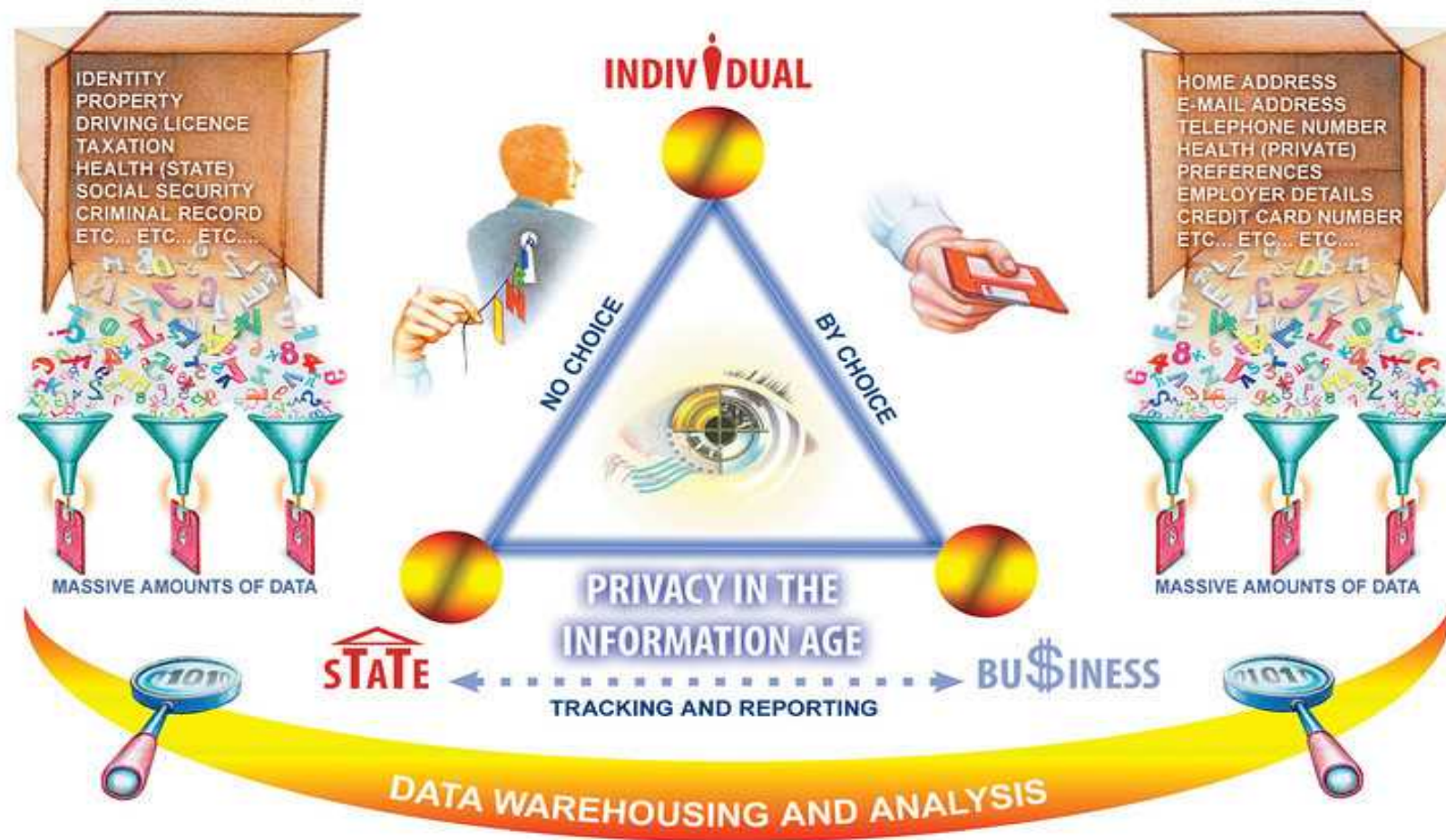
The BIG DATA

- Every second of our existence, we generate information about our health, our mental state, our projects, our actions.

  - **We issue data.**

- This production is now collected, processed and correlated by computers to storage capacity and huge calculation.

- The objective of big data is nothing but to rid the world of its unpredictability, to end the power of chance;

- So far the statistical and probabilistic reasoning on more or less large population samples left room for interpretation.

- With the revolution of big data, the random reasoning gradually disappears in favor of a manufactured digital truth from personal data, that 95% of the connected population, agrees to give up.

The evolution of the WEB

The Web "**control what people see, creates mechanisms that shape the way people interact. It was great, but spy, blocking sites, changing the content of users, directing you to the unwanted /wrong websites**

Confidence in Cyberspace

- If users begin to lose confidence in the safety and security of the Internet, they will retreat from cyberspace, trading "welfare in search of security".

- If entire nations, too, are pulling back, this will undermine the economic and human rights benefits we've seen from global connectivity.

The new Cyber arms Race

- In the future, wars will not just be fought by soldiers with guns or with planes that drop bombs.
- They will also be fought with the click of a mouse a half a world away that unleashes carefully weaponized computer programs that disrupt or destroy critical industries like utilities, transportation, communications, and energy.
- Such attacks could also disable military networks that control the movement of troops, the path of jet fighters, the command and control of warships.

The metaphor of the Cold WAR

- The USA is probably the number one cyber warfare force on the planet right now.
- In 2012 China was playing a defensive game.
- *Now China has strengthen its military arsenal with so-called "digitized" troops – armed with intense IT capabilities. The Cyber Army*
  - *Is Beijing preparing for a storm?*
- **The construction of a GREAT CHINESE DIGITAL WALL had an objective to create giants like Baidu, Alibaba et Tencent.**
- **The objective is met.**
- **The GAFA have almost no business in China .**
- Russia:
  - Internet governance and cybersecurity are linked- USA should not continue to control the Internet

Internet matters : Moving from technical area to Diplomacy arena

- The Internet has climbed up the ladder of political priorities
  - **Three** out of 15 pages of the *Deauville Declaration* dealt with the Internet.
- The G8 leaders agreed "on a number of key principles, including:
  - freedom, respect for privacy and intellectual property, multi-stakeholder governance, cyber-security and protection for crime."
- The Council of Europe, the OECD, the OSCE and NATO have started similar initiatives towards the elaboration and adoption of Internet principles.
- US President Barack Obama proposed 10 principles in his strategy paper in May 2011;
- EU Commissioner Nelly Kroes offers seven principles when she proposed an 'Internet Compact' end of July 2011.
- Brazil, India and South Africa - on behalf of the Group of 77 - proposed the 65th UN General Assembly in September 2010 to launch a "new intergovernmental Internet platform".
- AU? Africa?

The proxy: Jurisdiction Challenge
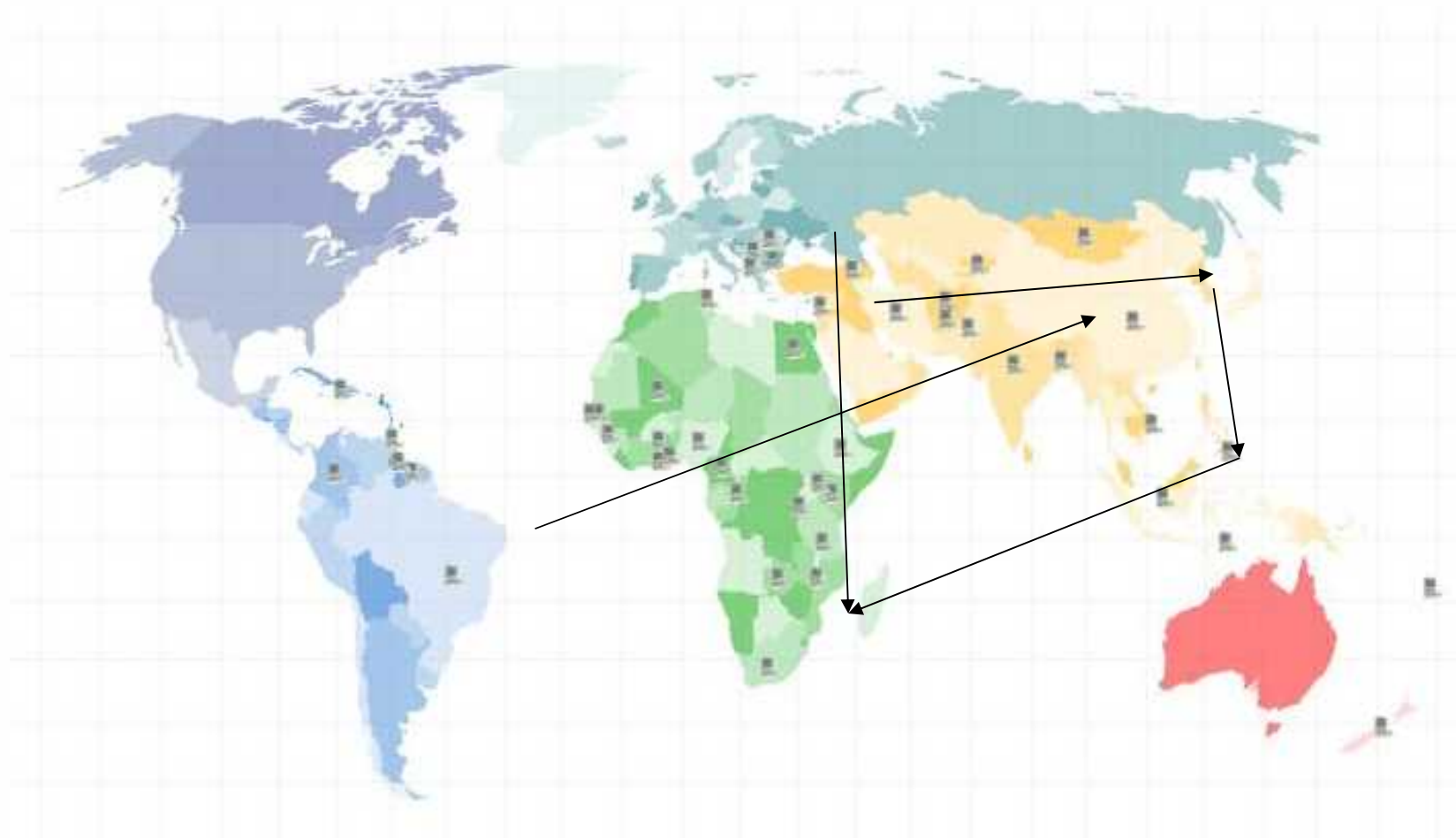
Limits of Sovereignty

Concept + layout: Jovan Kurbalija Drawing: Vladimir Veljasevic

Speed of Changes
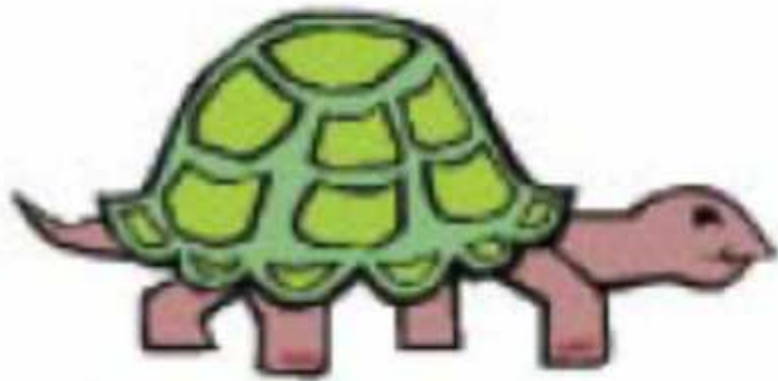
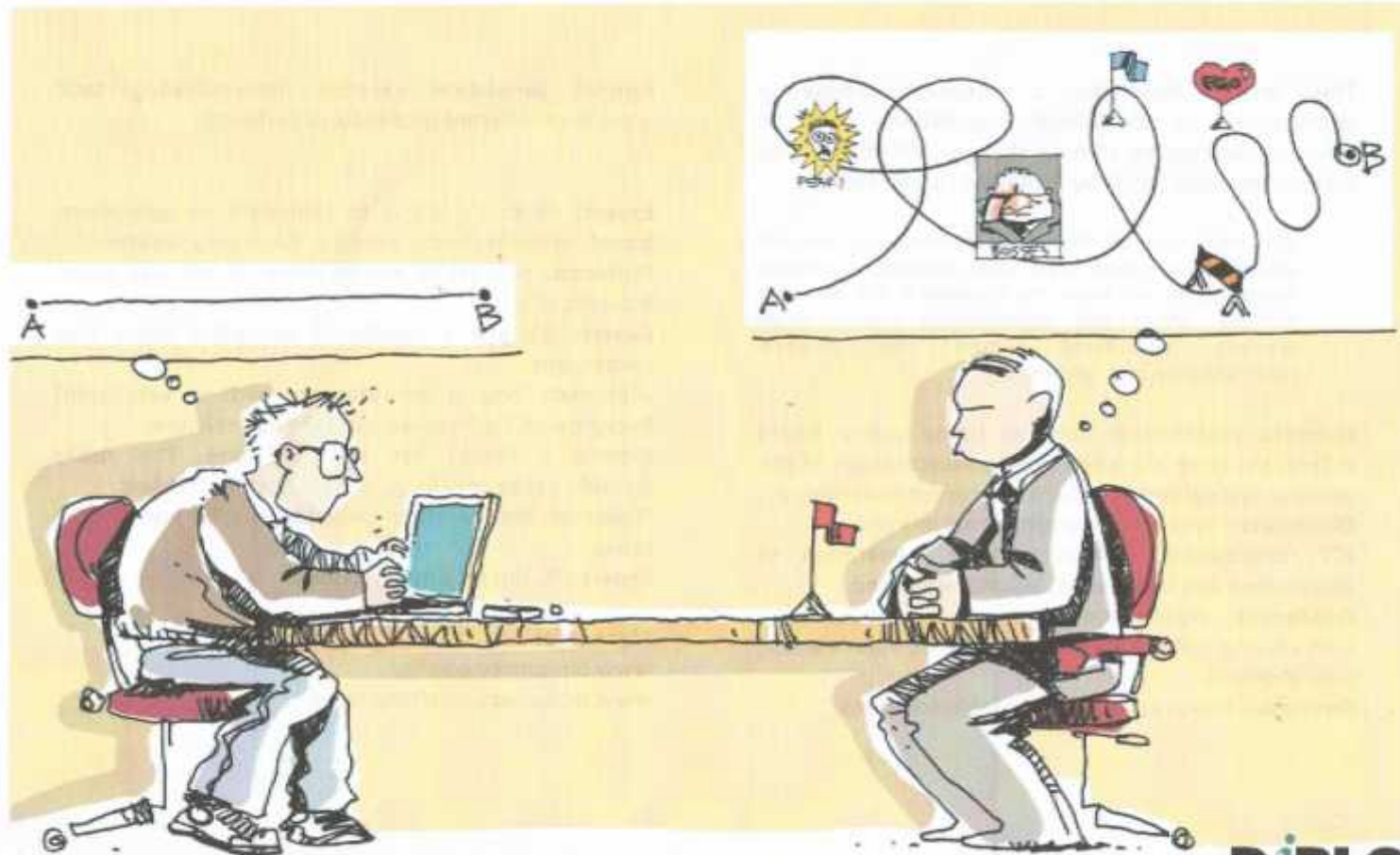Information Society Governance

The law always lags behind technology

Technical community vs. Government

Inter-professional communication: Technology and Diplomacy

Law enforcers vs. Techies

New TOPICS on Diplomatic Agenda

The AU Commission

Cybersecurity (NEW) areas

- **E-** (commerce)

- **Online** (human rights circles)

- **Digital** (previously with 'digital divide' – coming into fashion again via economy)

- **Virtual** (becoming virtual)

- **Net** (re-surfacing with NETmundial- IANA- Net Neutrality- WCIT)

International Instruments and initiatives

- **CoE**: Convention on Cybercrime (2001)
- **UN Group of Government Experts:** Report 'International norms pertaining to state use of ICT
- **OECD**: Guidelines on Information Security
- **G8**: Subgroup on High-Tech Crime
- **Commonwealth**: Cybersecurity Initiative (2011)
- Bilateral agreements
- **Business initiatives** (CISCO, Microsoft, Intel Embedded Security)
- **OSCE**: Confidence Building Measures re. ICT (2013)
- **NATO Cooperative Cyber Defence Centre of Excellence (CCDCOE)**: "Tallin Manual" (2013)

WHAT ARE WE DOING?

AU /C

1) Convention on Cybersecurity and personal data protection
2) IXP
3) African IGF
4) Declaration on IG
5) DNS/Dot Africa
6) Survey on the Status and Trends of Cybersecurity in Africa
7) Survey on the Policy priorities in Africa

BUT.....

27

Most of the time: _We do not understand_

Have limited presence in international negotiations

WTO
WIPO
IGF
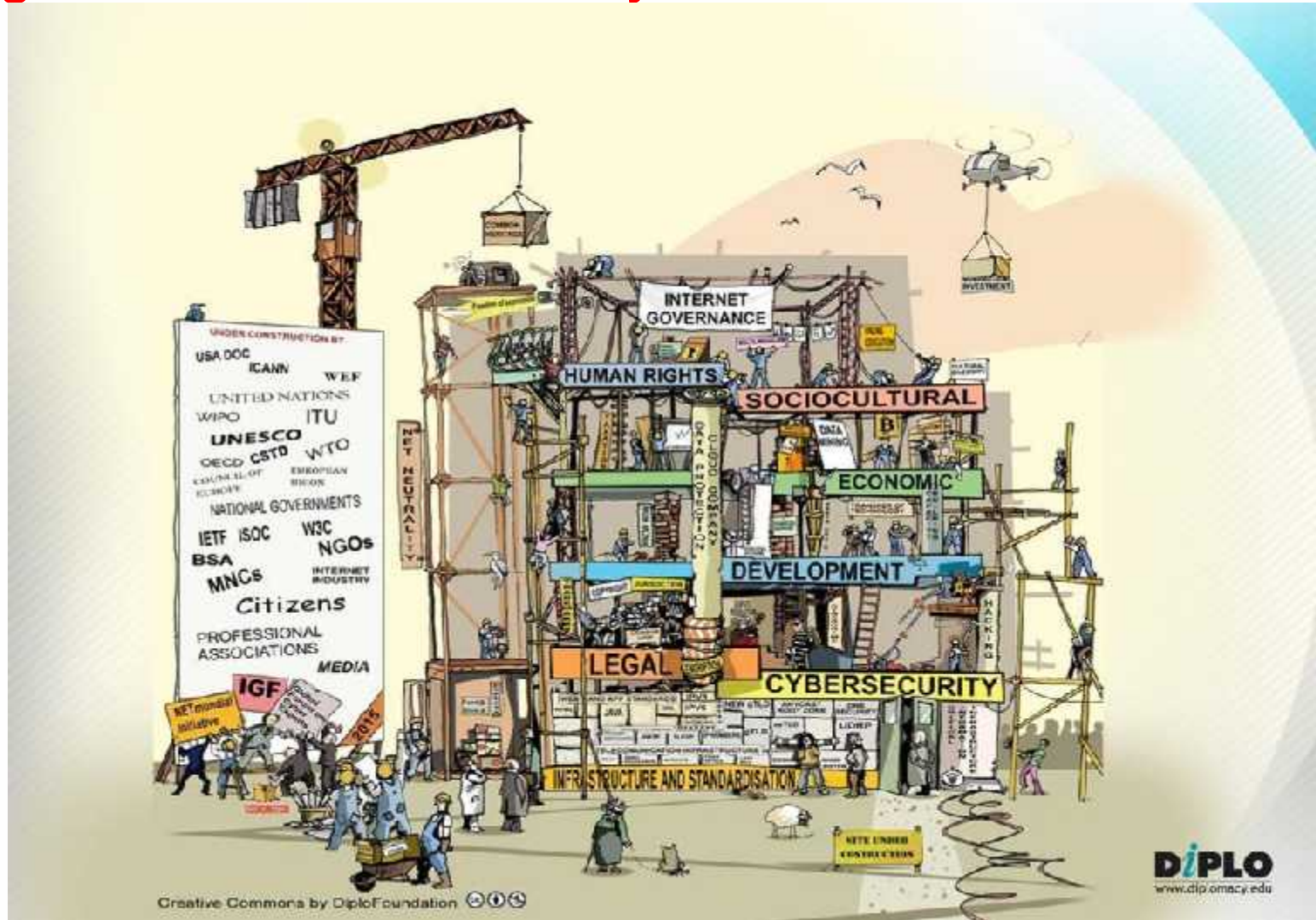UN-Task Force
ITU

WHAT SHOULD WE DO?

Start by….

- ## Acknowledge the opportunity offered by ICT
  - Not to miss the turn of the " digital economy"
  - Not miss the opportunity to transform ourselves and catch up with the rest of the world in the areas of Education, health, agriculture etc…
    - In the 17th -18th centuries our justification was the "colonization"- do we have one today
  - Avoid a new "DIGITAL COLONISATION OF THE CONTINENT"
    - Develop local content
  - Be an actor of the Digital Economy not only a consumer
    - Remember the current patterns of: Commodities / export, manufacturing/ Industrialization, localization /Export
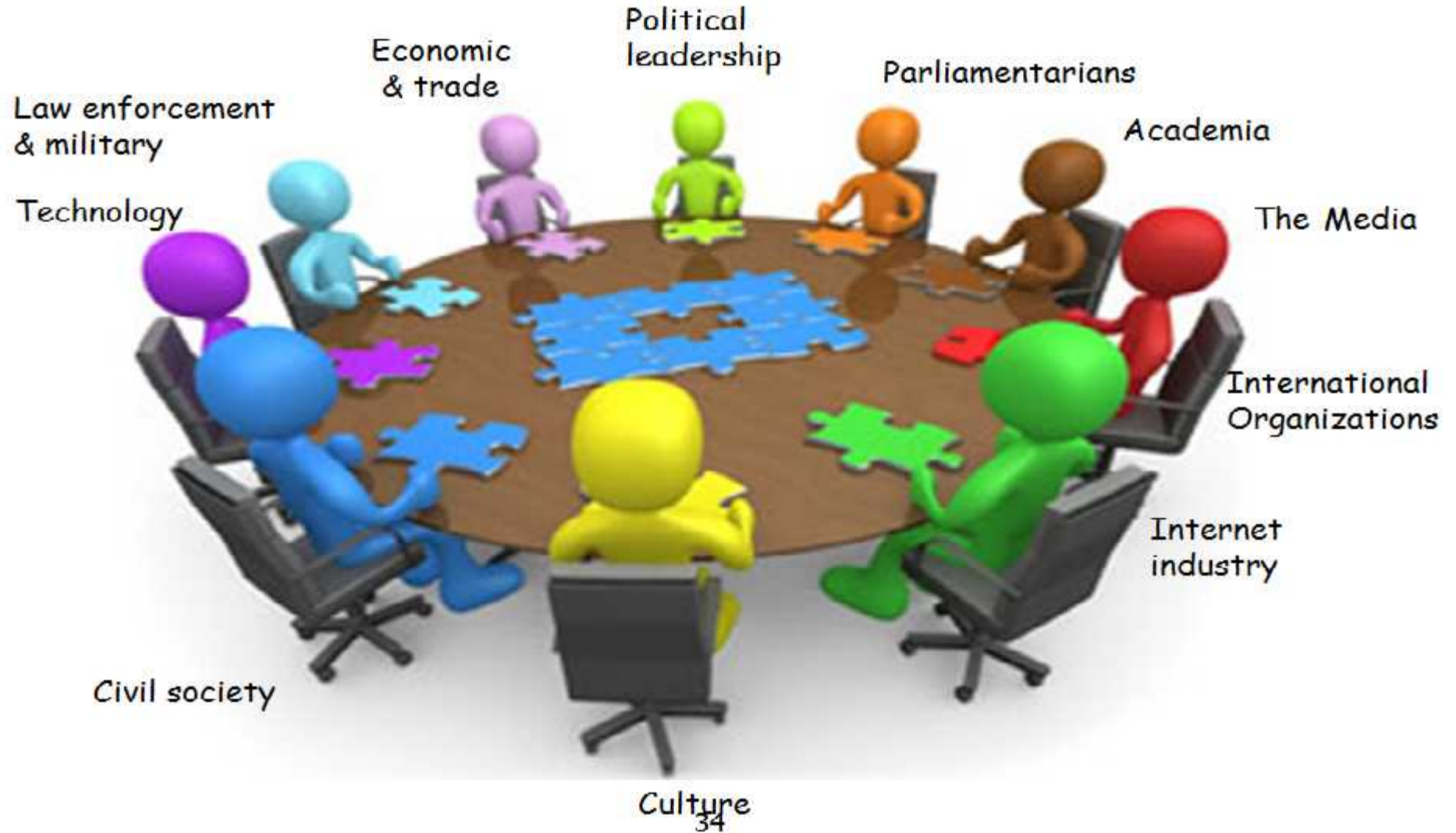
Understanding the Digital world

The Digital Governance is not any more an ICT matter ONLY-

Start solving Internet policy PUZZLE in AU at national and regional levels

Law enforcement & military

Technology

Economic & trade

Political leadership

Parliamentarians

Academia

The Media

International Organizations

Internet industry

Civil society

Culture

34

Involve all available talents and resources….

Ministry of Telecommunications

Universities

Regulatory Authorities

Service Providers

Media Stations

Ministry of Education

Software Developers

Civil Society

Content Developers

End Users

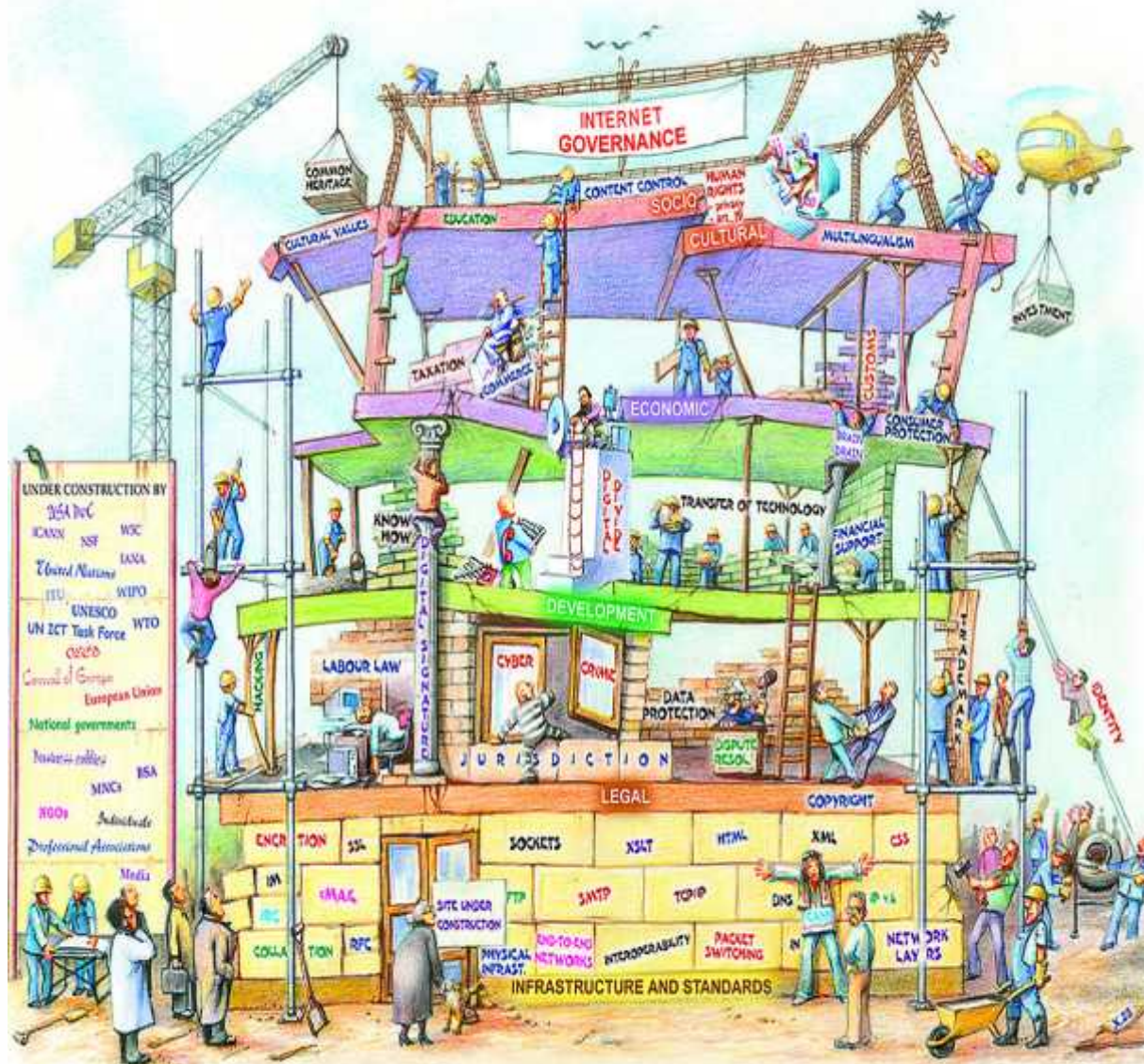Ministry of Culture

Judicial Authorities

Research Centers

Address 50 IG issues divided in 5 floors/fields:

Sociocultural

Economic

Development

Legal

Infrastructure & Standardization

What should we do internationally?

AFRICA'S VOICES

- AFRICA'S VOICES
  - ARE
  - ## WEAK
  - IN GLOBAL
- INTERNET GOVERNANCE

Increase our Presence Internationally

- Develop regional consultations and representation (AU)
- Engage engineers and non-state actors who have knowledge and skills
- Champion remote participation for our communities
- Prioritize our interests (access, network neutrality)

The AU Commission

Cyber security and Cybercrime landscape in Africa

Cyber Security Trends in Africa

Countries surveyed

- 32 of 55 Countries
- Geographically Diverse
- Economically Diverse

The AU Commission

Findings of the Survey (1)

- The process started in October 2015 where a link on the survey has been created on the AUC website and sent to all AU Member States through official channels and also through the technical community
- 32 countries have provided their response which represents 60 %

National Strategy on Cybersecurity	08
National CERT	13
Personal data protection laws	14
Cybercrime laws	11 And 12 partially
Awareness campaign , Education on Cybersecurity	13

Findings of the Survey (2)

CERT STATUS IN AFRICA

Operating

In the process

Not yet
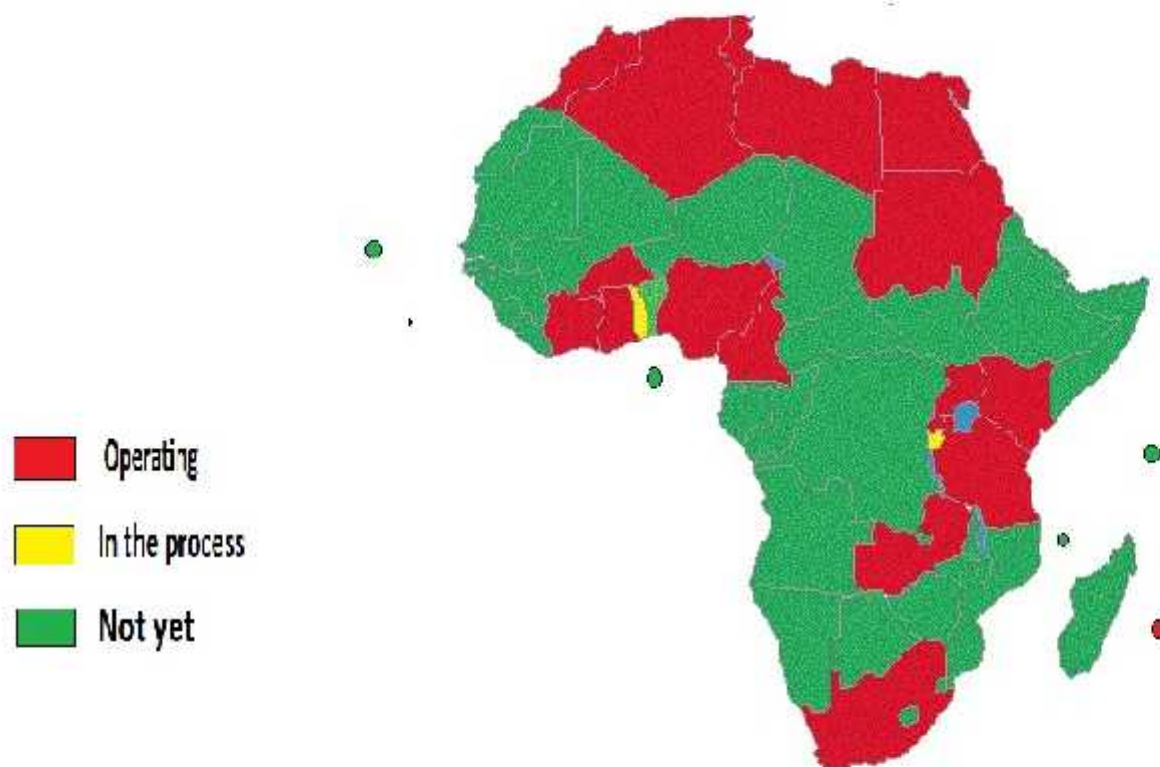
Symantec threat intelligence (1)

Symantec Telemetry: Malicious Cyber Activity in Africa

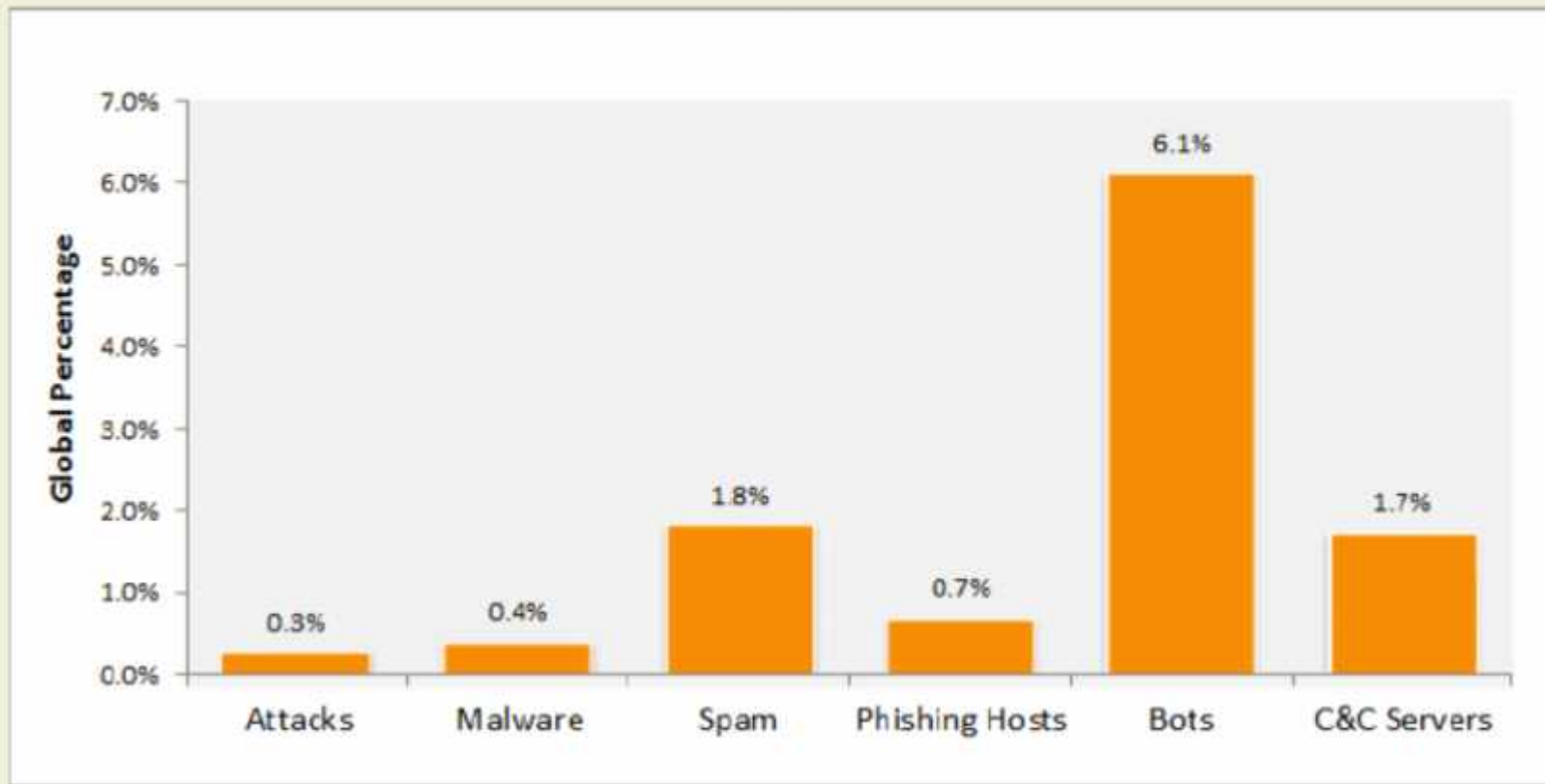Attacks · Spam · Phishing Hosts · Bots · Malware · Malicious Activities · C&C Servers

Cyber Security Trends in Africa

6

Symantec threat intelligence (2)

Malicious Activity Originating from Africa

Chart showing Global Percentage:
- Attacks: 0.3%
- Malware: 0.4%
- Spam: 1.8%
- Phishing Hosts: 0.7%
- Bots: 6.1%
- C&C Servers: 1.7%

Cyber Security Trends in Africa

7

Symantec threat intelligence (3)
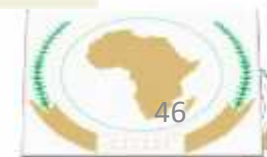
Malicious Activity Data Tables

Top 10 source African countries for attacks

Country	Africa Rank	Percentage	Incident Count
South Africa	1	31%	220,727
Morocco	2	16%	106,144
Uganda	3	10%	63,234
Egypt	4	9%	57,204
Mauritius	5	8%	52,974
Kenya	6	4%	27,172
Tunisia	7	4%	25,665
Nigeria	8	3%	20,158
Zimbabwe	9	3%	19,319
Algeria	10	2%	10,790

Cyber Security Trends in Africa
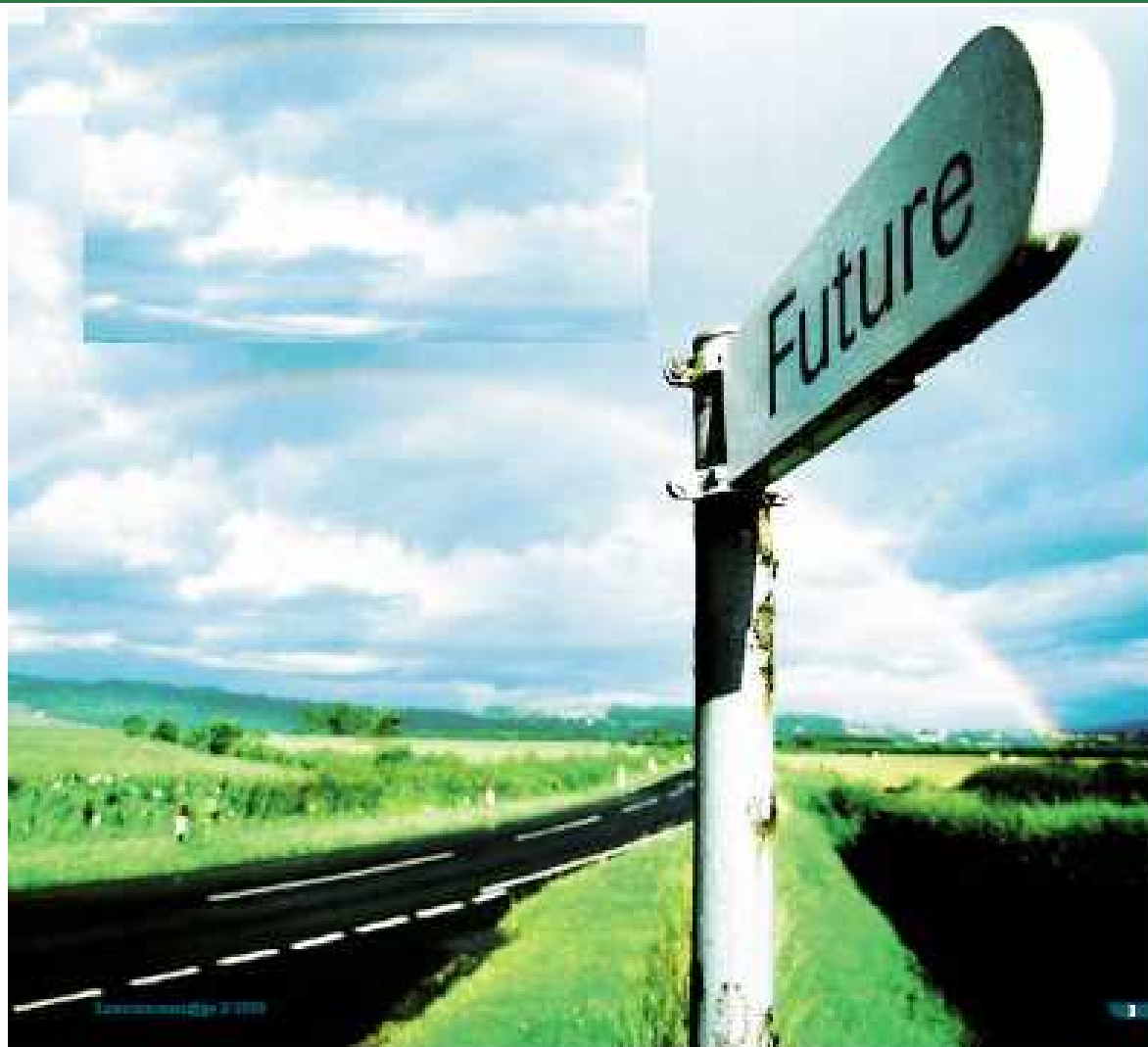
8

Peek into the
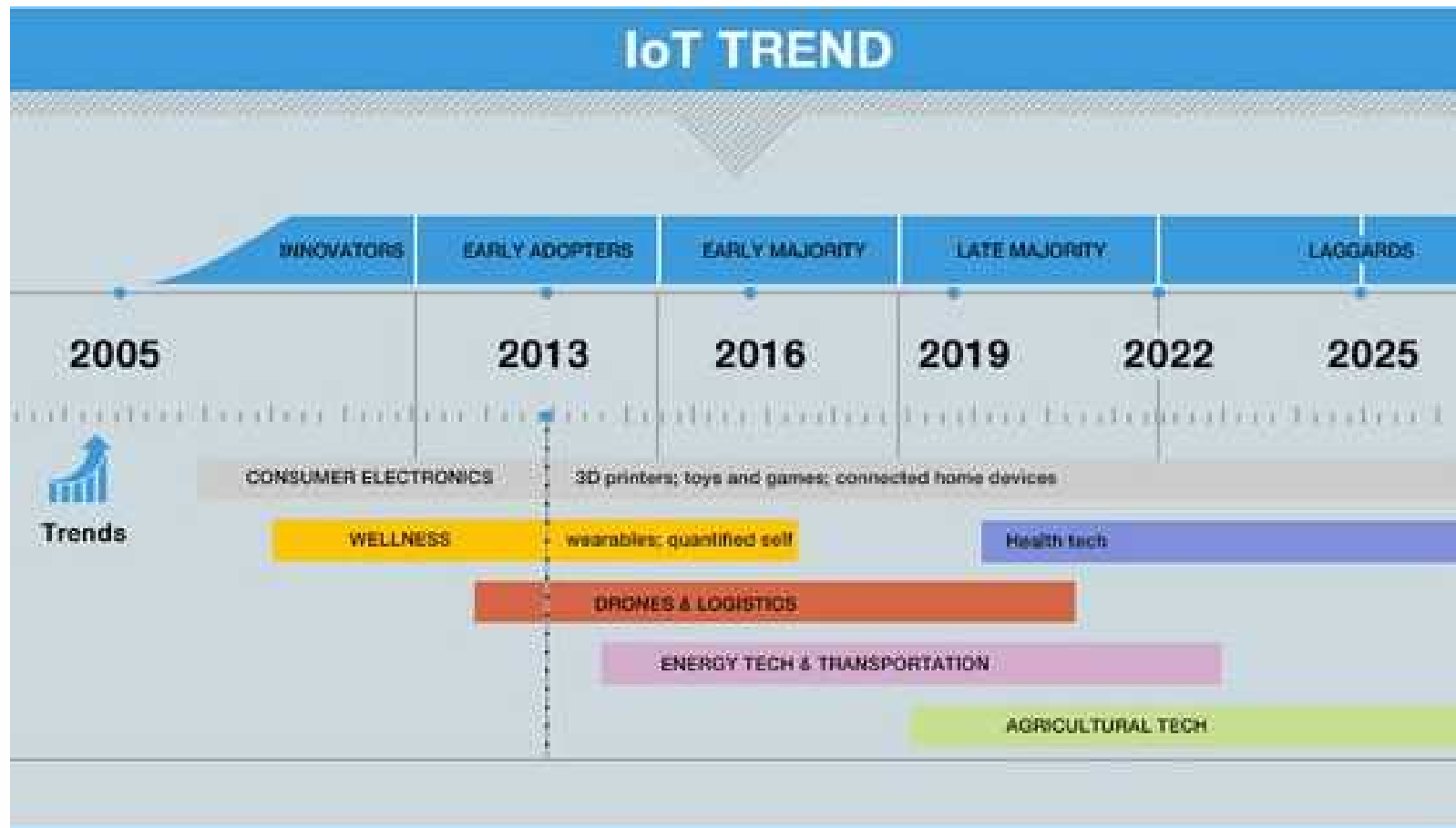
What will be the Internet in 100 years- SORRY in 20 years

- We can't predict the future with 100% accuracy, whether it is 10 year from now or 100 years from now, but we can look at where today's technology is headed for a glimpse of what the Internet may be like in the future. At the pace things are moving , its possible some of us may even be hete to see it turn into reality!!

- In 100 years….
  - It's highly likely something new and more involved will replace Internet
  - Everyone (and everything?) on the planet will be networked
  - Homes, car, business, even our bodies will instrumented and monitored
  - Augmented reality will become normal

- Some speculate that just in 20 years' (the new 100 years) time we will

IoT will change every thing

Thank You