The Creation of the Kenya Digital Economy
Quick Facts on ICT

ICT in Africa
3.5%
African mobile market contributes 3.5% towards the continent’s total GDP. Mobile payments are considered the greatest opportunity for market growth.

ICT in Kenya
64bn
Kenya’s Information Technology market is estimated to be worth Ksh. 64 billion, as at the end of 2013.

- $1.3mn
  Revenues generated from mobile phone industry

- $330mn
  Investments in the mobile phone industry

- $16.6mn
  Data/Internet revenue in Kenya

- $3.8mn
  Data/Internet investments in Kenya

ICT Spending per Vertical Sectors

- Investments and spend in the sector in the short term will be on hardware, software and services.
- However, longer-term growth is expected to mainly come from services.

Kenya Mobile Data Subscriptions
99%
38.9Mn
Internet/data subscriptions are through the mobile phone.

Kenya ICT Market Spend and Size

- $3.5bn
  Total spend in ICT
- $746mn
  Hardware, IT services, software
- $2.7bn
  Telecommunication services

Sources:
- Julius National ICT Survey, 2012
- CCK Quarterly Report Jul-Sep, 2013
GOVERNMENT SUPPORT IN KENYA’s DIGITAL TAKE OFF

The Kenyan government is among few others in the continent that have adopted a national vision on developing the ICT sector, playing a primary role in championing the gains derived from ICT.

Vision 2030
Kenya’s development blueprint:
• ICT as an enabler of economic growth
• Kenya as the top BPO in Africa
• Investment in the ICT sector in Kenya by end multinationals

Kenya’s priorities in ICT development
Infrastructural Development
Capacity Development
Promotion of ICT led industries
Innovation in Economic and Social Systems

Kenya’s ICT Development

The Kenya Communications Act unbundled Kenya Post and Telecommunication into five entities

National Telecom
Postal Corporation of Kenya
Public Service Commission
Communications Commission of Kenya (CCK) as the sector regulator;
Appeals Tribunal for arbitration

Current ICT Institutions
Ministry of ICT
Communications Authority of Kenya (CAK)
ICT Authority
Postal Corporation of Kenya

Access to Information Act (2016)

ICT bills currently tabled in parliament

Access to Information Act (2016)

Data Protection Bill, 2012

Capacity Development

16,000 Over 10,000ITES/BPO jobs were created

Subsidized bandwidth and successful software development for local BPO Operators

Software Development Certification for entry level developers in college

Centers of Excellence (COE) to train on IT enabled services

IBM Research Lab to drive innovation,
Promoting Science and Technology among the youth through KENET project

1,730 laptops to university students through the Wachanga Laptop Program

Jubilee government commitment to the ICT sectors

Infrastructural development

Digital registration
Support for ICT businesses

Building human capital in ICT

Digitizing govt

Pacha Centres have benefitted from the digital villages program

Huduma Centres: One-stop shop Centre for provision of e-government services.

Public Key Infrastructure Project: To enhance information security in government agencies.

Kenya Education Network (KENET): Promoting use of ICT in institutions of higher learning

Digital Villages: To increase rural access to information and facilitate job creation

Achievements of broadband connectivity of Government Institutions

Digitalization of court registries

National electronic payment system used by all banks

Kenya Institute of Education has a radio and TV education channel.

Transport Information Management System

Integrated Financial Management Information System

Kenya Revenue Authority adopted the Electronic Tax Register Machines

ITax, an online platform to efficiently file tax returns

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Kesho Trust- one of the leading ICT training institutions in Kenya

Innovation in economic and social systems

• Mobile money facilitating basic payments and a tool of financial inclusion for the unbanked economy

• Ushahidi interactive mapping: Now used in Africa, Asia, the Americas, Europe and the Middle East.

• Other social services through ICT include
  • Government shared services
  • E-learning
  • Online marketing businesses
  • Access to the internet for homes in Kenya
Education in ICT programs is designed to meet the demands of the students and may not meet the ICT labour requirements and market demands. Inherent in the ICT sector are various opportunities of training, skills transfer, higher employment and technology leadership.

### Education & Employment Overview

<table>
<thead>
<tr>
<th>Statistic</th>
<th>Description</th>
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<tbody>
<tr>
<td>200,000</td>
<td>Number young Kenyans that enroll for university each year</td>
</tr>
<tr>
<td>50,000</td>
<td>Number of graduates that join the labour market annually</td>
</tr>
<tr>
<td>9,600</td>
<td>Professionals added to the ICT market each year</td>
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<tr>
<td>27,000</td>
<td>Professionals employed in the ICT sector</td>
</tr>
<tr>
<td>7,000</td>
<td>Jobs created to-date in the BPO/ITES sector</td>
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Kenyan Universities are ranked top in East Africa in ICT with 6 out of the top 10 universities being Kenyan.

### ICT Education

- **3** Universities that offer ICT graduate programs at Masters Level.
- **2** Universities offer ICT graduate programs at doctoral level.

### Statistics on Employment in ICT Sector

- **6,671** Data/internet market
- **5,617** Mobile phone industry
- **91,750** Mobile money active agents

### Gaps in ICT Skills

ICT professions like Project Managers, Consultants, Application System Analysts and Software Developers.

### Initiatives in ICT Capacity Building

Hubs in building business capacity like iHub, mLab, Start-up Garage, Nailab, Pawa254, iLab Africa, The GrowthHub, FabLab, C4D Lab and JHUAT.

### Opportunities in ICT Skills Development

- Professional ICT training opportunities in private and public organizations
- Building capacity in learning institutions in network environment, ICT infrastructure and ICT training programs
- Adequate workforce to transform and innovate businesses using ICT

### Sources

- Researcher: Paukkala, The labour market and digital jobs in Africa: Kenya’s workforce potential in ICT service delivery, June 2013
- UNESCO,สถิติความเสี่ยงจากเครือข่าย 2014
- UNESCO, UNESCO Southern Africa Survey 2012
- The E-Readiness Survey of Kenya Universities, 2013
Cashless payment solutions provide for effective financial inclusion; Improvements in transparency, security, corruption; and provide potential for cost savings for both government and financial intermediaries. The government plans to go cashless by 1st July 2014 in its operations and also in public transportation. As part of Public Key Infrastructure ideals the government will also launch digital certificates for ease in e-commerce.

**UPTAKE OF E-COMMERCE**
Kenya leads the world in uptake of mobile banking with 80% of 31.3 million users subscribed.

**USE OF MOBILE FINANCIAL SERVICES**
Use of mobile phone financial services more than doubled.

**FACILITATION OF FINANCIAL TRANSACTIONS**
- Payment service providers & financial institutions eg banks, payment aggregators
- Mobile network operators and service integrators
- Payment instruments for online payments
- Infrastructure

**FINANCIAL DEVICES UPTAKE**
- POSs
  - 2010: 16,170
  - 2011: 19,900
  - 2012: 18,222
- ATMs
  - 2010: 2,041
  - 2011: 2,208
  - 2012: 2,290
- Cards
  - 2010: 7,772,685
  - 2011: 10,132,780
  - 2012: 10,861,837

**CURRENT END-USER REVENUE SOURCES**
- Mobile money: 53%
- Mobile social networks: 37%
- Mobile commerce: 30%
- Ring tones: 22%
- Music: 20%
- M-advertising: 16%
- Infotainment apps: 14%
- Games: 14%
- M-education: 11%
- M-health: 10%

**Greatest opportunities for mobile market growth**
- Mobile payments: 87%
- Mobile advertising: 64%
- Increased smartphone: 64%
- Enhanced services: 39%
- Connected devices: 39%
- Cross network common: 38%
- Apps eco-system: 32%
- Freemium: 32%
- Device & OS convergence: 26%
- Multiscreen: 11%

**FINANCIAL SERVICES ON THE INTERNET AND MOBILE PHONE**
- Top up airline - mobile money: 90%
- Payment of bills - mobile phone: 55%
- Buying of products - mobile phone: 30%
- Selling of products - mobile phone: 34%
- Payment of school fees - mobile phone: 23%
- Online banking: 7%
- Payment of bills - the Internet: 6%
- Buying of products - the Internet: 5%

**USE OF FINANCIAL SERVICES BY YEAR**

**ADOPTERS IN GOVERNMENT DIGITAL PAYMENTS**
- Integrated Financial Management Information Systems (IFMIS)
- Transport Integrated Management System
- Ksh. Chap Chap (Judiciary of Kenya), count fines via mobile money
- E-Construction Permits System (City Council of Nairobi)
- State Law Office in business registration
- Ministry of Lands, front office
- Utility bills payments to government organs including Kenya Power

**SOURCES**
- Communications Commission of Kenya
- Department of Information Technology
- Ministry of Devolution & Planning
- Ministry of Lands, Housing & Urban Development
- Ministry of Agriculture, Livestock & Cooperative Development
- Ministry of Environment & Natural Resources
- National Assembly, Kenya
- National Treasury, Kenya 
- National Water Service Board, Kenya
- National Water Authority, Kenya
- National Youth Service, Kenya
- National Youth Service, Kenya
- National Youth Service, Kenya
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E-citizen Portal Highlights

- **KES 12.45 Billion** collected to date
- **5.93 Million** unique applications processed
- Over **3.09 Million** unique registered individuals
- **207 payment** services are live
- **3 County Governments** – Mombasa, Nyeri, Kisumu
THE WAR ON CYBER CRIME FOR RESILIENT & EFFICIENT DELIVERY OF SERVICE TO CITIZENRY

ECONOMIC CRIMES

Increase in digitized payments leads to breaches in credit card information, electronic funds theft and also identity theft.

NATURE OF CYBER CRIMES

Cyber crime is one of the fastest growing categories of crime in the world. The motives are curiosity, financial gain and theft. Methods: hacks, introduction of malware, spyware. Cyber criminals include employees, spies and hackers.

THE BIG 5

54% of reported economic crimes are committed by middle management.

The predominant economic crimes are asset misappropriation, accounting fraud and corruption, procurement fraud and cybercrime. The impact of economic crimes in Kenya is less than $100,000 at organisational level.

EXTENT OF CYBER CRIMES

50% total fraud committed in connection with banking employees.

Kenya is losing Ksh. 1.4 billion annually to fraud. Employees with administrative rights are known to manipulate data and circumvent IT controls. Cyber attacks are more sophisticated, adaptable and relentless.

PROTECTION AGAINST CYBER-CRIME

Policy & Procedures
Diversity in Depth
Identity Management
Compliance
Governance
24/7 Monitoring
Security Awareness
Digital Forensics
Proper Configuration

Computer and Cybercrime Bill 2016

PROACTIVE APPROACH TO SECURITY

Detect
Prepare
Respond/contain

Cyber security strategy

INSTANCES OF CYBER CRIMES

37%

Instances of economic crime in Africa and the world

50%

IMPACT OF CYBER-CRIME

No or delayed service delivery
Reduction in brand’s equity
Reduced revenue/financial loss
Reputational damage

INTERVENTIONS OF CYBER SECURITY BY THE KENYAN GOVERNMENT

NATIONAL CYBER SECURITY STRATEGY
PUBLIC KEY INFRASTRUCTURE PROJECT
THE CYBER SECURITY BILL
DEVELOPMENT OF A CONSUMER PROTECTION ACT BY TREASURY

SOURCES

Bullen, E. Crime & Identity Theft: Economic crimes and their consequences, 2013
Kenya’s development blueprint views ICT as a key driver of socio economic development, with a view to facilitate provision of equitable and affordable quality information and communication services countrywide. The roadmap to achieve Kenya’s Vision 2030 is the National ICT Masterplan whose objectives include developing a robust ICT sector that will enhance economic growth through creation of businesses and employment.

Intention to increase the ICT contribution to the GDP from 2.2% in 2012 to 8% by 2018

COUNTY ICT PLANS
Aligning of the County ICT Plans in line with the National ICT Master Plan
ICT interventions at the county level to make service delivery to the citizenry more efficient

Konza Technopolis Development Authority’s (KOTDA)
Making Konza Techno City grow into a sustainable world-class technology hub and a major economic driver for the nation, with a vibrant mix of businesses, workers, residents, and urban amenities. The development of Konza city will further bolster Kenya’s economy.

- Approximately 200,000 jobs in Business Process Outsourcing
- Konza ICT Park jobs are expected to generate US$ 607 million annually
- Annual revenues of US$ 244 million through Konza ICT related activities
- IT Enabled Services and related sectors
- 349,000 jobs and 1 million indirect jobs by 2032
- Regional BCP model of technological innovation

SOURCES:
- CITC, 2013
- Ministry of Information, Communication and Technology: The National Broadband Strategy
- The ICT Authority: ICT Master Plan Taskforce Report
- The E-Readiness Survey of Kenyan Universities, 2013
- Smart City Project
QUESTIONS?