

10th BUSINESS OPPORTUNITIES FAIR 2019



ADB's Digital Technology for Development Unit

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**Sustainable Development and Climate
Change, ADB**
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Introduction



Thomas Abell

Asian Development Bank

Advisor, SDCC and Chief of Digital Technology for Development

Biography

Thomas Abell joined ADB in January 2019. Prior to ADB, Thomas worked for 14 years with Accenture where he supported developing country governments and international development organizations to bring technology driven innovation to the development sector. Thomas has degrees in engineering and business from the Massachusetts Institute of Technology.

Technology Industry Experience

- Accenture, Qualcomm, Hewlett Packard, Google, Microsoft, Samsung, Motorola, United Technologies, Sony, Lenovo

Asian Work Experience

- Philippines, Singapore, Malaysia, China, Indonesia, India, Sri Lanka, South Korea
-

Development Sector Experience

Financial Inclusion

1. World Bank/CGAP
2. World Bank/IFC
3. Mastercard
4. Financial Sector Deepening Africa
5. Central Bank of Tanzania
6. Gates Foundation
7. NetHope

Education

1. Stanford Graduate School of Education
2. Inter-American Development Bank
3. World Bank/CGAP
4. Ethiopia Ministry of Education
5. Haiti Ministry of Education
6. Tanzania Ministry of Education
7. Accenture Strategy College
8. University of California San Diego

Agriculture

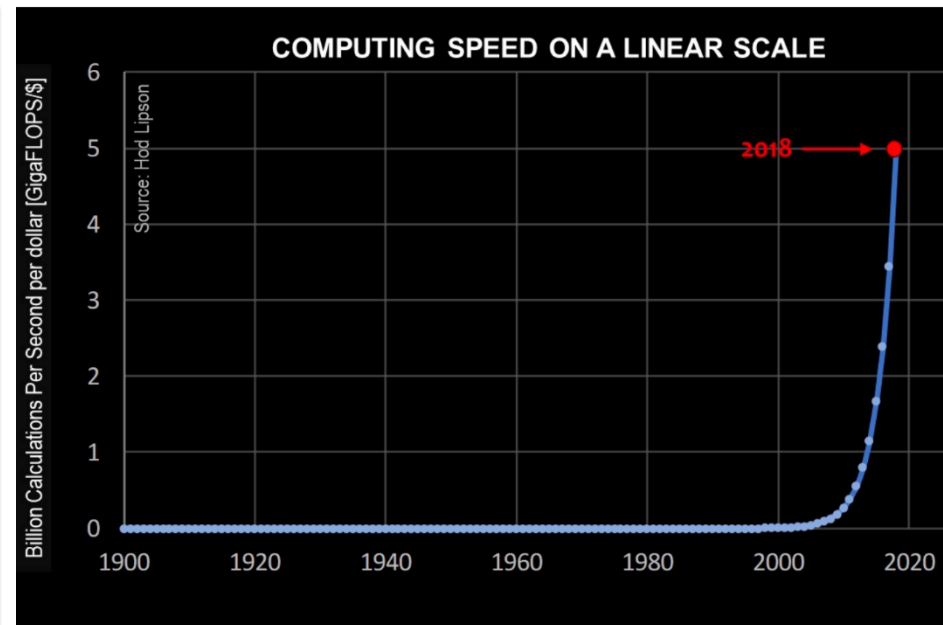
1. CGIAR
2. FSD Tanzania
3. International Livestock Research Institute (ILRI)
4. International Water Management Institute
5. Gatsby Foundation Tanzania

Exponential Growth and International Development

Per Capita GDP (UK 1270 to 2016)



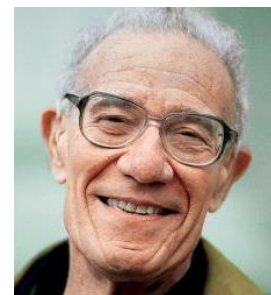
Computing Speed GFLOPS/\$ (1900-2018)



Background on Technology's Role in Development

Economic Foundations:

- Robert Solow: Nobel Prize 1987
Technology Drives of Economic Growth
 - Developed first endogenous models of economic growth
- Paul Romer: Nobel Prize 2019
Endogenous Technological Change
 - Increasing human capital and global integration increases growth
 - “Endogenous Technological Change” was published in 1990 and provided a model showing how technological change was driven by the allocation of resources to knowledge creation. It showed that over time, more and more of societies resources should be dedicated to knowledge creation.



Key Technologies Driving Growth/Opportunity

Technology	Explanation
Microprocessors	Moore's Law: doubling of transistor count every 18 months
Memory	Also based on Moore's Law
Wireless Comms	2G -> 3G -> 4G -> 5G
Cloud Computing	Amazon Web Services, Google Cloud, Microsoft Azure, plus Chinese
Social Networks	Facebook, Wechat, linkedIn, etc.
Fintech	Digital payments, P2P credit, API's, etc.
eCommerce	Transformation of consumer purchasing: Amazon, Alibaba, etc.
Solar Power	Price per watt had dropped from \$50+ to \$.50 in 20 years
Batteries	Price reductions rapidly pushing electric cars to overtake ICE
AI	Ability to process huge datasets
Blockchain	Decentralized, anonymous networks, payments, currency
Gene Editing	New techniques like CRISPR for genome editing

Activities: SDCC Digital Technology for Development

1

Using Country Focused Approach

- Support developing digital strategies for DMCs in line with the CPS exercises.
- Provide tailored supports the target DMCs

2

Promoting Innovative Technologies

- Promote innovations in operations through knowledge partnership and capacity building
- Support pilot projects in selective areas in collaboration with operations

3

Providing Integrated Solutions

- Deliver integrated solutions through cross-sector / thematic collaboration
- Focus on cross-cutting areas to promote digital technologies.

Activities: SDCC Digital Technology for Development

4

Knowledge

- Support various forms of knowledge sharing activities on DTs tapping external experts
- Actively participate in the key knowledge networks and discussions on DTs in the region

5

Finance

- Close collaboration with the existing Trust Funds for potential DT opportunities in sector/thematic areas
- Consider creation of dedicated funds on DT

6

Partnership

- Leverage partnerships with private sector for capacity building on DT
- Consider strategic partnerships on selective DT areas for bank-wide scaling up

Digital Infrastructure: Internet Connectivity

- Most developing countries are not ready to maximize the use of DTs.
- In Asia, 43.9 per **100** people are using the internet. Youth (age 15-24) is 72.3%
- Broadband Internet is not affordable in many DMCs
- Lack of quality digital services is a big challenge
- ICT markets are not equal. Market alone doesn't work in rural and remote areas

ADB support (Pacific)

Submarine Cables



- Cook Islands
- Palau
- Samoa
- Tonga

ICT Applications

- PNG Rural Primary Health
- Samoa School-Net
- Tonga m-Health

Digital Infrastructure: National ID

- Legal identity enables citizens to access to various social, financial, and government services.
- National ID is a foundational digital infrastructure for any e-services

ADB support

- ADB has been supporting the National Strategic Program of Identification (NSPI) in Cambodia since 2016
- PHI: TA on Inclusive Finance Development Program (2018)
- PNG: Pilot project on ID Box for Inclusive Finance (2018)



Digital Infrastructure: National GIS

- Geographic Information System (GIS) is a foundational information infrastructure for any infrastructure project
- Many countries are building or have a plan to develop their own National GIS (NGIS)

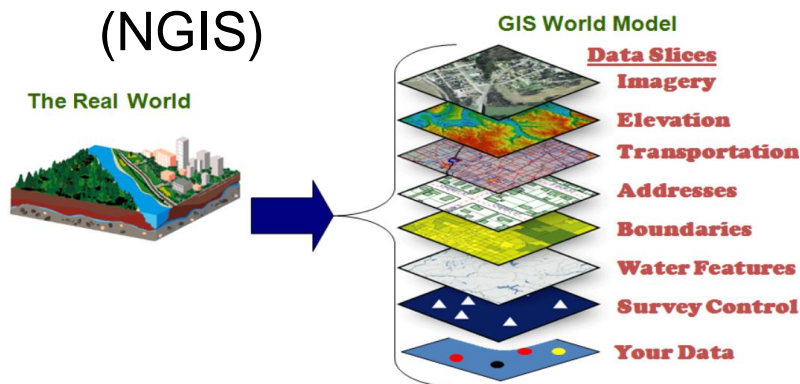


Image source : <https://henrico.us>

Existing ADB Initiatives

- **Spatial Data Analysis Explorer (SPADE):** Web-based spatial data exploration tool (GIS)
- GIS data for ADB projects: Incorporated GIS mapping into several ADB projects.

Potential Future ADB Support

- Support urban projects in leveraging SPADE
- Support urban projects linking to National GIS
- Support development of startups focused on Earth Observation and GIS technologies

Integrated Solution: Smart City

- Smart City is an urban development vision integrating multiple digital solutions for a quality of life
- Smart City as a subset of the ADB Operational Plan: “Making Cities More Livable”

ADB support

- Promoting Smart Systems in ADB's Future Cities Program (Suva, Fiji; Tbilisi, Georgia; Bandung, Indonesia)
- 100 Smart Cities in India: Kolkata Environmental Improvement Investment, Bangalore Cluster City Development Investment



E-Commerce/Cross-border e-Commerce

- e-Commerce grows with high rate in Asia and digital trade now is a global trend
- Developing countries should take advantage of cross-border e-Commerce especially for MSMEs
- Challenges: weak legal framework, poor ICT infrastructure, lack of logistic and payment infrastructure, cyber security, privacy..
- A comprehensive support on e-commerce is necessary

Operation Support

- ADB-ESCAP Joint Study on e-Commerce
- ADB-ESCAP Joint workshop on e-Commerce on 27-28 Sep 2018

Knowledge



- ADB-ESCAP Joint Study on e-Commerce
- ADB-ESCAP Joint workshop on e-Commerce on 27-28 Sep 2018