Digital Development in Myanmar

Mr. Myo Swe
Deputy Director General
Posts and Telecommunications Department
Ministry of Transport and Communications
The Republic of the Union of Myanmar
Contents

• Objectives
• Ministry of Transport and Communications
• Brief About Myanmar
• Digital Economy Development Committee (DEDC)
• E-Government Master Plan
• Universal Service Fund
• Conclusion
Objectives

• To be aware of existing implementation progress of Digital Society in Myanmar.
• To be aware of the improvement of the ICT infrastructure in Myanmar.
Ministry of Transport and Communications (MOTC)

- MOTC
  - Transport Sector
  - Communications Sector
    - Posts and Telecommunications Department
    - Information Technology and Cyber Security Department
    - Myanmar Posts & Telecommunications
    - Myanmar Posts
Posts and Telecommunications Department (PTD)

- Admin & Finance
- IR, Legal, Licensing & USO
- Resources & Radio Frequency Monitoring
  - Admin
  - Finance
  - IR
  - Legal
  - Licensing & Inspection
  - Universal Service Obligation
  - Resources
  - Radio Frequency Monitoring
Brief About Myanmar

The Republic of the Union of Myanmar, commonly shortened to Myanmar.

**Geography**
- Total land area of 676,577 square kilometer
- International borders of 5858 Kilometer with Bangladesh, India, China, Thailand and Laos
- Total coastal line length 2832 kilometer
- 2090 kilometer (north to south) and 925 kilometer (east to west)

**Topography**
- 50% of mountains and forests (northern and eastern)
Brief About Myanmar (Cont’d)

**Population**
- Over 51.49 million Population
- 135 ethnic groups
- Seven states and seven Regions
- 70% of the population lived in rural area and occupied in agriculture sector

**Natural Resources**
- Rice, minerals, teak, hardwood forest, onshore and offshore oil fields, and precious stones such as rubies, jade sapphires, and pearls with the highest quality
Telecom Policy and ICT Policy

Telecom Policy

Â To increase the deployment of national IT infrastructure
Â To provide a financially viable telecommunications sector conductive to sustainable investment in telecommunications infrastructure
Â To improve the efficiency and effectiveness of telecommunications service delivery to end users
Â To provide telecommunication services at the affordable price
Â To fulfill universal services obligation to the people of Myanmar

ICT Policy

Â To promote cooperation for ICT development
Â To enhance competitiveness of the ICT sectors
Â To promote cooperation to reduce digital divide
Â To promote cooperation between State and private sectors
Â To increase the availability of information technologies to all the citizens of our country
Telecommunications Sector Reform

Policy Reform
The Myanmar Telegraph Act 1885 ➔ Telecommunications Law 2013
The Myanmar Wireless Telegraph Act 1934

Telecommunication Service License
Chapter III of Telecommunication Law:
Any one who is willing to provide telecommunications facilities and/or telecommunication services shall apply for permission and license

Key Objectives of Licensing Regime
- Promote competition and liberalization of the telecom sector in Myanmar
- Ensure transparency in market entrance
- Establish technology-and-service neutral approach to licensing
- Ensure non-discriminatory treatment of similarly situated licensees
# Laws and Regulations

<table>
<thead>
<tr>
<th>Sr. No</th>
<th>Name</th>
<th>Issued Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Telecommunication Law</td>
<td>8-10-2013</td>
</tr>
<tr>
<td>2</td>
<td>Licensing Rules</td>
<td>14-10-2014</td>
</tr>
<tr>
<td>3</td>
<td>Interconnection Rules</td>
<td>6-1-2015</td>
</tr>
<tr>
<td>4</td>
<td>Competition Rules</td>
<td>9-6-2015</td>
</tr>
<tr>
<td>5</td>
<td>Numbering Rules</td>
<td>3-12-2015</td>
</tr>
<tr>
<td>6</td>
<td>Spectrum Rules</td>
<td>7-3-2015</td>
</tr>
</tbody>
</table>
Licensing Framework

A multi-service licensing framework

- to simplify licensing processes
- encourage entry and expansion of services, and
- increase End User access to Telecommunications Networks and Telecommunications Services.

A hierarchical basis

A maximum of two Telecommunications Service Licenses

NFS (I) + NS OR AS
# Licensing Category

<table>
<thead>
<tr>
<th>Category</th>
<th>Services</th>
</tr>
</thead>
</table>
| NFS license (not exhaustive) | - Terrestrial fixed line and radio transmission  
- Submarine cable facilities  
- Satellite earth station facilities  
- Mobile base station facilities and passive infrastructure to deploy networks |
| NS license (not exhaustive) | - Wire line connectivity services  
- Terrestrial wireless connectivity services  
- Satellite uplink/downlink connectivity services  
- International and domestic network transport and switching services  
- International gateway services |
| AS license (not exhaustive) | - Public payphone services  
- Public switched data services  
- Audio text hosting services provided on an opt-in basis  
- Directory services  
- Internet service provider services  
- Messaging services and Value-added services |
| NFS(C) (not exhaustive)  | - Towers, masts, ducts  
- Trenches and poles  
- Dark fiber |
# Type of License and Licensees

<table>
<thead>
<tr>
<th>Sr.</th>
<th>Type of License</th>
<th>Number of Licensees</th>
<th>Remark</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Local</td>
<td>Int’l</td>
</tr>
<tr>
<td>1.</td>
<td>Nationwide Telecommunications License</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>2.</td>
<td>Network Facilities Service (Individual) License (NFS-I)</td>
<td>35</td>
<td>11</td>
</tr>
<tr>
<td>3.</td>
<td>Network Facilities Service (Class) License (NFS-C)</td>
<td>25</td>
<td>16</td>
</tr>
<tr>
<td>4.</td>
<td>Application Service License (AS)</td>
<td>17</td>
<td>4</td>
</tr>
<tr>
<td>5.</td>
<td>Network Service License (NS)</td>
<td>9</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>88</td>
<td>39</td>
</tr>
</tbody>
</table>

Remark: Although the total number of licensees are **127**, some of the local and international companies applied two license per each. So, the total number of companies are **115**.
<table>
<thead>
<tr>
<th>Indicator</th>
<th>Statistic / Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Telecom Operator</td>
<td>4 (2 from domestic, 2 from International)</td>
</tr>
<tr>
<td>National Fiber Backbone</td>
<td>549,55.23 Kilometer</td>
</tr>
<tr>
<td>International Submarine Cable</td>
<td>SEA-ME-WE-3, SEA-ME-WE-5 AAE1 (Ongoing Project)</td>
</tr>
<tr>
<td>International Bandwidth</td>
<td>324.10 Gbps</td>
</tr>
<tr>
<td>International Gateway</td>
<td>5</td>
</tr>
<tr>
<td>Tower</td>
<td>Over 18,000 towers</td>
</tr>
<tr>
<td>Number of Telephone</td>
<td>Fixed Phone - 0.52 million</td>
</tr>
<tr>
<td></td>
<td>Mobile Phone - 55.61 million</td>
</tr>
<tr>
<td></td>
<td>Total - 56.13 million</td>
</tr>
<tr>
<td>Telephone density</td>
<td>108.56 %</td>
</tr>
<tr>
<td>Internet Users</td>
<td>46.39 Million</td>
</tr>
<tr>
<td>Internet Penetration</td>
<td>89.73%</td>
</tr>
</tbody>
</table>
## Telephone/Internet Density and Internet Subscriber

<table>
<thead>
<tr>
<th>Sr. No</th>
<th>Fiscal Year</th>
<th>Telephone Density (%)</th>
<th>Internet Density (%)</th>
<th>Internet Subscriber (in Million)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2015-2016</td>
<td>86.20</td>
<td>70.60</td>
<td>36.50</td>
</tr>
<tr>
<td>2</td>
<td>2016-2017</td>
<td>108.92</td>
<td>92.20</td>
<td>47.67</td>
</tr>
<tr>
<td>3</td>
<td>2017-2018 (up to 2017 Aug)</td>
<td>108.56</td>
<td>89.73</td>
<td>46.39</td>
</tr>
</tbody>
</table>
Radio Frequency Spectrum Allocations
# Mobile Spectrum Landscape in Myanmar

<table>
<thead>
<tr>
<th>MHz</th>
<th>MPT</th>
<th>Telenor</th>
<th>Ooredoo</th>
<th>Mytel</th>
</tr>
</thead>
<tbody>
<tr>
<td>2100</td>
<td>15+15 MHz (FDD) 3G/4G</td>
<td>15+15 MHz (FDD) 3G/4G</td>
<td>15+15 MHz (FDD) 3G/4G</td>
<td>10+10MHz (FDD) 5+5MHz (option)</td>
</tr>
<tr>
<td>1800</td>
<td>10+10 MHz (FDD) 4G</td>
<td>10+10 MHz (FDD) 4G</td>
<td>10+10 MHz (FDD) 4G</td>
<td>10 + 10 MHz (FDD)</td>
</tr>
<tr>
<td>900</td>
<td>10+10 MHz (FDD) 2G/3G</td>
<td>7.5+7.5 MHz (FDD) 2G/3G</td>
<td>5+5 MHz (FDD) 3G</td>
<td>5+5 MHz (FDD)</td>
</tr>
<tr>
<td>800</td>
<td>6.25 +6.25 MHz (FDD) 2G/3G</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>450</td>
<td>3.75 + 3.75 MHz (FDD) 2G</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>90 MHz</td>
<td>65 MHz*</td>
<td>60 MHz</td>
<td>50 MHz+10 MHz</td>
</tr>
</tbody>
</table>

* Telenor: Including 5 MHz of temporary spectrum in 900 MHz Band
* All Operator can apply more spectrum 2x5 MHz or 2x10 MHz in 1800MHz Band after affective date of 10 MHz allocation.
## Commercial Spectrum

<table>
<thead>
<tr>
<th>Sr.</th>
<th>Frequency Band</th>
<th>Frequency MHz</th>
<th>Assignable BW (MHz)</th>
<th>Assign (MHz)</th>
<th>Unassigned (MHz)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>450MHz</td>
<td>452-470</td>
<td>18</td>
<td>7.5</td>
<td>11.5</td>
</tr>
<tr>
<td>2.</td>
<td>700 MHz</td>
<td>703-748/ 758-803</td>
<td>90</td>
<td>0</td>
<td>90</td>
</tr>
<tr>
<td>3.</td>
<td>800MHz</td>
<td>806-880</td>
<td>64</td>
<td>20</td>
<td>44</td>
</tr>
<tr>
<td>4.</td>
<td>900MHz</td>
<td>880-915/ 925-960</td>
<td>70</td>
<td>50</td>
<td>20</td>
</tr>
<tr>
<td>5.</td>
<td>1800MHz</td>
<td>1710 – 1785/ 1805 -1880</td>
<td>150</td>
<td>150</td>
<td>0</td>
</tr>
<tr>
<td>6.</td>
<td>2100MHz</td>
<td>1920 – 1980/ 2110 -2170</td>
<td>120</td>
<td>120</td>
<td>0</td>
</tr>
<tr>
<td>7.</td>
<td>2300MHz</td>
<td>2300-2399</td>
<td>99</td>
<td>-</td>
<td>99</td>
</tr>
<tr>
<td>8.</td>
<td>2600MHz</td>
<td>2500-2690</td>
<td>190</td>
<td>40</td>
<td>150</td>
</tr>
</tbody>
</table>
Digital Economy Development Committee (DEDC)
Economic Policy for ICT

One of the National Objectives in August, 2016

To establish

- Data ID Card System,
- Digital Government Strategy and
- e-Government system
Global Economic Revolution

- Digital Economy
- Knowledge Economy
- Service Economy
- Industrial Economy
- Agricultural Economy
## DEDC Committee Member

<table>
<thead>
<tr>
<th>Sr. No</th>
<th>Description</th>
<th>Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Vice President (2)</td>
<td>Patron</td>
</tr>
<tr>
<td>2</td>
<td>Minister (MOPF)</td>
<td>Chairman</td>
</tr>
<tr>
<td>3</td>
<td>Deputy Minister (MOTC)</td>
<td>Member</td>
</tr>
<tr>
<td>4</td>
<td>DG (PTD)</td>
<td>Member</td>
</tr>
<tr>
<td>5</td>
<td>DG (ITCS)</td>
<td>Member</td>
</tr>
<tr>
<td>6</td>
<td>DG (Immigration)</td>
<td>Member</td>
</tr>
<tr>
<td>7</td>
<td>DG (Trade)</td>
<td>Member</td>
</tr>
</tbody>
</table>
## DEDC Committee Member (Cont’d)

<table>
<thead>
<tr>
<th>Sr. No</th>
<th>Description</th>
<th>Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>8</td>
<td>DG (DICA)</td>
<td>Member</td>
</tr>
<tr>
<td>9</td>
<td>DG (CSO)</td>
<td>Member</td>
</tr>
<tr>
<td>10</td>
<td>DG (Central Bank)</td>
<td>Member</td>
</tr>
<tr>
<td>11</td>
<td>Myanmar Computer Federation</td>
<td>Member</td>
</tr>
<tr>
<td>12</td>
<td>MD (Kinetic Myanmar Technology Co., Ltd)</td>
<td>Member</td>
</tr>
<tr>
<td>13</td>
<td>Permanent Secretary (MOPF)</td>
<td>Secretary(1)</td>
</tr>
<tr>
<td>14</td>
<td>Permanent Secretary (MOTC)</td>
<td>Secretary(2)</td>
</tr>
</tbody>
</table>
## DEDC Work Plan

<table>
<thead>
<tr>
<th>Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Digital Economy Master Plan</td>
</tr>
<tr>
<td>Advisory Board</td>
</tr>
<tr>
<td>Fiscal and Monetary Policy</td>
</tr>
<tr>
<td>Digital Taxation</td>
</tr>
<tr>
<td>Digital Transformation</td>
</tr>
<tr>
<td>Digital Government</td>
</tr>
<tr>
<td>Internationalization</td>
</tr>
<tr>
<td>Ecosystem and Promotion</td>
</tr>
<tr>
<td>Capacity Development</td>
</tr>
<tr>
<td>Infrastructure</td>
</tr>
<tr>
<td>Legal Framework</td>
</tr>
</tbody>
</table>
Vision and Master Planning

**Vision**

- Myanmar as a Knowledge Hub, Digital Hub and Innovation Hub

**Mission**

- Enabling Digital Economy and Multi-Sectorial Digital Transformation

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**Digital Transformation**

- 12. Multi-Sectorial Digital Transformation
- 11. Digital Community and Society
- 10. Education and Learning
- 9. Healthcare and Welfare

**Enablement**

- 8. Digital Government
- 7. Internationalization
- 6. Standardization
- 5. Investment and Promotion

**Foundation**

- 4. Financial and Payment Platform
- 3. Infrastructure and Security
- 2. Legal and Policy Framework
- 1. Capacity Development
Strategy Framework

Inclusive and Sustainable Socio-economic Development

Digital Transformation

Healthcare | Education | Community | Agriculture | Manufacturing | Trade | Hospitality | etc.

ICT Industry

GDP, Export, Employments

Foundation

1. Capacity Development
2. Legal and Policy Framework
3. Infrastructure and Security
4. Digital Government

Enablement

5. Financing and Payment
6. Investment and Promotion
7. Standardization
8. Internationalization
## Working Committee

<table>
<thead>
<tr>
<th>Sr. No</th>
<th>Working Committee Name</th>
<th>Focal Government</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Legal and Policy Framework Development</td>
<td>MOPF</td>
</tr>
<tr>
<td>2</td>
<td>Digital Capacity Development</td>
<td>MOE</td>
</tr>
<tr>
<td>3</td>
<td>Digital Connectivity and Cyber Security Development</td>
<td>MOTC</td>
</tr>
<tr>
<td>4</td>
<td>Digital Government and Strategy Development</td>
<td>MOTC</td>
</tr>
<tr>
<td>5</td>
<td>Digital Economy Investment and Industry Promotion</td>
<td>MOPF</td>
</tr>
<tr>
<td>6</td>
<td>Digital Transformation and Service Infrastructure Development</td>
<td>MOTC</td>
</tr>
</tbody>
</table>
DEDCC Master Plan – 7 Key Sectors

1. Education and Learning
2. Healthcare and Welfare sector
3. Financial Services sector
4. Agriculture sector
5. Manufacturing sector
6. Tourism, Hospitality and Retail sector
7. Government services
E-Government Master Plan
E-Government Master Plan (2016-2020)

- MCIT has started the preparation of Myanmar e-Governance Master Plan with the support of ADB and Infosys Ltd in 2014.
- Revised in 2016.
- Implement by MOTC with the cooperation of the international Consultants from IDA and KPMG in 2016.
Guidelines for the implementation of e-Government

intended to extend utility based on existing resources. (e.g., e-Government network will be built on existing fiber network along the railway and road).

to ensure that G2G, G2B and G2C services should meet the utility needs of citizens and businesses.
Assessment of ICT and e-Government Policies

- Computer Science Development law (1996)
- Electronic Transaction Law (2004), Amended (2014);
- The Telecommunications law (2013)
Recommended Implementation Roadmap

**Infrastructure/HRD Initiative**
0-15 Months

**Policy, Standards Initiative & Organizational Changes**
0-20 Months

**Short Term (Initiative)**
12 Months

- Expand, sustain maturity of e-services across Nation-Wide
- Focus on information, engagement, e-transactions & online authentication across Multi channel

**Mid Term (Expand)**
24 Months

- Expand e-Services for all government agencies, business, citizens across all City Areas
- Focus on information and engagement with business and citizens across one or more channel

**Long Term (Sustain)**
> 36 Months

- Government's priority
- Shared infrastructure
- Common Application and Share Data Services for all government agencies and Major City Area
- Focus on information sharing with business and citizens across one or more channel
Recommended centralized shared applications

- National Government Portal
- Citizen ID Management System
- Document Management System
- Civil Service Identity Management System
- E-Government Call Centre
- Human Resource Management System (HRMS)
Recommended common data services

• National Data Base / National Data Hub
• National Map/GIS
• Citizen ID information
• Company Registration information
• Centralized Human Resource
Universal Service Fund
What is a Universal Service?

Å a policy goal to ensure that all people in a country have access and are able to use telecommunications services.

Å in particular for people living in rural and remote parts of the country and poorer households.
Specific objectives of USF

- Collect funds
- Design programs & projects
- Finance those projects / disburse
- Monitor implementation
- Evaluate impact
- Consult stakeholders throughout
- Publish results
- Publish results
# Scope of Universal Service

<table>
<thead>
<tr>
<th>Issue</th>
<th>Basic meaning</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Availability</strong></td>
<td>All inhabitants have service available</td>
<td>Coverage of inhabited geographic territory</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Region /area</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Locality size (e.g., towns, villages, settlements with varying number of inhabitants)</td>
</tr>
<tr>
<td><strong>Accessibility</strong></td>
<td>All inhabitants can access the service</td>
<td>• Gender</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Race, tribe, religion</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Ability /disability</td>
</tr>
<tr>
<td><strong>Affordability</strong></td>
<td>All inhabitants can afford to pay</td>
<td>• Access device (e.g., mobile phone)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Cost of calls &amp; services</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Minimum “basket” below a certain national limit (e.g., 3% of family income)</td>
</tr>
<tr>
<td><strong>Ability</strong></td>
<td>All inhabitants have the basic ability to use telecom services</td>
<td>With increasing focus on the broadband Internet, user capabilities become important</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Awareness of services and their benefits</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Ability to use computers &amp; devices</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Ability to navigate the Internet &amp; use ICT services</td>
</tr>
</tbody>
</table>
Universal Service Strategy Outcomes

- Increasing & accelerating Voice and Internet broadband provision.
- More people have access to services & applications, as well as the capacity to use them.
- Creating opportunities for both economic & social growth.
Voice

- Operators will reach at least 94% by Q1, 2019
- Target: within 5 years 99% of the population to be covered by mobile signal
- Service for an additional 3.2 million people

Broadband Internet

- Target: 95% of the population will have broadband Internet within 5 years
- Total estimated subsidy cost USD 25.4 million
ICT Capacity Building: Enabling the Digital Future

Target

• Increase capacity of population to use the Internet for their socio-economic benefit and Myanmar development

• Many links between increased ICT capacity and economic growth and social development

Two Sub-Programs

• Broadband Internet connectivity for various learning & other institutions

• Digital literacy project with eligible local organizations
Opportunity to Unlock Potential

Limited digital skills today (% respondents)
2016 Lirne Asia ICT survey in Myanmar

- Search for information online: 23%
- Install an application: 22%
- Create log-in details & password: 19%
- Locate & adjust settings on application: 18%
- Post information online: 21%
Program 3

Special Programs

Purpose

- Integrate other aspects of universal service which won’t fit in Program 1&2
- Explore new approaches to be used later in main stream program

Types of Special Projects

- ICT content, service or application for development for rural users/ lower income groups
- Improved access/ usability for persons with disabilities
- Small pilot for broadband connectivity (e.g., rural hospitals)
- Any other pilot or research projects

Proposed Pilot

- Funding to translate special software to assist persons with disabilities to use ICT – RFP process
USF Progress

- Universal Service Strategy (Final)
- Guideline for USF
- Public Consultation
- Implementing Pilot Project
- Implementing Universal Service Strategy
Conclusion

A Digital Society is developing significantly in Myanmar.
A It is necessary to develop Digital Society by ICT through safe and secure ICT infrastructures.
Thank you
Q & A