|  |  |
| --- | --- |
| The International Teleocmmunication Union - Connecting the World. | **Unión Internacional de Telecomunicaciones****Oficina de Normalización de las Telecomunicaciones** |
|  |  | Ginebra, 25 de septiembre de 2024 |
| Ref.: | **Circular TSB 235**CE 13/TK | A:– las Administraciones de los Estados Miembros de la Unión;Copia a:– los Miembros del Sector del UIT-T;– los Asociados que participan en los trabajos de la Comisión de Estudio 13;– las Instituciones Académicas de la UIT;– los Presidentes y los Vicepresidentes de las Comisiones de Estudio;– el Director de la Oficina de Normalización de las Telecomunicaciones;– el Director de la Oficina de Radiocomunicaciones. |
| Tel.: | +41 22 730 5126 |
| Fax: | +41 22 730 5853 |
| Correo-e: | tsbsg13@itu.int |
| **Asunto**: | **Cuestionario sobre la migración de las tecnologías de redes móviles existentes a las IMT‑2020 y posteriores** |

Muy Señora mía/Muy Señor mío,

En su última reunión (Ginebra, 15-26 de julio de 2024), la Comisión de Estudio 13 del UIT-T (*Redes futuras y tecnologías de red emergentes)* acordó divulgar el cuestionario sobre *Migración de las tecnologías de redes móviles existentes a las IMT-2020 y posteriores.* Este cuestionario está dirigido a todos los Miembros del UIT-T.

La Cuestión 5/13 de la Comisión de Estudio 13 (*Aplicación de las redes futuras y la innovación en los países de desarrollo),* está desarrollando un Suplemento sobre *Directrices sobre la migración de las tecnologías de redes móviles existentes a las IMT-2020 y posteriores*. El análisis de los resultados de las respuestas a la encuesta servirá de apoyo a los trabajos de la C5/13 sobre el Suplemento anterior.

Me complace invitarle a participar en esta encuesta y le agradecería que cumplimentara el cuestionario que figura en el **Anexo 1** a más tardar el **1 de enero de 2025**. No obstante, a fin de agilizar la consolidación de las respuestas y el análisis de los datos, le rogamos que utilice la siguiente versión del cuestionario en línea: <https://www.research.net/r/LGTH6WV>. En caso de dificultad para utilizar la versión en línea, puede utilizar el formulario reproducido en el Anexo 1.

Permítame agradecerle por anticipado su participación en esta encuesta.

|  |  |
| --- | --- |
| Atentamente,A black and blue text  Description automatically generatedSeizo OnoeDirector de la Oficina de Normalización de las Telecomunicaciones**Anexo:** 1 |  |

ANNEX 1
Questionnaire on Migrating existing mobile network technologies to IMT-2020 and beyond

Responder’s information

|  |  |
| --- | --- |
| Country: |  |
| Organization: |  |
| Name: |  |
| Job Title: |  |
| Address:  |  |
| Telephone: |  |
| E-Mail: |  |

Instructions:

Multiple choice to some questions is possible and is welcome.

# *1 Status of IMT-2020 Network deployment*

## 1.1 What type of mobile network technologies is being used in your country?

[ ]  GSM (a.k.a. 2G)
[ ]  IMT-2000 (a.k.a. 3G)
[ ]  IMT-Advanced (a.k.a. 4G)
[ ]  Other (Please specify): ………………………………………………………………………………….…………

## 1.2 What is the current status of IMT-2020 (a.k.a. 5G) network deployment in your country?

[ ]  Not yet started
[ ]  Planning and assessment phase
[ ]  Spectrum allocation phase
[ ]  Initial deployment phase (including pilot projects)
[ ]  Partial deployment phase
[ ]  Full deployment phase
[ ]  Advanced deployment (i.e.: full deployment of IMT-2020 networks + implementation of advanced features like network slicing and edge computing)
[ ]  Other (Please specify): ……………………………………………………………………………………..…..…

## 1.3 When IMT-2020 services were commercially launched/are planned to be commercially launched for the first time in your country (Please provide an approximate/expected date):

...........…………………………………………………………………………………………………………………………………………….

## 1.4. How many telecom operators are in your country?…………………………………………….………..…

## 1.5. How many telecom operators have already commercially launched IMT-2020 services in your country?

[ ]  0
[ ]  1
[ ]  2
[ ]  3
[ ]  Other (Please specify): …………………………………………………………………………………..….……

## 1.6. What percentage of your country's population has currently access to IMT-2020 services?

[ ]  0%
[ ]  Less than 10%
[ ]  10-30%
[ ]  30-50%
[ ]  More than 50%
[ ]  Do not know

## 1.7. What is the current percentage of IMT-2020 network coverage in your country (geographic perspective)?

[ ]  0%
[ ]  Less than 10%
[ ]  10-30%
[ ]  30-50%
[ ]  More than 50%
[ ]  Do not know

## 1.8. What scenario was adopted/is planned to be adopted in the migration to IMT-2020 networks in your country?

[ ]  Leapfrog from GSM to IMT-2020

[ ]  Leapfrog from IMT-2000 to IMT-2020

[ ]  Non-Standalone (NSA)

[ ]  Standalone (SA)

[x]  NSA then SA

[ ]  Other (Please specify): ……………………………………………………………………………………..………

## 1.9 What spectrum band has your country used / is your country planning to use for IMT-2020?

[ ]  Low-band spectrum (below 1 GHz)

[ ]  Mid-band spectrum (1-6 GHz)

[ ]  High-band (millimeter wave) spectrum (above 24 GHz)

[ ]  Other (Please specify): ………………………………………………………………………………………..……

# *2 Opportunities and challenges of migration to IMT-2020 networks*

## 2.1 What are the benefits of migrating to IMT-2020 networks you have experienced oranticipate?

[ ]  Increased network capacity and efficiency

[ ]  Enhanced Quality of Service (QoS) and Quality of Experience (QoE)

[ ]  New business opportunities

[ ]  Support for innovative applications and services

[ ]  Economic growth and job creation opportunities

[ ]  Expanded mobile broadband coverage and digital inclusion

[ ]  Support for digital transformation

[ ]  Other (Please specify): ………………………………………………………………………………..………

## 2.2 In your opinion, which sectors have benefited/will benefit the most from IMT-2020 services in your country?

[ ]  Healthcare

[ ]  Transportation

[ ]  Education

[ ]  Entertainment and media

[ ]  Manufacturing

[ ]  Agriculture

[ ]  Retail

[ ]  Others (please specify): ………………………………………………….………………………………………

## 2.3 Rate the following concerns about IMT-2020 migration on a scale of 0 to 5 (0 = notconcerned, 5 = very concerned):

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | **0** | **1** | **2** | **3** | **4** | **5** |
| • High infrastructure cost |  |  |  |  |  |  |
| • Uncertain Return on Investment (RoI) |  |  |  |  |  |  |
| • Deployment complexity |  |  |  |  |  |  |
| • Integration with existing networks |  |  |  |  |  |  |
| • Regulatory issues |  |  |  |  |  |  |
| • Lack of expertise |  |  |  |  |  |  |
| • Site acquisition and permitting (for new infrastructure) |  |  |  |  |  |  |
| • Cybersecurity risks |  |  |  |  |  |  |
| • Data privacy and protection concerns |  |  |  |  |  |  |
| • Possible relational health concerns |  |  |  |  |  |  |
| • Energy consumption  |  |  |  |  |  |  |
| • Customer adoption |  |  |  |  |  |  |
| • Device availability and compatibility |  |  |  |  |  |  |
| • Others (Please specify and rate): …………………………………………………………………………………………..….......... |  |  |  |  |  |  |

## 2.4 What are the main technical challenges you have faced or anticipate when migrating to IMT-2020 networks?

[ ]  Interoperability between different vendors’ equipment and technologies
[ ]  Scalability
[ ]  QoS assurance
[ ]  Energy Efficiency
[ ]  Security and Privacy Management
[ ]  Regulatory Compliance
[ ]  NFV and SDN implementation
[ ]  Network Slicing implementation
[ ]  Edge Computing Integration
[ ]  Service Orchestration and Automation
[ ]  Other (Please specify): ………………………………………………………………………………..…………

## 2.5 What strategies have you implemented / do you plan to implement to address the migration challenges?

………………………………………………………………………………………………………………………………………….

………………………………………………………………………………………………………………………………………….

# *3 Requirements and Standardization needs*

## 3.1 What are the main requirements of migration to IMT-2020 in your country in relation to:

### 3.1.1 Core Network upgrade:

………………………………………………………………………………………………………………………………………….

### 3.1.2 Backhaul and transport network upgrade:

………………………………………………………………………………………………………………………………………….

### 3.1.3 Access Network upgrade:

 ………………………………………………………………………………………………………………………………………….

### 3.1.4 Security and privacy:

 ………………………………………………………………………………………………………………………………………….

### 3.1.5 Service and device Ecosystem:

………………………………………………………………………………………………………………………………………….

### 3.1.6 Regulatory Framework:

 ………………………………………………………………………………………………………………………………………….

### 3.1.7 Energy Efficiency:

 ………………………………………………………………………………………………………………………………………….

### 3.1.8 QoS and QoE:

 ………………………………………………………………………………………………………………………………………….

### 3.1.9 Other requirements:

 ………………………………………………………………………………………………………………………………………….

## 3.2 Do you have any idea on the standardization activities of ITU-T on IMT-2020 (non-radio aspects)?

[ ]  Yes

[ ]  No

If yes, what activities do you follow or participate in?

………………………………………………………………………………………………………………………………………….

## 3.3 What areas of ITU-T standardization on IMT-2020 (non-radio aspects) interest you the most? rate the following areas on a scale of 0 to 5 (0 = not interested, 5 = very interested):

[ ]  Network Function Virtualization (NFV)

[ ]  Software-Defined Networking (SDN)

[ ]  Edge Computing

[ ]  Network Slicing

[ ]  Artificial Intelligence (AI) and Machine Learning (ML)

[ ]  Security and Privacy

[ ]  QoS and QoE

[ ]  Other (please specify): ……………………………………………………………………….……………………

## 3.4 What area(s) of standardization related to IMT-2020 (non-radio aspects) you think that ITU-T should focus on in the next study period 2025-2028?

 ………………………………………………………………………………………………………………………………………….

# *4 Migration strategies and process*

## 4.1 What deployment strategies of IMT-2020 networks were adopted/are planned to be adopted in your country?

[ ]  Progressive deployment

[ ]  Greenfield deployment

[ ]  Focused use case deployment (prioritization of use-cases)

[ ]  Private Networks deployment

[ ]  Collaborative deployment

[ ]  Other (please specify): ……………………………………………………………………………………….………

## 4.2 Which IMT-2020 use cases were launched/are planned to be launched in your country at the short, middle and long-term following the migration to IMT-2020 network?

|  |  |  |  |
| --- | --- | --- | --- |
| **IMT-2020 use cases** | **Short-term****(within 1 year)** | **Mid-term****(1 to 3 years)** | **Long-term****(More than 3 years)** |
| • High-Speed mobile Internet Access |  |  |  |
| • Fixed Wireless Access (FWA) |  |  |  |
| • Augmented Reality (AR) and Virtual Reality (VR) |  |  |  |
| • Enhanced entertainment and media (including gaming) |  |  |  |
| • Healthcare applications and telemedicine |  |  |  |
| • Smart agriculture |  |  |  |
| • Smart transportation and autonomous vehicles |  |  |  |
| • Industrial automation and smart factories |  |  |  |
| • Public safety and emergency services |  |  |  |
| • Cloud Computing and Edge Computing: |  |  |  |
| • Environmental monitoring: |  |  |  |
| • Smart Grids and energy management |  |  |  |
| • Smart retail solutions |  |  |  |
| • Education and E-Learning |  |  |  |
| • Other (please specify) :………………………………………….…… |  |  |  |

## 4.3 What are the key considerations for prioritizing IMT-2020 use cases in your country? rate the following considerations on a scale of 1 to 5 (1= least important, 5 = most important):

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **1** | **2** | **3** | **4** | **5** |
| • Economic benefits |  |  |  |  |  |
| • Technological maturity |  |  |  |  |  |
| • Alignment with national regulatory frameworks and policies. |  |  |  |  |  |
| • Compliance to standards |  |  |  |  |  |
| • Infrastructure availability  |  |  |  |  |  |
| • Societal needs and benefits |  |  |  |  |  |
| • Ease of adoption |  |  |  |  |  |
| • Scalability and sustainability |  |  |  |  |  |
| • Other (please specify and rate): ………………………………………………………………………………….. |  |  |  |  |  |

## 4.4 What steps should be taken to prepare for IMT-2020 migration?

[ ]  Strategic Planning
[ ]  Securing budget and funding
[ ]  Training staff and technicians
[ ]  Network assessment
[ ]  Technology Evaluation and Selection (partnering with technology providers)
[ ]  Network architecture design
[ ]  Network Infrastructure deployment
[ ]  Testing and validation
[ ]  Marketing and promotional initiatives for IMT-2020 services
[ ]  Setting-up monitoring and governance frameworks
[ ]  Other (please specify): ……………………………………………………………………………………………

# *5 General Guidance for Network Technologies Migration*

**What general guidelines/recommendations/advice would you like to give to the following stakeholders in order to facilitate the migration from existing mobile network technologies to IMT-2020 and beyond:**

## 5.1 Regulators:

 ………………………………………………………………………………………………………………………………………….

## 5.2 Governments and Policy makers:

 ………………………………………………………………………………………………………………………………………….

## 5.3 Network Operators:

………………………………………………………………………………………………………………………………………….

## 5.4 Equipment manufacturers:

 ………………………………………………………………………………………………………………………………………….

## 5.5 Customers:

………………………………………………………………………………………………………………………………………….

## 5.6 Service developers:

………………………………………………………………………………………………………………………………………….

## 5.7 Verticals:

 ………………………………………………………………………………………………………………………………………….

## 5.8 Other guidelines/recommendations/advice:

 ………………………………………………………………………………………………………………………………………….

*Thank you for your active participation in this survey!*

If you have questions, please, contact us at tsbsg13@itu.int.

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