



July 2023

Title: **Junior ICT Infrastructure Mapping Officer**
Bureau/Dept/Unit: **BDT/DNS/FNS**
Supervision: Head of Future networks and Spectrum Management.
Duration: 2 years (with option for renewal)
Location: ITU Headquarter – Geneva, Switzerland
Grade: **P2**

ITU is the United Nations specialized agency for information and communication technologies – ICTs.

We allocate global radio spectrum and satellite orbits, develop the technical standards that ensure networks and technologies seamlessly interconnect, and strive to improve access to ICTs to underserved communities worldwide.

ITU is committed to connecting all the world's people – wherever they live and whatever their means. Through our work, we protect and support everyone's fundamental right to communicate.

Today, ICTs underpin everything we do. They help manage and control emergency services, water supplies, power networks and food distribution chains. They support health care, education, government services, financial markets, transportation systems, e-commerce platforms and environmental management. And they allow people to communicate with colleagues, friends and family anytime, and almost anywhere.

With the help of our global membership, ITU brings the benefits of modern communication technologies to people everywhere in an efficient, safe, easy and affordable manner.

ITU membership reads like a Who's Who of the ICT sector. We're unique among UN agencies in having both public and private sector membership. So in addition to our 193 Member States, ITU membership includes ICT regulators, many leading academic institutions and some 700 tech companies.

In an increasingly interconnected world, ITU is the single global organization embracing all players in this dynamic and fast-growing sector.

The JPO would be based in ITU HQ in Geneva, Switzerland, an international and exciting city that host more than 190 international organizations. Geneva host more than two thirds of all UN activities and is visited by nearly 3000 heads of states or similar officials every year. It is a great opportunity to be based at the heart of the diplomatic world, and meet people from across the globe.

A. Organizational Unit:

The Telecommunication Development Bureau (BDT) is responsible for the organization and coordination of the work of the Telecommunication Development Sector (ITU-D) of the Union which deals mainly with ICT-focused development policies, strategies and programmes, as well as technical cooperation activities, to promote digital inclusion and drive digital transformation at community, country and regional levels. To serve the needs of ITU members effectively and efficiently, BDT is organized into four functional areas:

- Office of the Deputy to the Director and Field Operations Coordination Department
- Partnerships for Digital Development Department
- Digital Networks & Society Department
- Digital Knowledge Hub Department

The Digital Networks & Society Department (DNS) is responsible for BDT activities in the areas of spectrum management, network development, cybersecurity and emergency telecommunications. This department is also responsible for supporting ITU Member States in their transition to digital societies by providing tools and guidelines to address environmental challenges (in particular, climate change and e-waste), and for promoting innovation, ICT applications/services, digital inclusion, and ecosystems, with the ultimate goal to 'leave no one behind'.

B. Organizational context:

The position is under supervision of the head of Future Networks and Spectrum management division working in coordination with other relevant substantive divisions and departments, to contribute to the organization, planning, and coordination of the implementation of the future networks, Spectrum management and space communication activities undertaken by ITU within the framework of the BDT FNS Thematic Priority (TP) and according to the Kigali action plan.

C. Duties, responsibilities, and key results expected:

Under the supervision of head of Future Networks and Spectrum management, the Junior Professional Officer will provide support to the FNS Infrastructure mapping Initiatives <https://bbmaps.itu.int/bbmaps/> (such as schools connectivity mapping) and geo data analysis. This will include the following tasks:

- Conduct research on ICT infrastructure data sources and types of data that can be used to assess connectivity and network development levels in specified regions.
- Conduct research, develop, and introduce new data acquisition and processing tools, to be used in ICT connectivity, geospatial models, and bandwidth demand estimation.
- Support modelling of public points (e.g. schools, hospitals, etc.) and community connectivity needs in targeted countries, and assist in developing an open-source ITU community.

- Assist data and knowledge exchange among BDT functional teams and partners. Perform other related duties as assigned.
- Coordinate and help digitalize into the BDT/FNS shapefile (.shp) standard and add to the existing database, the identified priority countries indicated by FNS Division and ITU Regional Offices.
- Support server maintenance, documentation, performance monitoring, archiving, and routine security patches.
- Assist updates to UMap dataset layers according to UNGIS specifications.
- Attend to coordination meetings, webinars and other events when required.
- Support various initiatives such as School connectivity.
- Perform any other tasks delegated by the Head of ITU FNS.

D. Work relations and contact

The JPO will interact with ITU Members and ITU-D Sector Members, International Organizations, Stakeholders, ITU Regional Offices and ITU HQ, Country focal points, External partners, and Professional Communities. To this end, a certain communication skill is required to ensure effective information exchange and advocacy of the work undertaken by ITU in the specific domain.

E. Competencies

Core Competencies: Applying Expertise; Effective Communication; Learning and Knowledge Sharing; Organizational Commitment; Results-Focused, and; Teamwork and Collaboration.

Essential Functional Competencies: Analysis, Judgement and Decision Making ☒; Client and Service Orientation ☒; Innovation and Facilitating Change ☒; Leadership ☒; Networking and Building Partnerships ☒; Planning and Organising ☒; Successful Management ☒

Essential Technical Competencies (*Examples of technical competencies are knowledge of regulatory frameworks, ERP or project management methodologies, etc.*):

- knowledge of telecommunication networks, fixed/mobile terrestrial and satellite physical infrastructure.
- Experience with Mapping and Geo models
- Geographical Information Systems (GIS): data acquisition of terrestrial fibre networks, formatting to the standard links and nodes files.
- GIS system management.
- Demonstrable server-side experience with Microsoft Azure platform, Linux, in addition to PostgreSQL/PostGIS, GeoServer, OpenLayers and Leaflet mapping libraries.
- Good communication and presentation skills.
- Expertise in technical project management.

F. Qualifications required:

1. Education:

University degree in computer science, information technology, telecommunications or in a related field OR education in a reputed college of advanced education with a diploma of equivalent standard to that of an university degree in one of the fields above.

2. Work experience:

At least three years of progressively responsible experience in information and ICT networks, with experience in mapping of which at least one year should have been gained at the international level. At least three years of experience in web mapping using OpenLayers. Experience in similar projects will be an advantage. An advanced degree in a related field can be considered as a substitute for one year of working experience. A doctorate in related fields can be considered as a substitute for two years of working experience. Proven experience implementing IT and ICT projects, specifically on spectrum and networks.

3. Languages:

Knowledge of one of the six official languages of the Union (Arabic, Chinese, English, French, Russian, Spanish) at advanced level and knowledge of a second official language at intermediate level. Knowledge of a third official language would be an advantage. (Under the provisions of Resolution No. 626 of the Council, a relaxation of the language requirements may be authorized in the case of candidates from developing countries: when candidates from such countries possess a thorough knowledge of one of the official languages of the Union, their applications may be taken into consideration.)

G. Training and Learning Elements:

The candidate will acquire excellent knowledge and experience of:

- Project and program management.
- Building multi-stakeholder partnerships.
- Cooperation at regional and international level.
- Enhanced knowledge in field of ICT Networks design, ICT business planning and spectrum management.
- Understanding of the UN development system, including WSIS and SDG processes and ITU's contribution to the achievement of SDGs.

Learning will be structured and will take place through participation in ITU meetings and/or workshops, by studying ITU reports, surveys, studies, or activities related processes, by mentoring/coaching/on-the-job training. Learning process will be gradually strengthened by entrusted management functions of concrete activities leading towards generation of a concrete results (e.g. technical implementation, workshop, study, report, presentation, project) that will further strengthen technical competencies of incumbent.

The post holder will be attached to a direct supervisor who will provide learning opportunities by the following means:

- Establishment of concrete milestones in the capacity development during the contract, that includes identification of a set of envisaged results further strengthening competencies of the incumbent.
- Regular One-on-One weekly meetings to review ongoing work, activities of the Office, strategic planning of actions aiming at strengthening leadership of ITU globally.
- Participation in the internal and external meetings relevant to the areas of actions of incumbent, including bilateral debrief sessions with learning take aways.
- Contributing to the ITU meetings and meetings of other stakeholders with the possibility of making presentations/statements, elaborated in a close collaboration with the supervisor.

H. Additional information regarding the post *(Additional space for comments that have not been mentioned in the above sections, if any.)*

Fluency in English is required. Good technical knowledge of mapping tools and Geographical Information Systems.