

February 2024

Title: Aerospace Engineer Internship

Bureau/Dept/Unit: BR/SSD

Supervision: Ciccorossi Jorge / Senior Radiocommunications Engineer

Duration: 6 to 11 months maximum

Location: ITU Headquarters

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.

1. **Organizational Unit**:

The Radiocommunication Bureau (BR) is responsible for the application of the Radio Regulations and for technical and administrative support of ITU World and Regional Radiocommunication Conferences, Radiocommunication Assemblies and Study Groups. The Bureau also carries out the international regulatory processes for registration of frequency assignments and satellite orbits and assists administrations in their coordination and implementation of frequency spectrum and orbit requirements as well as in resolving cases of harmful interference. It provides the specialised technical secretariat for the work of the Radiocommunication Study Groups and the Radiocommunication Assembly in the development of recommendations for spectrum utilisation and radio system characteristics. The BR is organised into four Departments: Space Services Department, Terrestrial Services Department, Informatics, Administration and Publications Department and the Study Groups Department.

Within the Radiocommunication Bureau, the Space Services Department (SSD) is responsible for the coordination and recording procedures for space systems and earth stations. In these activities the Department deals with the capture, processing and publication of data and carries out examinations of frequency assignment notices submitted by administrations with a view to their inclusion in the formal coordination procedures or their recording in the Master International Frequency Register (MIFR). The Department is also responsible for the management of the procedures of the space related assignment or allotment Plans of the ITU and for the provision of assistance to administrations in their frequency management activities. The Department comprises three Divisions: Space Systems Coordination (SSC), Space Notification and Plans (SNP) and Space Publication and Registration (SPR).

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| 1. **Organizational context:**   The post reports to a Senior Radiocommunication Engineer in Space Systems Coordination Division, specifically in charge of cases of radio interference as well as items related to spacesustainability. The work involves the search and analysis of relevant information related to Resolution ITU-R 74 “Activities related to the sustainable use of radio-frequency spectrum and associated satellite-orbit resources used by space services” as well as its dissemination through dedicated webpages of the BR website. |

## **Terms of Reference / Internship Objective:**

Under the supervision of a Senior Engineer, the Intern will:

* Gain knowledge of the ITU Radio Regulatory framework for Satellite Systems including the treatment of cases of harmful interference affecting space services.
* Carry out studies in the field of most recent post-mission disposal and deorbiting strategies of spacecrafts.
* Perform research in the domain of space situational awareness.
* Generate reports, develop online tools and any other task to be assigned on the above fields , as required.
* Participate in relevant ITU-R Study Groups.

1. **Competencies**

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

* Good knowledge of aerospace engineering, astrodynamics, satellite attitude determination and control (ADCS) mathematical modeling, simulations, software coding, and statistical analysis.
* General knowledge of international space law, including the ITU Radio Regulations.

1. **Qualifications required**
2. **Education**:

Advanced University degree in aerospace engineering, astrodynamics, or a related field.

1. **Work experience**:

No work experience is required.

1. **Languages:**  
   Very good level of English. An additional official language would be an asset.
2. **Training and Learning Elements:**

The intern will acquire excellent knowledge and experience of:

* Work of ITU-R Study Groups dealing with Satellite Systems.
* Understanding the ITU Radio Regulatory framework for Satellite Systems including the treatment of cases of harmful interference affecting space services.
* Latest policies and strategies for post-mission disposal and deorbiting of spacecrafts at international level.