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| **Radiocommunication Advisory GroupGeneva, 26-28 April 2017** |  |
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| proposals for the draft budget of the radiocommunication sector for 2018-2019, prepared on the basis of an analysis of financial and human resources in itu-r during the period 1996-2017 |

# 1 Introduction

Among the purposes of the Union as set out in Article 1 of the Constitution, ITU shall in particular:

|  |  |
| --- | --- |
| ***11PP-98*** | *a) effect allocation of bands of the radio-frequency spectrum, the allotment of radio frequencies and the registration of radio-frequency assignments and, for space services, of any associated orbital position in the geostationary-satellite orbit or of any associated characteristics of satellites in other orbits, in order to avoid harmful interference between radio stations of different countries;* |
| ***12PP-98*** | *b) coordinate efforts to eliminate harmful interference between radio stations of different countries and to improve the use made of the radio-frequency spectrum for radiocommunication services and of the geostationary-satellite and other satellite orbits;* |
| ***15*** | *e) coordinate efforts to harmonize the development of telecommunication facilities, notably those using space techniques, with a view to full advantage being taken of their possibilities;* |

…

These and numerous other goals, particularly the development of radiocommunication standards (ITU-R Recommendations in ITU terminology) are pursued within the framework of the Radiocommunication Sector (ITU-R) and its secretariat, the Radiocommunication Bureau (BR).

In recent decades, more and more attention has been focused on efforts to increase the efficiency of radio-spectrum and satellite-orbit use. Ample evidence of this is to be seen in the ever-increasing numbers of participants at world radiocommunication conferences (WRCs), with some 2 000 having been registered at WRC-97 (held in 1997), and over 3 300 at WRC-15 (held in 2015).

At the same time, we are seeing an increase in the types, complexity and volume of the tasks being accomplished by the staff of BR, which essentially constitutes the executive machinery of the international spectrum and satellite orbit management system.

In the course of their work, the highly qualified BR staff, in addition to ensuring compliance with the requirements of the Radio Regulations, provide considerable and varied assistance to administrations and telecommunication operators. In recent years, this has included a complex array of activities aimed at overhauling the way in which the spectrum is used by television systems and harmonizing the frequency bands used by fourth-generation terrestrial mobile communication systems, as well as the provision of expert assistance in numerous other areas.

Given that ITU-R as a whole and BR in particular operate within the confines of limited financial and human resources, it would be appropriate to evaluate those resources and elaborate proposals for their rational use in the future.

# 2 Analysis of ITU-R’s financial and human resources during the period 1996-2017

## 2.1 Analysis of ITU-R’s financial resources during the period 1996-2017 and comparison with the draft budget for 2018-2019

Table 1 and Figure 1 contain statistical data showing the evolution of ITU-R’s budget over the period 1996-2017 (the data for 2010-2019 are drawn from Document [C17/10](https://www.itu.int/md/meetingdoc.asp?lang=en&parent=S17-CL-C-0010)).

Table 1

ITU-R budget during the period 1996-2017
and draft budget for 2018-2019

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Period | Document | Pages | Budget(CHF thousands) | Period(continued) | Document | Pages | Budget(CHF thousands) |
| 1996-1997 | [C2000/11](https://www.itu.int/itudoc/gs/council/c00/docs/11.html) | 20-23 | 62 196 | 2008-2009 | [C10/31(Rev.1)](https://www.itu.int/md/meetingdoc.asp?lang=en&parent=S10-CL-C-0031) | 10, 18-25 | 66 728 |
| 1998-1999 | [C2000/11](https://www.itu.int/itudoc/gs/council/c00/docs/11.html) | 20-23 | 65 206 | 2010-2011 | [C13/10](https://www.itu.int/md/meetingdoc.asp?lang=en&parent=S13-CL-C-0010) | 4 | 65 772 |
| 2000-2001 | [C02/13(Rev.1)](https://www.itu.int/md/meetingdoc.asp?lang=en&parent=S02-CL-C-0013) | 21-24 | 67 276 | 2012-2013 | [C15/10](https://www.itu.int/md/meetingdoc.asp?lang=en&parent=S15-CL-C-0010) | 5 | 61 853 |
| 2002-2003 | [C04/22](https://www.itu.int/md/meetingdoc.asp?lang=en&parent=S04-CL-C-0022) | 10 | 68 708 | 2014-2015 | [C17/10](https://www.itu.int/md/meetingdoc.asp?lang=en&parent=S17-CL-C-0010) | 5 | 62 202 |
| 2004-2005 | [C06/26(Rev.1)](https://www.itu.int/md/meetingdoc.asp?lang=en&parent=S06-CL-C-0026) | 18-26 | 71 139 | 2016-2017 | [C17/10](https://www.itu.int/md/meetingdoc.asp?lang=en&parent=S17-CL-C-0010) | 5 | 57 501 |
| 2006-2007 | [C08/7](https://www.itu.int/md/meetingdoc.asp?lang=en&parent=S08-CL-C-0007) | 12, 18-26 | 74 698 | 2018-2019 (projected) | [C17/10](https://www.itu.int/md/meetingdoc.asp?lang=en&parent=S17-CL-C-0010) | 5 | 58 586 |

It is to be noted that the increase in the budget for 2018-2019 by comparison with the 2016-2017 figure is due to the expenditure necessitated by the holding of the WRC and Radiocommunication Assembly in 2019, in the amount of CHF 2 973 000. If that item is subtracted, the budget for regular activities amounts to CHF 55 613 000, **signifying that a further reduction in funding for ITU-R’s regular activities is planned**.

Figure 1

ITU-R budget during the period 1996-2017 and draft budget for 2018-2019
(in graph form)

**In CHF thousands**

In this connection, it is important to note that over the period in question BR generated significant income through its processing of satellite network filings. The corresponding data are shown in Figure 2. Furthermore, a significant proportion of the revenue side of ITU’s budget is derived from the sale of ITU-R/BR publications, amounting (at a very conservative estimate) to more than 20 million over a biennial period. Thus it is that, through their activities, ITU-R and, especially, BR provide ITU with revenue amounting to over half of the Sector’s biennial budget − a unique situation within the Union as a whole.

Figure 2

Revenue from the processing of satellite network filings during
the period 2002-2015, and forecast for 2016-2019

**In CHF thousands**

The decline in revenue from the processing of satellite network filings in 2008-2009 was due to the revision of the methodology for determining the costs involved in such processing (Decision 482, adopted by the Council at its 2008 session) and corresponding revision of invoices in accordance with Decision 10 (Antalya, 2006) and Decision 545 (Council‑07).

When conducting an analysis of ITU-R’s financial resources during the period in question, it is important to note that those same years were marked by a decline in the financial resources of the Union as a whole. It is therefore more meaningful to provide a figure for the funding of the ITU Sectors and General Secretariat relative to the “average budget of each Sector and of the General Secretariat over the period 1996-2017”, as shown in Table 2.

Table 2

Average value of the budgets of the ITU Sectors and General Secretariat during the period
1996-2017 and percentage relationship to the draft budget for 2018-2019

**CHF thousands**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Sector | ITU-R | ITU-D | ITU-T | General Secretariat |
| Average biennial budget(1996-2017) – А1 | 65 753 | 59 813 | 25 739 | 179 530 |
| Draft budget for 2018-2019 – А2 | 58 586 | 55 888 | 25 494 | 180 134 |
| А2/А1×100 (%) | **89.1%** | **95.2%** | **99.0%** | **100.3** |

## 2.2 Analysis of BR’s human resources during the period 2004-2017

Table 3 contains statistical data showing the evolution of BR’s workforce (budgeted posts) over the period 2004-2017, with projected figures for 2018-2019.

Table 3

ITU Radiocommunication Bureau workforce 2004-2017
(budgeted posts – see Table 1)

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Year | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 |
| Document | [C05/10](https://www.itu.int/md/meetingdoc.asp?lang=en&parent=S05-CL-C-0010) | [C05/10](https://www.itu.int/md/meetingdoc.asp?lang=en&parent=S05-CL-C-0010) | [C07/10](https://www.itu.int/md/meetingdoc.asp?lang=en&parent=S07-CL-C-0010) | [C07/10](https://www.itu.int/md/meetingdoc.asp?lang=en&parent=S07-CL-C-0010) | [C09/10](https://www.itu.int/md/meetingdoc.asp?lang=en&parent=S09-CL-C-0010) | [C09/10](https://www.itu.int/md/meetingdoc.asp?lang=en&parent=S09-CL-C-0010) | [C17/10](https://www.itu.int/md/meetingdoc.asp?lang=en&parent=S17-CL-C-0010) | [C17/10](https://www.itu.int/md/meetingdoc.asp?lang=en&parent=S17-CL-C-0010) |
| Page | 205 | 205 | 226 | 226 | 137 | 137 | 14 | 14 |
| Number of posts | 176 | 176 | 181 | 181 | 175 | 175 | 173 | 173 |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Year | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 |
| Document | [C17/10](https://www.itu.int/md/meetingdoc.asp?lang=en&parent=S17-CL-C-0010) | [C17/10](https://www.itu.int/md/meetingdoc.asp?lang=en&parent=S17-CL-C-0010) | [C17/10](https://www.itu.int/md/meetingdoc.asp?lang=en&parent=S17-CL-C-0010) | [C17/10](https://www.itu.int/md/meetingdoc.asp?lang=en&parent=S17-CL-C-0010) | [C17/10](https://www.itu.int/md/meetingdoc.asp?lang=en&parent=S17-CL-C-0010) | [C17/10](https://www.itu.int/md/meetingdoc.asp?lang=en&parent=S17-CL-C-0010) | [C17/10](https://www.itu.int/md/meetingdoc.asp?lang=en&parent=S17-CL-C-0010) | [C17/10](https://www.itu.int/md/meetingdoc.asp?lang=en&parent=S17-CL-C-0010) |
| Page | 14 | 14 | 14 | 14 | 14 | 14 | 14 | 14 |
| Number of posts | 158 | 157 | 158 | 157 | 141 | 141 | 139 | 139 |

Figure 3 illustrates the changes in the workforce in BR, the Telecommunication Development Bureau (BDT) and the Telecommunication Standardization Bureau (TSB) over the period 2004-2017, with a projection for 2018-2019.

Figure 3

Workforce variations (number of budgeted posts)
during the period 2004-2017 in BR, BDT and TSB

Over the past 20 years, BR’s working methods have undergone profound change. This period has seen:

− the progression from manual methods of transferring the data received from users in paper form to direct receipt of user data in electronic format;

− the considerable expansion of information and communication technology (ICT) usage for examining the frequency assignment filings for terrestrial and space service systems and stations;

− the transition to electronic means of data exchange between BR and ITU Member States and Sector Members;

− the transition to electronic means for the publication of ITU-R documents, including the publication of findings from the regulatory and technical examination of filings;

− the development of a wide range of software packages and systems for performing the above tasks.

These and other measures have resulted in significant performance gains on the part not only of BR’s staff, but also the staff of ITU Member States and Sector Members, thanks to their use of BR software products for the preparation of frequency assignment notices and their subsequent verification, thereby eliminating the need for numerous exchanges with BR experts. Publication of the data in electronic form means that they can be used at the coordination stage, which in turn results in a more efficient coordination process.

The above advances have enabled a significant and justifiable reduction in BR’s staffing numbers (see Figure 3). However, any kind of process automation, particularly where a process as complex as spectrum and satellite orbit management at the international level is concerned, has its limits, and staff reductions cannot go on forever.

It is interesting to observe that in the 1980s the CCIR[[1]](#footnote-1) had a staff of some 30± (the CCITT[[2]](#footnote-2) had some 40+), whereas now the staff of BR’s Study Groups Department, which carries out comparable functions, amounts to 16 individuals.

The downward trend in the Sector’s staffing gave rise to expressions of concern among delegates attending the 2015 session of the Council. The Report by the Chairman of the Standing Committee on Administration and Management (Document [C15/105 (Rev.1)](https://www.itu.int/md/meetingdoc.asp?lang=en&parent=S15-CL-C-0105)) included the following message from the Council to the management of the ITU secretariat:

“1.12 Some delegates noted the significant reduction of the budgeted posts in the Radiocommunication Bureau that took place in 2011-2015 and the importance of its program of work as per the strategic plan and operational plans. In this light, the delegates requested the ITU Management when preparing draft budgets for future biennia to abstain from the further reduction of the budgeted posts in the Radiocommunication Bureau as this will negatively impact the full implementation of their programme of work”.

However, it emerges from Document [CWG-FHR-INF 7/3](https://www.itu.int/dms_pub/itu-s/md/17/clcwgfhrm7/inf/S17-CLCWGFHRM7-INF-0003%21%21PDF-E.pdf) that in the draft budget for 2018-2019 it is planned to reduce further the number of posts in BR.

## 2.3 Evaluation of the adequacy of BR’s financial and human resources for fulfilling the Bureau’s objectives

One of the most objective indicators of successful performance on the part of the Bureau are the data relating to the time taken to process satellite network filings. Under No. 9.38 of the Radio Regulations, on receipt of a request for coordination of a frequency assignment, the Bureau shall publish “the complete information in the International Frequency Information Circular (BR IFIC) within four months”.

From the data for 2015-2016 and the early part of 2017 contained in the reports by the Director of BR to meetings of the Radio Regulations Board (RRB) (Documents [RRB15-3/4](https://www.itu.int/md/meetingdoc.asp?lang=en&parent=R15-RRB15.3-C-0004), [RRB16-1/5](https://www.itu.int/md/meetingdoc.asp?lang=en&parent=R16-RRB16.1-C-0005) and [RRB17-1/3](https://www.itu.int/md/meetingdoc.asp?lang=en&parent=R17-RRB17.1-C-0003)), and from the statistical data posted by BR’s Space Services Department at <https://www.itu.int/ITU-R/go/space-statistics/en>, it will be observed that for the greater part of that period BR was unable to meet the requirements of RR 9.38. Furthermore, the delay in the processing of satellite network filings is tending to increase. By way of an example, Fig. 4 contains data relating to the processing of requests for coordination under RR Article 9, as well as requests under Article 4 of RR Appendices 30/30A and Articles 6 and 7 of RR Appendix 30B.

For purposes of comparison, Fig. 5 contains equivalent data for the period 2007-2008, with the exception of data under Appendix 30B, since at that time the processing of notices under Appendix 30B was carried out under highly specific regulatory provisions whereby BR could process a maximum of six to ten notices per year, and those data do not now correspond to data received as a result of application of the current Radio Regulations. The period 2007-2008 was selected because, like the period 2015-2016, it included the holding of a WRC. The source data are drawn from RRB documents (Documents [RRB07-3/2](https://www.itu.int/md/meetingdoc.asp?lang=en&parent=R07-RRB.07.3-C-0002), [RRB08-1/1](https://www.itu.int/md/meetingdoc.asp?lang=en&parent=R06-RRB.06.01-C-0003) and [RRB09-1/1](https://www.itu.int/md/meetingdoc.asp?lang=en&parent=R09-RRB.09-C-0001)).

The time-limit infringement problem was also raised in February of this year by RRB, which included the following note in the summary of decisions of its 74th meeting (Document [RRB17‑1/8](https://www.itu.int/md/meetingdoc.asp?lang=en&parent=R17-RRB17.1-C-0008)):

“The Board noted the expansion of the workload of BR resulting from the increased number and complexity of satellite filings received during the last fifteen months. The Board expressed concern that this has caused an infringement of the regulatory time limit of four months for the processing of coordination requests. The Board requested the Director to make all efforts to get back to the regulatory limit as soon as possible. The Board also noted that the resolution of this problem may have financial implications that are under the responsibility of Council”.

While supporting the statement by RRB, it should also be noted that although where notices processed in accordance with Appendices 30, 30A and 30B (satellite plans) are concerned there are no established regulatory deadlines for processing, a further increase in the processing time is not encouraging.

It appears that in the interests of resource saving there have for many years now been no meetings of chairmen and vice-chairmen of study groups, which fails to meet the requirements of § A1.6.1.1 of Resolution ITU-R 1-7, and the duration of meetings of the Radiocommunication Advisory Group has been reduced to three days, while at the same time meetings of the equivalent groups in the other Sectors, as well as the face-to-face meetings of the correspondence and leadership groups of TSAG and TDAG, are being accorded considerably longer periods of time (with such meetings in some cases being held twice within the course of one year), and so on.

From the preceding analysis, it should be concluded that BR has insufficient human resources for fulfilling its objectives.

Figure 4

Statistical data on the processing of frequency assignment notices for space services
during the period 2015-2016

**Months**

Regulatory time limit under No. **9.38** of the Radio Regulations: four months

Figure 5

Statistical data on the processing of frequency assignment notices for space services
during the period 2007-2008

**Months**

Regulatory time limit under No. **9.38** of the Radio Regulations: four months

# 3 Conclusions

From the analysis carried out it can be observed that the problems identified above are due in large measure to a reduction in the financial and human resources made available to the Radiocommunication Sector in recent years (including a steep reduction in BR’s workforce), such that measures need rapidly to be taken to ensure fulfilment of the increasingly complex objectives.

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1. CCIR – International Radio Consultative Committee. In 1992, it was integrated into the Radiocommunication Sector, while its secretariat became the Radiocommunication Bureau. [↑](#footnote-ref-1)
2. CCITT – International Telegraph and Telephone Consultative Committee. In 1992, it became the Telecommunication Standardization Sector, including the Telecommunication Standardization Bureau, formed on the basis of the CCITT secretariat. [↑](#footnote-ref-2)