ITU Spectrum Management Training Program (SMTP)
Addressed problem

- Efficient running of Spectrum Management (SM) requires well educated professionals
- Today there are no formal holistic SM education programs, except some ad hoc commercial or public courses such as ITU BR seminars, USTTI
- Large administrations train SM staff by seconding them to experienced workers, but this offers narrowed vision and no formal quality check
- Many smaller administrations, especially in developing countries, do not have even such option, but must rely solely on ad hoc courses
The solution

- ITU establishing Spectrum Management Training Program:
  - Unified course, offering students across the globe access to state-of-the-art holistic SM training and forward-looking professional vision
  - Formalised assessment ensuring minimal quality of professional education
  - Certification to give international recognition, with possible option of university credits/ diploma
Benefits for ITU

- Preserving and spreading the wealth of SM knowledge accumulated in ITU (BR/BDT and ITU-R SG: staff’s know-how and Reports/Recs)
- Additional facet to ITU’s global leadership role as enabler and facilitator of ICT development
- Service to Member Administrations and Sector Members
- Course completion certificate as quality reference for candidates assessment in ITU and administrations’ hiring processes
The vision

- Two entry levels
- Specialisation possibility:
  - Technical
  - Legal/economic
- Accordingly structured set of obligatory modules and specialised electives
Initial composition of the course

- **Obligatory modules:**
  - “Legal Basis and Regulatory Framework of Spectrum Management”
  - “Spectrum Engineering Fundamentals”
  - “Wireless Telecommunications Technologies”
  - “Economic and Market Tools of Spectrum Management”
  - “Strategic Planning and Policies for Wireless Innovation”

- **Electives:**
  - “Spectrum Monitoring”
  - “Enforcement and Type Approval of Equipment”
  - “SM for Satellite Systems”
  - “SM for HF Systems, Science, Maritime and Amateur Services”
  - “SM for Aeronautical and Radio Determination Services and Military Systems”
  - “Computer-aided Spectrum Management”
  - “Advanced Spectrum Authorization Regimes”
  - “Socio-Economic Impact of Spectrum Regulation; Competition and Consumer Protection”
  - “Terrestrial TV Broadcasting Planning and Digital Transition”
  - “Opportunistic Spectrum Access and Cognitive Radio”
Flexible certification routes

- Basic Level Entry
  - Obligatory Module OM1
  - Obligatory Module OM2
  - Obligatory Module OM3
  - Elective Module EM1
  - Obligatory Module OM4
  - Obligatory Module OM5
  - Elective Module EM2
  - Elective Module EM3
  - Master Thesis

- Professional Certificate “Spectrum Management Essentials”
  - Professional Certificate “Advanced Spectrum Management”
  - Certificate of XX study module
First phase of implementation

- Identifying high level experts within the global SM community and tasking them with preparing detailed course content
- Setting up Quality assurance mechanism to check delivered course content, through a combination of two-tier reviews by BR/BDT/Study Groups’ experts as well as peer review within the high level expert group
- Clarifying the possibility and scope of partnership with universities and other institutions/companies
## Vision for the team of experts

<table>
<thead>
<tr>
<th>Subject areas</th>
<th>Number of experts</th>
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<tbody>
<tr>
<td>Spectrum Regulation and Planning</td>
<td>3</td>
</tr>
<tr>
<td>Spectrum Engineering and Technical Innovation</td>
<td>2-3</td>
</tr>
<tr>
<td>Economic, legal and market aspects of SM</td>
<td>2</td>
</tr>
<tr>
<td>Wireless Technologies, Policies for Wireless Innovation</td>
<td>1-2</td>
</tr>
<tr>
<td>Spectrum Monitoring and Enforcement</td>
<td>1-2</td>
</tr>
<tr>
<td><strong>Team total:</strong></td>
<td><strong>10</strong></td>
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Way ahead

- Clarifying provisions for certification of the course
- Setting up Quality assurance mechanism for course delivery phase with feedback from Study Groups, Administrations as employers, as well as from ultimate students
- Performing ITU financial/staffing impact assessment
Quality assurance mechanism

- **Consultative and editorial procedure to ensure**
  - technical quality of the content is of the highest standard
  - the language and terminology used in the training materials conforms to the rules, policies, procedures and instruments of the ITU

- **Bodies to establish for the quality assurance process**
  - Peer Review Committee
  - Editorial Committee

- **Peer Review Committee**
  - review the work of the experts to ensure that the technical aspects of the training material are up to standard
  - be composed of the relevant BDT staff and Councillors of the BR study groups (for the modules falling under their respective groups)
  - Councillors to consult their SG members for comments and inputs into the relevant module/s
  - all comments, reviews and suggestions back to the experts for incorporation into the respective training modules
  - expected turnaround time of about two weeks

- **Editorial Committee**
  - give the ITU stamp of approval to the modules developed by the experts and reviewed by the Peer Review Committee
  - validate the language and terminologies used to ensure that they are consistent with ITU languages
  - not expected to look at the technical content of the syllabus, as the Peer Review committee is deemed competent enough to do so
  - possible composition
    - the BDT Focal Point on Spectrum Management
    - the respective Study Group Councillors in BR
    - 1 or 2 persons appointed by BR
    - representative from the Human Capacity Building division
    - chaired by a senior person from the BR (tbd)
Ultimate implementation options

1. International university Masters course:
   • Courses organized via collaboration of University/ies and ITU as well as ITU-R sector members
   • Diploma conferred by partner University/ies

2. International professional SM certificate:
   • Developed content becomes a guide for self-studies, supported by practical experience in administrations
   • ITU Academy administers the remote testing to established standard and issues ITU certificate to those who successfully passed the exams

3. Some combination of the above
Conclusions

- The real weak point identified in supplying ITU Member Administrations with SM-educated personnel, which is unlikely to be resolved on national level, except in some very big countries.
- ITU is at unique position to bridge this gap and further cement its position of global centre of SM innovation and know-how.
- For more information see: