WMO Guide to Free and Open Source Software

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# Introduction

* digital transformation via FOSS

## Audience

* decision makers
* developers

## Scope

Living document

## Background

* use notes from TT-OSS document to INFCOM Management Group
* strong usage, increasing usage
* WIS 2.0 as an example of FOSS dev during standards dev
* needs coordination

## Data policy considerations

Enabling Unified Data Policy via software

# Guidelines

## WMO Members

### Using FOSS

* FOSS as an option during software evaluation
* Risk, hidden costs
* Principles apply to ANY software
* Risk management
* Due diligence (maintenance, updates)
* Lifecycle management/EOL → migration
* Total cost of ownership considerations
  + HR profile / IT capacity of organization
* Benefits (freedom, cost, reducing vendor lock in, portability)
* Infrastructure considerations

### Contributing to FOSS

* National policies
* Events/hackathons (eg. OGC/OSGeo/ASF Joint Sprints)
  + By product: connection/collab
* Regulations / risk / constraints / considerations

### Managing FOSS activities

* Aligning with WMO standards
  + Achieving compliance

## WMO Activities

### Coordination, alignment and support

* Coordination/support functions
* Software selection for WMO projects and application development
* Managing FOSS activities
* Aligning with WMO ecosystem of activities
* Ensuring sustainability of FOSS usage
* Managing risk
* Functions
* People

### Standards compliance

* Compatability / compliance matrix
* Open Standards <→ FOSS support matrix
* Implementation of WMO Tech Regs / compliance ?
* FOSS as an early indicator of Tech Regs feasibility
  + Ensure FOSS implementations are part of Technical Regulation development/assessment (feasibility)
  + Example: wis2box, developed at the same time as WIS2 standards
  + Example: OGC standards (3 implementations)
  + FOSS is not part of the Tech Reg, but is an indicator of maturity/capability

### Software review and evaluation

* Software identification and selection
  + Project checklist/assessment
* "Approved projects" and/or Reference Implementations
  + Make Tech Regs more concrete
  + Tech Regs → FOSS implementations
  + Should FOSS be cited in WMO Tech Regs (suggest no)
  + Criteria needed
    - Compliance (data exchange)
    - Software evaluation (FOSS!) checklist → confidence
    - Readiness
    - Bus/retirement factor
  + Rolling review
* Harmonization: regular review of ecosystem to ensure alignment and optimal use of resources

### Application development

* Case study: wis2box et. al.
  + Agile development during Tech Reg development

# References

1. <https://community.wmo.int/governance/commission-membership/commission-observation-infrastructures-and-information-systems-infcom/commission-infrastructure-officers/infcom-management-group/standing-committee-information-management-and-technology-sc-imt> [↑](#footnote-ref-21)
2. <https://community.wmo.int/governance/commission-membership/infcom> [↑](#footnote-ref-23)