

## **Guidelines for the Optional Programme: Scalable Acquisition and Pre-Processing System (SAPP)**

*Adopted by the Council at its 93rd session (December 2018)*

1. The Programme covers the provision and support of the Scalable Acquisition and Pre-Processing System (SAPP) for use by participating Member and Co-operating States for their operational acquisition and pre-processing of observations and other input data for NWP.
2. All computational and staffing costs associated with the Programme shall be borne by the participants of the Programme.
3. The Programme will cover all components of SAPP: Engine, Converters, Configuration and Monitoring (a more detailed description of these components and an outline of how these will be supported in the Optional Programme can be found in the Glossary of the main components of SAPP).
4. ECMWF will develop and/or integrate requested improvements and features in the SAPP system, if compatible with ECMWF operational implementation.
5. All software, including such improvements and external contributions, will be made available under Open Source licence, in-line with ECMWF's rules for distribution of software.
6. The Centre shall report annually on the status of the Programme to the Technical Advisory Committee (TAC). The TAC shall monitor the Programme and report to the Council as appropriate.
7. The Programme will be governed by the full ECMWF Council.
8. A review of the Optional Programme, including these guidelines, shall be conducted by the TAC after an initial two years and subsequently at least every five years. Such reviews should be guided by the overall goal of preserving the synergistic relationship between the Centre and the Member States.

**Date** December 2018

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## **Glossary of the main components of SAPP**

**Engine:** The Engine is the core of the SAPP system. It includes python scripts for acquisition, routing, processing and extraction, a relational database, a web administration interface and an ecflow scheduling/monitoring suite. The Engine will be provided as is. Requests for new extraction modes would be considered and implemented if compatible with ECMWF operational implementation.

**Converters:** The Converters are standalone programs, reading observation input messages and producing consolidated BUFR output data. This processing step usually entails a format conversion followed by data and metadata selection and encoding. Data format converters are shared with Member and Co-operating States.

**Configuration:** By Configuration we mean the definition of input data sources, converters' properties, rules to route incoming data to the converters, composition of extraction files and other application settings. ECMWF global configuration is routinely exported and made available to the members of the Programme.

**Monitoring:** The Monitoring of SAPP is mostly based on queries to the SAPP database, coupled with some form of web-based graphical presentation or ecFlow interaction. A range of monitoring views to detect problems and changes in data reception, availability or data formats will be provided. Additional specific aspects that are not currently covered by ECMWF's installation will have to be assessed in terms of feasibility and possible collaborative implementation, involving ECMWF and NMHSs with similar requirements.

**Distribution:** The system is delivered in a form that allows participating Member and Co-operating States a simple, semi-automated deployment; updates will be provided at least annually, to be downloaded, deployed and integrated by the members of the Programme into their operational environments.

**Documentation:** ECMWF will provide generalised and expanded documentation so that SAPP can be more easily adapted to operational environments of members of the Programme. Participating members are expected to contribute to the documentation for any changes they propose to the SAPP.

**Queries and requests:** ECMWF will answer queries in a timely manner, considering the priority of the requests and ensuring that operational matters take precedence.

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