Mathmet Quality Assurance Tools for data, software, and guidelines

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1. Introduction

The European Metrology Network for Mathematics and Statistics (Mathmet), provides Quality Assurance Tools (QAT) for download from its website [1]. The aim of these tools is to help ensure fitness for purpose of data sets, software, and guidelines for metrology. This session will present the QAT, discuss its contents and the lessons learned during its development.

A special session of MSMM 2021 [2] provided valuable feedback when the QAT was in development and referred to as a Quality Management System (QMS). The MSMM 2021 session was largely an exercise in presenting the thinking behind

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the QAT and gathering ideas. This MSMM 2023 session will provide an update, describing how those ideas were implemented. The overall approach of the QAT, as summarised in [3], will also be presented.

2. QAT for data, software, and guidelines

The QAT consists of separate components for data, software, and guidelines. For data and software, an interactive risk assessment tool linked to supporting documentation guides the user in developing a quality management plan. The activities listed in the plan follow a typical life cycle from requirements capture to design and development, verification, and validation through to release and maintenance. For guidelines, there is a focus on understanding the provenance, bearing in mind that, for example, ISO Standards, OIML Recommendations and BIPM Guides, can be expected to be thoroughly reviewed.

Pragmatism has underpinned the development of the QAT, which sets only high-level requirements on users with the aim to ensure that there are no conflicts with the processes and procedures in-place and adopted by individual members of Mathmet.

Presentations and training material [4], developed to publicise the QAT, will be discussed. Use-cases, updated from MSMM 2021, will illustrate how the QAT can help support the Mathmet Strategic Research Agenda (SRA) [5].

As Mathmet continues and evolves, so should the QAT. Feedback to help improve and encourage adoption of either the QAT or, more importantly, its underlying concepts will be vital.

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