Integrated Quality Management Functions on AWS-Level - Gealog SG Station Manager

G. Pevny (1), D. Pindeus (2)

Logotronic GmbH, Austria

(gerhard.pevny@logotronic.co.at...gerhard.pevny@logotronic.co.at / Phone: +43-1-5872971-0)

Hydro-meteorological networks are collecting data which are subsequently used for the preparation of significant decisions within politics, planning, emergency management and many other domains. Therefore it is essential, that the network operator's "product" should be of the highest quality level. The main "product" of measuring network operators thereby are correct measurement values which, registered comprehensibly, are transferred to the measuring network centre and processed in order to submit the required information. Actually there is a big shift from manually operated measuring stations or half automated ones to fully automated measuring networks. For this reason it becomes more and more important to have accurate and well defined automatic quality check functionalities also on measuring station level available. WMO has recognized this issue too, and is actually working on recommendations for this automatic quality assurance procedures.

In the last years Logotronic developed a completely new measuring station manager instrument, called Gealog SG, which has implemented, perhaps as first instrument on the market, a complete "Integrated Quality Management". Many possibilities designed both in Hardware as well as in Software are existing now to implement an automatic quality identification for each individual measured value. This quality information is called "Quality Tag". It is stored and transferred in all cases together with the corresponding measuring value. This lecture shows the various possibilities for automatic checking on hardware level of the measuring system components like sensors, measuring transducers and auxiliary equipment like ventilation units, heaters, power supplies, etc. Additionally all implemented functionalities are presented for mathematical processing of different quality inputs to compute complex quality criterias. Finally the result of the computation of the quality information is classified according to a classification scheme which is based on WMO drafts. This classification finally leads to the Quality Tag of the corresponding measuring value. Based on this Quality Tag and especially changes in the Quality Tag actions can be taken i.g. automatic alarming, switching to redundant sensors, etc. The basic principle is: Detection of an error in advance before the error shows influence on the measured time series and immediate alarm to the maintenance team. The implemented quality status classification is oriented on the draft recommendations of WMO, so that the lecture gives additionally

a short introduction to the actual status of WMOs work regarding automatic quality assurance on AWS-level.