

Automated Registration of the Measuring Instruments Verification Results with Data Transfer

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key words

verification, measuring instruments, verification protocol, software product

Digitalization is increasingly invading the field of metrology and metrological support of enterprises. The greatest difficulties are caused by the stage of processing the results of verification and data transmission to the Federal State Information System Arshin.

To solve this problem, we have developed a new software product for automating the main processes of verification work and the selection of measuring instruments, the formation of a verification protocol and the transmission of its results to FSIS Arshin.

We also reviewed the algorithm and software implementation of the developed product in stages. The main advantage of the development over analogues is the use of the built-in capabilities of MS Excel and MS Visual Basic. It includes separately developed databases and templates for the design of verification results for each type of measuring instruments.

In conclusion, the proposed development is already being tested in the metrological service of Gazprom corporation.

References

1. National program Digital Economy of the Russian Federation app. Protocol of the Council for Strategic Development and National Projects under the RF President of 4/06/2019 N 7.
2. RF Federal Law of 27/12/2019 N 496-FZ On amendments to the Federal Law On ensuring the uniformity of measurements.
3. The concept of informatization activities of Federal Agency for Technical Regulation and Metrology for the period up to 2018, app. Protocol of 29/10/2014 N 388-pr. Strategy for ensuring the uniformity of measurements in the Russian Federation until 2025, app. RF Government in 2017.
4. Krasavin I.V., Pilyugin A.Yu. FGIS Arshin — drayver tsifrovoy transformatsii obespecheniya edinstva izmereniy [FSIS Arshin is a driver of digital transformation to ensure the uniformity of measurements], *Glavnyy metrolog. Spetsvypusk*, 2022, pp. 32–36.
5. Kuznetsov D.A. Sovershenstvovanie zakonodatel'stva v oblasti obespecheniya edinstva izmereniy [Improvement of legislation in the field of ensuring the uniformity of measurements], *Zakonodatel'naya i prikladnaya metrologiya*, 2021, no. 3(171), pp. 5–7.
6. Zolotukhin K.V., Skorniyakova E.A. Programma dlya peredachi dannykh o rezul'tatakh poverok sredstv izmereniy v federal'nyuyu gosudarstvennyuyu informatsionnyuyu sistemu Arshin [Program for transferring data on the results of verification of measuring instruments to the FSIS Arshin], *Avtomatizatsiya v promyshlennosti*, 2022, no. 7, pp. 48–51.
7. FSUE VNIIMS. File generator in xml format for batches of measuring instruments: appendix (reg. date of 11/08/2021 N 2021663038).
8. LLC Unites. Download module iFond is data transfer to FSIS Arshin (reg. date of 21/03/2019 N 2019613692).
9. LLC Unites. The first Iceberg platform is a system for the complete automation of business processes of the metrological service based on 1C (reg. date of 21/03/2019 N 2019613691).
10. Varen'yu V.V., Orshlet S.S. Single-user program for collecting information on verification of measuring instruments (reg. date of 2/07/2018 N 2018617815).
11. LLC Metrologinet. Software Versta (reg. date of 24/11/2020 N 2020665193).
12. Automated control system for the metrological service version 7 (ACS MS ver. 7) (N 2018662466).

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