

сяч рублей и сократить время анализа на 69 %. В условиях растущих требований к качеству и безопасности продукции разработка и внедрение СУН становятся необходимым фактором успешного функционирования любого промышленного предприятия. ■

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Список литературы

1. Клубника К.В. Математические методы оценки надежности теплоснабжения. — Тюмень: Тюменский индустриальный университет, 2021.
2. ГОСТ Р 27.003–2010. Надежность в технике. Термины и определения.
3. Репкина О.Б. Роль и место планирования в обеспечении надежности работы предпринимательских организаций. — М.: Ученые записки Российской академии предпринимательства, 2011.
4. Грязнов М.В., Михайлов Д.В. Роль обеспечения надежности автомобильных перевозок в реализации транспортной стратегии Российской Федерации на период по 2030 год. — Ставрополь: Наука в современном обществе, 2014.

Development of a Reliability Management System for Enterprises of the Mechanical Engineering Industry

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key words

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The article discusses the development of a reliability management system (RMS) for enterprises in the mechanical engineering industry based on the modernized calculation of the technical readiness coefficient. The proposed approach allows to increase the accuracy of equipment reliability assessment, reduce the influence of the human factor and reduce the costs of reliability monitoring and analysis. Comparative calculations of current and proposed costs for analysis are provided, the economic effects of the system implementation are shown, including a reduction in analysis time by 69 % and a reduction in costs by more than 87 thousand rubles per year. The implementation of the RMS is considered as a necessary element of increasing the efficiency of production and ensuring its sustainability in the context of growing demands for quality and safety.

References

1. Klubnikina K.V. Mathematical methods for assessing the reliability of heat supply, Tyumen', *Tyumenskiy industrial'nyy universitet*, 2021, pp. 205–212.
2. GOST R 27.003–2010 Reliability in technology. Terms and definitions.
3. Repkina O.B. The role and place of planning in ensuring the reliability of business organizations, Moscow, *Uchenye zapiski Rossiyskoy akademii predprinimatel'stva*, 2011, pp. 67–71.
4. Gryaznov M.V., Mikhaylov D.V. The role of ensuring the reliability of road transport in the implementation of the transport strategy of the Russian Federation for the period up to 2030, Stavropol', *Nauka v sovremennom obshchestve*, 2014, pp. 133–136.