

THE MATRIX REPORT CONCERNING THE CROSS AUDIT OF ERA FOR THE ASFR ACTIVITIES

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Abstract: *The Matrix System is a basic model for assessing the Member States of the European Union (EU) they implement to manage the national railway safety. It consists of five main elements, divided into 26 different sub-items. The assessment is for each Member State level performance on each sub-element, on a scale of 1-5, where 1 represents the performance of ad hoc and 5 represents excellence. The assessment is based on an analysis of documents in conjunction with interviews with representatives of the Ministry and representatives of Romanian Railway Safety Authority - ASFR (NSA) and the railway sector (RUs / IF, IMs / GI).*

Key words: *audit, surveillance, traffic safety, railway sector.*

1. Introduction

The Matrix is a tool that was created by the European Railway Agency - ERA, in order to get a better understanding of how the harmonization of railway safety advances within the European Union (EU), so the ERA and the Member States may concern their activities better. To fully understand both the challenges harmonization of railway safety in the EU, and the potential solutions to these challenges, Matrix system has a broader perspective than just the basic requirements of the Railway Safety Directive (RSD). It combines the requirements of RSD with some well-

recognized principles of good governance, the OECD identified in 2012 in the book "Principles for government regulators", without which it would be difficult to achieve the overall objectives of the Directive on RSD. Among other things, the system Matrix is used to analyze interfaces ministry (i.e. Transport) National Safety Authority (Railway) - ASFR (NSA) and the National Body Investigation hereinafter Agency Romanian Railway Investigating (NIB / AGIFER) that is how they communicate internally with each other and with the railway sector.

Also, apparently, how they perform their duties so (as set out in Directive RSD) reflects the extent to which strive to

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continuously improve their business processes key.

2. The Assessment Exercise

This evaluation was performed Matrix system as part of an exercise of priority country. The Programme priority countries is something the European Railway Agency - ERA European Commission conducts on demand. It involves many different projects where the rail system is being evaluated in a Member State and has resulted in a report summarizing the conclusions and proposals [3]. Sometimes the results of other projects are relevant to assessing Matrix System. Whenever appropriate, operates mentions in this report clearly.

In this respect it is detected by the evaluation team led by Project Leader for specific activities and coordinator of the System Matrix priority countries for Romania. The Matrix Exercise has began with a review of documents to develop a picture of how the Railway Safety Authority Romanian - ASFR and organizations in the rail sector perform their duties relating to safety on the railways and included sources of information such as the latest annual reports of ASFR posted on the electronic address of the institution.

Initial interviews were conducted Matrix since opening meeting about the program of priority countries (in October 2014) with ASFR (NSA Ro) representatives [1].

During the site visit (June / July 2015), the project for specific activities Matrix system and program coordinator for priority countries have conducted the Matrix formal type interviews with the ASFR Director. It was drafted an outline of a preliminary report on releases of cross-checking by personnel experienced ERA Matrix evaluation system to ensure

consistency between various other Matrix Reports.

The Matrix outcome of the assessment made by the representatives ERA in Romania was presented during a meeting of representatives ASFR this year and subsequently agreed by both sides on the final evaluation.

3. General Findings

3.1. The Evaluation Context

All the technical activities are carried out under the tutelage and supervision of the four bodies under the aegis of the AFER namely: ASFR (Railway Safety Authority Romanian), OIFR (Railway Investigating Body) ONFR (notified body rail) and OLF (body licensing railway). ASFR undertake the supervision of all tasks Railway Safety has been designated as the Railway Safety Directive, together with inspection activities by the state, state control and surveillance audits / evaluation under national law in Romania.

3.2. The Findings Presentation

3.2.1. The Main Activities

ASFR issue safety certificates and safety authorizations also performing supervision and implementation. ASFR hold the necessary legal mandates to conduct and carry out their activities and to carry out more supervisory activities. Although this variation ASFR better manage internally, however it is believed may be more efficient supervisory activities in order to minimize the risk of duplication.

ASFR developed processes for making excellent safety certification, licensing and safety oversight [1]. Romania continues to detail the national safety rules in force, which constitutes an obstacle to the rail sector to take responsibility for the safety

management system based on risks assessment. However, ASFR progressing on the development of national strategies for clarifying the legal framework, alongside the railway sector support for developing a positive culture Railway Safety [2].

There is an ongoing process for implementation of new EU rules and developing national rules, including consultation with stakeholders [5]. At the ASFR level is openness and a willingness to make any legislative changes necessary when or where deficiencies are discovered or proposals are made by different actors in the railway system.

3.2.2. Cooperation and Transparency

There is a national policy in place for rail transport in Romania which was communicated to all stakeholders in the railway system. There is no direction focused only on railway safety, because it is treated as an integral part of security policy. ASFR has implemented policies and objectives, contained in a legislative framework, covering the daily activities.

The Matrix Assessment of Romania revealed that a regular basis, there are frequent meetings with Ministry of Transport and railway safety issues ASFR. There are also regular contacts between ASFR and AI (IMs) and / or ÎF (RUS) to discuss similar issues. Within ASFR, general objectives, working procedures and rules are communicated clearly at all staff [4]. Within ASFR, general objectives, working procedures and rules are communicated clearly at all staff.

The sharing experience and suggestions about how to improve performance, they are generally encouraged within the organization. It also is very active in networks ASFR ERA and generally promotes a supporting activity of the EU approach. Even if the Ministry of

Transport and ASFR reported to have good cooperation between them, it is noted that there is still set appointments for the current date (forums) in which all actors in the railway system to meet to discuss issues railway safety together.

The only activities whose character as a forum approaches are meetings organized by ASFR to do briefings on the new railway complex legislation.

This lack of a broader cooperation in the Romanian railway system could be explained partly by the fact that the Ministry of Transport or ASFR have common processes for identifying and managing interfaces with various other stakeholders.

The general opinion of the representatives of the railway sector in Romania is that ASFR is an entity that appears to be approachable and transparent [6]. They also mentioned that they can find a lot of useful information and websites of ASFR not hesitate to contact the organization directly if there is any question. The new bills are consulted before a new rail regulation to be finalized and published for implementation.

ASFR published detailed information about its activity on its website, including its internal processes and guidelines for the railway sector in Romania.

However there seems to be a difficulty in Romanian administrative system about expressing clearly the internal decision-making criteria, as this would constitute an illegal modification to legislation by the appearance of amendments.

This problem has been reported mainly by ASFR having a clear criterion for decision-making is essential for the railway sector organizations as ASFR be consistent and transparent in the actions they take [4]. Therefore, Romania could consider the possibility of reviewing its decision-making criteria by ASFR.

3.2.3. Approaches to Risks Management and Regulatory System

There is an awareness of the risk-based approach in Romania. However, it seems that most of the activities on risk management are reflected in the work ASFR that progress towards the development of systematic methods to process and promote all the information it gathers on rail operations currently under development and priorities of the relevant actors and the planning of supervision and how they carry out their duties.

For example, this information is used to determine the risk posed by individual attributes, representatives ÎF (RUs) and AI (IMs). There is still a long way to go before the railway sector in Romania, to achieve a high level of competence, sufficient risk-based approach [12].

ASFR identified the need to support the rail sector to conduct surveillance of several rail services, based on risk assessment [6] and the development of strategies in this area [11].

The general approach in the regulatory system seems to be a reaction rather than pro-action [10].

This finding is supported by the fact that there is little debate among the actors of the rail system on the common rail safety issues and ways to manage them as judiciously as possible.

When it comes to managing activities in the regulatory system, ASFR implement risk management procedures for both requirements relating to the main responsibilities as well as support and

support activities, such as management skills, which are reviewed regularly.

ASFR also has a program of internal audits which includes menus both at the central and territorial structures. Also ASFR currently underway last actions required to implement a comprehensive system of management skills and a regular review process across the organization.

These are essential elements covered some of the strengths and attributes essential characteristic ASFR that together with the organization's policy overall goals and strategies for achieving the targets [3] that ASFR and he proposed and which can be further developed in a integrated Management System.

In general, the image ASFR is a well-structured organization, with strong leadership and motivated. Also ASFR has its own document management systems, making it possible to follow decisions, holding also an internal evaluation process to improve performance and learning from personal experience, both positive aspects and shortcomings.

There are other areas of development of a regulatory system in risk management at ASFR.

3.2.4. The General Overview of the Levels

The following is an overview of results of evaluation of Romania Matrix. A sub-item referred to in the diagram stage of the ASFR own activities (Figure 1), has reached different levels, but which is not relevant for Romania.

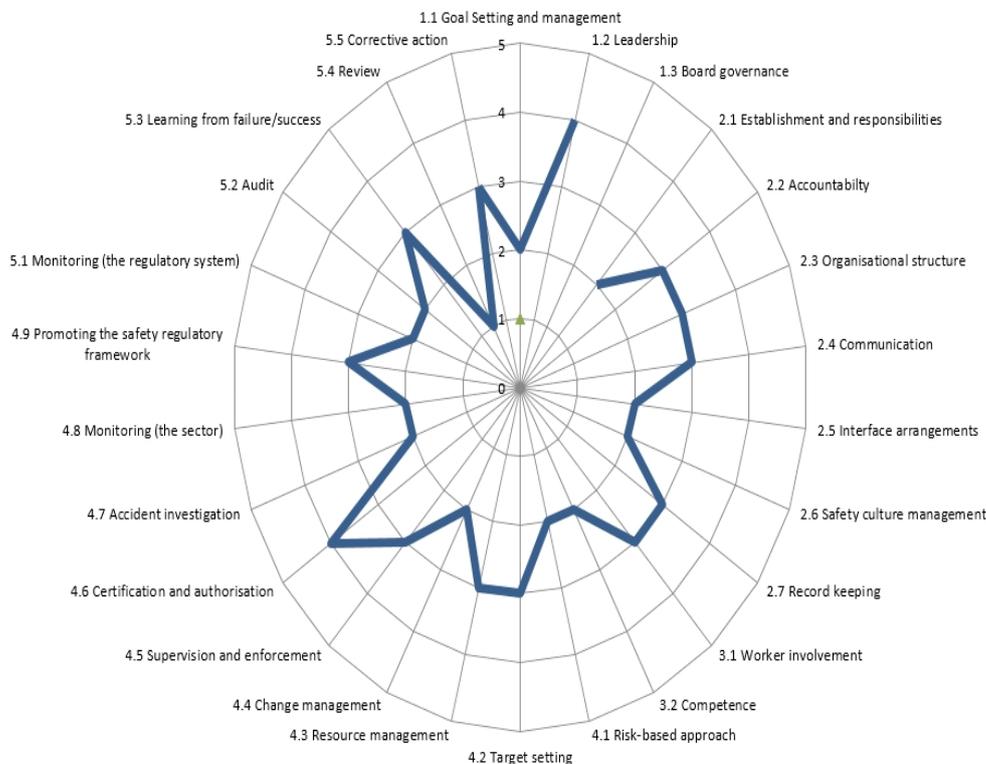


Fig. 1. *The diagram stage of the own activities ASFR*

4. Conclusions

ASFR entity is aware of the problems encountered by the railway system in Romania and is motivated to make positive changes. Also ASFR declared support firmly support the objectives of EU railways in Europe and welcomes the relevant market opening in area. To this end, ASFR was open to adopting best practices from other organizations, both inside and outside the common railway market.

ASFR thus demonstrates willingness to improve its performance. Specifically, focusing staff competence and performance of close communication between management and personal organization. There is a still prominently cooperative relation between actors in the railway sector in Romania. But ASFR

seeking feedback from the industry on a regular basis, scheduling meetings and bilateral meetings with representatives of the railway sector. This approach has the potential to open the debate among stakeholders and to exchange information on best practices.

However, ASFR promote actively and steadily approach risk assessment of the dangers of sector railway and risk management, both within its own procedures and by interacting proactively with the resort, while emphasizing the positive benefits for business in the market of railway transport.

ASFR is concerned at the same time and implementing a system to assess risk levels [7]. This has the potential to be a powerful tool for both motivating and monitoring the progress of the railway sector and to implement a risk-based approach and on

the basis of efficient management of railway safety [9].

ASFR recognizes the importance of a positive safety culture for the effective implementation of the safety management system. ASFR organization is aware of the problems arising from sanctions regime (as set out in the Romanian legislation, namely Law 53/2003) in connection with a negative influence on reporting and a culture of safety in the rail system. When sanctions under state inspection activities, ASFR trying to direct fines at top management level.

As part of the surveillance activities on railway safety management, and other measures ASFR apply using the full scope on possible responses where appropriate. The recently revoked ASFR a safety certificate Part B of a railway undertaking (RU - ÎF). ASFR commitment consists in applying appropriate measures with a proactive approach using surveillance audits as a learning opportunity and demonstrates best practice in the application of Common Safety Methods (CSM) on supervision.

The legislative framework for railway operations in Romania is mainly an extensive set of binding regulations. On the one hand, as explained by representatives ASFR, it is in fact an important support for new actors on the relevant railway transport market. On the other hand, it is actually an obstacle to the implementation of a risk-based approach by stakeholders on efficiency actions and to develop processes and procedures through safety management systems for the safety of the operation [8].

The challenge in coming years will be for the railway sector and will consist of taking its responsibility for railway safety and a risk-based approach on current activities in the framework of existing regulatory aim is to achieve safety objectives of the Regulation by own

measures and procedures.

There is a difficult task ahead for ASFR to manage this change process complex and to achieve also a balance between transforming the regulatory framework to promote aging in the rail sector by eliminating prescriptive rules and ensure the safety of transport on until the rail becomes progressively less dependent on this support through their own effective systems of railway safety management. ASFR is developing a tool to recover gradually and classify risk individually for each of the companies in the railway sector that will help this evolutionary process. However, it will also need to be managed more structured regulatory framework for rail itself, with clear objectives, steps to review and evaluate the effectiveness of legislation, and develop a migration strategy to address reform, in accordance with the policies transport in the European Union.

It also will set ASFR debate among rail sector stakeholders to identify common problems of security in view contacts and regular information sessions close to the railway sector. Nevertheless, ASFR will consider the best approach and facilitating the exchange of best practices. This will be a benefit for the management of change processes described above. ERA report presents in detail the topics that were covered in this informative material. Also, this report will be included in the final evaluation of the project work priority countries for Romania.

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References

1. *Matrix Evaluation of Romania - ERA Report - ERA Safety Portal*, version 0.28 / 2014.
2. Dae, G., Carabineanu, M., Dumitru, G., *The Stages Process For Placing In Service Authorizations Commissioning*, World Conference on Science and Mathematics Education - WCSME, Published by International Publishers Elsevier, Springer Taylor and Francis, Awer-Center Proceedings Journals indexed by AWER INDEX and SCOPUS, EBSCO, Thomson Reuters Conference Proceedings Citation Index (ISI web of science), 13th – 15th of November 2014, Kemer Antalya, Turkey.
3. Dae, G., Carabineanu, M., Dumitru, G., *The Phases Process For Putting In Service Authorizations Commissioning*, on the 14th Conference on Vehicle System Dynamics, Identification and Anomalies - VSDIA, 10th – 12th of November 2014, Budapest, Hungary.
4. Dae, G., Carabineanu, M., Dumitru, G., *Process Stages Authorization For Putting In Service*, Proceedings of Scientific Journal of the Balkan Tribological Association JBTA, ISBN 978-973-719-570-8, published at the Publishing House "SciBulCom", Sofia., 30th of October - 1st of November 2014, Sinaia, Romania.
5. G. Dae, M. Carabineanu, G. Dumitru, *Etapele procesului pentru autorizarea punerii în funcțiune (The stages for the authorization of commissioning)*, National Symposium Railway for Rolling Stock, XII Edition, UPB, ISSN 1843-9888, pp. 283 – 291, 21th – 22th of November, 2014.
6. G. Dae, M. Carabineanu, G. Dumitru, *Etapele autorizării pentru punere în funcțiune (The stages for the authorization of commissioning)*, AFER Bulletin, no. 3, ISSN 1843-9888, pp. 3 – 21, May / June, 2014.
7. Dósa, A, Ungureanu, V. V. - *SCFJ – model discret de pierdere a stabilității căii fără joante (SCFJ – discrete model for continuous welded rail buckling)*, “Timisene Academical Days: 10th Edition, Timisoara, Romania, 24th –25th of May 2007 - Symposium: Efficient infrastructure for the terrestrial transport” – Solness Publishing House, Timisoara, ISBN 978-973-729-101-1.
8. Ungureanu, V. V., Comănici, M. - *Sensitivity study of a model for the stability analysis of continuous welded rail*, Intersections / Intersecții, Vol.4, 2007, No.1, “Transportation Infrastructure Engineering”, ISSN 1582 – 3024.
9. Ungureanu, V. V., Dósa, A. - *Parametrical study of the effect of the torsional resistance of the fastenings on the stability of continuous welded rail*, Intersections / Intersecții, Vol.4, 2007, No.1, “Transportation Infrastructure Engineering”, ISSN 1582 – 3024.
10. Ungureanu, V. V. - *On Elimination of Interior Rail Joints and the Including of Welded Railway Switches in Continuous Welded Rail Track (2009)*, SUSTAINABILITY in SCIENCE ENGINEERING, Volume II, Proceedings of the 11th WSEAS International Conference on Sustainability in Science Engineering (SSE '09), Timisoara, Romania, 27th – 29th of May, 2009, ISSN: 1790-2769, ISBN: 978-960-474-080-2, WSEAS Press.
11. Ungureanu, V. V., Dósa, A. - *Algoritm pentru determinarea probabilității de pierdere a stabilității cadrului șine - traverse (Algorithm for determining the probability of*

- continuous welded rail track buckling*), Proceedings of Scientific Conference Civil Engineering – Building Services CIB 2007, 15th – 16th of November, Braşov, România, *Transilvania* University Publishing House – Braşov 2007, ISSN 1843-6617.
12. Ungureanu, V. V. - *Cercetări privind simularea pierderii stabilităţii căii fără joante (Research about simulation of continuous welded rail buckling)*, Ph.D. Thesis, *Transilvania* University of Braşov, Braşov, Romania, 2007.