The EFNDT Railway Forum – an opportunity to work in the field of non-destructive testing in Europe

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Abstract
The inspection of railway components has risen steadily in recent years. In particular, the mechanization and automation of inspection processes play an essential role. For the development and optimization of these rules and processes there are national committees in the European countries. In these committees partners from different areas of NDT are working together to find optimized solutions for of the above tasks.

The past shows that an increasing globalization has been observed in the processing of the above processes. The railway companies are striven to establish common standards because of the overlapping conditions. This is a huge range for an intensive cooperation between the railway companies and their partners.

Therefore a railway forum was founded within the EFNDT on the initiative of the DB Systemtechnik GmbH and the German Society of NDT. The first meeting took place in Berlin in November 2010. Participants were partners from France, Great Britain, the Netherlands and Germany.

At the moment the following countries are involved in the forum: Germany, the Netherlands, Switzerland, Austria, Hungary, France, Italy and Poland.

In the following meetings it was shown, that there are numerous similarities in the field of NDT within railway maintenance but it requires standardization as a basis for a European sector railway maintenance. The similarities and differences can be seen in a document, which was drawn up by the members of the forum.

In 2011 two further groups were founded with the aim to work in the field of standardization within the CEN. Members of these groups ate participants of the Railway forum, too. So there is the possibility of communication between both groups.

Furthermore, the forum can now focus the work on the technical part of NDT, because the standardization work is better settled in the CEN. The plan is to organize further meetings to present and discuss special topics of NDT within the railway maintenance.

Finally please note that the forum does not prescribe completed membership. That means if there are interested NDT specialists, please feel free to work in the forum.

Keywords: EFNDT, Railway, nondestructive testing, education

1. Introduction

The inspection of railway components has risen steadily in recent years. In particular, the mechanization and automation of inspection processes play an essential role. For the development and optimization of these rules and processes there are national committees in the European countries. In these committees partners from different areas of NDT are working together to find optimized solutions for of the above tasks.

The past shows that an increasing globalization has been observed in the processing of the above processes. The railway companies are striven to establish common standards because of the overlapping conditions. This is a huge range for an intensive cooperation between the railway companies and their partners.
Therefore a railway forum was founded within the EFNDT on the initiative of the DB Systemtechnik GmbH in Brandenburg/Kirchmöser and the German Society of Nondestructive Testing in Berlin.

2. Structure of the Railway Forum

Currently the following countries are represented in EFNDT Railway Forum:

![Countries represented in the EFNDT Railway Forum](image)

The chairmanship is currently provided by the DGZfP. The forum has been made 8 meetings in the last years, usually twice a year. The following part should be addressed to the individual meetings and the development of the fields of interest of the forum.

3. Meetings of the Railway Forum

3.1 Meeting Berlin (November 2010)

The initial meeting took place in Berlin on the 4th November 2010. Participants were partners from France, Great Britain, the Netherlands and Germany. The aim was to find participants for the railway forum as well as to get to know the structure of the EFNDT. Dr. Purschke as the president of the EFNDT presented the structure of the EFNDT in this meeting. In addition, presented the participants of the different countries presented their companies and firms in order to gain a first impression of a possible structure of the forum. During this meeting possible goals and tasks of the forum were addressed and discussed. Already at that time it became clear that all participants are interested in the standardization of non-destructive testing in the railway maintenance sector.
It was also determined, that the participants of the forum will carry out meetings twice yearly to work on the field of standardization as a contribution for the relevant standardization bodies.

3.2 Meeting Amersfoort (March 2011)

During the second meeting possible steps were discussed leading to a standardization of the sector railway maintenance. It became clear that the field of education and training has an important position. Therefore it was decided to draw up an overview of the training concepts of the participating countries in order to determine similarities and differences and to derive a common basis.

In summary, the following important points were identified for a standardization on the field of nondestructive testing:

- organization of the railway sector in different countries
- organization of the training of inspection personnel (contents, training periods and certificates)
- development of inspection instructions and their using during inspection processes
- inspection intervals, inspection methods, inspection sensitivity
- integration of the inspection training of the multi-sector to the sector railway maintenance
- extension of the contents of the vehicle maintenance on the maintenance of the infrastructure.

3.3 Meeting Wittenberge (June 2011)

During the third meeting in Wittenberge in the training centre of the DGZfP the presentations of the involved countries were presented. These presentations were the basis for the planned overview of training systems in Europe in the field of NDT, which should be discussed during the next meetings.

At this time two working groups was founded within the CEN for an intensive work on the field of standardization of nondestructive testing of Railway components, especially bogies and components of the track.

3.4 Following meetings

On the following meetings (Paris, Budapest, Toulouse, Berlin), the participants dealt with the discussion about the information collected from the various countries. The focus was on the definition of the sector railway maintenance, which led to numerous discussions, because of the different opinions of the participants concerning the training within this sector. It should be noted that these discussions will be continued to this date and are not yet completed.

At the meetings the opportunity were also used, that the inviting company could imagine at the other participants in detail what always found the interest of the participants and it lead to an intensive information exchange.
Furthermore, the participants were informed at the meeting in Toulouse hard about the methods in the training of NDT personnel in the field of aviation. It was very interesting for all participants, because this education and training system is much more globalized compared to the system in the sector Railway maintenance.

In addition, it was shown during all meetings, that the EFNDT Railway Forum is a good basis for the exchange of information concerning the standardization work of the groups working for NDT of rolling stock and infrastructure.

**4. Future work**

Meanwhile, the standardization bodies have been established in the field of NDT on vehicle and track components and they are working intensive to create the rules and regulations for the nondestructive testing of Railway components. For this reason, the original work of EFNDT Railway Forum is no longer necessary in the first intensity. Nevertheless, there is the possibility for all participants of the Forum to continue the work with the focus on an intensive technical exchange regarding the NDT of railway components. This was decided by the present participants at the last meeting of the Forum in Vienna in November 2013.

For this reason, all interested experts of NDT are always welcome to participate in the yearly meetings of the EFNDT Railway Forum.