

Development of a Harmonised System for Education, Qualification and Certification of Railway Track Welders - RAILS SAFE

RAILSAFE is a Leonardo da Vinci Community Vocational Training Action Programme Project

Background

Safety of rail traffic depends highly on the quality of the tracks, on the welds in the tracks and thus on the skills of the welder. Over the last years a number of accidents and near-accidents have happened. This resulted not only in injury to (and sometimes in death of) passengers, but also in downtime of the railway service and therefore loss of money. Some of these accidents were due to weld problems.

Problems can also occur as a result of variable weld quality causing welds to be rejected and taken out of service. This, in turn, can result in speed limits and delays.

The railway network throughout Europe is old and it is common knowledge that maintenance has been delayed for financial reasons, especially after the privatisation of the railway network. The railways tracks need overdue maintenance and repair. In rail construction and maintenance, reducing track possession time is a key feature of improving workforce safety. In welding terms, the same problems are experienced equally throughout Europe, like: lack of uniformity of training and testing of welders, lack of common syllabuses and lack of mobility of skilled welders. This is not only true between countries but also within some countries. To set welders to work for other companies or in other countries is often hindered by different procedures and different qualification of welders.

The policy of the European Commission is to revitalise the railways, to promote the interoperability between the separate national railway systems and to improve the safety. (see EC White paper: European Transport Policy for 2010: Time to decide, 2001).

Another policy of the European Commission is to stimulate, through the "Leonardo da Vinci Community Vocational Training Action Programme", education and training in a life-long learning process to improve employability and to make work across national boundaries possible: free movement of people in the European Union.

The RAILS SAFE project

The European Welding Federation, with national welding institutes as members, has harmonised education, training, qualification and certification of welding personnel in Europe. The EWF has issued 50.000 diploma's over the last ten years. Railway welding is however not part of this scheme.

To have a European database of certified welders implies the certification of welders on a common European bases and all the necessary steps which lead to certification. The definition of a certificate is in this context a document showing current competence. It has limited validity in time and is essentially a life-long-valid diploma with a check on knowledge and skills at regular intervals.

The steps leading to certification include – going backwards – qualification of welders (diploma), harmonised (European) examination, education and training according to a harmonised curriculum guideline at approved training establishments. And above all these activities, quality audits on the whole system have to be performed and railway welding parties concerned, such as railway authorities, contractors, process suppliers, training establishments and welding institutes, have to be involved.

These steps actually address all the problems – to some extent - as mentioned above under "Background".

For the purpose of carrying out these steps a project has been formulated: "Development of a Harmonised System for Education, Qualification and Certification of Railway Track Welders",

RAILSAFE. The European Commission agreed to partially finance the project under the "Leonardo da Vinci Community Vocational Training Action Programme". The project has started on 1 October 2004 and will take three years to complete. It will be carried out by 9 partners from 7 different countries: a contractor building railways, a consultant on quality and harmonisation in welding, a European organisation representing welding institutes and welding institutes themselves with expertise in education, training, qualification and certification of welders. The project will be managed by TWI. The UK Institute of Rail Welding (IoRW) has agreed to give input to the project.

The project aims for well-trained and qualified welders. In the project the cause for weld failures and rejects will be analysed. An education, training, qualification and certification system for railway track welders will be developed, using the best of existing national material, but with a fresh look at rejects and failure prevention and thus on quality and safety. As far as welding processes are concerned, RAILS SAFE's main attention will go to aluminothermic welding.

The objectives of the project are:

- to harmonise education, qualification and certification to make exchange of welders for national railway authorities and companies in the European Union possible and
- to assure the quality of and access to continuing vocational education and certification for life-long competences and better employability of railway welders across national borders.

The harmonisation will comprise the performance objectives and curriculum for education and training (not the training material), examination, qualification (European diploma) and certification (European certificate, database of certified welders).

Getting RAILS SAFE started

During the preparation of the RAILS SAFE project proposal, CEN TC 256 WG 4 has been developing standards on railway track welding procedures and on training of welders for aluminothermic welding. These standards are for comments and are not in force yet. These emerging standards prove to be a basis for the RAILS SAFE activities, especially the standard on procedures. The draft standard on training of welders has however features which are different from the originally proposed ideas of RAILS SAFE.

While the project activities has begun, RAILS SAFE's project management has started discussions with major process suppliers and railway network authorities to determine how to get to the most effective way of cooperation.