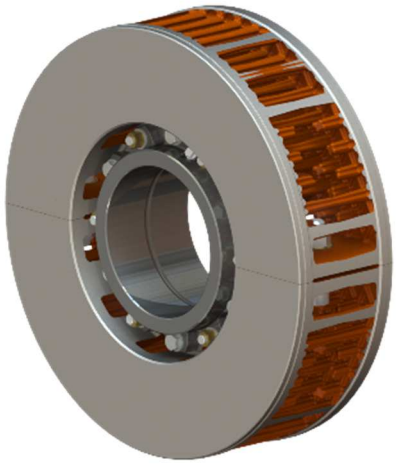
WORK PACKAGE 6 (WP6)

Communication,dissemination and exploitation

PROJECT DELIVERABLE 6.6

2 ACTIONS AT SCHOOLS



FUTUre RAil freight transport: cost-effective, safe, quiet and green! – FUTURA

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DRFB Divided rail freight brake
FEM Finite Element Method

1 INTRODUCTION

The scope of the present document is to report and present the activities in schools during the global week of traffic safety within the FUTURA action.

2 MAIN OBJECTIVES

The main objectives of presenting the FUTURA project in the elementary and secondary school were to inform pupils and students about positive influence of the FUTURA project on safety in rail transport, influence on health, environment, and quality of life for those who live and work near train tracks.

3 ORGANISING ACTIVITIES IN SCHOOLS

Activities in local schools were organized to inform the pupils, students, teachers and headmasters about the main objectives of the project, and to present current results and achievements.

The activities in local schools were considered to be introduced to a wide range of the pupils, students, teachers, headmasters, parents and other interested parties.

In February, on the Open days, Kovis took the opportunity to organize an activity in the Secondary School Center Krško, for the prospective students and their parents.

The FUTURA project was also presented at the local primary and secondary schools during the 4th global week of traffic safety, which took place from the 8th – 14th May 2017, under the auspice of the United Nations.

All the activities in schools, which were planned for organization during the global week of traffic safety, were conducted in year 2017. United Nation did not organized an action in year 2016.

4 ACTION AT SCHOOLS

4.1 1st action: Open days at the Secondary School Center Krško-Sevnica

Kovis responded to invitation of the Secondary School Center Krško-Sevnica to participate on the Open days, from 10th to 11th of February. The intent of this activity was to present the FUTURA project to the prospective students of the Secondary school Center Krško-Sevnica, their parents, teachers and students.

For this occasion, promotion material in Slovenian language was prepared. The awareness of the action was intended to be increased with posters and leaflets of FUTURA project. All basic information about the project, and EC guidelines about mentioning the co-financing party were considered.

Figure 1: Promotion material of FUTURA project

The organization and participation at the first action in school was carried out by Kovis employees Karmen Vrtovšnik and David Deržič. The progress of optimization, as well as optimization results of the second prototype of DRFB disc were presented at info desk of Kovis. During the event,

discussions about the project has developed. The audience was very interested which methods and means were, and will be used to lower the noise levels, as well as achieving other objectives, like reduction of mass and braking distance. The explanation on this topics was given through conversation and paper material which included graphs and pictures with achieved results.

On the 10th of February, the Managing director of the company Kovis, Mr. Alen Šinko, made a presentation to the pupils, their parents and teachers. The topic of this presentation was future of rail freight transport, contribution of innovative DRFB disc to cost-effectiveness and efficiency of rail freight transport, as well as impact on safety, security, and health and environment of citizens who work and live near the train tracks.

Figure 2: Kovis info desk

Figure 3: Wider public on Open days on the Secondary School Center Krško-Sevnica

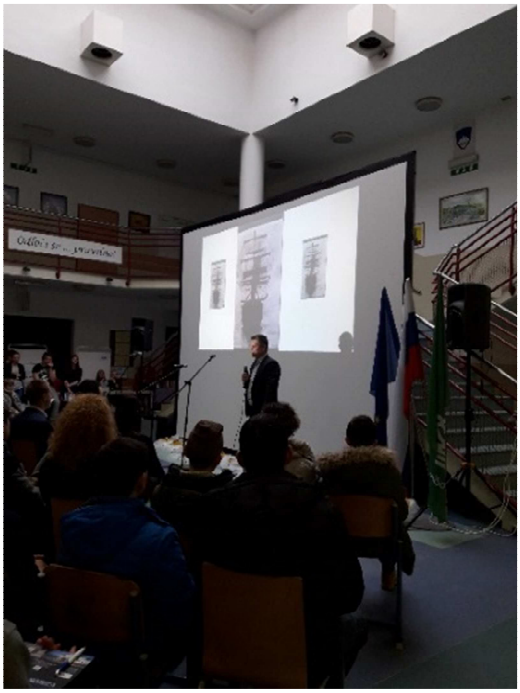

Figure 4: Presentation by Managing director of the company Kovis, Mr. Alen Šinko

Figure 5: Roll-up of the FUTURA project on the Secondary School Krško-Sevnica

4.2 2nd action: Presentation at the Secondary School Center Krško-Sevnica

On 12th of May 2017, during the 4th global week of traffic safety, FUTURA project was presented to teachers, headmaster and 3rd grade students of the Secondary Vocational and Technical School Krško. During this presentation, 59 students, 2 teachers and the headmaster were present.

In the first stage of the presentation, the FUTURA project was presented by Kovis employees Karmen Vrtovšnik and Uroš Grivc. The main objectives of the proposed action, and the new technical solution – Divided Rail Freight Brake Disc (DRFB), were explained.

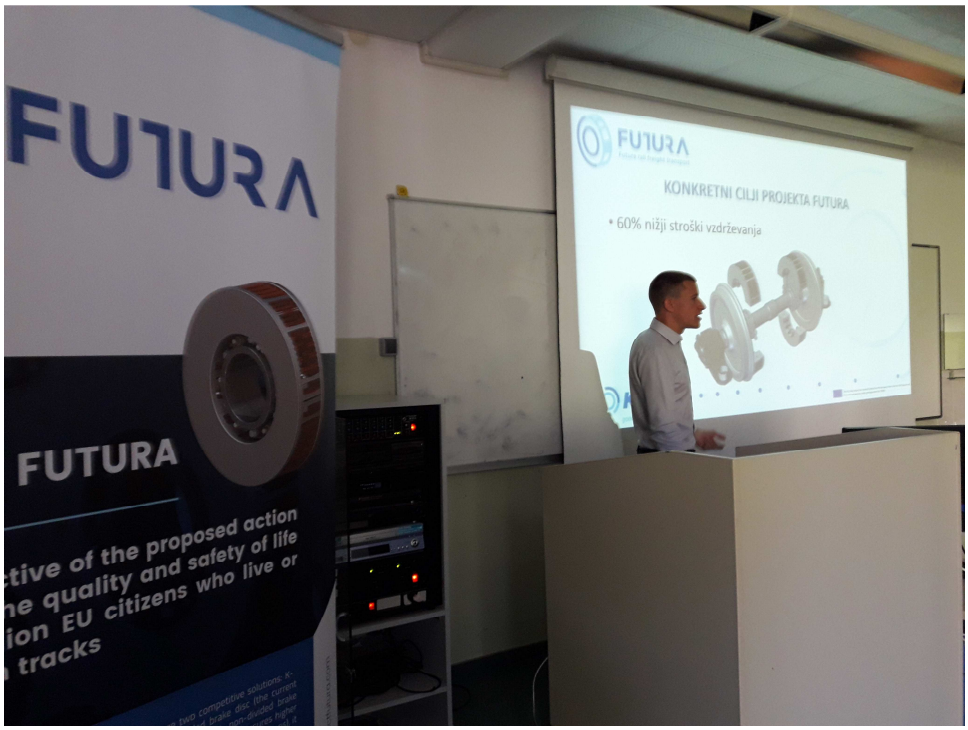

Figure 6: Presentation of FUTURA project to the students

In the presentation, it was also explained that essence of this project is to take the last development steps for market launch of DRFB disc, and that this effort was recognized by the European Commission. Followed by EU recognition, project FUTURA became a part of Horizon 2020, biggest EU Research and Innovation programme.

After giving basic information of the project, the main objectives of FUTURA project, optimization results, as well as current stage of project, were presented.

As this presentation took place within the global week of traffic safety, one of the main objective was specially exposed: safety in rail freight transport. The emphasis in presentation was on decreasing the number of accidents through reduction of braking distance of freight trains, and improving the reliability of braking systems through better heat dissipation of DRFB disc.

At the second stage, followed by presentation, the discussion was conducted. Students and teachers actively participated during the entire presentation, and asking different questions about the content of the project. Students of Secondary School of Mechanical Engineering showed a great interest from technical point of view, e.g. how the FEM simulations were prepared, how the tests of the disc were implemented, and how reduction of mass was achieved.

For example, findings of one of the student was – *"If a car accident happens on the railway crossing, the freight train with revolutionary DRFB disc will have a shorter braking distance than the train with another braking system, and thereby, prevent even bigger accidents.*

At the end of the discussion, the conclusion was that safety of the freight rail transport is very important for all people, and most important, it can be improved by use of DRFB discs. This presentation met its purpose: presentation of positive effect of the project to the wider population, as well as raise of awareness on safety, security and health and environment among the people.

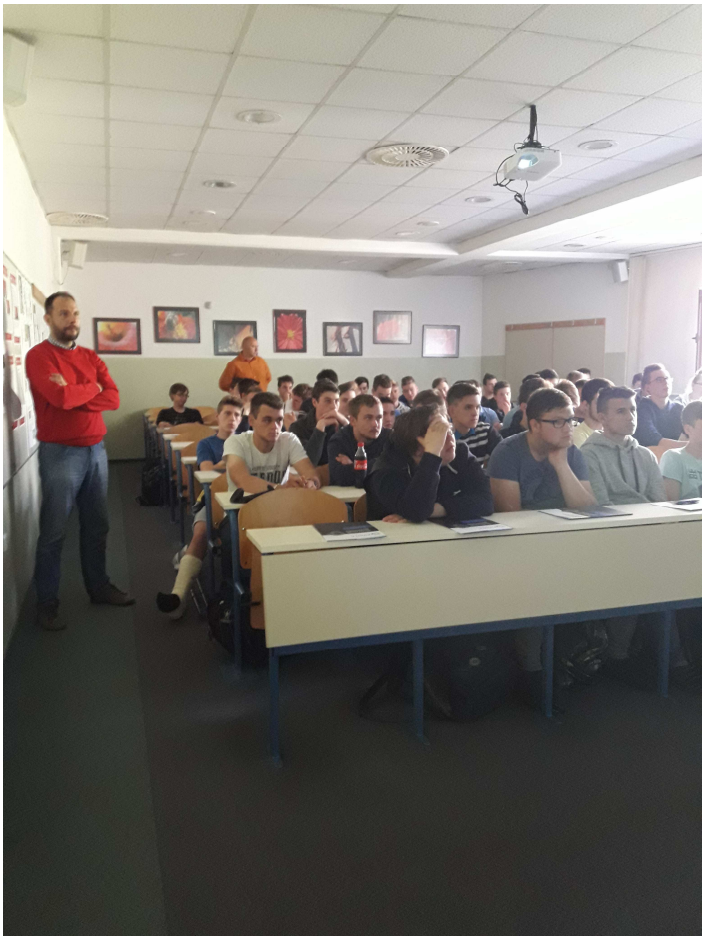

Figure 7: Students and teachers from Secondary Vocational and Technical School Krško

Followed by successful presentation and discussion, a quiz was prepared. The aim of quiz was to check the students understanding of FUTURA project, its objectives, and influence on rail freight transport. For correct answers, symbolic gifts were given to the students.

At the end of presentation, students were invited to follow the news and updates on the web site and Facebook profile of FUTURA project.

4.3 3rd action: Presentation at the Elementary School Leskovec pri Krškem

In the afternoon of the same day, on 12th of May 2017, during the 4th global week of traffic safety, FUTURA project was presented to the teachers and pupils from 8th grade of Elementary school Leskovec pri Krškem. The visit to primary school was conducted by Kovis employees Karmen Vrtovšnik and Uroš Grivc. During the presentation, 33 pupils and 2 teachers were present.

The presentation was prepared in accordance with age and understanding of the pupils. The basic information about the project, and explanation of DRFB disc were given. Followed by basic information, the optimization results of prototypes were presented.

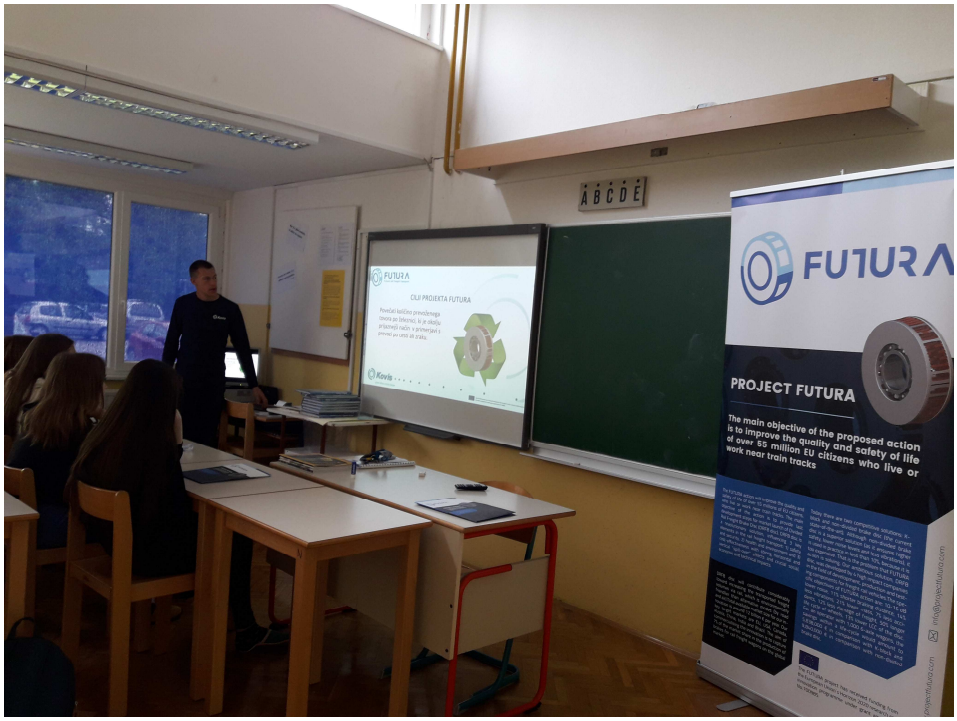

Figure 8: Presentation of the FUTURA project to the pupils from 8th grade

At the end of the presentation, the discussion was conducted. Pupils actively participated in discussion. The biggest interest was on following topics: influence of freight train noise levels on humans, and how the freight rail transport is more environmentally friendly than the other ways of transport.

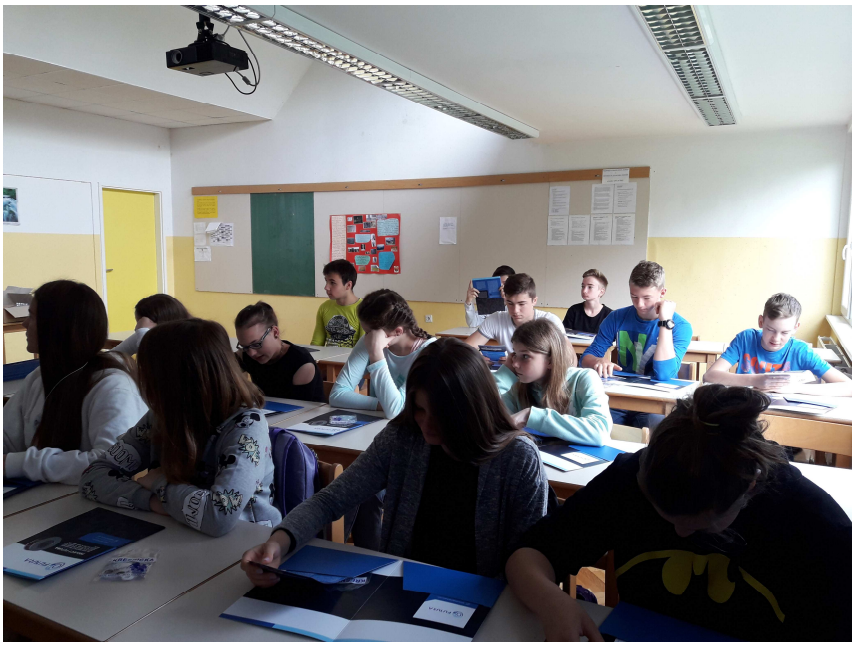

Figure 9: Elementary school Leskovec pri Krškem

At the end of presentation, in purpose to check the understanding of the FUTURA project, a quiz was prepared. The asked questions were extracted from presentations. For correct answers, symbolic gifts such as reflective objects, and USB flash drives with FUTURA logo were given to the pupils.

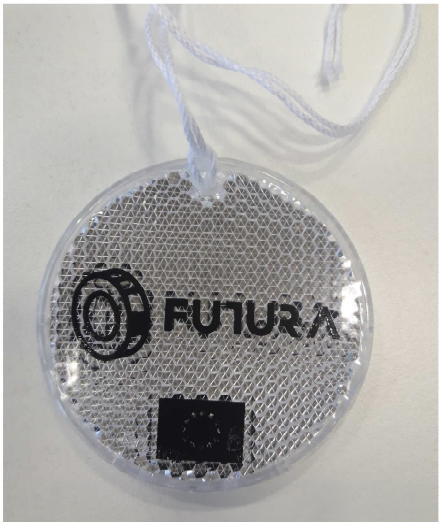

Figure 10: Reflective object

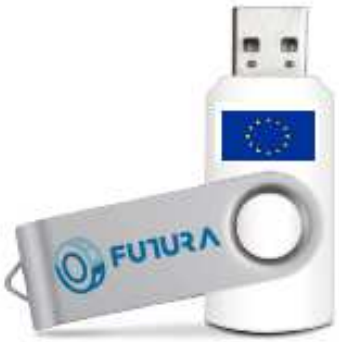

Figure 11: USB flash drive

The purpose of presenting the positive effect of the FUTURA project to the wider population was achieved, and it was confirmed with positive feedback from pupils and teachers.

Pupils from 8th grade of Elementary school were also invited to follow the news and updates on the web site and Facebook profile of FUTURA project.