



# Concern Fabrika Vagona Kraljevo



## WHO WE ARE:

Concern Fabrika Vagona Kraljevo is a medium-sized factory with approximately 1000 employees which has been operating for 73 years. It was founded as an airplane factory before the Second World War and was transformed into a railroad workshop before becoming the current modern wagon factory. Its activities include design, research, new technology implementation, manufacturing, testing, reconstruction and repairing of all types of freight wagons, tank wagons, special wagons and containers. It also designs, manufactures and tests various parts for freight cars and steel construction activities. As for the assortment and quality of its products, the factory has gained an excellent reputation among its foreign customers. The factory uses the most modern production technologies and has its own product development. Concern Fabrika Vagona Kraljevo has qualified staff and the necessary capacity for the independent design and testing of its products. All kinds of testing of its products are carried out in the specially equipped test centre of the factory.

## COLLABORATION INTERESTS:

Concern Fabrika Vagona Kraljevo is interested in participating in all kinds of international projects in its area of expertise, including projects which improve the methods of testing railway vehicles and develop the manufacturing of freight wagons. Its experienced experts could contribute to the implementation of a number of FP7 projects, but could also take part in projects in which they will be subject to trainings.

## AREAS FOR R&D COLLABORATION:

The main area of collaboration is the manufacturing of freight wagons and more specifically in:

- the development of horizontal components for freight wagons – increasing the axle load;
- the development of new components for freight wagons;
- the development of a smart wagon – wagon which gives dates about the operational properties of the freight wagons;
- the development of new methods for testing freight wagons.

## MAIN ACHIEVEMENTS:

One of the most important achievements of Fabrika Vagona Kraljevo is the design and development of an office for freight wagon work on new wagon types where modern technologies such as computer aided design and FEM calculation are applied and used.

Production design is made according to TSI, EN, UIC and national regulations. Before real testing, Fabrika Vagona Kraljevo simulates all loading cases on a computer and finds the best optimised con-

struction. The factory also has an accredited laboratory for testing. Its design and production is certified at TUV. All products have been approved by EBA and DB.

The factory collaborates in testing and FEM calculation with the Faculty of Mechanical Engineering Kraljevo of the University of Kragujevac.

## WHAT MAKES US A GOOD PARTNER?

- We have a long TRADITION.
- We offer QUALITY.
- We are open for COLLABORATION.

## EU PROJECTS:

“Regional railway transport research and training centre foundation,” funded by FP6, 2005.

## OTHER PROJECTS:

1. Development of methodology for testing of railway vehicles in reposition through the S curve.
2. Training and preparation for the accreditation of testing laboratories train cars in accordance with European standards - support export.
3. Development of analytical design, based on the experimental results obtained during the study of rail vehicles in order to investigate the optimal structure.
4. Development of analytical and experimental methods for the design of rail vehicles.
5. Development of analytical and experimental concepts in the design sub-circuits for high-speed railways.
6. Application of new techniques and technologies in the



Fig. 1. Wagon Sgnss 60



transport and integrated transportation systems (the ability of the domestic equipment according to international standards).

7. Studying the possibility of increasing speed of existing passenger and freight cars.
8. Conquest of welding carriage springs in recovery.
9. Winning the new product of four-axle wagons with higher payload for Eanos.



**Fig. 2.** Wagon Uaaiss



**Fig. 3.** Measuring equipment for testing freight wagons



**Fig. 4.** Wagon Hccerris



**Fig. 5.** Bogie Y25Lsd 1-k



**Fig. 6.** Wagon Zans



**Fig. 7.** Wagon Zagkks 102

**OTHER INFORMATION:**

**Name of the organisation:** Concern Fabrika Vagona Kraljevo  
**Organisation type:** Company  
**Name of the research department:** Department for Technological Development  
**Number of researchers:** 7  
**Working languages:** Serbian, English, Russian, German  
**Webpage:** [www.fvk-kv.com](http://www.fvk-kv.com)  
**Contact person:** Dragan Pančić  
**Position:** Chief of Department for Technological Development  
**E-mail:** [gen-dir@tron-inter.net](mailto:gen-dir@tron-inter.net)  
**Tel:** 00381 36 392 529, **Fax:** 00381 36 392 529