



## **ACADEMIC YEAR 2017 – 2018**

### **TITLE OF DIPLOMA THESIS:**

Contribution to the creation of an integrated system for the management of the railway line fence aiming the safety

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### **ABSTRACT**

The purpose of this thesis is to contribute to the creation of an integrated system for the management of fencing in a railway line or part thereof. Fences are part of the railway technical projects and serve beyond the boundaries of the property of the railway, preventing widthwise crossing the railway lines from humans and animals in general and their presence in the line occupation zone. In this context the existence or not of a fence is directly linked to railway safety as a large group of railway incidents attributed to the absence of a fence or in the case of its inadequate characteristics. The proposed rail fence management system covers two (2) cases of operation of a railway system: 1. Where a fencing facility is already installed on a particular section of a railway line and 2. In the case where there is no fencing facility in a particular section of railway line. The objectives of the management of the railway technical project in question are: a) Security against incidents caused by the intrusion of people, animals and road vehicles into the railway crossing area, b) Secure, fast and targeted (at specific points in the line) removal of trains passengers from the line passage in the event of trains being stopped on the lines for some reason (collision, derailment, fire, damage, etc.), c) Deciding whether or not to install a fencing on a particular section of railway line that does not exist, d) If the fencing is considered necessary, the choice of the best solution for the type and characteristics of the fence. At the same time, supportive scientific tools are proposed and developed for both the rail system operation cases, which contribute to the implementation of the integrated system for the management of railway fencing. Scope of application is, for rail systems, high-speed and conventional high-speed rail, regional rail and suburban rail. Finally, through the pilot implementation of this system in real conditions (two sections of the Greek railway network), it is possible to evaluate and further improve it.

### **KEYWORDS**

Fencing on the railway, Railway safety, Railway Fence Management System, Standard fences, Types of fences

