



**Alain ATRUFFE**

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### **Biography:**

*Alain ATRUFFE is an engineer from the Ponts et Chaussées school and has worked at the SNCF since 1982. He has led a wide variety of missions in maintenance operations, infrastructure work and project management.*

*He was previously Director of regional trains of the Lorraine region from 2009 to 2013 then Director of regional network in the Nouvelle-Aquitaine Region.*

*Since 1 February 2019, he has a full-time job in SNCF Réseau headquarters devoted to improve SNCF Réseau's level crossing policy.*

**Title of presentation:** How should we invest in level crossings?

### **Summary:**

*SNCF Réseau is in charge of 15000 level crossings on which approximately 100 collisions occur each year. Collisions with busses or lorries may cause a lot of fatalities and arouse great emotion all over the country.*

*Meanwhile, the budget devoted to improving level crossing security, whether it comes from the government or infrastructure manager or local authorities, is obviously limited.*

*So SNCF Réseau led a study concerning 2000 level crossing accidents over 11 years on the French national network, in order to provide guidelines for security improvement investments.*

*At first, statistical analysis shows the main features of these accidents, in relation with the level crossings' typology.*

*For this ranking, SNCF Réseau used a weighted victims index, increasing the weighting of accident resulting in several fatalities, bearing in mind the emotional and media impact of this kind of incident.*

*Then, a rigorous analysis of about nine pieces of equipment, already in use or not, was led.*

*In the end, video-protection equipment seems to get the best cost-efficient ratio on level crossing improvement.*