

## **R&Ds related to Signalling, Telecommunications, and Transport Operation**

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This paper describes some of the ongoing future-directed research themes in which information and communication technologies play a very important role. First topic is what we call “intelligent train” whose objective is to improve safety, and reliability of railway operation by using advanced sensing and communication technologies. Second topic is the technologies for evaluating and increasing passengers’ convenience of transfer as well as for evaluating train operation from both passengers’ and rail operators’ points of view. Third topic is the application of condition monitoring technologies to railway facilities, focusing on the optimization of the design and operation of wireless sensor networks in order to realize cost-effective deployment of condition monitoring systems in railways.