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The currently applied safety methods in the opinion of author do not assure rational use of available resources in the present dynamic of projects. The changes of conditions and factors makes difficult to perform systematically and thoroughly safety analysis what can cause lack of full identification of hazards in nowadays railway signalling systems. The subject of paper results from market needs analysis as well as research for the rational and effective safety analysis and assessment methodology in design, manufacturing and operation process of new railway systems. The aim of paper is identification and rationalization of system safety analysis structure.

The subject of paper concentrate in area of safety analysis of computer railway signalling systems. The proposed subject includes broad spectrum of safety problems starting from formulation of assumptions to implementation. In scope of paper the methods of safety analysis have been identified, which ones can be applied during life cycle of computer railway signalling system.

The effect of paper is analysis strategy of factors that influence safety of the system under consideration. The result of the paper is also the answer which methods to be applied to achieve the most reliable and efficient safety analysis considering the type of the system and equipment and how to assess the system safety in regards to railway infrastructure manager and railway standards.