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Cooperative satellite positioning for railway

In order to offer a green alternative to individual transport in sparsely populated areas, the railway sector has the need to develop a new efficient transportation that is safe and viable by lightning their infrastructure. Satellite positioning of trains is an important lever for simplifying railroads, in particular through the introduction of satellite odometry. However, this new odometry requires improved availability and positioning integrity to meet the safety requirements. The project proposes a new method for safe train odometry using a cooperative positioning system. The idea is to have a relative train localisation by computing satellites' signal differences in a single remote computer. By reducing the number of satellites required for proper positioning, this new technique would offer better availability and, thanks to a greater number of measurements, improved robustness.

