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Title: CPS in Intelligent Transportation Systems: the Grenoble south ring show case

Abstract: The purpose of this presentation is to put CPS in the perspective of intelligent transportation systems. We will present on-going activities concerning the Grenoble Traffic Lab and associated EU projects such as HYCON2(NoE). The Grenoble Traffic Lab (GTL [HYPERLINK "http://necs.inrialpes.fr/pages/research/gtl.php"](http://necs.inrialpes.fr/pages/research/gtl.php) <http://necs.inrialpes.fr/pages/research/gtl.php>) initiative is a real-time traffic data center (platform) intended to collect traffic road infrastructure information in real-time with minimum latency and fast sampling periods. The main elements of the GTL are: real-time data-base, traffic forecasting & control algorithms, and a software component-oriented platform. Sensed information come from a dense wireless sensor network providing macroscopic traffic signals such as fluxes and velocities. Flow-conservation models are used as a basis to design physical-oriented forecasting & control algorithms. We also aim at the development of an object/component real-time software platform to integrate and test/validate those algorithms. Our work is in close collaboration with the spin-off Karrus-ITS, local traffic authorities (DIR-CE, CG38, Metro).