# Mining of Data Streams

The Center for Applied Intelligent Systems Research http://islab.hh.se/ at Halmstad University, Sweden, is a research environment built around idea of close collaboration between academia and industry, focusing on three scientific areas: Signal Analysis, Mechatronics and Machine Learning.

One of our areas of interest are *Intelligent Vehicles*, and we are currently running a number of projects together with Volvo Group in Goteborg, developing novel *Data Mining* methods for analyzing data coming from multiple sources, in order to better understand operation and state of health of heavy duty trucks, buses and construction equipment, as well as behavior of their drivers.


We create new algorithms for combining different types of information. Large fleets of vehicles generate a lot of data while operating, but it cannot be stored or transmitted easily. Thus, we focus on *streams* of data that has to be processed immediately, and combined with knowledge extracted from multiple off-board, often semi-structured sources.

We use many different techniques from Machine Learning, both supervised like Random Forests or Support Vector Machines, as well as unsupervised like Spectral Clustering. The most important and interesting aspects, however, is usually figuring out what new sources of information can we use and in what way, discovering interesting relations in the available data, evaluating their usefulness, and finally exploiting resulting models.