



**INTERGO**

International Centre for Safety  
Ergonomics & Human Factors

## Internship opportunity

### Developing road traffic signs related to safety on level crossings

Signs in road traffic that relate to railways and are situated at level crossings are often based on conventions from the (distant) past. Think of the indication of a train using a steam train pictogram, a level crossing using a garden gate pictogram, see below.



These road signs have an important role in creating timely the correct situation awareness of road users when approaching and passing a level crossing. Target group of road users is both slow traffic, like cyclists and pedestrians, as well as fast traffic (car drivers, truck drivers or motor cyclists). Correct and timely understanding of the road signs is crucial.

The road signs shown above are only a few of all road traffic signs related to rail. There may well be more road traffic signs related to railways that could be considered for modernisation. Goal of the internship is to investigate whether and how these signs should or could be modernised.

Structure of the assignment:

- Literature study: history of road signs in general and related to rail specific, theory of correct recognition of visual information, situation awareness;
- Benchmark: which signs are used abroad for similar situations. What is experience with these signs?
- Redesign of signs in possible different variants;
- Structured user testing with the design variants. These user test will be ISO protocolled tests for testing pictograms;
- Developing an application for user testing of pictograms of other symbolic visuals that provide a pleasant experience for the test subject (an application possibly on a mobile device).

We are looking for a student industrial design, who wants to contribute to social sustainability and safety. This student has good design skills, is analytical and able to engage with users of the target group for the redesign. Good command of the Dutch language is required. The internship takes place at Intergo, a human factors and ergonomics consultancy with broad experience in several domains, and will be supported by the Dutch Ministry of Infrastructure and Environment.

You are welcome to contact Melcher Zeilstra ([zeilstra@intergo.nl](mailto:zeilstra@intergo.nl)) for further information. Intergo is located in Amersfoort. We prefer working on site of our office. An allowance will be provided.