Abstract - english

The risk of accidents happening on German construction sites is still high, especially in comparison to other sectors, even though the number of accidents has decreased in recent years. This is, of course, most welcome, but the goal is to reduce the number of injured and dead even further, the ultimate goal being to avoid any accidents from happening.

The development is mainly due to the fact that more and more federal and European Union regulations have been created to prevent accidents and injuries. To be effective, they, of course, have also to be implemented. This is done mainly through the use of external “controllers“ of occupational safety and health. Construction sites are also reviewed by the state regularly and unannounced; In Hesse, for example, by the Regierungspräsidium Darmstadt.

If accidents happen on construction sites they have a strong impact on the further construction process. The accident has to be examined and under certain circumstances the construction work has to be stopped. If the investigation takes longer, this can have a significant impact on the completion date. This, of course, also has an economic impact on entrepreneurs, which is aggravated by additional costs through the injured employee. These costs can quickly reach an amount of one million euros or more and thus mean an existential threat for the entrepreneur.

In order to further increase safety on construction sites, the trend is to check the construction site for safety-related events by technical means. These are intended to detect possible safety risks and prevent accidents before their occurrence.

To enable a computer to process the data, that is to say to “teach“ a computer what kind of circumstances lead to accidents, the data first must be entered into some kind of knowledge base. This can be done, as it is done in this case, via an ontology in which accidents are recorded. In the future, this data can be processed to warn before accidents with the same conditions occurre.