

# New Technologies in Security and Occupational Risks Prevention

## Description

In the construction sector, where the working scenario and conditions are changing continuously as the work is developed, the human factor is a key factor because the organization has more difficulties in maintaining stable and safe environmental conditions regardless of the behavior of employees.

This great influence of human behavior to guarantee safety in construction works has to be taken into account by the preventive action methods with behavioral orientation. The integral system for risk assessment and management for the reduction of accident rates establishes its theoretical and applied bases and applies on a behavioral approach of work-related accidents.

Most studies in all sectors and also in construction point out the crucial importance of the aspects related to the "human factor" in the occurrence of work accidents. The effectiveness of behavioral-based safety intervention methodologies to improve safety has been widely demonstrated in several sectors of activity such as the industrial or health sector. However, the rate of implementation of this kind of methodologies to the construction sector is much lower. That is due to the difficulty of applying and adapting this type of methodologies to the characteristics of the construction sector. Some of these features that can be underlined are the productive organization based on subcontracting, the physical context of work in constant change and the great heterogeneity of the activities that are being developed at the same time during construction processes. The "human factor" is referred specifically to risk behaviors of workers (eg not using of Personal Protective Equipment or not using them properly, disabling collective protection measures, skipping safe work protocols, ...), unsafe work habits, errors or actions derived from an inadequate perception of the risk as well as aspects related to the supervision and organization of the work that affect that safety behavior

## Objectives and improvements

The final objective of this project is the substantial reduction of accidents in the construction of transport infrastructures, by means of the introduction of new technologies and processes. Specifically, it is based on new preventive safety actions based on behavior and its measurement and on the development of a specific methodology and the introduction of TIC technologies in the processes of monitoring and control the Occupational Risks Prevention.

## Results

This project has allowed the development and scientific validation of a comprehensive and effective methodology for the evaluation and management of risk focused on human factor to reduce work accidents in construction sites.

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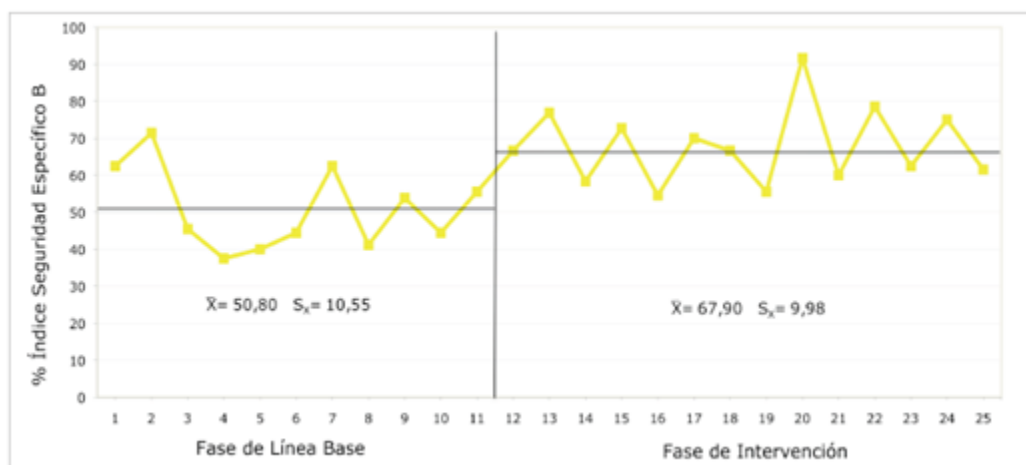
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Image project 1



Graphics showing Project results