



## Project Goals

SmartSafe allows safety inspectors and construction site managers to keep their workers safe during work at heights.

### Benefits:

- Communication system and design which covers a large area without infrastructure
- A small, dynamic, and light device
- A user-friendly interface
- Low-cost and low-power system

## Introduction

SmartSafe is an end-to-end solution that prevents workers from falling at height in construction sites.

According to data analysis from the Institute for Safety and Security in the construction industry, these days **47%** of all accidents were caused by workers falling from heights.

## How does it work?

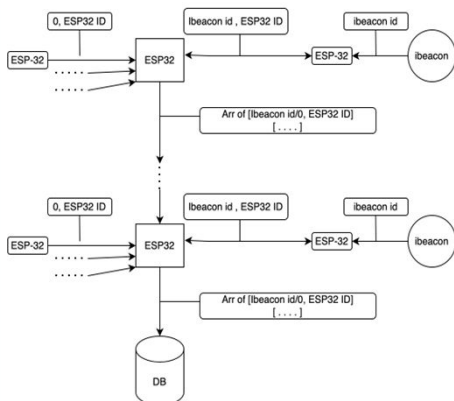
Our system is based on microcontrollers and sensor communication, WIFI and Bluetooth protocols and server that can manipulate and store the data.

The system will identify a worker who is in a “danger zone” when he is not harnessed.

An esp32 (microcontroller) will be installed on each worker's harness, where the esp32 will receive Bluetooth signals from a beacon device placed in a danger zone and transmit the data through communication algorithms to the main station that is connected to the server.

**The communication system will send a message to the safety inspector's phone via SmartSafe application.**

## The architecture



## The mesh network

