

The logo for Trinity Robotics, featuring the word "trinity" in a white, lowercase, sans-serif font. The background is a dark blue gradient with abstract, colorful shapes in shades of blue, purple, and red.

SAFE HUMAN DETECTION IN A COLLABORATIVE WORK CELL

PRODUCTION MANAGER TUTORIAL

[www.trinityrobotics.eu](http://www.trinityrobotics.eu)

# Purpose of the module

- This module provides safety model for industrial robots by utilizing safety scanners and cameras for monitoring the robot's workspace in terms of safe human-robot collaboration.
- System is divided into safety approved devices such as safety scanners and light curtains. And to non safety approved devices providing additional features for flexible safety solutions.
- Safety relies only on safety approved devices

# Hardware

- Following hardware is utilized in module setup:
  - Sick S300 laser scanner
  - Kuka KR6 R900 SIXX industrial robot



# Preparation steps

- Physical location and installation of device
  - Device has to be installed following manufacturer and safety standard guidelines
- Connecting device to robot controller
  - Device installation according to manufacturer instructions
- Configuration of safety areas
  - Safety areas have to be defined according to safety standards

# Environmental requirements

- Module was developed for industrial robot but can be utilized for other industrial equipment
- Sick S300 laser scanner is not immune to dust, fog, or smoke. These can cause mis-detection.
- Operating environment temperatures according to manufacturer guidelines

The image features a dark blue background with several abstract, colorful geometric shapes. On the left, there are two shapes: one with a blue-to-purple gradient and another with a blue-to-orange gradient. On the right, there is a large shape with a green-to-blue gradient. In the center, the word "trinity" is written in a white, lowercase, monospace font.

trinity