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Label	Hardware release
Product	MiR AI Camera
Released by	Odin Skovsted

Description

MiR AI Camera is a MiR accessory that improves the workflow of MiR robots. It provides MiR Fleet with additional information that it can use to guide MiR robots more effectively. For example, it can automatically initiate missions when carts are ready to be transported and prevent robots from trying to drive through obstructed and narrow areas, such as doorways and hallways.
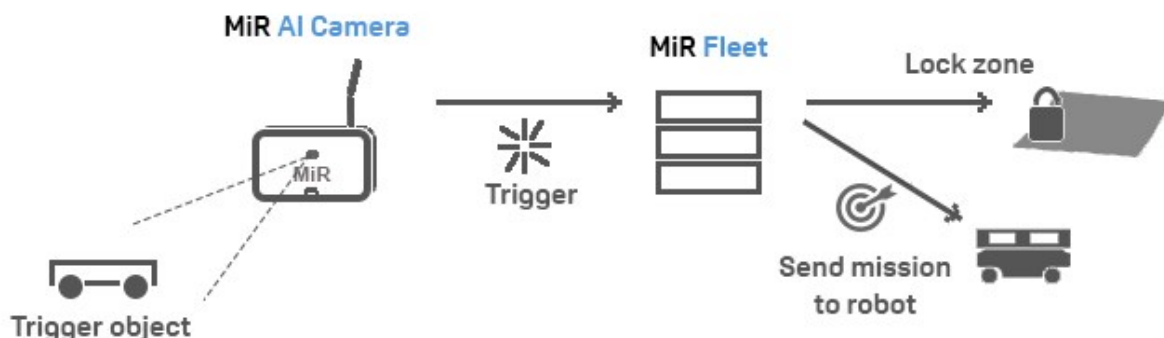
The camera must be connected to MiR Fleet Server Solution where you can set it up to trigger a specific action when the camera detects a certain object. The actions can either be the initialization of a fleet mission or locking a Limit-robots zone.

MiR AI Camera is a product that must be tailored to your work environment and for this reason requires a few steps to set up correctly:

1. The camera must be installed in a static position where it first collects image data over eight hours.
2. Our MiR AI Training Tool server processes the collected data, and the results must then be validated manually.
3. MiR AI Training Tool then trains a data model the AI camera uses to detect certain objects.
4. The final step is to set up which actions in MiR Fleet should be triggered when an AI camera detects a certain object.
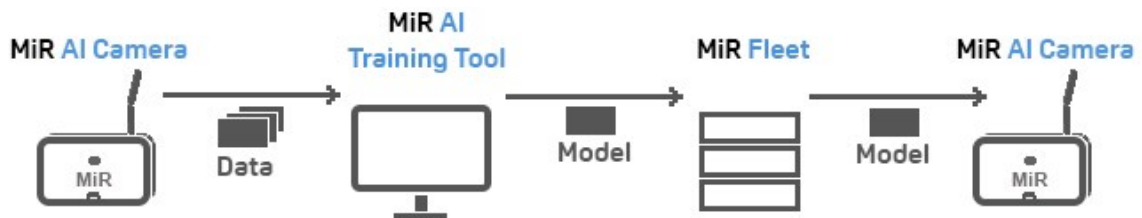
Use cases

MiR AI Camera is a complex accessory. Its performance is affected by each step in the setup process, and any unexpected changes in the work environment that are not taken into consideration in the initial setup may result in unexpected actions. For this reason, we do not recommend using it for critical or high priority tasks and as with our other products, it is not intended to be used in medical and life critical situations, potentially explosive environments, or in hygiene zones.

Below, you can see two examples of use cases for MiR AI Camera.

Preventing obstructions in narrow doorways

Two MiR AI Cameras can be mounted on each side of a narrow doorway to monitor incoming traffic. If a camera detects an incoming object or person, MiR Fleet is alerted and temporarily locks the area in the narrow doorway. This prevents MiR robots from obstructing the doorway for incoming traffic. Instead, MiR robots wait at a reasonable distance to allow the other object or person through first.

In the image below, this is illustrated with two robots moving towards a doorway where there is only space for one of them to pass through. The camera detects one of the robots and locks the area marked in red. The MiR robot on the other side now waits until the first robot drives through the doorway safely before continuing on its route.

MiR AI Camera can also be configured to lock the doorway area after detecting certain objects. For example, if the doorway is large enough to allow two small robots through at the same time, MiR AI Camera can be set to lock the area only if large vehicles are approaching.

Initiating robot missions autonomously

MiR AI Camera can be mounted to focus on an area where the presence of a specific object triggers a fleet mission. For example, an AI camera can be set up at a pick-up position, so when the camera detects an object at the position, a MiR robot picks up the object and transports it to a drop-off point. This is illustrated in the images below. In the image to the left, the camera is not detecting any target objects, and in the image to the right, the camera has detected a box and has initiated a fleet mission to send a robot over to pick it up.

This example can be applied to carts, shelves, and pallets where the camera is focused on a cart position, shelf position, or a pallet rack.

Contact information

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