

Selfie Aligner

Calibrating a mobile robot to a workplace with extreme high precision

A robot arm mounted on a mobile platform are well established component in production automation. But a lack of precision makes it difficult to benefit from the high precision in the robot arm. Traditional calibrations system can only provide a small local work area and the robot can only perform trivial pick'n'place operations with blunt tolerances.

Selfie Aligner is a vision-based system for calibrating a mobile robot to a workplace. A mirror in the calibration tag let the camera see it self and align to the tag with an angular precision 10-15 times better than traditional systems.

With a calibration to the workplace within 1 mRad the precision of the robot is not lost to the angular error in the alignment. With the Selfie Aligner the robot arm will be able to work at the workplace with almost same high precision as a fixed robot.

The robot arm can take full advantage of its high precision and create more value.

The Selfie Aligner have been tested in a demonstration setup with a UR5 robot at the Smart Lab at Aalborg University. Through a few iterations a preselected position and orientation can be achieved with an extreme high precision. This will calibrate the robot to the workplace and the robot will be able to perform tasks in its full range at precision similar to what the robot arm has on its own platform. With the Selfie Aligner the mobile robot can become a true mobile manipulator and not only a mobile "box handler".

The Selfie Aligner is protected by patent. The mirror in the tag is the key element. This mirror also makes it very easy to spot patent violation.



Patented: DK 181486 B1

This new technology will be a game changer for the use of mobile robots. With the ability to perform high accuracy tasks it will take AGV's with robots to the next level and can spark a breakthrough for mobile manipulators.

We are offering to sell the whole Selfie Aligner concept with all know-how, designs, algorithms and intellectual properties. We are looking for a big player in the mobile robot market that can take this concept to the next level and commercialize this solution on a global scale.

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Selfie Aligner demo video:

<https://vimeo.com/853226419/76847cad35>

Company URL:

www.toolchanger.eu
www.4tech.dk

