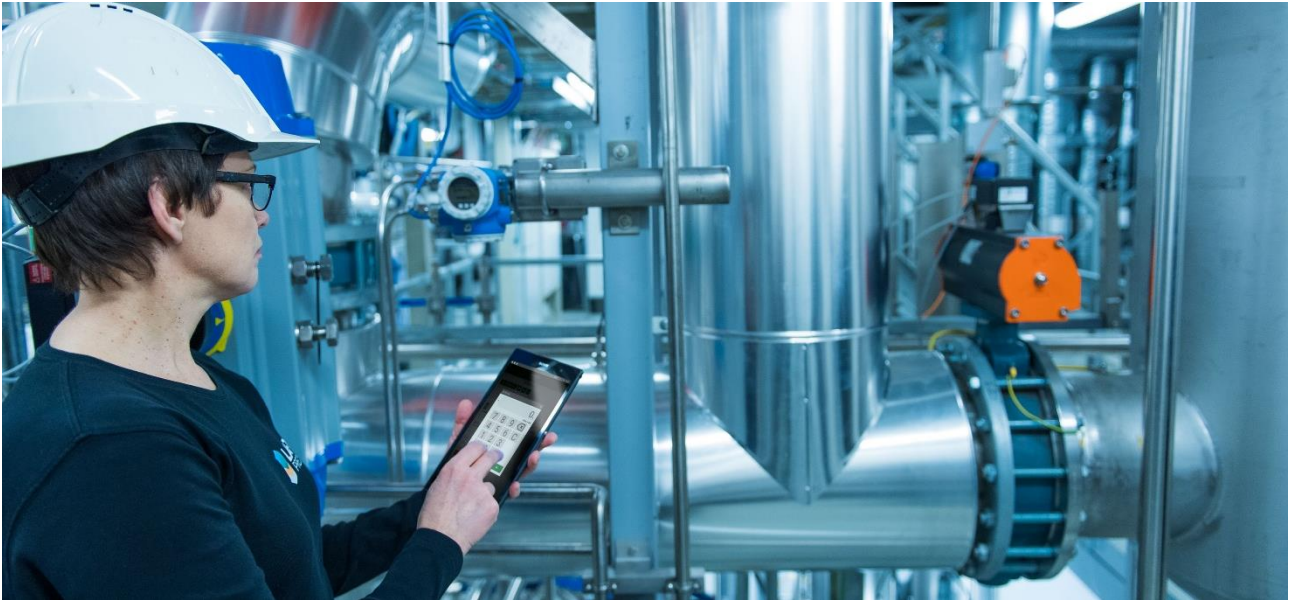


# Utilize Machine Vision and AI to recognize analog readings from industrial gauges with a mobile device

## Introduction



At Beamex, we design, manufacture, and deliver calibration equipment and software to help our customers achieve a safer and less uncertain world. Our products are trusted by many global brands, ranging from Google, NASA, Nestle to F1 teams.

Our calibration equipment is used to calibrate a wide range of process instruments, including analog gauges and meters. By incorporating AI and computer vision technology, the calibration process for these analog instruments can be automated, which speeds up the reading process and reduces the risk of human error.

## Project goals

- **Develop a solution** that can accurately recognize readings from analog meters or gauges using machine vision and AI technology.
- **Evaluate different approaches and technologies** to determine the most effective method for reading analog instruments indicators.
- **Integrate the selected solution** into the Beamex bMobile mobile app as a proof-of-concept to demonstrate its capabilities.

## Technologies

Our mobile solution, bMobile, is a multiplatform application designed to include the gauge reading capability. This application can be developed for either iOS or Android (with .NET as another possible option).

The user interface is built using React Native. The solution must function offline, meaning all gauge readings should be recognized and processed directly on the device without the need for an internet connection.

## Requirements for the students

Interest in computer vision and AI and building a proof-of-concept of a real-life solution.

## Legal Issues

*Intellectual Property Rights (IPR):* The client gets all IPRs to the results.

*Non-disclosure agreement (NDA):* Standard Aalto university and/or client NDA.

*Confidentiality:* The client will share some confidential information with the students.

*Disclaimer:* Beamex has submitted two project proposals. Beamex reserves the right to choose the project(s) to move forward with students.

## Client

Since its founding in 1975, Beamex has been a trusted partner for calibration excellence, helping its customers to continuously improve efficiency, ensure compliance, and increase safety in their operations. Beamex sets the industry standard with its way of working, its expertise and its innovative calibration technology that provides accurate measurements, reliable data, and traceability.

Beamex has a comprehensive ecosystem of calibration solutions that covers everything from field calibration to workshop calibration, calibration management, and services. Through the company's global reach, its products and services are helping to create a safer and less uncertain world for customers across more than 90 countries.

Beamex has a dedicated workspace at the Aalto campus in the A-Grid building, which includes 8 seats. Additionally, we have access to various meeting spaces within the A-Grid building. Beamex will provide the necessary equipment, such as monitors and peripherals.

### Client representatives

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