# Automated Guided Vehicle (AGV)

## and High Accuracy Indoor Positioning (HAIP)

## AGV Opportunity

Testers connected to LAN cannot easily be brought where needed. Kilometers of cables in fixed location prevents dynamic changes in production layout.
Robots did not function well when connected over Wi-Fi.
The number of sensors and data exceeded the capacity of the network.
Too high latency for video analytics.

## Breakthrough Innovations

Wireless production: The production layout can be flexibly changed.
To robots: Transfer of coordinate and gripper attitude data.
Mobile robots: Telepresence and material transport to the production line.
IoT devices: Multiple sensors utilize the private network for communication.
Video analytics assisted quality assurance: Camera records assembly, the video stream is analyzed, a live feed is presented to operator via tablets or AR glasses.

Shwocasing Kinetic Automat for Transport Enhancement (Collaboration Nokia & Götting))

## HAIP Opportunity

Efficiency suffers when routes are not optimized

Equipment utilization rate decreases without a good overview of where the assets are

People in the wrong places among transport vehicles are at risk.

## Breakthrough Innovations

Slotting optimization: Optimize storage locations by analyzing order distribution and the route of picking activities

Layout optimization: Reduce non-productive walking by identifying the walking pattern (time, distances, heat map, trails) of packers

Tracking visitors: Obtain the real time visibility on location of visitors and reduce activities in risky areas

MHE* utilization: Track the non-active time of MHE within the coverage area and improve the utilization rate
* Material Handling Equipment

Safety improvement: Avoiding accidents/collision by understanding and reducing the number of times MHEs get within specific distance of the associates (risky interactions).

## Contact

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