



Project example

# How many vehicles / AGVs does your assembly line really need?

You won't know the answer until you've simulated it.



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# The project at a glance

## Industry

Automated special-purpose machine construction / assembly systems

## Task

Fully automated vehicle assembly line based on AGVs

## Key steps

Battery transfer from the lift, battery-vehicle marriage, automated assembly steps

## Goal

Ensure throughput, determine the number of FTFs, validate the layout and loading concept

# 3 things that keep planning teams up at night

01

## Stop-and-go meets flow line

Both operating principles run within the same system. Classical design reaches its limits here.

02

## Real-world driving behavior counts

Acceleration and deceleration times add up. Those who ignore them are planning out of touch with reality.

03

## Battery charging concept of the AGV

When to charge? How many charging points? Only dynamic simulation provides reliable answers.

# This is how the model was built

**Software** Plant Simulation

**Kinematics** Real acceleration and deceleration behavior of all AGVs depicted

**Operating mix** Stop-and-go and flow operation integrated in the same model

**Charging management** Automatic simulation of battery charging including charging strategies

**Scenarios** Several layout and configuration variants in direct comparison

# What the simulation showed

**Throughput** Required performance proven

**FTF count** Precisely determined – neither too many nor too few

**Layout** Secured, no modifications required after commissioning

**Charging concept** Validated and ready for operation

**Decision-making basis** All participants based on one data set

# What every AGV project needs

AGV planning without simulation is planning based on guesswork.

**How many vehicles do I really need?**

**Where do bottlenecks occur under real-world conditions?**

**Will the concept hold up even under peak loads?**



Simulation · Virtual commissioning · Digital twin

# Are you planning an AGV project?

Talk to us before you order.

[Get in touch now](#)

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AGV = Automated Guided Vehicle (the entire system)

FTF = Driverless Transport Vehicle (the individual vehicle)

