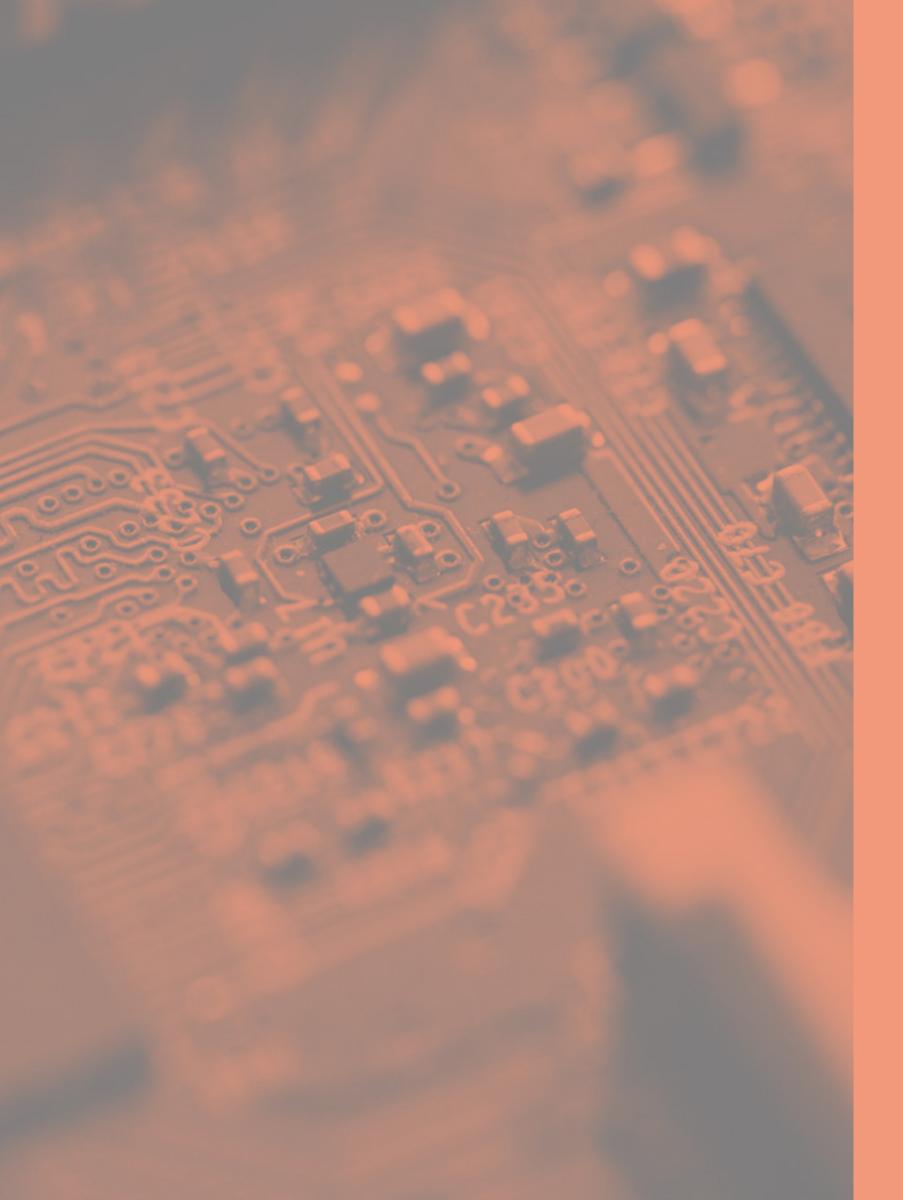


Industrial automation SECS / GEM protocol



SECS/GEM protocol

- This communication protocol is used by the semiconductor device manufacturers, and developed by the **SEMI** (Semiconductor Equipment and Materials International) organization
- This standard defines the messages, state machines and scenarios, which allows to control and monitor manufacturing equipment
- This interface can collect measurement data, defines variables, and selects recipes for products in an automated fab



SECS/GEM implementation

- Our company provides solution to implement SECS/GEM communication from the specification phase
- Define the state machines and measurement data according to the manufacturing equipment.
 Configure the SECS/GEM messages and send them to the MES (Manufacturing Execution System)
- Receive and process the commands from the **MES** system, and send it to the manufacturing equipment



SECS/GEM implementation

- Our team has experience how to apply the SECS/GEM protocol on a brand new or an old equipment which is already in the production
- We also have experience in the integration of these kind of manufacturing equipments, and know the requirements from the customer and vendor side as well

Communication between Equipment and MES

Factory Host / MES (recipe selection, validation, measurement data collection)

SECS/GEM messages

Manufacturing Equipment

MES commands — PC

Machine states



Sending SECS/GEM messages

- Apply the specification from the customer, which defines the requirements of the manufacturing equipments
- Gather and process the necessary values from the equipment, then create the defined **SECS/GEM** messages, and send them to the **MES**
- Receive and process the SECS/GEM commands from the MES, and notify the equipment



Thank you for your attention!

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