

**ELECTRONICS CONTRACT MANUFACTURER, PENANG**

An OEE baseline for a floor with no machine data

A non-invasive IIoT retrofit on mixed-vintage machines produced a live OEE baseline and a downtime-reason taxonomy the plant now runs its shift meetings on.

+9.6 pts

OEE improvement

-24%

Unplanned downtime

100%

Machines instrumented

5 min

Shift report lead time

WHAT WE DEPLOYED

- Current-clamp and vibration sensing for machines without PLC access
- OPC UA and Modbus gateways where controllers were available
- Operator tablets for two-tap downtime reason capture
- Edge buffering so the line keeps recording through network loss

WHAT CHANGED

- One agreed OEE definition shared by production, quality and finance
- Top five downtime reasons ranked weekly and worked as a queue
- Retrofit approach reused on a second plant without vendor lock-in

STARTING POINT

Downtime was recorded on whiteboards and re-keyed into spreadsheets the next morning. Two of three lines had no controller access, and OEE numbers differed between production and finance.

“For the first time the morning meeting starts from data everyone trusts.”

Plant Operations Director

Client names are withheld under commercial confidentiality; figures are drawn from post-deployment reviews agreed with each client.