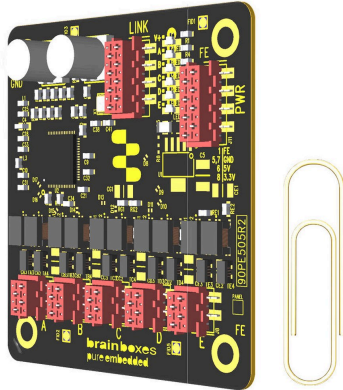


Four things Brainboxes does in a shipped machine

A data interface your customer's IT already understands, on the machine you already build, without redesigning the controls that are already qualified.

1



Ethernet inside your own product

Board-level switching the size of a paperclip, designed into the enclosure instead of bolted on. One OEM built it into a flow controller for wafer-fab gas delivery: **113,000 power cycles, zero failures.**

2



The data port, as a part number

Remote I/O presents states, counts and temperatures as **Modbus TCP devices the customer's own software polls.** The machine ships with a data interface, and the controller you validated is never touched.

3



One switch, one line on the BOM

Compact unmanaged and PoE switches on the DIN rail, so the camera, the HMI and the I/O inside the machine join **one network behind one uplink** the customer plugs into.

4



Add the port, keep the controller

The controller you already ship has an RS-232 or RS-485 port. An Ethernet-to-serial unit puts it on the customer's network and **the software still sees the same COM port**, so nothing in the control code changes.

A data layer beside the controls

Sits outside the control loop and moves information up to MES, historians and dashboards without interfering with machine operation.

Speaks what their software speaks

Modbus TCP, raw TCP, or a Windows COM port. Your customer's LabVIEW, MATLAB, historian or MES connects the day the machine lands, with no driver from you.

Where it is the wrong answer

Anything deterministic, safety rated, or inside the control loop stays with the controller vendor's I/O. We will say so.