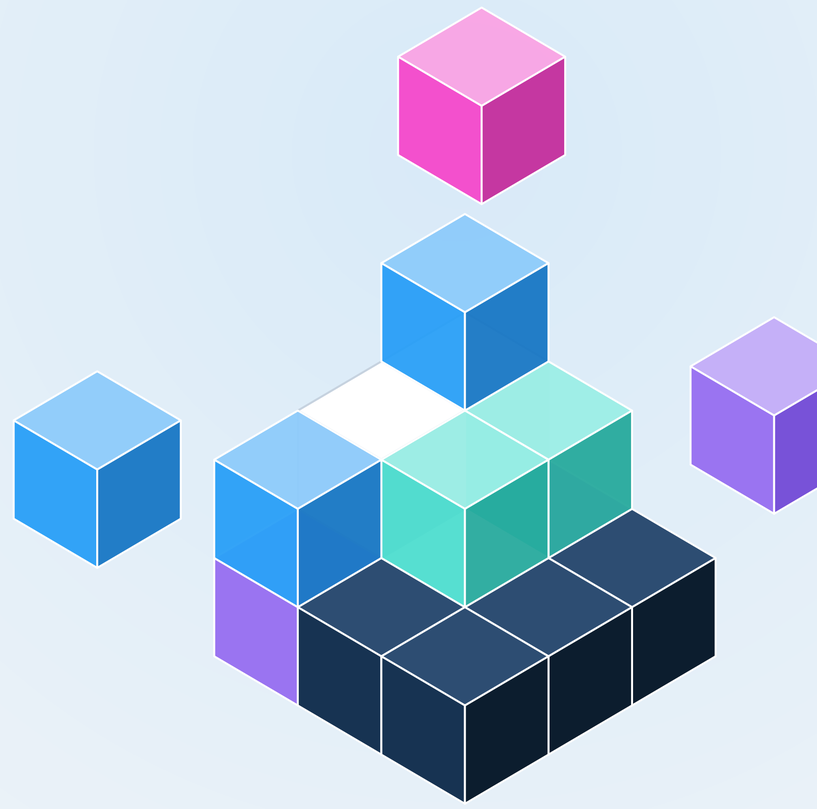
LEAN FOUNDATIONS

Poka-Yoke: Mistake Proofing

Poka-yoke is a simple device or design feature that prevents an error from happening, or detects it immediately, before it becomes a defect.



01 THE CORE MODEL

TWO LANES · PREVENTION BEFORE DETECTION

Prevention
The error cannot occur

Operator places part → Keyed fixture blocks wrong orientation → Only correct assembly is possible → **No defect made** strongest control

Detection
The error is caught at once

Operator fits screws → Sensor counts screws driven → Stop and signal if one is missing → **No defect passes** caught at the source

Prevention (control)

The design makes the error impossible, for example an asymmetric fixture.

Detection (warning)

A sensor or check catches the error right after it occurs.

Error vs defect

Errors are slips in the process; defects are what reaches the customer.

02 CHOOSING THE DEVICE

Prefer prevention; use detection where prevention is not feasible.

INSPECT LATER — PREVENT

END-OF-LINE INSPECTION

- − Finds defects after value was added
- − Relies on attention, which varies
- − Rework and scrap remain

POKA-YOKE AT THE SOURCE

- + Errors stopped at the step that causes them
- + Simple, cheap devices, often built in-house
- + Frees inspectors for real problems

03 WORKED EXAMPLE

CONNECTOR ASSEMBLY · PLUG FITTED THE WRONG WAY ROUND

ERROR	DEVICE	BACKUP	RESULT
Plug rotated 180°	Keyed housing	Pin presence sensor	Defect cannot pass
possible on a symmetric part	fits only one way	stops the press if missing	checked at the source

04 MANAGEMENT TAKEAWAYS

01 — Ask how the error happens
Design the device around the mechanism, not the symptom.

02 — Check devices every shift
A bypassed poka-yoke is worse than none: it creates false trust.

03 — Involve operators
They know which steps are easy to get wrong.

05 COMMON MISTAKE

LIMITATION

Relying on warnings only

Lights and alarms that people can ignore are weak devices. Physical prevention or automatic stops are stronger.