

The CAPEX Decision Matrix

When Automation Destroys ROI: A Framework Preview

THE PROBLEM

UK manufacturers are over-automating. In a stable economy, full automation is the gold standard. In a volatile economy—characterised by £0.26/kWh energy costs, 5.2% wage inflation, and 8%+ WACC—heavy fixed automation becomes a liability, not an asset.

THE KEY INSIGHT

At current UK energy costs (£0.26/kWh) and wage inflation (5.2%), the break-even threshold for automation shifts dramatically. Many installations that made sense in 2019 are now destroying value.

SENSITIVITY DECISION MATRIX (PREVIEW)

| | Energy < £0.20/kWh | Energy £0.26/kWh | Energy > £0.32/kWh |
|---------------------|--------------------|------------------|--------------------|
| Wage Inflation > 8% | HYBRID OPTIMAL | HYBRID FAVOURED | EVALUATE |
| Wage Inflation 5% | HYBRID FAVOURED | UK BASELINE | CAUTION |
| Wage Inflation < 3% | EVALUATE | CAUTION | AUTO ONLY |

Current UK manufacturing baseline: £0.26/kWh energy, 5.2% wage inflation. At this position, hybrid cells outperform full automation in most scenarios.

AUTOMATION VIABILITY AUDIT (3 KEY QUESTIONS)

Before approving any automation CAPEX, stress-test it against these questions:

1. VARIABILITY TEST

Does this process step change more than once every 12 months? If YES → Manual/Hybrid recommended. Robots cannot adapt to frequent changes cost-effectively.

2. ENERGY TEST

Does the machine consume power during idle/wait times? If YES → Evaluate hybrid. At £0.26/kWh, idle robots destroy ROI.

3. VOLUME TEST

Will this exact configuration run for 5+ years at 100,000+ units annually? If NO → Hybrid recommended. Fixed automation only makes sense at scale and stability.

The full audit checklist contains 5 weighted tests with a scoring matrix (0-90) that generates a Go/No-Go recommendation.

WHAT'S IN THE FULL TOOLKIT

The BYD Protocol (£495) includes:

- CAPEX Sensitivity Model (Excel): Plug in your numbers, get break-even calculations. Pre-loaded with UK 2025 tax and energy data.
- Hybrid-Cell Architecture Model: 20-step production line decomposition showing optimal human/robot ratio (3 precision stations + 17 flexible human stations).
- Full Audit Checklist: Complete 5-test scoring framework with Go/No-Go decision matrix.
- Board Presentation Templates: Auto-generated charts for investment committee reviews.

No consultants. No calls. Offline decision engine.

Purchase: sovereignintel.org

© 2025 Sovereign Intelligence. This sample is provided for evaluation purposes. Data calibrated to ONS and Make UK 2024/25 benchmarks.