



HEAVY INDUSTRIES · PRODUCTION & ASSETS

Predictive Maintenance for Rotating Equipment

A plastics producer used Quantum One to see extruder failures coming, targeting a 50–100% reduction in unplanned shutdowns.

IMPACT

50–100%

Reduction of shutdowns — fully avoided, or flagged before an inevitable stop

Root causes listed for the operator

Preventive actions proposed automatically

CLIENT PROFILE

CLIENT

An industrial manufacturing company

COMPANY TYPE

Manufacturing and heavy industry

INDUSTRY

Heavy Industries

SCENARIO

Production & assets

CHALLENGES

- An extruder melts plastic and pushes it through a mould to create shapes such as pipes or sheets. A significant number of unplanned extruder shutdowns are currently observed.
- Each shutdown is caused by a combination of several factors.
- Frequent shutdowns and maintenance costs mean lost production, lower efficiency and lost value.

APPROACH

An equipment health index finds abnormal behavior in real time and alerts the operator in advance of a potential breakdown.

Where a breakdown is developing, the system identifies the probable root causes and proposes the preventive action, drawing on maintenance guidelines and the history of past breakdowns.

BENEFITS

- Equipment Health Index — abnormal behavior detected in real time
- Advance alerts before potential breakdowns
- Root Cause Identification — probable causes listed for the operator
- LLM Action Insight — preventive actions proposed from guidelines and history

TIME TO PRODUCTION

Stage	Quantum One	Typical process	
Problem definition	1 week	2–3 weeks	
Proof of concept	2–3 weeks	4–6 weeks	
MVP	4–6 weeks	8–12 weeks	
Scale-up	1–2 months	3–4 months	
Maintenance	Ongoing	—	

TAKE THE NEXT STEP

Speak with our experts to discuss tailored AI solutions for your industry

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