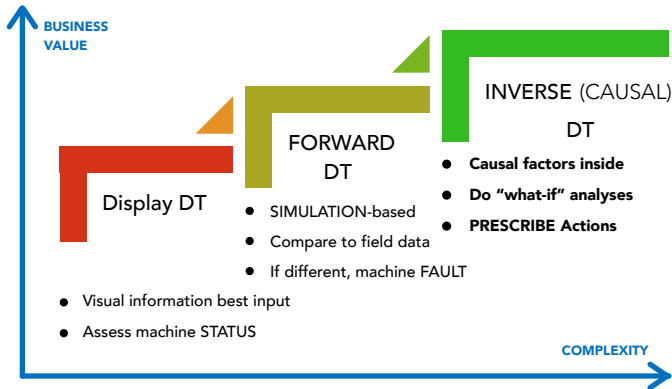


# Causal Digital Twin

Correlation is not Causation!



- Track Causal factors in **real-time** on dashboard-status detection & fault prediction (more sensitive than IoT data)
- **Off-line** "what-if" Analysis by varying causal factors to prescribe set points for optimum operation (outcome variable)

## Techolution Causal Digital Twin takes digital twins to the next level...

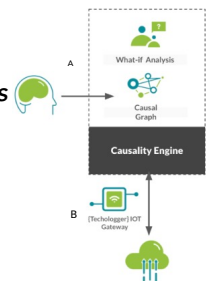
Finding the CAUSES given the EFFECTS (surface IoT measurements) is hard - but the pay off is great! If we know the real causes of issues in an operating machine, we can prescribe the right actions to solve it at the root level.

## Why digital twins?

- See the current condition of the equipment on the virtual representation.
- Compare to stored past.
- Compare to similar asset or equipment.
- Understand failure & improvement possibilities.
- Try out changes in software-effects of interventions.
- Assess gains & risks.
- Aggregate them together to assess system-wide performance

## Our 4-step process

1. Receive and pre-process IoT data from the edge.
2. In the figure on the right, (A) Call Causality Engine API for **one-time** Causal Graph generation (*repeat as needed*) (B) Causal structure from Domain-expert
3. Update Causal factors in **real-time using Techolution's proprietary Causal DT Algorithm.**
4. Track Causal factors in **real-time** on dashboard status detection & fault prediction (more sensitive than IoT data).



## Differentiators

- **The ONLY Causal digital twin IoT solution available today!**
- Precision Manufacturing, Precision Utilities, Precision Agriculture, PrecisionRetail, Precision Healthcare, Precision... everything requires Prescriptive Analytics to generate actions resulting from "What-if" analyses on Causal digital twin.

Causal Digital Twin is fully integrated into Techolution's AOS Platform