



Growth • Innovation • Leadership Council

FROST & SULLIVAN

PoCs: From Concept to Concrete

Piloting Innovation for Lasting Impact

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Bringing Innovation to Life: Proving What Works Before Scaling

A proof of concept (POC or PoC), is an immature realization of a certain idea or method in order to demonstrate its feasibility or viability. A proof of concept is usually small and may or may not be complete but aims to demonstrate in principle that the concept has practical potential without needing to fully develop it.

Proof of Concept as a Strategic Tool



Aligns stakeholders early



Defines success before scaling



Minimizes risk and builds confidence



Focus on: Business value, Technical feasibility, Operational fit

Your PoCs First Steps



Spot one high-value challenge in your operation



Define a PoC with clear goals and stakeholders



Track viability with both tech and business metrics



Use findings to build the case for scale

Common Pitfalls in Scaling Innovation

Lab success
doesn't equal
field success –
bias creep

No clear
ownership or
business
alignment

Undefined
success criteria –
scope creep

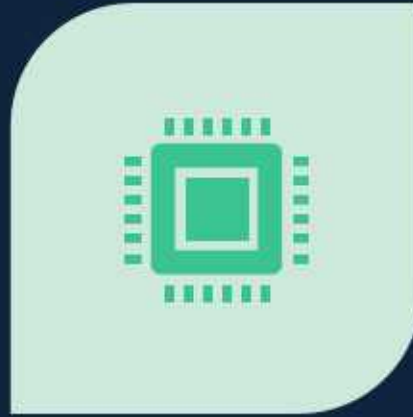
Technology-first,
business-second
thinking

What is a Digital Twin?

Example from the Field



A VIRTUAL MODEL OF A PHYSICAL
PROCESS, ASSET, OR SYSTEM



USES REAL-TIME AND HISTORICAL
DATA TO SIMULATE, MONITOR, AND
IMPROVE OPERATIONS



FOUNDATIONAL FOR PREDICTIVE
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AUTOMATION

Why Contextualization Matters



CONNECTS DATA ACROSS SYSTEMS:
SENSORS, EVENTS, LOGS,
OPERATIONS



ENABLES HUMAN UNDERSTANDING
AND DECISION-MAKING



TRANSFORMS RAW DATA INTO
TRUSTED INSIGHTS

Example 1 - Tank Farm Digital Twin



Problem: Poor inventory reconciliation at terminals, leading to discrepancies and losses.



PoC Focus: Contextualize telemetry data from tank sensors with schedules, product specs, and dispatch data.



Success Metrics:

Improved reconciliation accuracy

Reduced write-offs due to improved inventory visibility

Better alignment between actual inventory and dispatch schedules

Example 2 - CDU Performance Monitoring



Problem: Suboptimal crude unit performance, leading to energy waste and lower yields.



PoC Focus: Combine process data, crude slate properties, and lab results from incoming feed.



Success Metrics:

- Downtime reduction** (identify pre-failure conditions earlier)
- Energy optimization** (reduce energy consumption)
- Improved anomaly detection for **proactive intervention**

PoCs: From Proof to Production

1

Validate data quality, user experience, and value

2

Ensure security, governance, and support structure

3

Align PoC output to enterprise architecture

4

Plan for change management and adoption

Wrap-Up and Q&A



Innovation needs
disciplined
experimentation



Proof of concept is your
bridge from idea to
impact



Keep it small, make it
measurable, and scale
what works



Manage scope creep,
avoid analysis paralysis,
and use a fail-fast
approach

Thank You!

Questions?

Thoughts?

Let's Connect: LinkedIn/In/iitani



Ibrahim Itani

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