

# MONITOR PERFORMANCE. IDENTIFY BAD ACTORS. SUSTAIN MINIMAL RISK.

WHAT EVENT(S) AM I PREVENTING?

**SAFETY**  
single fatality+

**COMMERCIAL**  
\$5-100 million

**ENVIRONMENT**  
restoration => 1 year

HOW AM I PREVENTING?

**10x**  
less likely with a SIL 1 SIF

**100x**  
less likely with a SIL 2 SIF

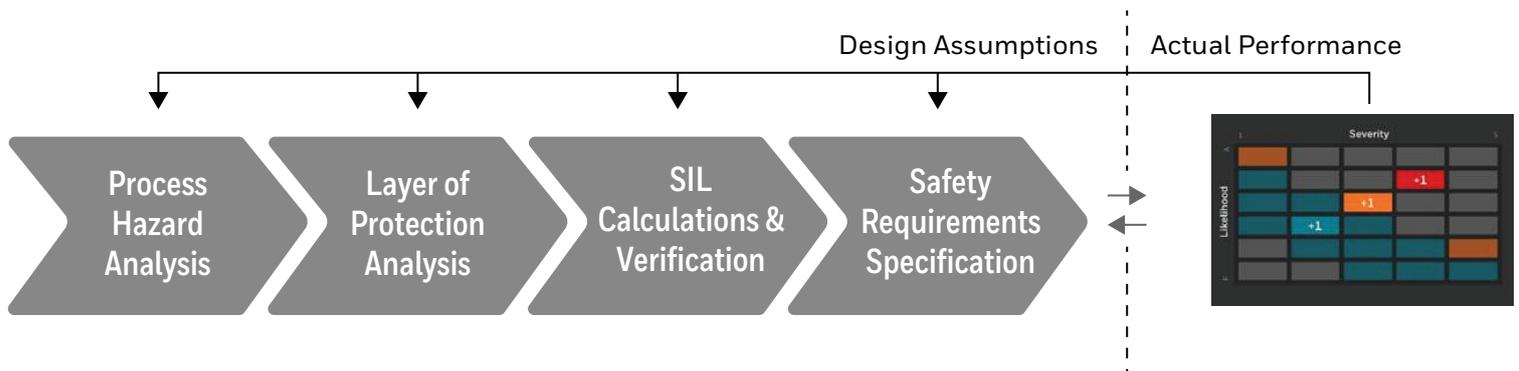
Am I confident my protection layers will work?

Industry typicals driving LOPA

## BACKGROUND

Recent events have propelled major oil & gas companies to work towards an evergreen functional safety management plan, including monitoring the performance of protection layers.

Work has been done to synchronize:



**5 years** Until now the customer was unable to compare process historian data with design intention. During the 5 year review of the SIS

**5 DAYS EFFORT**

- Day 1 – interface design with historian
- Day 2 – import historical trip events
- Day 3 – analyze and identify bad actors
- Day 4 – take action to fix inoperable SIFs
- Day 5 – update MoC to handle in future

**2 BAD ACTORS**

- ZERO – the number of test records on SIFs with excessive trip devices. Maintenance dispatched to test and replace immediately.
- SIL 1 SIF – unable to perform as required
- SIL 2 SIF – unable to perform as required

**\$100+ MILLION**

Previously invisible risk removed from the business. Without the SIFs in place, loss of containment events with significant safety, environmental, and/or commercial impacts were more probable.



Monitor.



Identify.



Sustain.