SUMMARY FOR SPONSORS

Run one honest pilot, and decide before you see the results what a pass looks like

The system worked, people liked it, roll it out. If that is the only way your pilot could end, the conclusion was available before it began. A pilot earns its cost only if it could have failed.

The decision

RECOMMENDATION Choose one function, one exposure, one owner and one bounded setting. Sign the acceptance criteria before any test. At the end, write one of four decisions: adopt within the tested limits, extend the test, redesign, or withdraw.

Why one pilot

FACT A 2023 mapping review of digital safety interventions in construction kept 24 of 392 records and found low to no evidence of better working conditions or fewer injuries.[2] The Cochrane review of injury prevention in construction rates its evidence as very low quality.[3]

INFERENCE Published research will not tell you whether a function protects people on your site. A site test can, if it is narrow enough to be read. Twelve loose trials produce twelve anecdotes.

What a pilot can show

INFERENCE Whether the function detects what it should, and whether a correct action follows in time, within the conditions you tested. A careful pilot can also show whether exposure fell at the same volume of work. It cannot show that injuries fell. One site does not have enough events.

Five findings that shape the method

1. A clean run proves less than it seems. FACT Thirty trials with no miss still allow a true miss rate of up to 9.5%. Ruling out a rate above 1% takes 299 clean, independent trials.[19]

2. Detection is not the test. FACT In the best field study we found, a radar on a mine truck missed nothing in seven days, and 41% of its 580 alarms called for action or caution.[1]

3. The boundary matters more than the sensor. FACT At DeRidder in 2017 the atmosphere was tested outside a tank. The flammable atmosphere was inside. Three contractors died.[15]

4. The conventional option must be in the test. RECOMMENDATION If a barrier, a layout change or a method removes the exposure, record that and close the technology trial.

5. Criteria written after the results are worthless. RECOMMENDATION The technical authority signs the expected result of every challenge before the first run.

The sponsor's one question

Ask the pilot lead: "What result would make us withdraw this?" If there is no answer, there is no pilot yet.

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SUMMARY FOR SPONSORS

What to sign, and what to refuse

The sponsor does three things: signs the charter, protects the pilot from pressure to pass, and reads the decision paper. Each has a short test.

Before you sign the charter

THE CHARTER STATES	YOU SHOULD BE ABLE TO SEE
The exposure	One fatal risk, one location, one task. Who is exposed, and when the exposure begins.
The comparator	The best conventional control, priced on the same boundary.
The protective action	Who acts on the signal, what they do, and the deadline for doing it.
The operating envelope	The equipment, layout, shifts, light and weather the test covers. Everything else is untested.
The reference	How the truth is established independently of the system under test.
Pass, fail and stop rules	Numbers and conditions, signed and dated before testing.
The data rules	What is collected, who sees it, how long it is kept, and how workers were consulted.

The blank charter is on page 38.

During the pilot

RECOMMENDATION Keep every existing control in place. The pilot adds a function in shadow or advisory mode. It removes nothing.

Have someone with no stake in the result observe a sample of periods, including quiet ones chosen before any dashboard is seen.

Treat a single missed critical condition, a silent loss of coverage or an unauthorised release as a reason to restrict and investigate.

Refuse a decision paper that offers

- A count of devices installed or hours logged.
- A detection rate with no denominator.
- A falling alert count with no explanation.
- Results for day shift only.
- Criteria changed after testing began.
- "No incidents during the pilot" as evidence.

> **Where this sits in the series.** *Time to act* sets out five gates a proposal must pass before it deserves a pilot. [25] This manual starts after gate 5. If the proposal has not been through the gates, go back.

By Bruno Hounkpati, CEO and former VP HSE. Gold numbers and page numbers refer to the full manual, "Prove it on site", Riskopilot Research, November 2026.

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SUMMARY FOR SPONSORS

The pilot in 90 days

Four stages. Move to the next on evidence, and stop early if a stop rule is met.

STAGE	OWNER	WORK	OUTPUT AND SUCCESS MEASURE
Days 1 to 15 Baseline	Site director, pilot lead	Pick one bounded job or asset. Draw the protected boundary with a worker and an engineer. Locate the last point at which action still protects. Record the best conventional alternative. Choose shifts and denominators.	A marked drawing and a baseline count. **Measure:** the comparator is priced and the exposure has a denominator.
Days 16 to 30 Freeze	Technical authority	Sign the expected result of every challenge, the reference method, the clocks, the uncertainty allowance, the exclusions and the stop rules. Agree the data rules with worker representatives.	A signed charter. **Measure:** signature dated before the first run.
Days 31 to 60 Collect	Pilot lead, independent observer	Run the challenges in closed areas or on training copies. Sample quiet periods as well as alarms. Record version, configuration, light, shift, missing data and who acted. Log every deviation.	An evidence log. **Measure:** no run is missing its reference, and unknowns are counted.
Days 61 to 90 Decide	Sponsor, technical authority, worker representative	Review every miss, late action, stale reading and unknown. Test the fallback at night and with contractors. Write the limits of any acceptance and what invalidates it.	A decision paper. **Measure:** one of four written decisions, with an expiry and a named owner.

What this manual will not tell you

Which product to buy, what miss rate is acceptable, or how many trials your site needs. The technical authority sets the last two for the site and the hazard. We give the arithmetic that shows what each choice implies.

What would change our advice

A published field evaluation of any of these functions with independent references and denominators. We found very few. Page 43 lists what we are looking for.

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