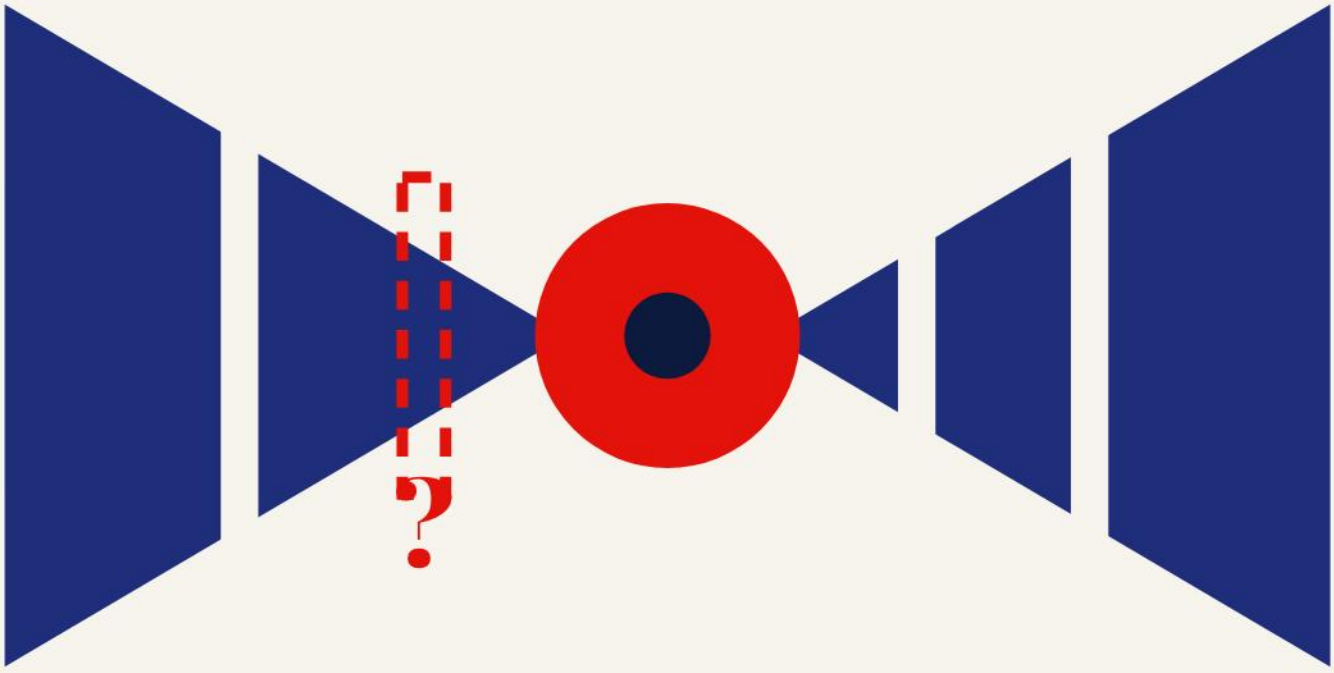


Go and check one barrier on your bow-tie

A barrier drawn on paper is not proof that it works today.

WHAT THIS IS ABOUT

What a bow-tie can and cannot tell you

The bow-tie is a widely used visual way to map threats, a top event and consequences around a hazard, together with the barriers meant to control them.

In 2016, Alex de Ruijter and Frank Guldenmund published a review of how the bow-tie method is used. They describe its strengths, and also its limits.

This carousel focuses on one gap that matters in daily work: the difference between a barrier on the diagram and a barrier in the field.

THE IDEA

A clear picture, but only a picture

The strength of the bow-tie is communication. Operators, engineers and managers can all read it, and agree on what could go wrong.

The review distinguishes qualitative bow-ties, which use simpler cause–effect scenarios to communicate risk, from quantitative variants that use fault-tree and event-tree structures with barriers to calculate risk. In a qualitative diagram, a box looks the same whether the real barrier is tested and maintained, or bypassed and forgotten.

So the value of a bow-tie depends on what sits behind each box: an owner, a check, and evidence that the barrier works.

THINK ABOUT IT

Three questions worth asking

1. For your most important bow-tie, could you name the owner of every barrier?

2. Which barriers on your diagrams depend on people doing the right thing at the right time? How do you know they still do?

3. When did someone last walk from the diagram to the plant, and check that each barrier really exists?

YOUR MONDAY ACTION

From the diagram to the plant

1. Take one bow-tie from your risk register.
2. Pick one barrier on it, ideally one that the whole picture relies on.
3. Check in the field: does it exist, who owns it, when was it last tested or inspected, and would it work today?
4. If any answer is unknown, mark the barrier “not verified” (red if helpful) and route the gap to its owner. AFDARA field-check prompt; not a probability rating.

READ IT YOURSELF

The bowtie method: a review

de Ruijter, A., & Guldenmund, F. (2016). The bowtie method: a review. *Safety Science*, 88, 211–218.

A clear, short review of where bow-ties help and where they can mislead. A walkdown is not full validation: records, proof tests, functional tests or interviews may also be needed.

TELL US

Which barrier did you check, and what did you find?