WORK-AS-IMAGINED &WORK-AS-DONE: MIND THE GAP

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12 May 2021 | New trends in holistic safety management – the gap between theory and practice | HFC Norway (online)

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"I feel there is an ever increasing disconnect again between what nationally is sometimes said to be going on and what people on the ground feel or see is going on."

Sir Robert Francis QC, 2017, HSJ

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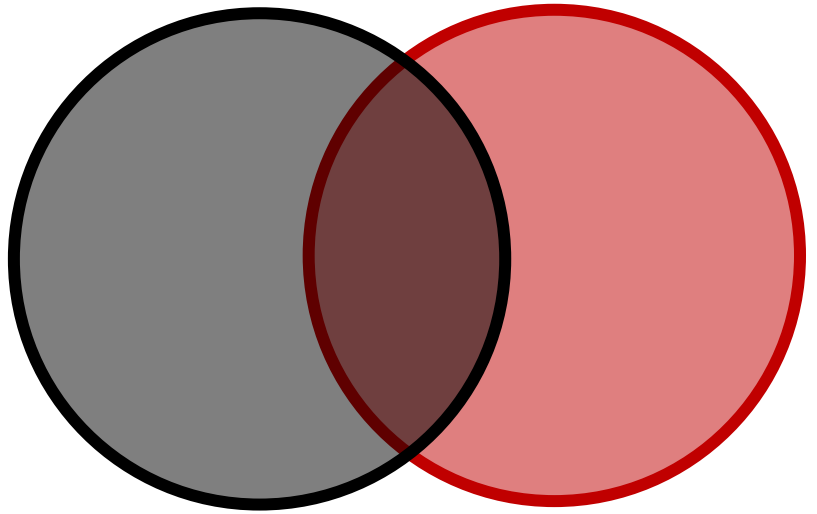

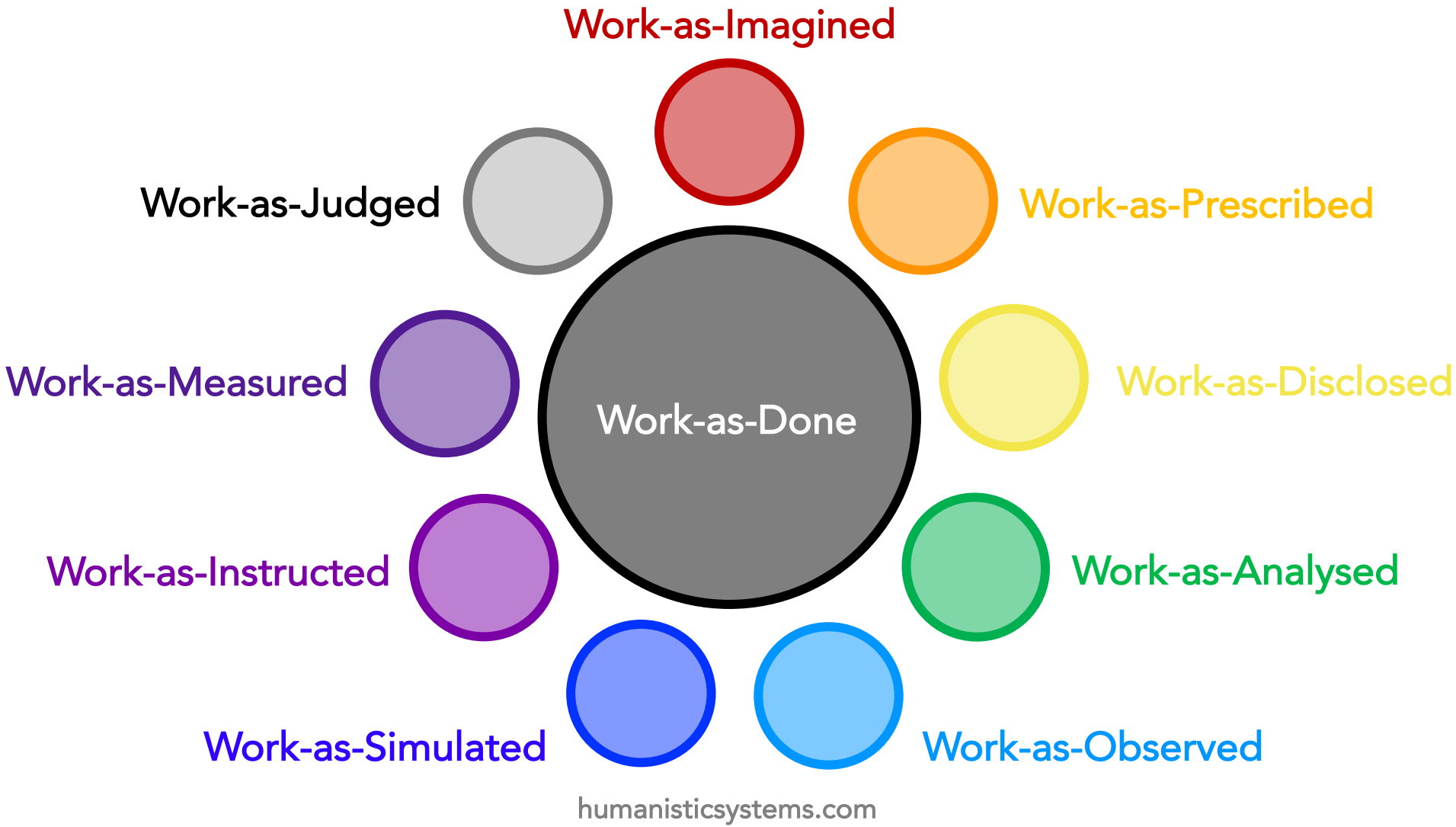

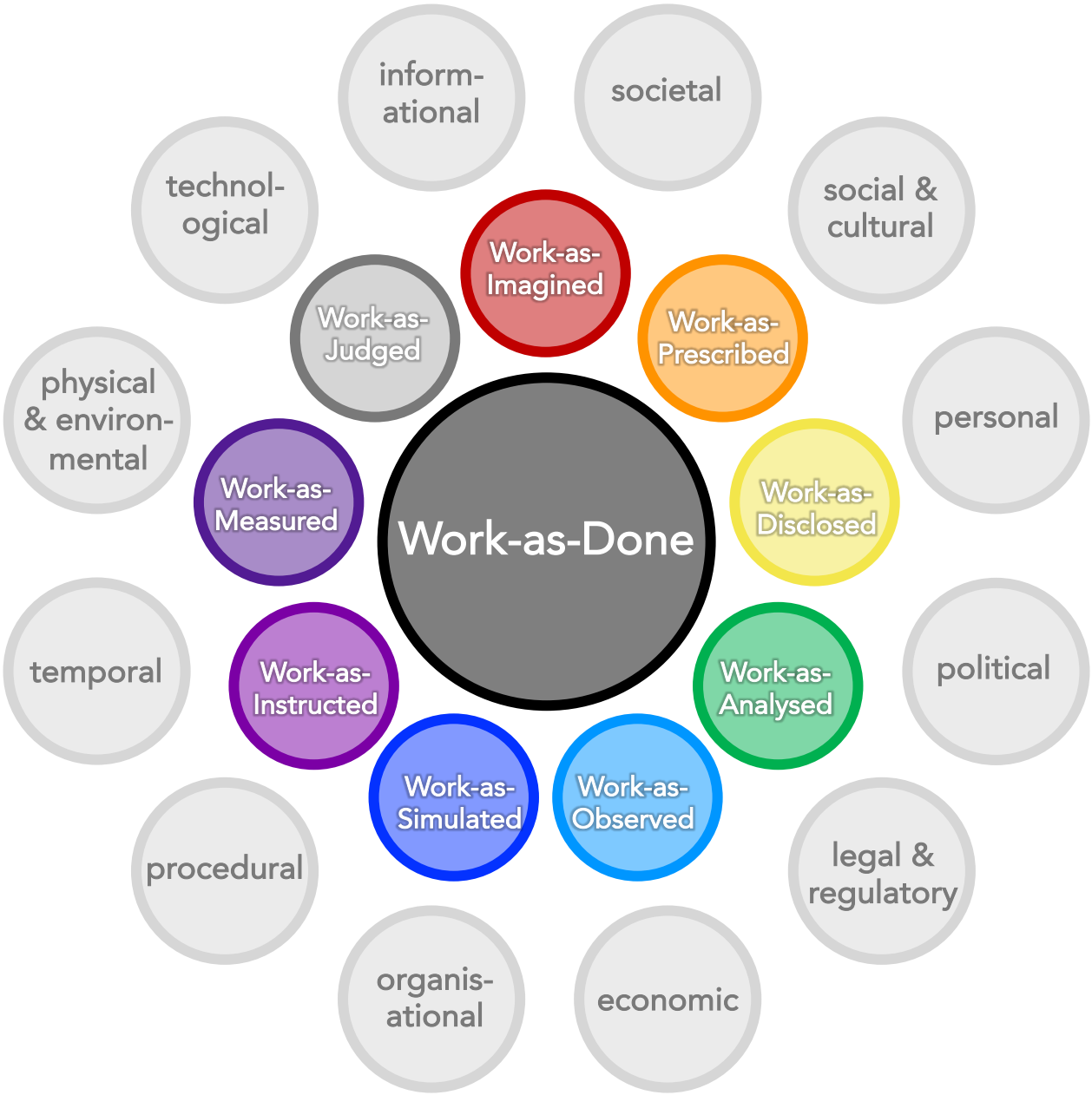

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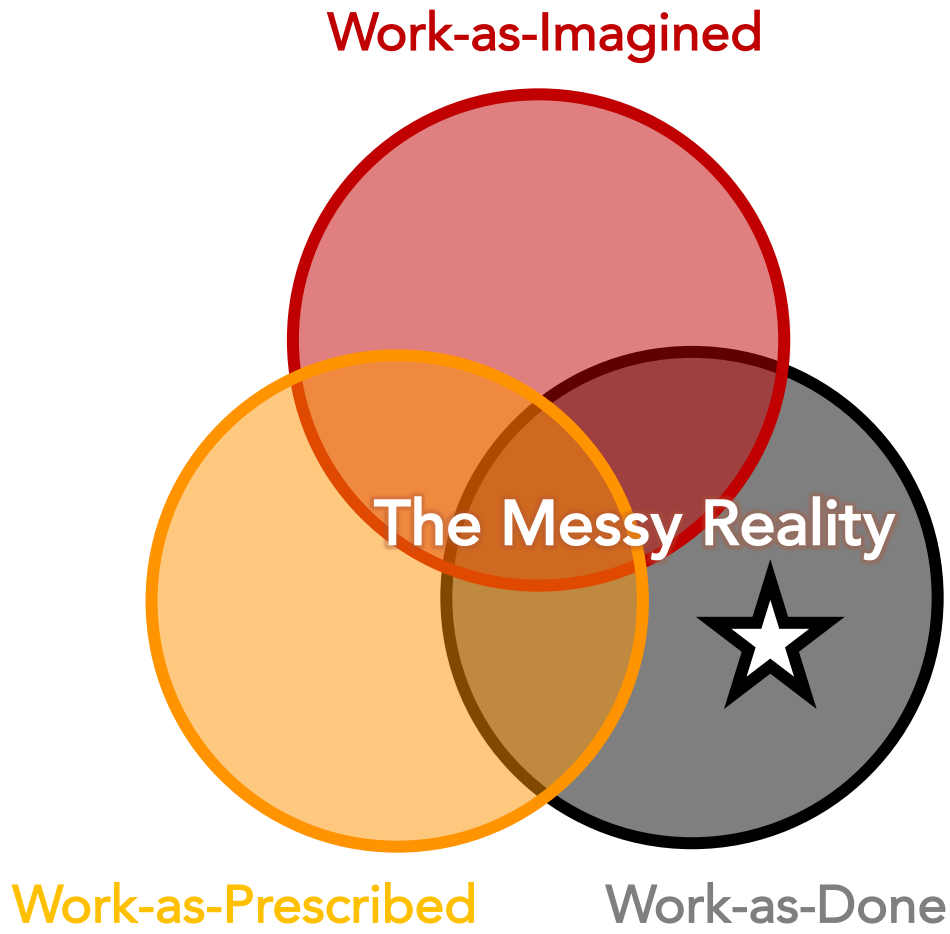
ARCHETYPES OF HUMAN WORK



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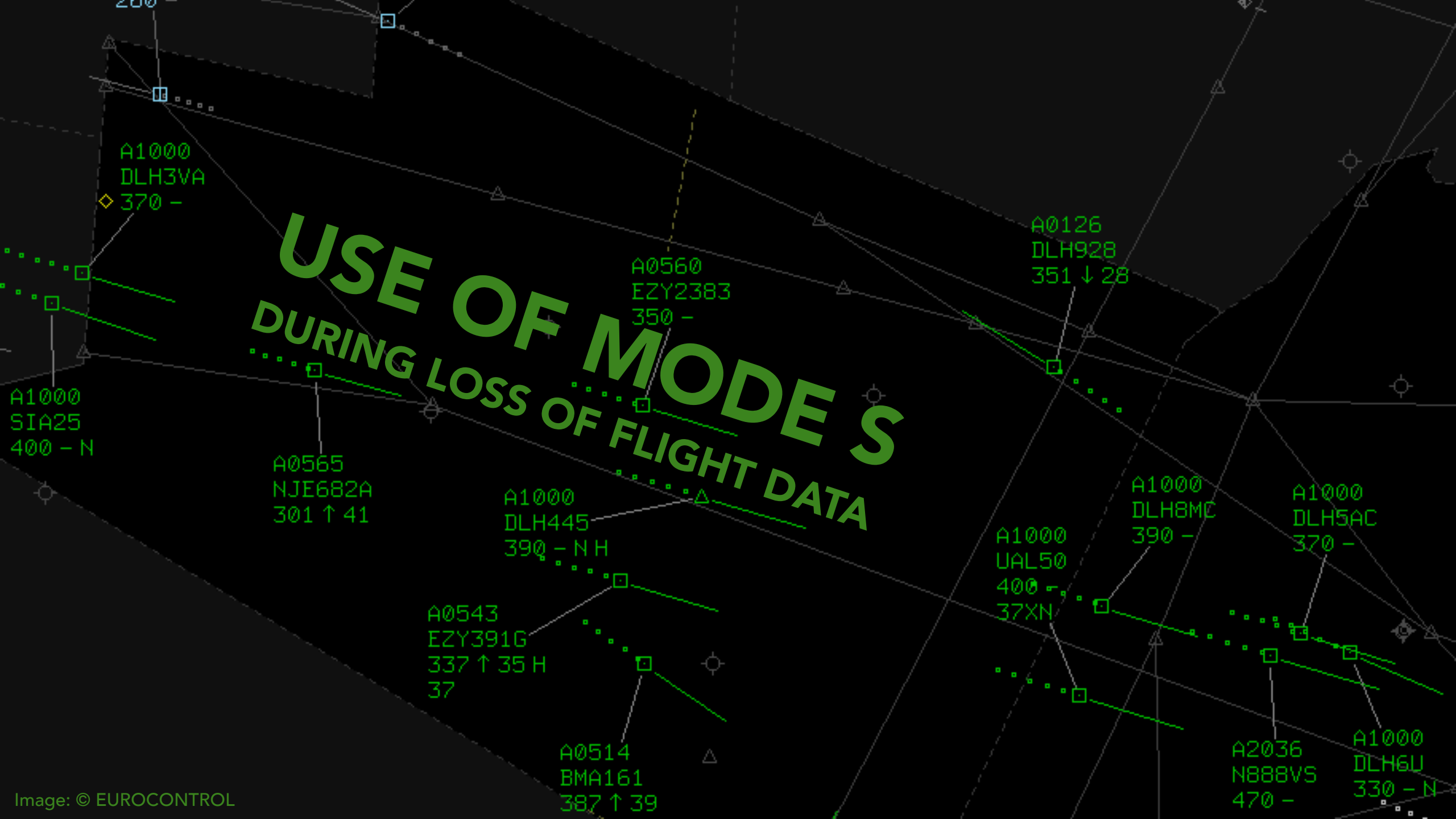
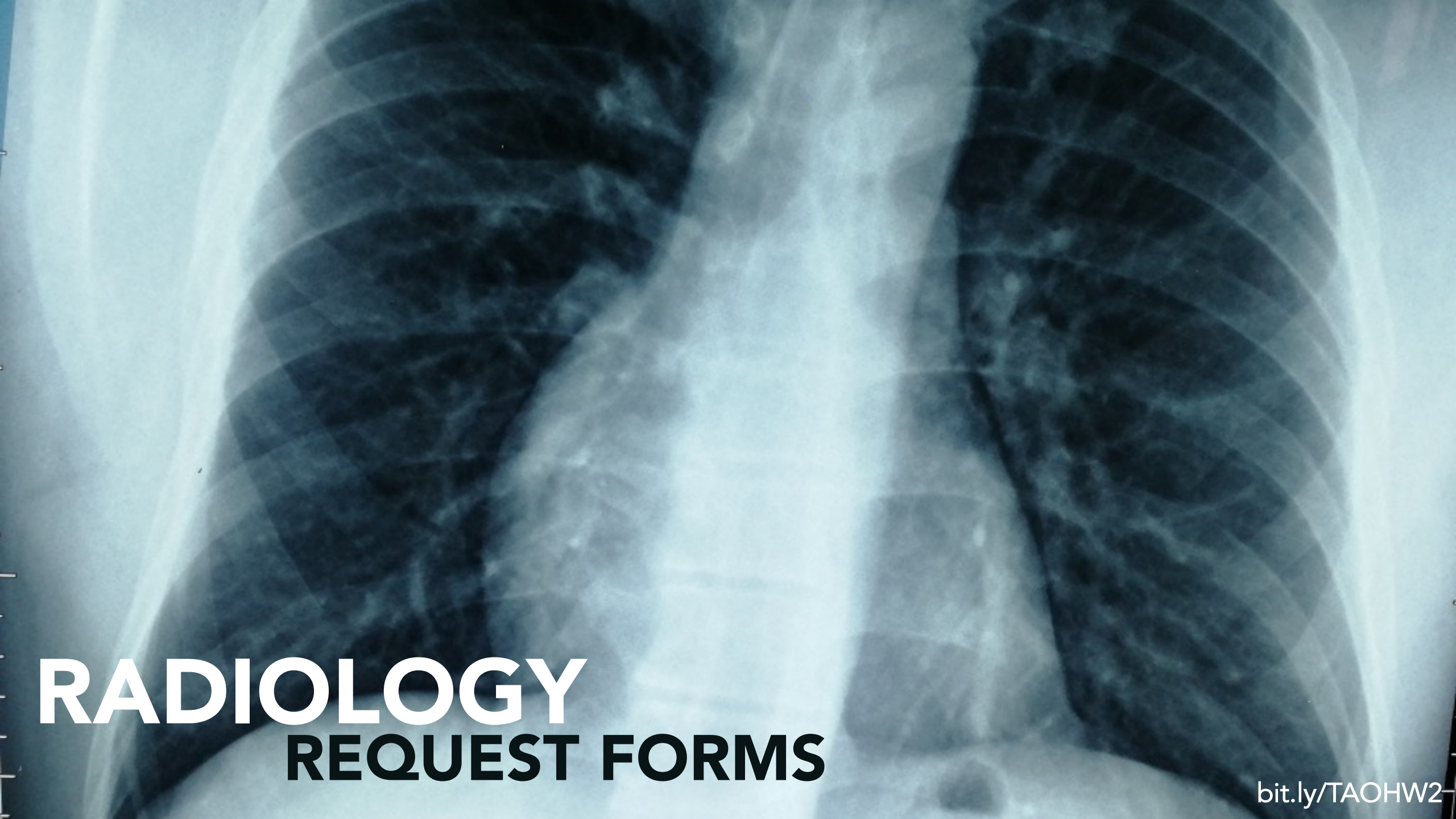
Describe about a situation where **work-as-done** is **not as-prescribed**





RADIOLOGY
REQUEST FORMS

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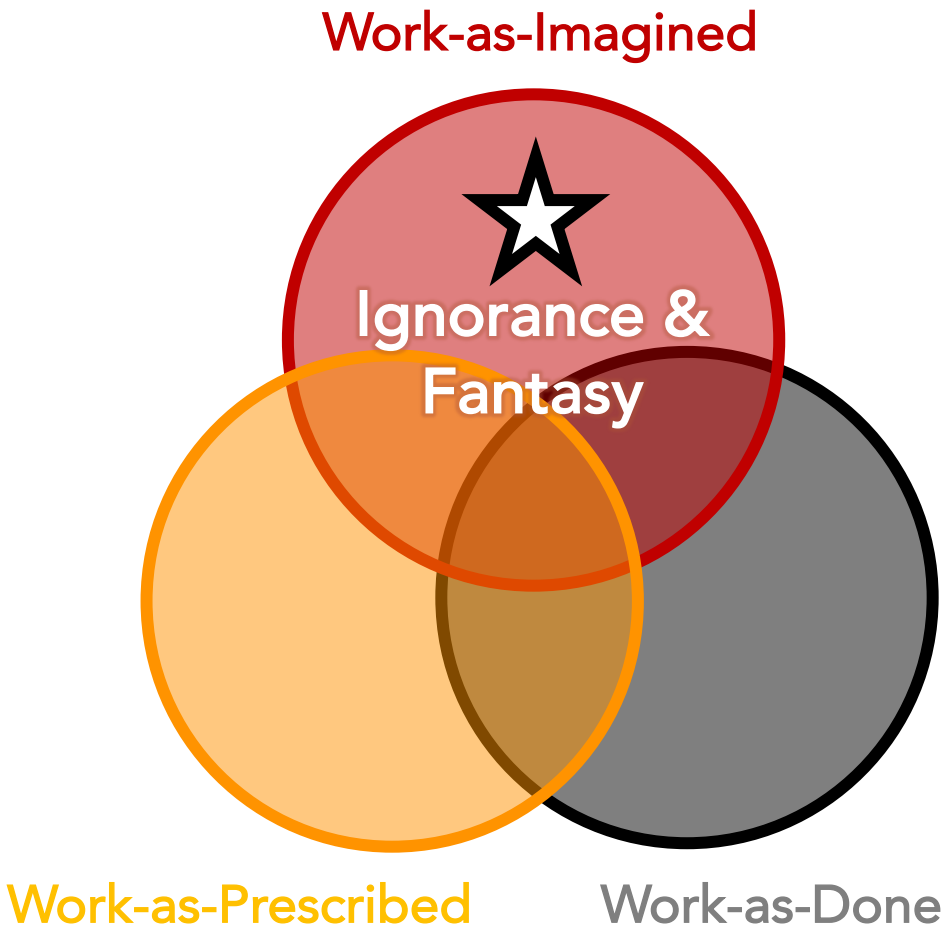

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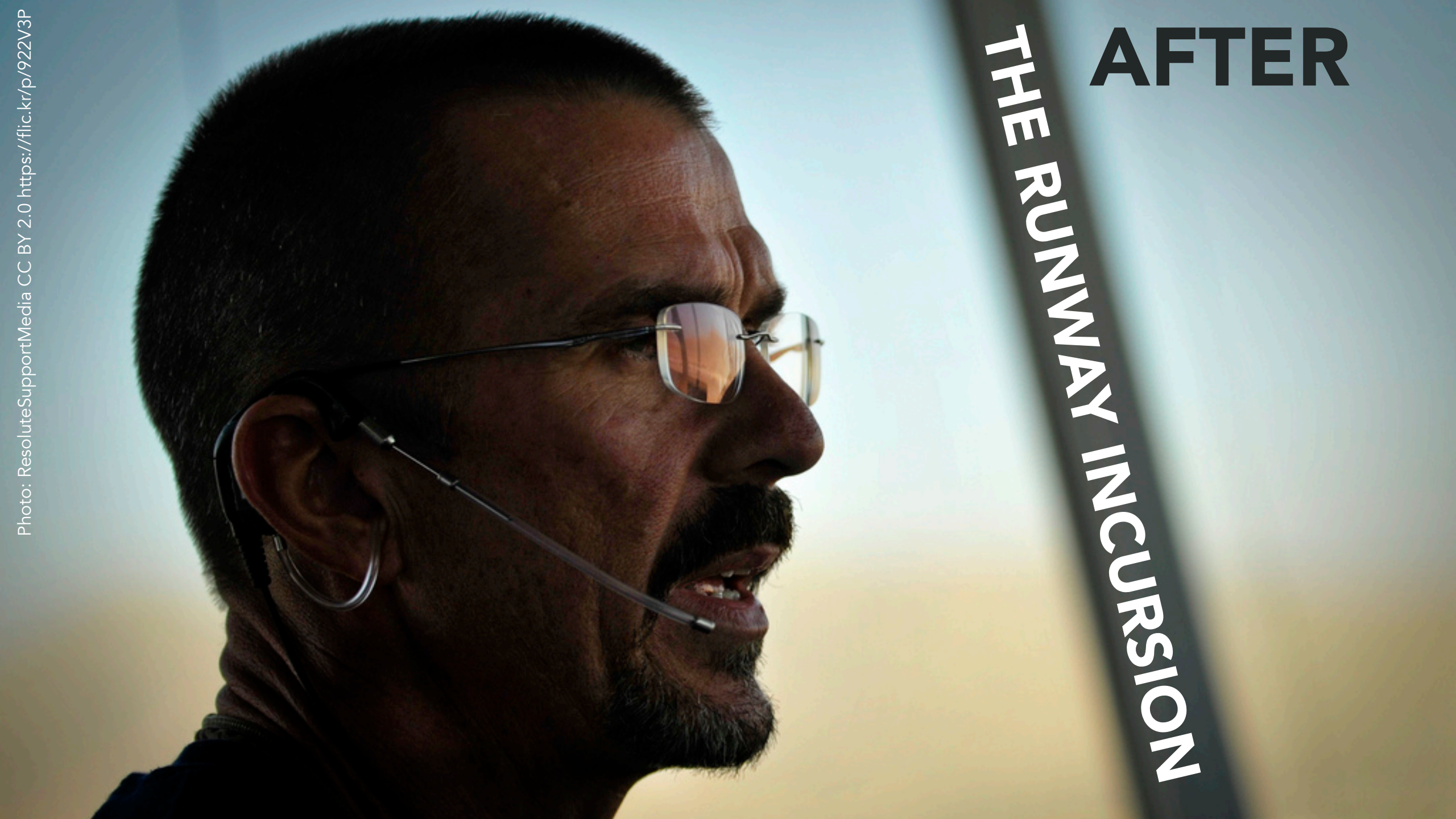
Describe a situation where current **work-as-imagined** is not **as-done**



THE CURIOUS INCIDENT OF THE RUNWAY INCURSION IN THE NIGHT-TIME

Sometimes after an incident, a system-wide change is implemented that makes work more difficult and creates new problems. This story is one such example, which contains useful lessons for responding to rare events. **Steven Shorrock** recounts the tale.

KEY POINTS

- **When reacting to individual incidents, interventions can present additional unintended consequences that were never foreseen or predicted during traditional safety assessments.**
- **Multiple changes at the same time impact performance in ways that may not be imagined.**
- **When planning a change in practice, speak to a variety of stakeholders, especially front-line practitioners, to understand the work, the context of work, the tools, and the history of the situation that the change seeks to address, and to get their views on possibilities for change.**

This story takes place in a busy dual runway airport, where movements are restricted to daytime hours. Outside of those hours, one runway is kept open and the other is closed for essential maintenance.

The drivers at the airport had a well-established process that they followed every night when they turned up to work for a night shift. The usual practice was that, on arrival for duty, drivers entered the office and checked a board on the wall for the live status of the runway – open or closed. The driver would then get into the vehicle, perhaps perform some tasks around the airport, and drive over to the runway. At this airport, drivers were required to call tower when approaching a runway for crossing, but not when leaving the apron and entering a taxiway. As drivers approached the runway, they had to contact tower if the runway was open, or contact the airside office if the runway was closed. If a driver were to call the airside office to cross or enter the runway when it was open, the driver would be were told to contact tower.

One night, a driver (Driver 1) approached one of the runways in his vehicle, believing that the runway was closed. During the period that the driver had been out, the runway had reopened for a planned late arrival. While the procedure was to contact the airside office to check before entry, the driver did not do this on this occasion. A runway incursion resulted.

At the time of the runway incursion, another airside vehicle (Driver 2) approached the runway from the opposite direction and saw Driver 1's vehicle cross the runway. Driver 2 called tower to cross the runway, because this driver knew that the runway was open. But Driver 2 had not heard Driver 1 contact ATC on the same frequency, and queried whether Driver 1 had clearance to cross the runway. Driver 2 was informed that Driver 1 did not have clearance.

Driver 1 was suspended pending an investigation. While this could not be confirmed, it was believed that local practice had changed, and that drivers had stopped calling the office due to the number of calls generated and the associated workload. During the period of the runway incursion, there were significantly more runway crossings than usual, and calls were more frequent. But ultimately, the reasons for the runway incursion were never fully understood. Crossing the runway without calling the airside office may have been deliberate, reflecting local practice, or may have been inadvertent – an unintended crossing.

At the time of the runway incursion there were no aircraft movements on the runway, but this was sheer luck. This was, however, the first time that a runway incursion in these circumstances had occurred.

The first intervention

At the time of the incident, there was pressure to reduce runway incursions and ground movement events, which had become tracked metrics and key performance indicators (KPIs). There was an expectation that a certain number of runway incursions per 100,000 movements would not be exceeded. This was also tracked by the airport as a company performance target.

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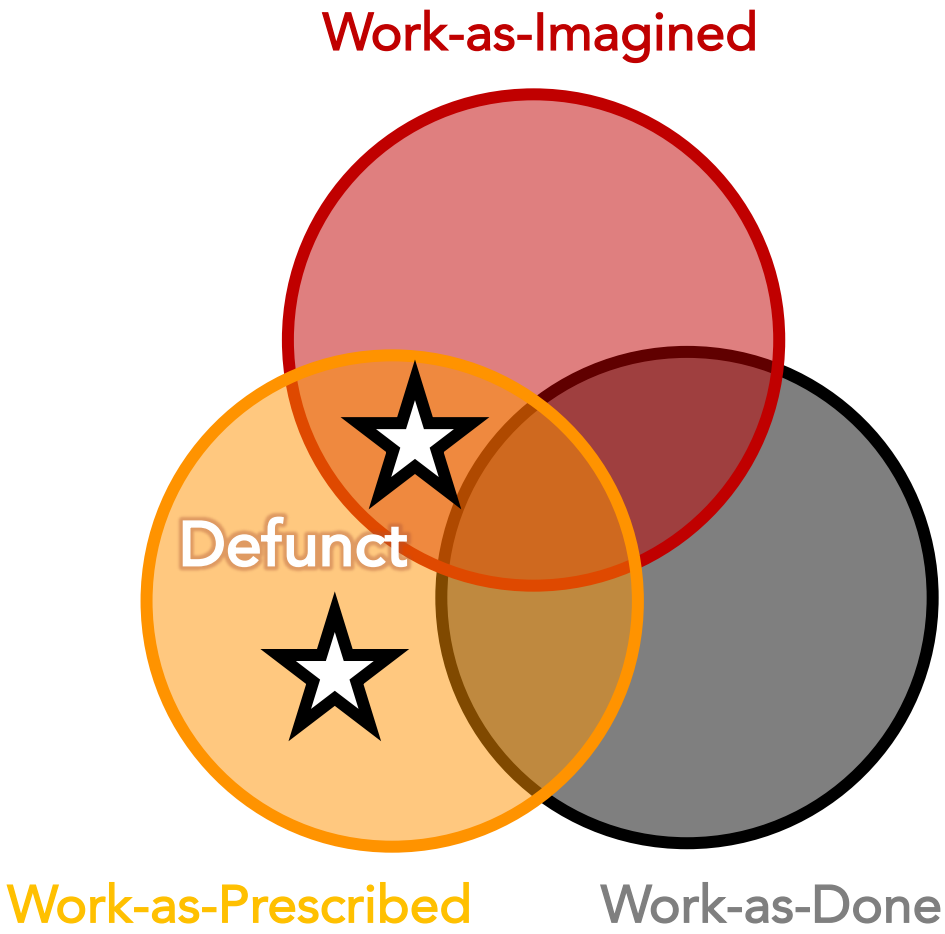

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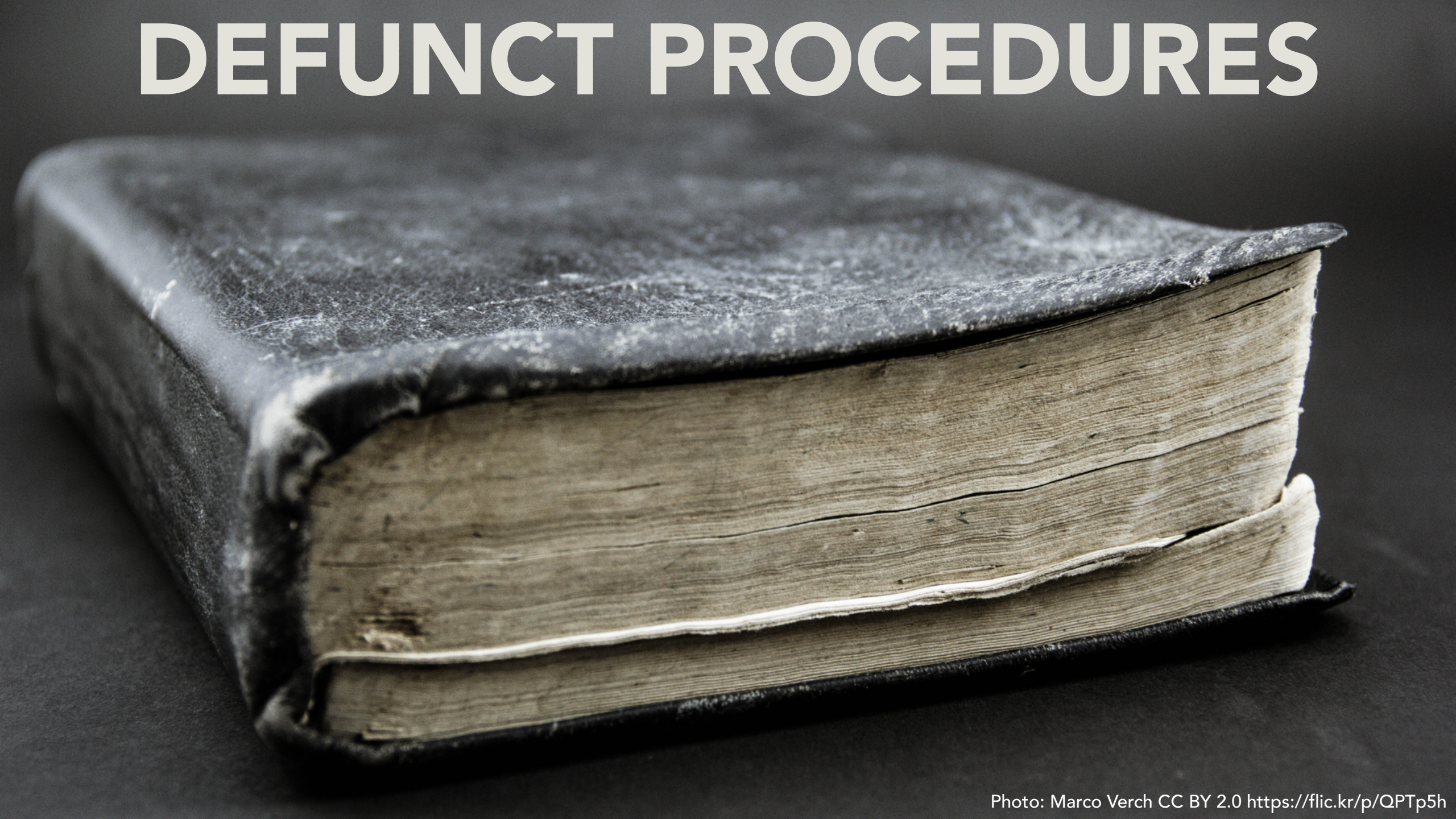
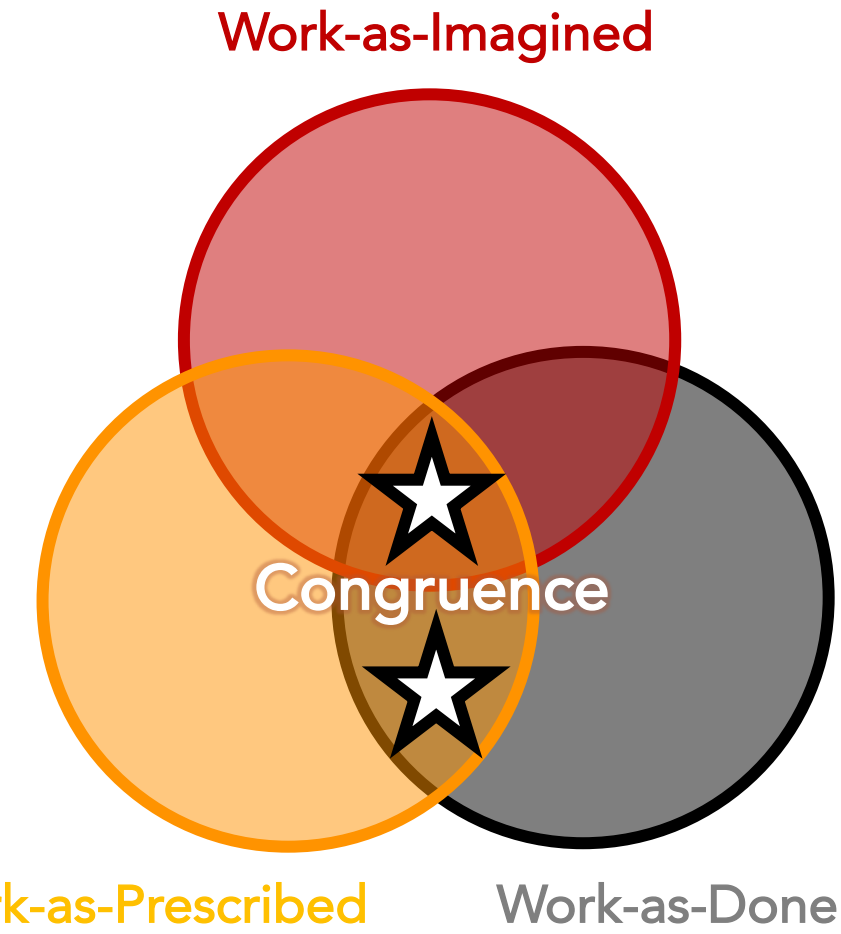
Describe a situation where **work-as-prescribed** is not **as-done**

DEFUNCT PROCEDURES





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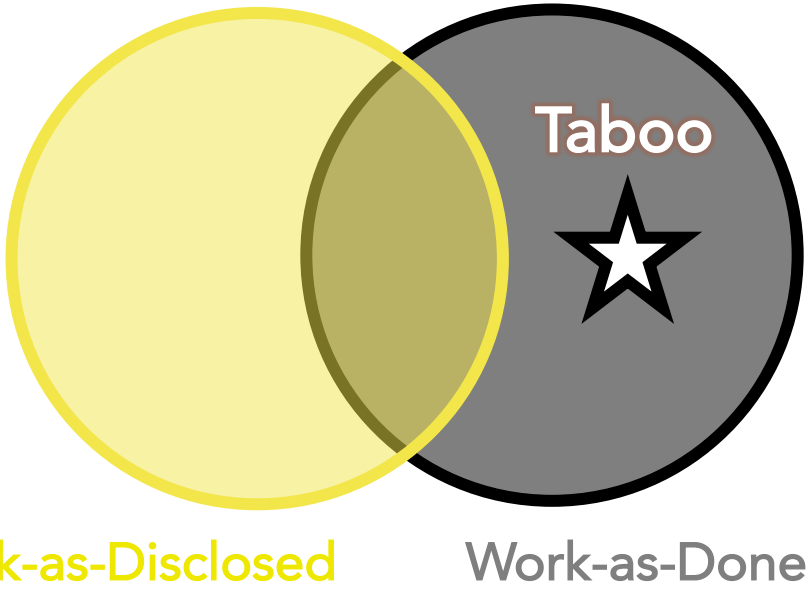
Describe a situation where **work-as-done** is **as-prescribed**. It may or may not be as-imagined by others.


STANDARD
PRESSURE
SETTING



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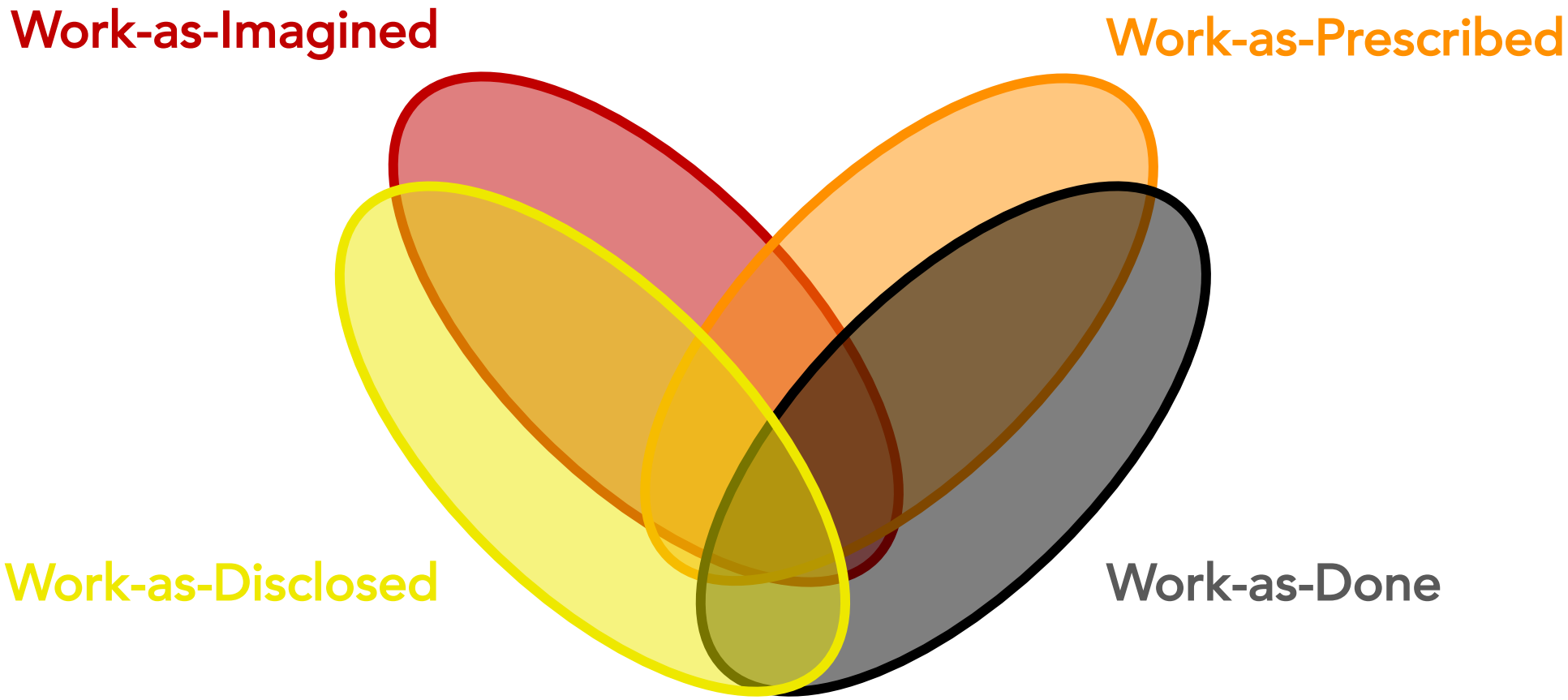
Describe a situation where **work-as-done** is not **as-disclosed**, nor usually **as-prescribed**, nor usually **as-imagined** by others?

TRIPLE DOUBLE SHIFTING

PREPARING INTRAVENOUS INJECTIONS



FALLACIES ABOUT THE NATURE OF WORK

SOME FALLACIES OF WORK-AS-IMAGINED

- The mind projection fallacy (the ultimate WAI fallacy)
- The fallacy of the system-as-designed
- The fallacy of technical rationality
- The fallacy of the magic bullet

DESIGNING FOR WORK-AS-DONE

Does (or did) design and management make it:

- easy to succeed?
- hard to fail?

DESIGNING FOR WORK-AS-DONE

1. Understand work-as-done (WAD) in context
2. Collaborate on work-as-imagined (WAI)
3. Co-design prototype work-as-prescribed (WAP)
4. Implement incrementally in work-as-done
5. Test WAI and WAP against WAD
6. Repeat above until WAI-WAP-WAD gap acceptable
7. Monitor WAI-WAP-WAD gap

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Seven Friends of Intervention

Acceptance of uncertainty

Expertise & involvement

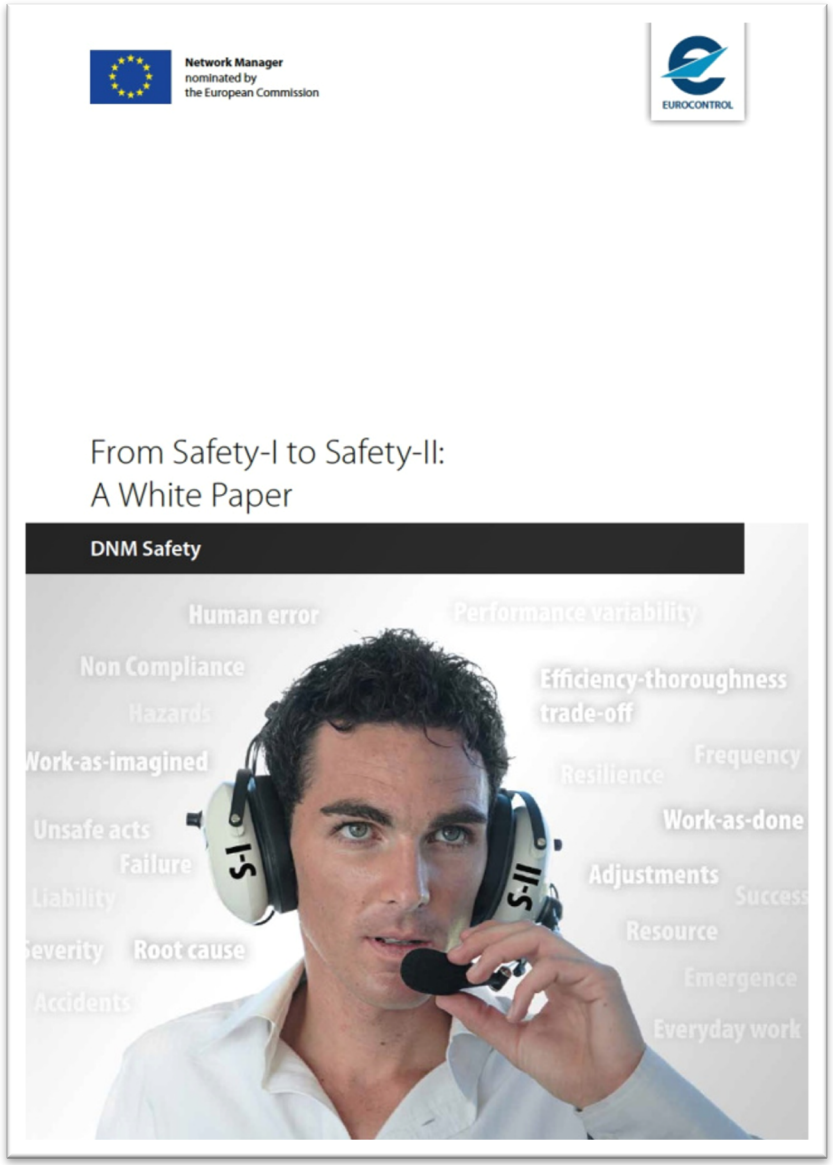
Research

Listening & observing

Human-centred, activity-focused design

Multiple perspectives & thick descriptions

Systems methods



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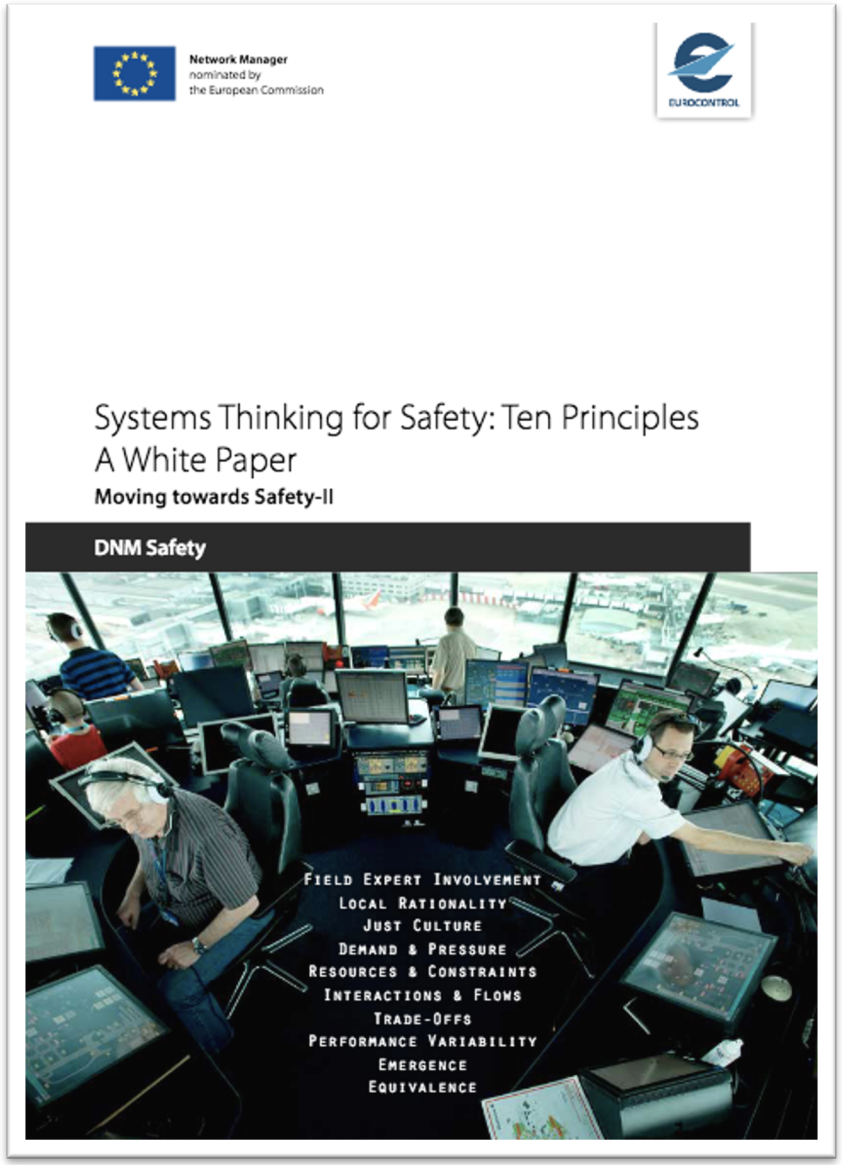

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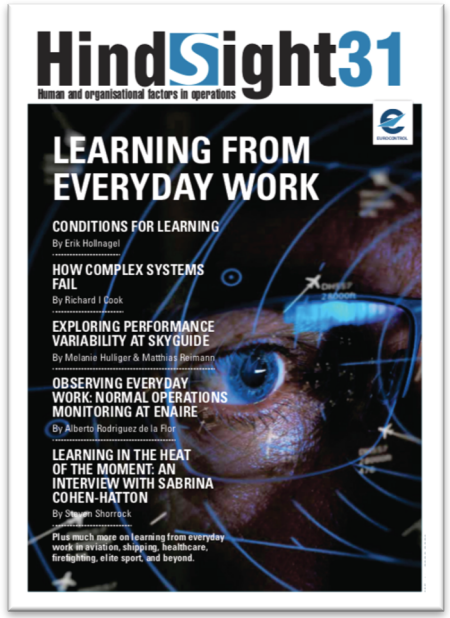

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