"It's not the tool, stupid!"

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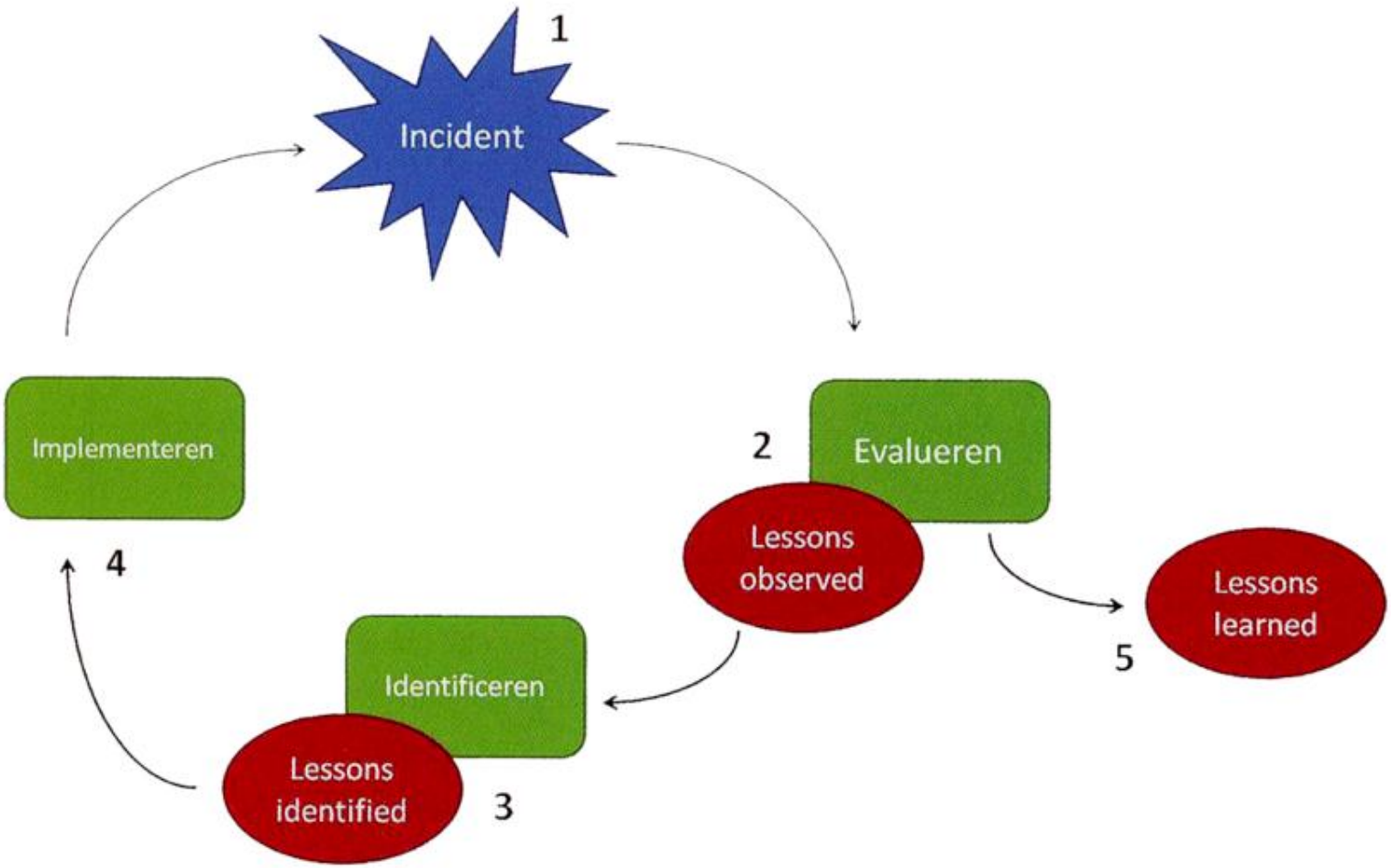
TNO innovation for life

Learning from events

- Organisations see their drive for improving HSE frustrated by 'recurring accidents' (up to >90%)
- Massive amounts of time and resources are spent in investigations (and investigations can be very disruptive)
- Yet, many organizations fail to implement the lessons learned from events effectively
- Main misconceptions:
  - The focus is limited to 'incidents' rather than 'events'
  - If the process is formally organised it will be effective
  - When lessons are not learned, a new tool will solve the problem

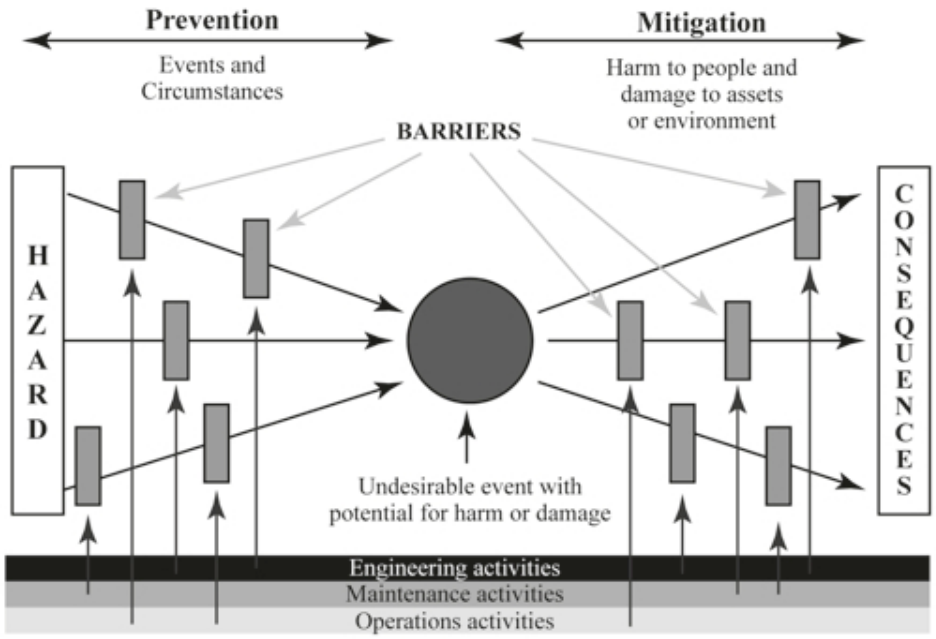
A 'classic' example: What is wrong in this picture?



A process approach

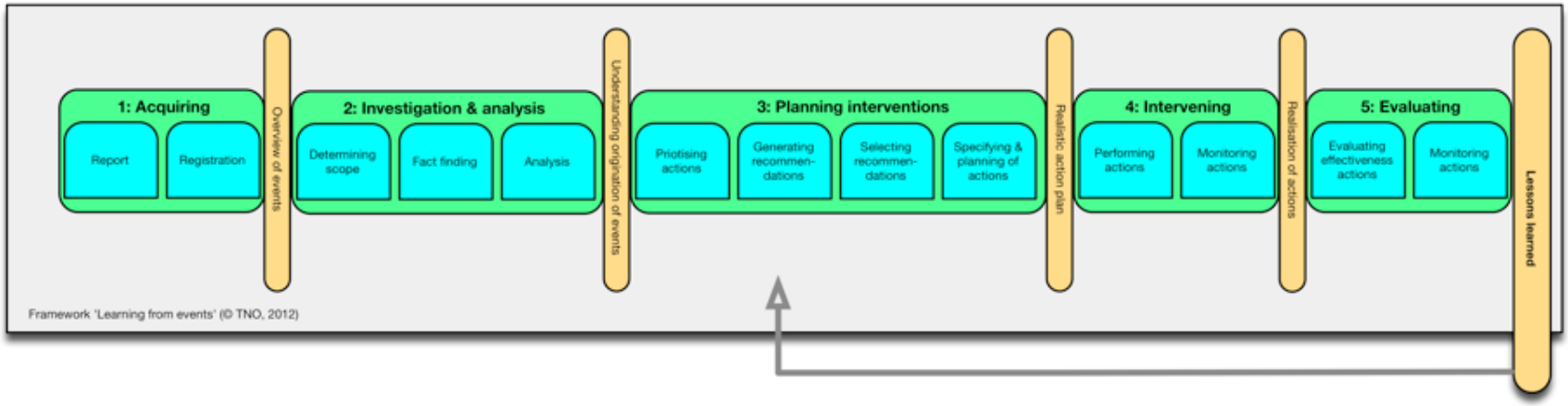
- The focus should shift to 'learning' rather than the tool

- Any event can be input for the 'learning process', there is no need to wait for consequences, e.g. findings of an audit of barriers



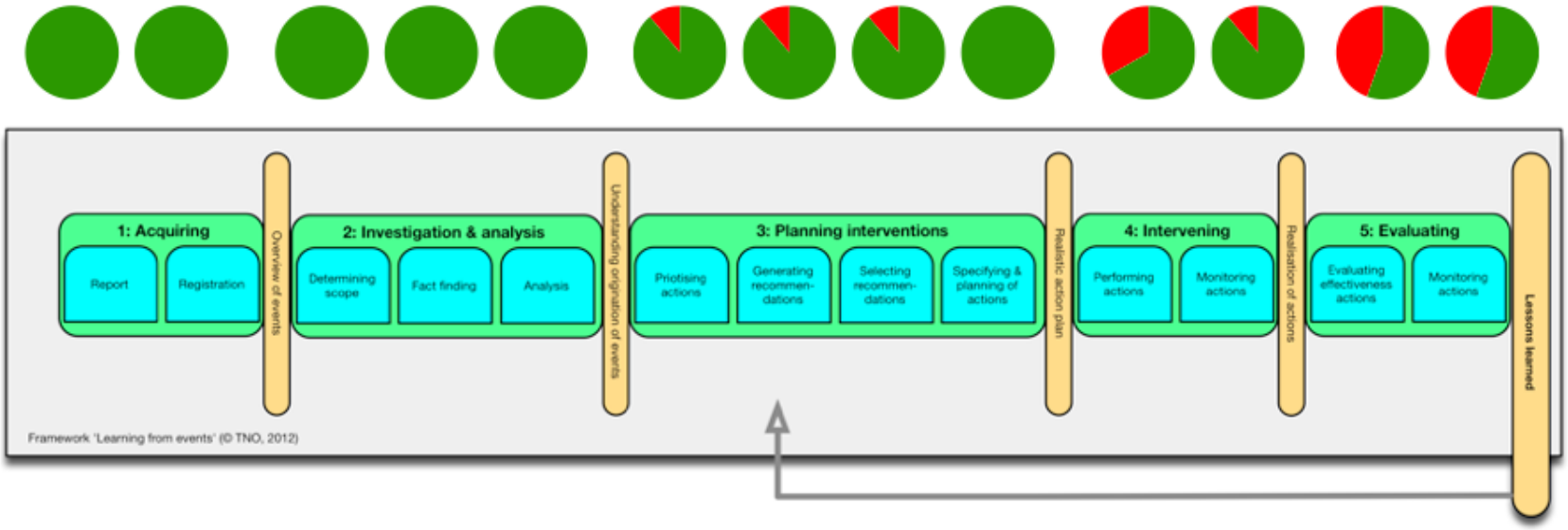
A process approach

- A model based on an extensive literature review: 13 steps and five stages



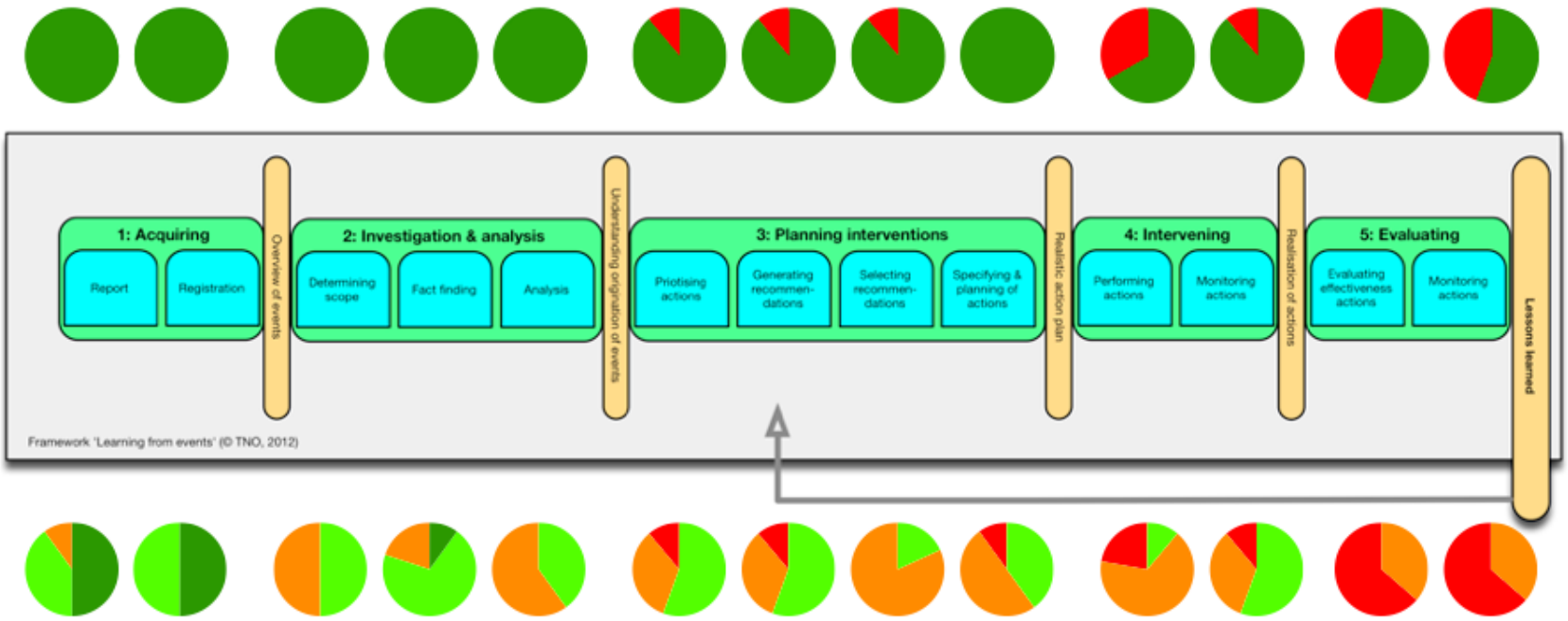
Formal organisation and actual performance

- Example (11 companies)
- How have they formally organised the 'LFE process'?



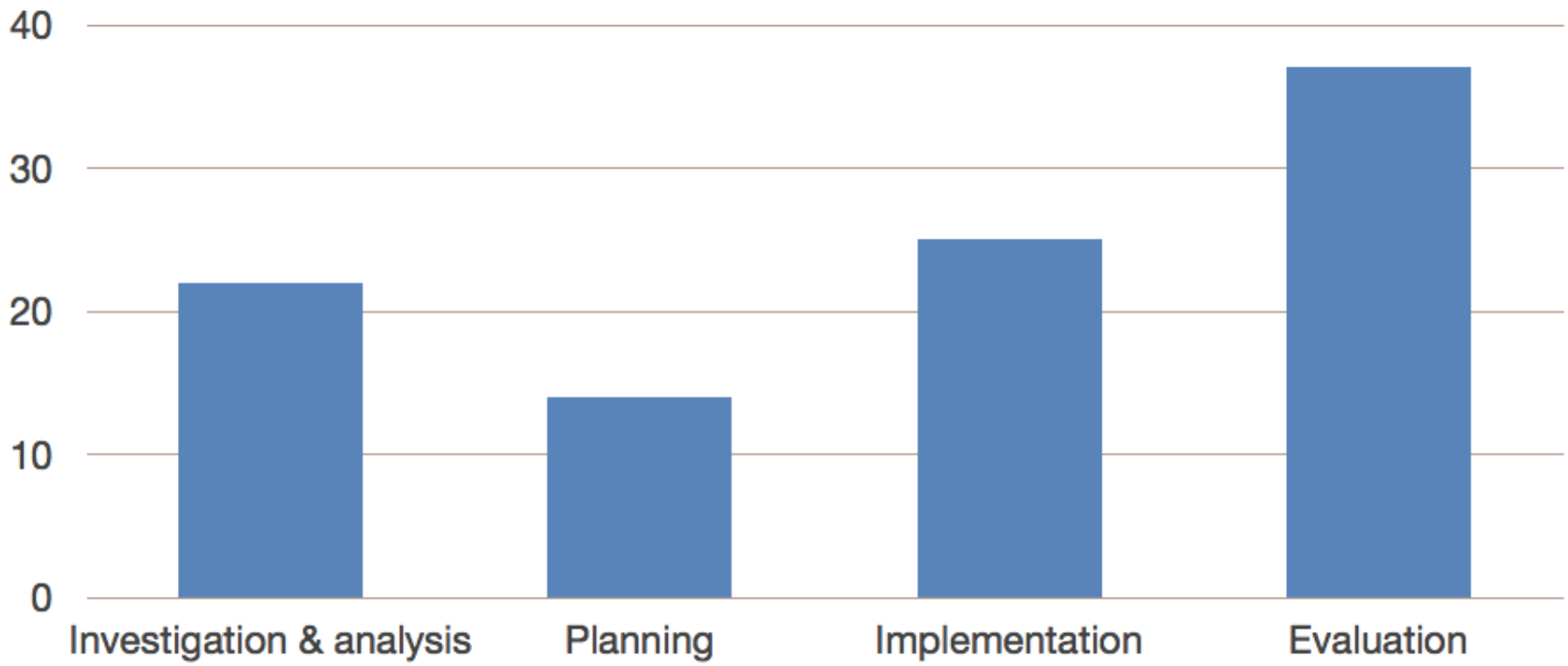
Formal organisation and actual performance

- Example (11 companies)
- How are the steps in the learning process actually performed?



Where are the bottlenecks?

- A Dutch study: 77 companies in the petrochemical industry



What are the main bottlenecks

- Incident investigation and analysis
  - Not reporting near misses (45%)
  - Scope determined only on outcome not on potential (36%)
  - Scope determined depending on personal judgement (42%)
  - Lack of depth in the investigation (36%)

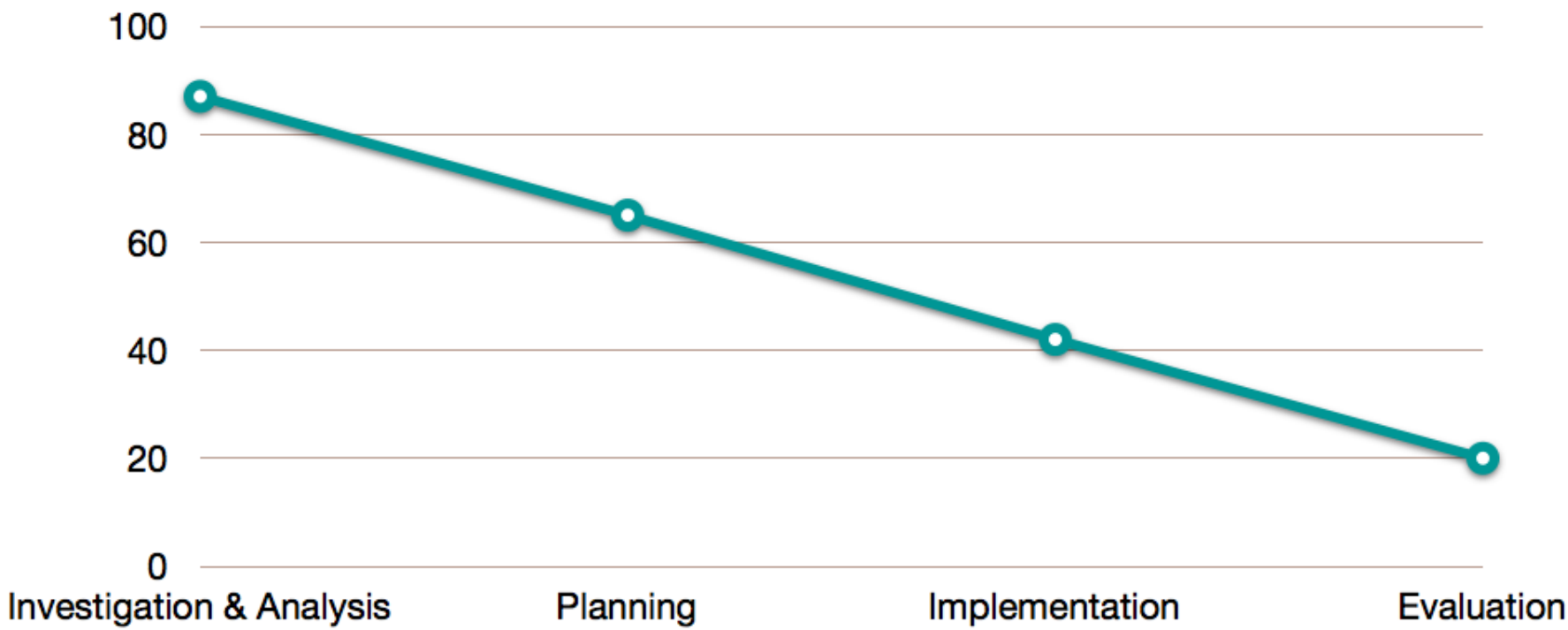
- Planning of interventions
  - Focus on easy, short-term solutions (33%)
  - Follow-up not built in (25%)
  - No clear owner of the action list (28%)

What are the main bottlenecks?

- Communicating
  - Only through the system / email (39%)
  - Only top-down (36%)
  - No feedback at all (25%)
- Performing actions
  - Depending on costs (37%)
  - Limited prioritisation and planning (42%)
- Evaluation
  - No evaluation at all (50%)
  - Only implementation evaluated (40%)

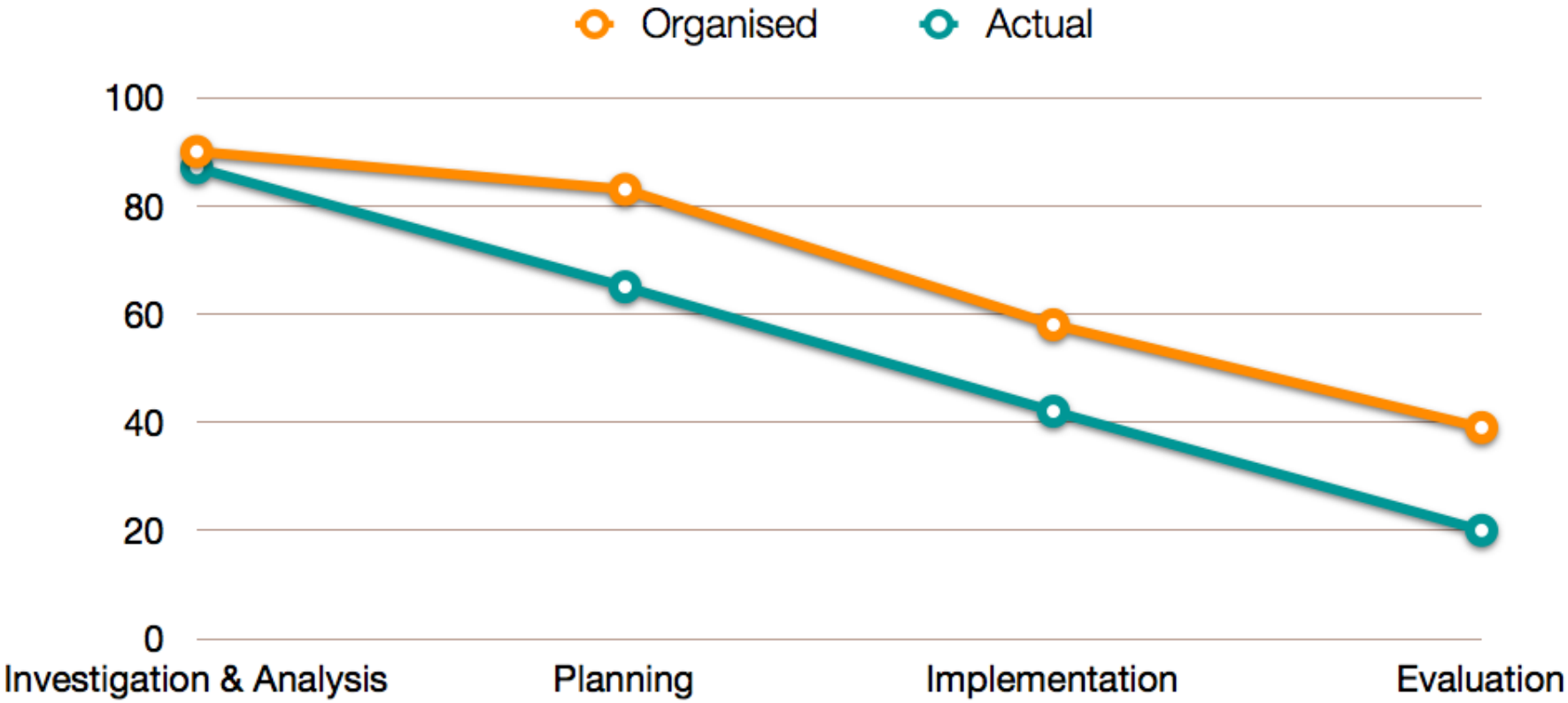
Loss of learning potential

- About 20% of the 'learning potential' is fully utilised (Chemical industry)



Loss of learning potential

- In many companies this is a real surprise as they think they had organised the process effectively (and it has been certified and audited)

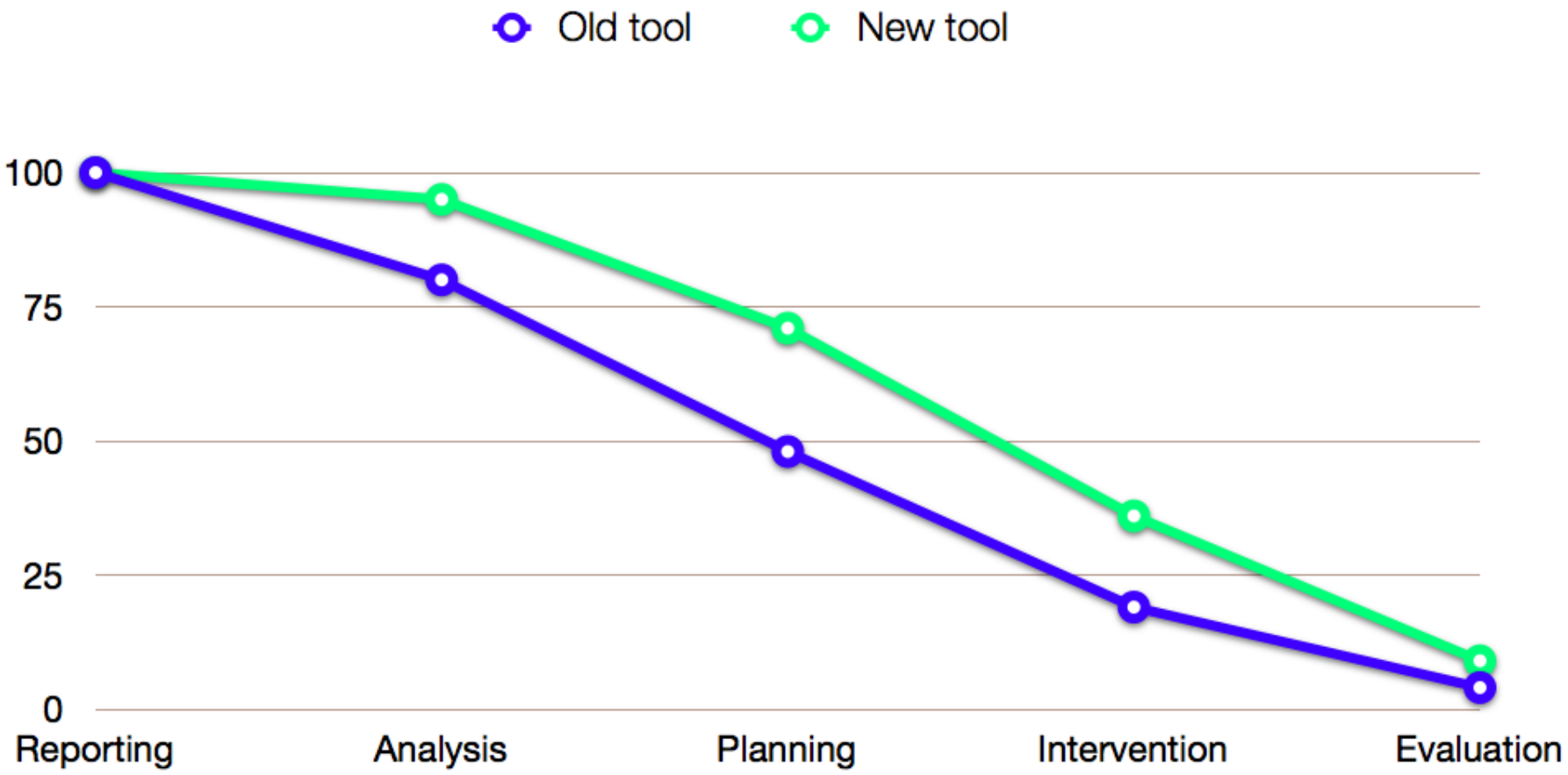


Changing the tool

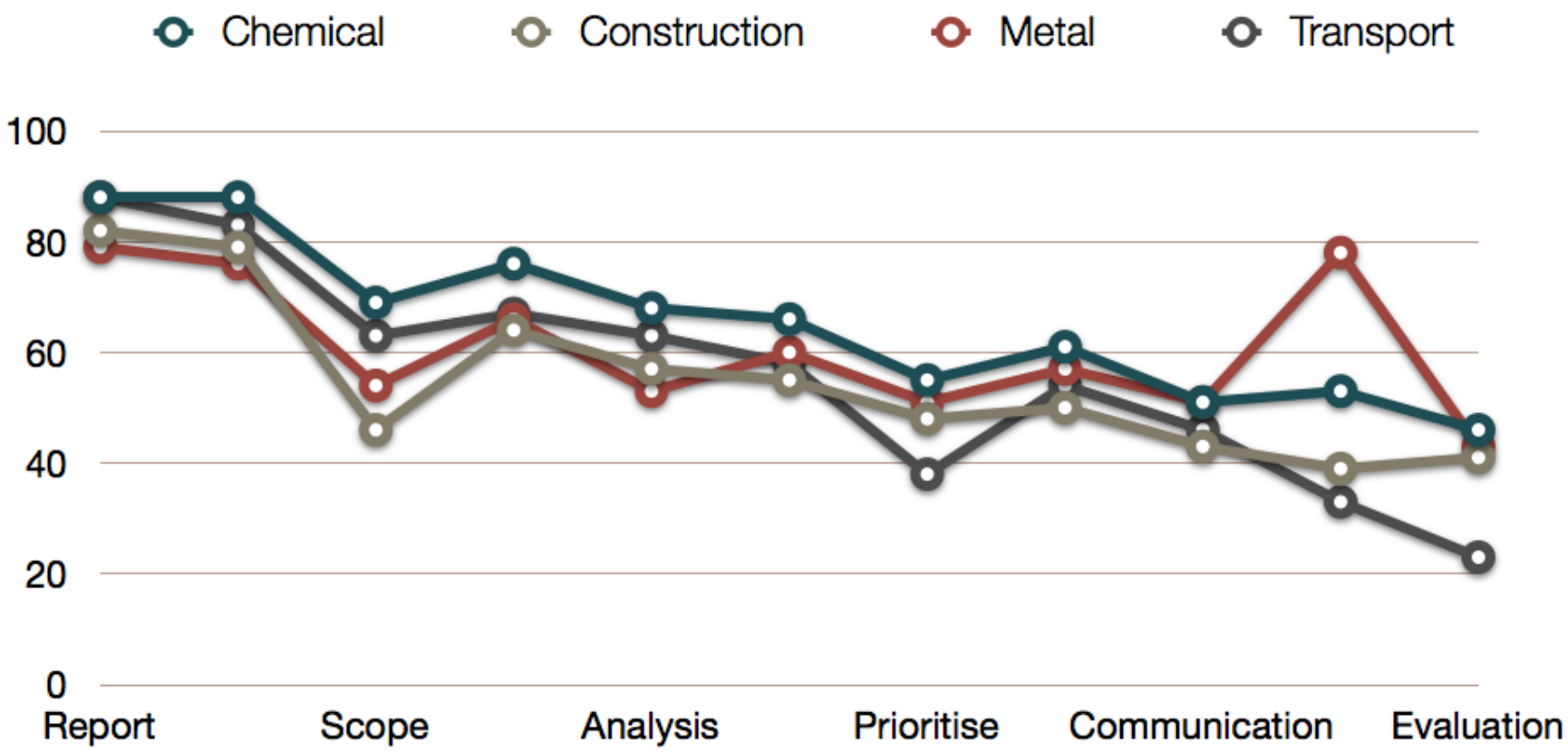
- Example:
  - 100% of the incidents are reported (LP = 100%)
  - Effectiveness of the analysis phase is 80% (LP = .8 x 100 = 80%)
  - Effectiveness of the planning phase is 60% (LP = .6 x 80 = 48%)
  - Effectiveness of the intervention phase is 40% (LP = .4 x 48 = 19%)
  - Effectiveness of the evaluation phase is 20% (LP = .2 x 19 = 4%)

- If the quality of the analysis is improved to 95% with a 'trickle down effect of 25% on the later phases' the utilised Learning Potential will 'only' be: 100 x .95 x (.6 + .25 x .6) x (.4 + .25 x .4) x (.2 + .25 x .2) = 8.9%

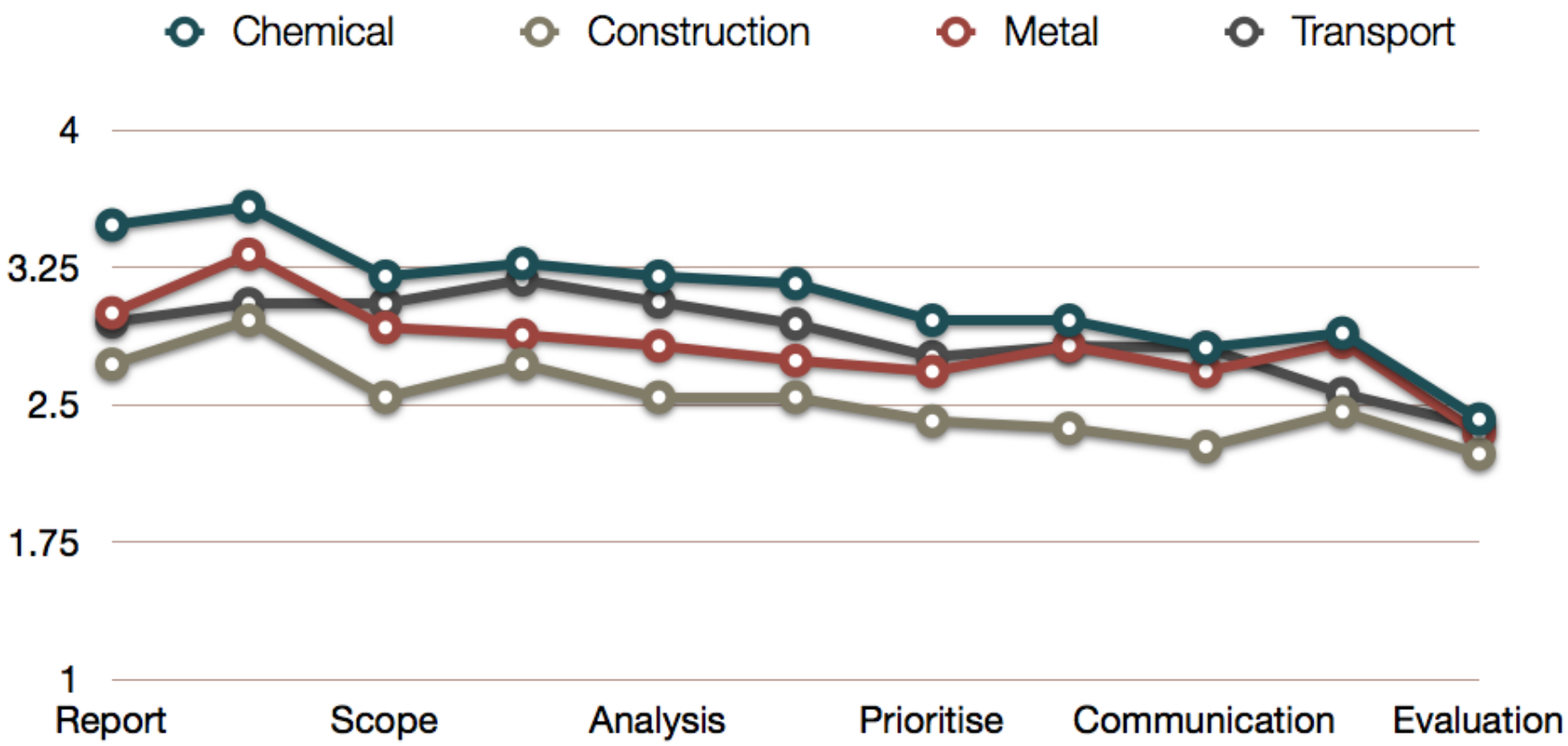
In the end, it doesn't make that much difference



Industry differences (Formally arranged)



Industry differences (Actual performance)



Some suggestions

- Give high quality advise, address 'real issues'
- Be sure that actions are related to the outcome of your analysis
- And even then: Limit yourself to maximally five strategic recommendations
- Give the advice to the right people
- Match the advice with the 'cultural maturity level'
- Use different learning order loops for different problems
- Fix the 'real world' and not only the 'paper world'

Quote from last year

"The historical way of solving HSE problems is to add burden and frustrations to the workforce through HSE campaigns and sophisticated procedures without doing anything about the 'real' issues."

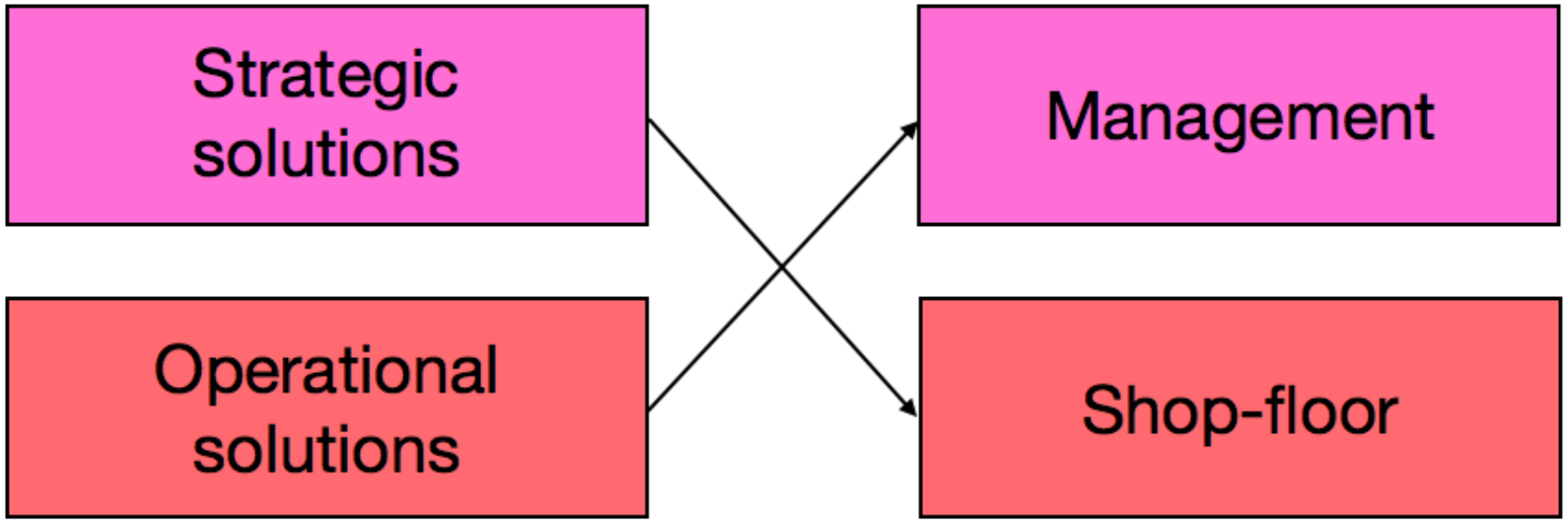
Sveinung Lofthus
Senior Vice President Europe, Seadrill AS
Tripod User Day, Amsterdam, 13 September 2011

Recommendations, some suggestions

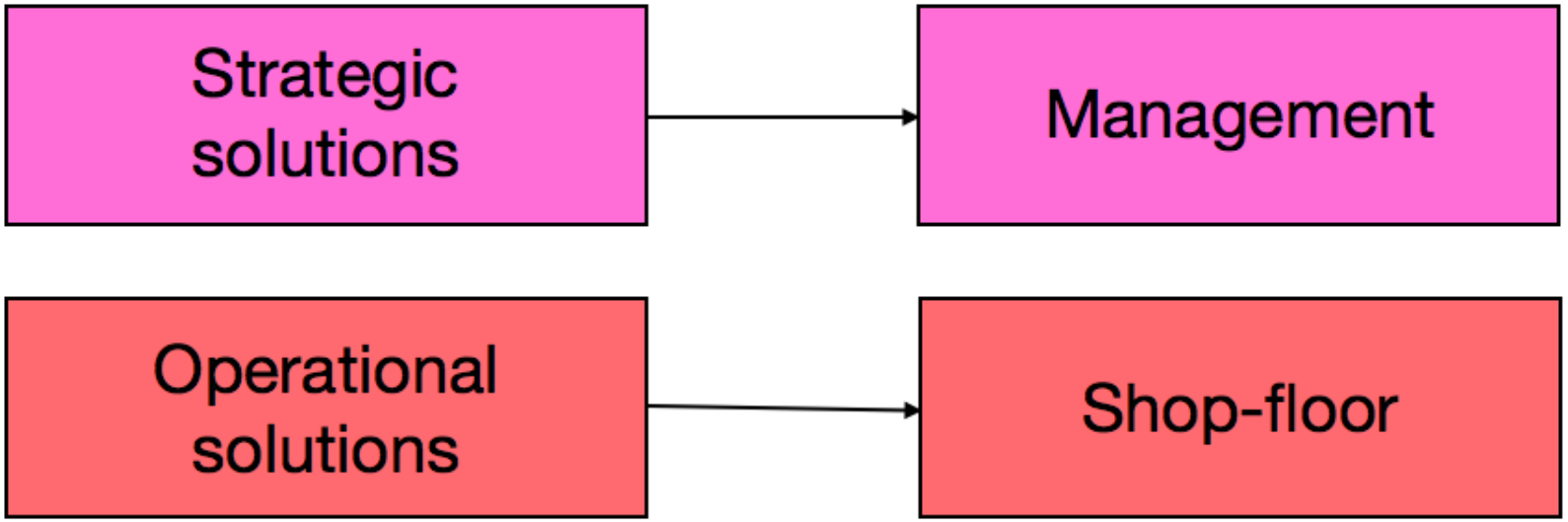
The magical five

- After an audit, inspection or investigation recommendations are usually abundant
- You make never more than five (5) strategic recommendations to your management
- Remember: 195 / 200 = 97.5% and 3/5 is only 60%
- This is in many organisations a key performance indicator

Recipe for disasters



Recipe for success



Culture and the focus of attention

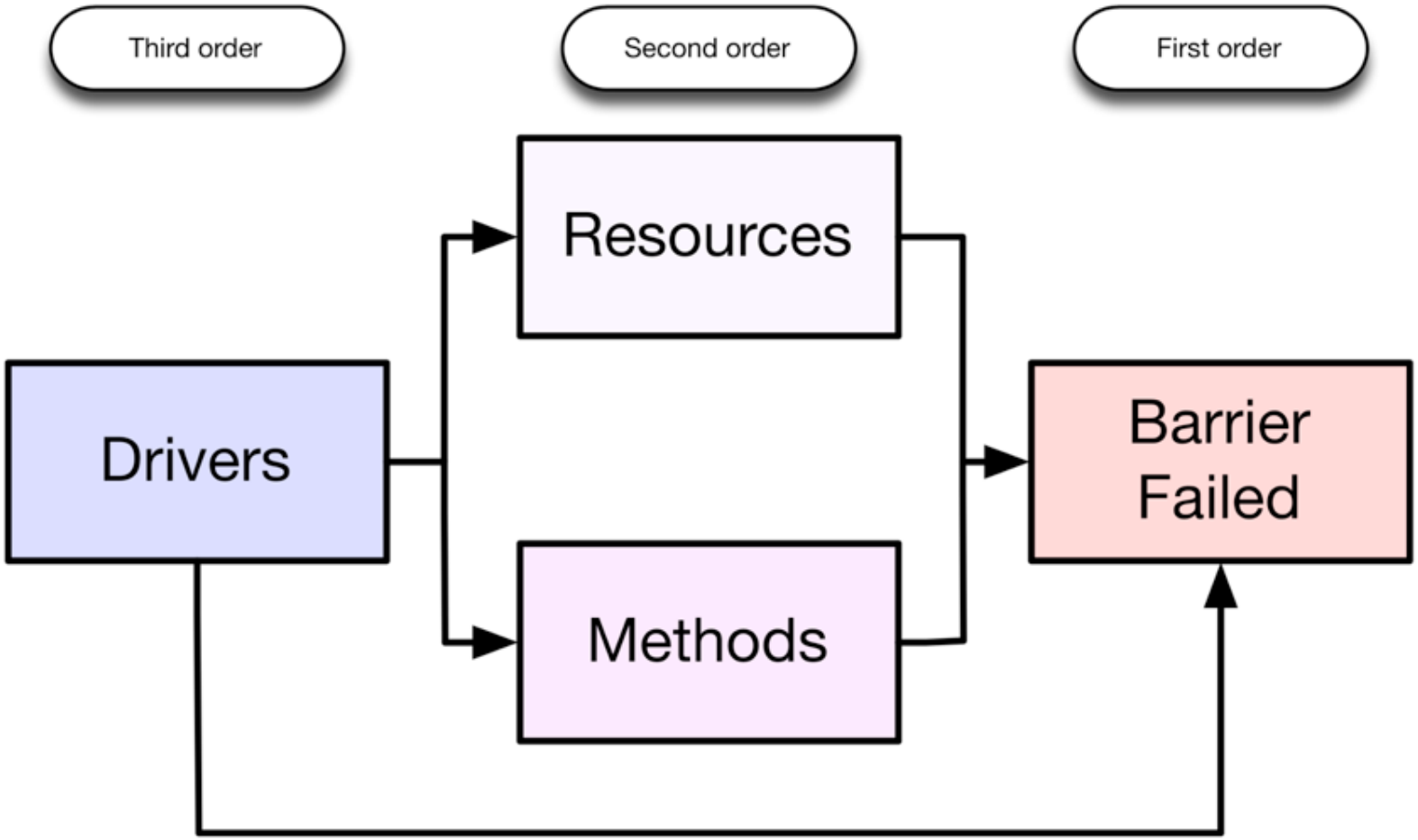
- System related (Is the system complete?)
  - Pathological - reactive level
- Compliance related (Is the system complied with?)
  - Calculative level
- Performance related (Is the system effective?)
  - Proactive - generative level

Inform management, but how?

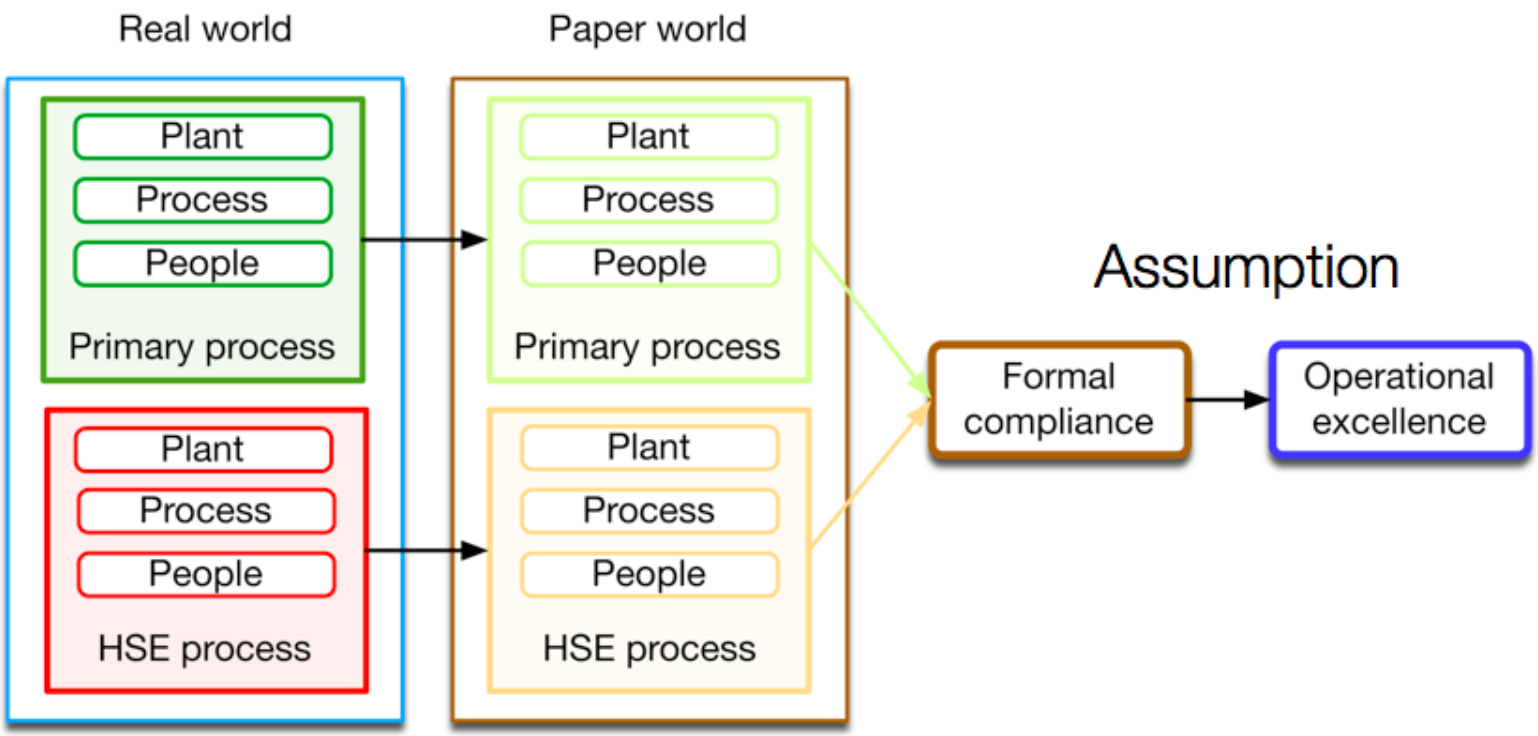
Learning at different levels

- Single-loop learning affects the way operational goals are achieved:
  - Without changing the goals, methods or resources.
  - It can be described as doing the same things better. It is visible in modifications of a task protocol, working instructions or procedures.
- Double-loop learning affects norms and organizational targets:
  - It can be described as doing things in a better way. Such changes are visible as changes in resources and methods used.
- Triple-loop learning affects the drivers (policies and values) of an organisation on a high level.
  - It can be described as doing other things.

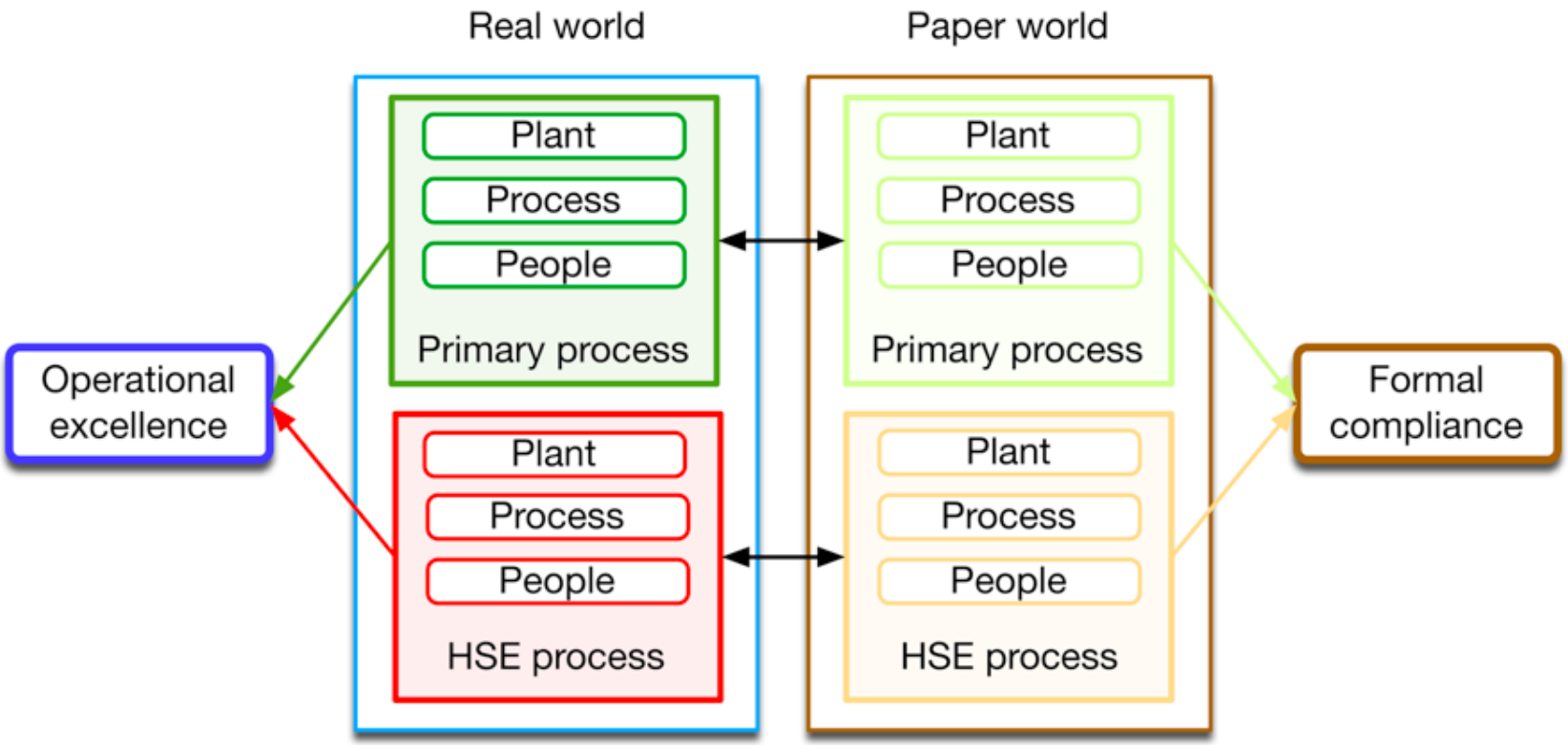
Learning and Bagulay



Finally: The 'bureaucratic fallacy'



A more realistic representation



Conclusions

- Improving the investigation tool will only have a very limited effect on the overall 'learning potential' (a few percent)
- 'The learning from Events process' is the target for improvement, especially the 'verification of effect' is usually left out
- Don't be lured into a false sense of achievement if each of the steps is organised formally and certified or audited 'satisfactory'
- The same applies when judging subcontractors or partners
- First: Identify the 'bottlenecks' in the process (the quick scan is free)
- Click: http://quickscan.learningfromincidents.com/en

Conclusions

- Next eliminate them. That will not be easy as many of them have organisational roots
- Indeed: More research is needed to generate successful interventions
- We have some clues about what to do and what not
- Failure is not an option: The safety of people is at stake

Thank you (For more info: linda.drupsteen@tno.nl)

Finalisation of the quick scan supported by Risk Management Pro, Stavanger (Norway)

Risk Management Pro

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