



31st Annual **INCOSE**
international symposium
virtual event

July 17 - 22, 2021

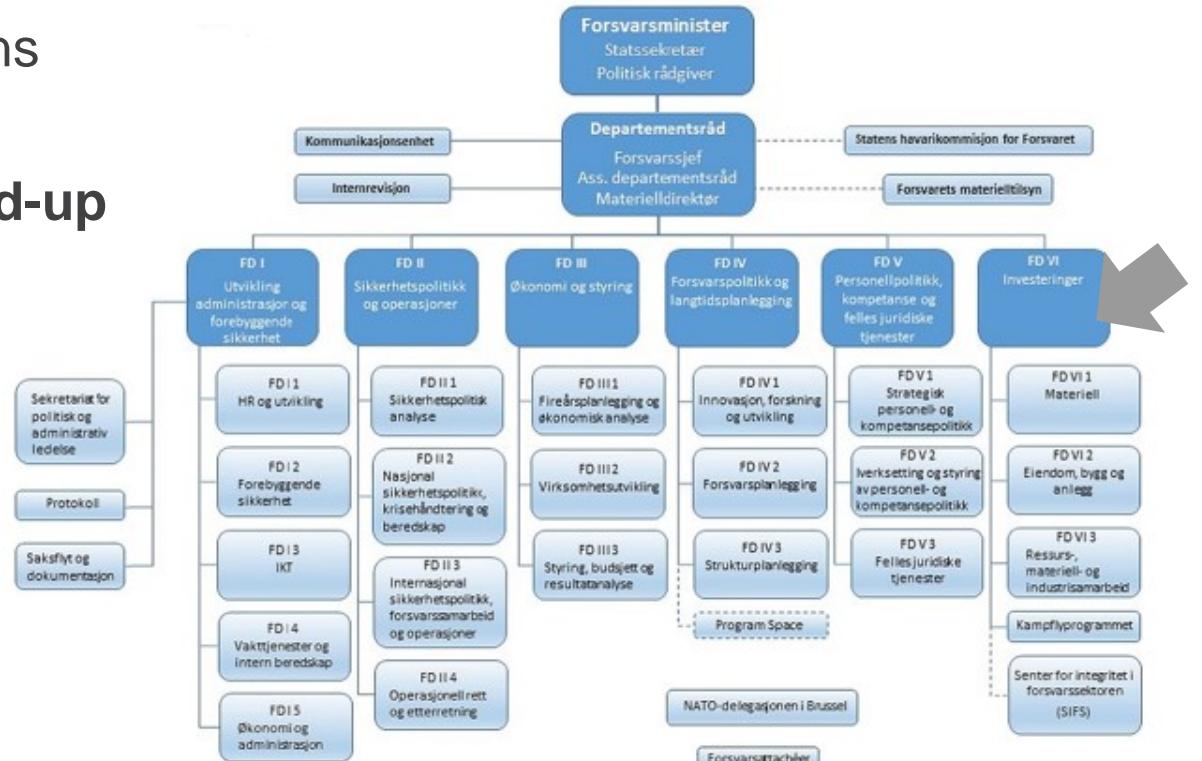
Brede Aas-Haug (USN), Cecilia Haskins, ESEP

The risk maturity model: developing a new tool for improved risk management and feedback for the Norwegian Armed Forces



Norwegian Armed Forces Material Safety Authority, NAFMSA

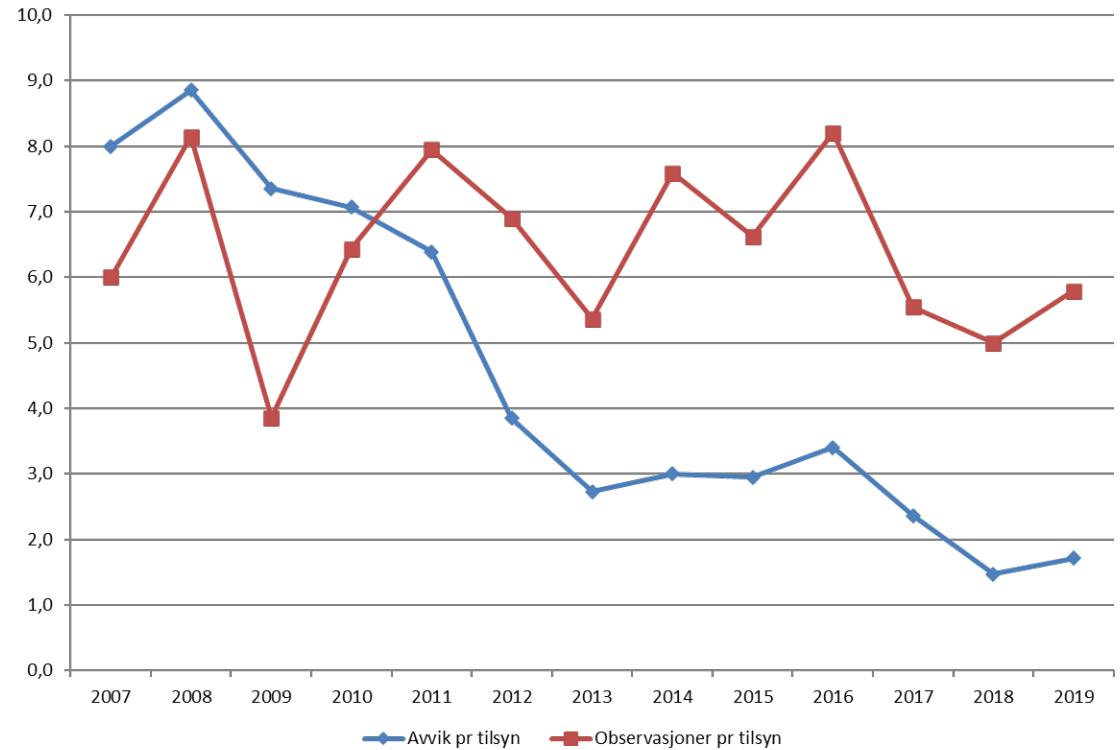
- **Mandate** to perform audits where civilian authorities are not granted access, areas of exceptions or where extra responsibility and precautions are demanded
- Audits look for **compliance** with regulations
- An audit report is written, **but not followed-up**



Problem definition

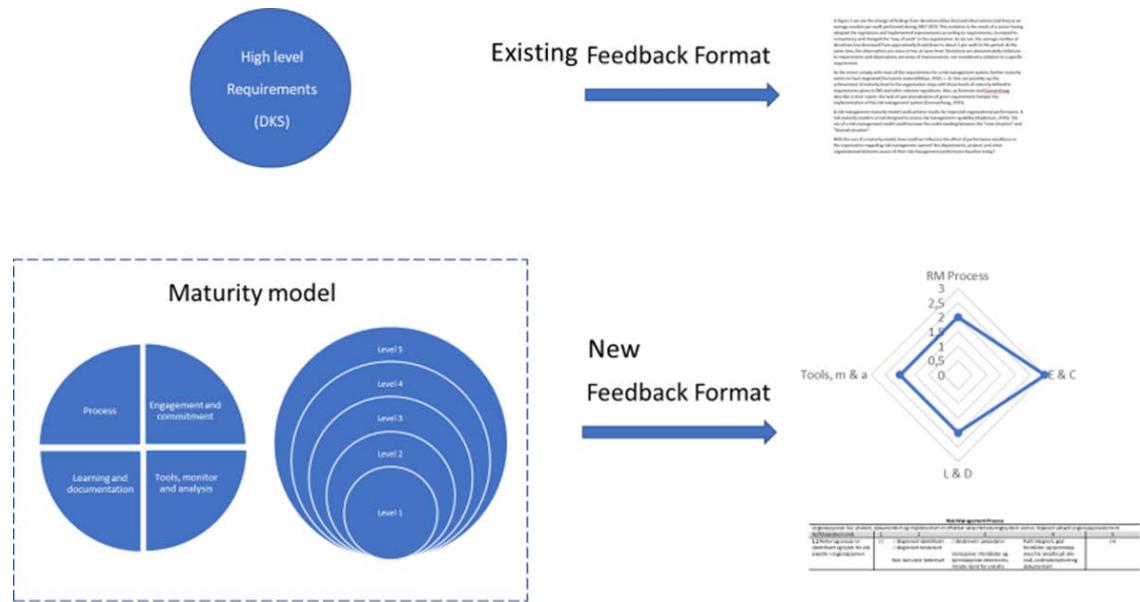


- Graph illustrates a reduction in actions taken (blue) to improve performance deficiencies





Need for improved feedback



- How to **address** identified stagnation?
- How to improve communication **about risk**?
- Promising insight from literature and experienced industries
- **Researched** the concept of the CMM
- Maturity model alternative tool **to improve feedback**

Current situation



Quote from the DKS [1]:

1.1.2 Streamline the organization

1.1.5 Comprehensive risk management system (RMS)



- Requirements for RMS
- High level, abstract or vague
- Only source of guidance



1: DKS: Direktiv – Krav til sikkerhetsstyring i Forsvaret (Directive – Requirements for risk management system (RMS) in the Armed Forces)



Desired situation

- Map requirements onto different levels
- Stepwise, controlled development
- Identify maturity baseline
- Improve guidelines
- Managers can perform self-assessment

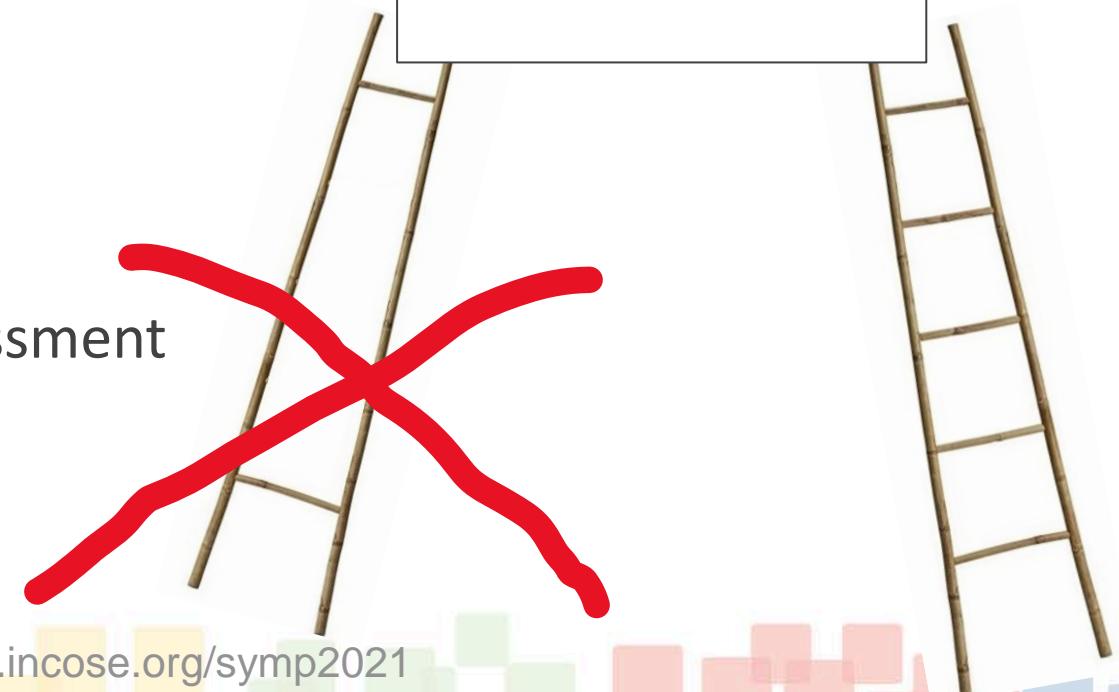


Direktiv – Krav til sikkerhetsstyring i Forsvaret

Forsvarssjefen fastsætter Direktiv – Krav til sikkerhetsstyring i Forsvaret til bruk i Forsvaret

Oslo, 10. desember 2010

Harald Sunde
General
Forsvarssjef





Research questions

Address the need for improved feedback to assist managers to recognize steps they can take to improve their RMS maturity



1. How to build a model to assess the risk capability maturity level as part of an auditing process?

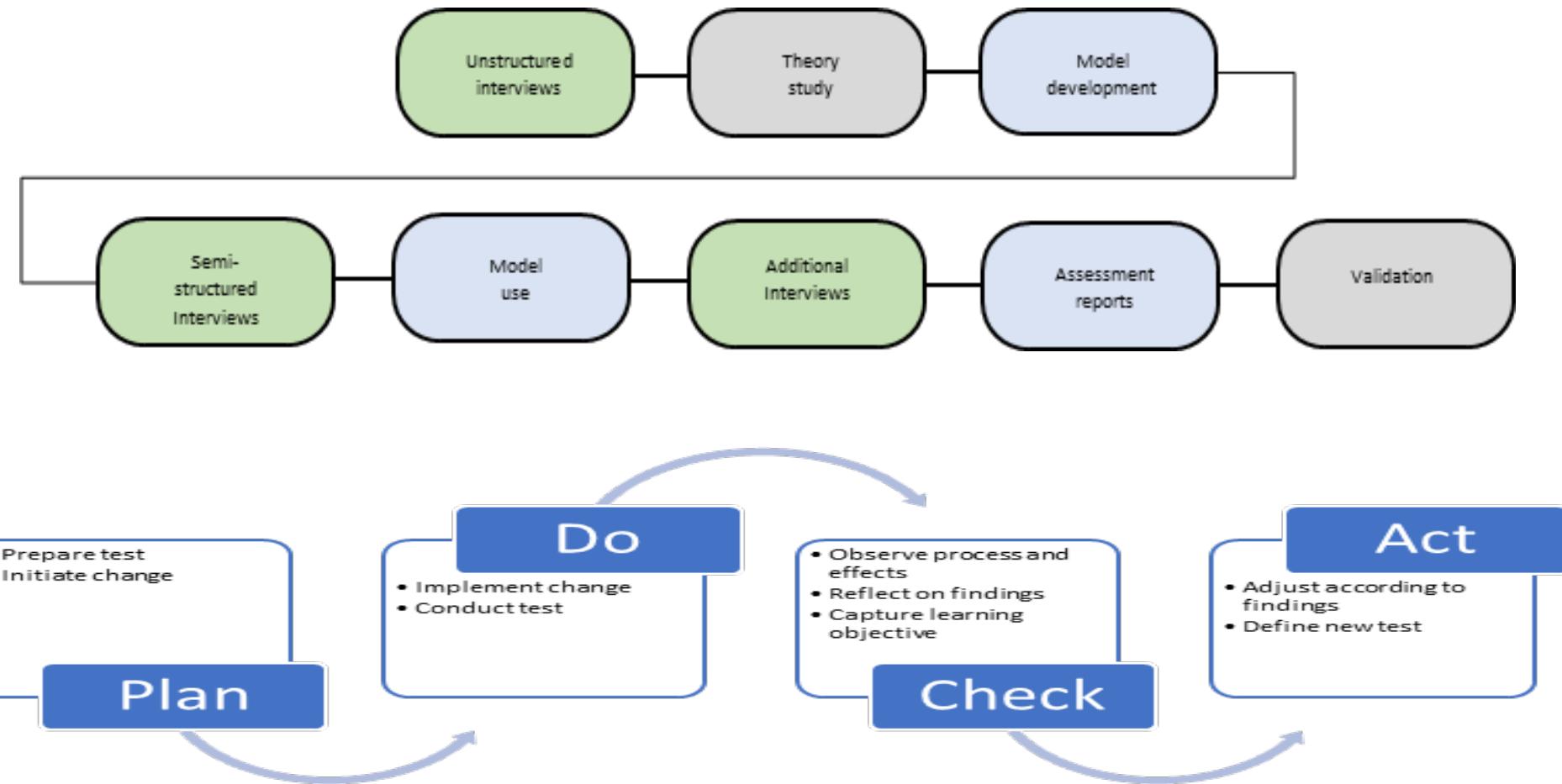
2. What factors hamper the development at the departments today, i.e., why is the maturity development so slow?

3. How will such a model potentially influence the level of maturity in the organization?

4. May a risk management maturity model become a useful tool for self-assessments?



Research phases





Literature review

– how many rungs in the ladder

Source	Level 1	Level 2	Level 3	Level 4	Level 5
Hillson	Naive	Novice	Normalized	Natural	
CMM	Initial	Repeatable	Defined	Managed	Optimized
Our model	Ad-Hoc	Fragmented	Formalized	Managed	Continuous Improvement



Developing the model – iteration 1

Objectives

- Overarching model definition
- Describe the ambition of maturity represented for each level
- Reflect the requirements from DKS

Observations

- Facilitate communication for a wide user group to better understand the guidance
- Support for self-development; not only for experts to use the model
- The difference between each maturity level must be clear



Developing the model – iteration 2

Objectives

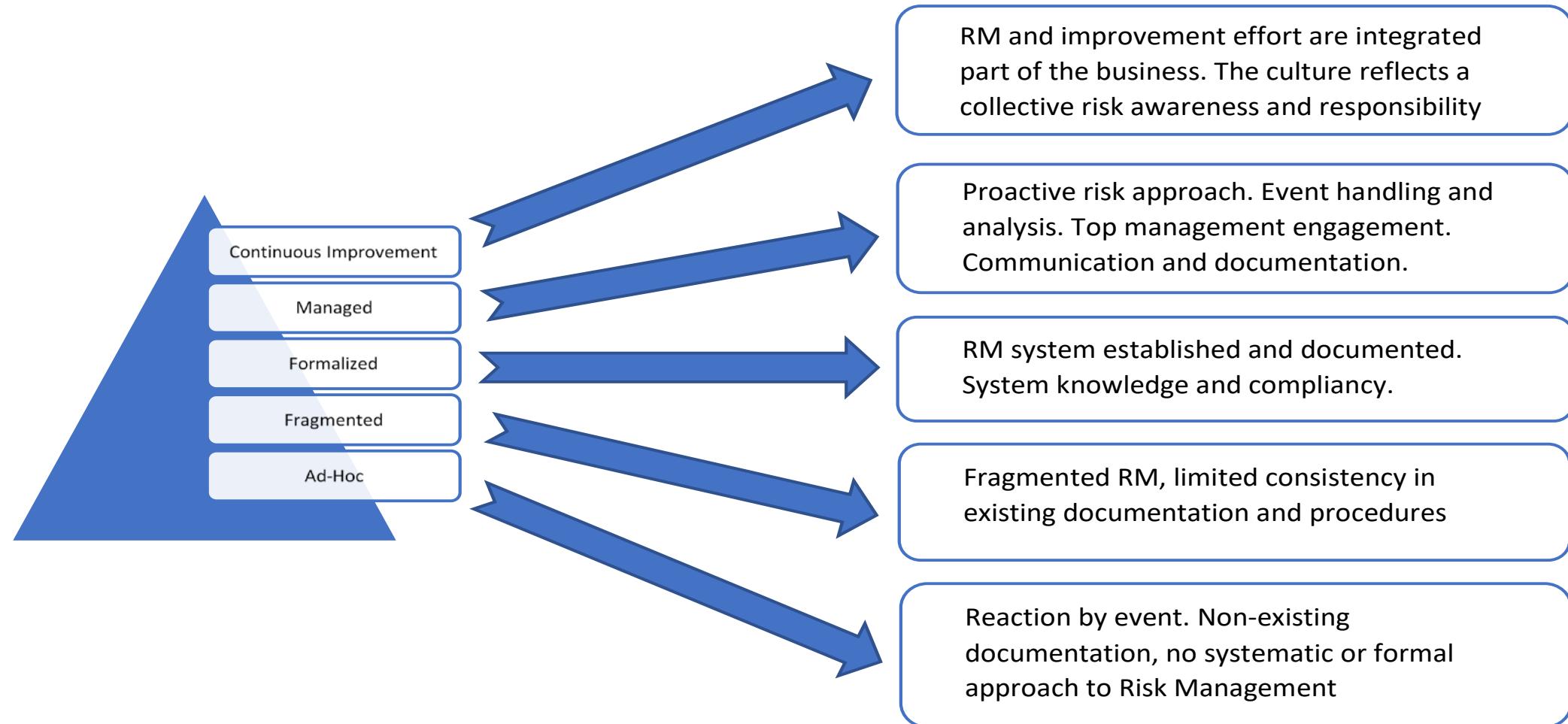
- Focus on communication to a wider group of stakeholders
- Supporting text needed for self-development
- Divide maturity levels

Observations

- Implement each requirement from DKS according to maturity levels
- Use of the model for maturity assessments, starting with dry runs



RQ1 – the maturity model



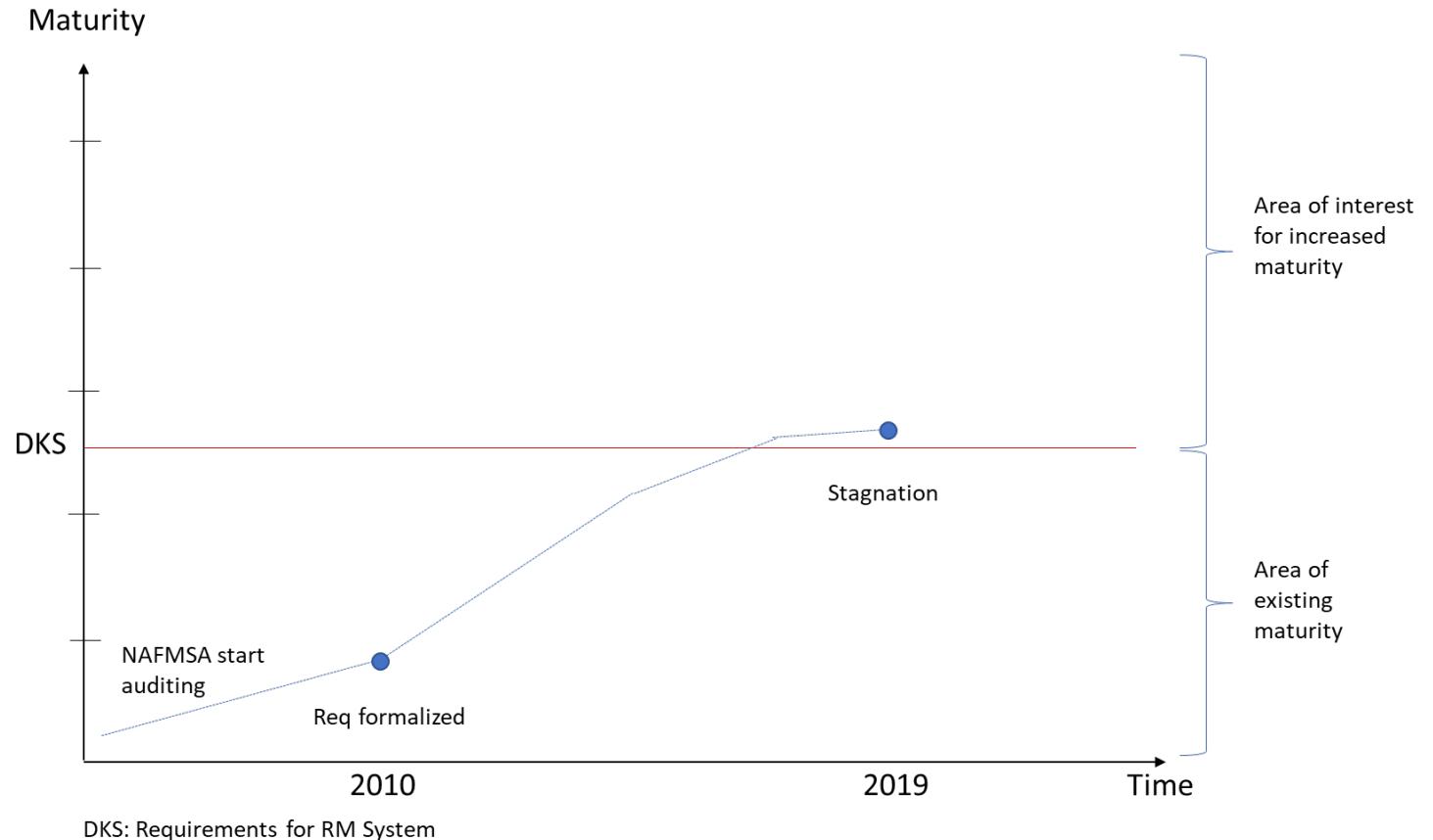


RQ2 – factors that hamper maturity

- Optional to solve observations from audit
- Improvement effort do not get the right attention or resources
- **Low competency on regulations and requirements for RM system**
- Existing maturity level too low for self-development
- **Stand-alone RM system, poor integration to business processes**
- **Observations comes with a poor description**
- Established protocols for audit organization according to mandate
- **Operationalization of requirements for RM system is missing**
- RM system is not prioritized
- **Roles and responsibilities for the RM system are missing**
- **Top management not involved or do not communicate ambitions or goals**
- Culture barriers, “We have always done it this way”
- Not aware of organization’s maturity baseline
- Misinterpretation: no deviation=high maturity
- Lack of internal control



RQ3 – anticipated improvements





RQ4 – self assessment

Existing maturity too low

- Self-assessment is considered potential effective and interesting.
- Existing organization maturity baseline deemed insufficient to support self-development.

Additional support needed

- Extensive guidance and support needed.
- Implementation of the model and communication using the model will be prioritized for future audits.

Summary



Work performed

- Risk management maturity model based on DKS
- Performed tests for the proof of concept in sector
- Identified maturity baseline for tested organizations

Results

- Improved communication from the model
- Systematization and improved understanding
- Control impeding factors for maturity development
- Self-assessment recommended at a later stage



Conclusion

- The maturity model will facilitate improved performance, however, organizational engagement and management support is needed for development to happen





Future work

Facilitation for future self-assessment

Increase confidence in potential results

Prepare for additional requirements

- Pilot organizations
- Test as part of audits

Systematic evaluation of use and requirements





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