

# SELF-ASSESSMENT OF SAFETY MANAGEMENT SYSTEMS AND SAFETY CULTURE PREREQUISITES

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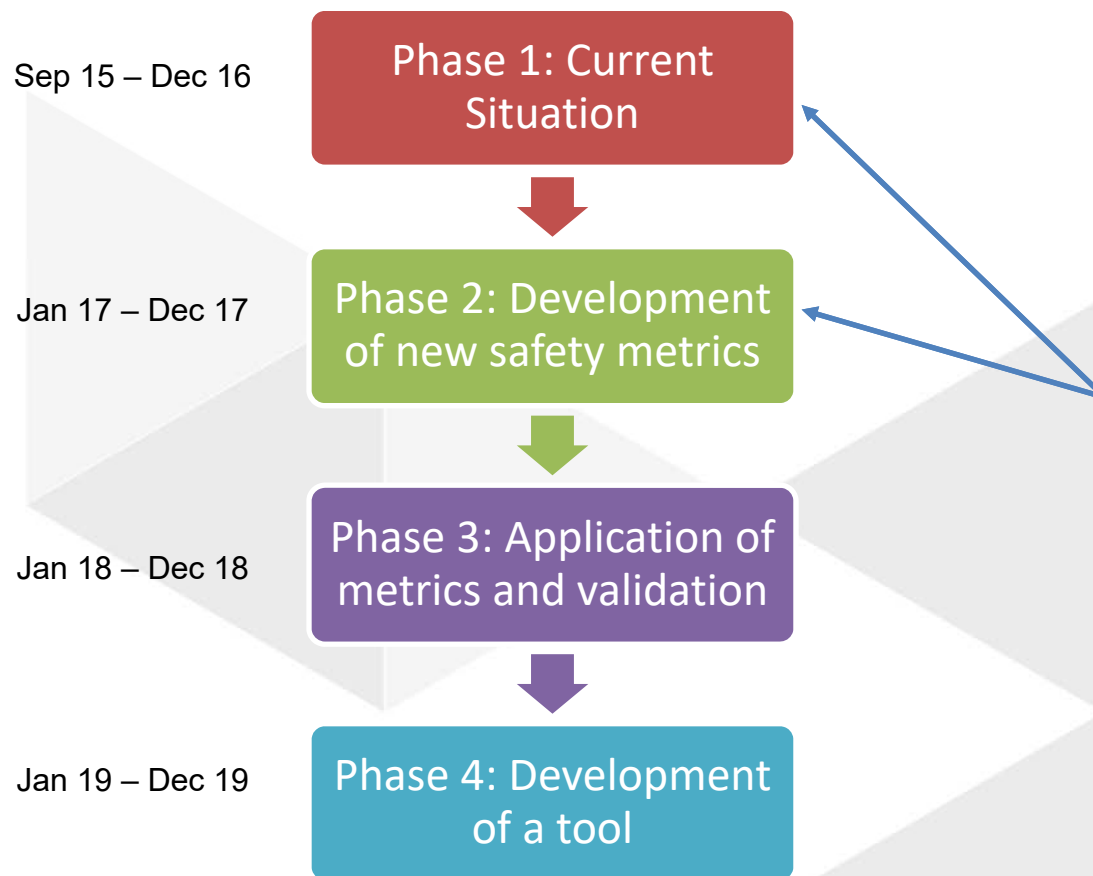




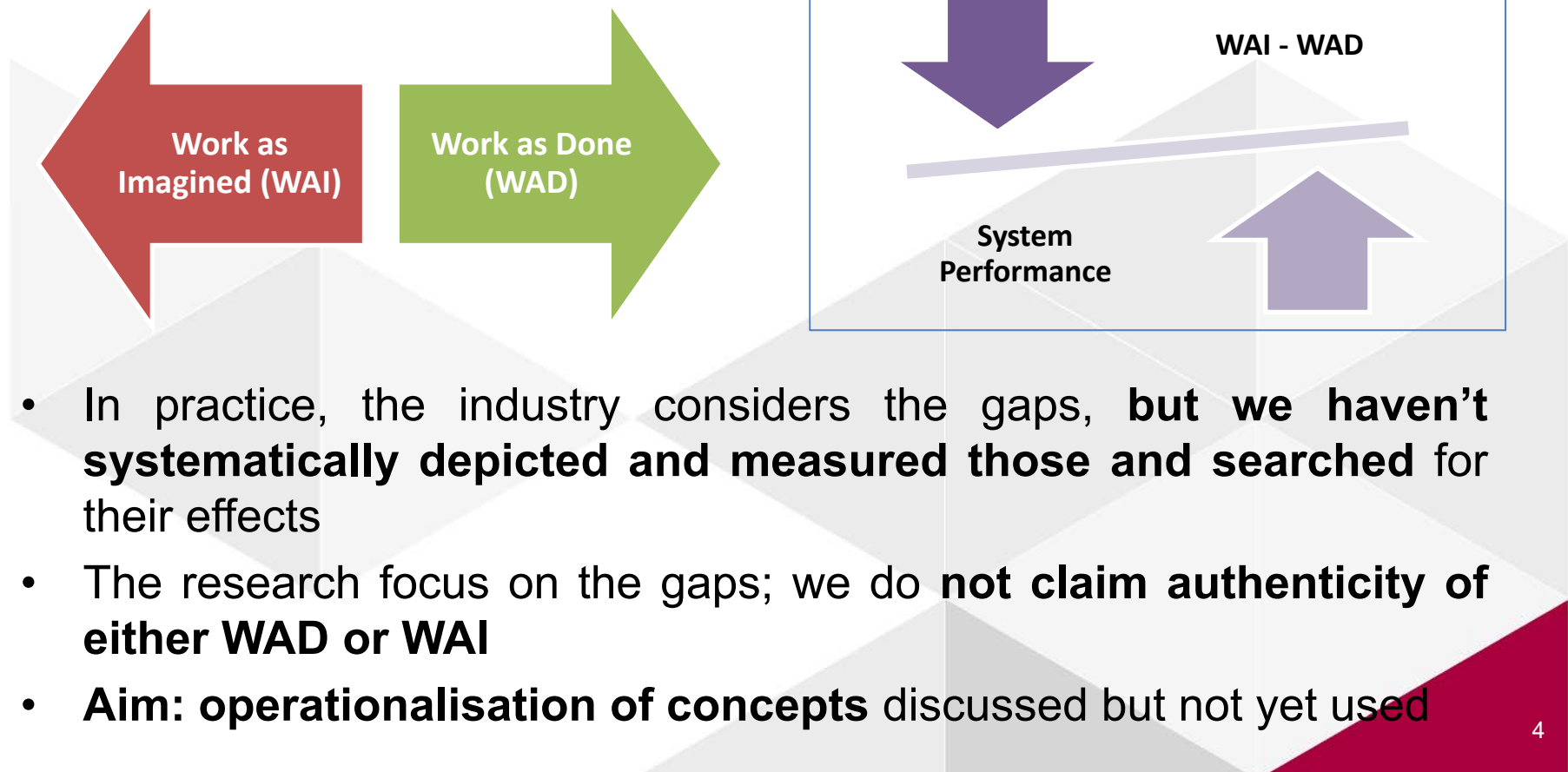
# CHALLENGES FOR AVIATION COMPANIES

- **Small – Medium Enterprises:** lack of adequate safety/operational data to monitor safety
- **Large companies:** operational/safety data available, but they need leading metrics of better quality
- **How to move** from compliance-based to performance-based monitoring?

# RESEARCH PROJECT



# THE PRINCIPAL CONCEPT



# SMS ASSESSMENT: CURRENT TOOLS

- Main tools currently used:
  - SMICG: Safety Management System Evaluation Tool
  - Eurocontol: Effectiveness of Safety Management
- First collaborative attempts to evaluate SMS, but
  - include vague measurement scales
  - SMS is assessed by auditors, not the users
  - evaluate individual SMS activities -> no visible systemic approach

# SMS ASSESSMENT: CURRENT TOOLS

- EASA recently launched the Management System Assessment Tool
  - is based on the SMICG approach
  - each assessment topic includes several sub-topics (i.e. multi-barrelled questions)
  - the implementation and effectiveness of SMS parts are often assessed in a similar manner

# GENERAL REMARKS ON CURRENT SMS ASSESSMENT TOOLS

- Tool development
  - Current tools have been developed mainly through brainstorming and experience
  - We need a systematic manner to analyse SMS and derive requirements (i.e. checking points) by embedding gained experience
- SMS dimensions:
  - Design and implementation: do not consider the timeliness of SMS processes and mutual dependencies
  - Suitability: no guidance provided
  - Effectiveness: general guidance without specific set of questions and targeted employees population
- Not customizable to size and complexity of company
- No quantified SMS assessment results



# AVAC-SMS TOOL

## SMS Maturity ::

**Institutionalisation + Capability + Effectiveness**



Design

Implementation

Time and process dependencies



Proxy for suitability of SMS



Effect of SMS on daily tasks



# AVAC-SMS: CUSTOMIZATION TO SIZE AND COMPLEXITY OF COMPANY

	Number of assessment points (deskwork): SMS institutionalisation		
<b>Survey questions to staff:</b> 1. SMS capability (managers/safety personnel) 2. SMS effectiveness (employees)	149	48	16
<u>Questions at the level of SMS elements</u> 1. 72 Capability questions 2. 36 Effectiveness questions	<u>Option SE</u>	<u>Option EE</u>	<u>Option CE</u>
<u>Questions at the level of SMS components</u> 1. 24 Capability questions 2. 12 Effectiveness questions	<u>Option SC</u>	<u>Option EC</u>	<u>Option CC</u>
<u>Questions about the whole SMS</u> 1. 6 Capability questions 2. 3 Effectiveness questions	<u>Option SS</u>	<u>Option ES</u>	<u>Option CS</u>

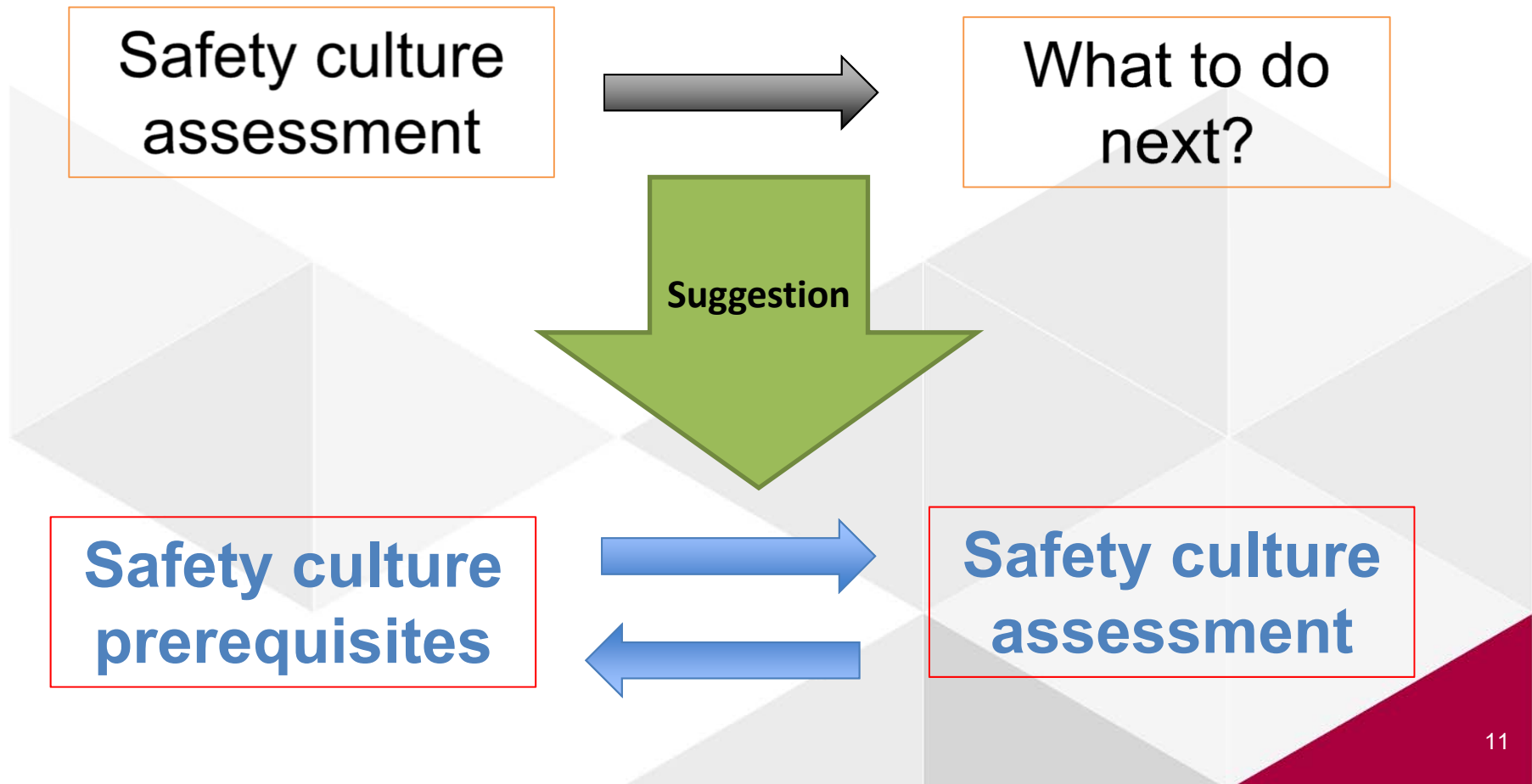
Every option concludes to quantified results for each dimension assessed as well as the whole SMS

# AVAC-SMS: TIME INVESTMENT FOR DATA COLLECTION

<b>SMS assessment part</b>	<b>Survey participants</b>	<b>Maximum estimated time investment (depending on the assessment level to be chosen).</b>
<b>Institutionalisation</b>	Safety department	4 hours
<b>Capability</b>	Managers and safety personnel who implement the SMS	0.5 hours
<b>Effectiveness</b>	End-users who are the final target of the SMS activities	20 minutes

**The lower the detail of SMS assessment, the less the detail of the information collected**

# SAFETY CULTURE: OVERALL APPROACH





# AVAC-SCP TOOL

## Safety Culture Prerequisites ::

### Documentation, Implementation, Perception



57 questions



57 questions



10 questions

The tool concludes to quantified results for each dimension assessed

## IN A NUTSHELL ...

- The new metrics
  - have been designed with the support of partners from companies, authorities and universities.
  - result in quantitative results.
  - can be addressed to any organisational level.
- Companies can get a better understanding of their SMS performance and safety culture prerequisites.
- The quantified results allow benchmarking of systems and their evaluation over time: from compliance-based to performance-based evaluations.
- The specific metrics can complement current safety metrics, and support safety improvements.

# ARE YOU INTERESTED IN APPLYING THE METRICS?

- We will run surveys in March-April 2018.
- The SMS self-assessment and Safety Culture Prerequisites tools will be:
  - administered through online questionnaires
  - distributed by the safety department as preferred
- We will also need some data (not content) from 2017 (e.g., number of mandatory reports and audit findings).
- Confidentiality of any data to be collected (NDA).
- Reception of individual reports:
  - current level of the company (and internal benchmarking if wanted)
  - benchmarking against the rest of the partners

## ADDITIONAL BENEFITS

- Acknowledgement of the participation of the organisation in the project reports, papers, presentations etc.
- Upload of the organisation's logo on the project website ([www.amsterdamuas.com/asm](http://www.amsterdamuas.com/asm)).
- Reduced fees for the Aviation Academy events and master classes scheduled in Amsterdam in 2018 (see <http://www.amsterdamuas.com/aviation/events/events.html>).
- Free-of-cost assessment of 5 internal safety investigation reports against state-of-the-art safety thinking and approaches.

12-16 MAR



## MASTER CLASS RISK ASSESSMENT

Workshop | 12-16 Mar

Have you ever been surprised by complexity? Results that were not predictable due to interactions that you hadn't identified? More importantly: do you want to improve your system and become better prepared next time? ...

25-29 JUN



## MASTER CLASS IN ADVANCED SAFETY MANAGEMENT

Workshop | 25-29 Jun

Have you already planned and implemented a Safety Management System (SMS)? Excellent! But have you also recognized that safety is more than simply documenting and executing SMS processes? Are you currently planning ...

21-25 JAN 2019



## MASTER CLASS HUMAN FACTORS & SAFETY

Workshop | 21-25 Jan 2019 | 09:00

The Aviation Academy of the Amsterdam University of Applied Sciences is proud to present a master class on Human Factors and Safety by Professor Sidney Dekker in collaboration with staff from our institution. In this ...



# THE RESEARCH TEAM



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# Thank you!

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