

### Roadmap and Roundtables

The runway for MRO – where are we now and where do we want to go; 28-11-2023, Amsterdam

## NAG Special Interest Group MRO

- What
  - Group of representatives in the MRO Aerospace industry who aim to share knowledge and experiences and look for opportunities to further smart sustainable MRO in the industry.
- Who
  - Fokker Techniek
  - KLM E&M
  - NLR
  - TU Delft
  - Brabantse Ontwikkelingsmaatschappij (BOM)
  - World Class Maintenance (WCM)
- Goal
  - Investigate and identify opportunities for collaboration
  - Stimulate development and innovation to further smart sustainable MRO in the industry.







## Roadmap MRO

- The first step is to map the current status of MRO in the aerospace sector and to identify important themes and developments in the form of a roadmap.
  - Ongoing process
- Goals of the roadmap
  - Map current developments in MRO
  - Identify short- and midterm opportunities for collaboration in improving MRO
  - Turn these opportunities in to actionable projects
    - Follow up is key
    - Connection to Nationaal Collectief Businessplan





## Roadmap MRO (2)

- Approach
  - Survey to the NAG-members for this
  - In-depth interviews with key stakeholders
  - Questionnaire during the MRO Europe in Amsterdam (University of Applied Sciences)







# Preliminary results: Some highlights

- Developments
  - Digitalization and automation
    - E.g. automated inspections
  - Predictive maintenance
    - Data analysis
    - Artificial Intelligence
  - Training using VR and AR
- Challenges
  - Personnel shortage & qualifications
  - Image problem of civil Aerospace
  - Collaboration [with OEM]
  - Competition with low wage countries







## Roundtable discussions

- Setup
  - Four tables/groups, two rounds
  - Brief plenary discussion after each table
  - General reflection and follow up (Paul van Kempen)
- Questions
  - 1. Which developments in the MRO Aerospace can be achieved within 2 years?
    - 30 minute table discussion, 10 minute plenary recap
  - 2. Which challenges do you see for these developments, and how can these challenges be addressed?
    - 30 minute table discussion, 10 minute plenary recap
- Outcome
  - Completion roadmap
  - Action plan







## Roundtable discussions (2)

Groups (for both rounds)

| Lex Besselink (1) | Roland Grimm (2) | Paul van Kempen (3)     |
|-------------------|------------------|-------------------------|
| Frank Buijsen     | Jürgen Donders   | Jan Verbeek             |
| Jan Bos           | Ruben Ogink      | Ivo van der Vlis        |
| Martin Knegt      | Frank Wehnes     | Timo Wassenaar          |
| Edwin Poldermans  | Bruno Santos     | Paul Rusch              |
| Rob Koedijk       | Marco Nawijn     | Koen (Hello New<br>Day) |





## Questions?

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