

# WAKE VORTEX RESEARCH NEEDS



**A presentation on behalf of WakeNet2-Europe, the  
European Thematic Network on Wake Vortices**

**To be presented at the 3<sup>rd</sup> WakeNet2-Europe Workshop on**

**“How can wake vortex separation standards be revised”**

**November 29-30 2005,  
Eurocontrol Experimental Centre,  
Brétigny, France**

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# CONTENTS

- **Why a Research Needs Document ?**
- **Present Status of the document**
- **Outline of the report**
- **Recommendations**

# **WHY A RESEARCH NEEDS DOCUMENT**

## **From the Mission Statement of WakeNet2-Europe:**

- To promote information exchange between specialists of wake turbulence**
- To develop a shared view how to address existing and foreseeable safety and capacity related problems caused by wake turbulence**
- To make recommendations**

**The Research Needs Document will be the Final Deliverable of WakeNet2-Europe**

# **PRESENT STATUS**

**There will be two parts:**

**Part I: Summary and recommendations**

**Part II: Detailed Specialist's Reports**

**Both Parts are available in DRAFT and have been discussed at the WakeNet-Partner Meeting of last Monday**

**The results of this Workshop and your remarks will be incorporated in the final version, hence your questions and critical comments are very welcomed.**

# CONTENTS OF THE REPORT

## Concepts

**CONOP Studies**

## Regulatory Framework

**Regulatory framework and means of compliance**

## Sub-models

**Probabilistic prediction of wake strength and position**

**Hazard criteria for wake vortex encounters**

**Weather prediction, monitoring and statistics**

**Systematic data collection for vortices and weather**

## Safety enhancement tools

**Incident reporting and FDR recording**

**Real time monitoring of wakes**

**On-board wake vortex detection**

## Wake Vortex Alleviation

*Not discussed here*

# SOME GUIDANCE

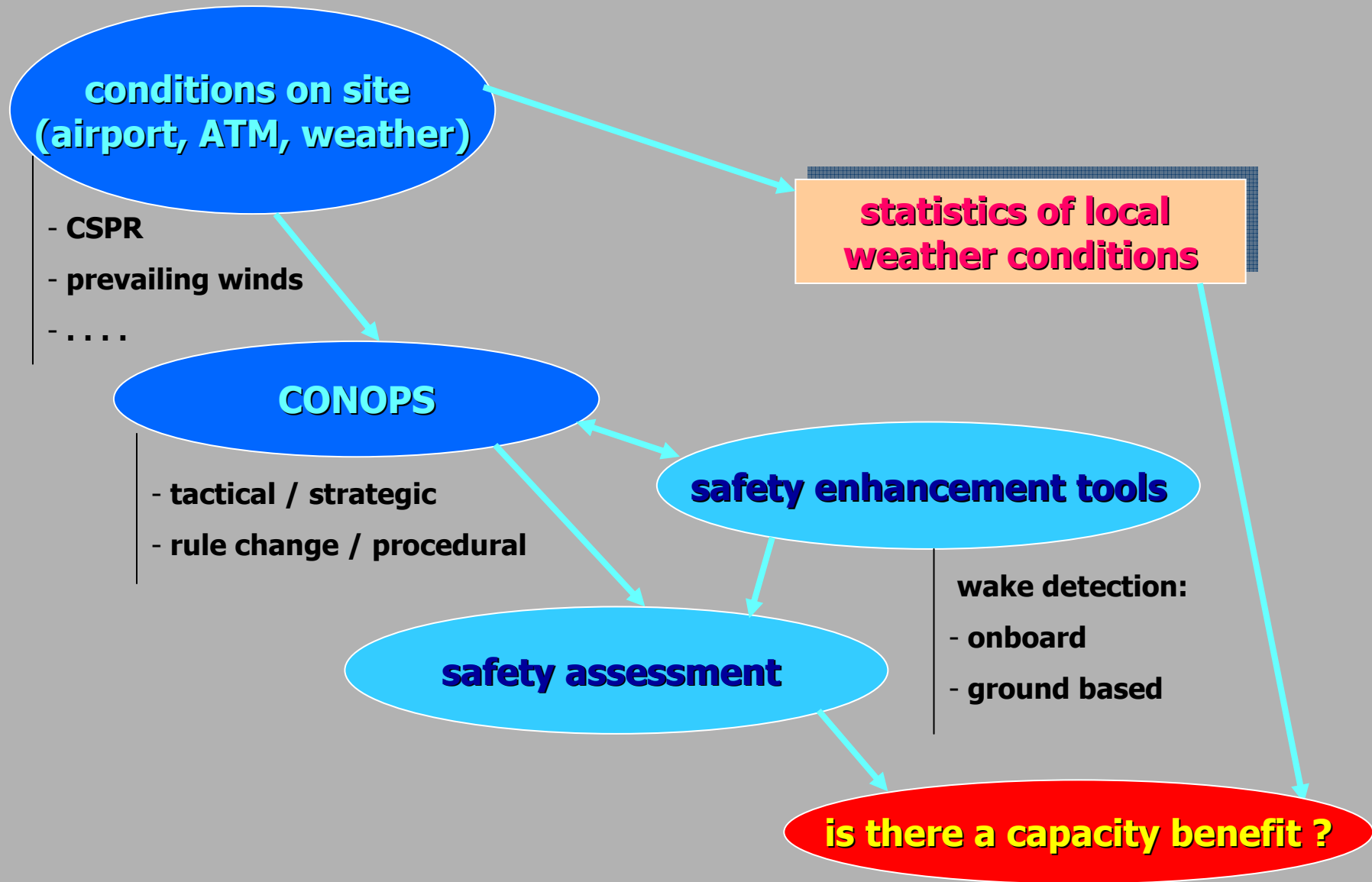
**item specific**

**from other item**

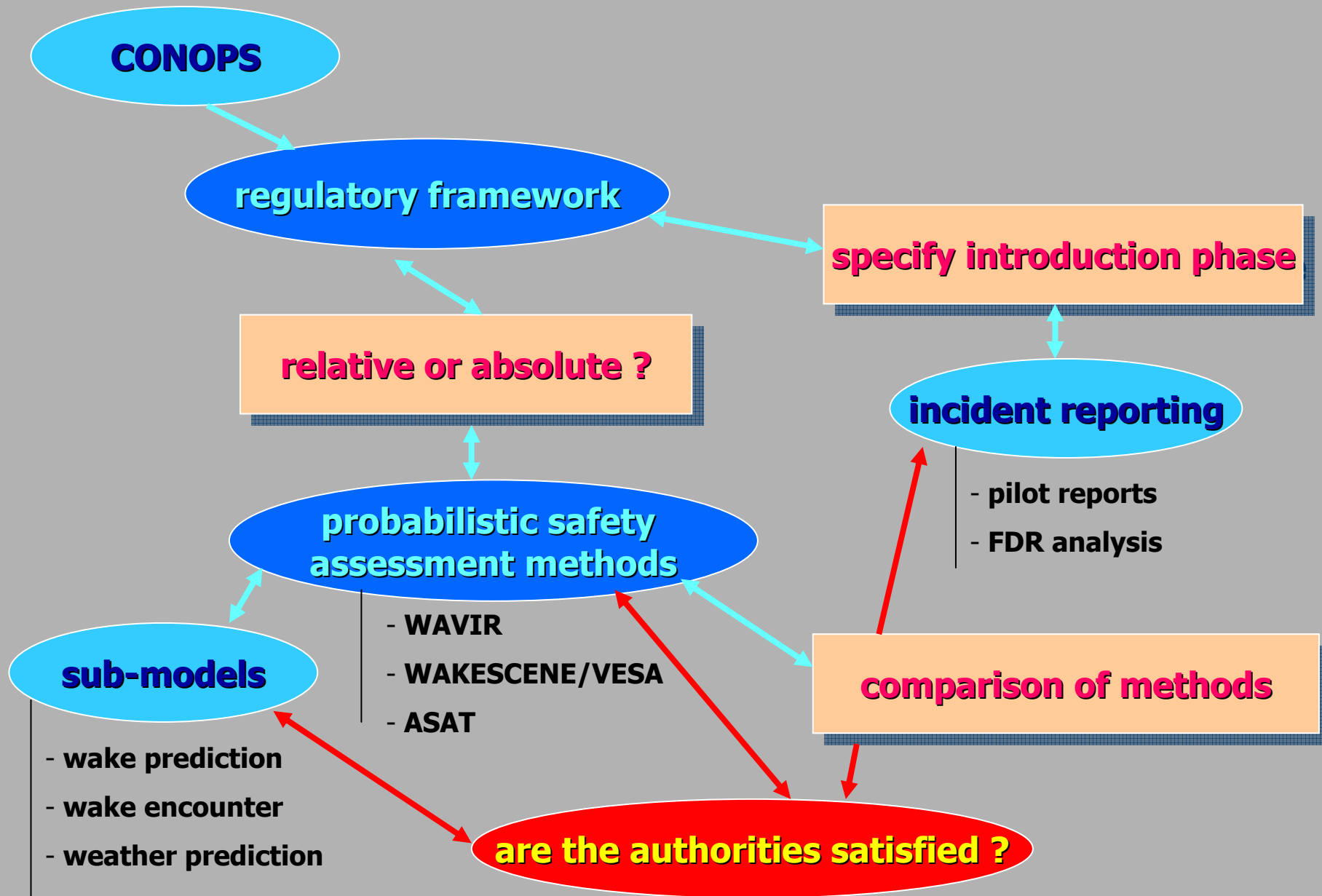
**recommendation**

**critical issue**

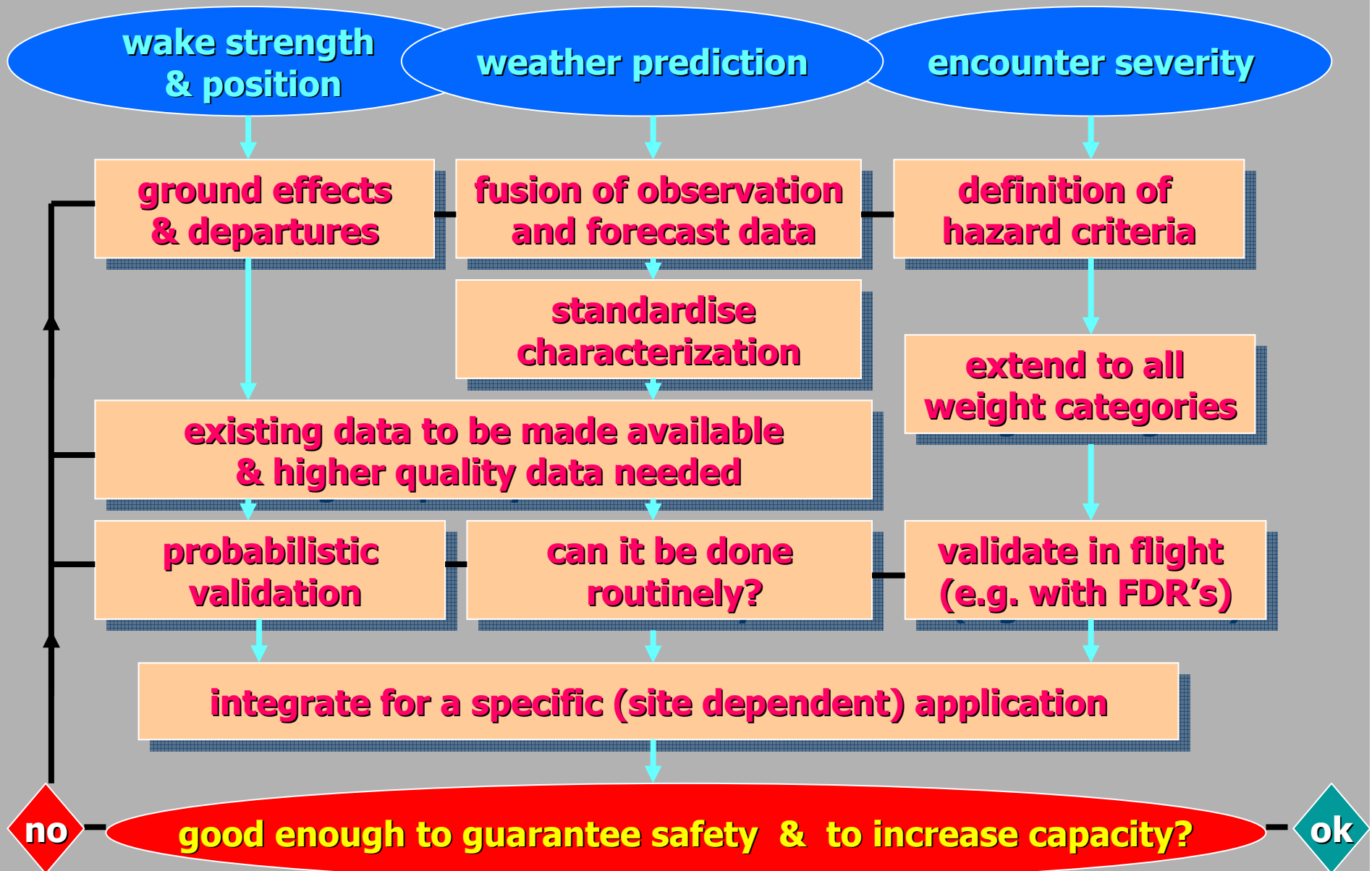
# CONCEPTS OF OPERATION



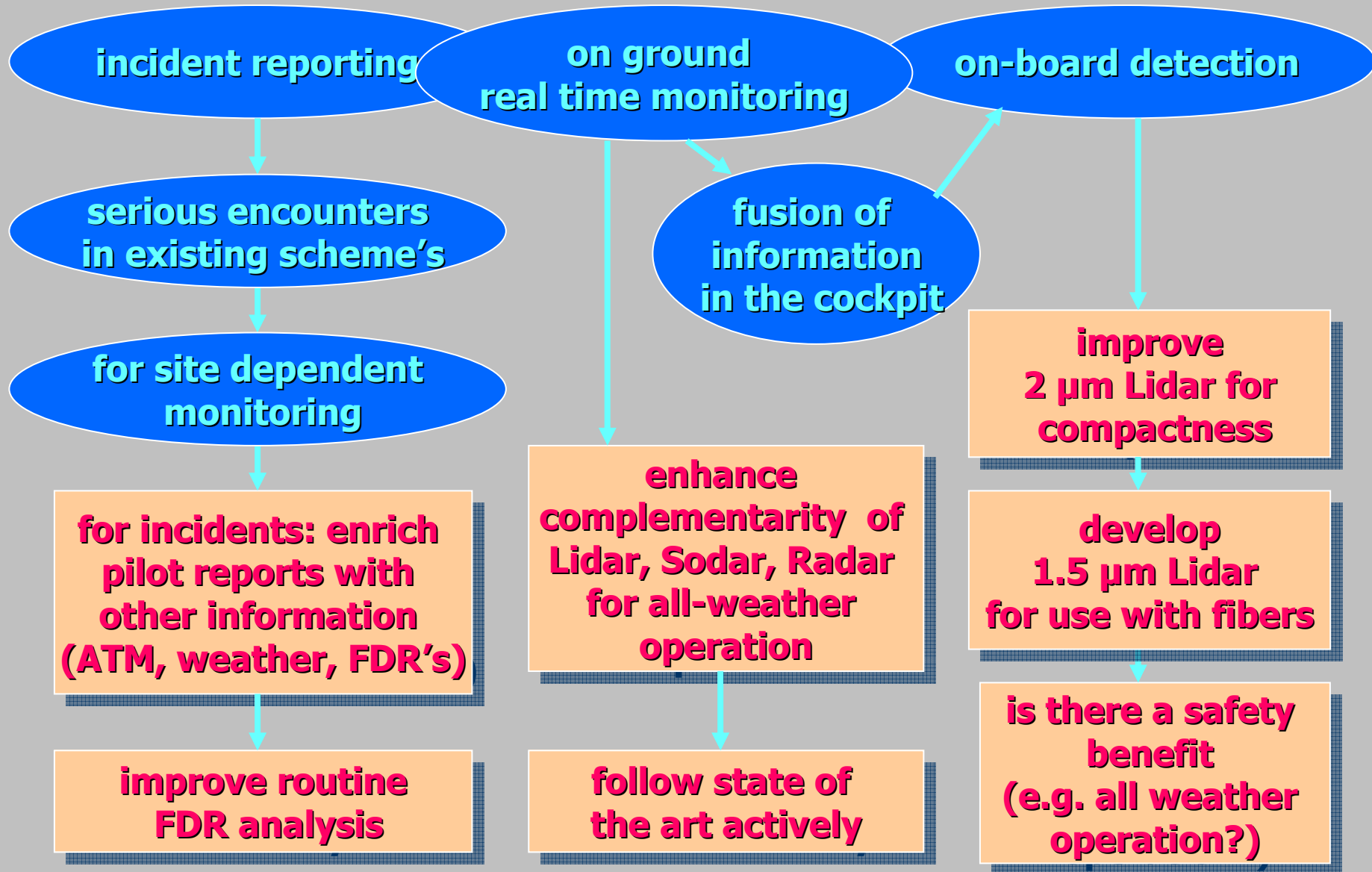
# REGULATORY FRAMEWORK



# (VALIDATION) OF SUB-MODELS



# SAFETY ENHANCEMENT



# MAJOR RECOMMENDATION

- **We have to close the loop with a site-specific application**
  - to quantify the capacity increase
  - to see if the safety case can be made
- **Only in this way we can learn if and where improvements (in modelling) are required**

# CONTRIBUTORS

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**thank you for listening!**