



# Roadmap to UAS Operations in Norwegian Airspace



## Responsible for coordinating UAS matters in the Norwegian Civil Aviation Authorities:

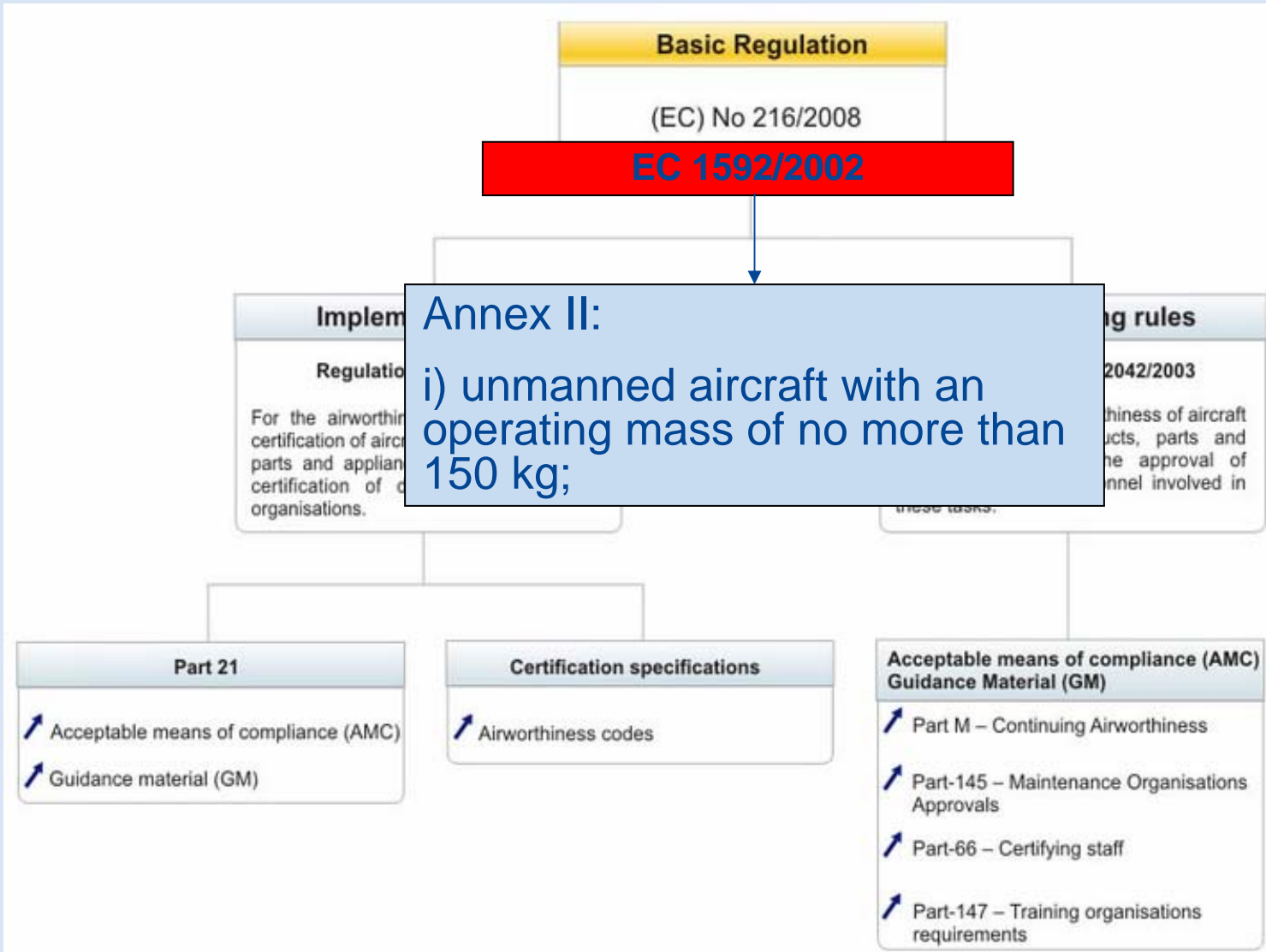
-Operational Department  
-General Aviation section

- Thomas Hytten
  - ◆ Head of Section
- Morten Raustein
  - ◆ Flight operations inspector
  - ◆ UAS Point of contact for Norw. CAA
- Jack Farstad
  - Technical Inspector
  - UAS Technical matters



# Current Situation:

- No adapted UAS regulations
- Individual treatment of applications
  - ◆ Level of safety must be assessed as acceptable
- A common wish to get regulations ASAP!!



## Some work has been done...

- CAP 722 “Unmanned Aircraft System Operations in UK Airspace—Guidance”
- Swedish regulations valid 1.Dec 09
  - ◆ Their regulations coincide fairly well with Our basic thoughts...

## Norwegian regulations will be based on:

- Existing principles
- General procedures
- Expected developments
- Similar European regulations
- Possibility of "crossborder" operations
- Adaption to EASA regulatory structure

## CAP 722: General Policy

- It is CAA policy that UAS operating in the UK must meet **at least the same safety and operational standards as manned aircraft**. Thus, **UAS operations must be as safe as manned aircraft** insofar as they must not present or create a greater hazard to persons, property, vehicles or vessels, whilst in the air or on the ground, than that attributable to the operations of manned aircraft of equivalent class or category.

## Definition (ICAO)

- ♦ Aircraft:  
Any machine that can derive support in the atmosphere from the reactions of the air other than the reactions of the air against the earth's surface.

**The Norwegian  
"Luftfartsloven" (Air Law)  
does NOT define the term  
"Aircraft".**

# Tentative timeline 2009

2009

Jan	Feb	Mar	Apr	Mai	Jun	Jul	Aug	Sep	Okt	Nov	Des	
Case-by-case permissions												
			AIC							AIC		
				Regulation production fase 1							Hearing	
										Workshop 1		

2010

Jan	Feb	Mar	Apr	Mai	Jun	Jul	Aug	Sep	Okt	Nov	Des
Case-by-case permissions											
				AIC							
Public hearing and assessment of answers					Regulation introduction and implementation						
				Workshop 2	Approval of organizations						
Introduce and establish a reporting system for UAS related incidents/accidents											

2011

Jan	Feb	Mar	Apr	Mai	Jun	Jul	Aug	Sep	Okt	Nov	Des
AIC											
Enforcement of regulations											
Approval of organizations											
Utilize reports to identify trends and spesific problem areas											

# Updated tentative timeline

2009

Jan	Feb	Mar	Apr	Mai	Jun	Jul	Aug	Sep	Okt	Nov	Des
Case-by-case permissions											
					AIC 25/09						
				Regulation production fase 1							
								Intro of reporting system			

2010

Jan	Feb	Mar	Apr	Mai	Jun	Jul	Aug	Sep	Okt	Nov	Des
Case-by-case permissions											
								AIC			
Reg. prod. fase 1			Public hearing and assessment of answers						Regulation intro and implementation		
	Workshop 1							Workshop 2	Approval of organizations		
Introduce and establish a reporting system for UAS related incidents/accidents											

2011

Jan	Feb	Mar	Apr	Mai	Jun	Jul	Aug	Sep	Okt	Nov	Des
Enforcement of regulations											
Approval of organizations											
Utilize reports to identify trends and specific problem areas											

# What do we do today?

## AIC N 25/09 published in June containing:

- Description of CAA's perception of current status and challenges
- Short description of the planned regulation structure
- Short description of current requirements for UAS operations in Norwegian Airspace

# AIC N 25/09

## Criteria for UAS operations:

Individual treatment of each application, based on:

- Thorough description of the planned operations
- Risk analysis with mitigating actions/factors
- Insurance for 3rd person damage
- If ops BLOS or above 400ft; Segregated airspace
- Applications to [uav-s@caa.no](mailto:uav-s@caa.no) /snailmail to CAA
- (..or [mra@caa.no](mailto:mra@caa.no) )

# Challenges ahead...

- Manpower
- Airspace issues
- Classification of UAV's
- Allocation of frequencies
- Relevant competence/education for the operators
- Adapted demands to the organisations
- Who is the responsible PIC
- Technological development and certification issues
- Integration with manned air traffic



# QUESTIONS?