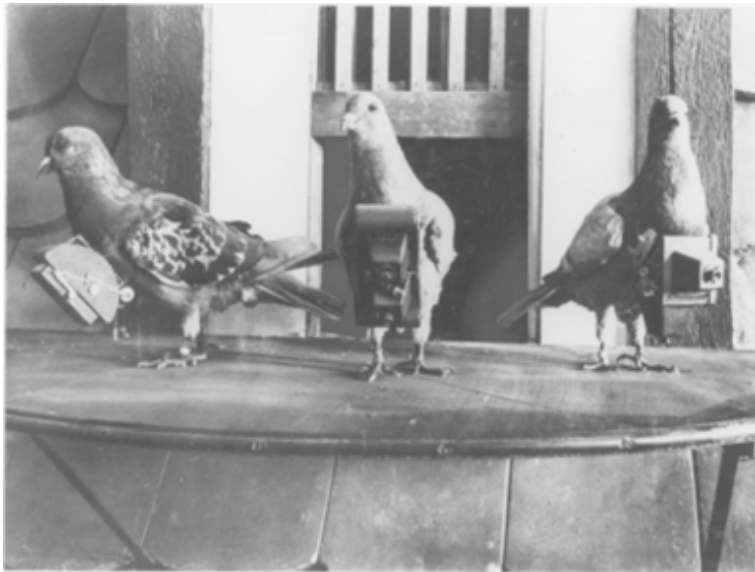


13/09/2011

# Unmanned Airborne Vehicles (UAV): A technology in evolution

Sindy Sterckx

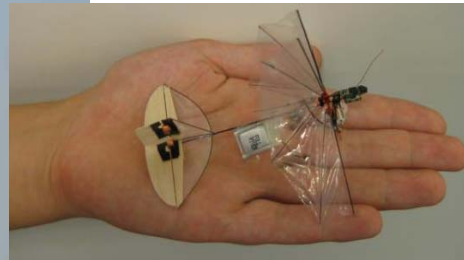
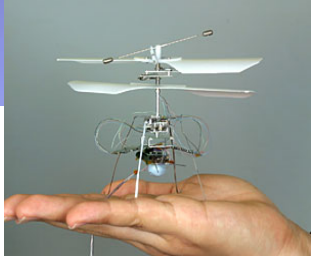
# UAV = A technology in evolution



1st World

War

RQ-5 Hunter (Iraq - 2003)



# UAVs at VITO



# UAV's are complementary to airborne & space borne systems

	Satellites	Airplanes	MERCATOR
Coverage	global	local	regional
Frequent update	+	-	++
Cheap	+	-	++
Availability	+	-	++
Resolution	-	++	+
Precision	-	++	+
Flexibility	-	+	++

+ rapid deployment



# Constraints

## » Legal issues ! :

- » In Belgium, you need always a Permit to Fly (PtF)
- » Belgian airspace very complex and very busy (> 1.000.000 overflight/year)

## » Specific for maritime and coastal applications :

- » Wind
- » Rain
- » Size of area to survey

=>need for fast and stable platform with sufficient endurance

But :

- » Less populated (safety issue)
- » Large Line of Sight (LOS)

# maritime/coastal applications

- » Coastal erosion assessment after severe storms
- » Monitoring of dredging works
  - » Survey of spreading of sediment plume
- » Effect of piles in coastal areas:
  - » Effect of offshore windmill farms
- » Oil spill detection



# Discussion

- » What hold you back of using traditional remote sensing data (airborne/satellite) ?
  - » Cost ?
  - » Flexibility ?
  - » Not suitable for the application ?
  - » No believe in this technology ?
  - » Only thrusting field measurements ?
  
- » Do you think the use of UAV systems can mean an asset for your application ? Why ? What kind of sensor (thermal, visible, lidar, ....) ?

# Very specific questions ?

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