



# vito

vision on technology

31/10/2013

## UAS (RPAS) regulations: current status and development

Koen Meuleman and Flight Plus

**FLIGHT PLUS**  
Your Flight, Our Concern 

**RPAS**  
Remotely Piloted Aircraft Systems 

**BeUAS**  
FOUNDING MEMBER 

# Content

- » Current approach
  - » Flight permits (PtF)
  - » Different approaches
  - » Who to contact?
  - » Documents needed
  - » Constraints
  - » National Procedures
- » Outlook
  - » International
  - » Europe/National
- » Conclusion



# Why use flight permits? – current approach

- » There is no legal framework yet to integrate manned and unmanned aviation in one single sky.
- » Full integration of RPAS means, adapting:
  - » Air Traffic Management,
  - » Airworthiness standards,
  - » Training requirements, ...



- » Those elements are not yet fully present:
  - » « PERMIT-TO-FLY »

# Different approaches

- » Countries **WITHOUT** specific RPAS legislation :
  - » Not allowed at all (pratically G.D. Luxemburg)
  - » Allowed, but case per case
    - » •With admin fee (e.g. Germany)
    - » •Without fees (e.g. Belgium, Netherlands)
  - » Free flight under specific conditions (e.g. Panama)

# Different approaches

- » Countries **WITH** specific RPAS legislation :
  - » **CAA stipulated RPAS regulations, BUT**
    - » Big differences between countries,
    - » Difficult for RPAS operators.
  - » **FRANCE, UK,...**

# Who to contact?

- » Who do you need to contact to obtain a Flight Permit (depending the situation)
  - » CAA - Civil Aviation Authority
  - » Civil and Military ANSPs
  - » Landowner
  - » Stakeholders

# Who to contact?

## » Stakeholders:

- » Heliports, airports, ...
- » Power lines and power plants
- » Waterways and sea canals Division
- » Industries (chemical, ...)
- » Motorways (Federal Police)
- » Customs



# Documents needed

- » What documents do we need to obtain a Permit ? Differs from country to country, but in general:
  - » Manuals,
  - » Detailed information about the flight,
  - » Permissions,
  - » Insurance certificate,
  - » Proof of experience.



# Documents needed - Manuals

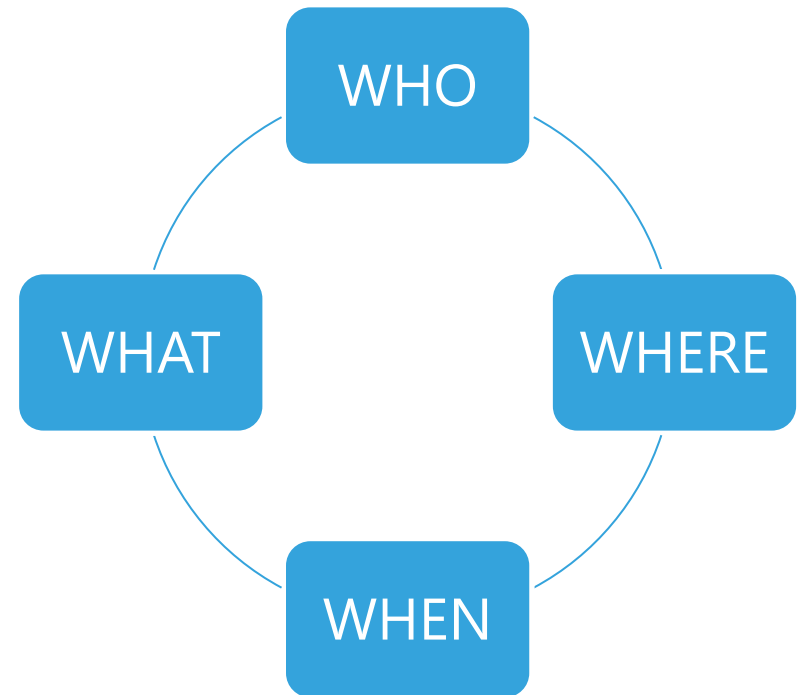
» Creating manuals is the most important document to show the CAA you CAN fly safely:

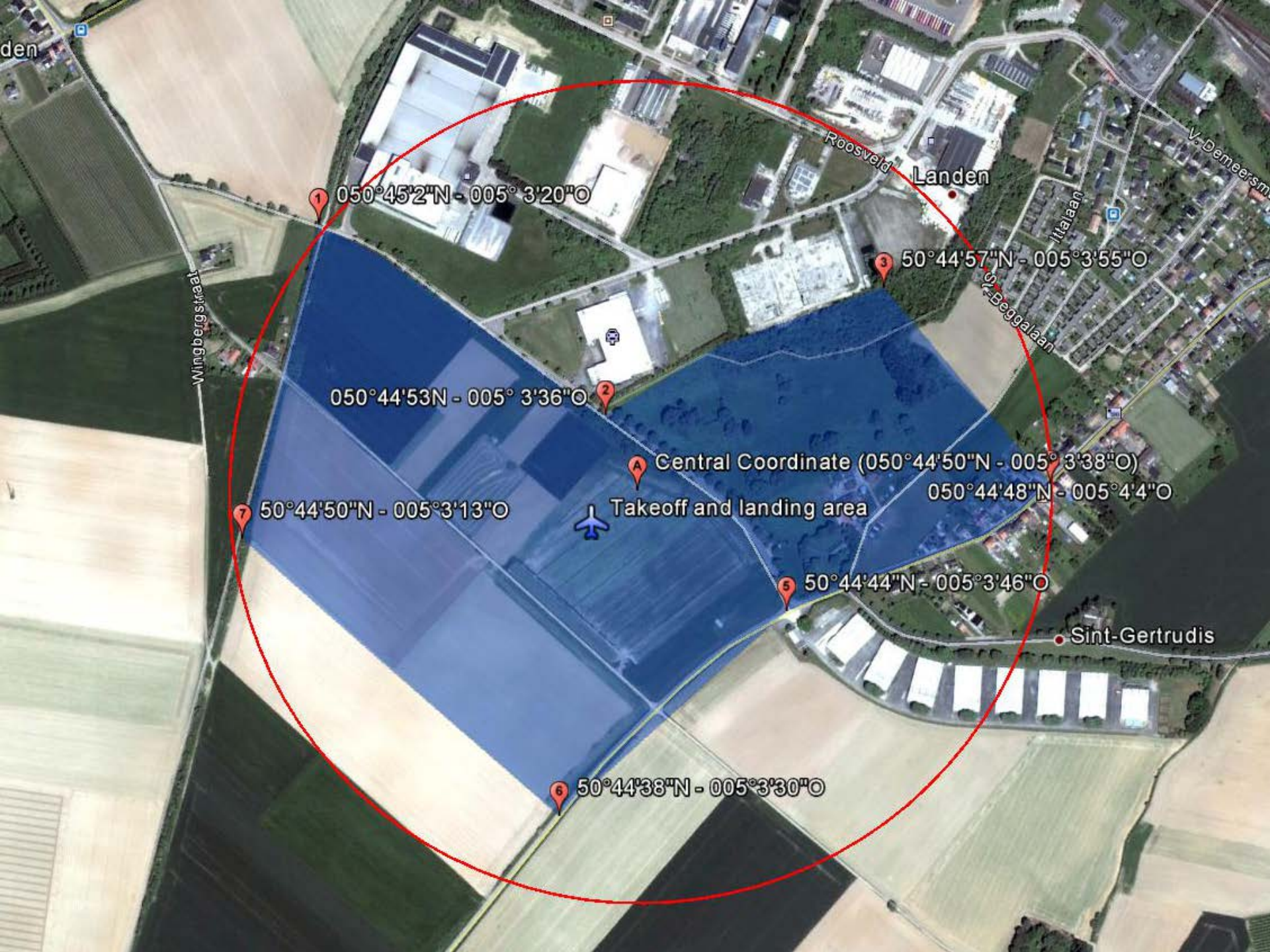
- » Operational manual
- » Safety manual
- » Technical manual



# Documents needed – Flight info

- » Information about the flight:
  - » Who: Applicant
  - » What: Type of RPAS
  - » Where: Height - Lateral limits
  - » When: Date and timings





1 050°45'2"N - 005° 3'20"O

Landen

3 50°44'57"N - 005°3'55"O

2 050°44'53N - 005° 3'36"O

Central Coordinate (050°44'50"N - 005° 3'38"O)

7 50°44'50"N - 005°3'13"O

Takeoff and landing area

050°44'48"N - 005°4'4"O

5 50°44'44"N - 005°3'46"O

Sint-Gertrudis

6 50°44'38"N - 005°3'30"O

# Documents needed - Permissions

## » Permissions:

- » Landowner
- » Stakeholders



# Documents needed - Insurance

- » Insurance certificate
  - » New sector → Insurance companies not ready yet
  - » Private liability insurance
- » Aviation insurance
- » Creation of RPAS specific insurance



# Documents needed

- » Provide the CAA with proof of experience, such as:
  - » Attended training courses, both practical and theoretical,
  - » Licenses, ...



CERTIFICATE  
UAS FLIGHT TRAINING



VITO number: **PtF-AT8-TV-004** Date: **21-Oct-2013**

**I. Flight Data**

1. Type of mission:  Test flight (s)  Training flight (s)  Scientific research  Demo flight (s)

2. Requested period of flight (s): Start date : **01-Nov-2013**  
End date : **31-Dec-2013**

3. Flying area: Central coordinate flying area : **50°33'33" N 04°15'09" E**  
Radius : **0.5** km or **0.3** NM  
Address : **Chemin de Boulouffe 1  
7181 Feluy**

4. Remarks about the flying area:

5. Flying area  
1. **50°33'33"N - 04°15'09"E** 4.   
2.  5.   
3.  6.

6. Requested altitude: **500** ft above ground level

**II. RPAS data**

Manufacturer : Aerialtronics Type :  Rotary wing  Fixed wing  
Model : AT8  
Registration mark : -  
Registration number : - Certified:  No  Yes, in the following countries:  
Name autopilot : Mikrokoopter  Yes, in the following countries:  
Take-off method :  Runway  Vertical take-off and land  Catapult launch  Hand launch

The technical information about the Altura AT8 can be found in the Altura AT8 Helicopter Tech Specs\_v **1.1** document.

**III. Operator / Pilot**

Contact person : **Tom Verstappen** Company : **VITO**  
Tel nr. : **0497/30.27.55** Address : **Boeretang 200**  
Email : **tom.verstappen@vito.be** **2400 Mol**  
Date certificate : **28/08/2012** Country : **Belgium**  
Signature :

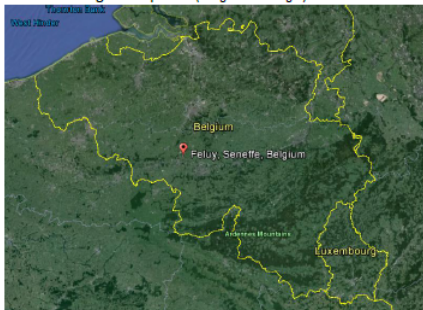

VITO number: **PtF-AT8-TV-004** Date: **21-Oct-2013**

**IV. Information concerning the flight**

1. What is the purpose of the flight?  

The aim of the flight is a demo flight.

2. Where will the flight take place? (Google earth images)

Google image of Belgium with the pointer placed on the study area.

The region of interest is indicated as a white zone.

**V. Project manager**

Contact person : **Koen Meuleman** Company : **VITO NV**  
Tel nr. : **0493/09 85 32** Address : **Boeretang 200**  
Email : **koen.meuleman@vito.be** **2400 Mol**  
Signature : Country : **Belgium**

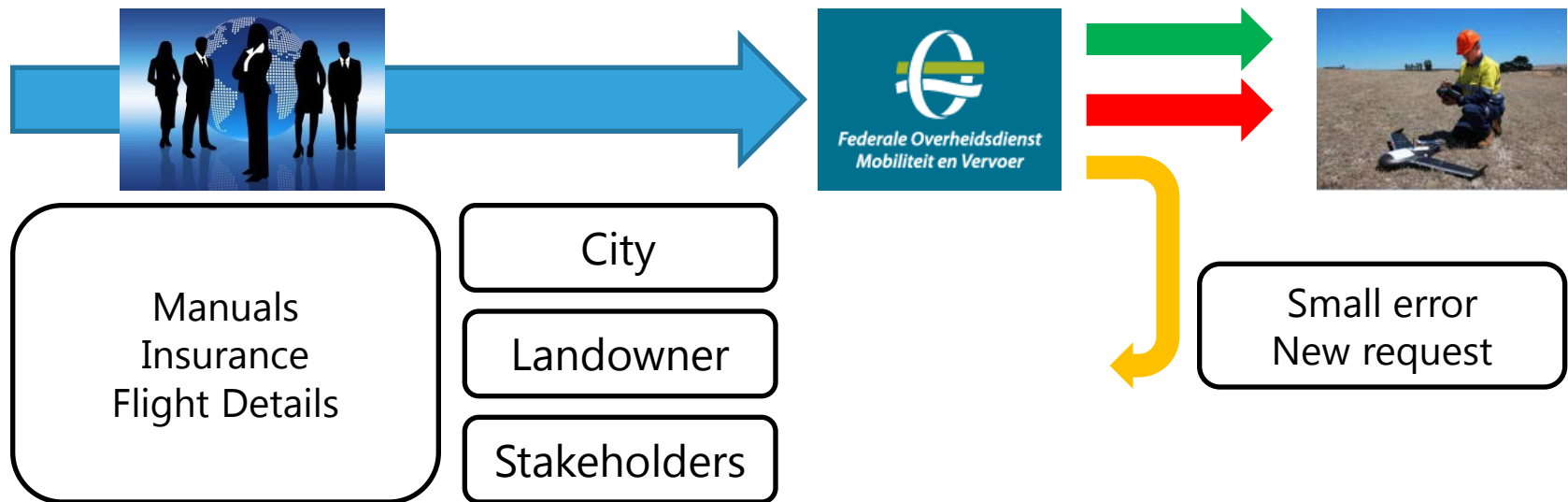
# Constraints

- » Generally: complex, not clear, long lasting,
- » When contacting the CAA:
  - » Not easy to find the right Point of Contact (POC)
  - » Language barrier
  - » No information on website or professional channels
  - » 2 – 4 weeks to get an approval
  - » Land owner approval
    - » Time consuming (rural areas/different owners)



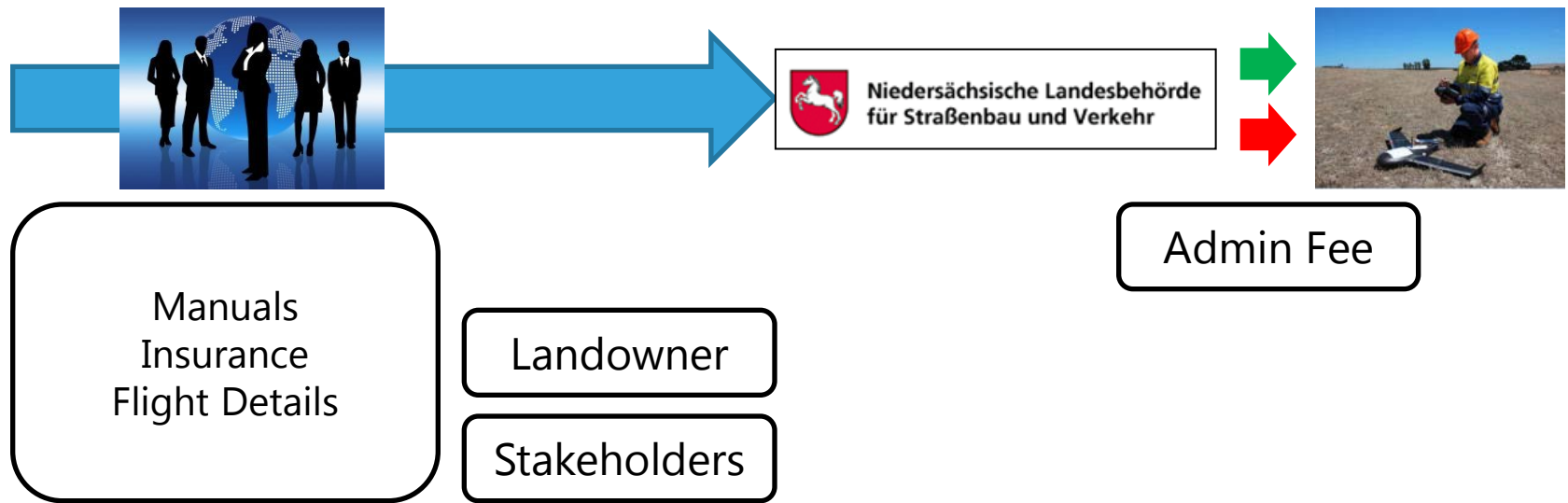
# National Procedures

» Belgium 



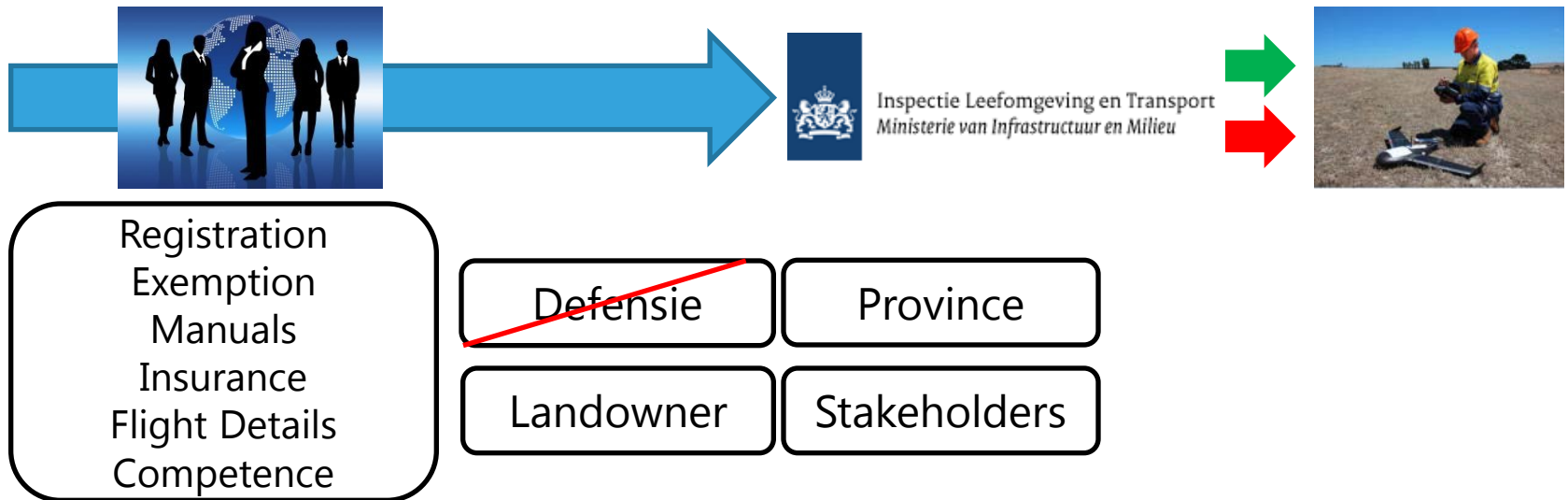
# National Procedures

» Germany 



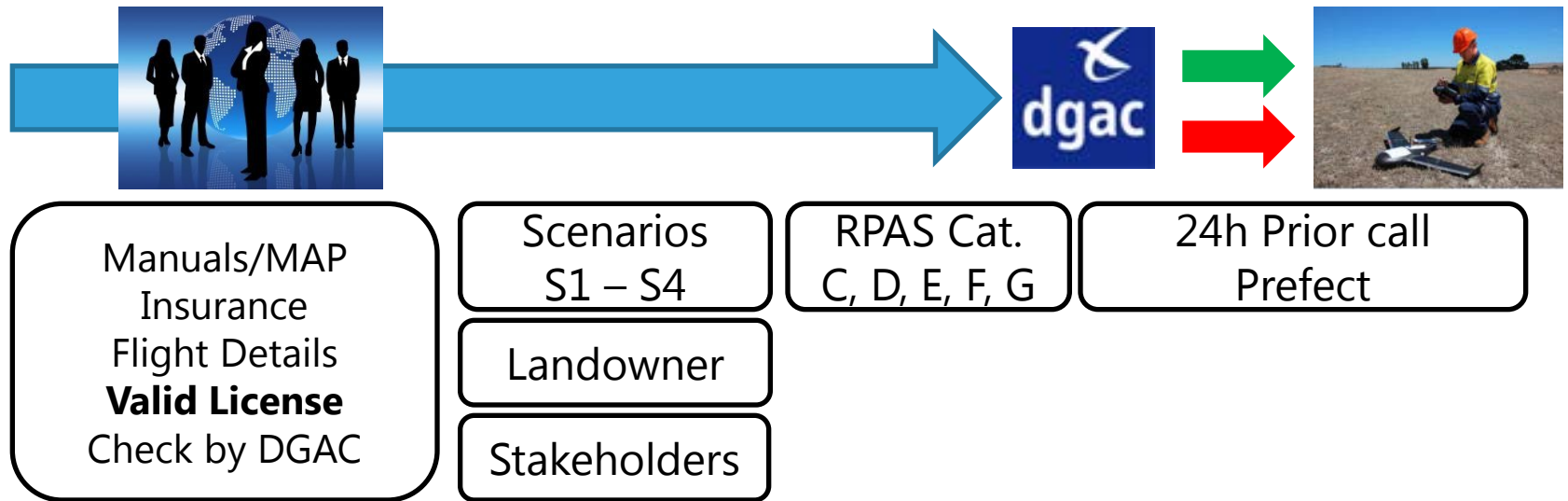
# National Procedures

» The Netherlands 



# National Procedures

» France 



# Outlook - Legislation

- » Legislative landscape is “complex”!

**ICAO** → RPAS not UAV, UAS

(International Civil Aviation Organization – 1947 – UN Agency)

## EUROPEAN STAKEHOLDERS

European Commission, EASA, EUROCONTROL, EDA, JARUS

## NATIONAL STAKEHOLDERS

CAA, ANSP's

# Outlook – ICAO – Feedback BCAA

- » 1. For ICAO, RPAS is still recognised as being an aircraft.
- » 2. For ICAO, accident/incident reporting for RPAS is mandatory.
- » 3. the RPAS as system needs an approval before flying. Not necessarily a certificate of airworthiness, but a method whereby there is a thorough check before entering airspace.
- » 4. pilots need a remote pilot licence and the applicable ratings before they can fly the RPA.
- » 5. civil operators of RPAS shall be under oversight
- » 6. ICAO RPAS manual to be published in 2014
- » 8. RPAS Symposium planned in Nov 2014
- » ....

# Outlook - Europe and legislation

- » EASA works on RPAS above 150 kg and possible cross-border < 150 kg  
Extension of role likely
- » European Roadmap published (07/13) by the European RPAS Steering Group (ERSG):

<http://ec.europa.eu/enterprise/sectors/aerospace/uas/>

- » Integration starting from 2016 onwards



# Outlook – nearby future

- » Most of the countries are working on a RPAS legislation...
- » Every CAA has a different approach...

## Framework tomorrow (2014) in Belgium ( and probably also EASA...)

- » RPAS approved based on
  - aircraft flight manual
  - safety analysis report
- » RPAS registered in aviation register
- » remote pilot with remote pilot license & applicable ratings
- » RPAS operator with RPAS operator certificate
- » RPAS operations in compliance with rules of the air

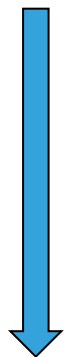


# Conclusion

## » Today:

- » Long procedures – several weeks
- » Each country is different

## » Actions/Needs for the future

- 
- » Faster procedures
  - » Transparent way of communication of rules by CAA's
  - » General applicable rules
  - » Complete integration of RPAS in a 'Single European Sky'

# Thanks for your attention!!

» Let sleeping dogs lie:  
**frequencies and power emissions...**

» **Q&A**

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