The use of new technology in Flanders

Civic dialogue group meeting
11th of October 2019

Ruben Fontaine

The world is changing
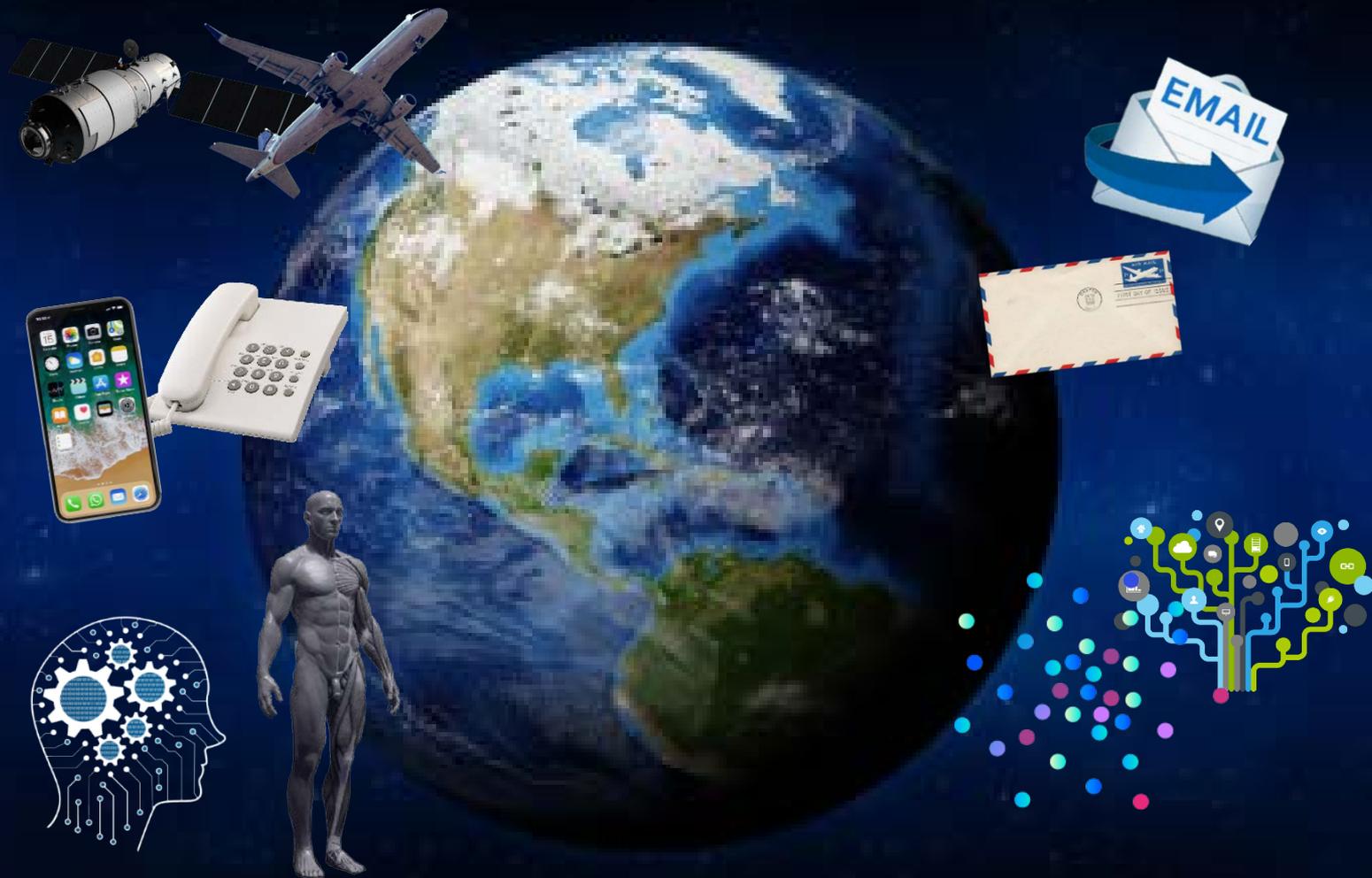
The world is changing – Satellite

"Those who do not know the past, will have no control over the future."

Golo Mann
German historian

Evolution of the technology

Topographical cart and black/white orthophoto (1 m/pixel)

1997
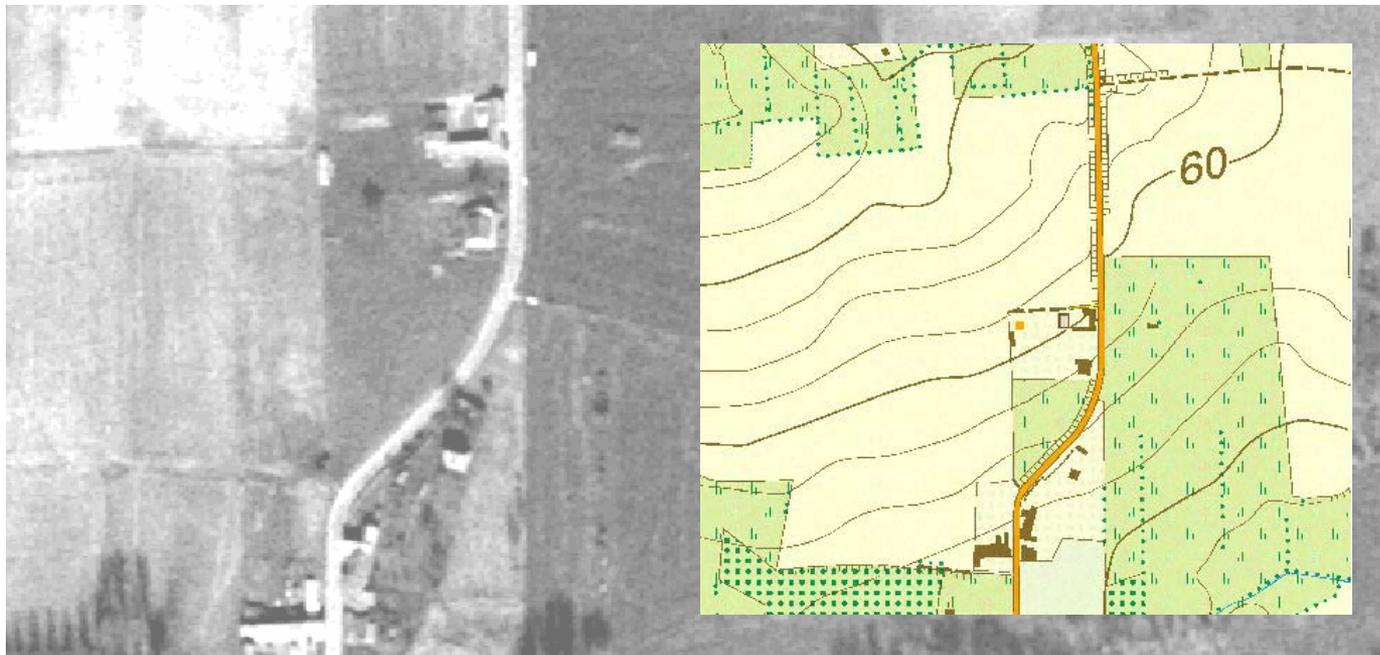
Evolution of the technology

Color orthophoto (0,5 m/pixel)

2006
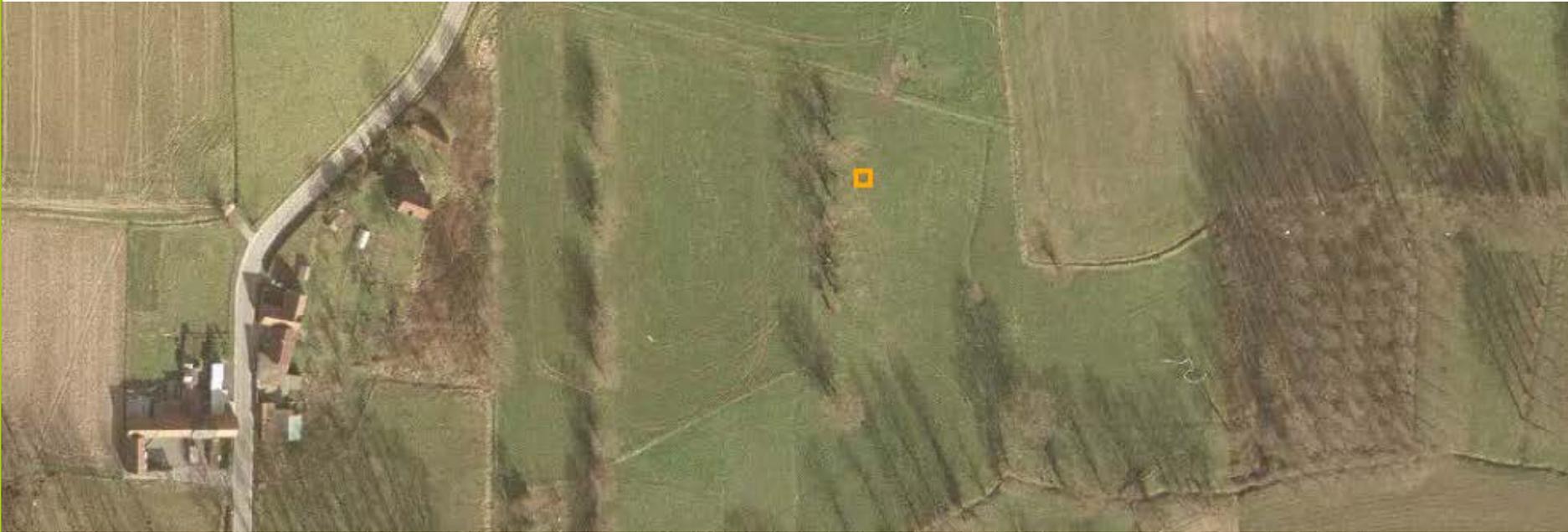
Evolution of the technology

Color orthophoto (0,25 m/pixel)

2012
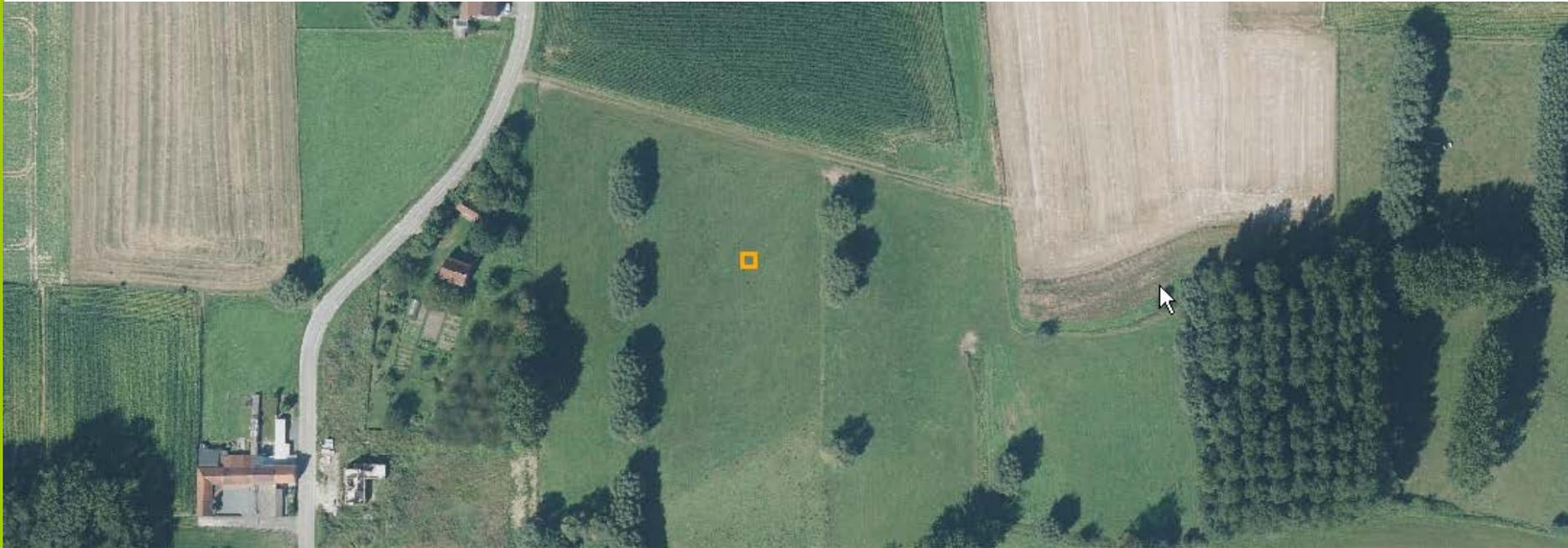
Evolution of the technology

Satellite, each 5 days, for free (10 m/pixel)

Copernicus programma ESA (European Space Agency)
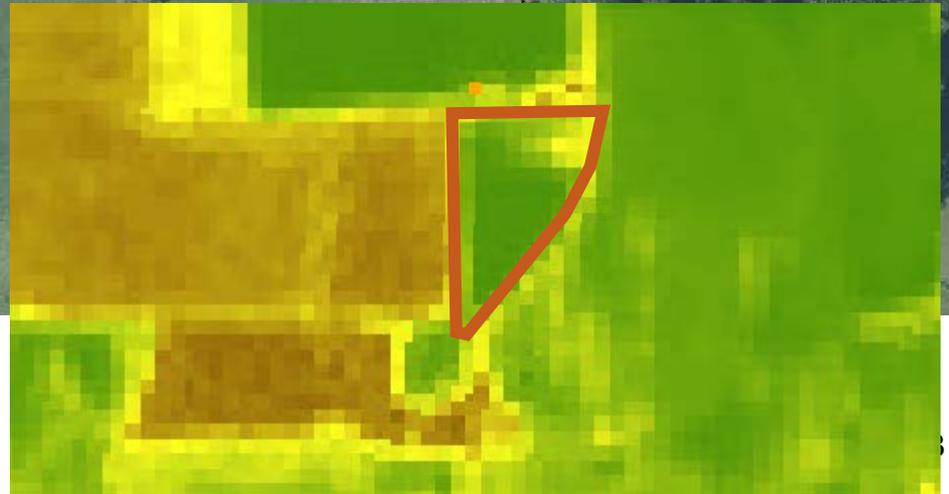
Availability of orthophotos

▸ Satellite photos
  → New offer since 2016-2017:
    ✕ Copernicus program of ESA > Sentinel
      → Free!
      → Long term engagement!
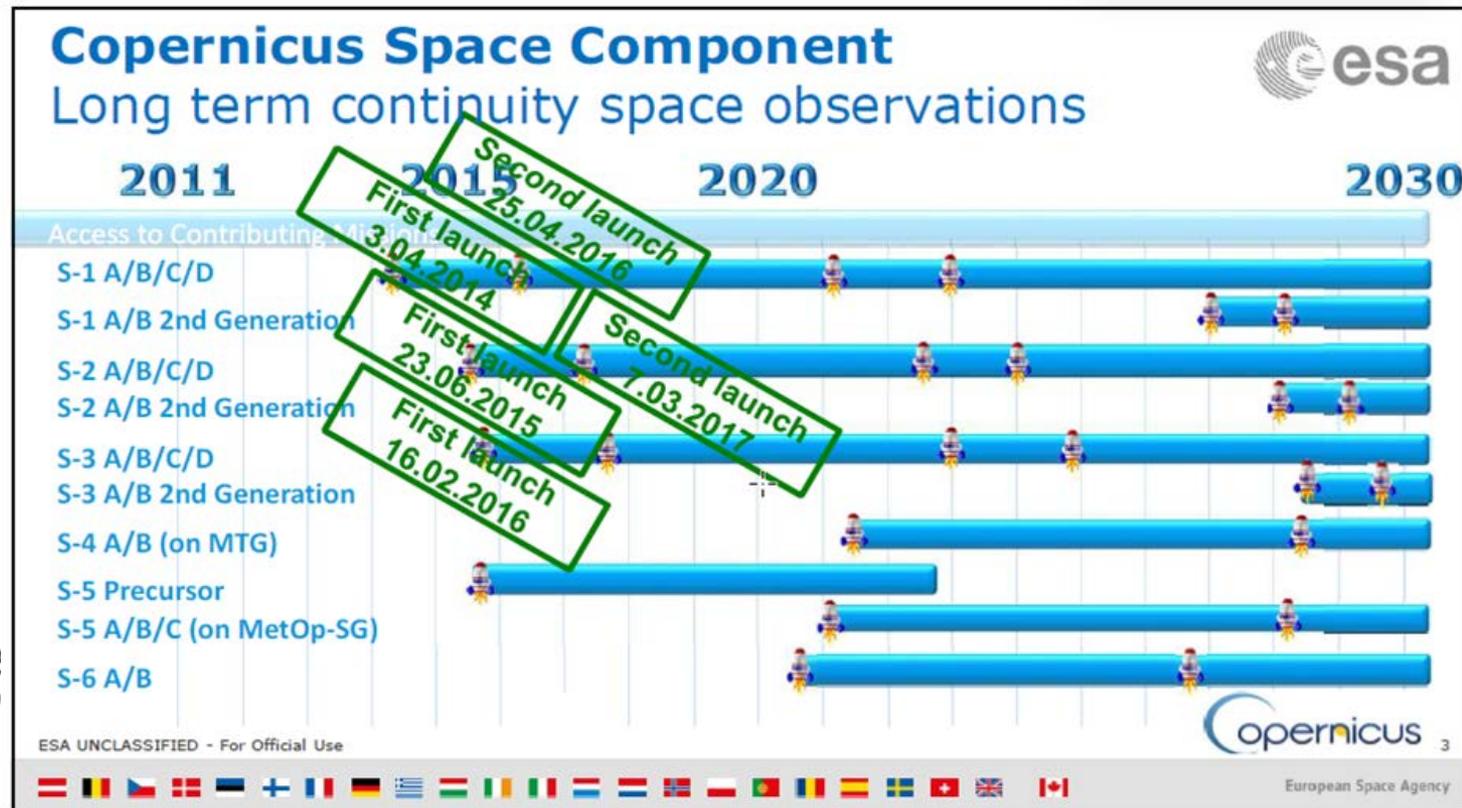
Parcel delineation (LPIS)
- Outline
- Surface
- Ineligible elements

Parcel monitoring
- Crop
- Field activities

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Concept of parcel monitoring
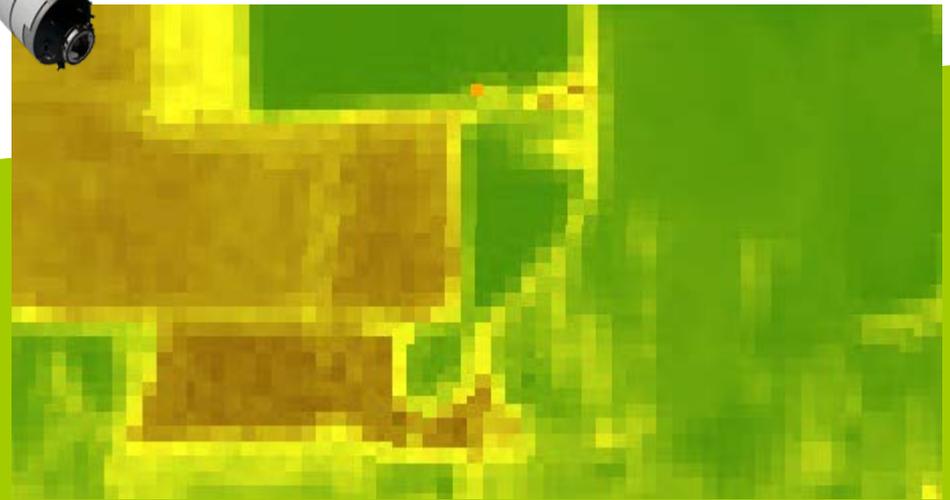
Parcel monitoring

Satellite information

DIAS

Other data sources

Single application

Calculate "markers"
- Crop type
- Mow, plough dates
- ...

Monitoring checks
- - Traffic lights

WATCH OUT

Early warning

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Request for information

Capturing repeat pictures

Not in 2019

Control on the screen

On the spot checks

Parcel monitoring

Satellite information

DIAS

Other data sources

Single application

Calculate "markers"
- group/pc...
- Mow, plough dates
- eligible pixels

Scope?

Monitoring checks
Traffic lights

WATCH OUT

Early warning

Request for information

Control on the screen

On the spot checks

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Monitoring in 2019 - opportunity

▸ Regulation   746/2018

"The competent authority may decide to apply checks by monitoring at the level of the individual   area-related aid scheme or support measure   or type of operation   " = blue or yellow level

Reg. 809/2014	Scheme			Control rate
Art. 30 a)	Basic Payment Scheme			5% (3% in Flanders)
Art. 30 b)	Redistributive Payment Scheme			5%
Art. 30 d)	Young farmer			5%
Art. 30 g)	Production of hemp			20%
Art. 31 a)	Greening			5%
		Environmentally sensitive permanent grasslands		5%
		Crop diversification		5%
		EFA		5%
			Land lying fallow	
			Landscape features	
			Buffer strips	
			Agroforestry	
			Eligible hectares along forest edges	
			Short rotation coppice	
			Afforested areas	
			Catch crios	
			Nitrogen-fixing crops	
Art. 31 b)	Greening - exempted			3%
		thresholds CD and EFA		
Art. 31 g)	Reconvert Environmentally sensitive PG			100%
Art. 31 h)	Reconvert PG (general)			20%
Art 32)	Rural Development Measures			5%
		Agri-Environment-Climate (art. 28 Reg 1305/2013)		5%
		M10 - AMKM01 - Cultivation of papilionaceous flowers		
		M10 - AMKM03 - Mechanical weed control		
		M10 - AMKM04 - Mating disruption technique in fruit cultivation		
		M10 - BO24 - Water quality		
		M10 - BO 31 - Erosion control		
		...		
		M11 - Organic farming (art. 29 Reg 1305/2013)		5%

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Monitoring in 2019 - decision

▸ Executive administration saying:
  → We have a good LPIS
  → We hope to be on the top of Europe with our system
  → We want to stay on the top of Europe with our system
  → We have to learn how to deal with the Copernicus data
  → Our experiences can help to make the right choices for the new CAP
  → We have to be ready for the new CAP
  → The risks are small and under control
  → There is a good cooperation between the EC and the early adaptors, it will be a win-win-situation

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Monitoring in 2019 - scope

▶ Scope
  → Basic payment scheme
    ✕ Based on eligible <u>agricultural</u> land

  → Greening exempted
    ✕ Based on eligible <u>arable</u> land
    ✕ In line with the BPS

  → Young farmer
    ✕ Based on eligible land
   ✕ + 100% administrative control of professional competence & management responsibility

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# Monitoring in 2019 - scope

▶ Scope
  → **Why this scope?**

  ✕ Based on a basic/"easy" markers crop -> arable land / grassland
    → Marker tested in 2018

  ✕ Reusable in the new CAP: no lost work

  ✕ Large enough to build/test choosen monitoring IT architecture
    → Modular: plugin other monitoring schemes later on
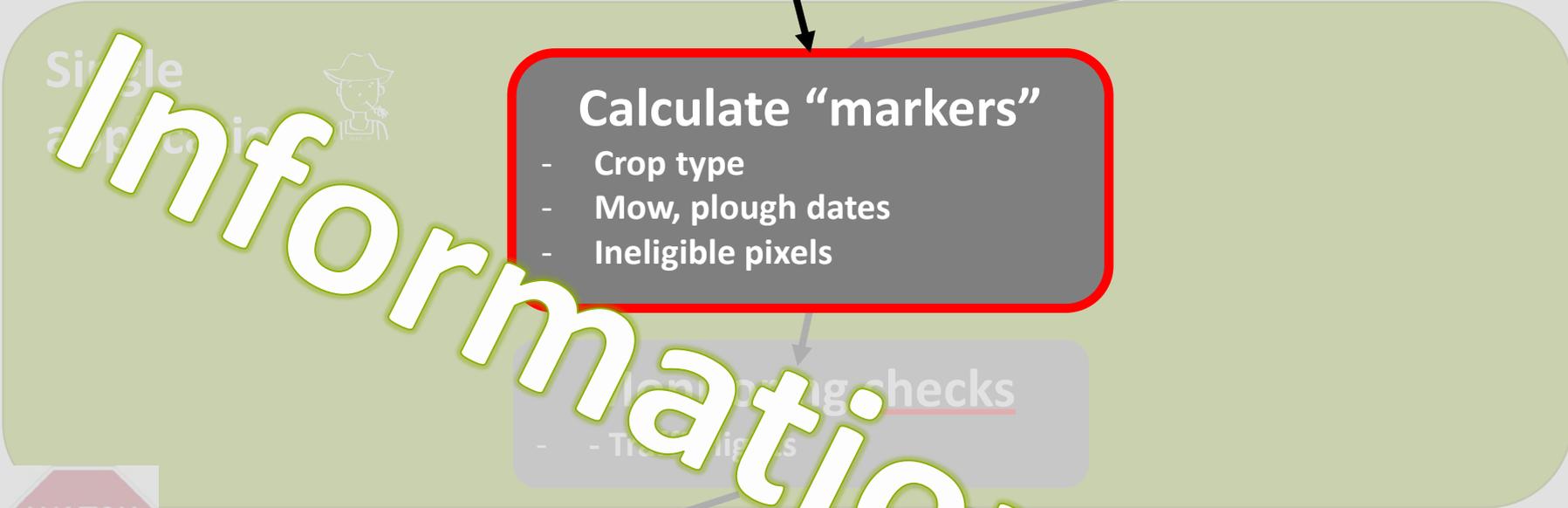
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Parcel monitoring

Satellite information
DIAS

Other data sources

Calculate "markers"
- Crop type
- Mow, plough dates
- Ineligible pixels

Information?

Single application

WATCH OUT

Early warning

Request for information

Control on the screen

On the spot checks

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Markers

▶ Satellites : Sentinel 1 and 2

Temporal evolution maize

Sentinel1 tijdsreeks, Descending, mean
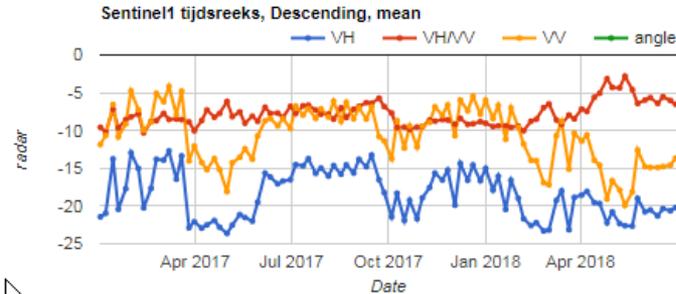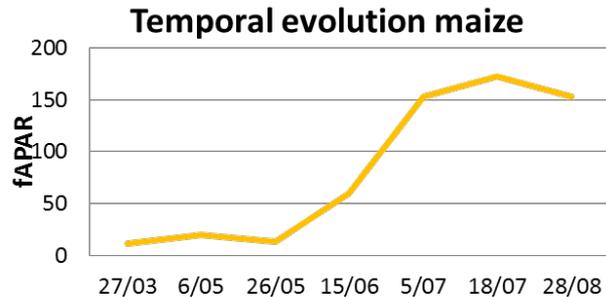
▶ 1 marker - Landcover
  → 5 groups
    × Arable land
    × Grassland
    × Leguminous
    × Fallow
    × Ineligible

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Parcel monitoring

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Single application

Calculate "markers"
- crop type
- mow, plough, dates
- eligible pixels

Results?

Monitoring checks
- Traffic lights

WATCH OUT

Early warning

Request for information

Control on the screen

On the spot checks

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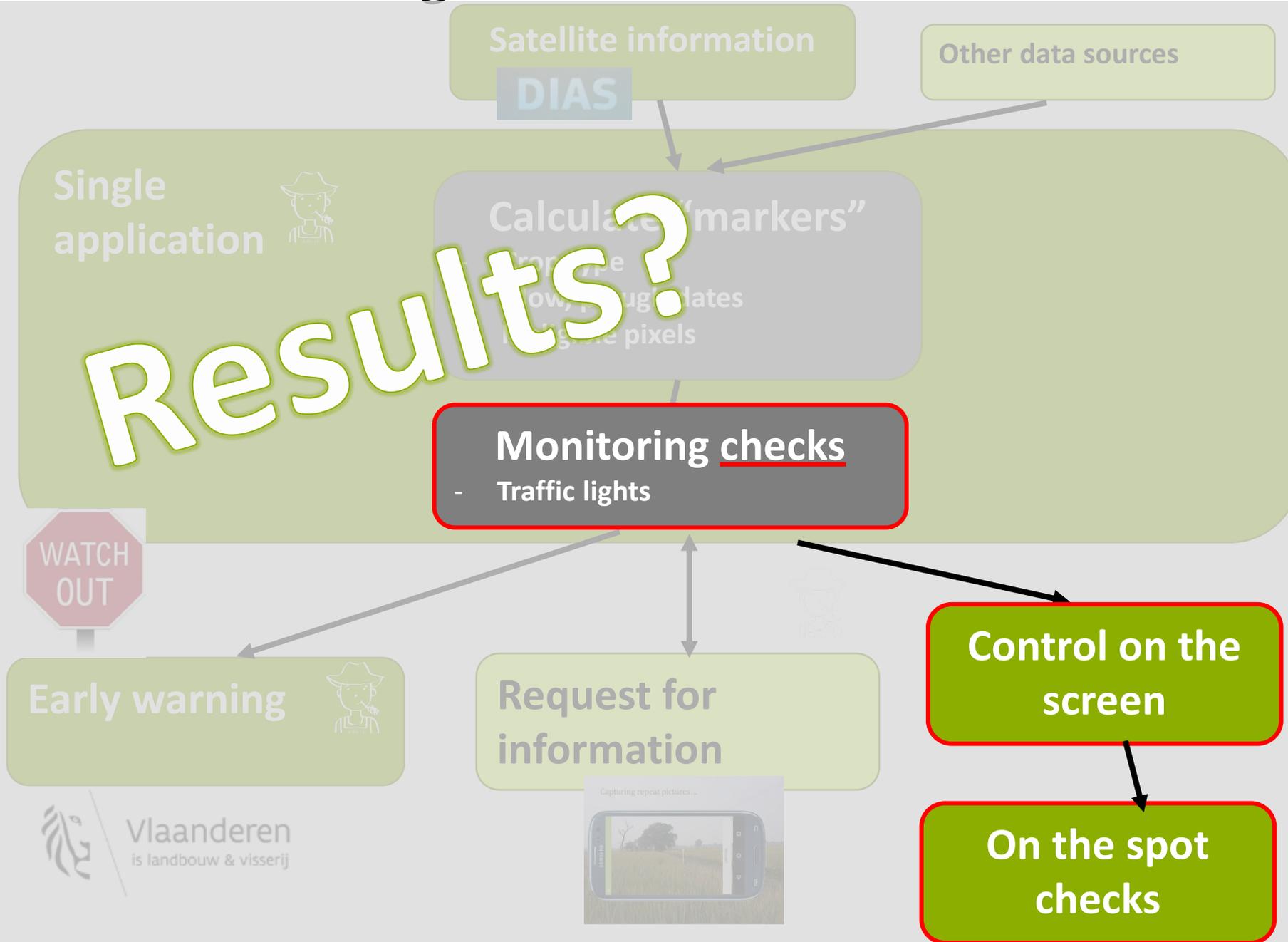
Provisional results 2019

Monitoring result		Number of parcels*
Total parcels monitored (marker)		395.287
Green flagged parcels		381.851 (96,6%)
Red flagged parcels *		2.063 (0,5%)
Yellow flagged parcels – not needed for conclusive checks (eg. farmer may have more land than entitlements)		4.728 (1,2%)
Yellow flagged parcels – needed for conclusive checks	No need to follow-up (below 50 euro at beneficiary level)	992 (0,3%)
	Parcels, which from the threshold between 50 euro and 250 euro (at beneficiary level), have not been followed-up	1.719 (0,4%)
	Parcels, which from the threshold between 50 euro and 250 euro (at beneficiary level), have been followed-up	82 (0,02%)
	All to follow up (above 250 at beneficiary level)	3.852 (1,0%)
Yellow flagged parcels below 0,5 ha		7.682

* All data where declaration of the farmer ≠ result parcel monitoring

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Parcel monitoring

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Communication?

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Parcel monitoring - Communication

▶ Pilot group of farmers: advice us

▶ Communication of ALL differences
also those without financial impact

▶ Information
  → Letter / mail
  → E-office for more details

▶ Provisional results :
  → 1071 letters/mails

Evaluation & Lessons learned

Evaluation - Cost

▶ What will it cost?
  → In 2019 we have to invest in:
    × Analysis and development of markers
    × Analysis and development of checks
    × Access to DIAS or google earth engine
    × Upgrade database model
    × Upgrade interface between ~~~~~ ware
    × Upgrade administrativ~~~~~ new aspect)
    × Analysis and de~~~~~ farmer
    × Upgrade ~~~~~

    × ~~~~~ the aspects of 2019
    × ~~~~~ velopment of follow up in cooperation with the farmer
    × ~~~~~ a photoapp

Estimated cost: 604.500 euro for launch in 2019
 - For IT: 435 man-days x 700 euro/man-day = 304.500 euro
 - For business: an other 300.000 euro (?)

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Evaluation – lessons learned

- Big change of methodology <> new CAP
- Learning as we go
  - → E.g. Permanent crops: 2020 through marker
- Use of existing 'IT system'
  - → Monitoring is an extension
- Interaction with non-monitoring schemes
  - → Difficult to explain to farmer! Only changes by PA where possible and necessary

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New world, new CAP! New CAP, new world?

Thank you for your attention!

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DEPARTEMENT
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