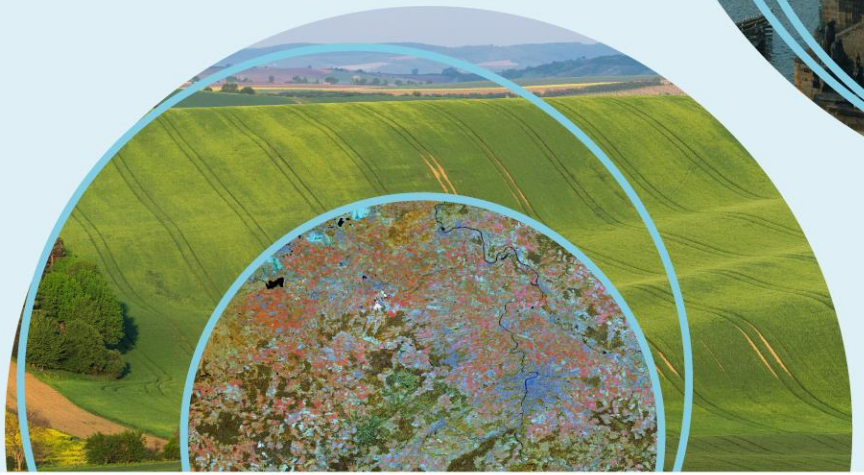
25th MARS Annual Conference



Prague 2019

26-28 November

TOP HOTEL Praha & Congress Centre

Joint Research Center

The European Commission's science and knowledge service

SZIF

The State Agricultural Intervention Fund

European Commission

The European Commission's science and knowledge service

Joint Research Centre

What the CwRS imagery tells us …

Pär Åstrand

Juergen Breunig, Slavko Lemaijc, Blanka Vajsova, Csaba Wirnhardt, Gilbert Voican, Philippe Loudjani

25th MARS Annual Conference, Prague, CZ, November 26-28 2019

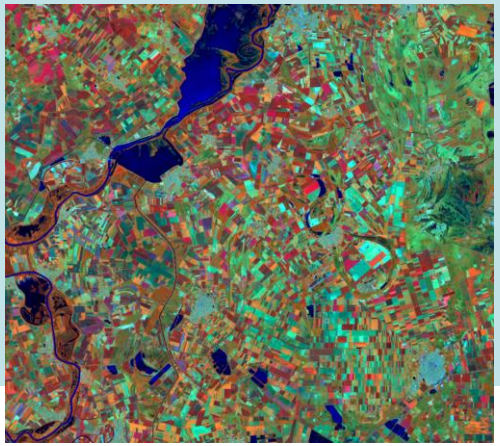
European Commission

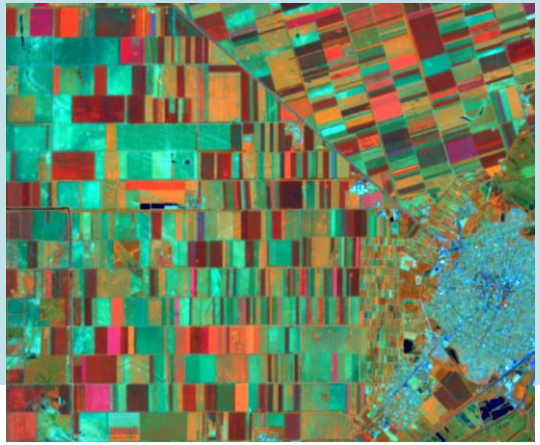
Outline of presentation

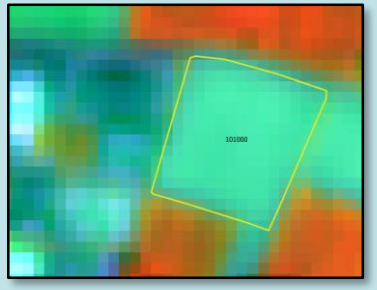
1. Why not more change (in image use) through time?
2. 2019 - what we did
3. 2020 - what we will do; status after Regulatory deadline of 1st of November.
4. Miscellaneous

CwRS - why not more change through time

- **<u>Key message</u>**:
- Until CbM (full implementation envisaged for 2022) will replace the OTSCs, the image use will be under continuous re-discussion; effective and efficient controls …
- Preparation of the new policy requires a reduction of EU financed imagery to allow transition of budget to Art. 40a, and CAP2020+







Copernicus Sentinel-2, 10m;
2019-06-09 (HU)

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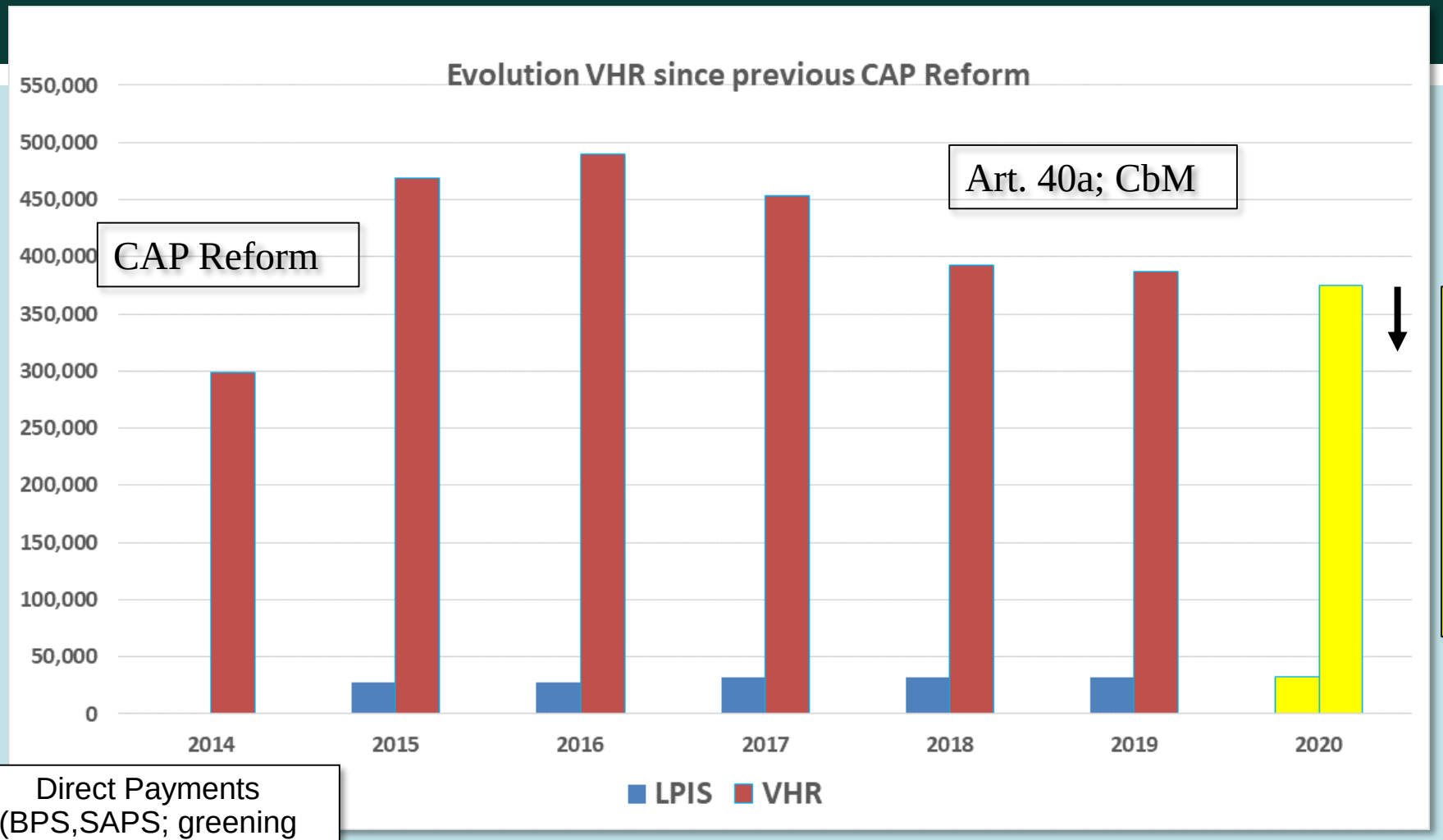
CwRS – VHR evolution



2020 forecast; will go down when final areas will be known January 15th ((EU) No 908/2014; § 26); and further reductions due to CbM starters 2020

Direct Payments (BPS,SAPS; greening (grassland, CD, EFA); ANC …), II pillar, cross-compliance

VHR2 decreases in favour of HHR; methods use less acquisition windows i.e. less VHR2

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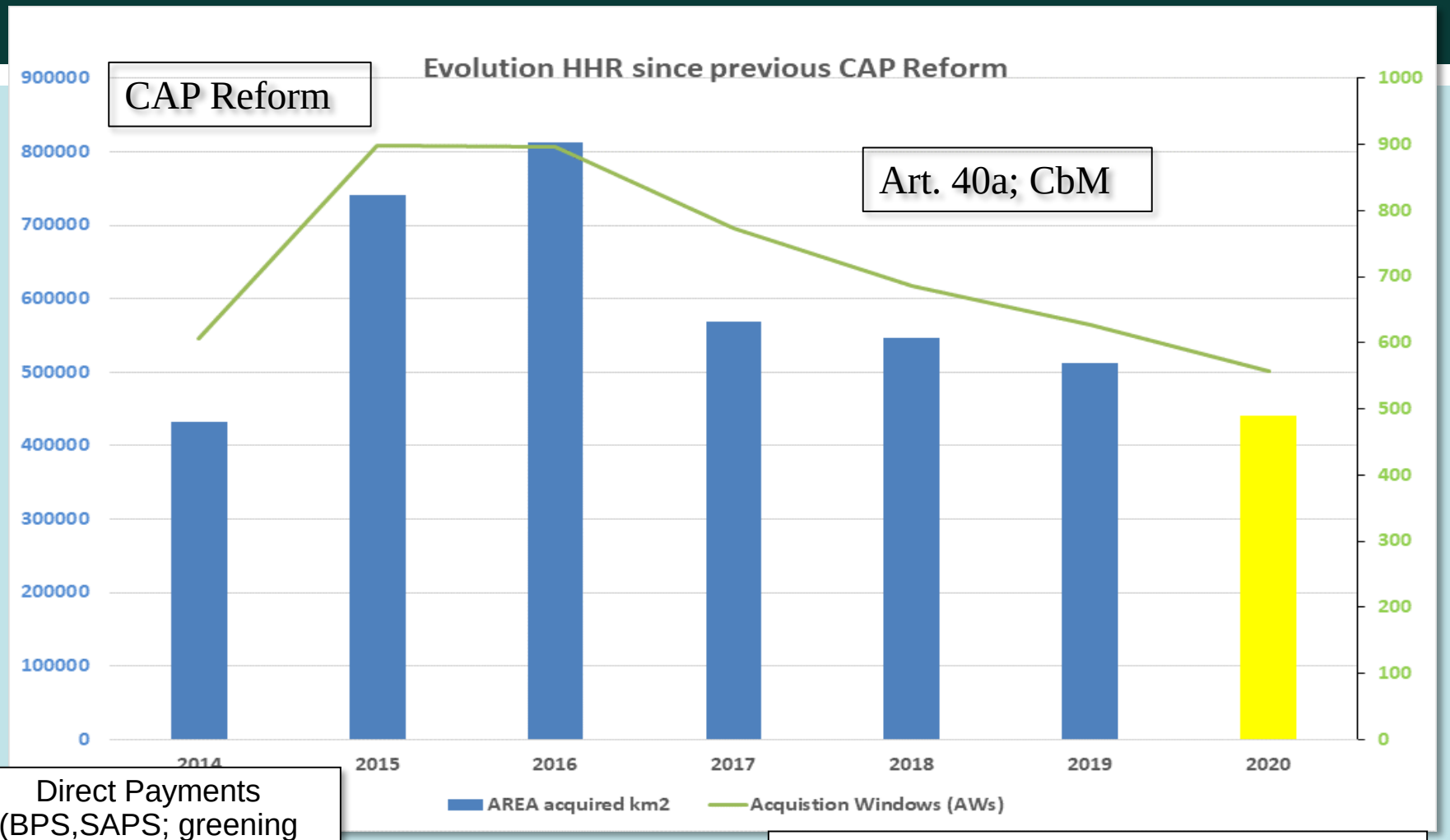
CwRS – HHR evolution



Direct Payments (BPS,SAPS; greening (grassland, CD, EFA); ANC …), II pillar, cross-compliance

HR completely disappears in favour of S2 and HHR; HHR decreases in favour of S2; methods use less acquisition windows

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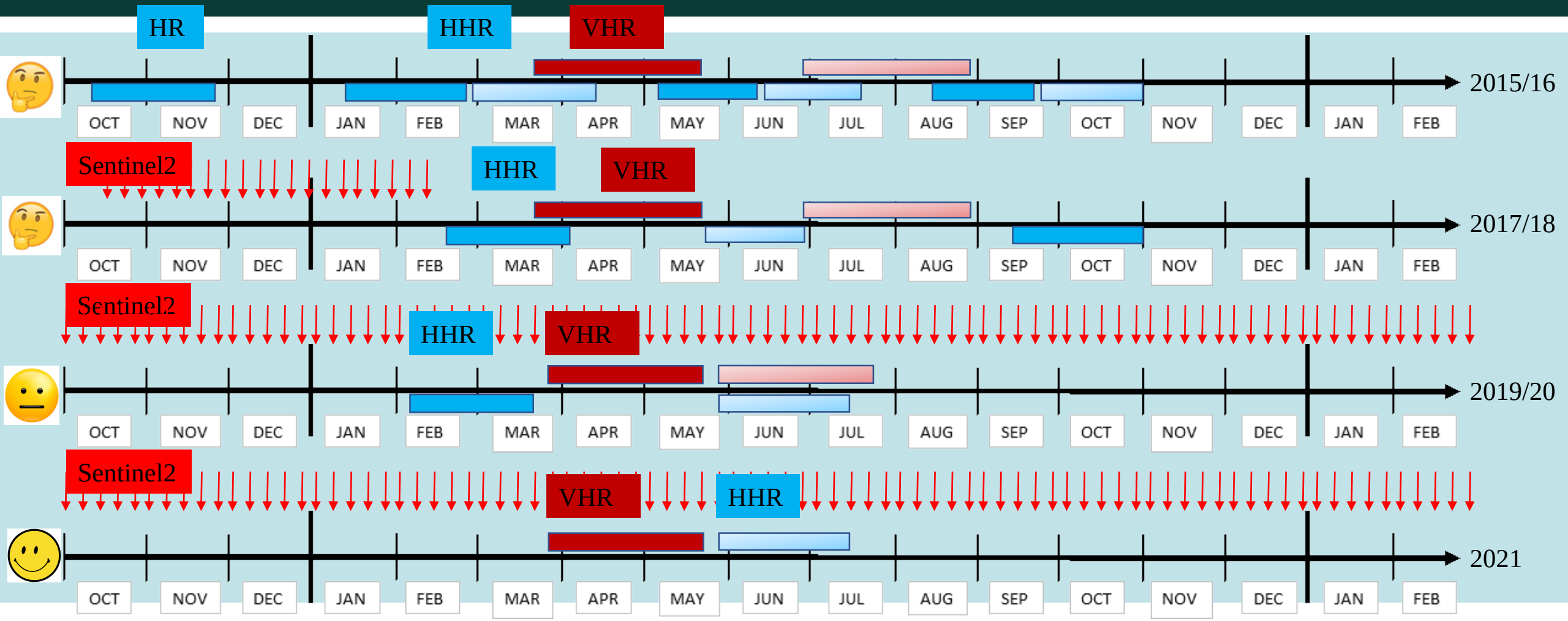
CwRS – methods evolution



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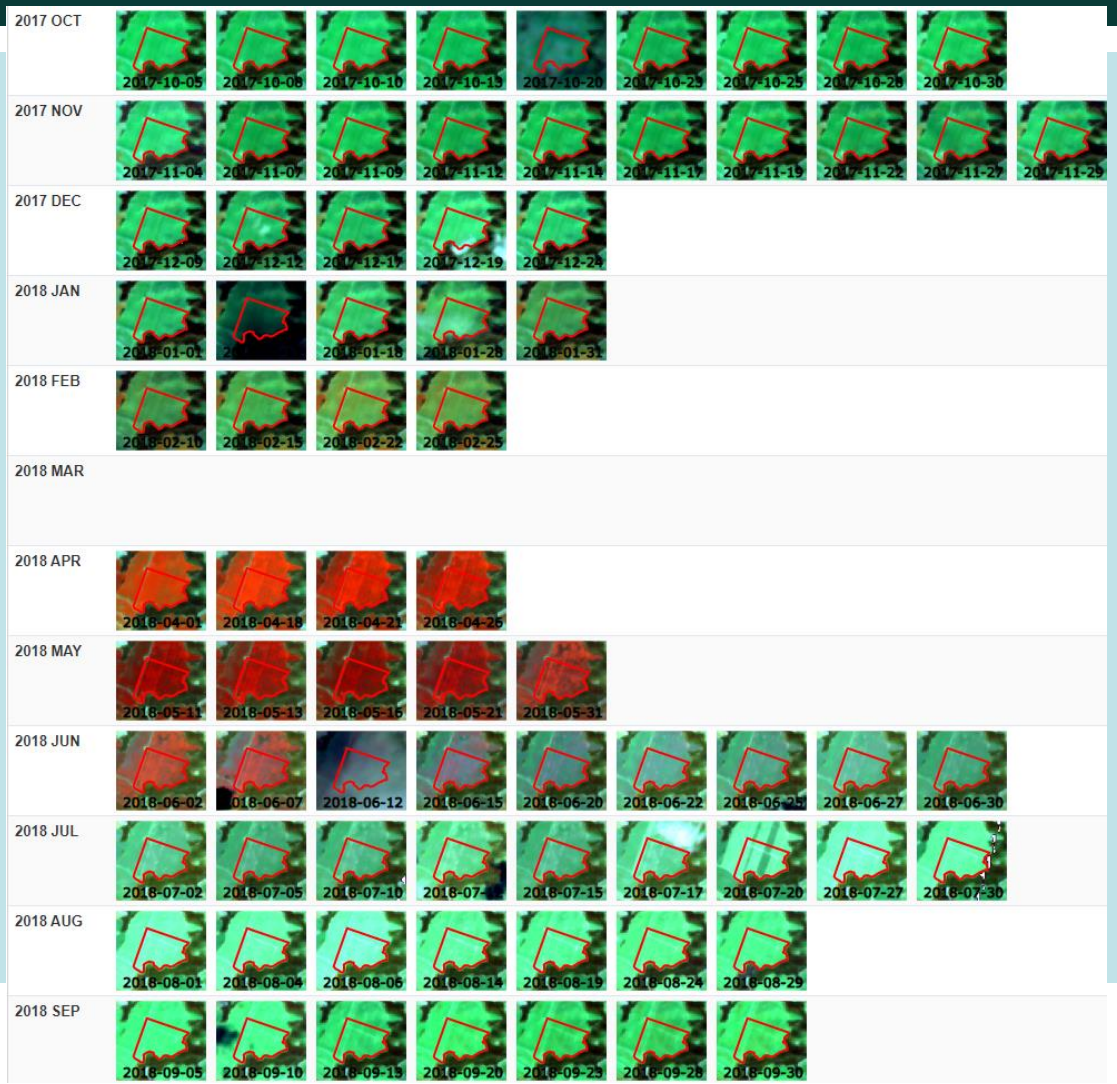
S2 collects plenty …



Sentinel-2 images
Spain, Catalunia 2018
Barley

…so use S2 as much as possible in OTSCs.

… will facilitate for you in future CbM

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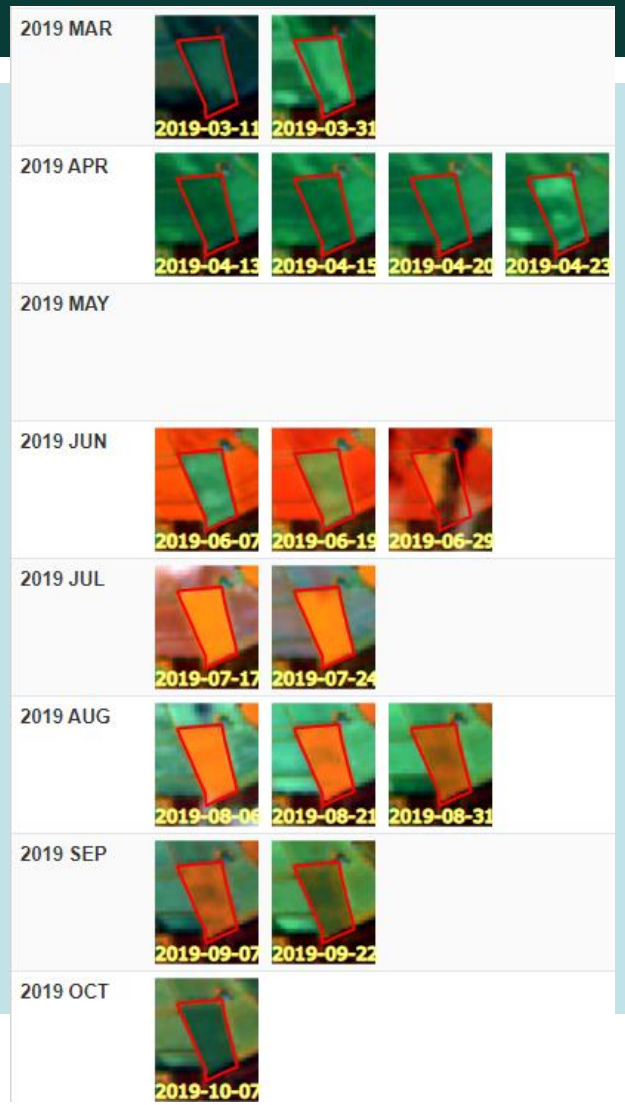
Even in cloud prone areas S2 collects plenty …



Denmark 2019,
Starch potato

…so use S2 as much as possible in OTSCs.

… will facilitate for you in future CbM

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CwRS - why not more change through time

- So, trends show reduction of financed imagery; but why not more?
- At this time no MS use more than 2 HHR AWs; a few have a second VHR AW;
  - justifications are given by MS, but can MS reduce further and still perform effective OTSC checks?
  - Why HHR or > 1 HHR and not S2; Why > 1 VHR

- *Conclusion, remember: image use under constant re-discussion, and the preparation of the new policy requires reduction …*

CwRS - why not more change through time

- S2 resolution insufficient,
- crop cycle,
- crop diversification,
- specific requirements,
- risk of no acquisition (trust more HHR programmed sensors than S2…)

- Measurement issues, small parcels,
- grassland maintenance, agricultural activity, greening checks,
- less field visits
- allows risky claims to be selected,
- climate (trust VHR more than HHR..),
- VHR1 and VHR2 similar resolution in CAPI and measurement is a plus…

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- *Conclusion, remember: image use under constant re-discussion, and the preparation of the new policy requires reduction …*

2019 – CwRS / LPIS QA VHR – what we did

- VHR success again
  - Area **VHR** 386,652 km2 – **100% success rate**
  - Area **LPIS QA** 32,400 km2 – **100% success rate**

- Issues
  - WV4 de-commissioned, weather worse, => for VHR this affected acquisition time (av. 14.8 cal days c.f. 9.2, 11.5)
  - new feasibility approach works well => less changes to original acquisition windows asked by the MS Administrations

2019 - CwRS HHR – what we did

- HHR success again
  - Area **HHR** 511,919 km2 – **96.91% success rate**

- Issues
  - Better average acquisition time this campaign (8.7 cal. days, c.f. 10.1, 12.4)
  - Late uploads of proposed imagery by image provider but good mosaics uploaded
  - Some MS have complicated procedures and many changes on their HHR windows which does not make life easy for IP or JRC
  - IDQA slow by MS (G^{4}CAP accepts aut. after 12 days but if complaints from you come afterwards …)

Status of Ortho Image Return (OIR) to JRC

- *Very heavy exercise for all – required for any follow up or image re-use !*

VHR 2018

- Only 2 CwRS zones outstanding from RO. All LPIS-QA data returned.

VHR 2019

- JRC has received CwRS data from 16 MS contractors.
- JRC has received LPISQA data from 4 MS.

HHR 2018, HHR 2019

- nothing returned to JRC by Airbus
- AirCAP development by Airbus

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2020 - what we will do

- 2020 - status after Regulatory deadline of 1st of November.
  - we finished early iterations with FR, DE, LT, IE, England, Northern Ireland, etc. with low % image use and high costs/OTSC area => reduction
- CbM starters - MS phasing in ”checks by monitoring” in 2020 shall communicate any reduction after their final decision 01/12
  - we should see more change than we do today - tell us asap …
  - changes will show on 15/01/2020 – detailed insertion of CwRS OTSC image requests in G4CAP (as of (EU) No 908/2014; § 26)

2020 - what we will do

- Expected number of applications EU 6,753,083
- Expected total number of on-the-spot (OTS) checks 465,232
- Expected number of Control with Remote Sensing (CwRS) applications 345,618 (~ 75%)

• Planned VHR (preIRs)	375,312 km2 (down 7%)
• Planned LPIS QA (preIRs)	32,400 km2
• Planned HHR (preIRs)	440,294 km2 (down 20%)

Miscellaneous

JRC TECHNICAL REPORTS

TECHNICAL GUIDANCE

FOR CWRS AND FOR THE LPIS QA

VHR IMAGE ACQUISITION SPECIFICATIONS

CAMPAIGN 2020

Text highlighted in YELLOW contains changes from 2019

- New VHR specs 2020 out already; see G^{4}CAP
- HHR specs to follow …
- New HHR profile II tender to be signed before end 2019

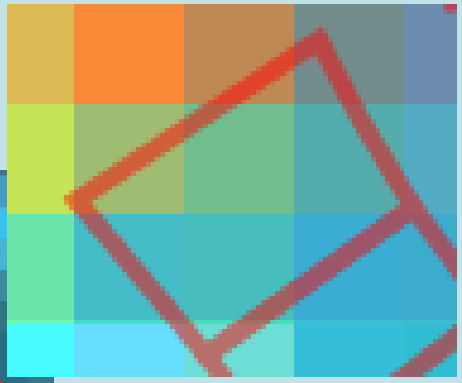
G^{4}CAP - https://g4cap.jrc.ec.europa.eu/g4cap/

- Service Contract signed with Planet 03/10/2019

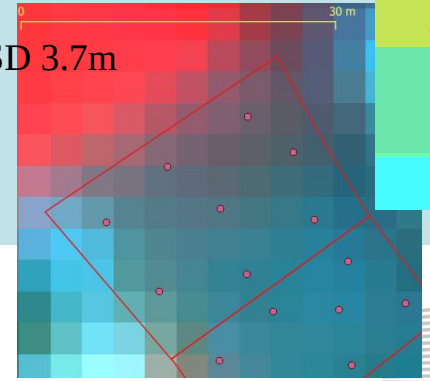
for 2019 CbM 'HHR' Time Stacks

  - see presentation Wednesday morning session …

Sentinel 2 - GSD 10 m



Planet Scope - GSD 3.7m



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Miscellaneous

- New sensors:
- Maxar/EUSI **WorldView Legion**; Airbus **Pleiades NEO**

- Valladolid; more correspondence now between DG AGRI H.1 cf. Campaign results stats (G^4CAP) on control rates etc. but this analysis continues…
  - 2019 Campaign Results together with H.1 ?
  - We ask you to act in time when your Campaign Results statistics is requested

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Any questions?

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