The European Commission's science and knowledge service

Joint Research Centre

10 years of LPIS QA

Wim DEVOS, GTCAP team

10 yrs LPIS QA workshop, Varese, 10 April

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That's another fine mess you've gotten me into.

(Oliver Hardy)

izquotes.com

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The origin

source: 2003 Mars Conference Köln

796/2004 article 6 - Identification of agricultural parcels

2.   The Member State shall ensure that with regard to at least 75 % of the reference parcels being subject to an aid application, at least 90 % of the respective area is eligible pursuant to the single payment scheme. The assessment shall be made on an annual basis using appropriate statistical methods.

NB: originally proposed concept

The Member State shall ensure that at least 75% of the reference parcels are declared for at least 90 % of the respective area

The technical details

Implementation of IACS-GIS, Reg. 1782/03 and 796/2004
Derived and modified from
JRC Discussion Document
JRC IPSC/G03/P/SKA/ska D(2002)(1187)

JRC Ispra/ MARS Unit   **MARS-PAC**
Technical support to DG AGRI   Implementation of IACS-GIS, Reg. 1782/03 and 796/04

http://ies-webarchive-ext.jrc.it/mars/mars/content/download/989/6082/file/2575v3-3.pdf

- 2004 document
- no hard technical specification of a spatial data set (more of a system/process/requirement inventory)
- no clear link between creation & update and the 75%/90% rule
- very short, very generic
- neither reflecting nor anticipating the issues such as identified on the 2005 (CwRS) QC (next slide)

one year later…

2015 CwRS Quality Control

Conclusions

- Findings mainly related to strategy and rules set by **Administration**, or to quality of LPIS rather than to contractor's work

- Present QC will be stopped in 2007 but support to MS will continue through technical visits before or during the campaign (analysis of QC data and summary stats, questionnaire to MS, visit similar to simplified QC)

Declaration error: farmer "penalised" by LPIS
No graphical document sent to farmer

PT: possibility to retain area from LPIS parcel not

Outdated LPIS boundary (DK)

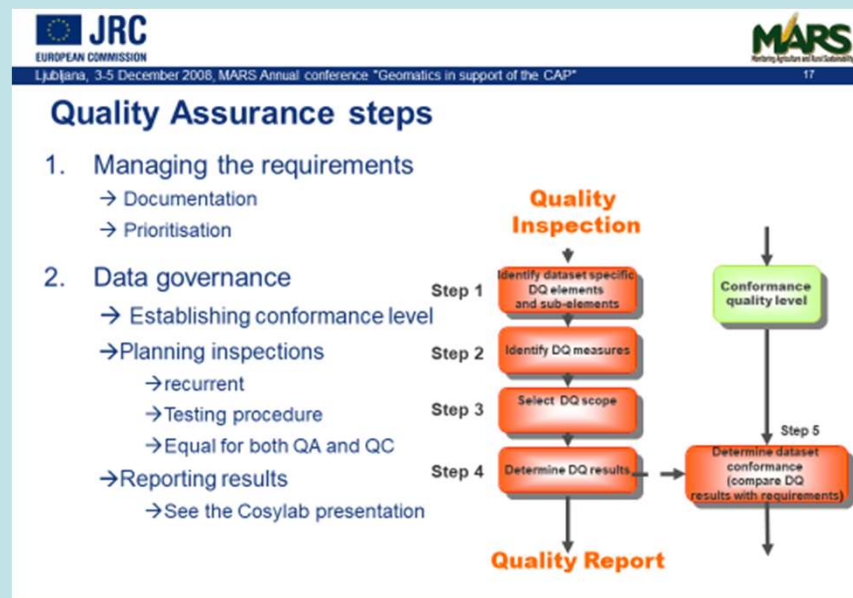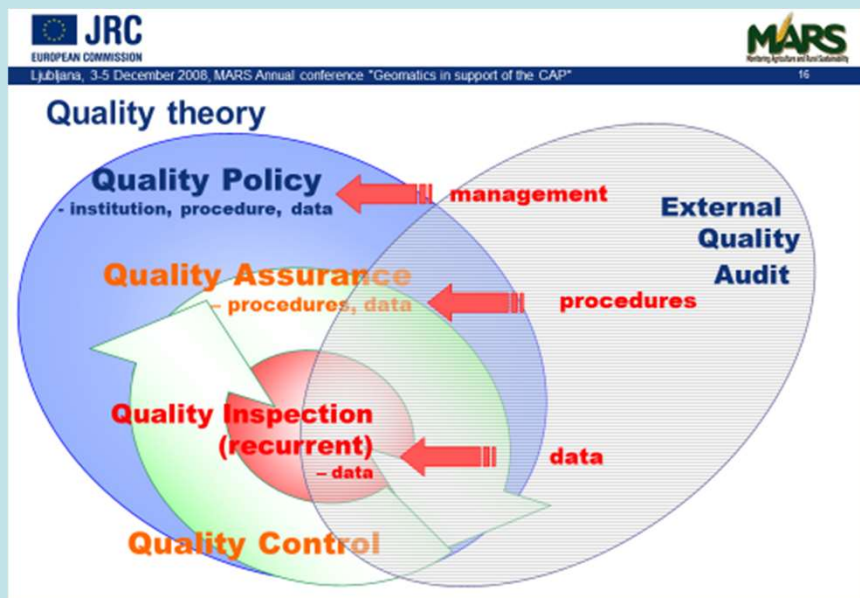**CY: cadastral parcels at two scales**

LT: change to block boundary

- Block 1 LPIS area exceeded by 13.5 ha but no excess retained area (block 2 underclaimed); change should be communicated to Admin

LPIS boundary
Interpreted parcel

source: 2006 Mars Conference Toulouse

The response

By 2008, industry standard Quality Assurance was proposed

source: 2008 Mars Conference Ljubljana

The "quality assurance" cooperation

To reduce burden (i.e. > 5% sample) a very small sample was sufficient IF it guarantees representativeness:

• from a known population

• by confirmed dates of the ground data

• with consistent methodology

• through recording of the inspections

source: 2009 LPIS workshop Tallinn

The quality test design

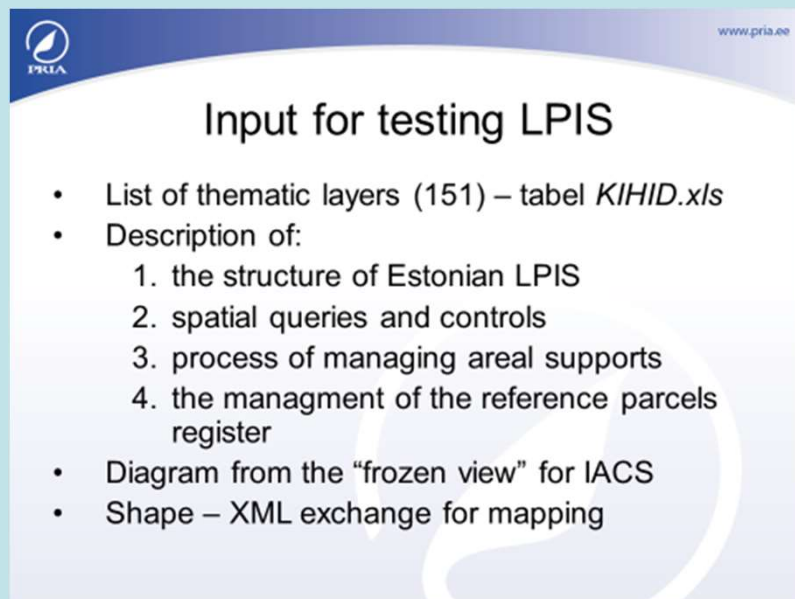*Framework for ETS (source: 2009 LPIS workshop Tallinn)*
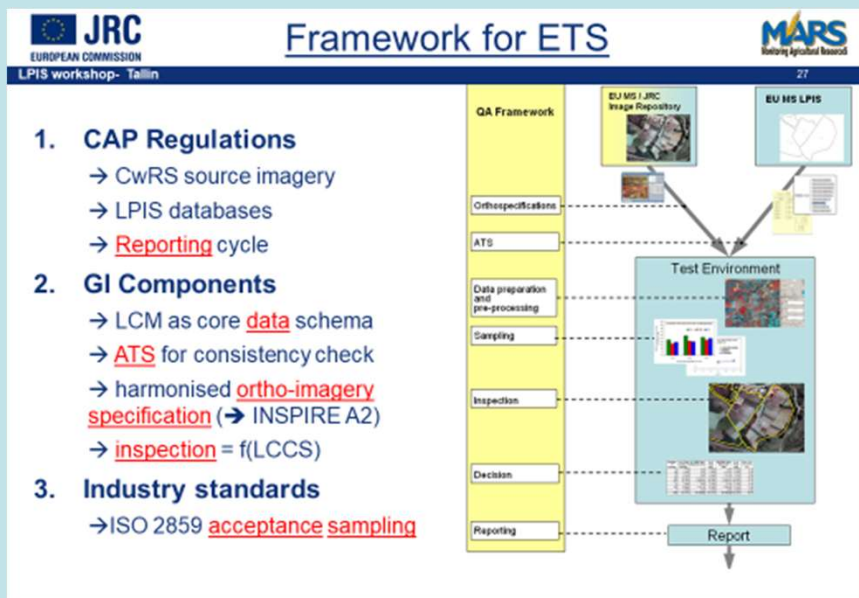
"compare what you see with your recorded RP data"

a.k.a.

map a physical block and compare

To know what to compare to that block, the ATS(MTS) was needed
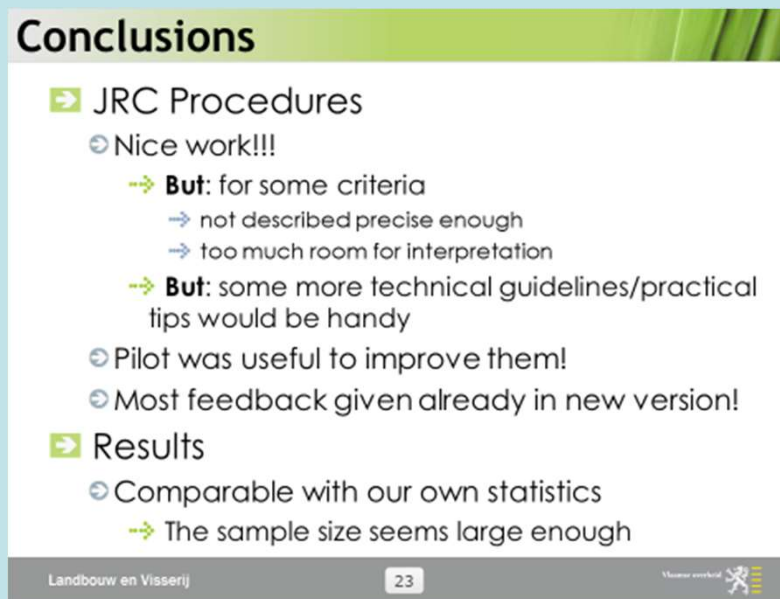
The technical testing

4 ATS (now MTS) volunteers

4 ETS volunteers

The legal initiative

source: 2009 Mars Conference Taormina

1122/2009 of 30 November 2009

Member States shall ensure that with regard to at least 75 % of the reference parcels being subject to an aid application, at least 90 % of the respective area is eligible pursuant to the single payment scheme respectively the single area payment scheme. The assessment shall be made on an annual basis using appropriate statistical methods.

But by 3 March 2010….

Member States shall annually assess the quality of the identification system for agricultural parcels. That assessment shall cover the following quality elements:

(a) the **correct quantification** of the maximum eligible area;

(b) the **proportion and distribution** of reference parcels where the maximum eligible area takes ineligible areas into account or where it does not take agricultural area into account;

(c) the **categorisation** of reference parcels where the maximum eligible area takes ineligible areas into account or where it does not take agricultural area into account;

(d) the occurrence of reference parcels with **critical defects**;

(e) the **ratio of declared area** in relation to the maximum eligible area inside the reference parcels;

(f) the percentage of reference parcels which have been subject to **change, accumulated over the years**;

(g) the rate of irregularities determined during **on-the-spot checks**.

The 2010 PR front

Purpose of the Quality framework
LPIS quality assurance framework, DPMM Brussels, January 20

1. Provide a view on the state of the LPIS that is
   - Harmonised
   - Quantitative
   - Unbiased
   - Precise
   - Complete
   - Current
2. This allows for
   - comparison between MS
   - a pan-European overview
3. and serves as base for
   - planning remediate actions by the MS
   - considerations about the effect of weaknesses found

Example
LPIS-day, Ispra, April 15th, 2010

All area could be eligible according to eligibility profile

ICELAND'S Eyjafjallajokull Volcano

source: 2010 DPMM Brussels   2010 LPIS-day Ispra

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The experimentation & tuning year 2011

source: 2011 LPIS workshop Amsterdam

I have **not** failed.
I've just **found** 10,000
ways that won't work.

- Thomas Edison

Goalcast
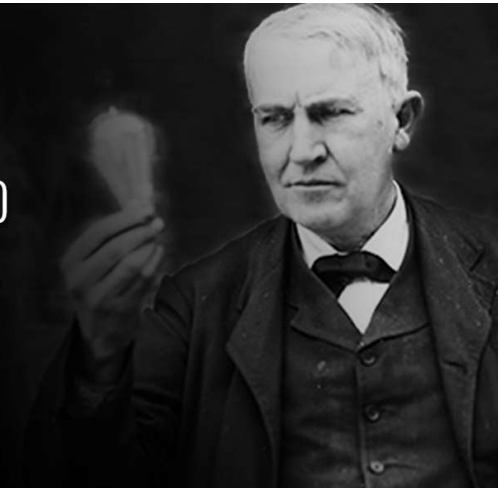
DOA

- positional accuracy test   2010
- central inspection through WFS   2011
- verification of declared quality   2012
- online UML-guidance   2015
- substitution of the 3/5/7% threshold   2017

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What was picked up en cours de route?

- benefit of the doubt   2011
- waivers for LPIS design options   2011
- crop measurement for parcel aggregation   2013
- QE1b: precision (the tail width)   2013
- conformance classes and non-conformities   2014
- QE2c: classification accuracy   2015
- MTS - lineage (IXIT) and metadata   2016

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What got removed?

- QE7: connection to OTSC-results
- connection to the CwRS-campaign (by dedicated imagery)
- the LPIS reference date (first 15/3, later 15/5)
- the GAC reference
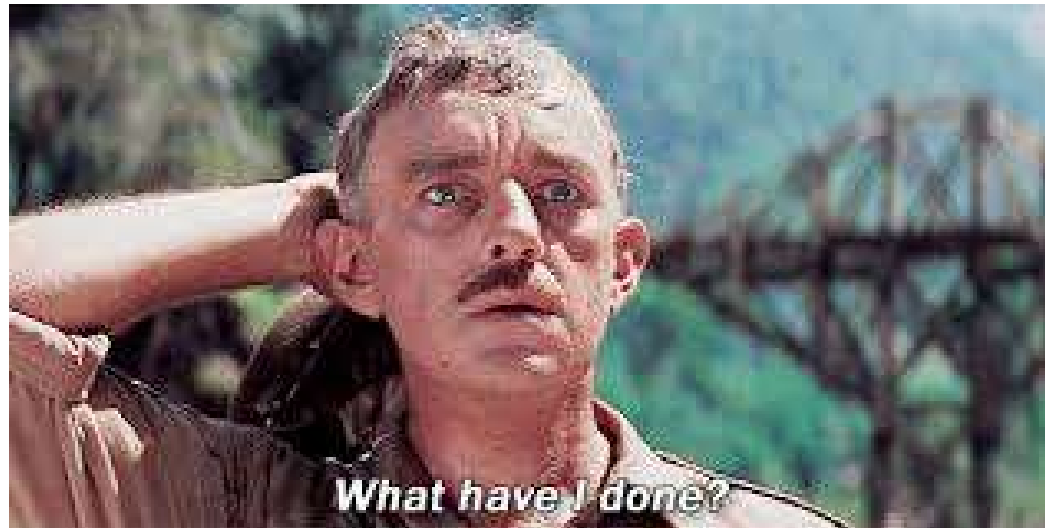
Lieutenant Colonel Nicholson

Screening reports

- 2014: Italy, Ireland, Lithuania, Netherlands, Romania, England (J3),

- 2015: Spain, BE-Flanders, Denmark, Finland, Scotland, Cyprus (J3),

- 2016: Slovakia, Greece, Latvia, (D3)

- 2017: Ireland, Croatia, Wallonie, Hungary (D3)

- 2018: Cyprus, Bulgaria, Czechia, Portugal (D3) and Slovenia, Austria, Spain (H3),
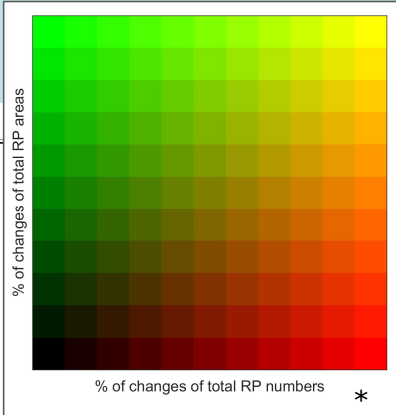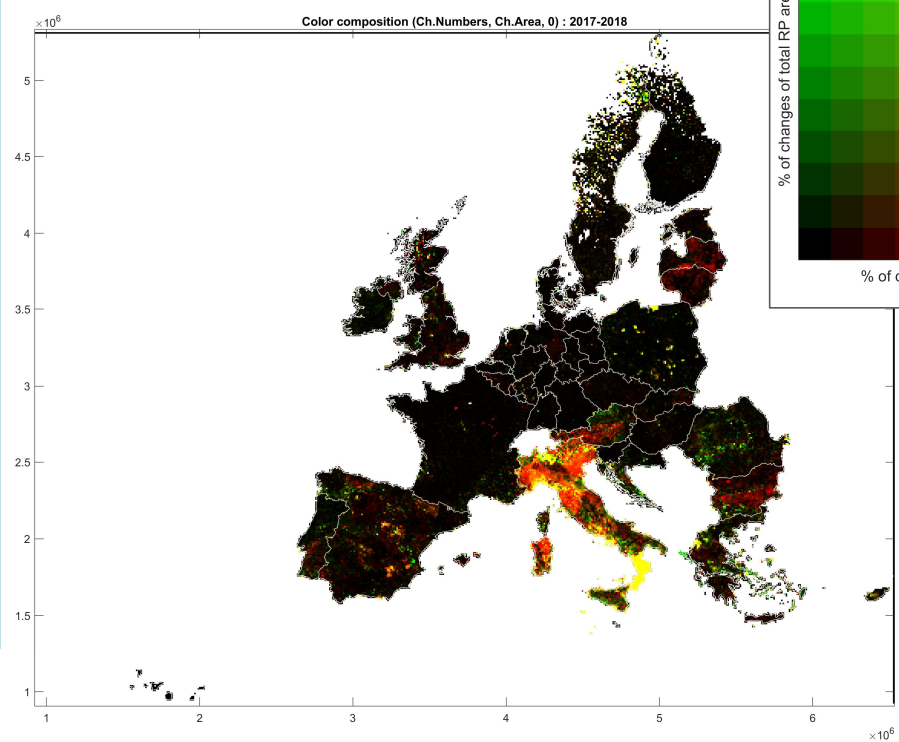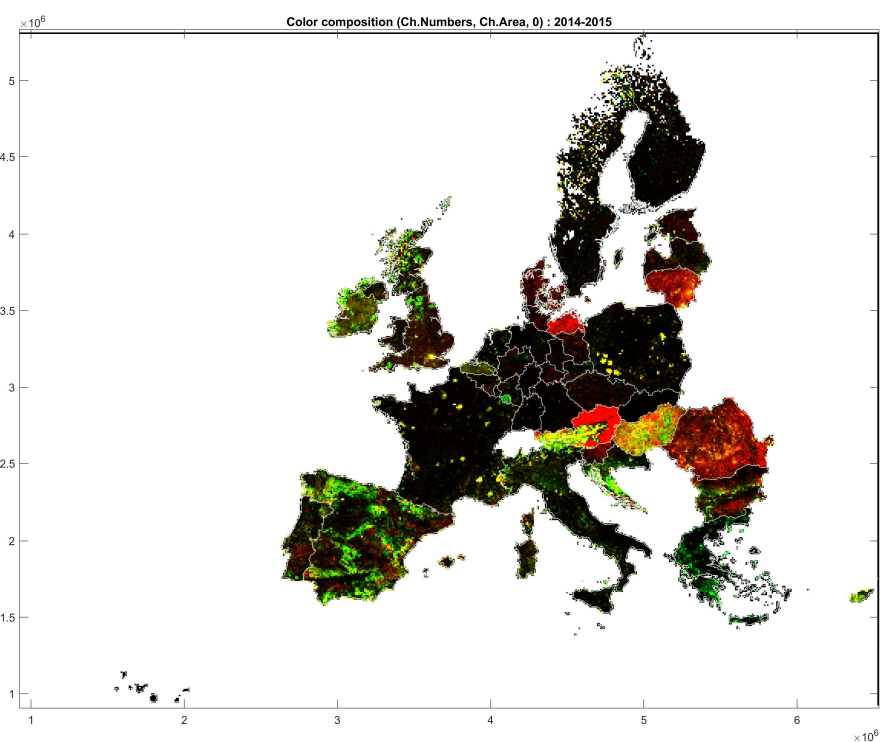
Legal definitions 2004-2010

- The identification system for agricultural parcels referred to in Article 20 of Regulation (EC) No 1782/2003 shall operate at reference parcel level **such as cadastral parcel, or production block** which shall ensure unique identification of each *reference* parcel.

- Member States shall, moreover, ensure that agricultural parcels are reliably identified and shall in particular require the single application to be furnished with particulars or accompanied by documents specified by the competent authority that enable each agricultural parcel to be located and measured. The GIS shall operate on the basis of a national geodetic system.

- The identification system for agricultural parcels referred to in Article 70 of Regulation (EU) No 1306/2013 shall operate at reference parcel level. A reference parcel shall **contain a unit of land representing agricultural area** as defined in Article 4(1)(e) of Regulation (EU) No 1307/2013. Where appropriate, ….

- Member States shall delimit the reference parcel in such a way as to ensure that the reference parcel is **measurable, enables the unique and unambiguous localisation** of each *agricultural* parcel annually declared and as a principle, is **stable in time.**

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Observed activity 2014-15 / 2017-18

2014-2015

2017-2018

Color composition (Ch.Numbers, Ch.Area, 0) : 2014-2015

Color composition (Ch.Numbers, Ch.Area, 0) : 2017-2018

% of changes of total RP areas

% of changes of total RP numbers *

*: red/green doesn't represent bad/good

Any questions?

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