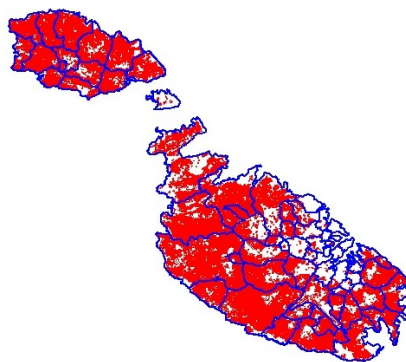
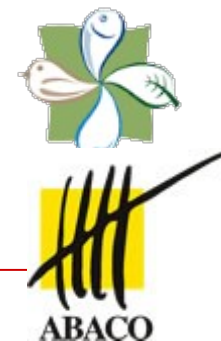


# LPIS IN MALTA

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LPIS Workshop 2008

Sofia 17-18th of September 2008



# Introduction

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- Changing the philosophy and interface of the existing system
  - On-line solution for Maltese LPIS, fully integrated within the IACS
  - Objectives :
    - Updating data in LPIS on-line, also during other IACS processes (i.e. Controls, CwRS, litigations, etc.)
    - Full re-use of data for other IACS processes (i.e. cross-checks, aid applications, Integrated Control System, etc.) and external systems
    - Flexibility, open-approach
    - Territory and Resource Planning (TRP) solution
-

# MRRA desires on the new IACS

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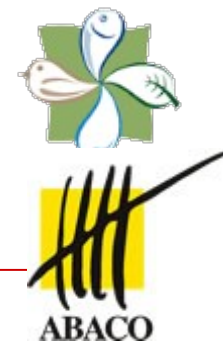
- Something pre-packaged, not to start “from scratch”
  - Limited time to deploy
  - Centralised approach , Open architecture
  - Covering EU-level legislation requirements
  - Able to re-use existing systems and information
  - Simplifying administrative processes: richer than basic requirements, as automated as possible
-



# How we reached the goal?

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- The new IACS with LPIS has been simply “installed”
  - We had some missing data related to eligibility, and lack of procedures (ex. Cross-checks): we created therefore an eligibility layer
  - Also had problems on positional accuracy of parcels: we adjusted the reference parcels and removed overlaps
  - Data were uploaded in the new system
  - It provided several GIS and administrative support for the farmers
  - The new system has achieved all the IACS objectives :  
Unique reference number, Reference area of parcels, Type of land use of parcels, Regular and complete coverage, Object: polygons (parcels), Mapping accuracy at least 1:10000, Access to graphical and alphanumerical data.
  - Regular updating.
-



# 2004 imagery specifications

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- Resolution: 15 cm
  - 40 check points were scattered across the whole territory
  - Measured accuracy is about 1.8 m
  - GCP's accuracy: 5 to 7cm
  - DTM generated from 1:2500 maps
  - Product has a high detail and a good radiometric quality
-

# VHR IMAGES SPECIFICATIONS

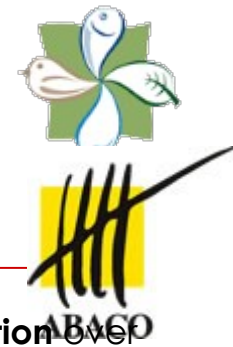
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- Updating of eligible areas was based on 2007 Quickbird image
  - Rectification and image processing has been done with correct accuracy
  - The pixel size of VHR image – 0.6m
  - 2008 Campaign was controlled with VHR 2008 (March '08) and SPOT images (June '08)
-

# Benefits of the new LPIS solution for the Paying Agency

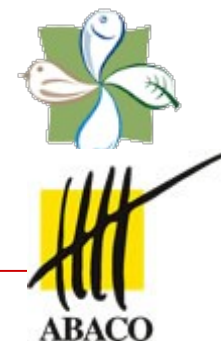
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- LPIS data is stored on a single **central server** and updated through a **web application** over the network
  - The total **operating costs** of the system **dropped** considerably
  - **Data security and protection** of personal information on a single server
  - Every operation performed by the agency's **personnel can be tracked**
  - **Enhanced tools** in the siticlient for editing polygons will help to avoid overlaps and unwanted intersections or gaps
  - Ability to visualise multitemporal images like 2004 orthophotos, VHR 2007, VHR 2008 and Spot 5 2008 enables a better updating strategy reflecting a better visualisation of land use change
  - The **Paying Agency** does not have to rely on external data producers and may **assume full liability for data** in the system
  - All LPIS **users** from the state administration as well as among farmers **have real-time access** to the same, immediately classified data
- 
- **ONLY 3 MONTHS TO HAVE A WORKING SYSTEM (FARM REGISTER, LPIS, ENTITLEMENTS REGISTER, AID APPLICATIONS).**
  - **ANOTHER 3 MONTHS TO DEFINE RULES FOR THE INTEGRATED CONTROL SYSTEM, AND INTERFACES TO PAYMENT AND ACCOUNTANCY**
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# Benefits of the new LPIS solution for the Paying Agency

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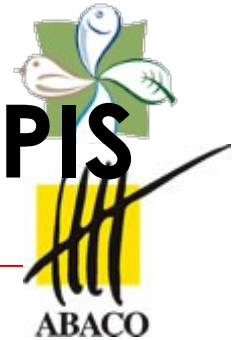


- The control of compliance with aid rules has been facilitated for the paying agency, making the **control much more efficient**
  - *It allows providing farmers with matter-of-fact information about which aid titles for which parcels they may apply to.*
  - *It is possible to **meet the EU's conditions for aid administration** under the common agricultural policy in a timely manner and provide access to EU funds*
  - *New regulations regarding the CAP can be easily implemented*
  - LPIS is an **independent reference register** and data in it is updated **independently from the aid application administration process at the paying agency**
  - **It is not possible to approve an aid application concerning a parcel whose data as specified by the farmer are found inconsistent with the data in LPIS.**
  - The paying agency also uses LPIS to prepare and evaluate physical on-the-spot checks.
-



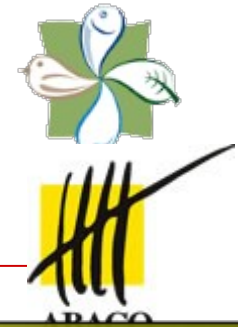
# Basic elements of the current LPIS

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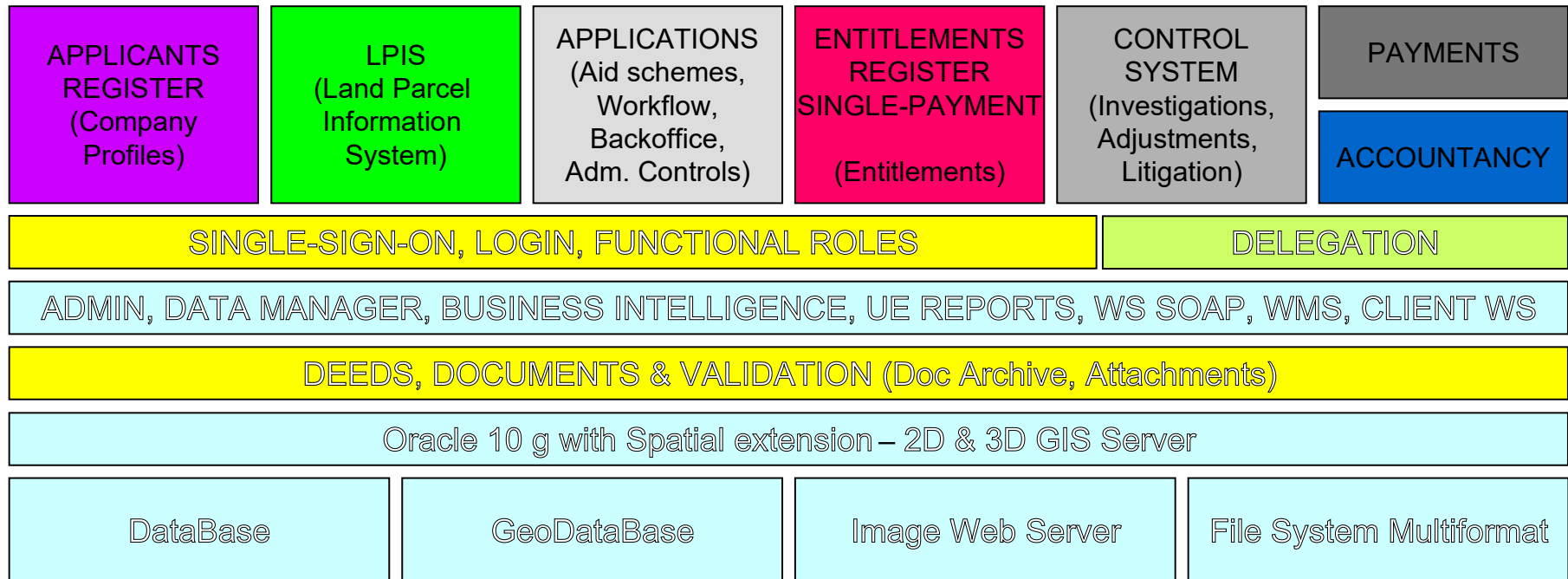


- A **reference land register** to **verify information in aid applications**
  - Detailed layer of different land-use and environmental data
  - Several automated processes to keep the information updated at all levels
-

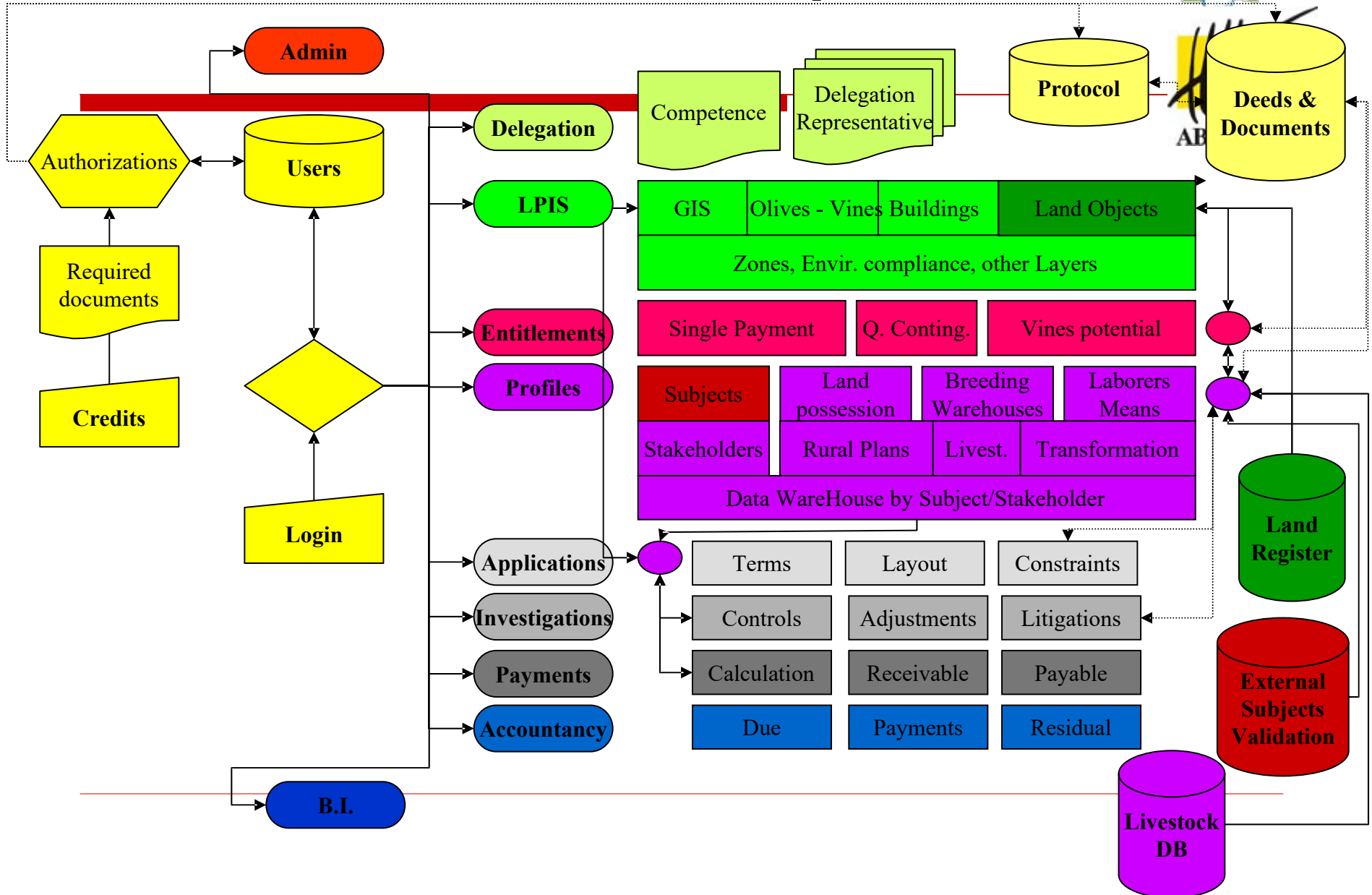
# IACS and LPIS



## INTEGRATED ADMINISTRATION AND CONTROL SYSTEM ON INTERNET FOR THE EU CAP REFORM



# IACS information dependencies



# Which Reference Parcel?

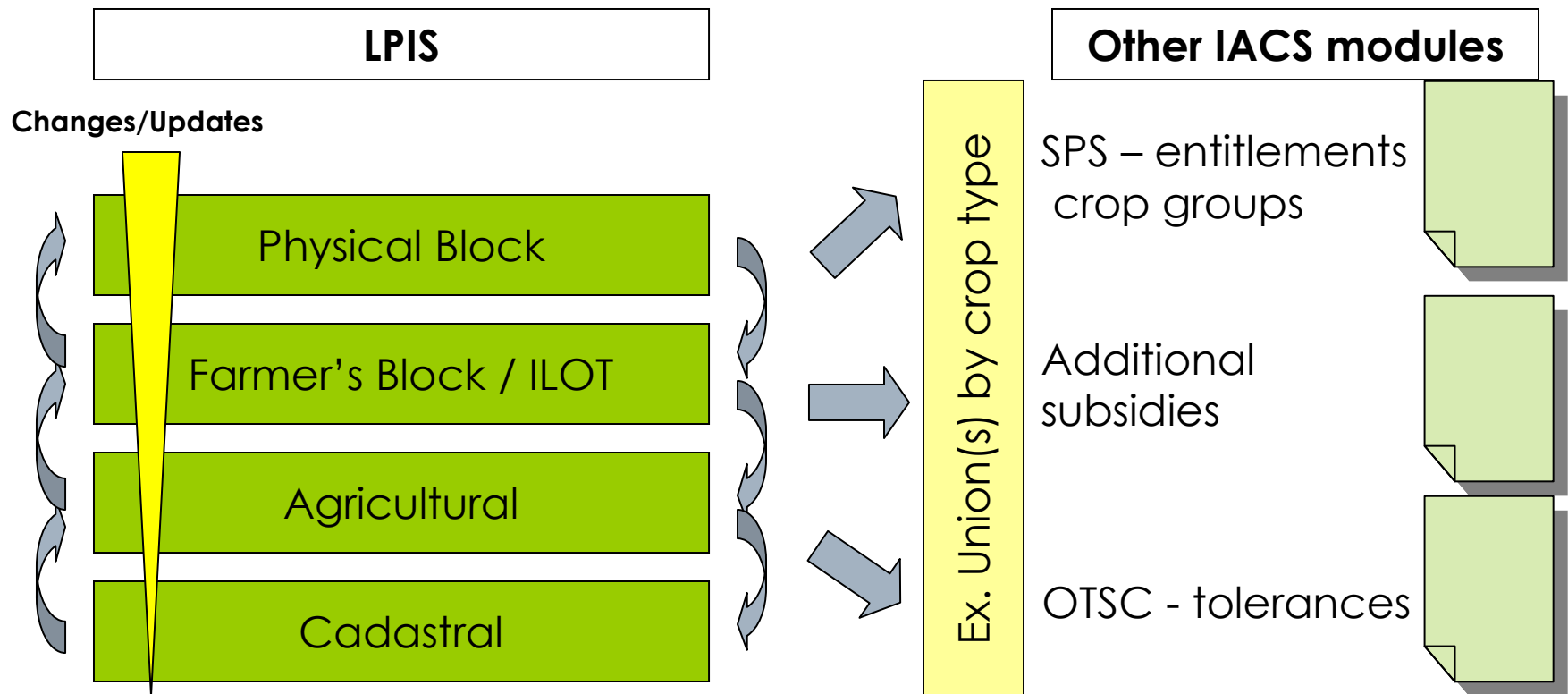
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# Which Reference Parcel?



All have pros and cons, if seen as support to other IACS modules  
Is it possible to have them all in the system? Yes: Spatial functionalities





# Dynamic Reference Parcels

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- Follow the LPIS Core Data Model
  - Changing the boundary of RP (at any subtype level) propagates changes to other subtypes.
  - Most of the RP attributes are simply calculated on-the-fly based on spatial functionalities
  - “Union” and “Intersection” spatial operators can be used to switch from one to the others
-

# Dynamic Reference Parcels



Elenco Isole Aziendali

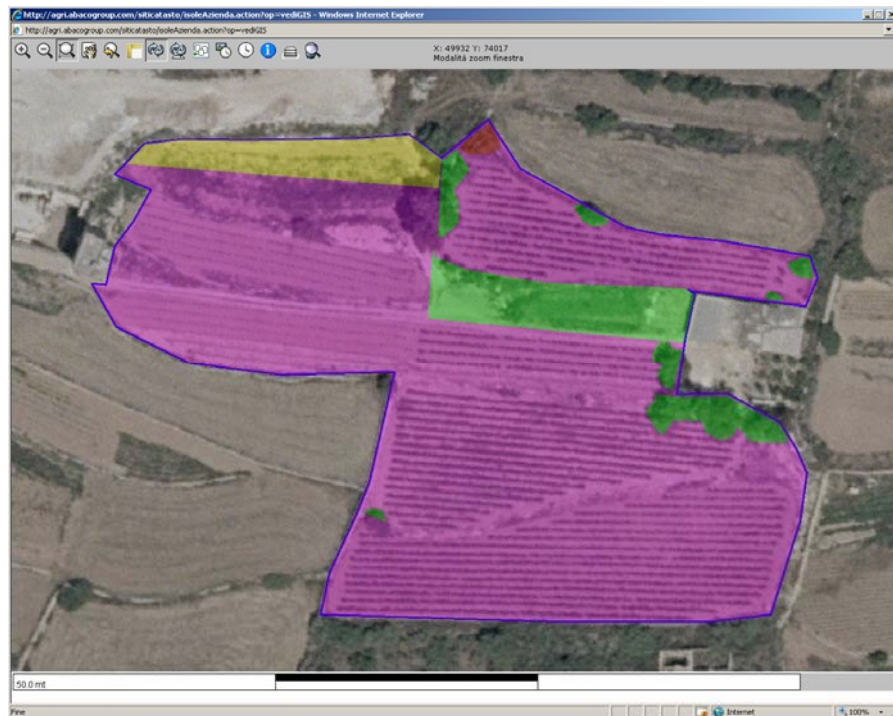
Comune	Num. Part.	Sup. Blocco	Sup. colt.	Sup. suolo	Check Dich.	Check Eleg.	Cata. Part.	Agri. Part. Eleg
001012 - ATTARD (ML)	1	7.884	7.860	7.885				
001044 - NAXXAR (ML)	7	8.263	7.451	8.264				

Parcelle agricole (per eleggibilità)

Cod. Eleg.	Superficie	Tolleranza
1-CULTIVABLE AREA	400	12%
2-VINES	7.072	81%
3-PERMANENT TREE CROPS	14	1%
3-PERMANENT TREE CROPS	57	2%
3-PERMANENT TREE CROPS	15	1%
3-PERMANENT TREE CROPS	4	0%
3-PERMANENT TREE CROPS	485	13%
3-PERMANENT TREE CROPS	33	2%
3-PERMANENT TREE CROPS	149	4%
3-PERMANENT TREE CROPS	4	1%
5-NON ELIGIBLE AREA	28	2%

Area dichiarata (per eleggibilità)

Cod. Eleg.	Sup. Min.	Tolleranza	Sup. Max.
1-CULTIVABLE AREA	400	12%	400
2-VINES	7.072	73%	7.081



00228498 - FENECH GIO MARIA

Situazione alla data: ATTUALE

Comune corrente: Tutti i comuni

Ricerca foglio/particella: Certa

Filtro anomalie: (Nessuno)

Filtro unità arboree: (Nessuno)

Filtro uti: (Nessuno)

Particelle da 1 a 9 di 9

ID Part.	Comune	Foglio	Particella	Superf. Cat. (Mq.)	Tipo Titolo	Superf. cat. (Mq.)	Data inizio	Data fine	Atti lit. ab.	Atti ab.	Stack
61584	ATTARD	4871	68	7.884	SELF DECLARED	7.884	28/04/2003				...
92482	NAXXAR	4873	13	1.996	SELF DECLARED	1.996	28/04/2003				...
92483	NAXXAR	4873	15	1.436	SELF DECLARED	1.436	28/04/2003				...
92486	NAXXAR	4873	18	1.235	SELF DECLARED	1.235	28/04/2003				...
92499	NAXXAR	4873	17	485	SELF DECLARED	485	28/04/2003				...
93130	NAXXAR	4873	21	958	SELF DECLARED	958	28/04/2003				...
93131	NAXXAR	4873	22	1.071	SELF DECLARED	1.071	28/04/2003				...
93132	NAXXAR	4874	15	884	SELF DECLARED	884	28/04/2003				...
934821	NAXXAR	4874	58	472	SELF DECLARED	472	28/04/2003				...

# Elementary identification unit in LPIS

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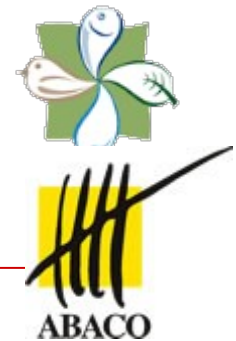


- The starting Reference Parcel for Malta has been a combination of the Agricultural Parcel and the ILOT, thus representing **a continuous area of agricultural land with one crop type, cultivated by one farmer (or more than one crop type).**
  - Individual data can be categorized as follows:
    - **Data reported by the farmer**
    - **Data calculated by the system by means of intersection/union with other geographical parcels**
    - **Data calculated by the system in relation to the digital terrain model (ex. LFAs)**
    - **Data computed by the system as a combination of several criteria (risk, conditionality)**
  - By means of spatial functionalities we always calculate/get the best Reference Parcel subtype needed to simplify the respective administrative process
-



# Area measurement of the dynamic RP

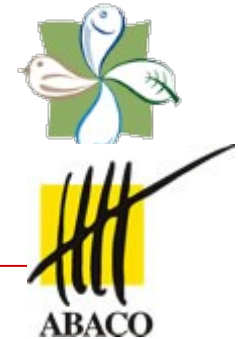
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- A basic Area is calculated for each parcel created as soon as a polygon is digitised by Abaco's Siticlient Software
  - For Malta, the system registers at first the Reference Parcels, a building block of the final **reference area for subsidies.**
  - The LPIS calculates the total dynamic RP Area and tolerances when needed (ex. aggregating Agricultural Parcels and/or ILOT)
-

# Land use layer

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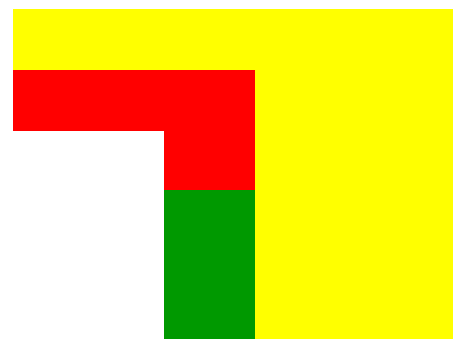
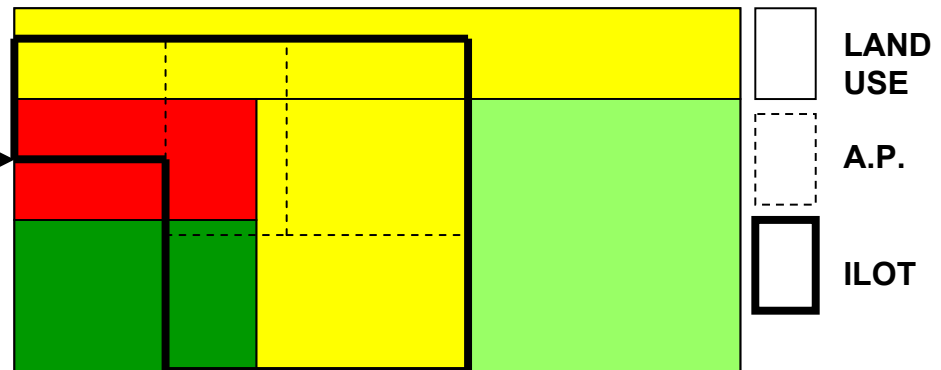
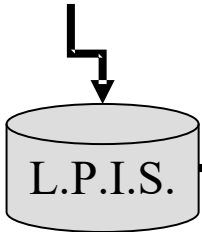


- Maltese LPIS differentiates 10 basic land use categories stored in separate layer:
    - cultivable area
    - permanent tree crops
    - water reservoirs
    - non-agricultural land
    - walls
    - buildings
    - streets/pathways
    - olives
    - reeds
  - The land use category:
    - declared by the farmer
    - interpreted during LPIS updating (CwRS, CAPI)
  - The land use category is verifiable by the Agency
-

# Intersecting the Land-use layer

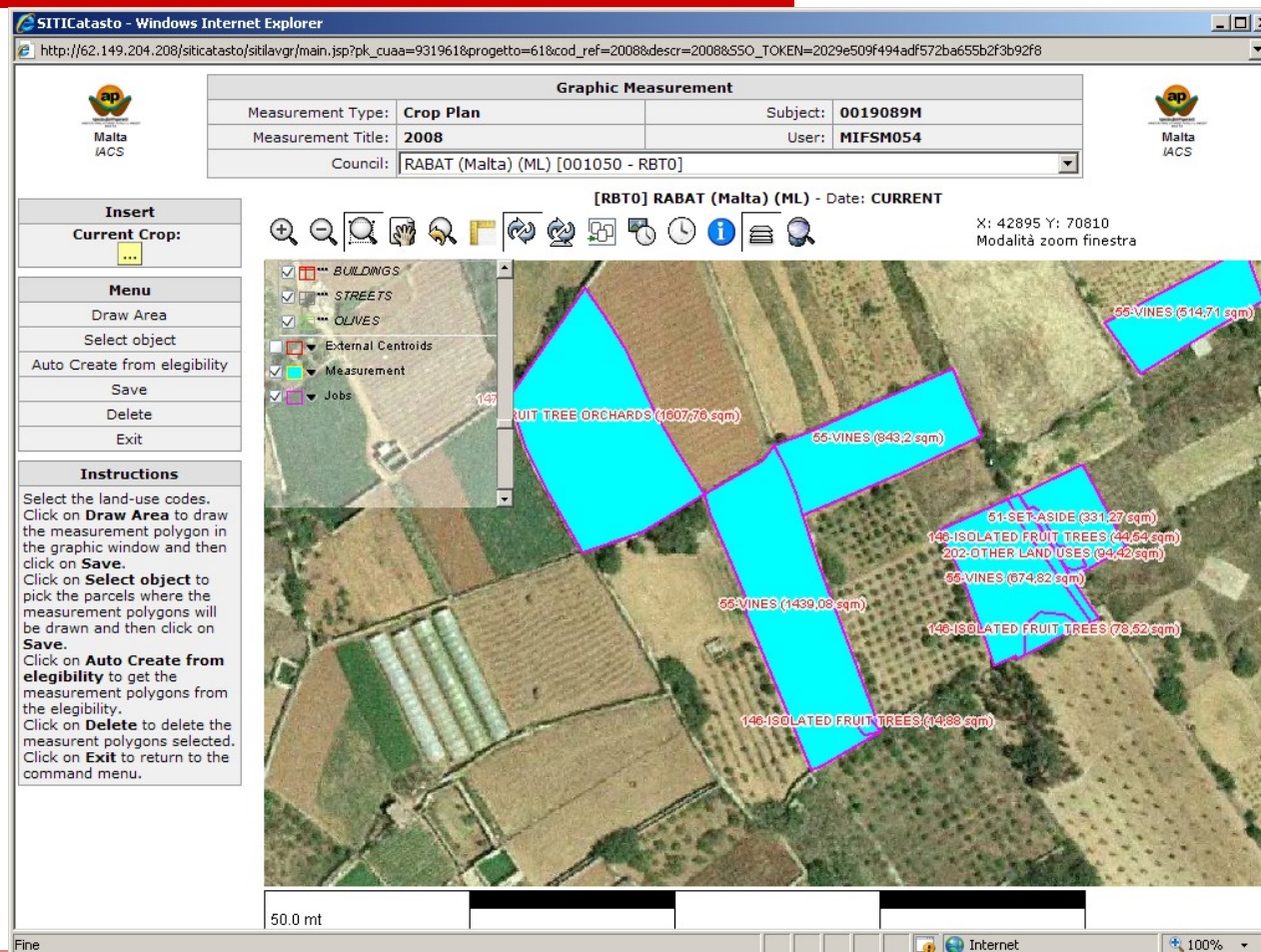


FARMER



FARM  
LIMITS

# A new layer, the crop plan



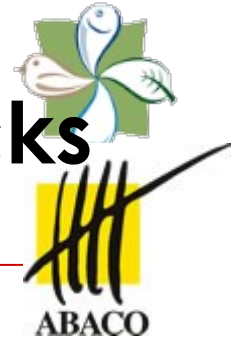


# Rules for updating the core of LPIS

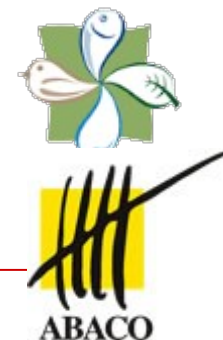
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- Farmers - report any change in parcel boundaries,
    - any change in the person of the user
    - any change in the land use category
  
  - The farmer may initiate the following types of farmer's parcel modifications in the system:
    - **change in the person** using the farmer's parcel
    - **change in the boundary** of the farmer's parcel
    - **change in the land use category** in the parcel
    - **partial or complete cancellation of parcel usage**
  
  - Changes may be initiated also by the Paying Agency based on its own inspection findings
-

# Verification of Data and Cross checks



- 
- LPIS primarily serves for verifying information in aid applications:
    - the applicant's farmer's parcel cited in his/her aid application
    - the user, area, and land use category of a farmer's parcel
  - **the risk of origination of a double claim for aid for the same parcel is considerably reduced => less administrative work for litigations!**
  - Duplicity at the moment of application submittal occurs very rarely, due to a deliberately fraud on the part of the applicant, who knowingly specifies in his/her application on a parcel that is registered under someone else's name in LPIS
  - However, thanks to continuous on-line reference checking against LPIS, such an illegitimate aid application will be discovered very quickly and then rejected.
-



# LPIS for the IACS components

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- For the applications management system
    - ③ With proper spatial queries, the correct data are filling the applications forms (based on subsidy type), automatically
    - ③ Less errors, and less time to check
    - ③ Subsidies requests under control, or with anomalies, are immediately available
  
  - For the Integrated Control System
    - ③ Proper information is given for OTSC
    - ③ Samples extraction can be based on information coming from graphical layers, and can be different for each application type
    - ③ Feedback from CwRS or from field visits is immediately available
-

# Into the Future

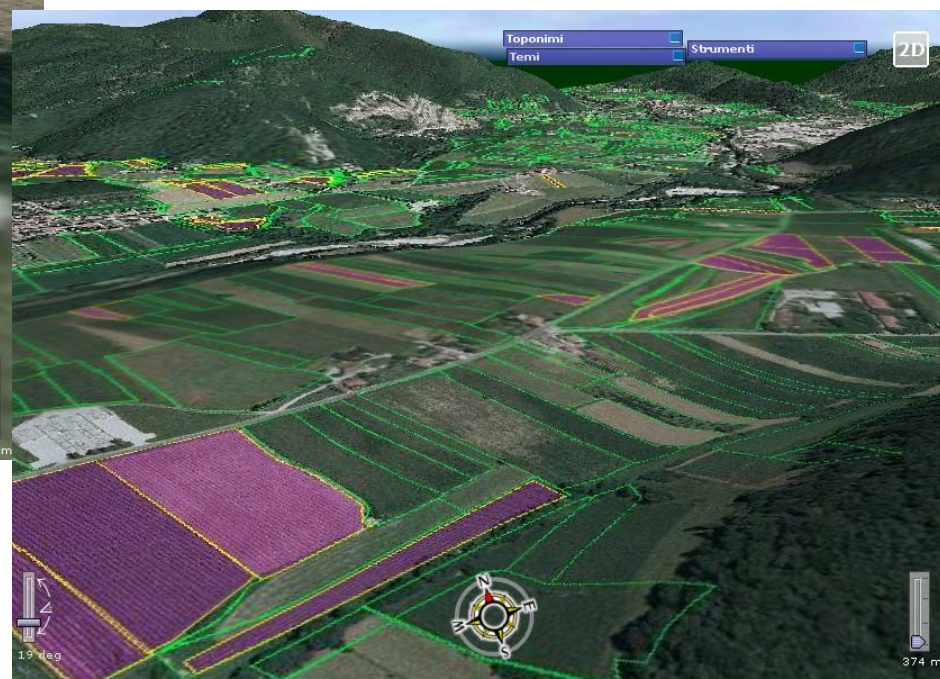
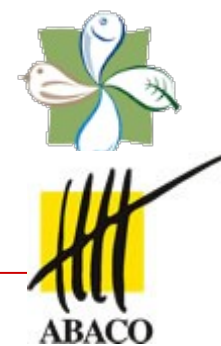
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- The system already supports GPS capabilities for On-the-field checks and feedbacks (Palm devices), that we are evaluating to introduce
  - The system already supports Farm Advisory Services, through reliable and secure delegation (already used for MRRA local offices)
  - The system provides a full 3D coverage, which we are planning to exploit
-



# ...3D



# Conclusion

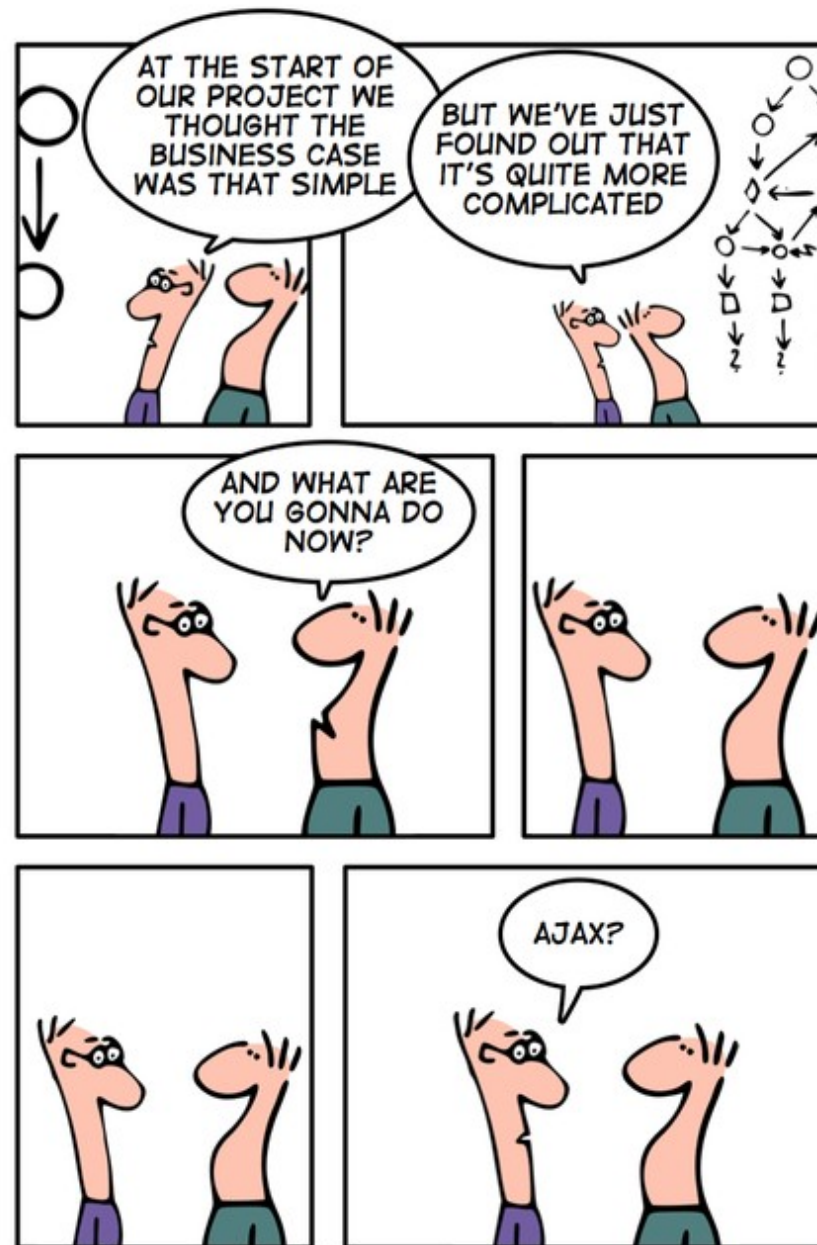
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- Second generation IACS exist, allowing to concentrate on local processes. Non need to start “from scratch” with big projects. Buy-vs-build is now possible.
  - Involving all processes with proper integration, allows data to be constantly maintained, seamlessly
  - Spatial technology allows to avoid data duplication and storing of information, that can be obtained on-the-fly
  - Applying early checks, diminishes administrative work and litigations
  - PA employees and farmers are definitively happier
-

# Thanks

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*geek and poke*

