



# Giselle Controls







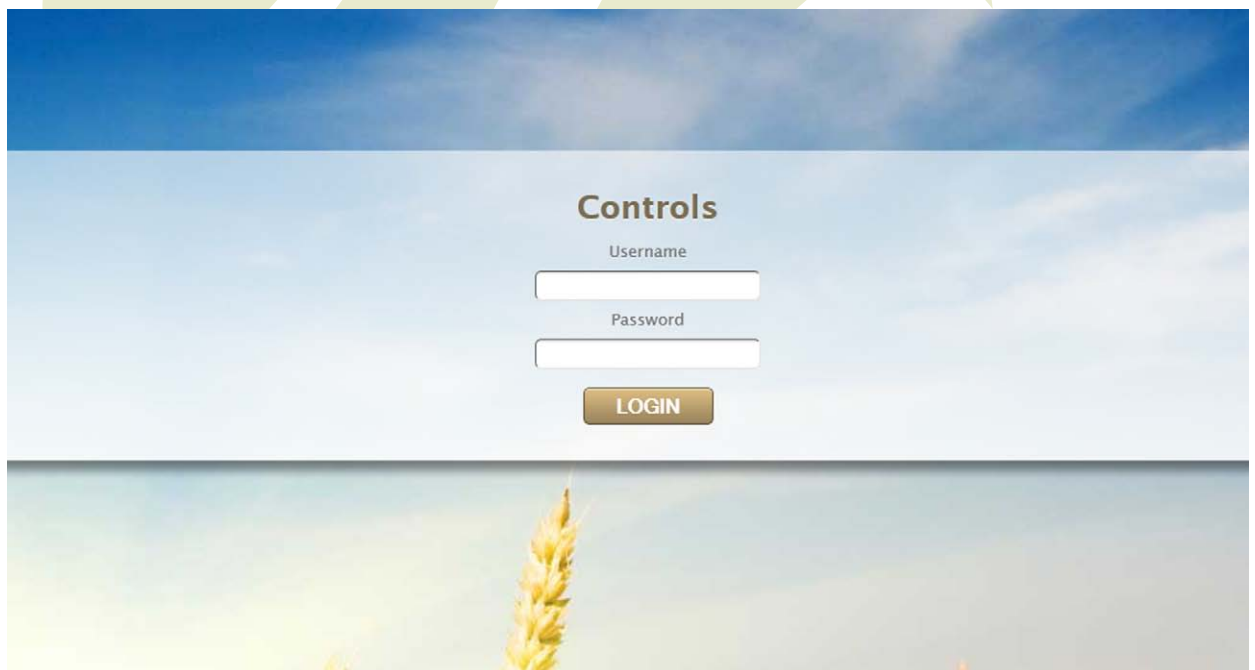
# 1 EXECUTIVE SUMMARY

Efficient controls of agriculture subsidies are required to assure proper distribution of public funds. Giselle Controls suite has been developed to support the process of on the field evaluation according to the EU Regulations 1782/2003, 796/2004, 795/2004, 118/2005 and other amendments.

The system supports on-the-spot controls including cross-compliance control and remote sensing and software for risk analysis and field reporting. Other measures are also implemented, such as animal controls, greening and similar.

The on-the-spot checks system can be installed on the laptop for off-line field inspection. Equipped with GPS receivers, latest aerial photography and satellite images the inspectors perform measurements for claimed parcels and compare the overlays with imported claimed data. Tolerance calculation, GAEC checks and classification of parcels are supported to finalize the control immediately, providing the inspector all necessary data to explain results to the farm holder.

The software assures flexibility, accuracy and proper flow of the process, which greatly reduces the effort, time and number of errors.





## 2 THE PROCESS OF ON-THE-SPOT CONTROLS

### 2.1 Overview

The application supports all steps of the on-the-spot controls process:

- risk analysis
  - ✓ selection of farms to be inspected according to the legislation
- logistics
  - ✓ assignment of controls for users
- preparation of supportive layers
  - ✓ aerial photography
  - ✓ LPIS data
  - ✓ land use data
  - ✓ results of previous on-the-spot checks
  - ✓ ...
- downloading of data from the central location to laptop
- printing of paper maps
- export and import to/from GPS device (SHP file)
- post-processing of the data on the laptop
  - ✓ overlays of data layers
  - ✓ report of the findings
  - ✓ attachment of photos
  - ✓ calculation of tolerances
- printing a report for signature
- upload of control results from laptop to the central database
- super-controls
- upload of on-the-spot controls for other registers (LPIS, etc.)

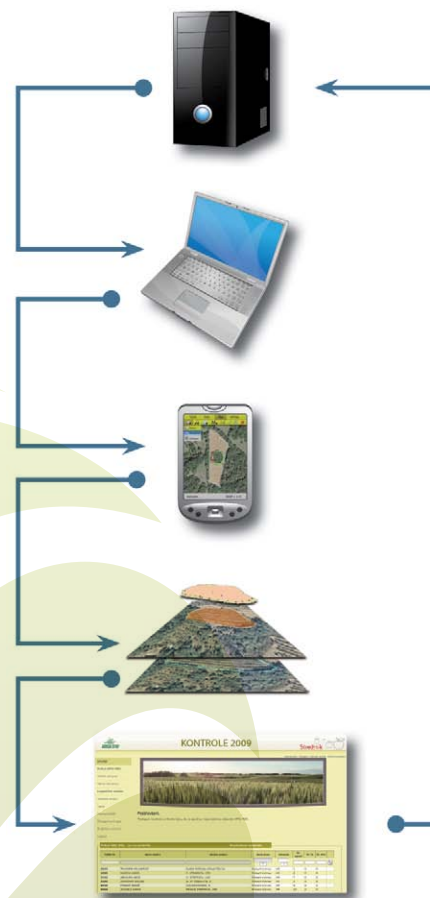


Figure 1: Giselle Controls workflow



## 2.2 Process from the inspector's point of view

Kontrola

Vidmar

Logout

HR

EN

Server

List of controls

Management application

Administering controls

Administration

Statistics

MEETING MINUTED

NUMBER

STATUS

CONTROL KIND

NAME

ADDRESS

CONTROLLER

STATUS

ST


<u>100058</u>	100058/AC/2/1	Završen	4E	10716-1000	10716, 30-40000 Maribor, Sis	Thomas Bardi	Čeka unos	NE
<u>100058</u>	100058/AC/2/1	Obavljena Kontrola 4 oka	AC	10716-1000	10716, 30-40000 Maribor, Sis	4028-1000000	Čeka unos	NE
<u>100058</u>	100058/IACS/3/1	Završen	4E	10716-1000	10716, 30-40000 Maribor, Sis	Madison Tonn	Čeka unos	NE
<u>100058</u>	100058/IACS/3/1	Obavljena Kontrola 4 oka	IACS	10716-1000	10716, 30-40000 Maribor, Sis	4028-1000000	Čeka unos	NE
<u>100061</u>	100061/AC/2/1	Završen	4E	10000-10000	10000, 30-40000 Maribor, Sis	Maria Bardi	Čeka unos	NE
<u>100061</u>	100061/IACS/3/1	Završen	IACS	10000-10000	10000, 30-40000 Maribor, Sis	Madison Tonn	Čeka unos	DA
<u>100061</u>	100061/IACS/1/1	Obavljena Kontrola 4 oka	IACS	10000-10000	10000, 30-40000 Maribor, Sis	Maria Bardi	Čeka unos	NE
<u>100061</u>	100061/AC/2/1	Obavljena Supervizija	AC	10000-10000	10000, 30-40000 Maribor, Sis	Maria Bardi	Čeka unos	NE
<u>100061</u>	100061/IACS/1/1	Završen	4E	10000-10000	10000, 30-40000 Maribor, Sis	Madison Tonn	Čeka unos	NE
<u>100061</u>	100061/AC/2/1	Završen	SV	10000-10000	10000, 30-40000 Maribor, Sis	Madison Tonn	Čeka unos	NE
<u>100062</u>	100062/IACS/1/1	Obavljena Kontrola 4 oka	IACS	10000-10000	10000, 30-40000 Maribor, Sis	Maria Bardi	Čeka unos	NE
<u>100062</u>	100062/IACS/1/1	Završen	4E	10000-10000	10000, 30-40000 Maribor, Sis	Maria Bardi	Čeka unos	NE
<u>100079</u>	100079/IACS-1/1/1	Čeka unos	IACS-I	10000-10000	10000, 30-40000 Maribor, Sis	Madison Tonn	Čeka unos	NE

Figure 2: List of controls

On-the-spot checks procedure starts by choosing the farm holding. The table shows most important data (farm holder name, address) to help inspector to find the location.

Preparation of inspector's package includes:

- maps in proper scale levels, including index maps;
- printout of submitted claim,
- pre-print of inspection results to be used as for notes.



**REPUBLIKA SLOVENIJA**  
**AGENCIJA ZA VARNOST ŽIVILSKIH PRODUKTOV**  
 AŽP - AŽP RS  
 Vlada Republike Slovenije  
 1000 Ljubljana, Slovenija  
 Tel: 01 4785 20 00, Fax: 01 4785 20 09  
 E-pošta: azp@azp.gov.si

**IZJAVIŠTA O KONTROLI NA TERENU ZAHTEVA ZA IZRAVNAVNA PLANIČANJA, POTPORAMA ZA EKOLOŠKI IN INTEGRIRANO POLJOPRIVREDNO PROIZVODNJO IN POTPORAMA ZA PODRUČJA S TEŽJO VARNOSTNO GOSPODARENJA U POLJOPRIVREDI**

**(OPCI DIO)**

Brj izjavitelja/kontrola: 10084645C541

Kontrola je prevedena: meseca 11, 15, 1. 2. Zakona o delitvi pravega poljoprivrednega in ravnalnemu seznamu (DN-PZ/2016, na poljoprivrednem gospodarstvu):

Naziv PG: 10084645C541

MBPG: 10084645C541 je prejel/a kontrola: 10084645C541

Likovi: 10084645C541, na področju: 10084645C541

Tražilnica/bli PG: 2 imenita: 1, s kmeti: 10084645C541

Kontrolir: 1 Robert Vidmar: 2 \_\_\_\_\_

Je ali ni na PG GPC pravnica: ne kontrola: ne, član gospodarnika: 1 imenita: 1 član je prejel/a kontrola: 1

Imenita pravnica/izvajalca je pravnica: ne obsega izkustva: 1 vsebuje delovni: 1 pravnica: 1, hr \_\_\_\_\_

Ali je kontrola prejel/a pravnica pravnica: ne kontrola: ne pravnica pravnica: ne

Strela je bila uspešno obdelana v svojem delu kontrola: ne

☐ DA ☐ NE ☐ NP

Čas: \_\_\_\_\_ uletnost: 1 pota pota: 1 daga: 1

Razlog razlog kontrola: 1 razlog: \_\_\_\_\_

Potrebna kontrola na temo dana: \_\_\_\_\_ uletnost: \_\_\_\_\_

Priloga kontrola je uspešno kontrola na temo: \_\_\_\_\_

☐ DA ☐ NE ☐ NP

Potrebna kontrola na temo dana: \_\_\_\_\_

Uletnost kontrola: 1 razlog: \_\_\_\_\_

Uletnost kontrola: 1 razlog: \_\_\_\_\_

Strela je bila uspešno obdelana v svojem delu kontrola: ne

☐ DA ☐ NE ☐ NP

Kontrola je prevedena dana: \_\_\_\_\_ uletnost: \_\_\_\_\_

Travnica kontrola: 1 razlog: \_\_\_\_\_

Strela je bila uspešno obdelana v svojem delu kontrola: ne

☐ DA ☐ NE ☐ NP

Kontrola je uspešno prejel/a kontrola: ne na temo dana kontrola: ne

☐ DA ☐ NE ☐ NP

Izjavitelj je prejel/a kontrola: ne kontrola: ne kontrola: ne

Strela je bila uspešno obdelana v svojem delu kontrola: ne

Je ali ni kontrola prejel/a kontrola: ne

☐ DA ☐ NE ☐ NP

Potrebna kontrola: \_\_\_\_\_ 2. \_\_\_\_\_ Potrebna kontrola: \_\_\_\_\_

☐ DA ☐ NE ☐ NP

Brj izjavitelja/kontrola: 10084645C541

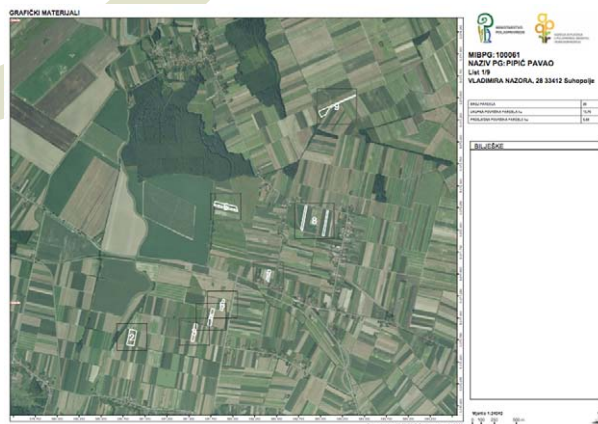


Figure 4 and 5: Sample of printed maps

Figure 3: Sample of submitted claim



The process continues using GPS device (either by using standard GPS software or Giselle Mobile) - data about parcels are transferred to the device to offer support (Figure 6).

GPS measurements are transferred back to the computer for post-processing (Figure 7). On the left side of the main window of the application is a table with a list of reference parcels.

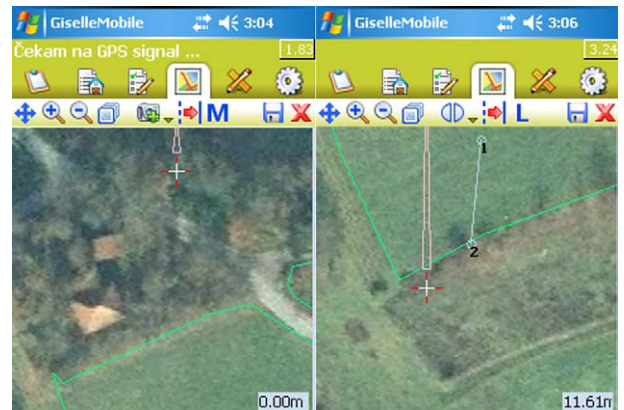


Figure 6: Giselle Mobile on Windows Mobile

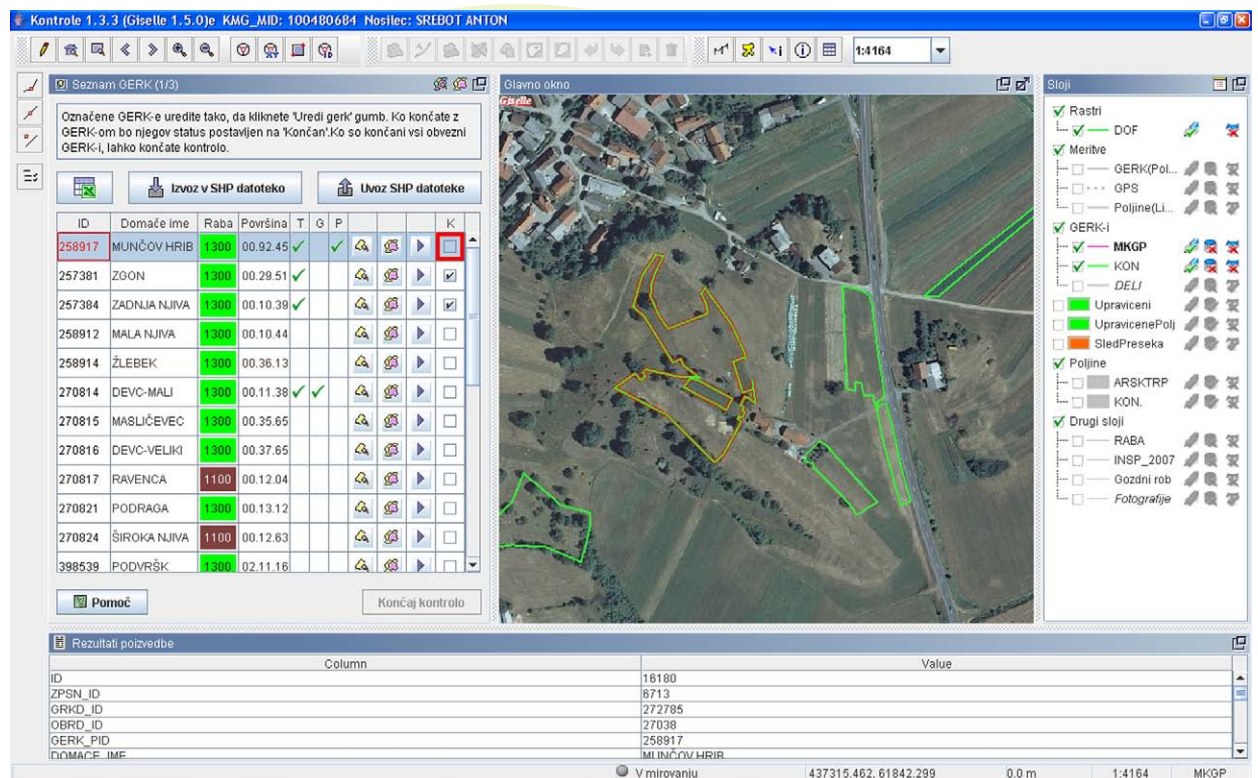


Figure 7: Desktop application Controls with parcel list on left side

The inspectors perform the field inspections according to GPS measurements, latest aerial photos, aid application data and other control layers. All discrepancies between reported data from database and on-the-field situation are then compared and evaluated (Figure 8).

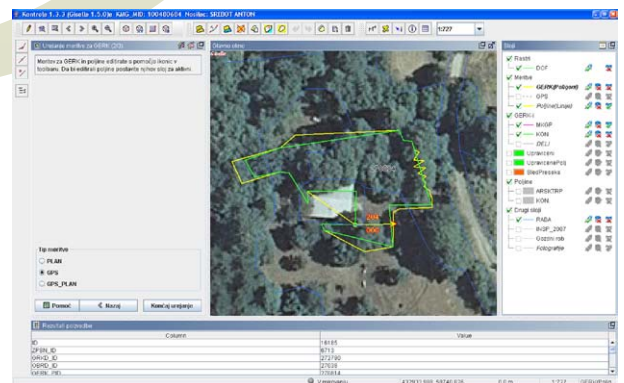


Figure 8: Managing discrepancies between reported data



Inspectors can split a parcel into several parts to equip every part with observation notes.

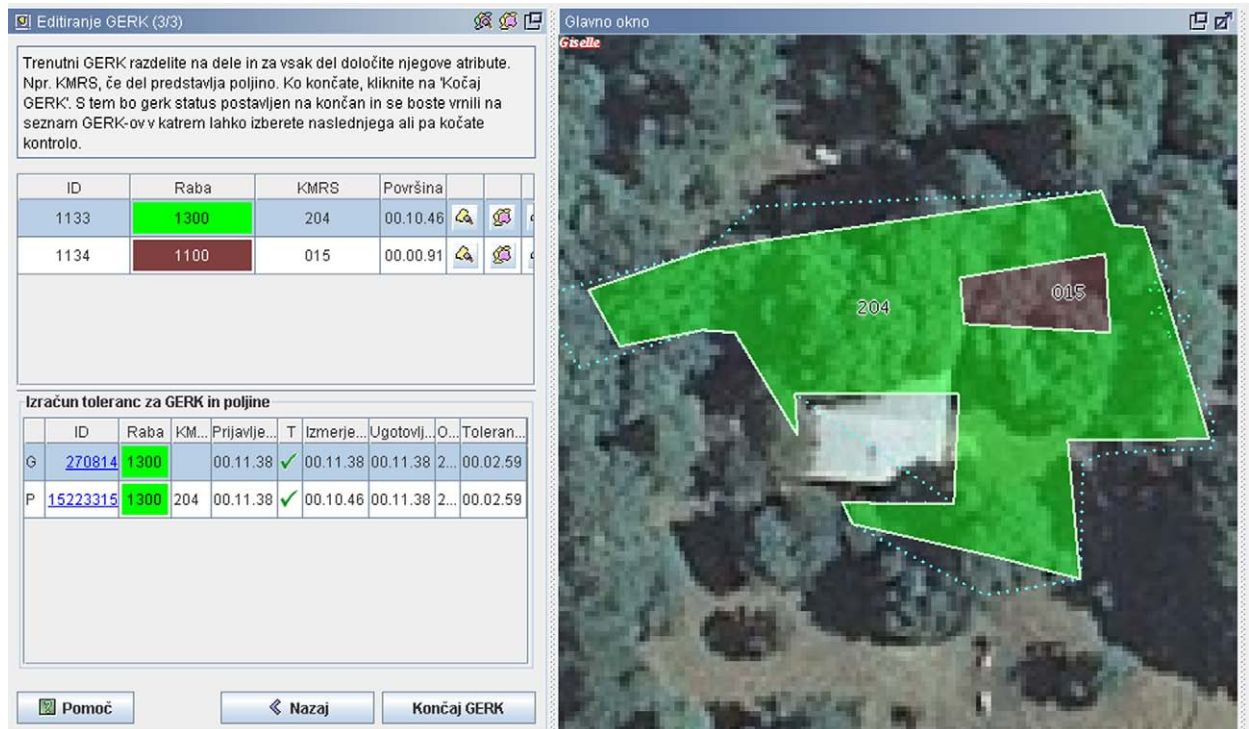


Figure 9: Splitting parcel

All observations and evidence (including photography) are reported to the database (Figure 10).



Figure 10: Attaching photo to a parcel

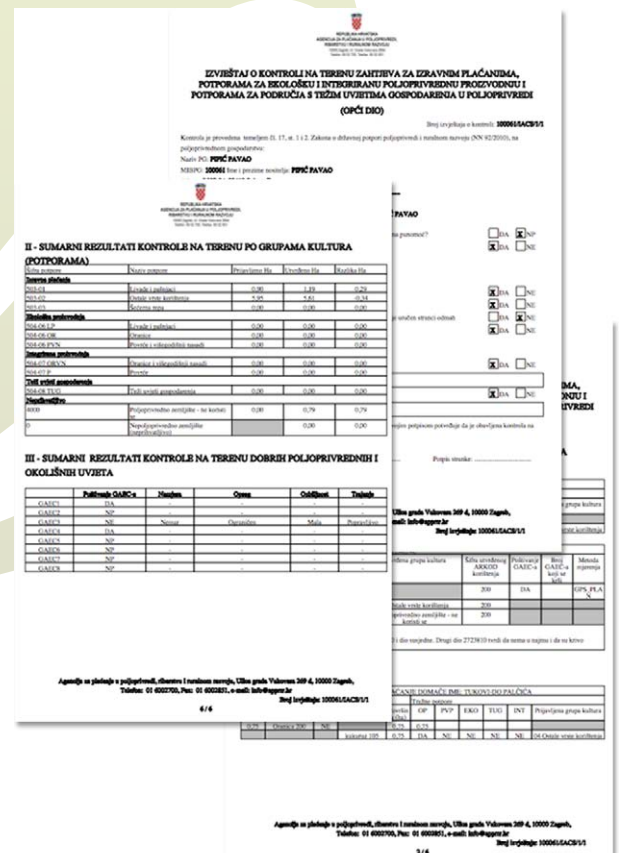


Figure 11: Finished reports

These new data are the basis for generating an inspection report PDF (Figure 11).



## 2.3 Integration of process-flow

Design of the controls process is usually focused only to determine what is eligible area and what not - simply due to the focus on preventing improper payments. However, when one is trying to use the findings to update the LPIS, it becomes clear that some processes do need major refinement. Either to support automatic procedures or simply to provide the person updating the LPIS enough information so that he/she can make a right decision. Amongst the improvements over the last couple of years are:

- The result of the control is topologically correct set of polygons (parcel parts), which do represent whole reference parcel area and newly found neighbourhood areas.
- Post-processing of the results is necessary in order to eliminate GPS measurement errors.
- Each finding should contain documented proofs - digital photos with exact location and bearing. This is very important to be able to interpret the results in the office and it protects us at the court of law.
- GPS tracks should be stored both in original form and post-processing form. We went one step further (having implemented also the GPS part of the workflow we do control whole process in details) - we are storing metadata about each point being recorded by the GPS (time, HDOP, EGNOS availability etc.).



Figure 12: green GPS points were taken using EGNOS correction, red one without it, probably due to a shadow of the trees

All of these data give us great insight into the quality of the control and accuracy of specific findings. Additionally, they do provide some form of control over the work of inspectors (Figure 13).



Figure 13: orange arrows represent locations of photos, pointing to the object being photographed. Each photo contains also notes and meta-data.



### 3 CONTROL WITH REMOTE SENSING

CwRS process is similar to on-the-spot checks, however, it starts with photo-interpretation using satellite imagery. Rapid field visits are also supported (Figure 14).

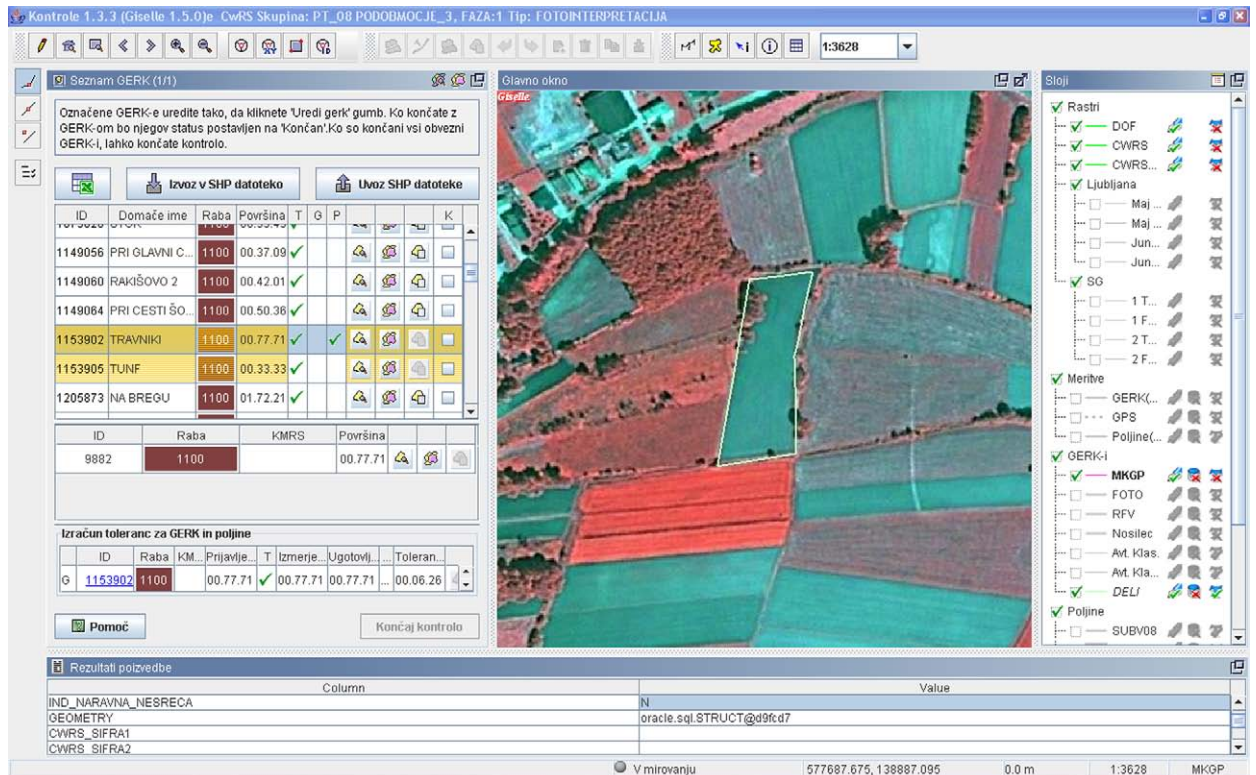


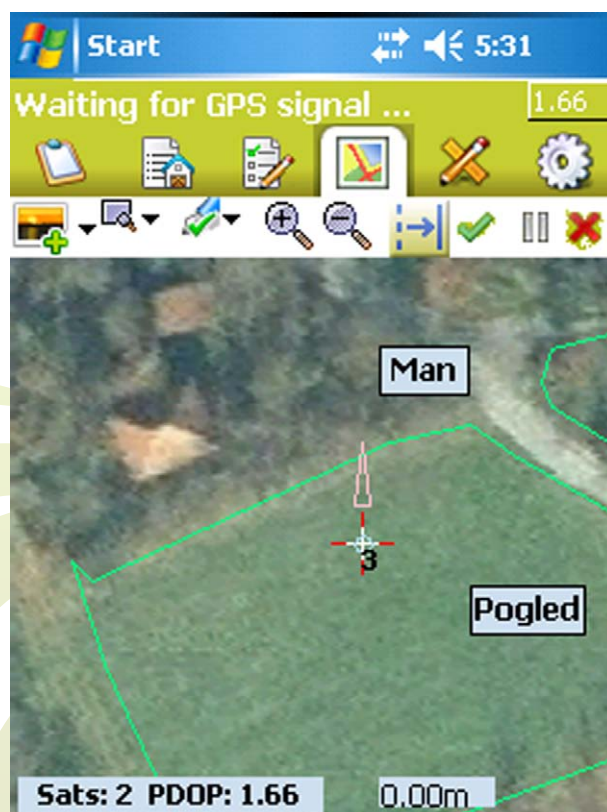
Figure 14: Application Controls also enables rapid field visits



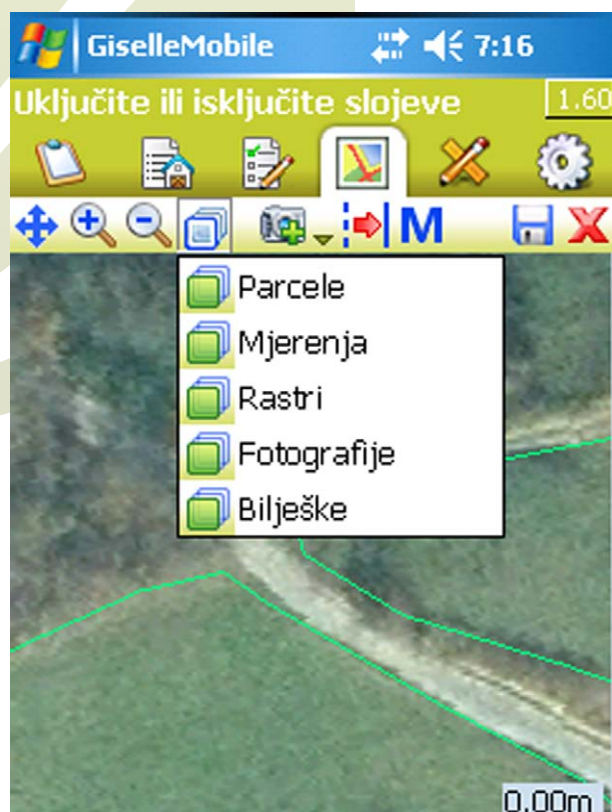
## 4 GISELLE MOBILE

Giselle Mobile is a powerful GIS software running on Windows CE and Windows Mobile which fully supports the process of the on-the-spot checks in accordance with the IACS regulatives. It provides support for inspectors when reviewing, evaluating and resolving irregularities on the field.

The mobile version of the OTS control system improves the efficiency and quality of the field work by being more tightly integrated with a professional, accurate GPS/CAM device. Inspectors can more easily and more accurately measure fields, exclude illegible land, make offset measures, etc. with the GPS and take in-field photos in the same device. The mobile OTS application is instantly able to calculate the tolerance and comparisons with the declared areas. All the data are packaged and easily synchronized with a laptop running Giselle On-the-Spot Checks, where further processing takes place. The application assures flexibility, accuracy and proper course of the process, which greatly reduces the effort, time and number of errors.



GiselleMobile			
Čekam na GPS signal ...			
✓ 104872	<b>PRISTAVA2</b>	310	Livada
105147	<b>VODOPIJA</b>	200	Oranica
Površina	123.45		
Izmjerena	-3.40282		
105330	<b>VALENTIZ</b>	200	Oranica
105387	<b>TRNJARI</b>	310	Livada
105493	<b>TRNJE</b>	200	Oranica
105494	<b>MUJIDI</b>	200	Oranica
105495	<b>GOLUB</b>	200	Oranica
105496	<b>PRISTAVA1</b>	200	Oranica
105497	<b>PRISTAVA2</b>	310	Livada
105499	<b>LUKA1</b>	310	Livada
187693	<b>TEST 2</b>	200	Oranica





## 4.1 Full Process Support for On-the-spot Checks

Giselle Mobile also supports:

- Synchronizing data with the laptop
- Selection of farm
- Preview of data (aerial photography, application data, controls from previous years, current measurement data, photos)
- Selecting a reference parcel with quick graphical preview
- Field measurement (repeated measurements, boundary and illegible area measurement, tracking mode, PDOP value limited measurements for appropriate quality, splitting polygons, shifted measurements)
- Recording of photos



## 4.2 Basic functions:

### Map Navigation

- Zoom in/out, zoom to layer, full extent
- Pan and pan to selected feature
- Turn layers on/off
- Center to current GPS position
- Map rotation (manual or automatic)

### Display and Query

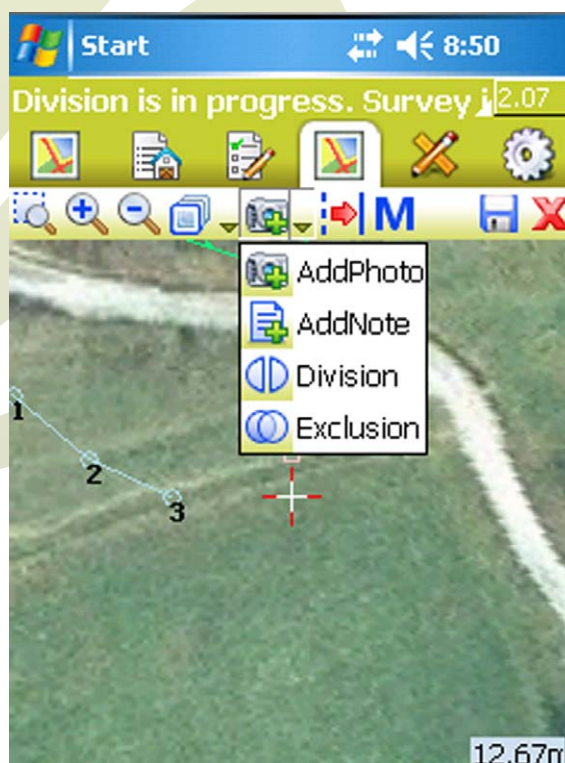
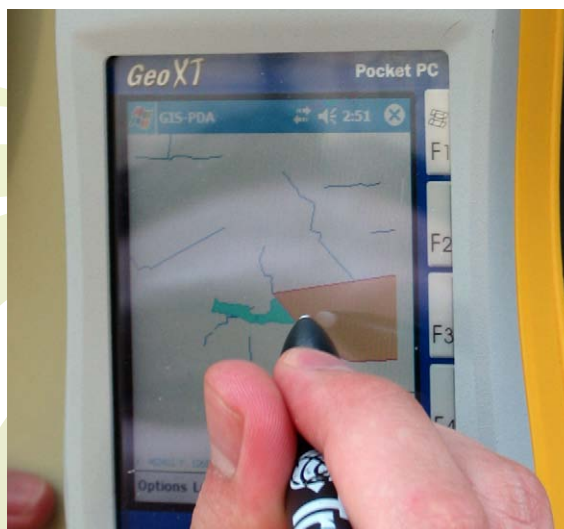
- Identify features by attribute
- Find location by coordinates
- Display layers by scale dependencies
- Hyperlinks to photographs

### Editing

- Create and edit spatial data (points, lines and polygons)
- GPS captures: point, vertex and streaming vertex
- Offset editing, repeat attributes, features sections, split polygons
- Camera, range finder and digital compass support

### Supported Data Formats

- WKT, ESRI shape
- JPEG, PNG, GIF, BMP
- Sinergise spatial imagery layers
- Sinergise graphics layers





## 5 CONTROLS OF ANIMALS

Inspection of animals supports synchronization of data with veterinary unit to get the latest list of bovine, goats, sheep and other species.

[illegible]

Figure 16: pre-print for inspection of animals with checklists

JIBC: HR 90002346												
CONFIRMANIMAL	CB_KONTROLIRANO	JIBC	AID_CODE	ANIMAL_CODE	CL_SEX	CL_BREED_CODE	DAT_BREED	DAT_BEGIN_ON_FARM	DAT_END_ON_FARM	CB_WRONG_BREED	CB_NOT_ON_FARM	CB_NOT_CO
		HR 90002346	20	HR 4100911716	Ženski	SIMENTALSKA	23.10.2007	08.11.2005				
		HR 90002346	20	HR 2100712050	Ženski	SIMENTALSKA	13.10.2006	20.10.2004				
		HR 90002346	20	HR 1100842574	Ženski	SIMENTALSKA	15.10.2007	21.04.2005				
		HR 90002346	20	HR 9100995474	Ženski	SIMENTALSKA	27.01.2009	10.11.2006				
		HR 90002346		HR 3200120699	Ženski	SIMENTALSKA		20.09.2011				
		HR 90002346		HR 5101996762	Ženski	SIMENTALSKA		15.08.2010				
		HR 90002346		HR 7102038052	Muški	SIMENTALSKA		06.10.2010				
		HR 90002346		HR 8102038318	Muški	SIMENTALSKA		01.02.2011				
		HR 90002346		HR 1102038319	Muški	SIMENTALSKA		26.01.2011				

Figure 17: List of animals

EDITING ANIMAL HR 7102038052

JIBG

HR 90002346

AID\_CODE

ANIMAL\_CODE

HR 7102038052

CL\_SEX

Male

CL\_BREED\_CODE

Simmental A

DAT\_BREED

DAT\_BEGIN\_ON\_FARM

06.10.2010

DAT\_END\_ON\_FARM

☐ CB\_WRONG\_BREED
 ☐ CB\_NOT\_ON\_FARM
 ☐ CB\_NOT\_CORR\_LABEL
 ☐ CB\_NO\_PASSPORT
 ☐ CB\_WRONG\_SEX
 ☐ CB\_NOT\_IN\_RCG
 ☐ CB\_NOT\_IN\_JRDZ

SAVE

CANCEL

☐ Kontrola na gospodarstvu je provedena u roku zamjene i/ili djelovanja prirodnih okolnosti na životinje
 ☐ Kontrola na gospodarstvu je provedena u roku djelovanja prirodnih okolnosti na životinje

☒ SET ALL UNCHECKED ANIMALS AS CONTROLLED
 ☒ ADD

SUMMARIZATION TABLE FOR BOVINE

	Code 20	Code 22	Code 23	Code 09
Bovine number according to JRDŽ			9	
Bovine number controlled			0	
Bovine number declared in aid application	4		0	0
Bovine number declined	0	0	0	0

CONTROLLER'S COMMENTS

Figure 18: Editing of animal data









**Sinergise d. o. o.**

Teslova ulica 30  
1000 Ljubljana, Slovenia

**T:** +386 [0] 1 477 66 76

**F:** +386 [0] 1 477 66 10

**E:** [info@sinergise.com](mailto:info@sinergise.com)

Ljubljana, march 2012