



# Giselle Controls



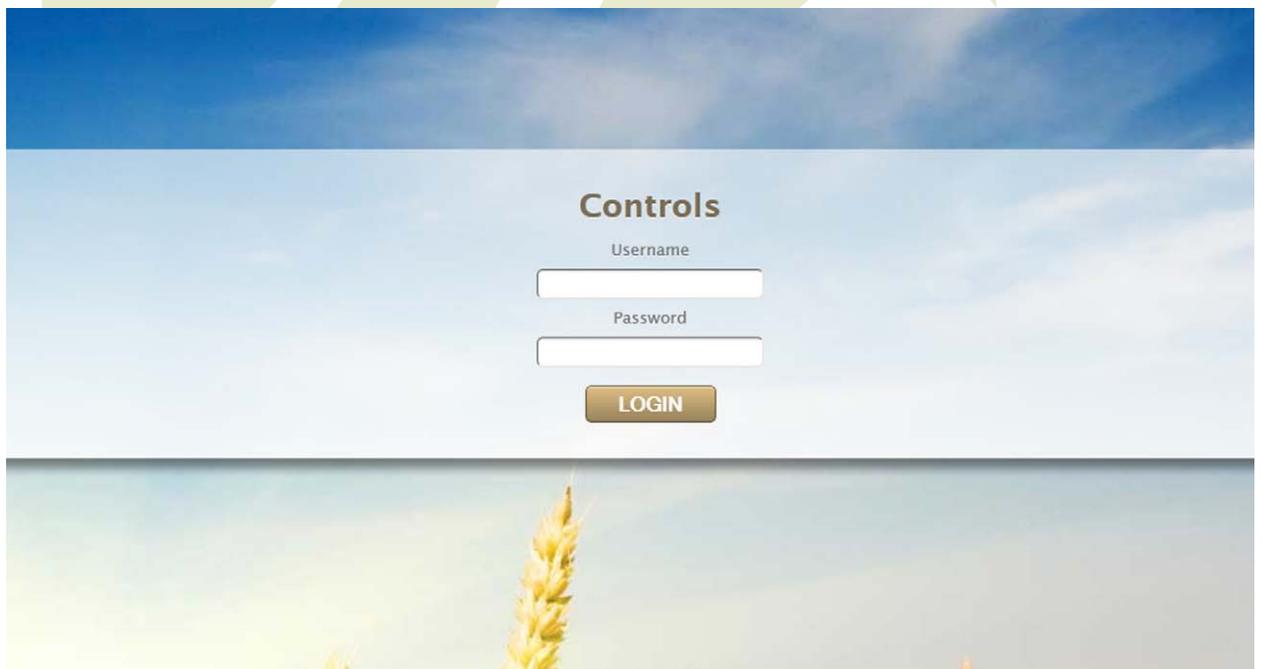
# 1 EXECUTIVE SUMMARY

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

MEETING MINUTED	NUMBER	STATUS	CONTROL KIND	NAME	ADDRESS	CONTROLLER	STATUS	ST
100058	100058/AC/2/1	Završen	4E	STREB ŽALC	STREB, 88 40000 Maribor, Sla	Thomas Babič	Čeka unos	NE
100058	100058/AC/2/1	Objavljena Kontrola 4 oka	AC	STREB ŽALC	STREB, 88 40000 Maribor, Sla	KLARA KURČIČ	Čeka unos	NE
100058	100058/IACS/3/1	Završen	4E	STREB ŽALC	STREB, 88 40000 Maribor, Sla	Andrija Trnovec	Čeka unos	NE
100058	100058/IACS/3/1	Objavljena Kontrola 4 oka	IACS	STREB ŽALC	STREB, 88 40000 Maribor, Sla	KLARA KURČIČ	Čeka unos	NE
100061	100061/AC/2/1	Završen	4E	ŠPAC PRANČIČ	LUK, 28 22012 Suhopolje	Marija Reber	Čeka unos	NE
100061	100061/IACS/3/1	Završen	IACS	ŠPAC PRANČIČ	LUK, 28 22012 Suhopolje	Andrija Trnovec	Čeka unos	DA
100061	100061/IACS/1/1	Objavljena Kontrola 4 oka	IACS	ŠPAC PRANČIČ	LUK, 28 22012 Suhopolje	Marija Reber	Čeka unos	NE
100061	100061/AC/2/1	Objavljena Supervizija	AC	ŠPAC PRANČIČ	LUK, 28 22012 Suhopolje	Marija Reber	Čeka unos	NE
100061	100061/IACS/1/1	Završen	4E	ŠPAC PRANČIČ	LUK, 28 22012 Suhopolje	Kristina Klemenčič	Čeka unos	NE
100061	100061/AC/2/1	Završen	SV	ŠPAC PRANČIČ	LUK, 28 22012 Suhopolje	Andrija Trnovec	Čeka unos	NE
100062	100062/IACS/1/1	Objavljena Kontrola 4 oka	IACS	FRANČIČ MARKO	VELA CERNA, 118 20070 Črna	Andrija Trnovec	Čeka unos	NE
100062	100062/IACS/1/1	Završen	4E	FRANČIČ MARKO	VELA CERNA, 118 20070 Črna	Andrija Trnovec	Čeka unos	NE
100079	100079/IACS-1/1/1	Čeka unos	IACS-1	FRANČIČ MARKO	VELA CERNA, 118 20070 Črna	Andrija Trnovec	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 REPUBLIKE SLOVENIJE ZA OKOLJSKO  
INTEGRIRANO POLOJOPRIVREDNO PROJEKCIJNO I  
POTPORAMA ZA PODRUČJA S TEŽIM UVJETIMA GOSPODARENJA U POLOJOPRIVREDI  
(OPČI DIO)

Broj izvještaja o kontrolni: 100845454/1

Kontrola je provedena: mesecima: 01, 11, m. 1 i 2. Zakon o državnim potpori poljoprivredni i ruralnom razvoju (DR 92/2010), na  
poljoprivrednom gospodarstvu:  
Naziv PG: 100845454  
MEBP: 10084 i prava na ispašu: 100845454  
Adresa: 100845454, ul. na kraju  
Telefonski broj PG: 2, mobilni: 3, e-mail:  
Kontrolni i Robert Vidmar 2  
Kontrola je u skladu s PG-OPG pravnim, osnovni gospodarstva [ ] i/ili gospodarstva [ ] i/ili prava: 100845454

Imate li predmetna sredstva za pranje: osobna vozila [ ] vozila društva [ ] putnička [ ], ter:  DA  NE  
Ako je kontrolna pregleda prisutnost u opremanosti, izvještaj je potpisan:  DA  NE  
Stavka je bila usvojena obavijestima o strojeva kontrolne pregleda:  DA  NE  
Ima:  naličnom [ ] potpisu polje [ ] drugo [ ]  
Razlog stavke kontrola vna rok:  DA  NE  
Prijem kontrola na terenu dana: 01.11.2018  
Prisutna stavka je odgovarala kontrolni na terenu:  DA  NE  
Prilazna kontrola na utvrđena uslovnosti:  DA  NE  
U slučaju utvrđenih nepostojnosti stavke ili izvještaj o rezultatu kontrola je utvrđen istovremeno:  DA  NE  
U slučaju utvrđenih nedostataka:  DA  NE  
Kontrola je završena dana: 01.11.2018  
Izjava kontrola: 100845454  
Stavka je usvojena prilikom na kontrolu i ona se koristi kao izvještaj:  DA  NE  
Kontrola je usvojena prilikom na kontrolu i ona se koristi kao izvještaj:  DA  NE  
Izvještaj je proširen istovremeno i stavka je upotrijebljena u naličnom kontrola. Stavka izvještaj potpisuje potpisnik da je obavljena kontrola na  
gospodarstvu i da je završena prilikom izvještaja o kontrolni.

Potpis kontrolera: 1. \_\_\_\_\_ 2. \_\_\_\_\_ Potpis istovremeno: \_\_\_\_\_

Agencija za glasila za poljoprivredni, ribarstvo i ruralni razvoj, Ulica grada Vukovca 269 4, 10000 Zagreb,  
Telefon: 01 6092700, Fax: 01 6092351, e-mail: info@agrar.hr  
Broj izvještaja: 100845454/1  
1/1

Figure 3: Sample of submitted claim

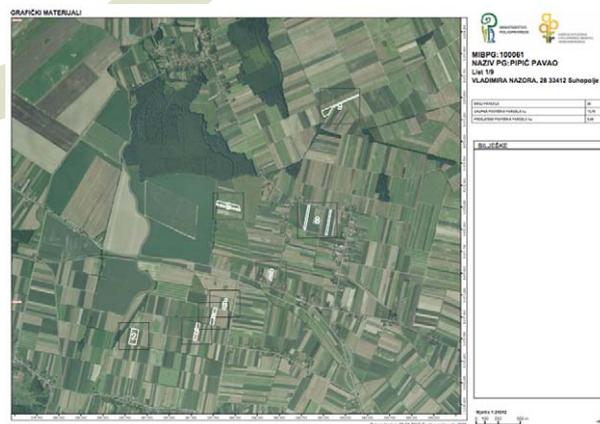
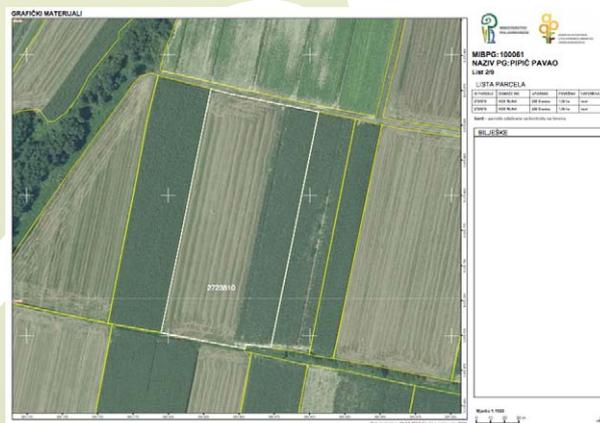


Figure 4 and 5: Sample of printed maps

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.

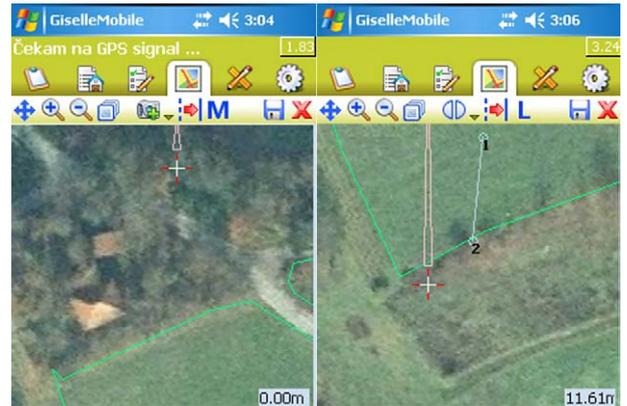


Figure 6: Giselle Mobile on Windows Mobile

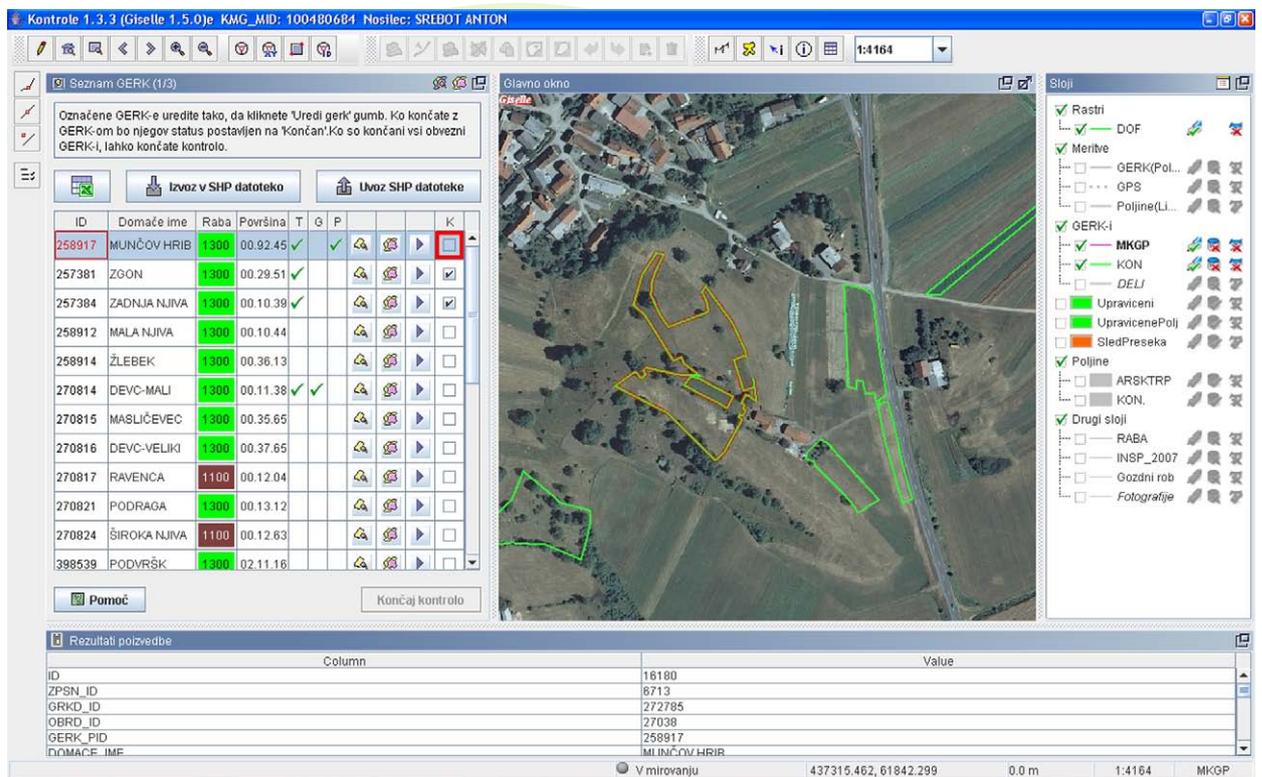


Figure 7: Desktop application Controls with parcel list on left side

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).

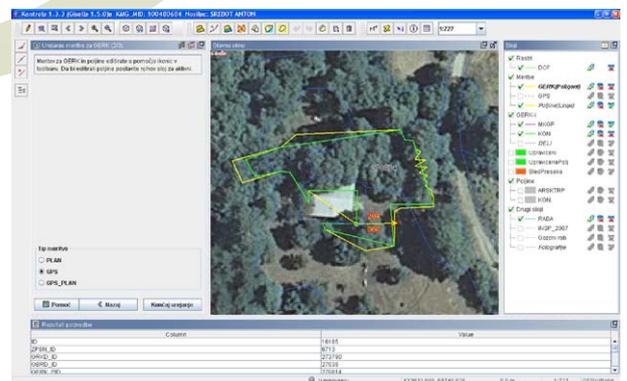


Figure 8: Managing discrepancies between reported data

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

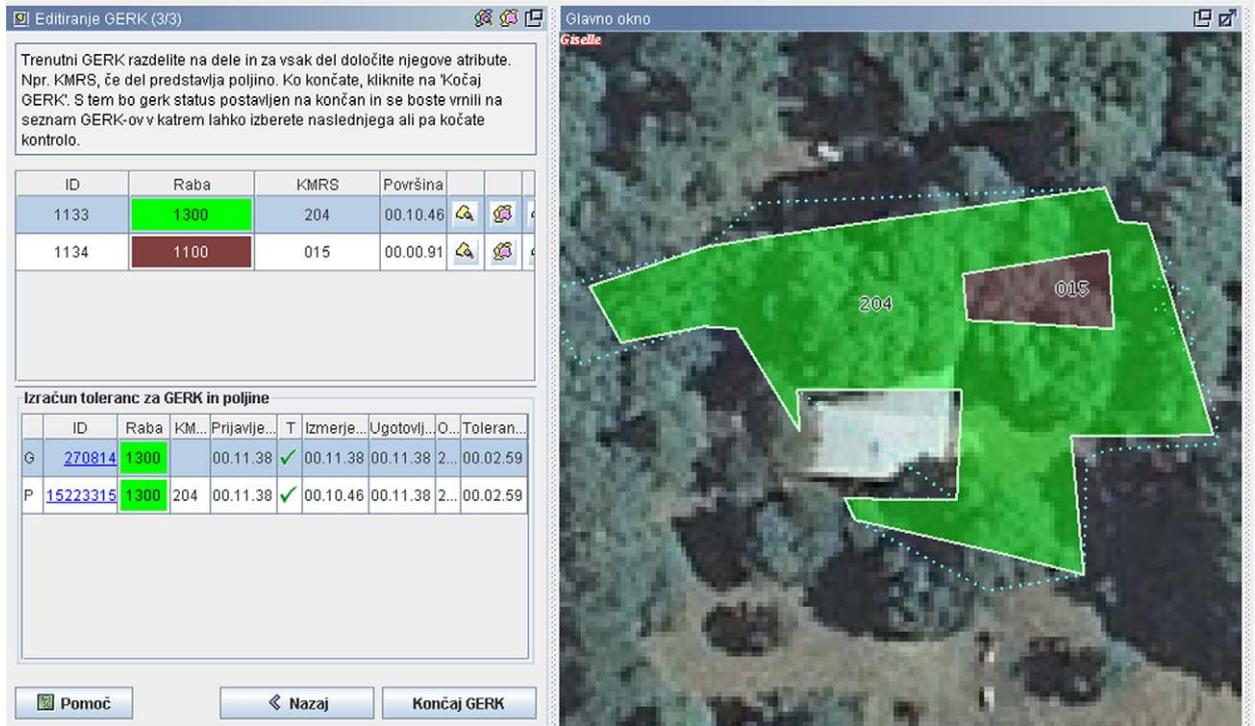


Figure 9: Splitting parcel

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



Figure 10: Attaching photo to a parcel

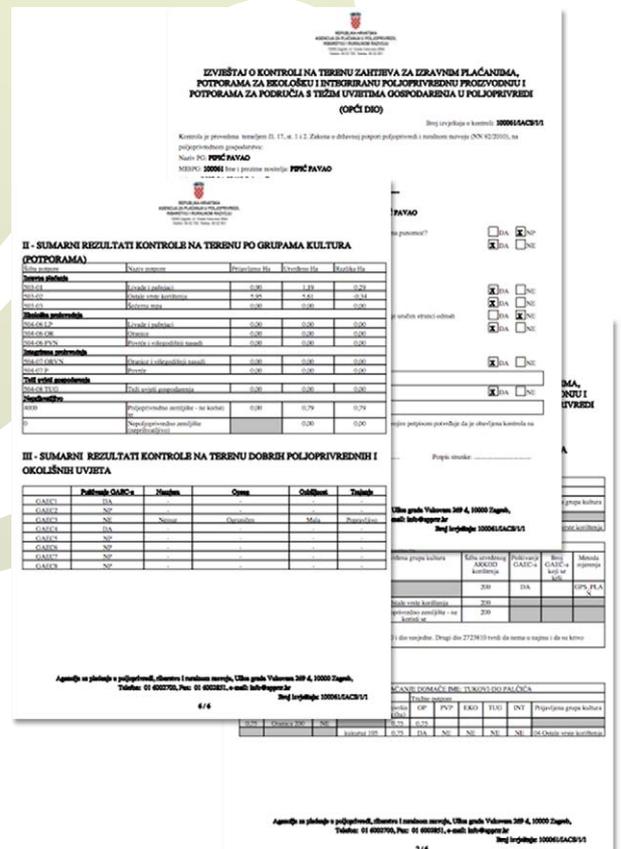


Figure 11: Finished reports

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).

The screenshot displays the Giselle Controls application window. The main interface is divided into several sections:

- Top Panel:** Title bar and toolbar with various navigation and tool icons.
- Left Panel (Seznam GERK (1/1)):** A table listing parcels with columns for ID, Domače ime, Raba, Površina, T, G, P, and K. Below this is a smaller table for 'Izračun toleranc za GERK in poljine'.
- Main Window (Glavno okno):** A satellite map showing a rural area with fields and roads. A specific parcel is highlighted in red.
- Right Panel (Sloji):** A layer management panel with a tree view showing various layers like 'Rastri', 'Ljubljana', 'SG', 'Meritbe', and 'GERK-i'.
- Bottom Panel (Rezultati poizvedbe):** A table showing search results with columns for Column and Value.

ID	Domače ime	Raba	Površina	T	G	P	K
1149056	PRI GLAVNI C...	1100	00.37.09	✓			
1149060	RAKIŠOVO 2	1100	00.42.01	✓			
1149064	PRI CESTI ŠO...	1100	00.50.36	✓			
1153902	TRAVNIKI	1100	00.77.71	✓	✓		
1153905	TUNF	1100	00.33.33	✓			
1205873	NA BREGU	1100	01.72.21	✓			

ID	Raba	KMRS	Površina
9882	1100		00.77.71

ID	Raba	KM...	Prijavlj...	T	Izmerje...	Ugotovlj...	Toleran...
G	1153902	1100	00.77.71	✓	00.77.71	00.77.71	00.06.26

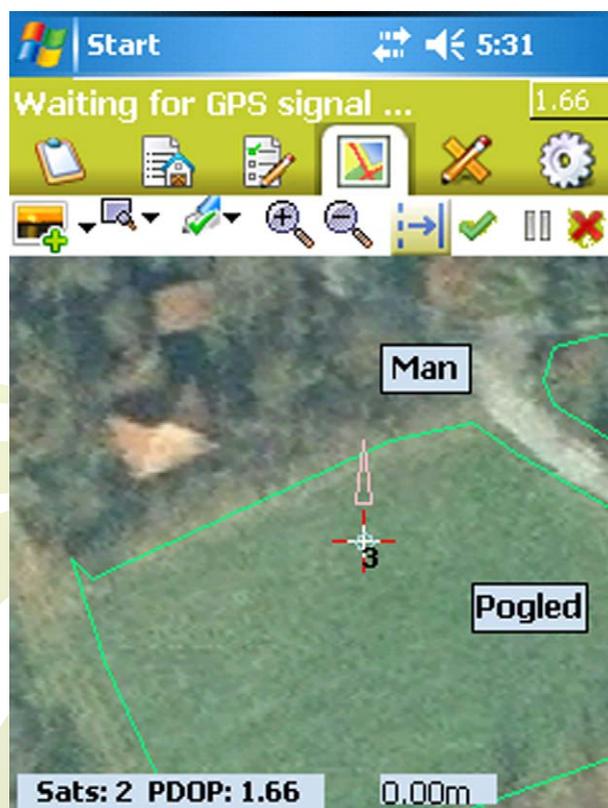
Column	Value
IND_NARAVNA_NESRECA	N
GEOMETRY	oracle.sql.STRUCT@d9fcd7
CWRS_SIFRA1	
CWRS_SIFRA2	

Figure 14: Application Controls also enables rapid field visits

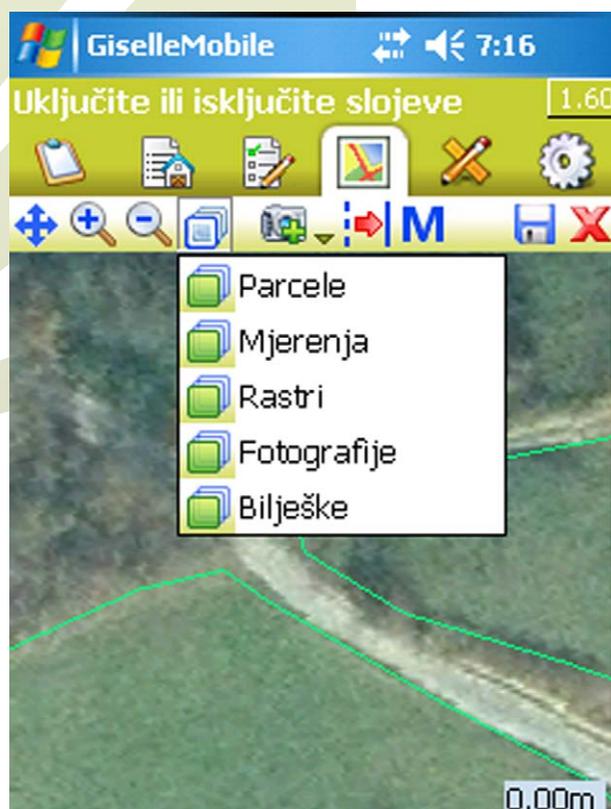
## 4 GISELLE MOBILE

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.



✓ 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

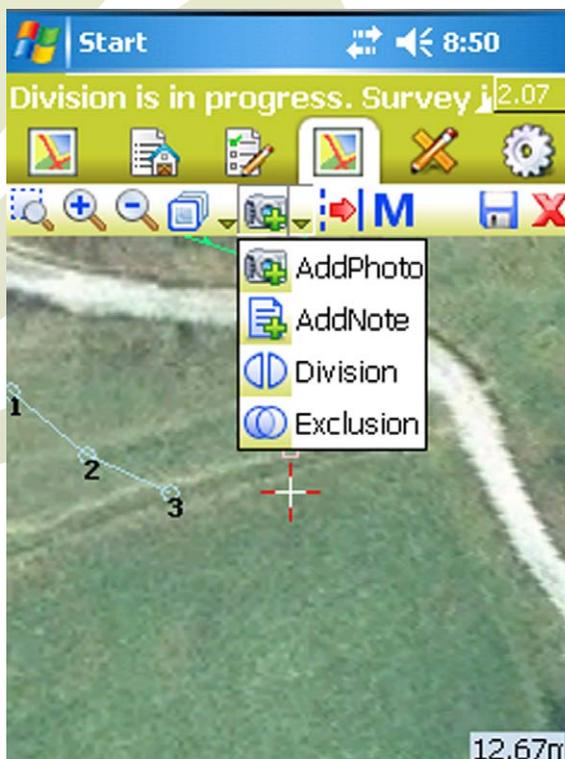
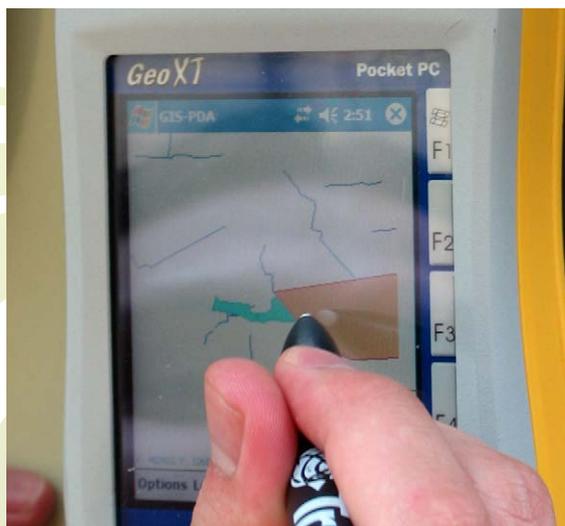
- Identify features by attribute
- Find location by coordinates
- Display layers by scale dependencies
- Hyperlinks to photographs

### 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.

  
**IZVJEŠTAJ O KONTROLI NA TERENU ZAHTJEVA ZA IZRAVNIM PLAČANJIMA U STOČARSTVU I POTPORAMA ZA OČUVANJE IZVORNIH I ZAŠTIČENIH PASMINA DOMAČIH ŽIVOTNJA (DETALJNI DIO)**

**I - REZULTATI KONTROLE NA TERENU ZA GOVEDA**  
 Izvješće obilježeno sa najam:  iz izvješća (09)  iz izvješća (09)  iz izvješća izvora (09)  izvornim i zaštićenim pasminama domaćih životinja (09)

**A. Detaljni rezultati kontrole na terenu za goveda**

Redni broj	Kontrolirani	JIBG	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_CORR_LABEL	CB_NO_PASSPORT	CB_WRONG_SEX	CB_NOT_IN_RGG	CB_NOT_IN_JRDZ
1.	11	HR 90002346	20	HR 4100911716	Ženski	SIMENTALSKA	23.10.2007	08.11.2005								
2.	11	HR 90002346	20	HR 2100712050	Ženski	SIMENTALSKA	13.10.2006	20.10.2004								
3.	11	HR 90002346	20	HR 1100842574	Ženski	SIMENTALSKA	15.10.2007	21.04.2005								
4.	11	HR 90002346	20	HR 9100995474	Ženski	SIMENTALSKA	27.01.2009	10.11.2006								
5.	11	HR 90002346		HR 3200120699	Ženski	SIMENTALSKA		20.09.2011								
6.	11	HR 90002346		HR 5101996762	Ženski	SIMENTALSKA		15.08.2010								
7.	11	HR 90002346		HR 7102038052	Muški	SIMENTALSKA		06.10.2010								
8.	11	HR 90002346		HR 8102038318	Muški	SIMENTALSKA		01.02.2011								
9.	11	HR 90002346		HR 1102038319	Muški	SIMENTALSKA		26.01.2011								

Agencija za prehranu i poljoprivredu, životinje i vodne resurse, Ulica grada Vukovara 589 A, 10000 Zagreb,  
 Telefoni: 01 6000700, Fax: 01 6000851, e-mail: info@agencija.hr  
 Broj izvješća: 102928/AC/11 2 / 10

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

JIBG: HR 90002346

CONFIRM ANIMAL	CB_KONTROLIRANO	JIBG	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_CORR_LABEL	CB_NO_PASSPORT	CB_WRONG_SEX	CB_NOT_IN_RGG	CB_NOT_IN_JRDZ
	<input type="checkbox"/>	HR 90002346	20	HR 4100911716	Ženski	SIMENTALSKA	23.10.2007	08.11.2005								
	<input type="checkbox"/>	HR 90002346	20	HR 2100712050	Ženski	SIMENTALSKA	13.10.2006	20.10.2004								
	<input type="checkbox"/>	HR 90002346	20	HR 1100842574	Ženski	SIMENTALSKA	15.10.2007	21.04.2005								
	<input type="checkbox"/>	HR 90002346	20	HR 9100995474	Ženski	SIMENTALSKA	27.01.2009	10.11.2006								
	<input type="checkbox"/>	HR 90002346		HR 3200120699	Ženski	SIMENTALSKA		20.09.2011								
	<input type="checkbox"/>	HR 90002346		HR 5101996762	Ženski	SIMENTALSKA		15.08.2010								
	<input type="checkbox"/>	HR 90002346		HR 7102038052	Muški	SIMENTALSKA		06.10.2010								
	<input type="checkbox"/>	HR 90002346		HR 8102038318	Muški	SIMENTALSKA		01.02.2011								
	<input type="checkbox"/>	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\_RGG   
  CB\_NOT\_IN\_JRDZ

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

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