



Validation of area measurement tools

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A short example - status

JRC and validation

Voluntary certification scheme, explanation

2008 – how does it work?

–What?

–Who?

–When?



EUROPEAN COMI

Madrid, 12-14

Certification – a result.

証書 ◆ CERTIFICAT ◆ CERTIFICADO ◆ CER

CERTIFICATE

No. Z2 07 11 65094 001

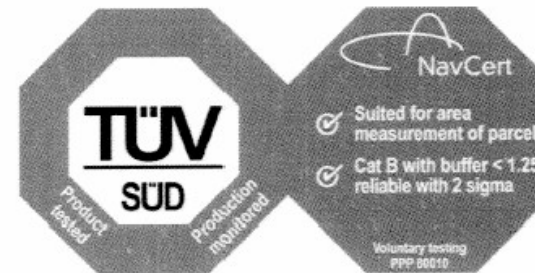
Holder of Certificate: **Satconsystem GmbH**

Bundesstraße 7
97531 Obertheres
GERMANY

**Production
Facility(ies):**

65094

Certification Mark:



Product:

Equipment for measurement & control

Model(s):

**F@rmphone
based on ASUS P526 with external
HAICOM GPS-antenna**



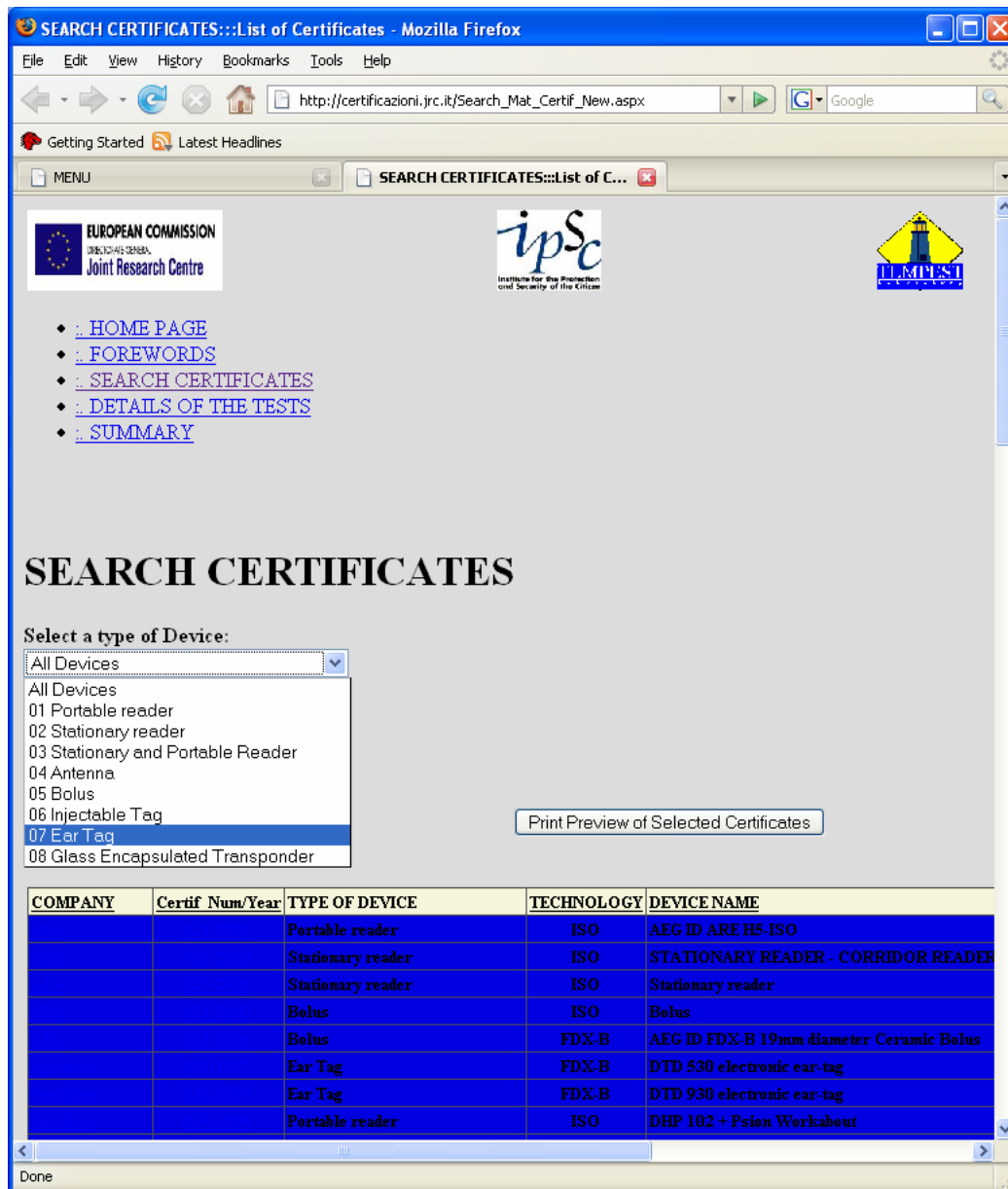
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duct Service

Animal tracking devices IDEA

- *In 1996, the JRC Ispra was assigned by DG VI for the approval of equipment (transponders, electronic eartags, boluses and readers) in order to prepare the IDEA project.*
- *The technical role of the JRC Ispra was to define standardised test procedures based on international standards such as ISO and IEC ... The various tests which are conducted on the equipment are presented in annex II of this document.*
- *...the JRC Ispra developed a series of laboratory acceptance certificates based on the characteristics and the performances of the tested equipment sent to the JRC by the various manufacturers.*
- *A certificate of laboratory acceptance is granted to the manufacturer when its tested device passed the various tests presented in annex II according to various acceptance criteria's as presented in the same annex.*



SEARCH CERTIFICATES::List of Certificates - Mozilla Firefox

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http://certificazioni.jrc.it/Search_Mat_Certif_New.aspx

Getting Started Latest Headlines

MENU SEARCH CERTIFICATES::List of C...

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- [SUMMARY](#)

SEARCH CERTIFICATES

Select a type of Device:

All Devices

- 01 Portable reader
- 02 Stationary reader
- 03 Stationary and Portable Reader
- 04 Antenna
- 05 Bolus
- 06 Injectable Tag
- 07 Ear Tag
- 08 Glass Encapsulated Transponder

Print Preview of Selected Certificates

COMPANY	Certif Num/Year	TYPE OF DEVICE	TECHNOLOGY	DEVICE NAME
		Portable reader	ISO	AEG ID ARE H5-ISO
		Stationary reader	ISO	STATIONARY READER - CORRIDOR READER
		Stationary reader	ISO	Stationary reader
		Bolus	ISO	Bolus
		Bolus	FDX-B	AEG ID FDX-B 19mm diameter Ceramic Bolus
		Ear Tag	FDX-B	DTD 530 electronic ear-tag
		Ear Tag	FDX-B	DTD 930 electronic ear-tag
		Portable reader	ISO	DHP 102 + Psion Workabout

Done

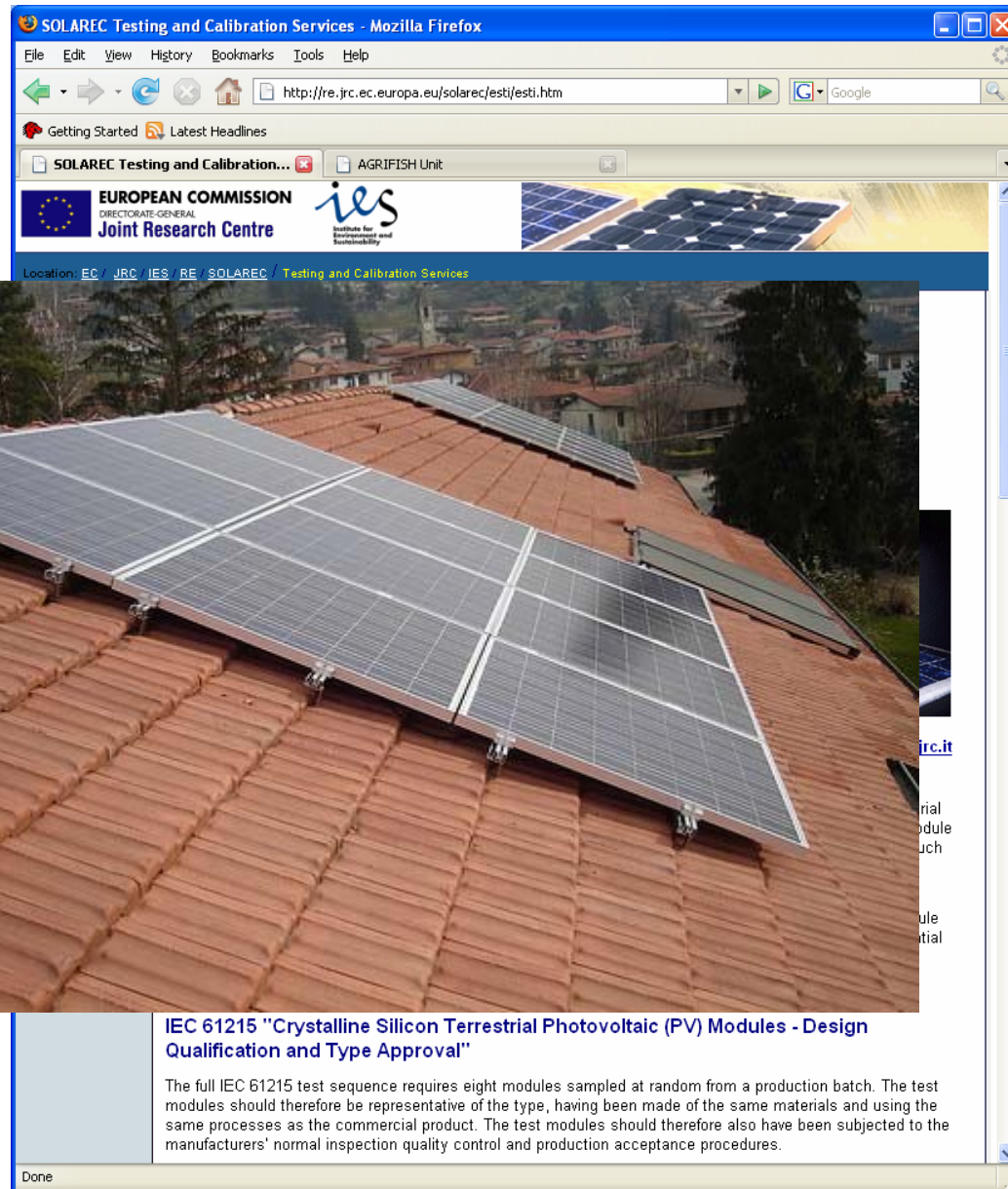
IEC 61215 "Crystalline Silicon Terrestrial Photovoltaic (PV) Modules - Design Qualification and Type Approval"

The full IEC 61215 test sequence requires eight modules sampled at random from a production batch. The test modules should therefore be representative of the type, having been made of the same materials and using the same processes as the commercial product.

...

Each module undergoes a different sequence of tests stressing individually electrical, optical or mechanical construction of the module type. A module design is deemed to have met the qualification requirements if each sample meets all of the following criteria:

- *there is no evidence of a major visual defect such as a cracked or broken window, bubbles or delamination in the encapsulant, etc.*
 - *the degradation of maximum output power at STC does not exceed 5% after each test nor 8% after each test sequence*
 - *the electrical insulation requirements of each module are satisfied (insulation resistance and high-voltage tests)*
 - *no sample exhibits any open-circuit or ground fault*
- Time Required for Qualification Testing.**



SOLAREC Testing and Calibration Services - Mozilla Firefox

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http://re.jrc.ec.europa.eu/solarec/esti/esti.htm

Getting Started Latest Headlines

SOLAREC Testing and Calibration... AGRIFISH Unit

EUROPEAN COMMISSION
DIRECTORATE-GENERAL
Joint Research Centre

ies
Institute for
Environment and
Sustainability

Location: EC / JRC / IES / RE / SOLAREC / Testing and Calibration Services

IEC 61215 "Crystalline Silicon Terrestrial Photovoltaic (PV) Modules - Design Qualification and Type Approval"

The full IEC 61215 test sequence requires eight modules sampled at random from a production batch. The test modules should therefore be representative of the type, having been made of the same materials and using the same processes as the commercial product. The test modules should therefore also have been subjected to the manufacturers' normal inspection quality control and production acceptance procedures.

Done

The "Community Reference Laboratory for GM Food and Feed" has been established in the context of Regulation No (EC) 1829/2003 on GM Food and Feed.

- *The core task of the CRL is the scientific assessment and validation of detection methods for GM Food and Feed as part of the European Commission authorisation procedure. ... in collaboration with a European Network of National Control Laboratories, assembled in the European Network of GMO Laboratories (ENGL).*
- *The Community Reference Laboratory for GM Food and Feed operates according to a quality management system fulfilling the requirements of standard ISO 9001:2000 and ISO 17025:2005.*



1. “Community Reference Laboratories”

- Accredited and certified labs, doing the testing
- Maybe also developing testing methods
- Usually ISO certified facilities

2. Establishment of specialised labs following international testing procedures (ISO, etc) where these exist

- Testing internal to JRC but maybe not yet under accredited framework
- Work with specialist industry partners

3. Definition of requirements that are not subject to ISO or international organisation protocols – accreditation under ISO 17011 principles

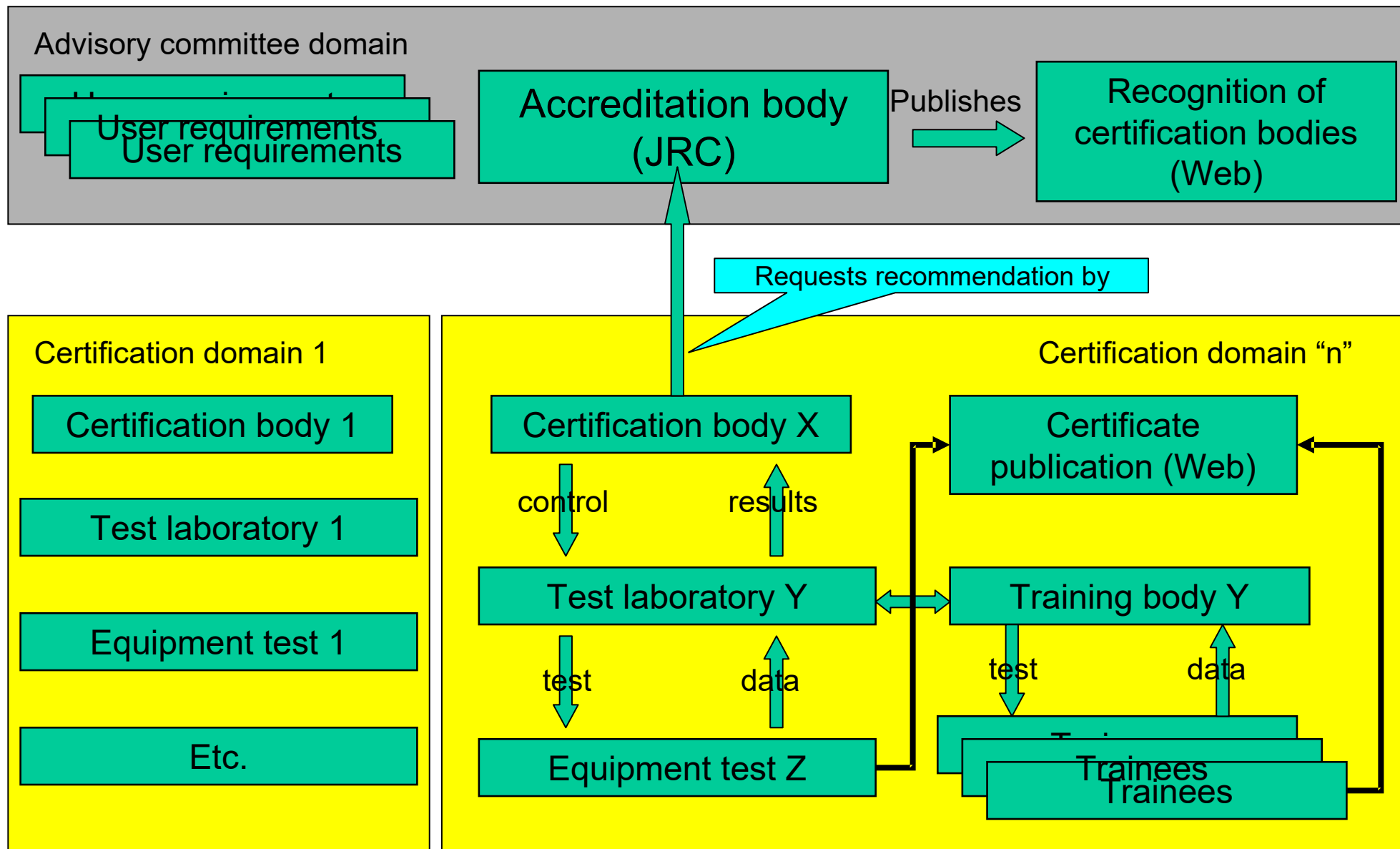
- Certification carried out by other specialist firms
- Testing carried out by 3rd parties
- Motivation from industry partners

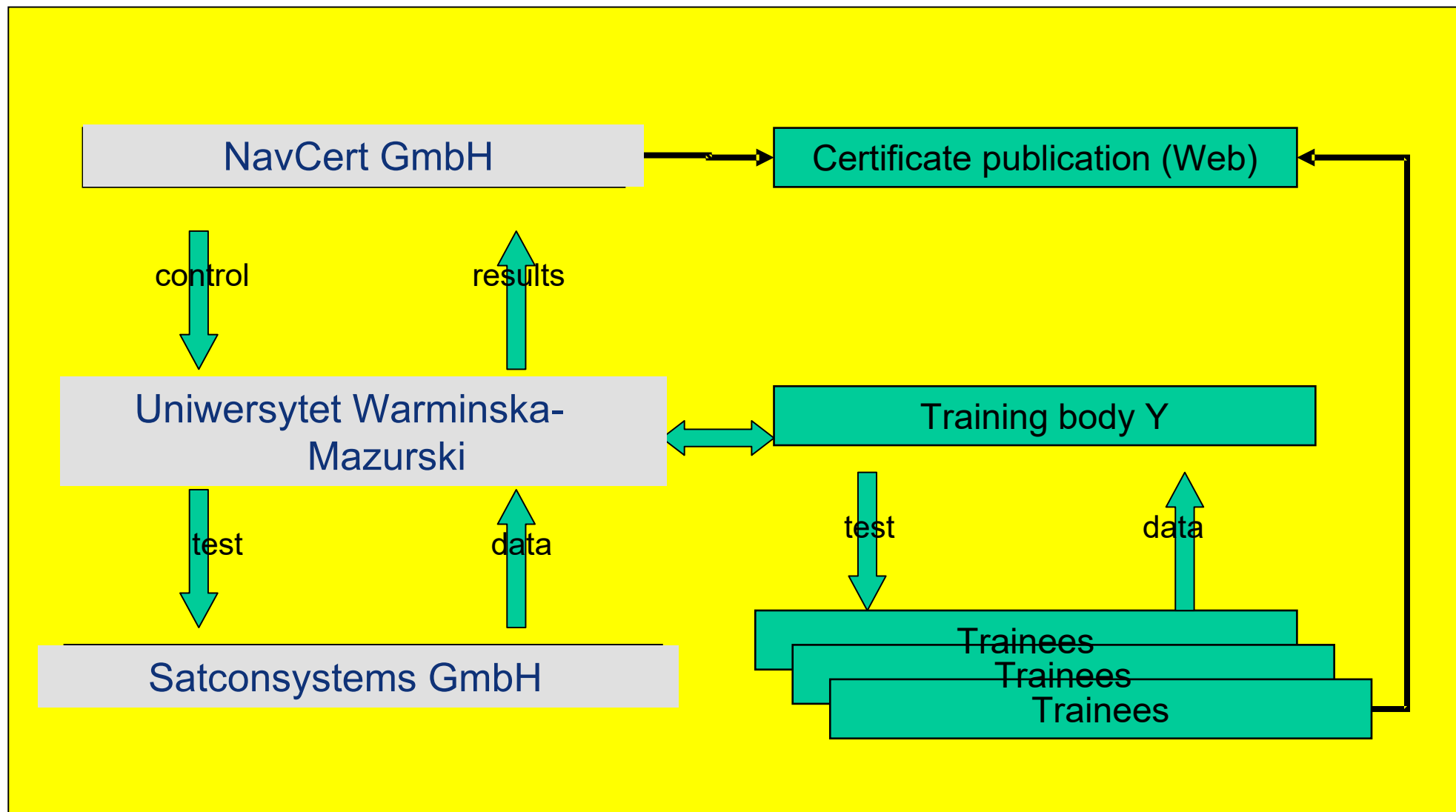
The use of tools - whether ground or remote sensing based - for the measurement of agricultural parcel areas requires that all interested parties can expect reliable measurements.

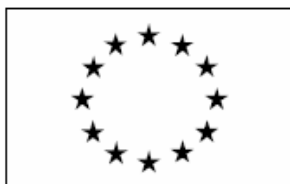
- Since 2002, the MARS project has undertaken in-house testing of GPS equipment,
- And in 2005 a study was contracted to three research universities to ascertain whether the underlying principles of testing were statistically sound.
- MARS PAC (amongst others) published papers and notes to try and establish scientific basis for the various tools used for area measurement.

The aim of this validation approach is to provide a way for the **voluntary** certification of tools for area measurement, which

- Can objectively be shown to perform correctly under specific conditions,
- Be considered therefore fit for the purpose of measurements made in the context of field checks noted in Commission Regulation 796/2004, Articles 29 and 30, as modified by Commission Regulation 972/2007.







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Agriculture Unit

JRC IPSC/G03/P/SKA/asi D(2007)(8307)

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Technical note

Area measurement validation scheme


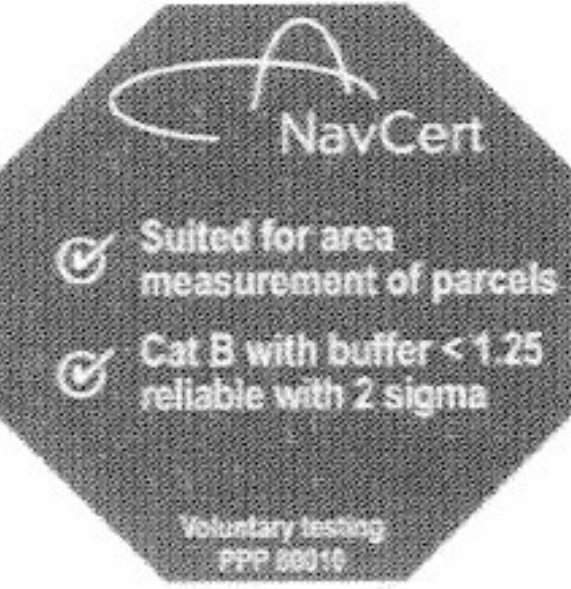
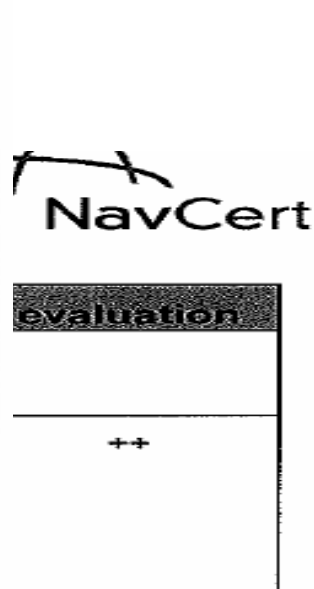
Author: Simon Kay	Status: V3.2
Co-author: Aleksandra Sima	Circulation: Public, for trial use or for feedback/ comment
Approved:	
Date: 10/10/2007	Int. ref: file:///S:/FMPArchive/P/8307.doc

- A standardised test
- Fully documented and independently observed measurements
- Impartial calculation of results

Test protocol

Date	direction (clockwise/ anticlock- wise)	Time (hh:mm)	Parcel	Area (hectares)	Perimeter (meters)	filename (*.kmz)	Observer	receiver	antenna	weather
23.10.07	cw	9:33	A	1,0732	510	Surveyomat_2007-10-23_01	Witzel	ASUS P 526, RecNr 830	HAICOM, external, S/N 704314	cloudy, 6-9°C
23.10.07	acw	11:13	A	1,0751	510	Surveyomat_2007-10-23_12	Witzel	ASUS P 526, RecNr 830	HAICOM, external, S/N 704314	cloudy, 6-9°C
23.10.07	cw	12:26	A	1,0308	504	Surveyomat_2007-10-23_17	Witzel	ASUS P 526, RecNr 830	HAICOM, external, S/N 704314	cloudy, 6-9°C
23.10.07	acw	13:23	A	1,0765	508	Surveyomat_2007-10-23_24	Witzel	ASUS P 526, RecNr 830	HAICOM, external, S/N 704314	cloudy, 6-9°C
23.10.07	cw	9:33	A	1,0450	507	Surveyomat_2007-10-23_01.kmz	Adam Ciecko	ASUS P 526, RecNr 882	HAICOM, external, S/N 704371	cloudy, 6-9°C
23.10.07	acw	11:13	A	1,0416	508	Surveyomat_2007-10-23_13.kmz	Adam Ciecko	ASUS P 526, RecNr 882	HAICOM, external, S/N 704371	cloudy, 6-9°C
23.10.07	cw	12:26	A	1,0959	511	Surveyomat_2007-10-23_18.kmz	Adam Ciecko	ASUS P 526, RecNr 882	HAICOM, external, S/N 704371	cloudy, 6-9°C
23.10.07	acw	13:23	A	1,0872	509	Surveyomat_2007-10-23_25.kmz	Adam Ciecko	ASUS P 526, RecNr 882	HAICOM, external, S/N 704371	cloudy, 6-9°C
23.10.07	cw	9:33	A	1,0666	510	Surveyomat_2007-10-23_01.kmz	W.Jarmolowski	ASUS P 526, RecNr 881	HAICOM, external, S/N 704376	cloudy, 6-9°C
23.10.07	acw	11:13	A	1,0849	510	Surveyomat_2007-10-23_13.kmz	W.Jarmolowski	ASUS P 526, RecNr 881	HAICOM, external, S/N 704376	cloudy, 6-9°C

- Standardised comparable measurement in a specified set of test conditions

TÜV PRODUKT SÜD		NavCert	
No	Test	Product tested	Production monitored
II.2.	Test an (for detail		
II.2.a.	Area: a) Star b) RMS c) Ave d) Ran e) Bias: f) Buffer: g) Percent error		
		e) 0.0081 ha f) 0.57 m g) 1.51 %	
II.2.b.	Perimeter: a) Standard deviation: b) RMS c) Average number of outliers: d) Range: e) Bias:		
		a) 1.52 m b) 2.70 m c) 0.7 d) 6.67 m e) 2.16 m	

Area Measurement Certification Process - Mozilla Firefox

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[http://agrifish.jrc.it/marspac/DCM/areacertification.htm](#)

Getting Started Latest Headlines

Applications from Certification bodies proposing test plans

The MARS PAC project welcomes proposals from any organisations interested to act as certification bodies on the behalf of manufacturers. A letter of application should be sent to simon.kay@jrc.it, outlining:

- the target instrument scope (GNSS, imagery, other)
- the draft test plan, to be submitted for review and completeness by the JRC
- details of the organisation, demonstrating competence and experience in the certification domain.

Current certification bodies, under trial or recommended

At present, the certification scheme is undergoing a trial process with the following companies:

Company, location, web site	Test plan	Certification process	JRC recommendation	Web site showing certificates
NavCert GmbH, Munchen DE, http://www.tuev-sued.de/navcert/en	Accepted 5/11/2007	Operational	Active	http://www.tuev-sued.de/industry_and_consumer_products/certificates

Last updated: 10/11/2007 14:53 Visits: 3 2 9

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Done

Scheme is Voluntary

- All tools welcome – but it is a narrow market (today)
 - Wheels, tapes, topofil... as requested
 - Multipurpose applications may change that
- Where we have no certificates:
 - JRC guidance
 - WikiCAP
- Remote sensing: special case, since overhead for testing is high
 - For the meantime, JRC will continue to test

Annual cycle: in time for campaigns

GPS workshop: advisory committee to acts as “accreditation body”

- Develop consensus of what is needed, define user requirements annually
- Coordinate knowledge of tests

2008: no exclusion of already used or non-certified devices:

- Questions to discuss:
 - Do we “retroactively test”?
 - Can we “approve” existing data?
 - We need more certification bodies... to ensure availability of as many tools as possible
 - Can a member state test?
 - Should a member state insist that manufacturers?

- Voluntary testing by professional bodies is feasible
- 2008 will see first certified instruments available
- JRC will coordinate requirements and results via workshop contacts
 - Input from Member States and industry very welcome
- Operator certification/qualification is needed to combine complete the measurement QA process
- Voluntary testing provides a way to establish stable measurements for all stakeholders involved