

NAV08 NEWS GPS BASED METHODS FOR AREA MEASUREMENT APPROVED BY EU

Martin Grzebellus, NavCert GmbH

BIOGRAPHY After his study of computer science in Germany, Martin Grzebellus started his professional career as software developer for telecommunication protocols and moved later on into sales. Martin held various management positions in the industries. He was participating in national and international standardization bodies for multimedia and telecommunication. At the time being he is working as managing director for NavCert. NavCert as part of the TÜV SÜD group is contributing to the 1.1 billion Euros worldwide generated with 13,000 employees in 600 locations. NavCert is focusing on CTCT (certification, testing, consulting and training) only in the area of navigation and positioning. Here he was main driver for a new standardization of GPS based measurement equipment on EU level. As a result NavCert today is the only accredited organization for this certification.







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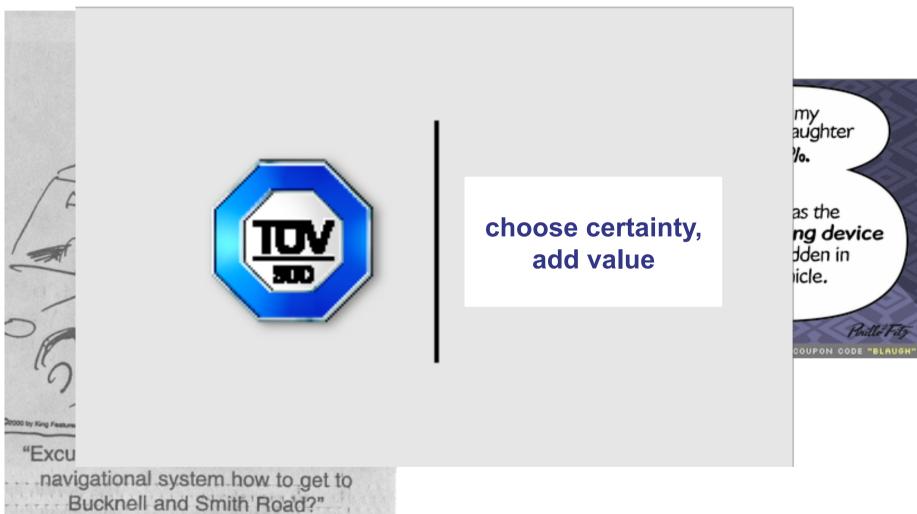


TÜV SÜD group– Facts and Figures



- A technical service provider
- 13,000-plus staff
- 600-plus locations worldwide
- 2007 sales: Euro 1,3 Billion
- Headquarters: Munich, Danvers, Singapore
- Over 140 years of business success









Ground based augmentation system

- Validation and verification of (management) concepts for:
 - System design
 - User
 - Data
 - Safety
 - Fault detection

Via audit and documentation check

- Analysis of availability and reliability
- Performance/ accuracy testing according to ISO 17123-8
 - using test and calibration fields with very high accuracies
 - statistical calculations



Different testbeds all over germany





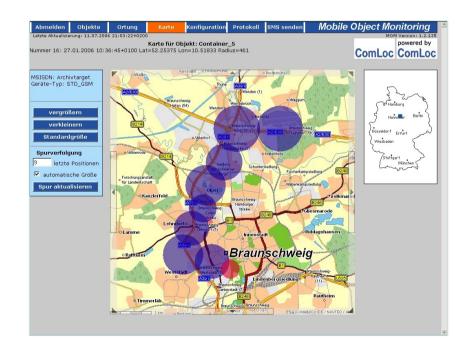






LBS portal

- web portal for locating and visualisation users via GPS or GSM for:
 - logistic
 - traffic and fleet management
 - security applications
- test of:
 - data security
 - easy integration in existing systems
 - time and accuracy of positioning
 - intuitive handling









Navigation system

- positioning
 - accuracy
 - time
- calculation of routes
 - accuracy
 - time
 - flexibility at changes
 - different profiles: pedestrian, cyclists, car, truck
 - usability
- additional functions
 - special information update services
 - interfaces



Serviceability:

- climate,
- EMC,
- robustness



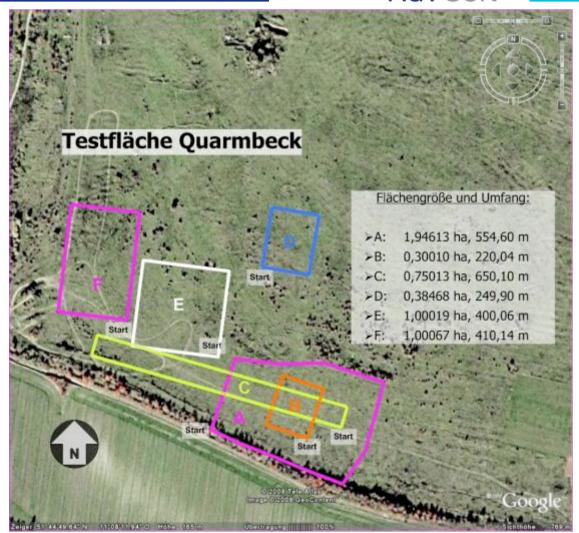






Issue: what is the size of an acre?

- Wheel
- Traditional methods
- Imagery
- New: GPS based







Directive 927/2007

Article 30(1)

Agricultural parcel area shall be determined by any means proven to assure measurement of quality at least equivalent to that required by applicable technical standard as drawn up at Community level.

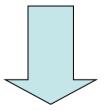
A measurement tolerance shall be defined by a buffer of maximum 1.5 m applied to the perimeter of the agricultural parcel. The maximum tolerance with regard to each agricultural parcel shall not in absolute terms, exceed 1,0 ha.





Consequences of the new directive

- Any methodology to measure agricultural parcels may be used provided
 - It fulfills required accuracy
 - It is defined at Community level



GPS may be used







Why Certification (1)

- only official verification provides reliable results
 - clear definition of accuracy
 - certified equipment provides results within defined limits
 - certification reduces liability
- reproducible measurements by all parties
- reliable results, usable in court
- regarded as proof of evidence by insurances





Why Certification (2)

- Test mark can be used in any communication to customer
 - Brochure, WEB, exhibitions, product, packaging
- Test mark increase reliability of product claims
- Test mark is a proof that product fulfills requirements of Commission Regulation No. 972/2007









Achievements

- JRC Joint Research Centre of the Euroepan Commission has defined a validation scheme for GPS based measurement equipment
- JRC has set up a trial certification process
- NavCert is accredited by JRC
- NavCert provides certificates for GPS based area measurement equipment





Area measurement

- Validation of area measurement methods
- GPS measurement or remote sensing process possible
- Based on :

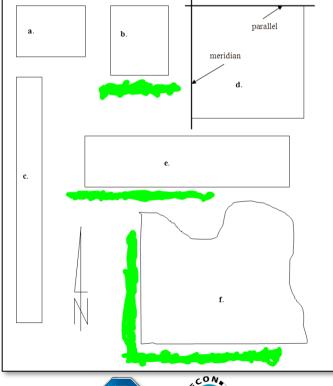


- Introductio
- Development of a special test infrastructure
- Calculation of the results according to ISO-standards (ISO 5725)



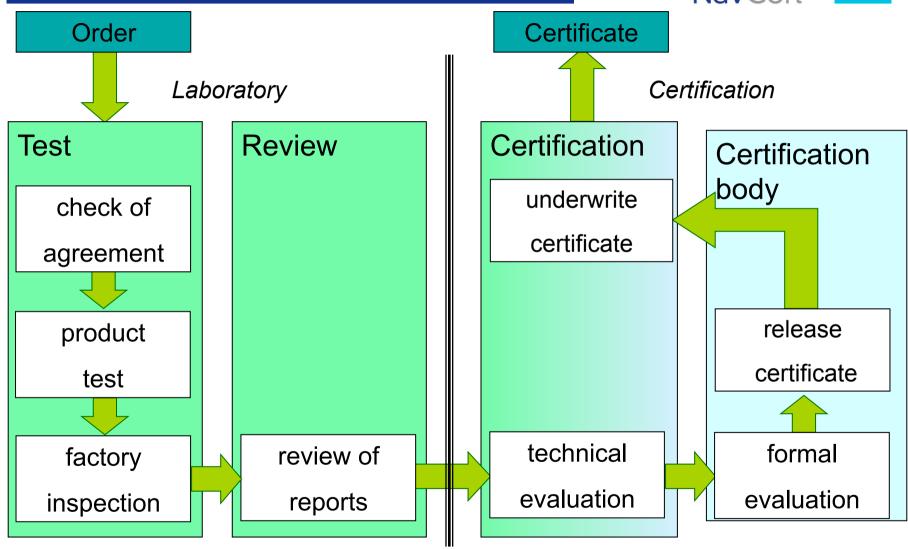


parcels



Certification Process







Test Mark





Suited for area measurements of parcels

Cat A with buffer size < 40 cm with 2 sigma

www.navcert.de/ PPP 80010





Suited for area measurements of parcels

Cat B with buffer size < 1.2 m with 2 sigma

www.navcert.com/ PPP80010







Benefits of test marks

- Certified product features increase credibility of all market communication
- Logo of TÜV SÜD worldwide recognized and highly trustworthy
- Independent research confirmed that shopper prefer a product with test mark by TÜV SÜD against a comparable product without test mark and even accept a higher price





Choose certainty, add value



What does mean trust worldwide?







Thank You for your Attention



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