Why international address standardization matters

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Third Conference On Free and Open Source Software for Geoinformatics

Wrocław, Poland, 12-13 May 2011

Overview

- What is an address?

- Address assignment schemes

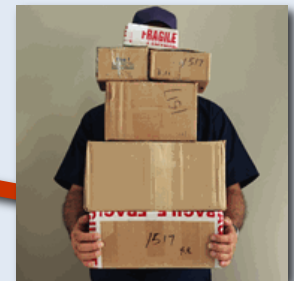- International address standardization

- A look into the future…

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What is an address?

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Mail

Forms

Census

Deliveries

Bank account

Municipal services
Utilities
Finding friends
etc.

Emergency response

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Wrocław, Poland

ul. Grunwaldzka 78
Wroclaw

Source: www.openstreetmap.org

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Brooklyn, Pretoria, South Africa

166 Marais Street
Brooklyn

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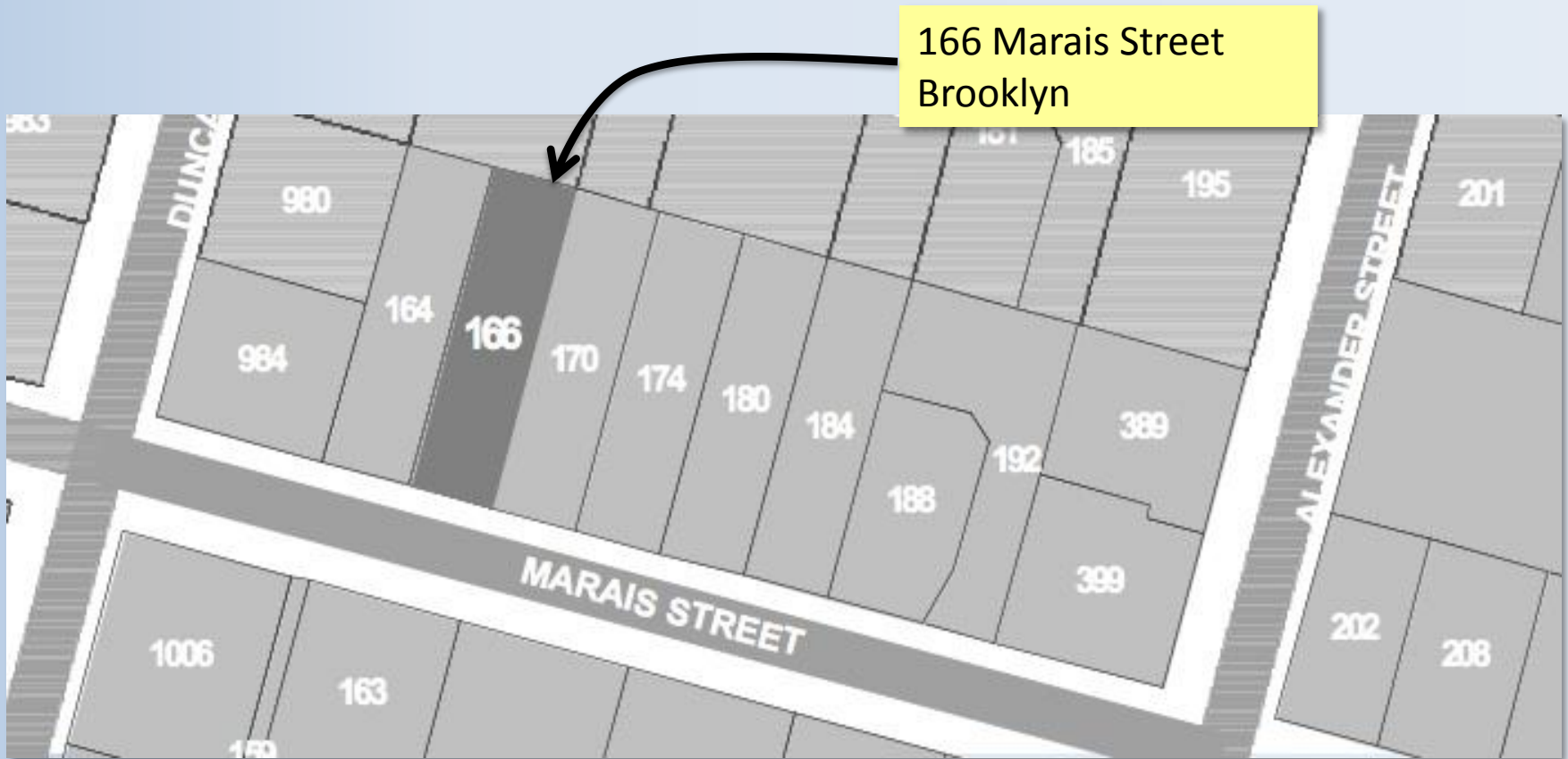
Australian rural address

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Tokyo, Japan

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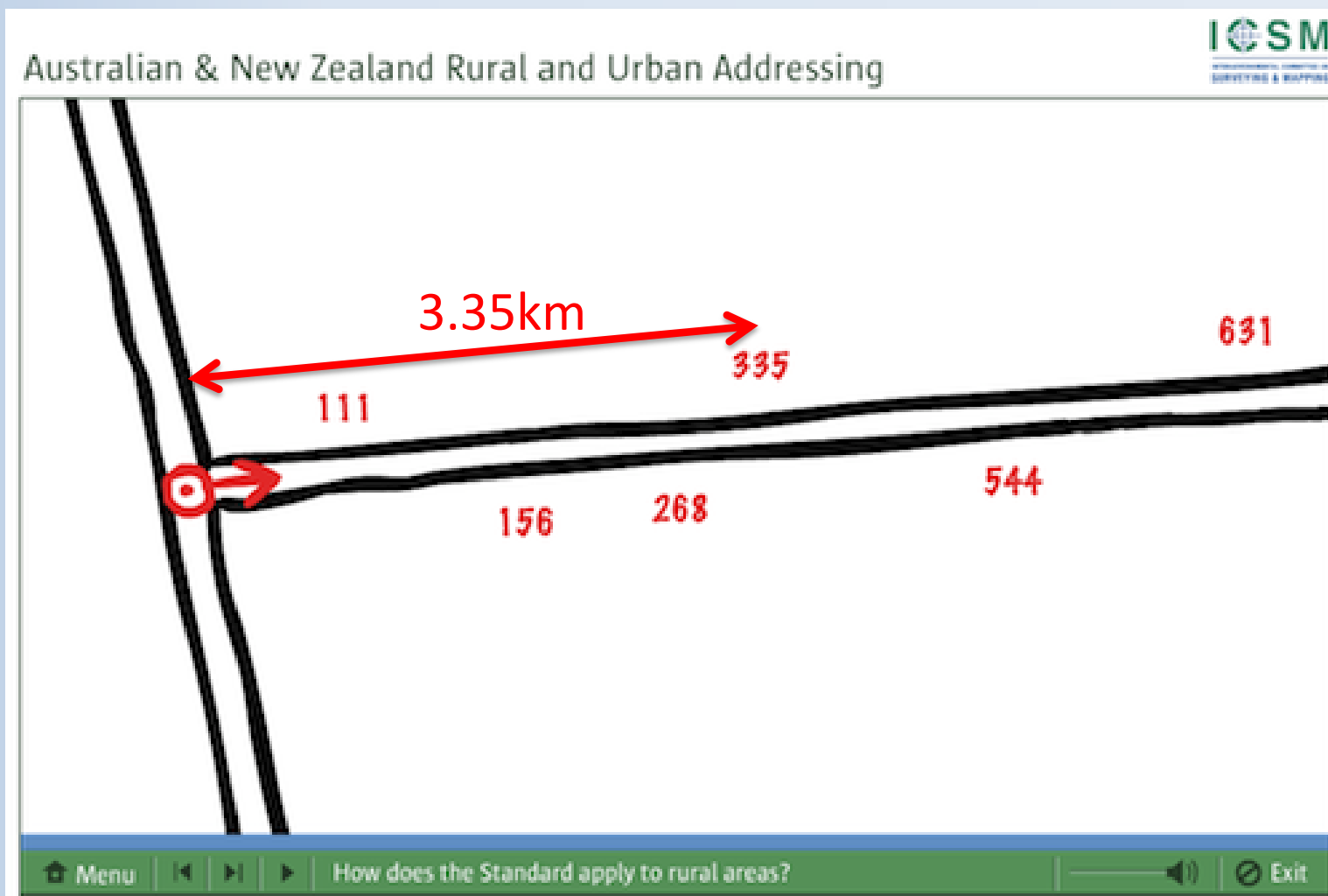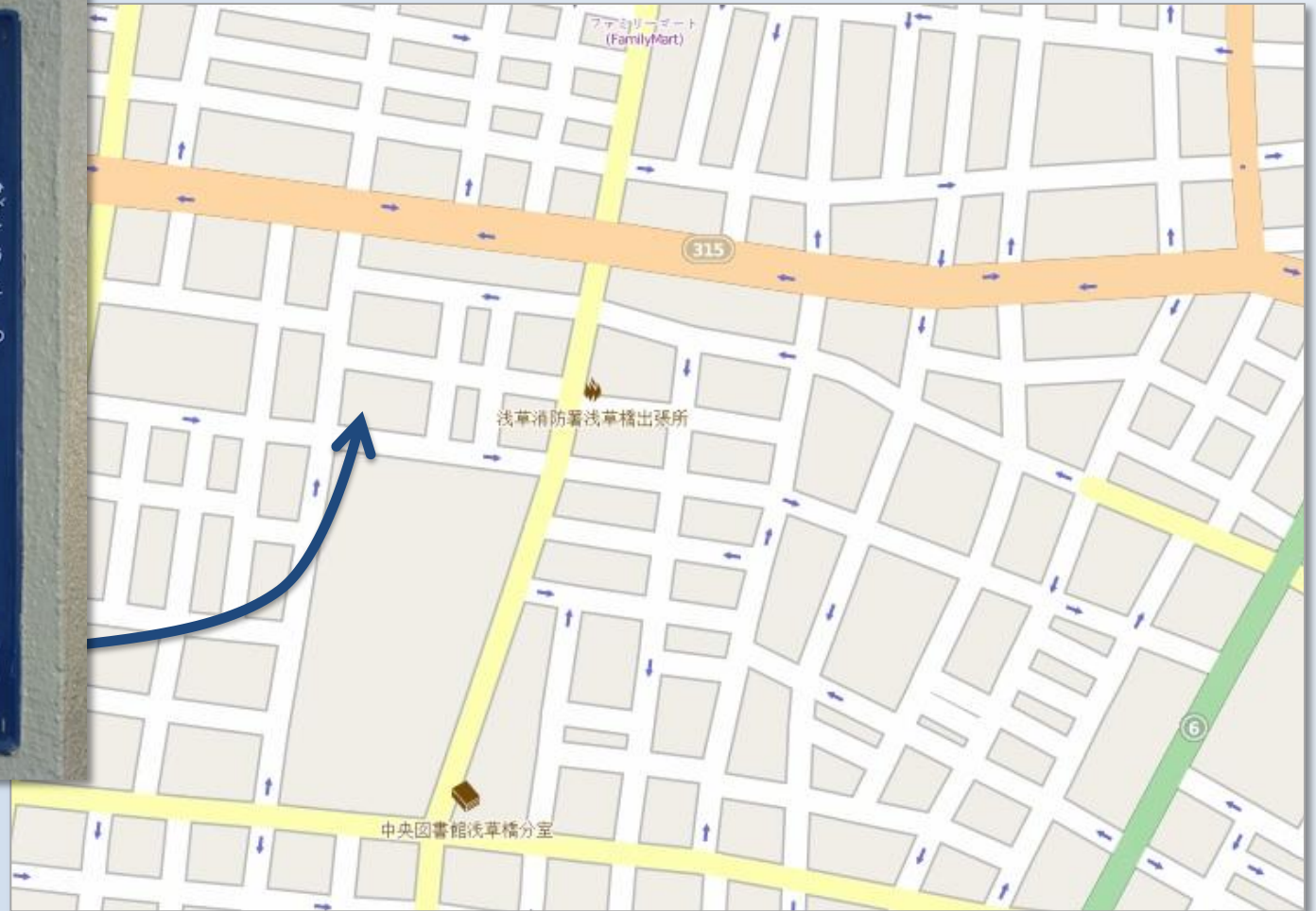
Addresses in informal settlements

Opposite the butcher shop, Tsamaya Street, Mamelodi, Pretoria, South Africa

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What is an address?

- INSPIRE
  - location of ***properties*** based upon address identifiers, usually by road name, house number, postal code

- Universal Postal Union (UPU)
  - set of information which, for a ***postal item***, allows the unambiguous determination of an actual or potential delivery point, usually combined with the specification of an ***addressee*** and/or a mailee

- South African Address standard (SANS 1883)
  - an address unambiguously specifies a point of ***service delivery*** (location where service is provided)

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An address is a common reference

- Original purpose: postal delivery
- Now: *ALL* service delivery: utilities, emergency, credit, etc.

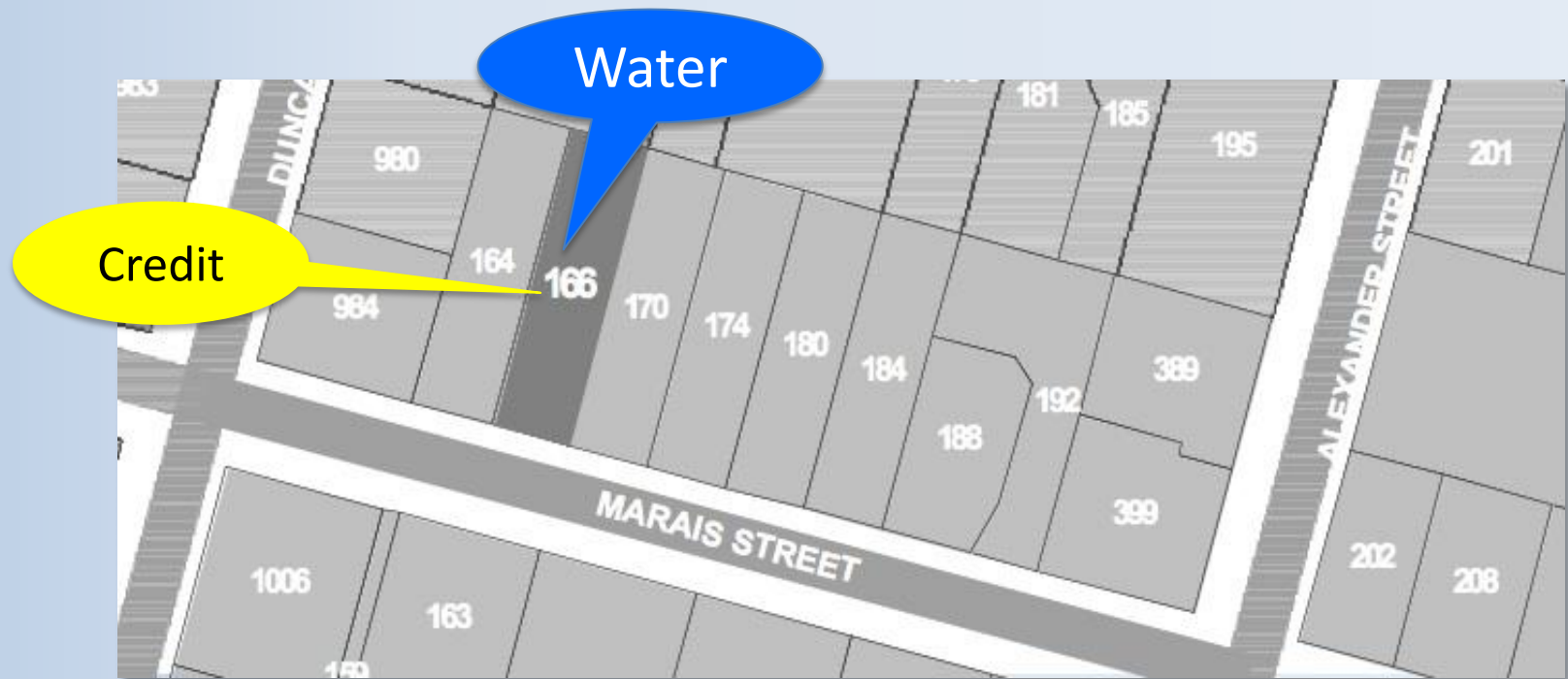*Photo: www.pikitup.co.za*

Photo: www.eskom.co.za

Photo: SA Post Office

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An address is a common reference

- Addresses are reference data
  - Other information can unambiguously be referenced according to address data

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An address is a common reference

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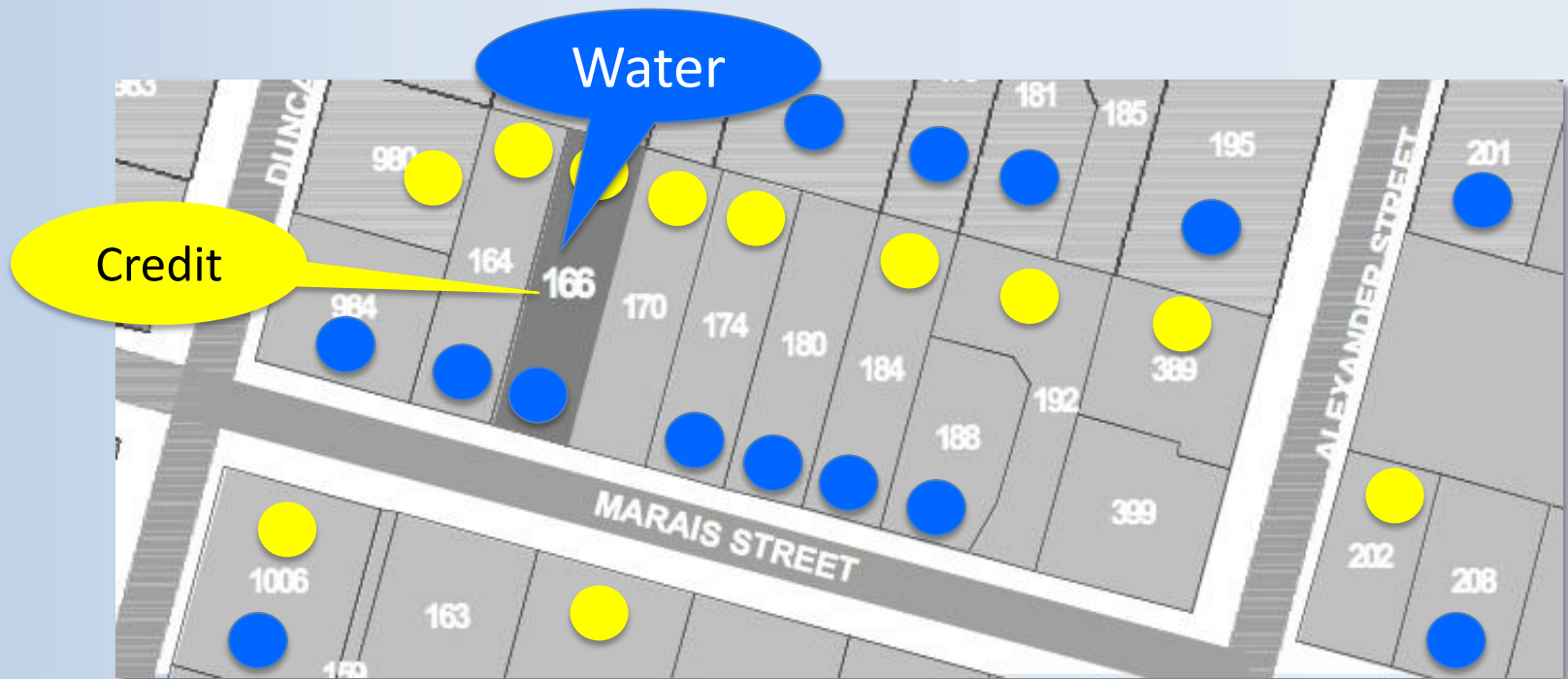
Address assignment scheme

- Identifies the components that make up an address
- Describes how values are assigned to these components (ISO 19160)
- Address example

  447 Lynnwood Road, Hatfield, Tshwane, Gauteng

  – *Address number* approved by municipality
  – *Street name* approved by municipality
  – *Suburb name* approved by Surveyor General
  – *Municipality* name approved by the Municipal Demarcation Board
  – *Province name* in the Constitution

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Trade-off

People

Digital presentation

Physical world

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Benefits of standardization

Economy

Society

Governance

Address standards

International

Regional

National

etc.

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ISO
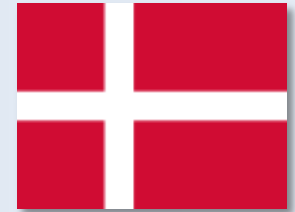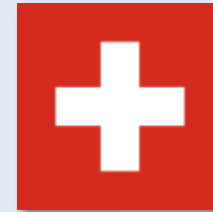
- International organization for standardization
  - www.iso.org
  - ISO from *isos* (Greek) meaning 'equal'
  - Standards are developed by consensus
  - 162 countries
  - World's largest developer and publisher of international standards
  - Examples
    - ISO 9000 series on *Quality management systems*
    - ISO 14000 series on *Environmental management*
    - ISO/TC 211, *Geographic information/Geomatics* www.isotc211.org

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ISO and CEN

- Lisbon agreement (1989)
    - Agreement on full and mutual exchange of information between ISO and CEN

- Vienna agreement (1991)
    - Procedural mechanisms to ensure
        - International Standards and European Standards are compatible or identical

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ISO 19160, Addressing

- ***NOT*** to write an address standard!
- Get stakeholders around table
- Review existing standards
- Review summary to be published in 2011

Addressing standardization requirements?

http://www.isotc211.org/address/iso19160.htm

ISO 19160 Recommendations

ISO 19160-1, *Geographic information – Addressing terminology and conceptual model*

Standard A   Standard B   Standard C

Address number   *Locator*   *Street number*

ISO 19160 Recommendations

- Good practices for address assignment schemes
- UPU/World Bank report shows relevance
  - Access
    - Coverage per population and area, PO Box alternative, business deliveries
  - Level of difficulty to obtain an address
    - Cost, delays, lack of decentralization, procedures and documents

Source: Getting an Address (2010 Report) by UPU

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ISO 19160 Recommendations

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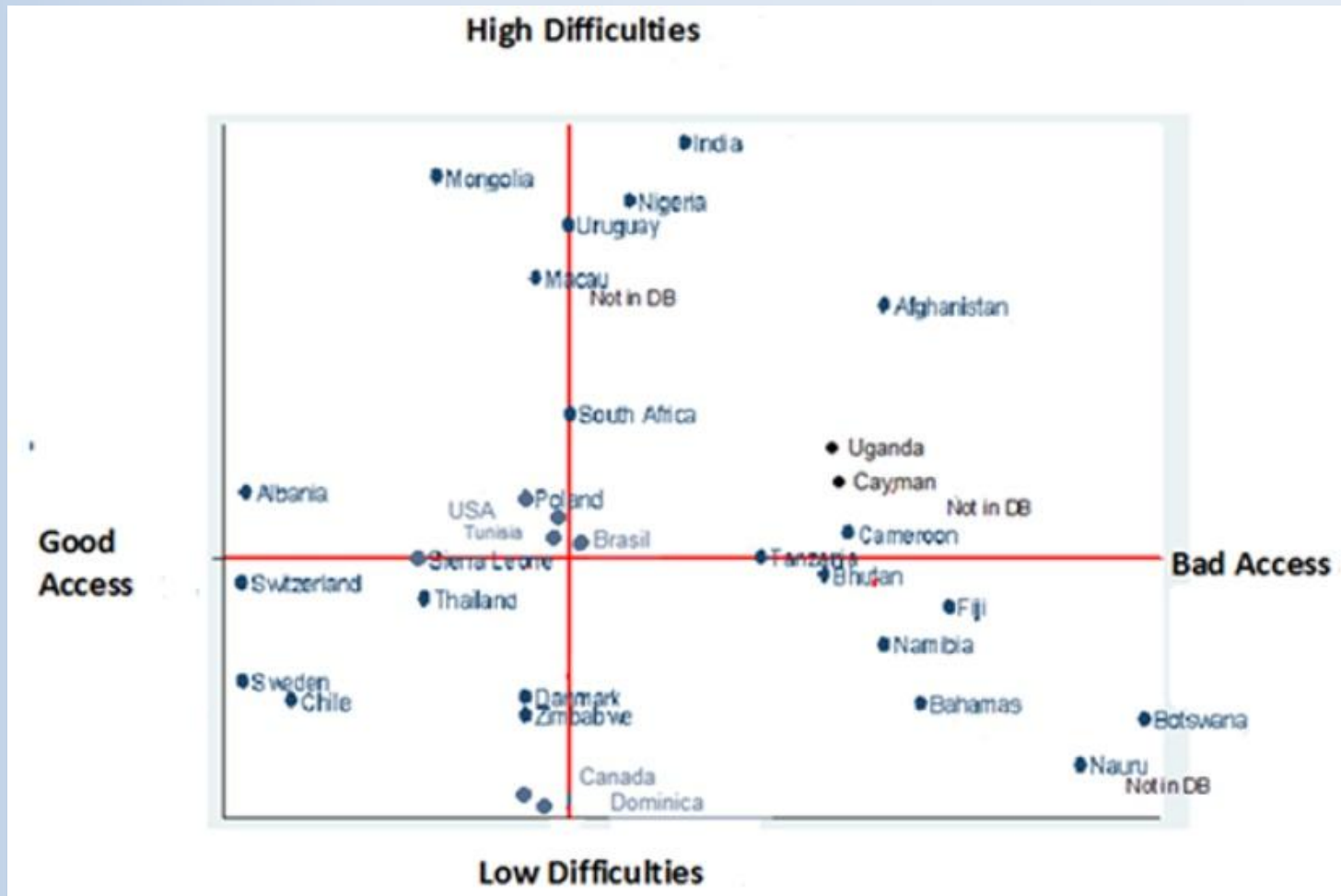
ISO 19160 Recommendations

- Quality management for address data
  - Logical consistency
    - Front door or back door?
  - Completeness
    - How does one measure this for addresses?
  - Temporal accuracy
    - Retired addresses vs. addresses in use
  - Attribute accuracy
  - Positional accuracy

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ISO 19160 Recommendations
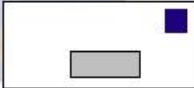
- Adopt UPU S42, International postal address components and templates

South Africa

Postcode — Postcode type and position

4 digits below the name of the town or name of suburb.

Coding method

0 0 8 3

→ post office

→ postal area

Mr J Nel
10 Church Street
COLBYN
Pretoria
0083
SOUTH AFRICA

Position of the address on the envelope — Centred

Alignment of address lines — Left-aligned

Address format — The address must not contain any punctuation marks.

ISO 19160 Recommendations

- Language to describe address rendering on mobile devices

Today

- Same fields for all countries

- No space for building names, e.g. South Africa?

- How to enter addresses based on blocks and boundaries, e.g. Japan?

- No address verification

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An international standard…

✓ Depending on the country, the text boxes change

✓ More than one address type per country

✓ Real-time address verification before check-out

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Free/open access to data

- Example of free address data in Denmark
  - 2002
    - Official Danish address data available free of charge
  - 2005-2009
    - ***Financial benefit: EUR 62 million***
    - Total costs: EUR 2 million
    - Included: direct financial benefits
    - Excluded: indirect financial benefits

http://www.adresse-info.dk/Portals/2/Benefit/Value_Assessment_Danish_Address_Data_UK_2010-07-07b.pdf

Volunteered geographic information

- Address data volunteered by individuals
  - Not necessarily professionals
  - What is the quality of data?
  - Motivation for contribution?

The person living at an address knows it!
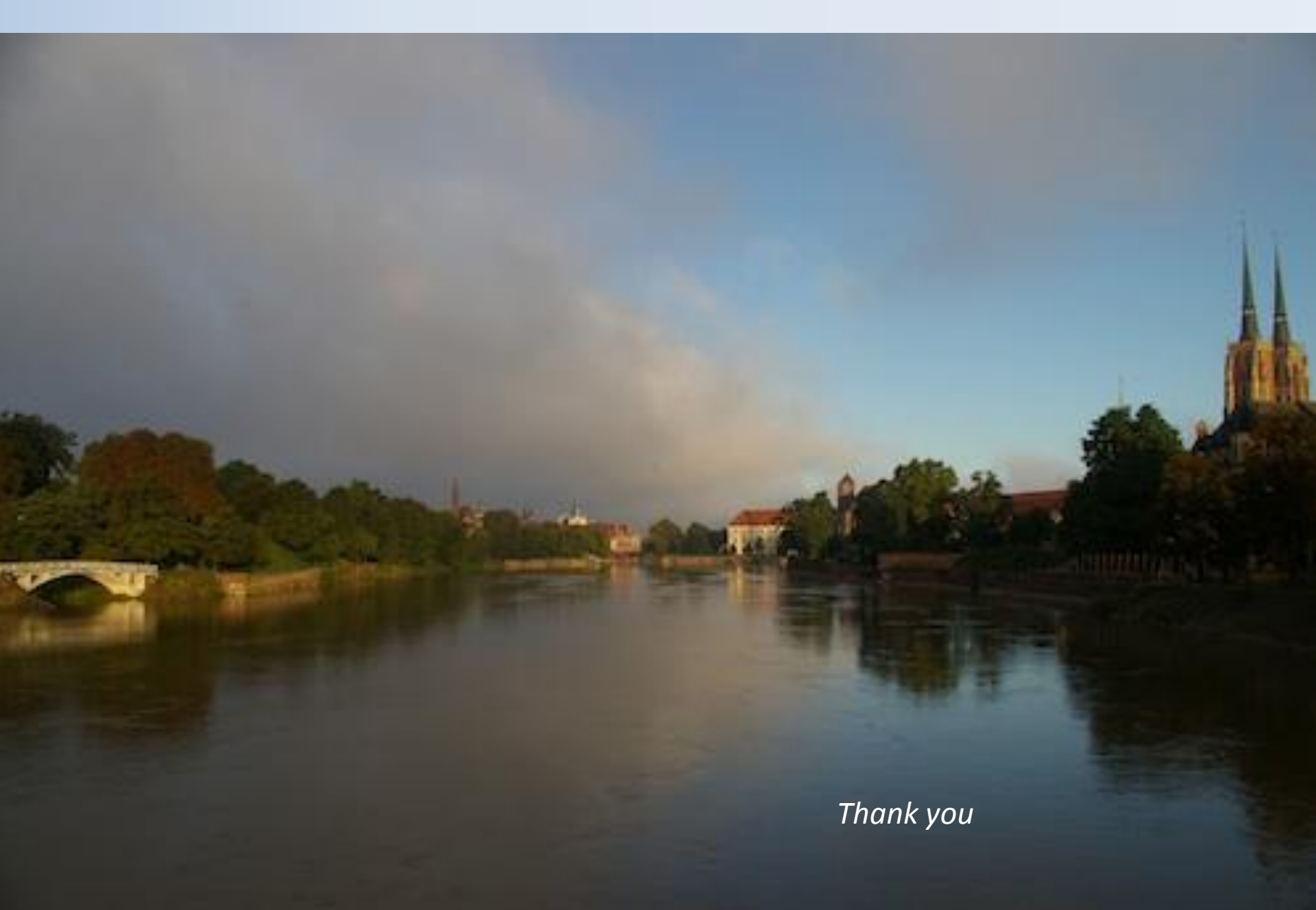
Volunteered addresses

- Opportunities
  - Fill the address data gap
    - Improve service delivery, standard of living
  - Availability of open data tools
  - Compare data from different sources
  - Contributions through mobile phones
- Challenges
  - Fraud
  - Computer and map literacy
  - How to evaluate quality

Conclusion

- An address is a common reference

- Address assignment scheme is important

- Many benefits from address standards
  - Also internationally

- Future:
  - Understandable (address standards)
  - Open, free
  - Volunteered

Acknowledgement

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Thank you

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