

# Sharing and coordinating SDIs in the age of crowdsourcing and mobile technologies

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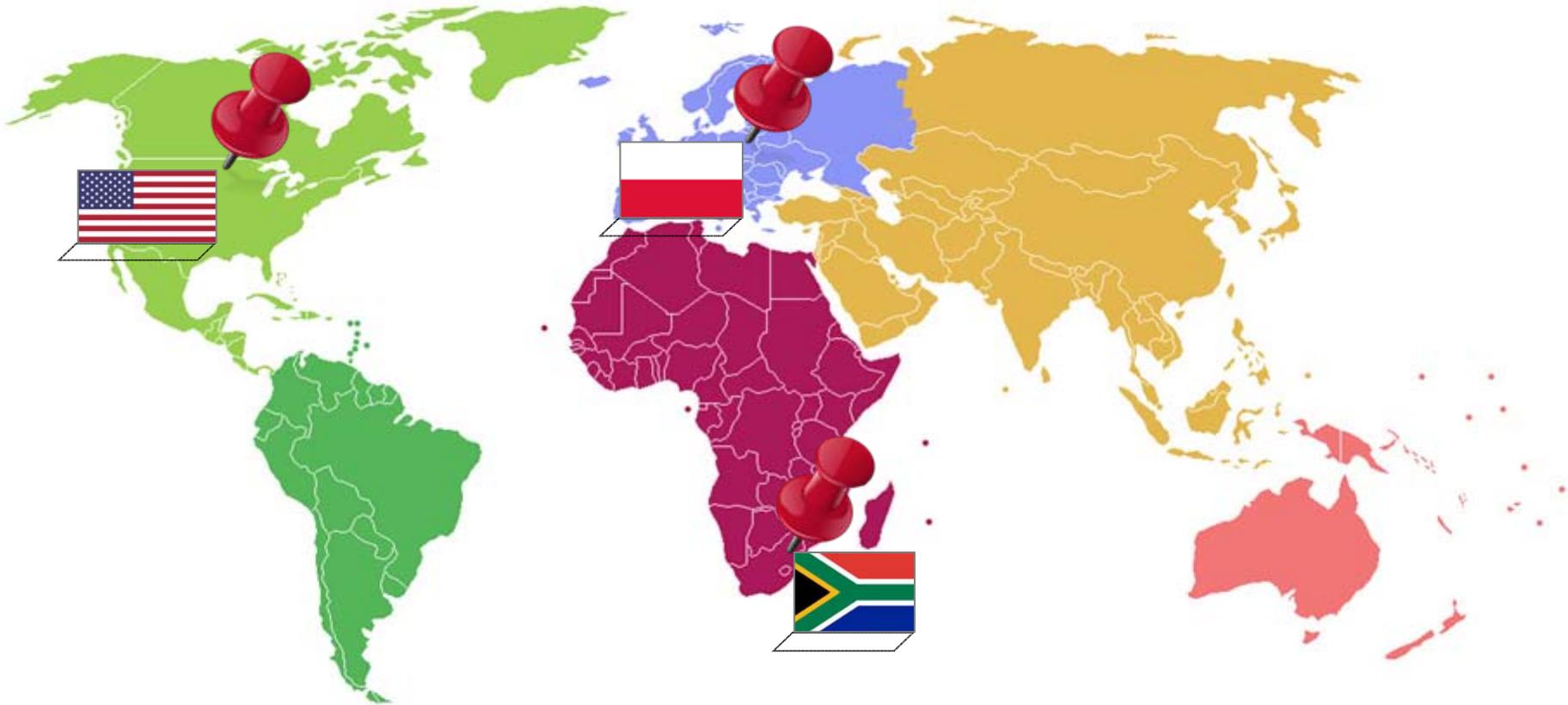
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# About the authors

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Map: <http://www.zonu.com/>



# Introduction

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- ▶ Originally, SDIs developed not only to replace paper maps, but also to take advantage of new possibilities
- ▶ SDIs are continuously evolving to take advantage of new technologies
- ▶ Current technology trends we explored
  - ▶ Mobile technologies
    - ▶ Smart phones with GPS...
  - ▶ Crowdsourcing
    - ▶ Produce data and services by soliciting contributions from a large group of (online) people



# Introduction

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- ▶ How are SDIs evolving in response to new technologies?
  - ▶ Centralized repositories for authoritative data?
  - ▶ Fragment into mission-focused SDIs with smaller scopes?
  - ▶ Hybrids institutionally keeping centralizing/decentralizing tendencies at bay?
  - ▶ Develop into dynamic, capricious interactions involving data?
  - ▶ Government-centric vs market driven approach?



# SDI development...

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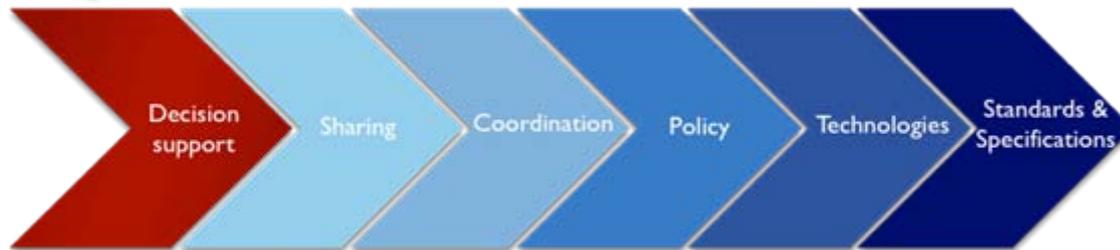
...can be understood as a response to common needs.



# The need for decision support

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High-quality information and analyses are prerequisites for good decision support



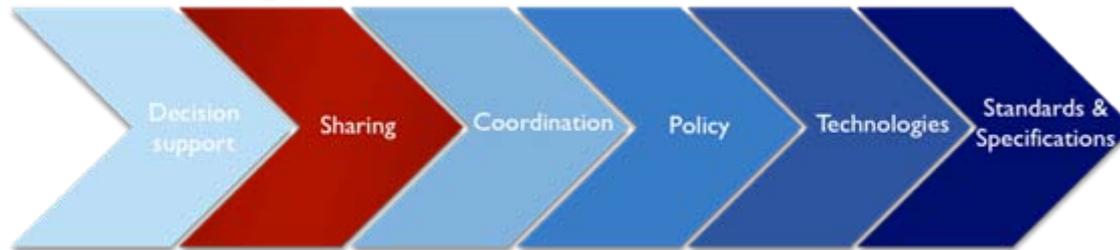
- ▶ **Crowdsourcing and mobile technologies make it easier to collect data, involve more people at a lower cost**
  - ▶ Is authoritative data still a prerequisite for good decision support?
  - ▶ General public getting involved in data collection
    - ▶ USA: Watershed watches, South Africa: Mobilitate, OpenStreetMap parties, ...



# The need to share

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Ability to infinitely reproduce copies makes sharing possible...



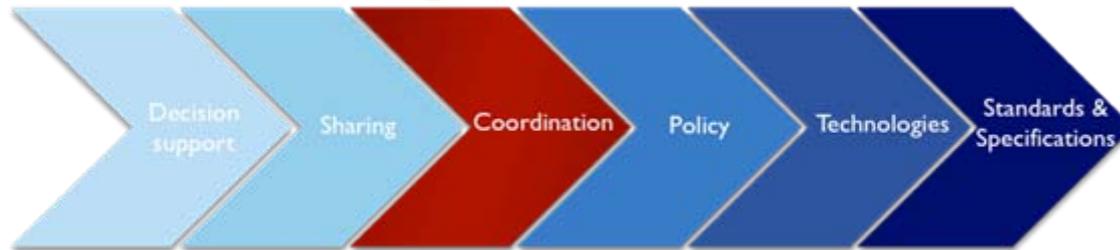
- ▶ Mobile apps, open source web map servers, cloud platforms make it **easier to share data**
    - ▶ Raises location privacy issues
    - ▶ Web search engines find anything...do we still need geoportals?
    - ▶ US: SDI Roadmap for USGS, FGDC business plan for geospatial platform
      - ▶ Streamline operations and consolidate infrastructure
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# The need to coordinate

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Coordination is required for sustained sharing



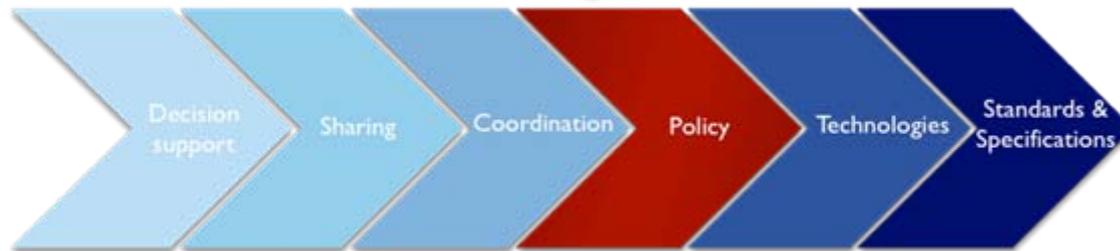
- ▶ **Funding constraints** prompt authorities to explore mobile technologies and crowdsourcing
  - ▶ South Africa: VGI integration brings brings new coordination challenges
  - ▶ Poland: Public comments on land parcel boundaries improved the quality of the data



# The need for policy

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Framework beyond informal coordination to ensure ongoing sharing



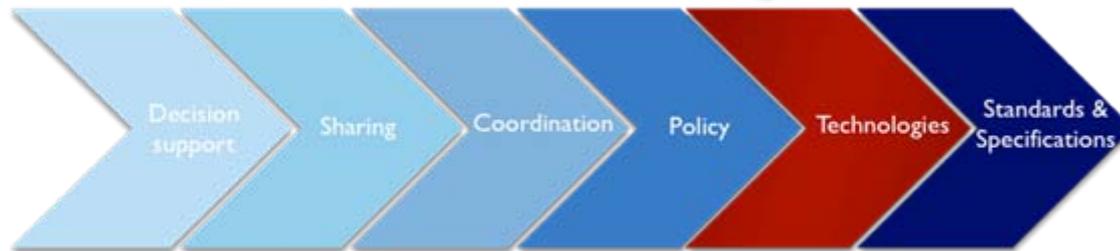
- ▶ **Crowdsourcing and mobile technologies make it possible to integrate (parts of) datasets from multiple sources**
  - ▶ License agreements for integrated datasets...
  - ▶ License agreements need to cater for smaller chunks of data
  - ▶ Move towards geographic information as a public good



# The need to keep up with technological developments

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Increased capacities and possibilities,  
keep up with latest technologies...



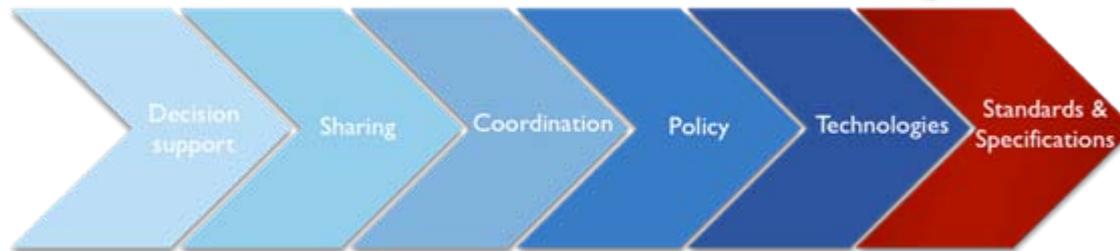
- ▶ **Smartphones with GPS, crowd sourced data enable access and updates to data anywhere, anytime**
  - ▶ Users want to interact with SDI data in a similar fashion
  - ▶ Market-driven approach
    - ▶ Make the data available, let the market add value (US, South Africa, Poland)
  - ▶ Government-centric approach
    - ▶ Exclusive SDI data contracts, build capacity in government (South Africa, Poland)
      - Poland: young people still think that authorities are the sole owners of geographic data



# The need for standards and specifications

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Standards and specifications required to facilitate sharing



- ▶ **Crowdsourcing and mobile technologies call for new standards and specifications**
  - ▶ ISO/TC 211, *Geographic information/Geomatics*
    - ▶ Ubiquitous public access to geographic information
  - ▶ Open Geospatial Consortium (OGC)
    - ▶ Mobile internet & LBS domain, GeoRSS, Open GeoSMS...



# Conclusion

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- ▶ SDIs are evolving as a result of crowdsourcing and mobile technologies...
  - ▶ Easier to collect, share and coordinate data at a lower cost
    - ▶ More efficient authoritative data collection
    - ▶ Location privacy?
    - ▶ Do we still need geoportals?
  - ▶ Citizens increasingly involved, sometimes resulting in small SDIs
    - ▶ Is authoritative data still required?
  - ▶ Integration of (parts of) datasets
    - ▶ License agreements need to be adjusted accordingly...
  - ▶ More data traffic, but in smaller chunks
    - ▶ Standards and specifications are being revised/replaced accordingly...
  - ▶ Changing user expectations
    - ▶ SDI users want access through new technologies anywhere, anytime



## Conclusion

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**Crowdsourcing and mobile technologies  
are having an evolutionary impact on  
SDIs**



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Dankeschön

Dankie

Dziękuję

Thank you

