Nieuwe technologie
mogelijk maken

Maps4Society

solutions for user-oriented and smart geo-information infrastructure

STW-Rijkswaterstaat-Kadaster-NSO-NCG

Expressions of Interest

Submitted in preparation of the Programme and
of the Matchmaking Meeting on 8 November 2013

NWO
Nederlandse Organisatie voor Wetenschappelijk Onderzoek

Ministerie van Economische Zaken

Introduction

STW and the consortium partners Rijkswaterstaat, Kadaster, the Netherlands Space Office (NSO) and the Netherlands Geodetic Commission (NCG) are proud to present the Collaboration Programma Maps4Society.
The goal of the programme is to improve the existing national geo-information infrastructure (PDOK, NMDC and the national Satellite Data portal) via various innovations and align this with international developments, such as the EU FP7 project European Location Framework (ELF, started in March 2013).
The organisers of the Matchmaking hope that the Meeting will inspire innovative ideas and unexpected combinations of partners.

Expressions of Interest (EoI) were solicited in order to give everyone involved in this field the opportunity to influence the set-up of the programme. Before the first deadline, 41 EoI's were submitted.
For the Matchmaking Meeting on 8 November 2013 there was a second opportunity to present plans; 8 additional ideas were submitted. All 49 EoI's are presented in this booklet.
Added for possible contacts are:

- information about plans of the *Platform Natuurvriendelijke Oevers*;
- information about Alliander's initiative to open their data.

In the following pages you will find:

- **an overview of all EoI's and their authors,**
- **a table showing the position of the EoI's in the M4S research and appliation areas,**
- a **list of criteria to be used in the evaluation of proposals,**
- **all individual EoI's,**

Overview of Expressions of Interest

No.	Author	Affiliation	Date	Title
1	Haicheng Liu	TUD	09-06-2013	High-performance hydro-database
2	Benny Onrust	TUD	09-06-2013	Automatically construction 3D semantic urban models
3	Eva van der Laan	TUD	09-06-2013	Authorized data and VGI in crisis management.
4	Antigoni Makri	TUD	10-06-2013	Quality & credibility of VGI for crisis management
5	Weilin Xu	TUD	10-06-2013	Linked data & parallel spatial index for big water data
6	Minxue Chen *Nominated*	WUR	20-06-2013	Preventing gas leakages
7	Chris van Aart	2CoolMonkeys	25-06-2013	How make from big data, little (mobile) data
8	Matthijs Danes	Alterra	27-06-2013	Public platform to monitor the significance of environmental issues
9	Rebecca Moody *Nominated*	EUR	01-07-2013	Public administration and big (geo) data
10	Martin Kodde	Fugro GeoServices	02-07-2013	Point Clouds: a big data source for smart urban management
11	Bastiaan van Loenen	TUD	02-07-2013	Safeguarding privacy in an open data world
12	Marc van Kreveld	UU	03-07-2013	From 3D point clouds to useable, useful 3D models

13	Bujar Nushi	TUD	03-07-2013	The STIG: Framework for the Stress-TEst for Infrastructures of Geographic Information
14	Kourosh Khoshelham	UT	03-07-2013	Maps4Indoor (M41)
15	Sander Oude Elberink	UT	03-07-2013	Up-to-date 3D terrain models for water management applications
16	Markus Gerke	UT	03-07-2013	UAVs for automatic construction site monitoring
17	Markus Gerke	UT	03-07-2013	Automated UAV supported monitoring of dykes
18	Georgiana Maxim	WUR	03-07-2013	Ground deformation data for active asset maintenance
19	Remon Pot	Fugro GeoServices	03-07-2013	Participatory flood control by intelligent 4D mapping
20	Wilko Quak	TUD	03-07-2013	Accessing real time data sources
21	Martijn Meijers	TUD	04-07-2013	A 1 day old map based on volunteered geographic information and authentic key registers
22	Jantien Stoter	TUD	04-07-2013	3D city models to implement the concept of Smart Cities
23	Edward Verbree	TUD	04-07-2013	Indoor BAG/Postcodes
24	Hugo Ledoux	TUD	04-07-2013	Consistency, validation and improvement of 3D models
25	Gennadii Donchyts *Nominated*	Deltares	04-07-2013	Interactive modelling of cost benefit analysis and flood damage mitigation at detailed level
26	Gerben de Boer	Deltares	04-07-2013	Curvilinear hydro forecast models
27	Reinout Kleinhans *Winner EoI-challenge*	TUD	25-07-2013	VGI social scientific approach for neighbourhood governance
28	Arend Ligtenberg	WUR	08-08-2013	Human sensors in the City
29	Wilko Quak	TUD	09-08-2013	Linded (spatial) data for Smart Cities
30	Marc Spiller	WUR	13-08-2013	GI and data harmonisation for Resources oriented sanitation and reuse
31	Henk Kramer	Alterra	13-08-2013	Greensward supported by virtual fieldwork
32	Jan Willem van Eck	Esri	14-08-2013	Open innovation framework
33	Paul Opdam *Nominated*	WUR	14-08-2013	Mapping the services of your landscape: place making and local governance
34	Tamirat F. Nebiyu	WUR	14-08-2013	GI and data harmonization for resource-oriented sanitation and wastewater reuse
35	Ron van Lammeren	WUR	14-08-2013	Spatial View in Time
36	Sisi Zlatanova	TUD	14-08-2013	Maps for indoor navigation
37	Sisi Zlatanova *Nominated*	TUD	14-08-2013	Smart indoor environments and models
38	John Steenbruggen	RWS	15-08-2013	Maps for traffic incident management
39	John Stuiver	WUR	15-08-2013	Community oriented quality criteria
40	Sven Reulen	WUR	15-08-2013	Restructuring neighbourhoods using GIS and citizen participation

41	Simeon Nedkov	VU	15-08-2013	Investigate emerging decentralized geo-data management by Smart Citizens

42	Menno Straatsma	UU	10-10-2013	Embankment mapping at global scale for flood risk assessment
43	Derek Karssenberg	UU	15-10-2013	Model Earth – A cloud based software platform for retrieving high resolution environmental information generated by real time model simulations
44	Ron Wardenier	Ron Wardenier GeoConsult	30-10-2013	Towards more sustainable and reliable spatial services
45	Mark Verlaat	RUG	31-10-2013	Geo Service
46	Geert Leus	TUD	31-10-2013	Autonomous Rainfall Mapping
47	Linda Carton	RUN	31-10-2013	Smart Cities: the integration of digital, intelligent, and physicial cities
48	Andrew Skidmore	UT	01-11-2013	In situ sensor network coupled with remote sensing for monitoring and mapping wildlife and livestock
49	Jantien Stoter	TUD	08-11-2013	Geo-information infrastructure governance

	ir. G.J.H. Vergeer (secretaris)	Platform Groen Blauwe Aders		Kansenkaart voor water en groen in stedelijke omgeving
	Opendata@liander.nl	Alliander		Liander opent data

The Expressions of Interest in the framework of Reseach and Application Areas in the Maps4Society Programme

Research Areas	Applications				
	1. Object life-cycle management	**2. Water management**	**3. Deformation monitoring**	**4. Crisis management**	**5. Smart cities / Human environment**
A. Dynamic data and harmonisation	6 31,33,35 43	1, 15,19 25 35 43,46	6 15 35	6 19 25 35 43,46	6,7,8 19 21,29 31,33,35,37 46
B. Managing Big Data	10, 31,35, 43, 45	1,2,4,9 15 35 42,43,45	15,17 35 45	2,9 17 35 42,43,45	2,9, 10,12,14,16,18, 20,21,22,24,26,28,29, 30,31,32,34,35,36,37,38, 40, 45
C. Data quality assessment	6 31,35,39 43,45	19 35 42,43,45,46	6 17 35 45	6 13,17,19 35,39 42,43,45,46	6,8 13,19 31,35 45,46
D. Satellites-as-a-service					 48
E. Volunteered geographic information	6 33	 42,46	6 17	3,6 17 46	6,8, 27,29 33 41,46,47,48
F. Geo-information infrastructure governance	6, 10,11 33 44,45	9 11,19 44,45	6 11, 44,45	6,9 11,13,19 44,45	6,8,9 10,11,13,19 23 33 44,45,47

Criteria on which Pre-proposals will be evaluated

Proposals should at least satisfy the following criteria:

- Proposals should fit within the theme of the call, addressing at least one of the application areas mentioned in section 2 of the programme plan by advancing at least one of the major research areas mentioned in section 3 (i.e. fitting into at least one of the cells in the table);
- Collaboration between research groups from different disciplines is mandatory. This collaboration can be between research groups from different faculties at the same university or between research groups from different universities.
- The research should involve science, governance and companies (i.e. take place in the 'golden triangle'; the government and the business community can participate “in kind”).
- Proposal should be innovative, not only in scientific approach, but also for instance in terms of: creative consortium and innovative collaboration, new data sources or new business processes.
- The research should have a convincing probability of research results to be utilised by the consortium partners, or benefitting society, or leading to new economic activity.

Not compulsory but seen as a plus are:

- involvement of Master and Bachelor students;
- involvement of universities for applied sciences (HBO)

The Programme Committee members will evaluate the pre-proposals and KIPs satisfying the above criteria. They will review a pre-proposal or KIP looking at scientific quality, utilisation perspective and fit into the programme.

Scientific quality

- Competency of the research team
- Originality and innovative character of the proposal in terms of organisation
- Chance of the research leading to breakthroughs
- Expected impact on the scientific community
- Research method and approach
- Theoretical background and framework
- Time schedule and deliverables
- Adequacy of budget and infrastructure

Utilisation perspective

- Strong and weak points of the utilisation plan
- Originality and innovative character of the proposal in terms of utilisation plans
- Chance for creative new products
- Potential economic impact
- Potential societal relevance
- Interaction and cooperation between research and industry
- Past performance in the realisation of utilisation by the applicants
- Likelihood that the research will generate patents and/or know-how agreements
- Steps needed for the research results to reach the business environment during and after the period of research

Fit into the programme

- Contribution to the aims of the Cooperation Programme

Cooperation Programme **Maps4Society**

Expression of Interest (M4S EOI)

You are cordially invited to submit your expression of interest to the M4S Wiki. This offers you the opportunity to influence the Maps4Society programme call. The most original EOI will be awarded with a delicious Maps4Society cake! Send before 4 July 2013 to E.M.Fendel@tudelft.nl

1. Name:	Haicheng Liu
2. Organisation/discipline/domain:	OTB Research Institute for the Built Environment
3. Contact (email/telephone):	H.Liu-2@student.tudelft.nl
4. Addresses scientific challenge: *select from a. Dynamic data and harmonisation, b. Managing Big Data, c. Data quality assessment, d. Satellites-as-aservice, e. Volunteered geographic information, f. Geo-information infrastructure governance* and add explanation when relevant	a. and b.(*Dynamic data and harmonisation, Managing Big Data*) Nowadays, with the fast development of all kinds of data collecting techniques, especially remote sensing technique, data is exploding which lets us ponder how to handle large datasets efficiently. Also different data sources bring heterogeneous data, how to aggregate them is a challenge as well.
5. Target application domain: *select from A. Object life cycle management, B. Water management, C. Deformation monitoring, D. Crisis management, or E. Smart Cities/ Human environment* and add explanation when relevant	B.(*Water management*) In the hydrological domain, integrating remote sensing data into hydrological models is a hot topic. The data can be for example, soil moisture, evapotranspiration, snow water content or high resolution DEM, such as AHN for the Netherlands. Research on enrolling vector data like openstreetmap into hydrological model is also undergoing. And all these data have spatial characteristics, so knowledge from geospatial data studies can also be applicable to them. Making use of these data on the one hand can benefit the hydrological simulation or forecast; On the other hand, indeed adds loan on data processing tasks.
6. Describe briefly own approach (ca. 5 lines):	To solve the "big data" problem for water management, we need a high-performance hydro-database. Current spatial databases, like Oracle Spatial and Graph, PostGIS have already established examples there. First of all, a data framework for all hydrological data layers has to be set up. OGC has already defined the environmental data model which also includes hydrological datasets, so it can be the starting point. Nevertheless, ancillary functions like detecting trends from the data, data transformation, for example, from daily rainfall to monthly rainfall can be embedded into the hydro-database as well. As to combine these datasets for hydrological modelling, a common way is to implement data assimilation. Although it does not make sense to encode specific hydrological model into database since the advantage of database is efficiency in a general sense instead of specific structures, it is possible to

	integrate data assimilation methods into the hydro-database since the methods adopted by data assimilation are indeed the generic mathematical approaches, like Kalman filtering. Various applications are available on such a hydro-database. For example, flood management in which real time data also needs to be processed. And this should also be addressed in the database. Another case is the hydrological information system(HIS) which can serve as a data portal and provide valuable services through the Internet, among which CUAHSI-HIS is a pioneer. In fact, such a hydro shares the same idea with WebGIS.
7. Envisioned/potential University partners/disciplines:	Water management section, TU Delft Earth surface hydrology section, Utrecht University
8. Envisioned/potential Industry partners:	Deltares Escience center Hydrologic BV NEO
9. Fit's within topsector: *select from Agri&Food, Creatieve industrie, Energie, Tuinbouw en uitgangsmaterialen, Life sciences & Health, Water, High tech (HTSM), ICT, Logistiek, or Chemie* and add explanation when relevant	Water, High-tech

Cooperation Programme **Maps4Society**

Expression of Interest (M4S EOI)

You are cordially invited to submit your expression of interest to the M4S Wiki. This offers you the opportunity to influence the Maps4Society programme call. The most original EOI will be awarded with a delicious Maps4Society cake! Send before 4 July 2013 to E.M.Fendel@tudelft.nl

1. Name:	Benny Onrust
2. Organisation/discipline/domain:	Geomatics
3. Contact (email/telephone):	b.onrust@student.tudelft.nl
4. Addresses scientific challenge: *select from a. Dynamic data and harmonisation, b. Managing Big Data, c. Data quality assessment, d. Satellites-as-aservice, e. Volunteered geographic information, f. Geo-information infrastructure governance* and add explanation when relevant	B, Managing Big Data. How to automatically construct 3D semantic urban models from geo data to use in (real-time) simulations and show it on the web.
5. Target application domain: *select from A. Object life cycle management, B. Water management, C. Deformation monitoring, D. Crisis management, or E. Smart Cities/ Human environment* and add explanation when relevant	B, Water Management or D, Crisis Management or E, Smart Cities
6. Describe briefly own approach (ca. 5 lines):	To solve the automatically construction of 3D semantic urban models, a framework must be created that can extract different objects from the geodata and convert automatically it to 3D cityGML models. Then, the cityGML should be stored in a database and then should be accessed remotely through web services, so that it can be efficiently visualized on the web in 3D.
7. Envisioned/potential University partners/disciplines:	Geomatics section, OTB Research Institue, TU Delft Computer Graphics and Visualization Group, EEMC, TU Delft
8. Envisioned/potential Industry partners:	TNO
9. Fit's within topsector: *select from Agri&Food, Creatieve industrie, Energie, Tuinbouw en uitgangsmaterialen, Life sciences & Health, Water, High tech (HTSM), ICT, Logistiek, or Chemie* and add explanation when relevant	ICT

Cooperation Programme **Maps4Society**

Expression of Interest (M4S EOI)

You are cordially invited to submit your expression of interest to the M4S Wiki. This offers you the opportunity to influence the Maps4Society programme call. The most original EOI will be awarded with a delicious Maps4Society cake! Send before 4 July 2013 to E.M.Fendel@tudelft.nl

1. Name:	Eva van der Laan
2. Organisation/discipline/domain:	MSc Geomatics. TU Delft
3. Contact (email/telephone):	eefvdlaan@gmail.com
4. Addresses scientific challenge: *select from a. Dynamic data and harmonisation, b. Managing Big Data, c. Data quality assessment, d. Satellites-as-aservice, e. Volunteered geographic information, f. Geo-information infrastructure governance* and add explanation when relevant	Volunteered geographic information is increasingly gaining popularity. An important part of this is crisis management. However, problem is that the accuracy and maintaining of the dataset is very uncertain and often this data doesn't contain metadata. Clearly these problems form a great drawback for the usage of this (rich) data is crisis management.
5. Target application domain: *select from A. Object life cycle management, B. Water management, C. Deformation monitoring, D. Crisis management, or E. Smart Cities/ Human environment* and add explanation when relevant	D. crisis management.
6. Describe briefly own approach (ca. 5 lines):	Authorized data and volunteered geoinformation could be made complementary. In that way, the advantages of VGI are combined with the safeguarding of quality and maintenance of the data.
7. Envisioned/potential University partners/disciplines:	TU Delft, OTB, MSc Geomatics
8. Envisioned/potential Industry partners:	
9. Fit's within topsector: *select from Agri&Food, Creatieve industrie, Energie, Tuinbouw en uitgangsmaterialen, Life sciences & Health, Water, High tech (HTSM), ICT, Logistiek, or Chemie* and add explanation when relevant	Logistiek

Cooperation Programme **Maps4Society**

Expression of Interest (M4S EOI)

You are cordially invited to submit your expression of interest to the M4S Wiki. This offers you the opportunity to influence the Maps4Society programme call. The most original EOI will be awarded with a delicious Maps4Society cake! Send before 4 July 2013 to E.M.Fendel@tudelft.nl

1. Name:	Antigoni Makri
2. Organisation/discipline/domain:	Delft University of Technology - TU Delft
3. Contact (email/telephone):	A.Makri@student.tudelft.nl
4. Addresses scientific challenge: *select from a. Dynamic data and harmonisation, b. Managing Big Data, c. Data quality assessment, d. Satellites-as-aservice, e. Volunteered geographic information, f. Geo-information infrastructure governance* and add explanation when relevant	E. Volunteered geographic information The recent years technological developments has led to an alternative mechanism for the acquisition and compilation of geographic information. However, there is a lack of quality assurance and a wide variety of data structures. Errors is a common observation in this type of data. How to deal with it is a challenge.
5. Target application domain: *select from A. Object life cycle management, B. Water management, C. Deformation monitoring, D. Crisis management, or E. Smart Cities/ Human environment* and add explanation when relevant	D. Crisis management One of the most important elements related to crisis is the short decision time. Social media platforms are increasingly used to create information during crisis events. Crisis management is a domain which can gain a lot of benefits from VGI provided that the data can be checked. Quick and on the spot decision-making can be enhanced by volunteered geographic information.
6. Describe briefly own approach (ca. 5 lines):	Mapping all information according to their credibility. After retrieving all information from various social media platforms to validate them by adding location (coordinates) based on the spatial footprint of the source and source profile data and classify them in categories according to their relevance and credibility. All information can be taken into consideration as all data formats can be used.
7. Envisioned/potential University partners/disciplines:	TU Delft Twente University
8. Envisioned/potential Industry partners:	
9. Fit's within topsector: *select from Agri&Food, Creatieve industrie, Energie, Tuinbouw en uitgangsmaterialen, Life sciences & Health, Water, High tech (HTSM), ICT, Logistiek, or Chemie* and add explanation when relevant	Life sciences & Health, High tech

Cooperation Programme **Maps4Society**

Expression of Interest (M4S EOI)

You are cordially invited to submit your expression of interest to the M4S Wiki. This offers you the opportunity to influence the Maps4Society programme call. The most original EOI will be awarded with a delicious Maps4Society cake! Send before 4 July 2013 to E.M.Fendel@tudelft.nl

1. Name:	Weilin Xu
2. Organisation/discipline/domain:	Geomatics ,Tu Delft
3. Contact (email/telephone):	Email: W.Xu@student.tudelft.nl Telephone: 0637404985
4. Addresses scientific challenge: *select from a. Dynamic data and harmonisation, b. Managing Big Data, c. Data quality assessment, d. Satellites-as-aservice, e. Volunteered geographic information, f. Geo-information infrastructure governance* and add explanation when relevant	Managing Big Data
5. Target application domain: *select from A. Object life cycle management, B. Water management, C. Deformation monitoring, D. Crisis management, or E. Smart Cities/ Human environment* and add explanation when relevant	Water management
6. Describe briefly own approach (ca. 5 lines):	In order to realize efficient management of big data, two aspects of current database system could be improved in my opinion. First is to enhance the links among various datasets. Linked data can help with the combination of datasets with different resources and data types since it uses uniform resource identifier(URI) to refer related data. Second is to improve indexing methods. New indexing methods such as parallel spatial indexing and 3D tree based indexing can be applied to accelerate the retrieval of big data.
7. Envisioned/potential University partners/disciplines:	1. OTB research (TU delft) 2. EDINA, UK National Data Centre (University of Edinburgh)
8. Envisioned/potential Industry partners:	1. DANS, 2. Nationaal Modellen en Data Centrum (NMDC) , 3. Alterra, 4. Het Waterschapshuis
9. Fit's within topsector: *select from Agri&Food, Creatieve industrie, Energie, Tuinbouw en uitgangsmaterialen, Life sciences & Health, Water, High tech (HTSM), ICT, Logistiek, or Chemie* and add explanation when relevant	Water

Cooperation Programme **Maps4Society**

Expression of Interest (M4S EOI)

You are cordially invited to submit your expression of interest to the M4S Wiki. This offers you the opportunity to influence the Maps4Society programme call. The most original EOI will be awarded with a delicious Maps4Society cake! Send before 4 July 2013 to E.M.Fendel@tudelft.nl

1. Name:	Minxue Chen
2. Organisation/discipline/domain:	MSc Geo-information science. Wageningen University.
3. Contact (email/telephone):	tonycmxqiezi@gmail.com / 0685373618
4. Addresses scientific challenge: *select from a. Dynamic data and harmonisation, b. Managing Big Data, c. Data quality assessment, d. Satellites-as-aservice, e. Volunteered geographic information, f. Geo-information infrastructure governance* and add explanation when relevant	*a. Dynamic data and harmonisation* The world is simply a four dimensional space: longitude, latitude, height and time. The last dimension, time, is the most challenge one. Data dynamic is hard to be monitored or predicted. *c. Data quality assessment* One of the main reasons that why dynamic data is difficult to be predicted is the data quality is hard to be controlled. Thus, to assess the data accuracy is necessary before carrying out analysis. *e. Volunteered geographic information* On one hand, VGI is a common approach to acquire large amount of data. On the other hand, VGI makes quality control more difficult. *f. Geo-information infrastructure governance* As time changes, many infrastructures might reach their designe services lives or get damages. So maintain them in a good service quality is essential. However, some infrastructures damages are not easy to be detected. For example, gas leakage of pipe lines which are usually underground.
5. Target application domain: *select from A. Object life cycle management, B. Water management, C. Deformation monitoring, D. Crisis management, or E. Smart Cities/ Human environment* and add explanation when relevant	*a. Object life cycle management* *c. Deformation monitoring* *d. Crisis management* *e. Smart Cities* Major gas leakage incidents are calamities in their own right but even small leaks can lead to dangerous situations (explosions). Fortunately, such major events are very rare. To avoid these crises, Alliander company is renovating the pipeline networks. To accomplish this task, deformation monitoring has to be done. The most pipes having high leakage risks have to be replaced first, since the networks are so huge that it is not possible to change them at once.

6. Describe briefly own approach (ca. 5 lines):	1. While gas leakage is to be prevented in all places, densely populated places and areas where hazardous materials are stored may require primary action. 2. Pipes close to main roads and rail ways might be damaged easier than other place due of the vibration caused by trucks and trains. Construction sites might do the same damages. 3. Trees roots can penetrate pipes while they grow. Thus big trees and woods need to be addressed. 4. Different soil type with different PH level can cause different levels of erosions. Ground water level can bring erosions as well. 5. Pipes with different ages and materials might react differently under the conjectures (2, 3, 4). 6. By using historical leakage records data, logistic regression can be made with the above parameters (2, 3, 4, 5). Then, based on this predicted results (leakage risk map) and the replace priority (1), the order of replacing gas pipelines can be made. 7. Replacing budgets and time costs can be also considered. 8. A mobile application or a website can be developed to let citizens report gas leakages and help Alliander engineers to monitor pipes states and changes.
7. Envisioned/potential University partners/disciplines:	Wageningen University / TU delft
8. Envisioned/potential Industry partners:	Alliander / Alterra
9. Fit's within topsector: *select from Agri&Food, Creatieve industrie, Energie, Tuinbouw en uitgangsmaterialen, Life sciences & Health, Water, High tech (HTSM), ICT, Logistiek, or Chemie* and add explanation when relevant	*Energie*

Cooperation Programme **Maps4Society**

Expression of Interest (M4S EOI)

You are cordially invited to submit your expression of interest to the M4S Wiki. This offers you the opportunity to influence the Maps4Society programme call. The most original EOI will be awarded with a delicious Maps4Society cake! Send before 4 July 2013 to E.M.Fendel@tudelft.nl

1. Name:	Chris van Aart
2. Organisation/discipline/domain:	2CoolMonkeys
3. Contact (email/telephone):	cvaart@2coolmonkeys.nl
4. Addresses scientific challenge: *select from a. Dynamic data and harmonisation, b. Managing Big Data, c. Data quality assessment, d. Satellites-as-aservice, e. Volunteered geographic information, f. Geo-information infrastructure governance* and add explanation when relevant	a. Dynamic data and harmonisation, How make from big data , little (mobile) data
5. Target application domain: *select from A. Object life cycle management, B. Water management, C. Deformation monitoring, D. Crisis management, or E. Smart Cities/ Human environment* and add explanation when relevant	E. Smart Cities/ Human environment How to get interaction with government and smart city on the back of your hand
6. Describe briefly own approach (ca. 5 lines):	We build smart (software agent-based) apps based on open data.
7. Envisioned/potential University partners/disciplines:	Commit DANS
8. Envisioned/potential Industry partners:	ESRI GEODan
9. Fit's within topsector: *select from Agri&Food, Creatieve industrie, Energie, Tuinbouw en uitgangsmaterialen, Life sciences & Health, Water, High tech (HTSM), ICT, Logistiek, or Chemie* and add explanation when relevant	*Creatieve industrie,* *Business 2 business*

Cooperation Programme **Maps4Society**

Expression of Interest (M4S EOI)

You are cordially invited to submit your expression of interest to the M4S Wiki. This offers you the opportunity to influence the Maps4Society programme call. The most original EOI will be awarded with a delicious Maps4Society cake! Send before 4 July 2013 to E.M.Fendel@tudelft.nl

1. Name:	Matthijs Danes
2. Organisation/discipline/domain:	Alterra, Wageningen UR
3. Contact (email/telephone):	Matthijs.danes@wur.nl
4. Addresses scientific challenge: *select from a. Dynamic data and harmonisation, b. Managing Big Data, c. Data quality assessment, d. Satellites-as-aservice, e. Volunteered geographic information, f. Geo-information infrastructure governance* and add explanation when relevant	***Currently there is a big challenge to assess the value of citizens science. In society all kind of initiatives evolves originating from the notion that quality of life can be influenced even starting at the individual level. The digital era provide means to participle and to be engaged in societal developments. M4S encompasses the right topics to address this issue.*** ***a. Dynamic data and harmonisation*** *Challenges of a participatory monitoring systems are, linking all sorts of dynamic data (regardless the observed phenomena or measurement devices, e.g. different brands), combining them with existing datasets, asses quality and usefulness. Transform into meaningful information and communicate by visualising results in an understandable manner and exploring the impact on different stakeholders, including citizens.* ***c. Data quality assessment*** *Allowing anyone to measure, with any kind of device, brings up the issue of data quality. Use of these observation needs a way of assessing its quality in relation to the context they will be used for. Relevant quality elements must be quantified or qualified to express the usefulness. How to provide a correct representation of reality and give insights in quality and uncertainty?* ***e. Volunteered geographic information*** *Eventually the objective is to develop a platform which can be used by lay man to contribute with citizen science in for example environmental topics for their environment to improve the quality of life, without the help or input of external technical experts.*
5. Target application domain: *select from A. Object life cycle management, B. Water management, C. Deformation monitoring, D. Crisis management, or E. Smart Cities/ Human environment* and add explanation when relevant	***E. Smart Cities/ Human environment*** *Whereas Smart City projects generally are initialized and organized by a governmental or business organization, the proposed platforms facilitate bottom up, participatory monitoring and sharing of data by citizens. The resulting datasets are therefore more relevant and meaningful for the individual or communal goals and context.* *For instance, in a case where the surface water level in a lake may be considered too high by agreed standards at a certain moment in time; at the same time the stakeholders (for instance residents) might not always experience the level as problematic, because of other mitigating factors (like temporal stowing effects of the wind).*

6. Describe briefly own approach (ca. 5 lines):	*Engagement in societal issues for layman is with the current geo-portals not an easy job. Transforming data for a monitoring network into comprehensive, clear, understandable and reliable information is a difficult task. Simultaneously, interest in participating in monitoring networks to enrich, but also to get better control is growing. Citizen participation, if applied cautiously, increases data quality, transparency and provides better insight in the consequences of management regimes to individual stakeholders.* *This EoI proposes to develop an open geo-platform, allowing a lay audience independently to unite around regional environmental topics, allowing them* *a) to connect and overlay and visualise existing data sources,* *b) to start-up and include their own public monitoring system,* *c) to enrich values of the observed phenomena, by adding the stakeholder significance/meaning,* *d) to share the results, discuss the consequences of the observed phenomena and plan consequent actions.* *Although the objective is to develop a generic platform that can be used for multiple topics, we would propose to start with one or two pilots focusing on a specific topic.*
7. Envisioned/potential University partners/disciplines:	*Laboratory of Geo-Information Science and Remote Sensing, Wageningen University*
8. Envisioned/potential Industry partners:	*Incas3, Deltares, NAM*
9. Fit's within topsector: *select from Agri&Food, Creatieve industrie, Energie, Tuinbouw en uitgangsmaterialen, Life sciences & Health, Water, High tech (HTSM), ICT, Logistiek, or Chemie* and add explanation when relevant	***Life science & Health*** *Engage and empowering the public by providing means to explore land use issues within the human environment and to come up with sustainable solutions and to improve the quality of life.*

Cooperation Programme **Maps4Society**

Expression of Interest (M4S EOI)

You are cordially invited to submit your expression of interest to the M4S Wiki. This offers you the opportunity to influence the Maps4Society programme call. The most original EOI will be awarded with a delicious Maps4Society cake! Send before 4 July 2013 to E.M.Fendel@tudelft.nl

1. Name:	R. F. I. Moody M. W. van Buuren
2. Organisation/discipline/domain:	Erasmus University Rotterdam, Department of Public Administration
3. Contact (email/telephone):	moody@fsw.eur.nl 010-4082053 06-28655635
4. Addresses scientific challenge: *select from a. Dynamic data and harmonisation, b. Managing Big Data, c. Data quality assessment, d. Satellites-as-aservice, e. Volunteered geographic information, f. Geo-information infrastructure governance* and add explanation when relevant	B. Managing big data Challenges of the management of big data in terms of public administration unfold in the field of communication of results to policy makers, the interpretation of these results and the political implications translating large amounts of (sometimes) conflicting data into public policy in different fields, such as energy, spread of disease, human environment, water governance, transportation and disaster management. F. Geo-information infrastructure governance For the field of public administration the governance of the infrastructure is relevant since challenges in the areas of autonomy, integration of data as well as organizations, and transparency often form difficult issues in practice. On the other hand these issues can also account for improved public policy making in terms of the content of the policy as well as the process of policy formation. Additionally we find actors in the field being empowered by new information which they can use to organize themselves which may also contribute to improved policy as well as new ways of interaction between actors.
5. Target application domain: *select from A. Object life cycle management, B. Water management, C. Deformation monitoring, D. Crisis management, or E. Smart Cities/ Human environment* and add explanation when relevant	B. Water management D. Crisis management E. Smart cities/Human environment In all the mentioned domains the question of geo-information in terms of public policy and the process in which it is formulated is relevant. Managing large amounts of data and issues of governance of the infrastructure both are important for all domains dealing with this.
6. Describe briefly own approach (ca. 5 lines):	Our approach would be characterized by combining the more technical aspects of big data management with the social science notions of formulating and implementing public policies. A combination of these concepts could help both

	technical as policy practitioners in their own field. Key topics would be: integration and fragmentation, autonomy and self-organization, communication, presentation and interpretation of large amounts of data, transparency and interaction between involved actors.
7. Envisioned/potential University partners/disciplines:	TU Delft Wageningen University
8. Envisioned/potential Industry partners:	HKV TNO Rijkswaterstaat Deltaris
9. Fit's within topsector: *select from Agri&Food, Creatieve industrie, Energie, Tuinbouw en uitgangsmaterialen, Life sciences & Health, Water, High tech (HTSM), ICT, Logistiek, or Chemie* and add explanation when relevant	Energie Water Life science and health Logistiek

Cooperation Programme **Maps4Society**

Expression of Interest (M4S EOI)

You are cordially invited to submit your expression of interest to the M4S Wiki. This offers you the opportunity to influence the Maps4Society programme call. The most original EOI will be awarded with a delicious Maps4Society cake! Send before 4 July 2013 to E.M.Fendel@tudelft.nl

1. Name:	Martin Kodde Manager Research & Development
2. Organisation/discipline/domain:	Fugro GeoServices B.V. (Engineering company / Geospatial Services)
3. Contact (email/telephone):	m.kodde@fugro.nl +31 70 3170928
4. Addresses scientific challenge: *select from a. Dynamic data and harmonisation, b. Managing Big Data, c. Data quality assessment, d. Satellites-as-aservice, e. Volunteered geographic information, f. Geo-information infrastructure governance* and add explanation when relevant	B and F Developments in sensor technology lead to more detailed (hence bigger) data. Point clouds are an example. In addition, survey costs are declining, which lead in practice to higher update frequencies. As a result, traditional methods for processing geo-data no longer suffice. In addition, the current geo-information infrastructure is not prepared to support the use of big data such as point clouds. Nor does it exploit the full potential of big data.
5. Target application domain: *select from A. Object life cycle management, B. Water management, C. Deformation monitoring, D. Crisis management, or E. Smart Cities/ Human environment* and add explanation when relevant	A and E We believe that modern Big Data works cross-domain. Data sets collected for Object Life Cycle Management can (and should!) be used in a much broader context. We aim to apply Big Data for Object Life Cycle Management into the Smart Cities realm. This brings a wealth of information at no additional cost.
6. Describe briefly own approach (ca. 5 lines):	At Fugro, we invest in Big Data and SDI. In terms of Big Data we see challenges in processing huge point clouds for automated urban asset management. This includes object recognition and change detection. With respect to SDI we develop methods to bring Big Data into the current SDI structures. We also work on local-SDIs to support the effective use of geo-information at municipal level.
7. Envisioned/potential University partners/disciplines:	- Delft University of Technology, Faculty of Architecture & Built Environment, OTB - Utrecht University, Faculty of Science, Department of Information and Computing Sciences
8. Envisioned/potential Industry partners:	Dutch Municipalities
9. Fit's within topsector: *select from Agri&Food, Creatieve industrie, Energie, Tuinbouw en uitgangsmaterialen,*	Creative Industry and ICT

Life sciences & Health, Water, High tech (HTSM), ICT, Logistiek, or Chemie and add explanation when relevant	

Cooperation Programme **Maps4Society**

Expression of Interest (M4S EOI)

You are cordially invited to submit your expression of interest to the M4S Wiki. This offers you the opportunity to influence the Maps4Society programme call. The most original EOI will be awarded with a delicious Maps4Society cake! Send before 4 July 2013 to E.M.Fendel@tudelft.nl

1. Name:	Bastiaan van Loenen
2. Organisation/discipline/domain:	TU Delft/ geo-information law
3. Contact (email/telephone):	b.vanloenen@tudelft.nl
4. Addresses scientific challenge: *select from a. Dynamic data and harmonisation, b. Managing Big Data, c. Data quality assessment, d. Satellites-as-aservice, e. Volunteered geographic information, f. Geo-information infrastructure governance* and add explanation when relevant	Geo-information infrastructure governance
5. Target application domain: *select from A. Object life cycle management, B. Water management, C. Deformation monitoring, D. Crisis management, or E. Smart Cities/ Human environment* and add explanation when relevant	Research applies to all domains
6. Describe briefly own approach (ca. 5 lines):	Open data is a philosophy that calls on governments to allow individuals and companies to freely re-use public data. A large majority of this data relates to locations on the earth. When information contains a geographic element, it becomes easier to identify individuals in that data. Technological progress also adds to the identifiability of data. Open data limits the individual's right to control what is known about him and is likely to conflict with individual's right to information privacy. This research will answer the question of how to balance the fundamental right to information privacy with open geographic data policies.
7. Envisioned/potential University partners/disciplines:	Leiden University
8. Envisioned/potential Industry partners:	GeoBusinessNL
9. Fit's within topsector: *select from Agri&Food, Creatieve industrie, Energie, Tuinbouw en uitgangsmaterialen, Life sciences & Health, Water, High tech (HTSM), ICT, Logistiek, or Chemie* and add explanation when relevant	ICT / EZ Doorbraakproject open (geo-) data

Cooperation Programme **Maps4Society**

Expression of Interest (M4S EOI)

You are cordially invited to submit your expression of interest to the M4S Wiki. This offers you the opportunity to influence the Maps4Society programme call. The most original EOI will be awarded with a delicious Maps4Society cake! Send before 4 July 2013 to E.M.Fendel@tudelft.nl

1. Name:	Prof.dr. Marc van Kreveld
2. Organisation/discipline/domain:	Department of Computer Science, Utrecht University
3. Contact (email/telephone):	m.j.vankreveld@uu.nl
4. Addresses scientific challenge: *select from a. Dynamic data and harmonisation, b. Managing Big Data, c. Data quality assessment, d. Satellites-as-aservice, e. Volunteered geographic information, f. Geo-information infrastructure governance* and add explanation when relevant	Managing big data, in particular the conversion of huge 3D point clouds to useable, useful 3D models. Challenges lie in urban environments where, with the current data quality, also smaller features such as city furniture and balconies can be reconstructed and used.
5. Target application domain: *select from A. Object life cycle management, B. Water management, C. Deformation monitoring, D. Crisis management, or E. Smart Cities/ Human environment* and add explanation when relevant	And E. Smart cities. 3D city models can also support crisis management applications, and change detection is another important application of being able to reconstruct well. Reconstruction is closely connected to semantic labelling of objects, and automated processing can lead to this additional, important type of information.
6. Describe briefly own approach (ca. 5 lines):	The conversion of point clouds to semantically meaningful objects is essential in many applications. We tackle this problem by a hybrid approach that combines extracted models (like RANSAC does) with freeform models (like alpha-shapes) and templates (for objects with pre-defined shapes). We believe that approaches of all types must be combined in a fundamentally proper, well-defined manner to achieve the best results. This approach must be combined with the usual big data challenges of processing huge amounts of data.
7. Envisioned/potential University partners/disciplines:	UT (ITC/faculty of Geo-Information) or TUD (OTB)
8. Envisioned/potential Industry partners:	Fugro, if possible also municipalities.
9. Fit's within topsector: *select from Agri&Food, Creatieve industrie, Energie, Tuinbouw en uitgangsmaterialen, Life sciences & Health, Water, High tech (HTSM), ICT, Logistiek, or Chemie* and add explanation when relevant	Creatieve industrie

Cooperation Programme **Maps4Society**

Expression of Interest (M4S EOI)

You are cordially invited to submit your expression of interest to the M4S Wiki. This offers you the opportunity to influence the Maps4Society programme call. The most original EOI will be awarded with a delicious Maps4Society cake! Send before 4 July 2013 to E.M.Fendel@tudelft.nl

1. Name:	Bujar Nushi PhD Researcher at OTB TU Delft
2. Organisation/discipline/domain:	TU Delft - OTB Research Institute for the Built Environment Research institute
3. Contact (email/telephone):	b.nushi@tudelft.nl +31 (0)70 31 70750
4. Addresses scientific challenge: *select from a. Dynamic data and harmonisation, b. Managing Big Data, c. Data quality assessment, d. Satellites-as-aservice, e. Volunteered geographic information, f. Geo-information infrastructure governance* and add explanation when relevant	C and F To stimulate Spatial data infrastructure (SDI) development effectively and efficiently, it is key to assess the progress and benefits of the SDI. SDI is difficult to assess because of its complex, dynamic, multi-faceted and constantly evolving nature. Several SDI assessment methods exist. However, these are still in an infancy stage and none of these appear to meet the requirements of practitioners. As a result, SDI decision makers are still without any guidance on the success of their SDI. Investigations therefore need to address the definition, harmonisation and development of standards, critical parameters and methodologies for hazard and risk assessment for low probability, high consequence events in Europe that could be applied in future SDI stress tests. Issues like full exploration of uncertainties, expert judgement, site-specific versus regional assessment of hazards, multiple risks, time-dependent vulnerability, possible degradation, cascade effects and the interactive environmental and societal changes have to be considered as well. The STIG should illustrate the benefits of improved hazard and risk assessment for key critical sites in Europe.
5. Target application domain: *select from A. Object life cycle management, B. Water management, C. Deformation monitoring, D. Crisis management, or E. Smart Cities/ Human environment* and add explanation when relevant	D and E Rare low frequency high consequence natural hazards events can have catastrophic impacts on critical infrastructures and trigger cascading effects. Climate change, population dynamics, urbanisation and other global change factors affect the damage potential. Research will capitalise on knowledge acquired so far in various sectors having already developed stress test methodologies and from the lessons learned after Fukushima and adapt it for critical Spatial data infrastructure (SDI) that may be threatened. Expected impact: • Reinforced European SDI assessment capacity. • Improved and more reliable stress tests of SDI (critical) infrastructures. • Support for decision making and prioritisation in the field of mitigation options and support to preparedness. • Better surveillance capacity.

6. Describe briefly own approach (ca. 5 lines):	In this research we propose a new method for SDI assessment: The STIG, a Stress-test for Infrastructures of Geographical information. The starting point for this research is consideration that SDIs are organized similar to large financial institution and therefore is possible to apply the principles of 'Stress-Tests' to a user-oriented SDI. The research questions and the complex nature of SDI assessment resulted in a choice for the qualitative research method using a case study approach. By performing case study research, we generate meaningful results with a small sample group. Further, through the case study strategy it is expected that adequate information for addressing the research questions can be collected. Finally, a case study is expected to be cost-efficient in terms of time, access and cost to participants. The research will be conducted in three major phases divided in 3 steps: 1. Explore & Theorize, 2. Validate & Optimize and 3. Review & Evaluate. The development and application of the Stress-test methodology will provide new valuable information for decision-makers about the aspects of SDIs that need to be improved in order to take full advantage of the potential benefit of the SDIs, especially in the instance of disaster management.
7. Envisioned/potential University partners/disciplines:	- Delft University of Technology, Faculty of Architecture & Built Environment, OTB - VU
8. Envisioned/potential Industry partners:	Geodan, Fugro, Eagle, Microsoft, ESRI
9. Fit's within topsector: *select from Agri&Food, Creatieve industrie, Energie, Tuinbouw en uitgangsmaterialen, Life sciences & Health, Water, High tech (HTSM), ICT, Logistiek, or Chemie* and add explanation when relevant	ICT

Cooperation Programme **Maps4Society**

Expression of Interest (M4S EOI)

You are cordially invited to submit your expression of interest to the M4S Wiki. This offers you the opportunity to influence the Maps4Society programme call. The most original EOI will be awarded with a delicious Maps4Society cake! Send before 4 July 2013 to E.M.Fendel@tudelft.nl

1. Name:	Kourosh Khoshelham
2. Organisation/discipline/domain:	ITC, University of Twente
3. Contact (email/telephone):	k.khoshelham@utwente.nl 053 4874477
4. Addresses scientific challenge: *select from a. Dynamic data and harmonisation, b. Managing Big Data, c. Data quality assessment, d. Satellites-as-aservice, e. Volunteered geographic information, f. Geo-information infrastructure governance* and add explanation when relevant	a and b While online map services such as Google Earth cover almost every location outdoors, indoor places that we often visit, like shopping malls, train stations and hospitals, are largely unmapped. A challenge in mapping indoors is acquiring complete and accurate data in the absence of GPS signals. A second challenge is to develop effective and efficient methods for creating semantic 3D models that can be used in mobile hand-held devices.
5. Target application domain: *select from A. Object life cycle management, B. Water management, C. Deformation monitoring, D. Crisis management, or E. Smart Cities/ Human environment* and add explanation when relevant	E, D and A Indoor models will be useful in a variety of applications, from navigation and virtual tours to emergency route planning and crisis management.
6. Describe briefly own approach (ca. 5 lines):	Our approach is based on simultaneous localization and mapping (SLAM), where by registering sensor data (e.g. point clouds and/or images) we can estimate the sensor pose and generate a probabilistic map. Low-cost RGB-D cameras, such as the Kinect, have great potential for data acquisition in building interiors. For the modelling, we combine data-driven methods, e.g. classification, with architectural design concepts in the form of an indoor grammar.
7. Envisioned/potential University partners/disciplines:	TU Delft, OTB Utrecht University, Dept. of Computer Science
8. Envisioned/potential Industry partners:	Over Morgen in Beeld, Advin, ProRail, Movares, NS.
9. Fit's within topsector: *select from Agri&Food, Creatieve industrie, Energie, Tuinbouw en uitgangsmaterialen, Life sciences & Health, Water, High tech (HTSM), ICT, Logistiek, or Chemie* and add explanation when relevant	ICT, Creatieve industrie

Cooperation Programme **Maps4Society**

Expression of Interest (M4S EOI)

You are cordially invited to submit your expression of interest to the M4S Wiki. This offers you the opportunity to influence the Maps4Society programme call. The most original EOI will be awarded with a delicious Maps4Society cake! Send before 4 July 2013 to E.M.Fendel@tudelft.nl

1. Name:	Sander Oude Elberink
2. Organisation/discipline/domain:	ITC, University of Twente, Enschede
3. Contact (email/telephone):	s.j.oudeelberink@utwente.nl, 053 4874 350
4. Addresses scientific challenge: *select from a. Dynamic data and harmonisation, b. Managing Big Data, c. Data quality assessment, d. Satellites-as-aservice, e. Volunteered geographic information, f. Geo-information infrastructure governance* and add explanation when relevant	A) Dynamic data and harmonisation, B) managing big data. The goal is to build an up-to-date, object-based geo-information model that can be used in water management applications to manage flooding in cities. Topographic information need to be harmonized with information on terrain height, sewage systems, meteorological data, and changes in the built environment.
5. Target application domain: *select from A. Object life cycle management, B. Water management, C. Deformation monitoring, D. Crisis management, or E. Smart Cities/ Human environment* and add explanation when relevant	B) Water management and C) deformation/change monitoring. What does a municipality need to do when there will be a heavy rain shower within a few hours? Where will the water go? What is the current situation in terms of construction works, infrastructural projects, ground water heights, and places that can absorb the water? Who to contact and why? An up to date information model is needed.
6. Describe briefly own approach (ca. 5 lines):	We propose an extension of the BIM model, not only for buildings but for the complete built-environment. Up to date information on height and roughness of the objects, infiltration capacity, and connection to the sewage system is needed. Setting up an object based database is one thing (first steps are made in SBIR project Hydrocity); keeping it up to date is crucial for proper usage. Our focus is on detecting and updating changes of objects, based on changes in height, shape and structure.
7. Envisioned/potential University partners/disciplines:	TU Delft, TU Eindhoven
8. Envisioned/potential Industry partners:	NEO, Hydrologic
9. Fit's within topsector: *select from Agri&Food, Creatieve industrie, Energie, Tuinbouw en uitgangsmaterialen, Life sciences & Health, Water, High tech (HTSM), ICT, Logistiek, or Chemie* and add explanation when relevant	Water

Cooperation Programme **Maps4Society**

Expression of Interest (M4S EOI)

You are cordially invited to submit your expression of interest to the M4S Wiki. This offers you the opportunity to influence the Maps4Society programme call. The most original EOI will be awarded with a delicious Maps4Society cake! Send before 4 July 2013 to E.M.Fendel@tudelft.nl

1. Name:	Markus Gerke
2. Organisation/discipline/domain:	ITC, University of Twente, Enschede
3. Contact (email/telephone):	m.gerke@utwente.nl 053 4874522
4. Addresses scientific challenge: *select from a. Dynamic data and harmonisation, b. Managing Big Data, c. Data quality assessment, d. Satellites-as-aservice, e. Volunteered geographic information, f. Geo-information infrastructure governance* and add explanation when relevant	b, c: Unmanned Aerial Vehicles (UAV), especially for imaging tasks, are becoming mature in the sense of reliability, user friendliness and accuracy of retrieved (geo-spatial) information. We can foresee that in the future technical monitoring tasks will be performed regularly. In this respect we need to discuss the handling of big amount of data (probably online) and to tackle the quality question of (automatically) produced UAV-based information.
5. Target application domain: *select from A. Object life cycle management, B. Water management, C. Deformation monitoring, D. Crisis management, or E. Smart Cities/ Human environment* and add explanation when relevant	A, C: Since UAVs are quite flexible in terms of operation time and location they perfectly can be used to monitor large construction sites. In big projects there is a need to constantly compare planned or former status and the as-is situation. A frequent UAV imaging mission can be used to derive geometric (change) parameters, but also semantics (e.g. reason for blockages)
6. Describe briefly own approach (ca. 5 lines):	In order to enable scientists from “non-geospatial” domains we need to largely automate the UAV flight planning, but also data processing, keywords are: autonomous flight planning based on the former status/CAD drawing, adaptation to local conditions (based on online data processing), automatic report of changes wrt to old situation
7. Envisioned/potential University partners/disciplines:	Civil engineering departments, focus on planning/management
8. Envisioned/potential Industry partners:	Currently in contact with construction companies
9. Fit's within topsector: *select from Agri&Food, Creatieve industrie, Energie, Tuinbouw en uitgangsmaterialen, Life sciences & Health, Water, High tech (HTSM), ICT, Logistiek, or Chemie* and add explanation when relevant	Creative industry, ICT?

Cooperation Programme **Maps4Society**

Expression of Interest (M4S EOI)

You are cordially invited to submit your expression of interest to the M4S Wiki. This offers you the opportunity to influence the Maps4Society programme call. The most original EOI will be awarded with a delicious Maps4Society cake! Send before 4 July 2013 to E.M.Fendel@tudelft.nl

1. Name:	Markus Gerke
2. Organisation/discipline/domain:	ITC, University of Twente, Enschede
3. Contact (email/telephone):	m.gerke@utwente.nl 053 4874522
4. Addresses scientific challenge: *select from a. Dynamic data and harmonisation, b. Managing Big Data, c. Data quality assessment, d. Satellites-as-aservice, e. Volunteered geographic information, f. Geo-information infrastructure governance* and add explanation when relevant	b, c and e: Unmanned Aerial Vehicles (UAV), especially for imaging tasks, are becoming mature in the senses of reliability, user friendliness and accuracy of retrieved (geo-spatial) information. We can foresee that in the future technically interested people or researchers from other domains will have an UAV, equipped with a camera and contribute data for scientific/societal tasks. In this respect we need to discuss the role of UAVs for VGI, but at the same time we have big amount of data (probably online) and to tackle the quality question of (automatically) produced UAV-based information.
5. Target application domain: *select from A. Object life cycle management, B. Water management, C. Deformation monitoring, D. Crisis management, or E. Smart Cities/ Human environment* and add explanation when relevant	C and D: A particular application of UAV-based data is dyke monitoring. Large dike areas can be flown thanks to the corridor-like nature of dykes. If the UAV is equipped with multi-/hyperspectral cameras, and using photogrammetry-based height information, valuable dyke health information can be derived. During a crisis (flooding) such data can come from citizens and hence the VGI aspect comes into play.
6. Describe briefly own approach (ca. 5 lines):	In order to enable scientists from “non-geospatial” domains and laymen to produce valuable information we need to largely automate the UAV flight planning, but also data processing, keywords are: autonomous flight planning, adaptation to local conditions (based on realtime data processing), first indication of dike health status based on automatic image analysis.
7. Envisioned/potential University partners/disciplines:	under discussion
8. Envisioned/potential Industry partners:	under discussion
9. Fit's within topsector: *select from Agri&Food, Creatieve industrie, Energie, Tuinbouw en uitgangsmaterialen, Life sciences & Health, Water, High tech (HTSM), ICT, Logistiek, or Chemie* and add explanation when relevant	Water (delta & monitoring)

Cooperation Programme **Maps4Society**

Expression of Interest (M4S EOI)

You are cordially invited to submit your expression of interest to the M4S Wiki. This offers you the opportunity to influence the Maps4Society programme call. The most original EOI will be awarded with a delicious Maps4Society cake! Send before 4 July 2013 to E.M.Fendel@tudelft.nl

1. Name:	Georgiana Maxim, Loek van Beusekom, Ruud Kampman, Yan Zeng, Charl Wong
2. Organisation/discipline/domain:	Geo-Information Science (WUR)
3. Contact (email/telephone):	georgiana.maxim@wur.nl
4. Addresses scientific challenge: *select from a. Dynamic data and harmonisation, b. Managing Big Data, c. Data quality assessment, d. Satellites-as-a-service, e. Volunteered geographic information, f. Geo-information infrastructure governance* and add explanation when relevant	Satellites-as-a-service
5. Target application domain: *select from A. Object life cycle management, B. Water management, C. Deformation monitoring, D. Crisis management, or E. Smart Cities/ Human environment* and add explanation when relevant	Object life cycle management & C. Deformation monitoring
6. Describe briefly own approach (ca. 5 lines):	Improve underground asset management system by including ground deformation data in the risk assessment analysis. • Evaluate risk prediction capacity of (PS-)InSAR deformation data (for example from Hansje Brinker) by correlating deformation to relevant outages in the (gas) distribution network • Combine with other risk factors • Include in asset management system by projecting risks onto specific network segments.
7. Envisioned/potential University partners/disciplines:	WUR/ TU Delft/ TU Twente/ ITC
8. Envisioned/potential Industry partners:	Companies working with underground distribution networks (e.g. Alliander)
9. Fit's within topsector: *select from Agri&Food, Creatieve industrie, Energie, Tuinbouw en uitgangsmaterialen, Life sciences & Health, Water, High tech (HTSM), ICT, Logistiek, or Chemie* and add explanation when relevant	Energy

Cooperation Programme **Maps4Society**

Expression of Interest (M4S EOI)

You are cordially invited to submit your expression of interest to the M4S Wiki. This offers you the opportunity to influence the Maps4Society programme call. The most original EOI will be awarded with a delicious Maps4Society cake! Send before 15 August 2013 to P.J.M.vanOosterom@tudelft.nl

Title:	**Smart Data Visualisation for Decision Making Processes**
1. Name:	Remon Pot, Msc Consultant Hydraulic Engineering
2. Organisation/discipline/domain:	Fugro GeoServices B.V. / Hydraulic Engineering, Water Safety, Geotechnical Engineering, Flood Control, Levee Engineering
3. Contact (email/telephone):	E-mail: R.Pot@Fugro.nl Phone: +31 (0)30 60 28 187
4. Addresses scientific challenge: *select from a. Dynamic data and harmonisation, b. Managing Big Data, c. Data quality assessment, d. Satellites-as-aservice, e. Volunteered geographic information, f. Geo-information infrastructure governance* and add explanation when relevant	A, C and F The main challenge of dynamic (real time) data flows relates to data quality and reliable infrastructure. Users expect accurate and reliable data, therefore quality checks and data control are required. They influence reliability and accuracy significantly, but take time. This poses a challenge for real-time data flows. A second challenge relates to this: how to deal with user expectations, uncertainties and accuracy? A third challenge: anomaly detection, cross-reference techniques (redundancy) can contribute to the process of quality assessments, but not many techniques are suitable for (real-time)dynamic (grid)data.
5. Target application domain: *select from A. Object life cycle management, B. Water management, C. Deformation monitoring, D. Crisis management, or E. Smart Cities/ Human environment* and add explanation when relevant	B, D and E Urbanisation and climate change both contribute towards and increasing flood risk of flood prone areas. Data visualisation of geo-data and contribute towards fact-based decision-making of (non-technical) stakeholders. This could be useful during crisis management, for the purpose of policy making or during construction works.
6. Describe briefly own approach (ca. 5 lines):	Dynamic geo-information and data-visualisation enables fast understanding of relevant processes and can contribute in the decision making process. By implementing a multi-layer approach, data (visualisations) can be relevant for a variety of users. Effective implementation with multiple data sources, in the field of disaster risk management is one of the main challenges. Exploration of this application by means of real-time pilots can help solving aforementioned challenges.
7. Envisioned/potential University partners/disciplines:	TU Delft (Faculty of OTB, CiTG),Utrecht University (Department of Information and Computing Sciences), Wageningen UR, University of Twente, Faculty of Geo-Information (ITC)
8. Envisioned/potential Industry partners:	Contractors, Engineering Firms, IT companies, Deltares
9. Fit's within topsector: *select from Agri&Food, Creatieve industrie, Energie, Tuinbouw en uitgangsmaterialen, Life sciences & Health, Water, High tech (HTSM), ICT, Logistiek, or Chemie* and add explanation when relevant	Creative Industry, Water and ICT: Daily practice show that engineering challenges are increasingly of a multidisciplinary nature. For example decision making processes during crisis management, integrated coastal zone management (www.atelierkustkwaliteit.nl) and flood control strategies. Data visualisation can help to bridge the gap between different stakeholders and enhance understanding of challenges at hand.

Cooperation Programme **Maps4Society**

Expression of Interest (M4S EOI)

You are cordially invited to submit your expression of interest to the M4S Wiki. This offers you the opportunity to influence the Maps4Society programme call. The most original EOI will be awarded with a delicious Maps4Society cake! Send before 4 July 2013 to E.M.Fendel@tudelft.nl

1. Name:	Wilko Quak
2. Organisation/discipline/domain:	Delft University
3. Contact (email/telephone):	c.w.quak@tudelft.nl
4. Addresses scientific challenge: *select from a. Dynamic data and harmonisation, b. Managing Big Data, c. Data quality assessment, d. Satellites-as-aservice, e. Volunteered geographic information, f. Geo-information infrastructure governance* and add explanation when relevant	Dynamic data and harmonisation
5. Target application domain: *select from A. Object life cycle management, B. Water management, C. Deformation monitoring, D. Crisis management, or E. Smart Cities/ Human environment* and add explanation when relevant	Smart Cities
6. Describe briefly own approach (ca. 5 lines):	I am interested in monitoring real time sensor data in a city landscape to detect out of the ordinary behaviour, such as changes in the traffic patterns, so that traffic lights in the neighbourhood can be adapted to improve traffic flow.
7. Envisioned/potential University partners/disciplines:	Traffic Management
8. Envisioned/potential Industry partners:	
9. Fit's within topsector: *select from Agri&Food, Creatieve industrie, Energie, Tuinbouw en uitgangsmaterialen, Life sciences & Health, Water, High tech (HTSM), ICT, Logistiek, or Chemie* and add explanation when relevant	Logistiek

Cooperation Programme **Maps4Society**

Expression of Interest (M4S EOI)

You are cordially invited to submit your expression of interest to the M4S Wiki. This offers you the opportunity to influence the Maps4Society programme call. The most original EOI will be awarded with a delicious Maps4Society cake! Send before 4 July 2013 to E.M.Fendel@tudelft.nl

1. Name:	dr.ir. Martijn Meijers
2. Organisation/discipline/domain:	Delft University of Technology
3. Contact (email/telephone):	b.m.meijers@tudelft.nl
4. Addresses scientific challenge: *select from a. Dynamic data and harmonisation, b. Managing Big Data, c. Data quality assessment, d. Satellites-as-aservice, e. Volunteered geographic information, f. Geo-information infrastructure governance* and add explanation when relevant	a. dynamic data and harmonisation b. volunteered geographic information
5. Target application domain: *select from A. Object life cycle management, B. Water management, C. Deformation monitoring, D. Crisis management, or E. Smart Cities/ Human environment* and add explanation when relevant	E. Smart Cities / Human environment
6. Describe briefly own approach (ca. 5 lines):	I am interested in how open standards, and open + linked public sector data can be combined together with volunteered geographic data (such as Openstreetmap data) to improve the actuality of public sector geo-information products. Much geographic data is already available via services, sometimes even in the form of a stream of updates, i.e. live edit feeds of a topographic base map (see: http://wiki.openstreetmap.org/wiki/Feeds). How can we connect authentic key registers and volunteered geographic information together to make a 1 day old map? E.g. detect new roads from VGI edits that should then be mapped by authoritative parties, or by using apps on mobiles of citizens. For this to work, reliable object matching should take place - when are objects the same?
7. Envisioned/potential University partners/disciplines:	Geomatics researchers Semantic web researches
8. Envisioned/potential Industry partners:	Data producers, such as: Kadaster, Municipalities ANWB
9. Fit's within topsector: *select from Agri&Food, Creatieve industrie,*	Creatieve industrie

Energie, Tuinbouw en uitgangsmaterialen, Life sciences & Health, Water, High tech (HTSM), ICT, Logistiek, or Chemie and add explanation when relevant	

Cooperation Programme **Maps4Society**

Expression of Interest (M4S EOI)

You are cordially invited to submit your expression of interest to the M4S Wiki. This offers you the opportunity to influence the Maps4Society programme call. The most original EOI will be awarded with a delicious Maps4Society cake! Send before 4 July 2013 to E.M.Fendel@tudelft.nl

1. Name:	Dr Jantien Stoter
2. Organisation/discipline/domain:	OTB TU Delft, Kadaster, Geonovum
3. Contact (email/telephone):	j.e.stoter@tudelft.nl
4. Addresses scientific challenge: *select from a. Dynamic data and harmonisation, b. Managing Big Data, c. Data quality assessment, d. Satellites-as-aservice, e. Volunteered geographic information, f. Geo-information infrastructure governance* and add explanation when relevant	Geo-information infrastructure governance
5. Target application domain: *select from A. Object life cycle management, B. Water management, C. Deformation monitoring, D. Crisis management, or E. Smart Cities/ Human environment* and add explanation when relevant	Smart cities
6. Describe briefly own approach (ca. 5 lines):	This study will develop and implement a 3D city model as smart solution to consider all physical and legal aspects that occur on a certain location at a certain time or period in an integrated manner, such as property, energy, transport, governance, spatial planning, societal change, pollution, etc. This also compasses dynamic modelling like traffic, noise, airstream and hydrological modelling. The 3D model will serve as smart instrument to solve complicated urban problems.
7. Envisioned/potential University partners/disciplines:	TU Eindhoven, TU Delft, Real Estate&Housing
8. Envisioned/potential Industry partners:	Strategis
9. Fit's within topsector: *select from Agri&Food, Creatieve industrie, Energie, Tuinbouw en uitgangsmaterialen, Life sciences & Health, Water, High tech (HTSM), ICT, Logistiek, or Chemie* and add explanation when relevant	HTSM

Cooperation Programme **Maps4Society**

Expression of Interest (M4S EOI)

You are cordially invited to submit your expression of interest to the M4S Wiki. This offers you the opportunity to influence the Maps4Society programme call. The most original EOI will be awarded with a delicious Maps4Society cake! Send before 4 July 2013 to E.M.Fendel@tudelft.nl

1. Name:	Edward Verbree
2. Organisation/discipline/domain:	Delft University of Technology
3. Contact (email/telephone):	e.verbree@tudelft.nl
4. Addresses scientific challenge: *select from a. Dynamic data and harmonisation, b. Managing Big Data, c. Data quality assessment, d. Satellites-as-aservice, e. Volunteered geographic information, f. Geo-information infrastructure governance* and add explanation when relevant	F. Geo-information infrastructure governance
5. Target application domain: *select from A. Object life cycle management, B. Water management, C. Deformation monitoring, D. Crisis management, or E. Smart Cities/ Human environment* and add explanation when relevant	E. Smart Cities
6. Describe briefly own approach (ca. 5 lines):	Indoor BAG/Postcode. The BAG (Keyregistration Adresses and Buildings) is used for efficient geocoding an address to a coordinate and vice versa (reverse geocoding), as the address/postcode is linked to the geometry of the building. The interior of a (public) building (museum, station, university campus, etc.) is not covered by the BAG and an interior address-system is not available (no indoor-postcodes). An unique geo-location schema (both geometry as address/postcode) for indoor environments is needed.
7. Envisioned/potential University partners/disciplines:	OGC University members
8. Envisioned/potential Industry partners:	Geobusiness Nederland, PostNL, TNT, DHL
9. Fit's within topsector: *select from Agri&Food, Creatieve industrie, Energie, Tuinbouw en uitgangsmaterialen, Life sciences & Health, Water, High tech (HTSM), ICT, Logistiek, or Chemie* and add explanation when relevant	Logistics

Cooperation Programme **Maps4Society**

Expression of Interest (M4S EOI)

You are cordially invited to submit your expression of interest to the M4S Wiki. This offers you the opportunity to influence the Maps4Society programme call. The most original EOI will be awarded with a delicious Maps4Society cake! Send before 4 July 2013 to E.M.Fendel@tudelft.nl

1. Name:	dr. Hugo Ledoux dr.ir. Martijn Meijers
2. Organisation/discipline/domain:	Delft University of Technology
3. Contact (email/telephone):	h.ledoux@tudelft.nl b.m.meijers@tudelft.nl
4. Addresses scientific challenge: *select from a. Dynamic data and harmonisation, b. Managing Big Data, c. Data quality assessment, d. Satellites-as-aservice, e. Volunteered geographic information, f. Geo-information infrastructure governance* and add explanation when relevant	c. Data quality assesment
5. Target application domain: *select from A. Object life cycle management, B. Water management, C. Deformation monitoring, D. Crisis management, or E. Smart Cities/ Human environment* and add explanation when relevant	A. Object life cycle management
6. Describe briefly own approach (ca. 5 lines):	Consistency, validation and improvement of 3D models Current produced 3D models are often invalid, i.e. provide enough information to make a nice looking picture, but are not directly suitable for GIS analysis, nor robust. We are interested in checking how robust models are (e.g. how points are spaced with respect to other points and surfaces in the model) and subsequently improving their robustness for GIS analysis (by modifying the geometry). In this process it is important to keep the connection to what is modelled (i.e. thematic attributes/semantics: what does the geometry represent).
7. Envisioned/potential University partners/disciplines:	
8. Envisioned/potential Industry partners:	
9. Fit's within topsector: *select from Agri&Food, Creatieve industrie, Energie, Tuinbouw en uitgangsmaterialen, Life sciences & Health, Water, High tech (HTSM), ICT, Logistiek, or Chemie* and add explanation when relevant	Creatieve industrie

Cooperation Programme **Maps4Society**

Expression of Interest (M4S EOI)

You are cordially invited to submit your expression of interest to the M4S Wiki. This offers you the opportunity to influence the Maps4Society programme call. The most original EOI will be awarded with a delicious Maps4Society cake! Send before 4 July 2013 to E.M.Fendel@tudelft.nl

1. Name:	Gennadii Donchyts, Fedor Baart
2. Organisation/discipline/domain:	Deltares, environmental modelling, software
3. Contact (email/telephone):	gennadii.donchyts@deltares.nl, +31(0)88335 7920
4. Addresses scientific challenge: *select from* ***a. Dynamic data and harmonisation, b. Managing Big Data****,* *c. Data quality assessment,* *d. Satellites-as-aservice, e. Volunteered geographic information, f. Geo-information infrastructure governance* and add explanation when relevant	**Interactive modelling of cost benefit analysis and flood damage mitigation at detailed level.** Designing measures against overland flooding requires a detailed overview of possible consequences. Over the last years interactive models have been developed that allow interactive modelling of overland flooding scenarios. These interactive systems result in a continuous stream of geospatial coverages. A challenge that remains is how to hook up these streams of data with other geospatial information in real time. Policy makers want to see the value of interventions in physical quantities, casualties but also in currency. Solving this challenge requires effective management of a huge amount of data. Discrete representation of model geospatial domain (mesh/grid) may consist of ~100Mln cells, frequently defined using unstructured grids, which are not easy to manage using classical GIS solutions.
5. Target application domain: *select from A. Object life cycle management,* ***B. Water management****, C. Deformation monitoring,* ***D. Crisis management****, or E. Smart Cities/ Human environment* and add explanation when relevant	The application area is related to emergency management in overland flood situations. The same approach can be used in with other models (wind, traffic, coastal hazards) that relate to crisis management.
6. Describe briefly own approach (ca. 5 lines):	Our approach will combine detailed geospatial raster and vector data sets (AHN, TOP10NL, Kadaster) with high quality software components used for hydrological and hydrodynamic models (3Di, D-FLOW FM). Models will run on supercomputer combined with 3D visualization and interaction tools base VTK libraries.
7. Envisioned/potential University partners/disciplines:	TU Delft (water resource management, computer science/visualization, geomatics), any other organizations interested in interactive environmental modelling (e.g. TU Delft, Utrecht University, WUR, Unesco-IHE, KNMI, Deltares, Rijkswaterstaat)
8. Envisioned/potential Industry partners:	
9. Fit's within topsector: *select from Agri&Food, Creatieve industrie,*	*Water.*

Energie, Tuinbouw en uitgangsmaterialen, Life sciences & Health, Water, High tech (HTSM), ICT, Logistiek, or Chemie and add explanation when relevant	

Cooperation Programme **Maps4Society**

Expression of Interest (M4S EOI)

You are cordially invited to submit your expression of interest to the M4S Wiki. This offers you the opportunity to influence the Maps4Society programme call. The most original EOI will be awarded with a delicious Maps4Society cake! Send before 4 July 2013 to E.M.Fendel@tudelft.nl

1. Name:	Gerben J. de Boer & Gennadii Donchyts (Deltares) & Raymond Sluiter (KNMI)
2. Organisation/discipline/domain:	Deltares & TU Delft & KNMI / marine science & coastal oceanography
3. Contact (email/telephone):	gerben.deboer@deltares.nl
4. Addresses scientific challenge: *select from* ***a. Dynamic data and harmonisation, b. Managing Big Data,*** *c. Data quality assessment,* ***d. Satellites-as-aservice****, e. Volunteered geographic information, f. Geo-information infrastructure governance* and add explanation when relevant	a,b,c: This EOI deals with numerical models on a curvilinear grid as typically (but not exclusively) used for hydrodynamic simulations of seas, lakes and rivers. The input and output grids are time-dependent and therefore inherently dynamic (a) and big (b). The output of such numerical grid-based models is handled in the same way as products of satellites, especially when satellite data has been assimilated into the models, e.g. in EU Copernicus MyOcean.eu. Models as a Service therefore resembles the Satellite as a Service concept (c).
5. Target application domain:	B. Water Management
6. Describe briefly own approach (ca. 5 lines):	Numerical hydro models are both big consumers and big suppliers of geospatial data. Existing legacy model codes are gradually being reengineered into modular Models as a Service, with seamless transition to Data as a Service concepts (e.g. Nativi, 2013, doi:10.1016/j.envsoft.2012.03.007). So web services will then have either a database or a CPU (model) as back-end. The multi-dimensional aspect of these models is currently only partially covered by the OGC WXS suite. For instance, archives of model forecasts have 2 independent time vectors, one for world time and one for the time when the analysis was made (e.g. 6-hourly, daily), which is not part of the WXS suite yet. Also the exotic 3D layering of these models in so-called hybrid-sigma-z planes is not in the WXS suite yet. The same holds for spectral, directional or property-class dimensions. Moreover, for the high temporal resolution of these models, no off-the-shelf performance boost strategies are available as time-tiling or -buffering. We propose to extend both WXS concepts and as well as WXS implementations to enable dissemination of all hydro modelgrids via webGIS systems as KNMI's ADAGUC or THREDDS (Blower et al, 2013, doi:10.1016/j.envsoft.2013.04.002)
7. Envisioned/potential University partners/disciplines:	All universities, institutes and governments with marine or oceanographic departments, e.g.: Deltares, KNMI, TU Delft, Rijkswaterstaat, Utrecht University, Twente University, NIOZ, WUR, Unesco-IHE, Hydrographic Service of Navy.
8. Envisioned/potential Industry partners:	Marine contractors, dredging companies, offshore companies.
9. Fit's within topsector: *Water, Agri&Food, Life sciences & Health.*	(1) Water. (+) Life sciences (viz. NWO ALW topics, Building with Nature) (+) Agri&Food (e.g. water quality for mussels in Oosterschelde)

Cooperation Programme **Maps4Society**

Expression of Interest (M4S EOI)

You are cordially invited to submit your expression of interest to the M4S Wiki. This offers you the opportunity to influence the Maps4Society programme call. The most original EOI will be awarded with a delicious Maps4Society cake! Send before 15 August 2013 to P.J.M.vanOosterom@tudelft.nl

Title:	VGI social scientific approach for neighbourhood governance
1. Name:	Dr. Reinout Kleinhans
2. Organisation/discipline/domain:	Delft University of Technology OTB - Research for the Built Environment
3. Contact (email/telephone):	r.j.kleinhans@tudelft.nl - +31 (0)15 278 6117
4. Addresses scientific challenge: *select from a. Dynamic data and harmonisation, b. Managing Big Data, c. Data quality assessment, d. Satellites-as-aservice, e. Volunteered geographic information, f. Geo-information infrastructure governance* and add explanation when relevant	**e. Volunteered geographic information (VGI)** Internet and virtual networks give rise to personalised communities that exist equally in virtual and real places. The intersection of the spatial and virtual is prominent in 'volunteered geographic information': digital spatial data created by individuals using geo-visualization interfaces to disseminate their data. Hence, VGI can strongly inform and mobilise citizens in relation to their daily activity spaces. The scientific challenge is to investigate the mobilisation potential of VGI in combination with mobile technologies and social media in the context of neighbourhood governance.
5. Target application domain: *select from A. Object life cycle management, B. Water management, C. Deformation monitoring, D. Crisis management, or E. Smart Cities/ Human environment* and add explanation when relevant	**E. Smart Cities/ Human environment** The popularity of Facebook, Twitter, YouTube and other social media has spurred a demand for new forms of participatory planning and self-organising governance by citizens. Yet, two-way communication between citizens and policymakers through social media is scarce. Standard participation instruments are outdated, unappealing, disconnected from citizens' needs, and difficult to fit in daily activity schemes. Citizen involvement in neighbourhood affairs and the development of new urban planning policies is far below its potential but now more than ever relevant for a transition from government-led neighbourhood change to co-creation mechanisms. VGI can be very useful to that, but there is insufficient knowledge about how / under which conditions VGI can positively affect citizen involvement.
6. Describe briefly own approach (ca. 5 lines):	I aim for a social scientific approach which focuses on the engaging potential of easily accessible VGI technologies through: - a quasi-experimental setting with treatment and control neighbourhoods, before and after measurements; - crowdsourcing methods through social media connecting physical and virtual worlds - a virtual platform which collects, summarises and disseminates VGI-ideas and -responses of citizens and

	professionals.
7. Envisioned/potential University partners/disciplines:	TU Delft, University of Amsterdam
8. Envisioned/potential Industry partners:	Local authorities (municipalities), housing associations, commercial project developers (real estate)
9. Fit's within topsector: *select from Agri&Food, Creatieve industrie, Energie, Tuinbouw en uitgangsmaterialen, Life sciences & Health, Water, High tech (HTSM), ICT, Logistiek, or Chemie* and add explanation when relevant	**Life sciences & Health** The study findings will empower citizens craving for involvement in neighbourhood affairs and urban planning, but who are currently put off by the mismatches between traditional participation methods and their own preferences, needs and time schedule. The study will lead to a significant improvement in the effectiveness of efforts to involve citizens in various neighbourhood policies and thus almost certainly strongly increase their effectiveness ('value for money'. This will in turn contribute to the quality of life in and sustainability of neighbourhoods.

Cooperation Programme **Maps4Society**

Expression of Interest (M4S EOI)

You are cordially invited to submit your expression of interest to the M4S Wiki. This offers you the opportunity to influence the Maps4Society programme call. The most original EOI will be awarded with a delicious Maps4Society cake! Send before 15 August 2013 to P.J.M.vanOosterom@tudelft.nl

Title:	Human sensors in the City
1. Name:	Arend Ligtenberg
2. Organisation/discipline/domain:	Wageningen University, Laboratory for Geo-Information and Remote Sensing
3. Contact (email/telephone):	arend.ligtenberg@wur.nl
4. Addresses scientific challenge: *select from a. Dynamic data and harmonisation, b. Managing Big Data, c. Data quality assessment, d. Satellites-as-aservice, e. Volunteered geographic information, f. Geo-information infrastructure governance* and add explanation when relevant	the Dynamic Data, Managing Big data and Volunteered geographic information
5. Target application domain: *select from A. Object life cycle management, B. Water management, C. Deformation monitoring, D. Crisis management, or E. Smart Cities/ Human environment* and add explanation when relevant	Smart Cities/Human environment
6. Describe briefly own approach (ca. 5 lines):	This research envisages the development of methods and tools that enables the use of movement data obtained from GPS or Smartphones to analyse, monitor, simulate and understand the dynamics of the use and accessibility of cities. It will help to better manage and design cities
7. Envisioned/potential University partners/disciplines:	TUD, chair of urban design
8. Envisioned/potential Industry partners:	(large) municipalities.
9. Fit's within topsector: *select from Agri&Food, Creatieve industrie, Energie, Tuinbouw en*	

uitgangsmaterialen, *Life sciences & Health, Water, High tech* *(HTSM), ICT, Logistiek, or Chemie* and add explanation when relevant	

Cooperation Programme **Maps4Society**

Expression of Interest (M4S EOI)

You are cordially invited to submit your expression of interest to the M4S Wiki. This offers you the opportunity to influence the Maps4Society programme call. The most original EOI will be awarded with a delicious Maps4Society cake! Send before 4 July 2013 to E.M.Fendel@tudelft.nl

1. Name:	Wilko Quak
2. Organisation/discipline/domain:	Delft University
3. Contact (email/telephone):	c.w.quak@tudelft.nl
4. Addresses scientific challenge: *select from a. Dynamic data and harmonisation, b. Managing Big Data, c. Data quality assessment, d. Satellites-as-aservice, e. Volunteered geographic information, f. Geo-information infrastructure governance* and add explanation when relevant	*a. Dynamic data and harmonisation* *b. Managing Big Data* *e. Volunteered geographic information*
5. Target application domain: *select from A. Object life cycle management, B. Water management, C. Deformation monitoring, D. Crisis management, or E. Smart Cities/ Human environment*	Smart Cities
6. Describe briefly own approach (ca. 5 lines):	In this project I want to test the concepts of maps4society by fully implementing a realistic use case in the Smart City domain and implemenent using linked data concepts. Smart cities are an interesting application domain as many heterogeneous data sources are needed there: Dynamic data from sensor networks, spatial data, and 3D-data. The challenges from all this data can only be tackled by extending the state of the art on all part of the project including: DBMS technology, spatial modelling and semantic modelling The result of the project will be a showcases for the Map4society project.
7. Envisioned/potential University partners/disciplines:	Partners: 1. CWI Amsterdam / DBMS Group with MonetDB 2. VU / Amsterdam / Semantic group Frank van Harmelen 3. TUDelft Faculty of Architecture /urbanism 4. TUDelft Architecture / Section GIS technology
8. Envisioned/potential Industry partners:	
9. Fit's within topsector: *select from Agri&Food, Creatieve industrie,*	ICT

Cooperation Programme **Maps4Society**

Expression of Interest (M4S EOI)

You are cordially invited to submit your expression of interest to the M4S Wiki. This offers you the opportunity to influence the Maps4Society programme call. The most original EOI will be awarded with a delicious Maps4Society cake! Send before 15 August 2013 to P.J.M.vanOosterom@tudelft.nl

Title:	Geo information and data harmonisation for Resources oriented sanitation and reuse
1. Name:	Marc Spiller
2. Organisation/discipline/domain:	Wageningen University/ Environmental Technology
3. Contact (email/telephone):	Marc.spiller@wur.nl 0317483344
4. Addresses scientific challenge: *select from a. Dynamic data and harmonisation, b. Managing Big Data, c. Data quality assessment, d. Satellites-as-aservice, e. Volunteered geographic information, f. Geo-information infrastructure governance* and add explanation when relevant	A b f
5. Target application domain: *select from A. Object life cycle management, B. Water management, C. Deformation monitoring, D. Crisis management, or E. Smart Cities/ Human environment* and add explanation when relevant	B E
6. Describe briefly own approach (ca. 5 lines):	Resources oriented sanitation and reuse (DESAR) is a new approach to recover scarce resources (water, nitrogen and phosphorous) in cities. The project idea is to align a many data sets (LIDAR, BAC, Bestemmingsplan, water use data etc.) to identify potential locations for implementation and assessment of resources to be recovered. Data will be development into a Maps4society crowed sourcing application to gather/ validate data, raise awareness and eventually support transition to DESAR.
7. Envisioned/potential University partners/disciplines:	Wageningen University Geo information sciences
8. Envisioned/potential Industry partners:	Waterboard Vallei Veluwe DESAH – company that produces reuse orientated sanitation technologies
9. Fit's within topsector: *select from Agri&Food, Creatieve industrie, Energie, Tuinbouw en uitgangsmaterialen, Life sciences & Health, Water, High tech (HTSM), ICT, Logistiek, or Chemie*	Top sector: Water

and add explanation when relevant	

Cooperation Programme **Maps4Society**

Expression of Interest (M4S EOI)

You are cordially invited to submit your expression of interest to the M4S Wiki. This offers you the opportunity to influence the Maps4Society programme call. The most original EOI will be awarded with a delicious Maps4Society cake! Send before 15 August 2013 to P.J.M.vanOosterom@tudelft.nl

Title:	Greensward supported by virtual fieldwork
1. Name:	Henk Kramer
2. Organisation/discipline/domain:	Alterra / Earth Informatics
3. Contact (email/telephone):	henk.kramer@wur.nl
4. Addresses scientific challenge: *select from a. Dynamic data and harmonisation, b. Managing Big Data, c. Data quality assessment, d. Satellites-as-aservice, e. Volunteered geographic information, f. Geo-information infrastructure governance* and add explanation when relevant	a Dynamic data and harmonization b managing big data c data quality assessment
5. Target application domain: *select from A. Object life cycle management, B. Water management, C. Deformation monitoring, D. Crisis management, or E. Smart Cities/ Human environment* and add explanation when relevant	a.Object life cycle management e.Smart cities / human environment
6. Describe briefly own approach (ca. 5 lines):	The recognition, translation and harmonization of green objects (trees etc.) in available cycloramic images into a scheme according to the Greensward method to support sustainable public green maintenance in favour of quality improvement of public and infrastructural spaces.
7. Envisioned/potential University partners/disciplines:	Horticulture, Wageningen university Landscape architecture, Wageningen University Geo-information science & remote sensing, Wageningen University
8. Envisioned/potential Industry partners:	Tree Nursery sector, green maintenance sector Geodata providers
9. Fit's within topsector: *select from Agri&Food, Creatieve industrie, Energie, Tuinbouw en uitgangsmaterialen, Life sciences & Health, Water, High tech (HTSM), ICT, Logistiek, or Chemie* and add explanation when relevant	Tuinbouw & uitgangsmaterialen Logistiek

Cooperation Programme **Maps4Society**

Expression of Interest (M4S EOI)

You are cordially invited to submit your expression of interest to the M4S Wiki. This offers you the opportunity to influence the Maps4Society programme call. The most original EOI will be awarded with a delicious Maps4Society cake! Send before 15 August 2013 to P.J.M.vanOosterom@tudelft.nl

Title:	
1. Name:	Jan Willem van Eck
2. Organisation/discipline/domain:	Esri Nederland
3. Contact (email/telephone):	jvaneck@esri.nl
4. Addresses scientific challenge: *select from a. Dynamic data and harmonisation, b. Managing Big Data, c. Data quality assessment, d. Satellites-as-aservice, e. Volunteered geographic information, f. Geo-information infrastructure governance* and add explanation when relevant	In particular (but not excluding other topics) b. managing (and visualising) big data, d. image data as a service e. VGI. Our range of interest is broad, always related to the ArcGIS platfor, e.g. : GeoDesign/Urban Design 3D objects, realtime data, imaging and big data. There is a particular interest in the effects of openness in innovation methods and maximising use and value of technology for society.
5. Target application domain: *select from A. Object life cycle management, B. Water management, C. Deformation monitoring, D. Crisis management, or E. Smart Cities/ Human environment* and add explanation when relevant	A, E.
6. Describe briefly own approach (ca. 5 lines):	Esri deploys an open innovation framework which strengthens the ecosystem, which links the academic and the Esri user community. Our intention is to select a few relevant projects and support these with Esri technology and time. Sustainable value and jointly bring-to-market efforts are important aspects of these projects.
7. Envisioned/potential University partners/disciplines:	Urban design, information technology, business/marketing departments of all universities.
8. Envisioned/potential Industry partners:	Compatible partners for an open innovation consortium (e.g. ideation partners, startups companies, web agencies)
9. Fit's within topsector: *select from Agri&Food, Creatieve industrie, Energie, Tuinbouw en uitgangsmaterialen, Life sciences & Health, Water, High tech (HTSM), ICT, Logistiek, or Chemie*	Not excluding any.

and add explanation when relevant	

Cooperation Programme **Maps4Society**

Expression of Interest (M4S EOI)

You are cordially invited to submit your expression of interest to the M4S Wiki. This offers you the opportunity to influence the Maps4Society programme call. The most original EOI will be awarded with a delicious Maps4Society cake! Send before 15 August 2013 to P.J.M.vanOosterom@tudelft.nl

Title:	Mapping the services of your landscape: place making and local governance
1. Name:	Prof. Dr Paul Opdam
2. Organisation/discipline/domain:	WUR-Land Use Planning
3. Contact (email/telephone):	paul.opdam@wur.nl
4. Addresses scientific challenge: *select from a. Dynamic data and harmonisation, b. Managing Big Data, c. Data quality assessment, d. Satellites-as-aservice, e. Volunteered geographic information, f. Geo-information infrastructure governance* and add explanation when relevant	a Dynamic data and harmonisation e volunteered geographic information f geo-information infrastructure governance Ecosystem services are becoming popular in science, but their potential in local environmental governance is still unexplored. We combine scientific information with local knowledge to foster a functional sense of place, shared vision building and collective action to adapt the landscape to improve human wellbeing.
5. Target application domain: *select from A. Object life cycle management, B. Water management, C. Deformation monitoring, D. Crisis management, or E. Smart Cities/ Human environment* and add explanation when relevant	a.Object life cycle management e.Smart cities / human environment Food chains, linking farm landscape systems to food industries, are viewed as a governance chain to foster green economy, sustainable land use and human wellbeing. We explore how spatial explicit information about the supply and demand of services contribute to group decisions to manage the landscape as a human environment.
6. Describe briefly own approach (ca. 5 lines):	We recognize that ecosystem services create a link between the physical landscape and the social-economic landscape. Provided by blue green infrastructure, these services unite the interests of a variety of parties and enhances coalitions. We intend to investigate how a digital geovisualization tool which combines scientific and placeholder information can be designed and tested (1) to facilitate building a shared vision on the aims of adapting the landscape and (2) the collaborative design of sustainable solutions, thereby (3) fostering coalitions and cooperation between placeholder groups. A key characteristic of the tool is that it combines scientific knowledge with local knowledge, and rational with emotional arguments for change.
7. Envisioned/potential University partners/disciplines:	Landuse Planning, Wageningen university Geo-information science & remote sensing, Wageningen University
8. Envisioned/potential Industry partners:	Province of South Holland, Heineken Brewery Zoeterwoude, others tba
9. Fit's within topsector: *select from Agri&Food, Creatieve industrie, Energie, Tuinbouw en uitgangsmaterialen, Life sciences & Health, Water, High tech (HTSM), ICT, Logistiek, or Chemie*	Agri&Food Energy Life science & health

and add explanation when relevant	

Cooperation Programme **Maps4Society**

Expression of Interest (M4S EOI)

You are cordially invited to submit your expression of interest to the M4S Wiki. This offers you the opportunity to influence the Maps4Society programme call. The most original EOI will be awarded with a delicious Maps4Society cake! Send before 15 August 2013 to P.J.M.vanOosterom@tudelft.nl

Title:	Geo information and data harmonization for resource-oriented sanitation and wastewater reuse.
1. Name:	Tamirat F. Nebiyu
2. Organisation/discipline/domain:	Wageningen University, Geo-Information Science
3. Contact (email/telephone):	tamiratf@gmail.com or tamiratfikre.nebiyu@wur.nl Tel: +31 686 155 913
4. Addresses scientific challenge: *select from a. Dynamic data and harmonisation, b. Managing Big Data, c. Data quality assessment, d. Satellites-as-aservice, e. Volunteered geographic information, f. Geo-information infrastructure governance* and add explanation when relevant	a. Managing big (geo) data and harmonizing it with sanitation information Geo-data such as high-resolution urban airborne (3D) LiDAR data are not harmonized with and used for sanitation services.
5. Target application domain: *select from A. Object life cycle management, B. Water management, C. Deformation monitoring, D. Crisis management, or E. Smart Cities/ Human environment* and add explanation when relevant	a. Water management (Especially grey water recycling and reuse) b. Smart cities (Efficient space utilization for decentralized sanitation services)
6. Describe briefly own approach (ca. 5 lines):	Relevant geo-data (e.g. LiDAR data, water use data, and wastewater data) will be collected. Then the data will be potential for analyses of such as: land suitability for local wastewater treatment facility and space suitability for decentralized innovative sanitation services.
7. Envisioned/potential University partners/disciplines:	Environmental technology WU Geo-information science & remote sensing WU
8. Envisioned/potential Industry partners:	Water boards Wastewater processing industries
9. Fit's within topsector: *select from Agri&Food, Creatieve industrie, Energie, Tuinbouw en uitgangsmaterialen, Life sciences & Health, Water, High tech (HTSM), ICT, Logistiek, or Chemie* and add explanation when relevant	Water and wastewater

Cooperation Programme **Maps4Society**

Expression of Interest (M4S EOI)

You are cordially invited to submit your expression of interest to the M4S Wiki. This offers you the opportunity to influence the Maps4Society programme call. The most original EOI will be awarded with a delicious Maps4Society cake! Send before 15 August 2013 to P.J.M.vanOosterom@tudelft.nl

Title:	Spatial View in Time
1. Name:	Ron van Lammeren
2. Organisation/discipline/domain:	Wageningen University, geo-information science
3. Contact (email/telephone):	ron.vanlammeren@wur.nl
4. Addresses scientific challenge: *select from a. Dynamic data and harmonisation, b. Managing Big Data, c. Data quality assessment, d. Satellites-as-aservice, e. Volunteered geographic information, f. Geo-information infrastructure governance* and add explanation when relevant	a. dynamic data and harmonisation b. managing big data c. data quality assessment e. volunteered geographic information
5. Target application domain: *select from A. Object life cycle management, B. Water management, C. Deformation monitoring, D. Crisis management, or E. Smart Cities/ Human environment* and add explanation when relevant	a. object life cycle management b. water management c. deformation monitoring d. crisis management e. smart cities / human environment
6. Describe briefly own approach (ca. 5 lines):	Dynamic and Big data use does challenge to find ways to graphically present derived geo-information by the variety domains (eg top sectors) to different target groups. The definition and testing of graphic symbols that unambiguously expresses the meaning of spatial dynamics is the ambition. Much has been done on this topic but we focus on cross-over visualization that integrates object dynamics (like in landscape visualization and reference cartography) and of dynamic variables (like in scientific visualization and thematic cartography).
7. Envisioned/potential University partners/disciplines:	TU Eindhoven Twente University Amsterdam Academy of Arts
8. Envisioned/potential Industry partners:	Communication industry Mass media
9. Fit's within topsector: *select from Agri&Food, Creatieve industrie, Energie, Tuinbouw en uitgangsmaterialen, Life sciences & Health, Water, High tech (HTSM), ICT, Logistiek, or Chemie* and add explanation when relevant	ICT Creative industry However all sectors may benefit

Cooperation Programme **Maps4Society**

Expression of Interest (M4S EOI)

You are cordially invited to submit your expression of interest to the M4S Wiki. This offers you the opportunity to influence the Maps4Society programme call. The most original EOI will be awarded with a delicious Maps4Society cake! Send before 15 August 2013 to P.J.M.vanOosterom@tudelft.nl

Title:	Maps4IndoorNav
1. Name:	Sisi Zlatanova
2. Organisation/discipline/domain:	OTB, Delft University o fTechnology
3. Contact (email/telephone):	s.zlatanova@tudelft.nl 015 2782714
4. Addresses scientific challenge: *select from a. Dynamic data and harmonisation, b. Managing Big Data, c. Data quality assessment, d. Satellites-as-aservice, e. Volunteered geographic information, f. Geo-information infrastructure governance* and add explanation when relevant	a and b While many navigation systems exist for outdoor, indoor navigation is still very limited and the developments are mostly vendor- and building-specific. The availability of standardised 3D indoor maps (models) is one of the major bottlenecks. A challenge is organise all needed information for routing and guidance taking into consideration user profiles, the indoor environment and possible dynamic changes (e.g. in emergency situation), positioning approaches and different moving modes (walk, drive, fly). Another challenge is the creation of such models. They should be derived in a fully automatic way for any type of building from any available 2D (floor plans), 3D (IFC, CityGML LOD4) data sets or mobile-mapping approaches.
5. Target application domain: *select from A. Object life cycle management, B. Water management, C. Deformation monitoring, D. Crisis management, or E. Smart Cities/ Human environment* and add explanation when relevant	a, d and e Indoor navigation is useful for any activity in large public buildings: facility management and maintenance, shopping, tourism, orientation and path finding in hospitals, airports, museums, libraries, constriction sites, etc.
6. Describe briefly own approach (ca. 5 lines):	Our approach consists of defining a generic ontology (indoor grammar) for space subdivision, corresponding cell-based model (2D and 3D), from which topology (adjacency and connectivity) can automatically be derived. Algorithms for mapping between the most common 2D plans and 3D models will be developed.
7. Envisioned/potential University partners/disciplines:	VU University Amsterdam, Department of Spatial Economics University Eindhoven, Urban Science and Systems International: Greenwich University, UK, University of Seoul, Korea
8. Envisioned/potential Industry partners:	Bentley Systems, Kennermerland Safety Region, Geodan, RWS DID, Schiphol
9. Fit's within topsector: *select from Agri&Food, Creatieve industrie, Energie, Tuinbouw en uitgangsmaterialen,*	ICT, Logiestiek Health, Creative Industrie

Life sciences & Health, Water, High tech (HTSM), ICT, Logistiek, or Chemie and add explanation when relevant	

Cooperation Programme **Maps4Society**

Expression of Interest (M4S EOI)

You are cordially invited to submit your expression of interest to the M4S Wiki. This offers you the opportunity to influence the Maps4Society programme call. The most original EOI will be awarded with a delicious Maps4Society cake! Send before 15 August 2013 to P.J.M.vanOosterom@tudelft.nl

Title:	SmartIndoor
1. Name:	Sisi Zlatanova
2. Organisation/discipline/domain:	OTB, Delft University of Technology
3. Contact (email/telephone):	s.zlatanova@tudelft.nl 015 2782714
4. Addresses scientific challenge: *select from a. Dynamic data and harmonisation, b. Managing Big Data, c. Data quality assessment, d. Satellites-as-aservice, e. Volunteered geographic information, f. Geo-information infrastructure governance* and add explanation when relevant	a and b We spend more than 80% of our time indoors, But we still know very little about our indoor conditions. Is the air fresh enough? Is the temperature optimal? What is the effect of the outside temperature? Are our restaurants, cinema's, shops big (high) enough? Is the building construction safe?. Tiny microcontroller sensor boards that allow such information to be collected and analysed can be places anywhere in a building. However, these sensors are currently not coupled with semantically-reach indoor 3D models. The scientific challenge is to increase the reliability and usability of such sensor measurements by considering the 3D spatial information of the buildings. A challenge will be also how to manage such big dynamic amounts of data together with the 3D indoor models.
5. Target application domain: *select from A. Object life cycle management, B. Water management, C. Deformation monitoring, D. Crisis management, or E. Smart Cities/ Human environment* and add explanation when relevant	e Applications can be found in any area related to human well-being and safety.
6. Describe briefly own approach (ca. 5 lines):	The research will start with equipping several test buildings with sensors linking them in a sensor network. The semantic indoor 3D models will be then enriched to maintain sensor data and necessary relations between building elements and sensor devices. Frameworks will be developed to integrated analysis of sensor and spatial 3D indoor information. SensorWeb interfaces will be developed for monitoring of the resukts.
7. Envisioned/potential University partners/disciplines:	Univeristy of Twente, ITC University Eindhoven, Urban Science and Systems International: University of Central Lancashire, University of Salford UK
8. Envisioned/potential Industry partners:	RWS DID, Schiphol, Port of Rotterdam

9. Fit's within topsector: *select from Agri&Food, Creatieve industrie, Energie, Tuinbouw en uitgangsmaterialen, Life sciences & Health, Water, High tech (HTSM), ICT, Logistiek, or Chemie* and add explanation when relevant	ICT, HTSM, Health, Creative Industrie

Cooperation Programme **Maps4Society**

Expression of Interest (M4S EOI)

You are cordially invited to submit your expression of interest to the M4S Wiki. This offers you the opportunity to influence the Maps4Society programme call. The most original EOI will be awarded with a delicious Maps4Society cake! Send before 15 August 2013 to P.J.M.vanOosterom@tudelft.nl

Title:	Maps4IM
1. Name:	John Steenbruggen, Sisi Zlatanova
2. Organisation/discipline/domain:	DID, RWS OTB, Delft University of Technology
3. Contact (email/telephone):	s.zlatanova@tudelft.nl, john.steenbruggen@hotmail.com 015 2782714
4. Addresses scientific challenge: *select from a. Dynamic data and harmonisation, b. Managing Big Data, c. Data quality assessment, d. Satellites-as-aservice, e. Volunteered geographic information, f. Geo-information infrastructure governance* and add explanation when relevant	A, b and c Traffic injuries are major public health problem in Europe but still there is no appropriate spatial and communication system for effective incident management. The challenge is how to select and communicate only those information that is needed for a specific institution to avoid overflow and confusion. Integrating data quality assessment is a key issues for insuring improvements in decision making for relevant stake holders.
5. Target application domain: *select from A. Object life cycle management, B. Water management, C. Deformation monitoring, D. Crisis management, or E. Smart Cities/ Human environment* and add explanation when relevant	d an e. relation with traffic Incident Management, Crisis Management and Traffic Management. There is a strong relation with several smart city objectives, such as smart mobility, smart living (public health and safety), smart governance (transparency and open data)
6. Describe briefly own approach (ca. 5 lines):	The research will concentrate on developing a dedicated system for road and rail incident management for the Netherlands and will address two aspects: building of a common operational picture of the incident and developing a framework for information supply to different stakeholders. Research and developments will be towards optimal use of international and national standards and synchronisation of diverse system architectures.
7. Envisioned/potential University partners/disciplines:	VU University of Amsterdam
8. Envisioned/potential Industry partners:	RWS DID, Pro rail
9. Fit's within topsector: *select from Agri&Food, Creatieve industrie, Energie, Tuinbouw en uitgangsmaterialen, Life sciences & Health, Water, High tech (HTSM), ICT, Logistiek, or Chemie* and add explanation when relevant	ICT, HTSM, Logistiek, Creative Industrie

Cooperation Programme **Maps4Society**

Expression of Interest (M4S EOI)

You are cordially invited to submit your expression of interest to the M4S Wiki. This offers you the opportunity to influence the Maps4Society programme call. The most original EOI will be awarded with a delicious Maps4Society cake! Send before 15 August 2013 to P.J.M.vanOosterom@tudelft.nl

Title:	
1. Name:	John Stuiver
2. Organisation/discipline/domain:	Wageningen University
3. Contact (email/telephone):	John.stuiver@wur.nl
4. Addresses scientific challenge: *select from a. Dynamic data and harmonisation, b. Managing Big Data, c. Data quality assessment, d. Satellites-as-aservice, e. Volunteered geographic information, f. Geo-information infrastructure governance* and add explanation when relevant	Data quality assessment
5. Target application domain: *select from A. Object life cycle management, B. Water management, C. Deformation monitoring, D. Crisis management, or E. Smart Cities/ Human environment* and add explanation when relevant	Object life cycle Management, Crisis Management,
6. Describe briefly own approach (ca. 5 lines):	Data quality is generally considered as an aspect of spatial data and a lot of research is focussed on quality attributes of data. It is, however, more and more realized that community (VGI) or organization by which the data is produced determines to large extend the quality of data. Community-oriented quality criteria are hardly investigated. It is our belief that they pay a crucial role in safeguarding long-term data quality in e.g. object-life cycle management.
7. Envisioned/potential University partners/disciplines:	Enschede, Delft
8. Envisioned/potential Industry partners:	RWS, Kadaster
9. Fit's within topsector: *select from Agri&Food, Creatieve industrie, Energie, Tuinbouw en uitgangsmaterialen, Life sciences & Health, Water, High tech (HTSM), ICT, Logistiek, or Chemie* and add explanation when relevant	ICT

Cooperation Programme **Maps4Society**

Expression of Interest (M4S EOI)

You are cordially invited to submit your expression of interest to the M4S Wiki. This offers you the opportunity to influence the Maps4Society programme call. The most original EOI will be awarded with a delicious Maps4Society cake! Send before 15 August 2013 to P.J.M.vanOosterom@tudelft.nl

Title:	Restructuring neighbourhoods using GIS and citizen participation
1. Name:	Sven Reulen
2. Organisation/discipline/domain:	Student at Wageningen University, Master GeoInformationScience
3. Contact (email/telephone):	0628175624, svenreulen@gmail.com
4. Addresses scientific challenge: *select from a. Dynamic data and harmonisation, b. Managing Big Data, c. Data quality assessment, d. Satellites-as-aservice, e. Volunteered geographic information, f. Geo-information infrastructure governance* and add explanation when relevant	*e. Volunteered geographic information, f. Geo-information infrastructure governance*
5. Target application domain: *select from A. Object life cycle management, B. Water management, C. Deformation monitoring, D. Crisis management, or E. Smart Cities/ Human environment* and add explanation when relevant	*E. Smart Cities/ Human environment*
6. Describe briefly own approach (ca. 5 lines):	Restructuring neighbourhoods is the key challenge that is expected in the field of spatial planning. Citizen participation is expected to play an important role in the process of restructuring. A Geographical Information system could help in facilitating this process. Also to share and discuss planning principles between planners.
7. Envisioned/potential University partners/disciplines:	Informatics, spatial planning, Geoinformationscience
8. Envisioned/potential Industry partners:	Government especially municipalities, housing agencies, consultancy agencies and citizens.
9. Fit's within topsector: *select from Agri&Food, Creatieve industrie, Energie, Tuinbouw en uitgangsmaterialen, Life sciences & Health, Water, High tech (HTSM), ICT, Logistiek, or Chemie* and add explanation when relevant	*Life sciences & Health, ICT*

Cooperation Programme **Maps4Society**

Expression of Interest (M4S EOI)

You are cordially invited to submit your expression of interest to the M4S Wiki. This offers you the opportunity to influence the Maps4Society programme call. The most original EOI will be awarded with a delicious Maps4Society cake! Send before 15 August 2013 to P.J.M.vanOosterom@tudelft.nl

Title:	
1. Name:	Simeon Nedkov
2. Organisation/discipline/domain:	Spatial Information Laboratory, Vrije Universiteit Amsterdam, Urban Informatics and civic hacking
3. Contact (email/telephone):	s.b.nedkov@vu.nl
4. Addresses scientific challenge: *select from a. Dynamic data and harmonisation, b. Managing Big Data, c. Data quality assessment, d. Satellites-as-aservice, e. Volunteered geographic information, f. Geo-information infrastructure governance* and add explanation when relevant	Geo-information infrastructure (governance)
5. Target application domain: *select from A. Object life cycle management, B. Water management, C. Deformation monitoring, D. Crisis management, or E. Smart Cities/ Human environment* and add explanation when relevant	Smart Cities / Human Environment "*Instead of the smart city, perhaps we should be more preoccupied with smart citizens. The smart city vision tends to focus on infrastructure, buildings, vehicles, looking for a client amidst the city governments that procure or plan such things.* *But the city is something else.* *The city is its people.*" -- Dan Hill How can the open, bottom-up, decentralized and organisationally "flat" data warehouses and management patterns currently evolving around e.g. GitHub, CartoDB, Mapbox, CitySDK, etc. through the efforts and cooperation of Smart Citizens (neo-geographers, civic hackers, designers, data journalists, etc,) be reconciled with centralized, institutionally organised and managed "classical" SDIs, in order to realize future data management initiatives that enable Smart Citizens to make their cities smarter?
6. Describe briefly own approach (ca. 5 lines):	- Investigate new and emerging (geo) technologies (such as decentralized version control of geographical data through e.g. git and geogit) used by Smart Citizens, compare these to current SDI software and recommend steps for implementation of strengths in future Smart City data management initiatives - Investigate emerging decentralized data management

	strategies, patterns and policies that are evolving in volatile online civic hacking and data journalism communities, research how these compare/differ to latest theories on SDI data management policies and provide recommendations for policies and management strategies of future Smart City data initiatives - Focus of above investigations is on data sharing, (decentralized) stewardship and uploading - Research successful synergies between Smart Citizens and Smart Cities in the context of data management and translate findings to the Dutch situation
7. Envisioned/potential University partners/disciplines:	SPINlab (Vrije Universiteit), Waag Society, Urban Informatics Laboratory (Queensland University of Technology), TU Delft, Geonovum, PDOK, Nationaalgeoregister, the cities of Amsterdam, Rotterdam and Utrecht
8. Envisioned/potential Industry partners:	Geodan, Geocat, GitHub, CartoDB,
9. Fit's within topsector: *select from Agri&Food, Creatieve industrie, Energie, Tuinbouw en uitgangsmaterialen, Life sciences & Health, Water, High tech (HTSM), ICT, Logistiek, or Chemie* and add explanation when relevant	Creatieve industrie, ICT

Cooperation Programme **Maps4Society**

Expression of Interest (M4S EOI)

You are cordially invited to submit your expression of interest to the M4S Wiki. This offers you the opportunity to influence the Maps4Society programme call. The most original EOI will be awarded with a delicious Maps4Society cake! Send before 15 August 2013 to P.J.M.vanOosterom@tudelft.nl

Title:	Embankment mapping at global scale for flood risk assessment
1. Name:	Menno Straatsma
2. Organisation/discipline/domain:	Utrecht University, Department of Physical Geography
3. Contact (email/telephone):	m.w.straatsma@uul.nl
4. Addresses scientific challenge: *select from a. Dynamic data and harmonisation, b. Managing Big Data, c. Data quality assessment, d. Satellites-as-aservice, e. Volunteered geographic information, f. Geo-information infrastructure governance* and add explanation when relevant	b. Managing Big Data: Extraction of relevant parameters with respect to flood extent monitoring requires long time series of different earth observation data to capture extreme high-magnitude events. c. Data quality assessment: Classification and classification errors are key components in the accurate geolocation of dikes e. Volunteered geographic information: carry out an inventory of existing dike locations.
5. Target application domain: *select from A. Object life cycle management, B. Water management, C. Deformation monitoring, D. Crisis management, or E. Smart Cities/ Human environment* and add explanation when relevant	B. Water management D. Crisis management
6. Describe briefly own approach (ca. 5 lines):	Global flood risk models are increasingly used for quick assessment of flood extent and potential hazard, but are lacking information on the location of embankments. Using a three stage approach ((1) inventory, (2) remote sensing combined with measured discharge time series, and (3) inverse modeling) the location of embankments is determined. Dikes are attributed with height above the terrain, and failing probability.
7. Envisioned/potential University partners/disciplines:	Free University (IVM),
8. Envisioned/potential Industry partners:	Deltares, HKV, MunichRe, Worldbank
9. Fit's within topsector: *select from Agri&Food, Creatieve industrie, Energie, Tuinbouw en uitgangsmaterialen, Life sciences & Health, Water, High tech (HTSM), ICT, Logistiek, or Chemie* and add explanation when relevant	Water

Cooperation Programme **Maps4Society**

Expression of Interest (M4S EOI)

You are cordially invited to submit your expression of interest to the M4S Wiki. This offers you the opportunity to influence the Maps4Society programme call. The most original EOI will be awarded with a delicious Maps4Society cake! Send before 15 August 2013 to P.J.M.vanOosterom@tudelft.nl

Title:	Model Earth – A cloud based software platform for retrieving high resolution environmental information generated by real time model simulations
1. Name:	Dr Derek Karssenberg, Kor de Jong
2. Organisation/discipline/domain:	PCRaster research team, Department of Physical Geography, Faculty of Geosciences, Utrecht University
3. Contact (email/telephone):	d.karssenberg@uu.nl
4. Addresses scientific challenge: *select from a. Dynamic data and harmonisation, b. Managing Big Data, c. Data quality assessment, d. Satellites-as-aservice, e. Volunteered geographic information, f. Geo-information infrastructure governance* and add explanation when relevant	a. Dynamic data and harmonisation, b. Handling big data, c. Data quality assessment.
5. Target application domain: *select from A. Object life cycle management, B. Water management, C. Deformation monitoring, D. Crisis management, or E. Smart Cities/ Human environment* and add explanation when relevant	A. Object life cycle management, B. Water management, C. Crisis management.
6. Describe briefly own approach (ca. 5 lines):	Virtual globes (e.g., Google Maps) are currently widely used as providers of high-resolution, global information. While current spatio-temporal environmental models are capable of generating high-resolution global data, this information has thus far not widely been included in virtual globes. In this project, we aim at filling this gap, by developing a cloud based modelling framework, capable of coupling and running spatio-temporal models in real-time, at any location on the globe. Users access the framework through various clients (web browser, apps), which enables them to define model inputs or scenarios, for which model outputs are provided in real-time. In the project, we will develop the generic technology that will enable to include models from a large range of fields (e.g. soil water availability, potential crop growth, soil erosion, urban heat, solar energy), capable of calculating accuracy information associated with model output data. Models are included from various project partners.
7. Envisioned/potential University	Wageningen University (soil science, crop science, etc.),

partners/disciplines:	University of Amsterdam (urban studies), Delft University (water management), Utrecht University (Energy Science)
8. Envisioned/potential Industry partners:	Hydrologic, Deltares, NITG, Carthago, British Geological Survey, ARCADIS
9. Fit's within topsector: *select from Agri&Food, Creatieve industrie, Energie, Tuinbouw en uitgangsmaterialen, Life sciences & Health, Water, High tech (HTSM), ICT, Logistiek, or Chemie* and add explanation when relevant	Agri&Food, Energie, Tuinbouw en uitgangsmaterialen, Life sciences & Health, Water, ICT

Cooperation Programme **Maps4Society**

Expression of Interest (M4S EOI)

You are cordially invited to submit your expression of interest to the M4S Wiki. This offers you the opportunity to influence the Maps4Society programme call. The most original EOI will be awarded with a delicious Maps4Society cake! Send before 15 August 2013 to P.J.M.vanOosterom@tudelft.nl

Title:	Towards more sustainable and reliable spatial services
1. Name:	Ron Wardenier
2. Organisation/discipline/domain:	Ron Wardenier GeoConsult
3. Contact (email/telephone):	ron@rwgc.nl 0031 6 2884 7919
4. Addresses scientific challenge: *select from a. Dynamic data and harmonisation, b. Managing Big Data, c. Data quality assessment, d. Satellites-as-aservice, e. Volunteered geographic information, f. Geo-information infrastructure governance* and add explanation when relevant	f. Geo-information infrastructure governance
5. Target application domain: *select from A. Object life cycle management, B. Water management, C. Deformation monitoring, D. Crisis management, or E. Smart Cities/ Human environment* and add explanation when relevant	A through E because of the infrastructural character of this proposal or none, again because of it's infrastructural character.
6. Describe briefly own approach (ca. 5 lines):	The use of spatial services is increasing rapidly and so is the level of dependency on such services. As with any other services oriented architecture, providers of services are often unaware of who is using the services they provide. At the same time, the users usually want to get informed about changes in the services they use since their business or research depends on it. This proposal tries to fulfil both demands via automated monitoring of services by an independent (neutral and not for profit) organisation. An efficient and effective change detection on map image and spatial data services and at the same time creating a good user experience provides a real multi-disciplinary challenge.
7. Envisioned/potential University partners/disciplines:	Universities:TU Delft, University of Twente Disciplines: Geomatics, User Interaction Design
8. Envisioned/potential Industry partners:	Mtrack or similar (website and service uptime monitoring like Pingdom)
9. Fit's within topsector: *select from Agri&Food, Creatieve industrie, Energie, Tuinbouw en uitgangsmaterialen, Life sciences & Health, Water, High tech*	All because of the infrastructural character of this proposal or none, again because of it's infrastructural character.

(HTSM), ICT, Logistiek, or Chemie and add explanation when relevant	

Cooperation Programme **Maps4Society**

Expression of Interest (M4S EOI)

You are cordially invited to submit your expression of interest to the M4S Wiki. This offers you the opportunity to influence the Maps4Society programme call. The most original EOI will be awarded with a delicious Maps4Society cake! Send before 15 August 2013 to P.J.M.vanOosterom@tudelft.nl

Title:	Geo Service (Geodienst)
1. Name:	Mark Verlaat, Jonas Bulthuis, Marijke Verheij
2. Organisation/discipline/domain:	Center for Information Technology (CIT), University of Groningen
3. Contact (email/telephone):	m.p.n.verlaat@rug.nl, jonas.bulhuis@rug.nl, m.g.t.verheij@rug.nl
4. Addresses scientific challenge: *select from a. Dynamic data and harmonisation, b. Managing Big Data, c. Data quality assessment, d. Satellites-as-aservice, e. Volunteered geographic information, f. Geo-information infrastructure governance* and add explanation when relevant	Mainly B,C,F, however, not excluding any.
5. Target application domain: *select from A. Object life cycle management, B. Water management, C. Deformation monitoring, D. Crisis management, or E. Smart Cities/ Human environment* and add explanation when relevant	A,B,C,D,E
6. Describe briefly own approach (ca. 5 lines):	The Geo Service of the University of Groningen has been founded recently with the objective to support the analyses and visualization of spatial data. This is realized by offering easy access to large Geo data sets (big data), administration of the Common Geo Information Infrastructure (CGII), and development of innovative applications using Geo data. Researchers working with Geodata are being supported with technical expertise and access to a vast network of scientists from different fields. Bringing together people working with Geodata is further facilitated by stimulating the formation of multidisciplinary communities and organizing various events. The Geo Service is offered by the Donald Smits Center for Information Technology (CIT), which is part of the University of Groningen. The CIT hosts ICT facilities in its data centers that allow storage and processing of large volumes of data and access to knowledge about dealing with big data. Data can be processed and visualized through 3D facilities: the CIT Reality Center (3D theater and reality cube) and the Infoversum (dome).

7. Envisioned/potential University partners/disciplines:	Researchers working with spatial data.
8. Envisioned/potential Industry partners:	Researchers working with spatial data.
9. Fit's within topsector: *select from Agri&Food, Creatieve industrie, Energie, Tuinbouw en uitgangsmaterialen, Life sciences & Health, Water, High tech (HTSM), ICT, Logistiek, or Chemie* and add explanation when relevant	Our aim is to support use of spatial data for all fields in which our tools and data could be used. Potentially this fits within any of the topsectors.

Cooperation Programme **Maps4Society**

Expression of Interest (M4S EOI)

You are cordially invited to submit your expression of interest to the M4S Wiki. This offers you the opportunity to influence the Maps4Society programme call. The most original EOI will be awarded with a delicious Maps4Society cake! Send before 15 August 2013 to P.J.M.vanOosterom@tudelft.nl

Title:	Autonomous Rainfall Mapping (ARM)
1. Name:	Prof.dr. Geert Leus
2. Organisation/discipline/domain:	Delft University of Technology/ Microelectronics / Circuits and Systems with focus on Signal Processing
3. Contact (email/telephone):	g.j.t.leus@tudelft.nl / +31-(0)15-2784327
4. Addresses scientific challenge: *select from a. Dynamic data and harmonisation, b. Managing Big Data, c. Data quality assessment, d. Satellites-as-aservice, e. Volunteered geographic information, f. Geo-information infrastructure governance* and add explanation when relevant	a. dynamic data and harmonisation, c. data quality assessment, e. volunteered geographic information
5. Target application domain: *select from A. Object life cycle management, B. Water management, C. Deformation monitoring, D. Crisis management, or E. Smart Cities/ Human environment* and add explanation when relevant	B. Water Management, D. Crisis Management, E. Smart Cities/ Human Environment
6. Describe briefly own approach (ca. 5 lines):	Rainfall plays an important role in our society and clearly links to water and crisis management (think about floods). Standard measurement systems sense very coarsely and are insufficient if small-scale information is required such as in cities. Crowdsource information from social media as well as information gathered from wireless communication links can help in this respect, and will be exploited to autonomously obtain fine-resolution rainfall maps.
7. Envisioned/potential University partners/disciplines:	Wageningen University, Prof.dr. Remko Uijlenhoet Delft University of Technology, Prof.dr. Herman Russchenberg
8. Envisioned/potential Industry partners:	Royal Netherlands Metereological Institute (KNMI)
9. Fit's within topsector: *select from Agri&Food, Creatieve industrie, Energie, Tuinbouw en uitgangsmaterialen, Life sciences & Health, Water, High tech (HTSM), ICT, Logistiek, or Chemie* and add explanation when relevant	Water, High tech (HTSM)

Cooperation Programme **Maps4Society**

Expression of Interest (M4S EOI)

You are cordially invited to submit your expression of interest to the M4S Wiki. This offers you the opportunity to influence the Maps4Society programme call.

Title:	Smart Cities: the integration of digital, intelligent, and physicial cities
1. Name:	dr.ir. Linda Carton (RU) and dr. Stan Geertman (UU), drs. Peter Pelzer (UU) and prof. dr. Peter Ache (RU)
2. Organisation/discipline/domain:	This initiative exists of a collaboration of 2 research institutes: • Faculty of Geosciences, Spatial Planning group, Utrecht University • Geography, Planning and Environment sciences, school of Managament, Radboud University.
3. Contact (email/telephone):	l.carton@fm.ru.nl and s.c.m.geertman@uu.nl
4. Addresses scientific challenge: *select from a. Dynamic data and harmonisation, b. Managing Big Data, c. Data quality assessment, d. Satellites-as-aservice, e. Volunteered geographic information, f. Geo-information infrastructure governance* and add explanation when relevant	e + f: Volunteered geographic information and geo-information infrastructure governance. Scientific challenge: Analyzing the potential and evaluating the use of Big Data and 'M4S technology' in governance from an applied user perspective. This research fits it the research of the participating institutes: • UU research: Added value of Planning Support Systems • RU research: Urban Futures Lab
5. Target application domain: *select from A. Object life cycle management, B. Water management, C. Deformation monitoring, D. Crisis management, or E. Smart Cities/ Human environment* and add explanation when relevant	E. Smart Cities / Human environment.
6. Describe briefly own approach:	**Research objective:** **Smart Cities** and **Geodesign** are newly evolving concepts, merging planning and design professions with enabling geo-ICT technologies, in innovative pilot studies and practices. This research aims to develop innovative knowledge about the usability of and conditions under which instruments like geo-ICT, geodesign and Big Data can support improved spatial governance of cities and regions**.** This research studies the applications of these new instruments in practice among citizens, governmental agencies, civil society and market actors.

	Taking the newly establishing *'Community of Research and Practice of Maptable users*' as a starting point, in which research and practice is collaborating intensively, this research aims to test and evaluate innovative applications that combine volunteered information, big data and interactive apps into new Geo-monitoring and Geodesign Instruments and evaluate how these applications are actually practiced, used and embedded in multi-actor, multi-level governance approaches of cities and regions. **Research approach:** Research methods: action research and case study research (pilot projects, participant observation and participatory evaluation related to case studies). Case studies comprise initiatives of various networks of actors on **interdisciplinary topics** about climate resilience, sustainability and decarbonisation of cities / regions. Topics of application are for instance Energy saving and renewable energy projects, green-blue infrastructure projects (water and ecology), health policies (amongst others clean air, citizen's life-styles, provision of care). In the pilot projects, newly available apps, social media technology and (geo-)data will be used, like MapTables, Urban Observatories, Urban Atlases, Open Street Map, CommunityVisz, Planning Support Systems (PSS), etc. The municipalities of Arnhem and Nijmegen are partners in the project. These cities have ambitious objectives to become low-carbon, sustainable cities, providing healthy open spaces and environments for their inhabitants and visitors.
7. Envisioned/potential University partners/disciplines:	WUR, TUD, VU (spatial planning and governance; environment; GIS and geo-ICT)
8. Envisioned/potential Industry partners:	- *Cities/Governments:* municipalities of Arnhem and Nijmegen (could be extended by other governmental agencies like the province of Gelderland, province of Utrecht, min. I&M, Geonovum, Rijkswaterstaat, etc.) - *Geo-ICT:* Mapsup, ESRI. - *Community of Research and Practice:* community of Maptable users, (first symposium held on 17 October 2013, "Geo-informatie op Tafel", brought together by Peter Pelzer) - http://www.knag.nl/1448.0.html - http://gismagazine.nl/blog/laatste-nieuws/symposium-geo-informatie-op-tafel
9. Fit's within topsector: *select from Agri&Food, Creatieve industrie, Energie, Tuinbouw en uitgangsmaterialen, Life sciences & Health, Water, High tech (HTSM), ICT, Logistiek, or Chemie* and add explanation when relevant	Water, Energie, Life sciences & Health, ICT

Cooperation Programme **Maps4Society**

Expression of Interest (M4S EOI)

You are cordially invited to submit your expression of interest to the M4S Wiki. This offers you the opportunity to influence the Maps4Society programme call. The most original EOI will be awarded with a delicious Maps4Society cake! Send before 15 August 2013 to P.J.M.vanOosterom@tudelft.nl

Title:	In situ sensor network coupled with remote sensing for monitoring and mapping wildlife and livestock
1. Name:	Prof Andrew Skidmore / Prof Paul Havinga
2. Organisation/discipline/domain:	University Twente / ITC and Pervasive Systems
3. Contact (email/telephone):	0534874276 / a.k.skidmore@utwente.nl
4. Addresses scientific challenge: *select from a. Dynamic data and harmonisation, b. Managing Big Data, c. Data quality assessment, d. Satellites-as-aservice, e. Volunteered geographic information, f. Geo-information infrastructure governance* and add explanation when relevant	*d. Satellites-as-aservice,* *e. Volunteered geographic information*
5. Target application domain: *select from A. Object life cycle management, B. Water management, C. Deformation monitoring, D. Crisis management, or E. Smart Cities/ Human environment* and add explanation when relevant	*E. Smart Cities/ Human environment*
6. Describe briefly own approach (ca. 5 lines):	An in situ sensor network measures environmental (weather, video and phenological) data as well as wildlife and livestock movement information. Sensors are placed on and in animals allowing real time monitoring of position as well as physiological status (e.g. temperature, heart beat, hormonal status) of the animal. The in situ environmental information is linked to satellite remote sensing permitting up-scaling in space and time. Map output is streamed to user websites in real time for management analysis as well as public information. Such an integrated paradigm, allows seamless integration of mobile and cellular networks, ad-hoc citizen science input, and infrastructural remote sensing networks (e.g. CCD camera, sensor networks, information boards, sound, tagged images) forming the **sensor network of the future by** providing real time maps for societal benefit**.** **An example application is** the behavior of the badger, their habitat requirements in a peri-urban setting, dispersal patterns, need for additional protection (new sites, road crossings), role as a disease vector (as the animals come in contact with domesticated animals and stock), are all issues that require data and information so that land managers, local and provincial government, as well as developers and the agricultural sector can develop, while ensuring

	that population of badgers remain sustainable. Through increasing awareness of badgers in the community, the development of a participatory GIS to allow the public to download sightings of badgers via their mobile phones is beneficial. These data will complement the information from the wireless network, to be constructed across approximately 5 square kilometers around the Buursezand badger population centered on Natuurmonumenten terrain.   Entrance to a Badger Sett and road killed badger
7. Envisioned/potential University partners/disciplines:	Alterra
8. Envisioned/potential Industry partners:	Natuurmonumenten Staatsbosbeheer Rijkswaterstaat, WWF
9. Fit's within topsector: *select from Agri&Food, Creatieve industrie, Energie, Tuinbouw en uitgangsmaterialen, Life sciences & Health, Water, High tech (HTSM), ICT, Logistiek, or Chemie* and add explanation when relevant	*ICT* *Agri&Food*

Cooperation Programme **Maps4Society**

Expression of Interest (M4S EOI)

You are cordially invited to submit your expression of interest to the M4S Wiki. This offers you the opportunity to influence the Maps4Society programme call. The most original EOI will be awarded with a delicious Maps4Society cake! Send before 4 July 2013 to E.M.Fendel@tudelft.nl

1. Name:	Dr Jantien Stoter
2. Organisation/discipline/domain:	OTB TU Delft, Kadaster, Geonovum
3. Contact (email/telephone):	j.e.stoter@tudelft.nl
4. Addresses scientific challenge: *select from a. Dynamic data and harmonisation, b. Managing Big Data, c. Data quality assessment, d. Satellites-as-aservice, e. Volunteered geographic information, f. Geo-information infrastructure governance* and add explanation when relevant	Geo-information infrastructure governance 3D applications are practice, but not mainstream. This is because they are projectbased and ad hoc. Therefore, each project requires starting almost from scratch. The consequence is that applying 3D information is inefficient and not all the potentials of 3D information are being used. This study will address this gap and aim at building and dissemination a countrywide 3D model of the Netherlands.
5. Target application domain: *select from A. Object life cycle management, B. Water management, C. Deformation monitoring, D. Crisis management, or E. Smart Cities/ Human environment* and add explanation when relevant	 Smart cities
6. Describe briefly own approach (ca. 5 lines):	This study will develop and implement a 3D model at midscale covering the whole of the Netherlands. The model can be used to start a 3D project and be enriched with more detailed 3D information if necessary. A method to automatically reconstruct the 3D model based on 1:10k object oriented data and high-resolution laserdata (AHN2) is available. The main challenge of this study is firstly to generate the 3D information for the whole country, which requires a huge amount of computer processing power. For this computation cloud processing will be applied. The second challenge will be the dissemination and rendering of the 3D model in a Web environment.
7. Envisioned/potential University partners/disciplines:	TU Delft, VU Amsterdam RWS, Kadaster
8. Envisioned/potential Industry partners:	Geodan, ...

9. Fit's within topsector: *select from Agri&Food, Creatieve industrie, Energie, Tuinbouw en uitgangsmaterialen,* *Life sciences & Health, Water, High tech* *(HTSM), ICT, Logistiek, or Chemie* and add explanation when relevant	ICT

Kansenkaart voor water en groen in stedelijke omgeving

Doel
Het ontwikkelen van een kansenkaart, t.b.v. van bestuurlijke visie en afwegingen, met draagvlak bij bewoners en belangenorganisaties, op gemeentelijk niveau in stedelijke omgeving in relatie met nieuwbouw en renovatie van stedelijk gebied m.b.t. water en groen. Dit om de juiste keuzes te maken bij stadsontwikkeling rekening houdend met de leef- en woonkwaliteit en klimaatadaptatie.

Resultaat
Het resultaat is een knelpuntenkaart m.b.t. wateroverlast en droogte voor de huidige situatie en toekomstige situaties, een risicokaart per klimaatscenario per deel van het stedelijk gebied en een kansenkaart voor de toekomst m.b.t. water en groen.

Werkwijze
Aan de hand van ateliers met bewoners, belangenorganisaties, gemeente, waterschap en werkgroep met onafhankelijke deskundigen, het opstellen van de kaarten. Momenteel worden een aantal gemeenten benaderd voor het uitvoeren van de ateliers.

Stichting SBRCURnet
De werkgroep betaat uit leden van het landelijk Platform Groen Blauwe Aders onder de vlag van de onafhankelijke Stichting SBRCURnet.

Stappen

1.Klimaatscenario's
Uitgangspunt is de klimaatatlas.

2.Knelpuntenkaart
Voor droogte en wateroverlast een knelpuntenkaart opstellen voor de huidige situatie en de toekomstige situaties. Dit in samenhang met de ondergrond, betaande open en gesloten watersystemen, aanwezig verhard oppervlak en de ligging van de stad of deel ervan t.o.v. locale/regionale water- en keringssystemen, enz..

3. Risicokaart
Voor alle delen van het stedelijke gebied per knelpunt per klimaatscenario de hoogte van het risico (kans x gevolgschade) vaststellen.

4. Kansenkaart
Rekening houdend met de risico's de kansen aangeven voor stedelijk groen en water ,rekening houdend met de klimaatscenario's, gedragen door bewoners en belangenorganisaties, t.b.v. bestuurlijke visie en afwegingen.

Platform Groen Blauwe Aders
ir. G.J.H. Vergeer (secretaris)
SBRCURnet 06-50999667

skb
duurzame
ontwikkeling
ondergrond

DE NATUURLIJKE ALLIANTIE

van bodem, water en groen

METHODE VOOR OVERHEDEN OM IN TE SPELEN OP DE EFFECTEN VAN KLIMAATVERANDERING

DE NATUURLIJKE ALLIANTIE VAN BODEM, WATER EN GROEN

Meer wateroverlast en tegelijkertijd meer perioden van droogte; grotere kans op natuurbranden en vermindering van biodiversiteit. Dit is een kleine greep van de effecten van de klimaatverandering voor Nederland. Dat vraagt om actie vanuit verschillende overheden. De methode 'Natuurlijke Alliantie van bodem, water en groen' biedt hiervoor een handvat. Deze brochure gaat in op de kansen van deze methode voor uw regio, stad of wijk.

KLIMAATVERANDERING: ACTIE NOODZAKELIJK

Het Centraal PlanBureau schat dat Nederland vele miljarden kan besparen door nu actief in te spelen op de effecten van klimaatverandering en ze waar mogelijk tegen te gaan. Dat vraagt om gebiedsgerichte lange termijn visies, als kapstok voor afzonderlijke ontwikkelingen.

De Natuurlijke Alliantie helpt bij het formuleren van deze visie door geografische instrumenten en workshops met gebiedspartners. De Natuurlijke Alliantie geeft hiermee een handvat voor effectievere ruimtelijke planvorming.

Kenmerken zijn:

- Geografische instrumenten voor drie schaalniveaus: regio, stad en dorp/wijk;
- Integratie van bodem en ondergrond, water, groen en landschap in één ruimtelijk patroon;
- Uitgaan van systeemkenmerken van onder andere bodem- en watersysteem;
- Samenwerken tussen verschillende disciplines vanuit gedeelde urgentie;
- Handvat voor flexibiliteit en bestuurlijke keuzen op hoofdlijnen.

MAATWERK

In de methode ontwikkelen de partners alternatieven voor gebiedsontwikkeling op regionale schaal. Per deelgebied of locatie wordt een maatwerkcombinatie gemaakt van haalbare ideeën en mogelijkheden.

ACHTERGRONDEN

De methode is ontwikkeld vanuit de waterschaalmethode van waterschap Rivierenland, die is afgeleid van waterambitieladder van de Monash universiteit van Melbourne. Mede leidend hierbij waren ook de input vanuit de klimaateffectatlas van WUR/Alterra en de ervaringen van de klimaatateliers van de provincie Gelderland. Ook zijn de ervaringen verwerkt uit de visies op de natuurlijke alliantie van Foodvalley en van de gemeente Amersfoort.

DOORONTWIKKELING

De methode ontwikkelt zich verder. Hierbij wordt behalve de Natuurlijke Alliantie ook een alliantie van mens en maatschappij én een alliantie van occupatie en netwerken uitgewerkt. Zo ontstaat een uitwerking van de lagenbenadering. De doorontwikkeling wordt gestimuleerd en uitgevoerd door SKB en de alliantievereniging.

NATUURLIJKE ALLIANTIE VAN UW REGIO

De systemen van water en bodem zijn meestal alleen op regionaal schaalniveau goed te begrijpen. Dat geldt zowel voor kansen als voor beperkingen. De 'regionale blik' is daarom belangrijk om mee te nemen in de gebiedsinrichting via de methode 'Natuurlijke Alliantie'.

KWETSBAARHEDENKAART

Op een kwetsbaarhedenkaart is te zien welke zones en gebieden gevoelig zijn voor overlast en schade. Bijvoorbeeld door teveel neerslag, kwelwater, droogte en/of vermindering van waterkwaliteit. De kwetsbaarhedenkaart bevat zowel de huidige knelpunten, als een indicatie van de toekomstige klimaateffecten. De klimaateffectatlas van WUR/Alterra biedt hiervoor veel basisinformatie.

Lokale omstandigheden kunnen grote invloed hebben. Daarom is het noodzakelijk dat deskundigen van gemeenten en waterschap bijdragen aan het opstellen van zulke kaarten.

De Natuurlijke Alliantie kijkt vanuit drie gezichtspunten naar ruimtelijke ontwikkelingen:

1. De huidige situatie: hoe kunnen we huidige ruimteclaims beter afstemmen en integreren?
2. De toekomstige situatie: hoe ziet het gebied er over 30 jaar uit, vanuit autonome ontwikkelingen en eigen ambities, en hoe kunnen we daar nu al op anticiperen?
3. De economische impuls: wat kunnen we doen om het gebied een economische impuls te geven, waardoor bewoners en bedrijven gaan meehelpen om de gewenste toekomstige situatie te realiseren?

REGIO FOODVALLEY

De methode is toegepast in een visie op de Natuurlijke Alliantie van FoodValley van maart 2013 (waterschap Vallei & Veluwe, Arcadis, Hydrologic, Alterra, GrondRR). Onderstaande figuur presenteert delen van de kwetsbaarhedenkaart uit deze visie.

Onderdelen legenda kwetsbaarhedenkaart

- Grondwater fluctuatiezone
- Wateroverlast piekneerslag
- Wateroverlast beeksystemen
- Droogval beek-systemen
- Meer regenval op Veluwe
- Piekbuien stedelijke gebieden

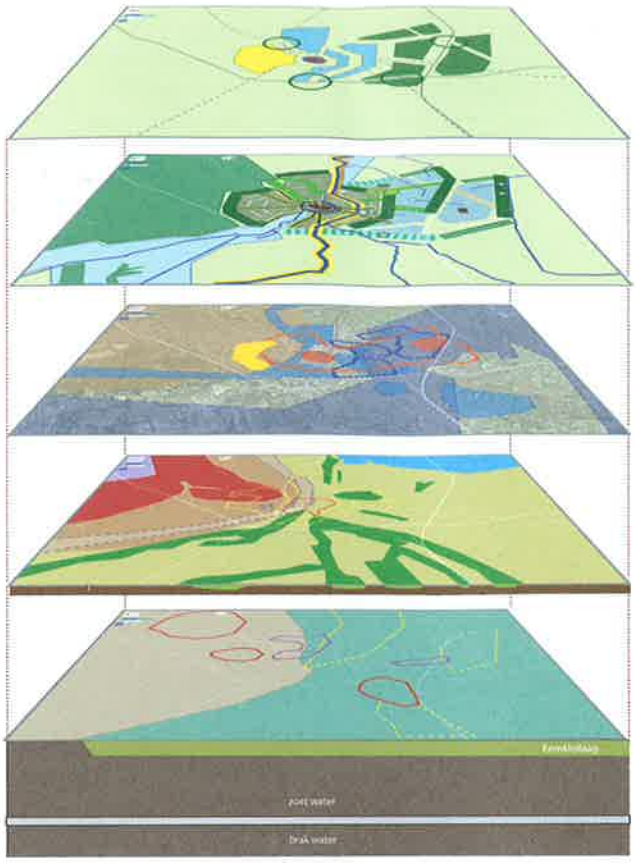
NATUURLIJKE ALLIANTIE VAN UW STAD

De oorsprong van de meeste steden en dorpen is vanuit de natuurlijke alliantie goed te verklaren. Denk aan de landbouwdorpen op de overgangen van hoog en laag, zoals de kernen langs de Veluwerand. Of aan steden die zijn ontstaan bij een doorwaadbare plek in een rivier, zoals Amersfoort of Zutphen. Deze oorsprong is vaak mede bepalend voor de stedelijke economie en het woongenot en zou mede bepalend moeten zijn in de toekomstige gebiedsinrichting.

LAGENKAART

De relaties en verbanden van een stad met water en ondergrond zijn uit te leggen met een Lagenkaart. Door dit te visualiseren kan de focus binnen een stad makkelijker worden gelegd op de kansen die water en ondergrond bieden voor de groei en aanpassingen in en rondom steden. De Lagenkaart van Amersfoort komt uit de visie op de Natuurlijke Alliantie van Amersfoort van juli 2012 (gemeente Amersfoort, waterschap Vallei & Veluwe, Alterra, GrondRR).

Onderop is de ondergrond te zien, met onder andere de Eemlandlaag, die mede bepalend is voor de kansen voor infiltratie en energiewinning. Dan volgt de bodem, waarin onder andere de beekdalen en dekzandruggen te herkennen zijn. Centraal is een gemeentelijke kwetsbaarhedenkaart opgenomen. Deze is het uitgangspunt voor een kaart met een voorstel voor de structuurkaart Natuurlijke Alliantie van Amersfoort. Bovenaan is het dakniveau weergegeven, belangrijk voor onder andere het vasthouden van water en de aanvulling van ecologische zones.

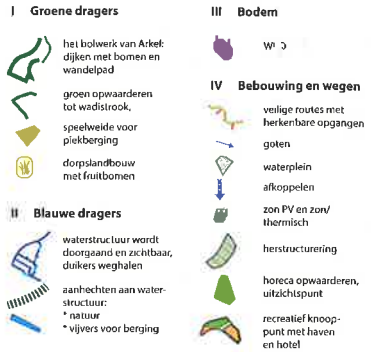


NATUURLIJKE ALLIANTIE VAN UW DORP OF WIJK

Veel ruimtelijke plannen spelen zich af in een wijk, dorp of park. De Natuurlijke Alliantie helpt om sturing en inspiratie geven aan lokale initiatiefnemers en zo kansen te benutten.

MAATWERK VOOR ARKEL

In het pilotproject watervisie Arkel en Hoogblokland van juli 2012 (gemeente Giessenlanden, waterschap Rivierenland, Grontmij, GrondRR) zijn de drie perspectieven op regionale schaal uitgewerkt. Het dorp Arkel was één van de deelgebieden in deze regio. Voor het dorp zijn haalbare onderdelen gecombineerd en ontwerpmatig geïntregreerd.



COLOFON

Deze brochure is een resultaat van de Showcase 'De Natuurlijke Alliantie in het gebiedsproces' van SKB. Showcase Amersfoort richt zich op de versterking van de Natuurlijke Alliantie van bodem, water en groen. In de showcases van SKB staan voorbeelden en methoden centraal die de duurzame ontwikkeling van de ondergrond bevorderen.

De foto van de voorzijde is gemaakt door waterschap Rivierenland. De foto's op de algemene pagina zijn van de gemeente Nijmegen. De overige foto's en afbeeldingen zijn gemaakt door GrondRR.

Voor nadere informatie kunt u terecht bij SKB:
- Sonja Kooiman (sonja.kooiman@skbodem.nl)

En bij het bestuur van de Alliantievereniging:
- Martin van Meurs (mvanmeurs@vallei-veluwe.nl)
- **Paul** Camps (ppj.camps@amersfoort.nl)
- Geert-Jan Verkade (geert-jan.verkade@sbrcurnet.nl)
- **Vincent** Grond (vincent@grondrr.nl)

www.alliantievereniging.nl

September 2013

skb
duurzame
ontwikkeling
ondergrond

waterschap vallei en veluwe

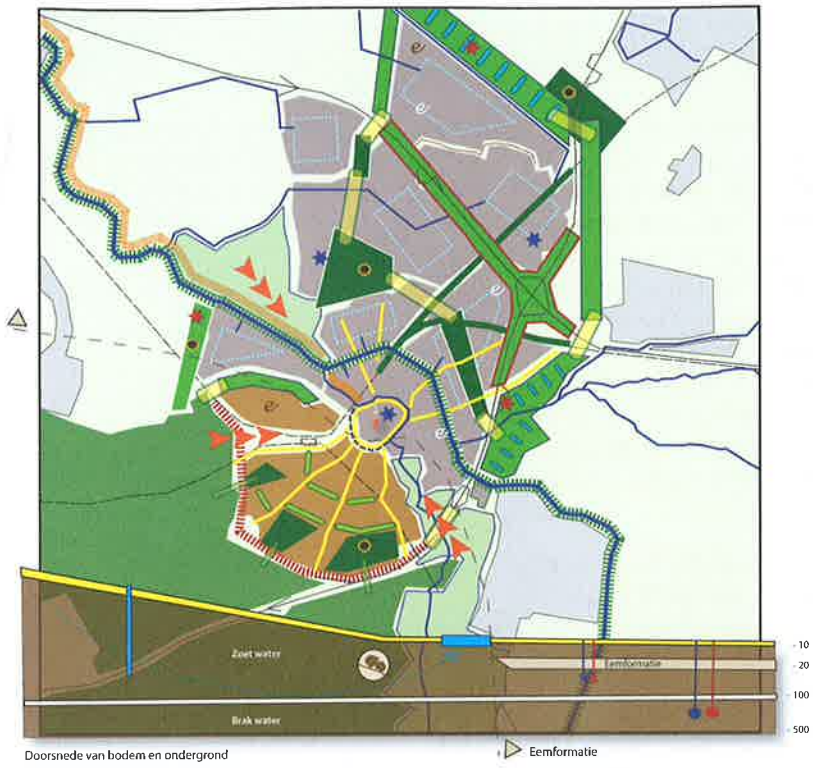
Amersfoort

Alliantievereniging

Postbus 420, 2800 AK Gouda
Tel. (0182) 54 06 90
programmabureau@skbodem.nl
www.skbodem.nl

STRUCTUURKAART NATUURLIJKE ALLIANTIE

Onderstaande structuurkaart van Amersfoort is een resultaat van de Natuurlijke Alliantie. De kaart vormt input voor de nieuwe structuurvisie van Amersfoort. Ook wordt binnen de gemeente een strategie voor de Natuurlijke Alliantie uitgewerkt, die richting geeft aan de uitvoeringsprogramma's van bodem, water en groen. Deze programma's worden deels integraal en deels sectoraal uitgevoerd.



Doorsnede van bodem en ondergrond

Eemformatie

I Gebied stuurt

- Eem is regionale ecologische zone
- natuurscheggen
- groene radialen
- herstel stadsgracht
- water circuleert in wijken
- water infiltreert
- groene kantelen
- raamwerk oostelijke stad
- knooppunten
- groene snelweg
- groen spoor
- groene schakels

II Veerkracht

- primaire dijk (1e laagsveiligheid)
- brandgang (en snelweg)
- stroming koele lucht
- waterkunst in stads/ dorpskern, drinken en spelen
- kwelwater gebruiken, o.a. als drinkwater
- extra waterberging (en recreatie)
- waterberging onder de grond

III Regionale economie

- hele stad: zoekgebied ecosysteemdiensten
- recreatief atractiepunt
- archeologie: stad met rijke historie
- drinkwater winnen
- energie uit water
- rio energie
- geothermie
- KWO
- zoekgebied stadslandbouw

Liander Opent Data

http://www.liander.nl/opendata

Meer Info?: Opendata@liander.nl

Korte omschrijving van het project

Open data is het via internet openstellen van alle data die Liander verzamelt in haar werk.
Als er beperkingen zijn die openstellen vandaag niet mogelijk maken, dan maken we een plan om openstelling in de toekomst te realiseren.

Business doelen:

1 - **open innovatie stimuleren** (en de energietransitie faciliteren)

2 - **transparant maken** wat we doen

3- **inzicht in de databehoefte** en het daadwerkelijk gebruik van data en toepassingen krijgen

4 - **datakwaliteit verhogen** via feedback door externen

5- **inzicht in de waarde** van Lianderdata krijgen

6- het **bereiken van** en **verbinden met nieuwe doelgroepen en gebruikers** via de data

Stand van zaken:

Kleinverbruikdata is open sinds oktober 2013

Storingsdata volgt in november 2013