

Project Proposal Writing

White Elephant Session WES

ACRS 2018, Kuala Lumpur

by

Kohei Cho, Tokai University

Gottfried Konecny, University of Hannover

Content:

- 1. What is a Proposal**
- 2. Types of Proposals**
- 3. Internet resources on writing proposals**
- 4. Contents of a Proposal**
- 5. Evaluation Process**
- 6. Do's and Dont's**

The funded research budget of Kohei Cho (2009FY～)

Time frame	Sponsor	Theme (Sorry in Japanese)	Budget
2009～2011FY	JST	地域分散型観測システムを活用した地球環境教育の実践	60,000USD
2012～2016FY	JST	衛星観測と現地調査による被災地の環境再生モニタリングと地球環境教育の実践	91,000USD
2013～2014FY	JST	災害復興を目的としたリモートセンシングと空間情報技術による被災情報図の即時作成と配信	84,000USD
2015FY	JAXA	AMSR2海氷密接度推定アルゴリズムの維持および高度化に関する研究	57,000USD
2016FY	JAXA	AMSR2海氷密接度推定アルゴリズムの維持および高度化に関する研究	75,000USD
2016～2020FY	MEXT	災害・環境変動監視を目的としたグローバル・モニタリング・システムの構築による安全・安心な社会への貢献	892,000USD
2017～2018FY	JAXA	AMSR2海氷密接度推定アルゴリズムの維持・改良及び薄氷域抽出アルゴリズム高度化に関する研究	193,000USD
2017～2021FY	JST	衛星観測と現地調査による被災地の環境再生モニタリングと地球環境教育の高度化	100,000USD

1. What is a Proposal?

The purpose of a proposal is to persuade the reader to do something, in most cases a **sponsor to grant or to provide some funds.**

A proposal is a written document to a sponsor.

The sponsor may be public or private.

Public sponsors are:

in the US the National Science Foundation (NSF),

in Europe the EU Research & Innovation, and

in many countries the National Research Councils

(e.g. NRC Canada, DFG Germany, etc.)

In Asia the Asian Development Bank, AIIB, JICA, JST etc.

In Malaysia the Academy of Sciences Malaysia(ASM) etc.



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INTERNATIONAL RESEARCH FUNDING AGENCIES

LIST OF INTERNATIONAL FUNDS (UPDATED FEB 2017)

1. [AUN/SEED-NET JICA - Collaborative Research with Industry Japanese](#)
2. [Baxter International Foundation, USA - Baxter Foundation Grant](#)
3. [Bill and Melinda Gates Foundation - Grand Challenges Grant Opportunities, 1\) Putting Women and Girls at the Center of Development, 2\) Creating and Measuring Integrated Solutions for Healthy Birth, Growth and Development and 3\) New Interventions for Global Health](#)
4. [CRDF Global - CRDF Global Grant](#)
5. [EARTHWATCH INSTITUTE - Earthwatch programme](#)
6. [Economic and Social Research Council - Research Grants Scheme including international co-investigators.](#)
7. [European Commission - Horizon 2020 EU Research Programmes](#)
8. [Federal Ministry of Education and Research \(BMBF\) - International Partnerships for Sustainable Technologies and Services for Climate](#)

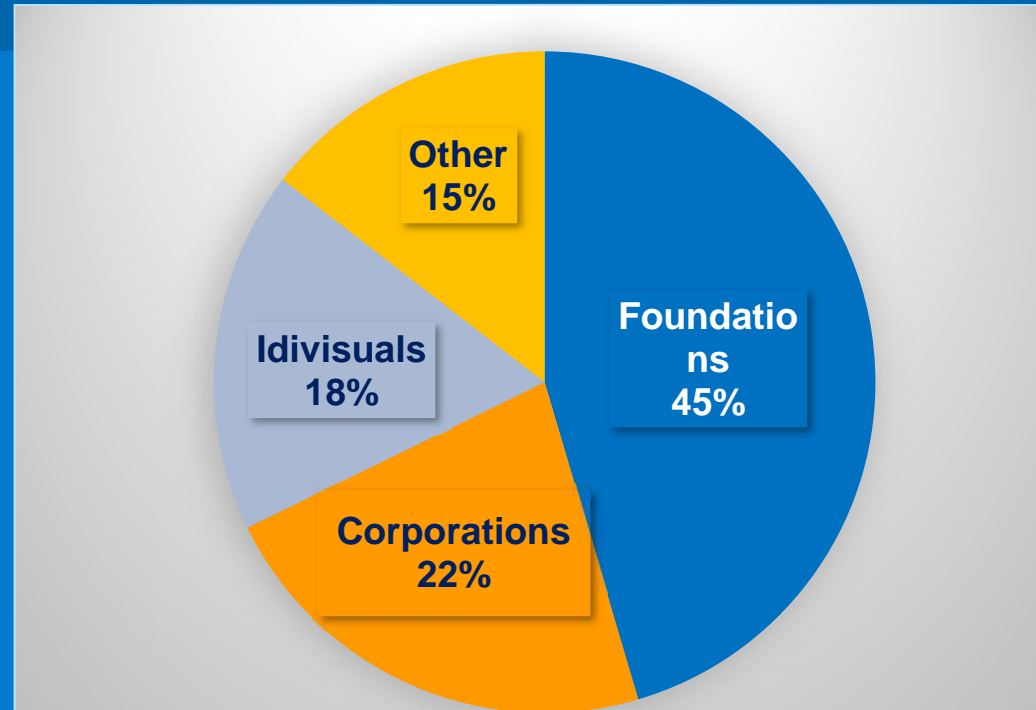
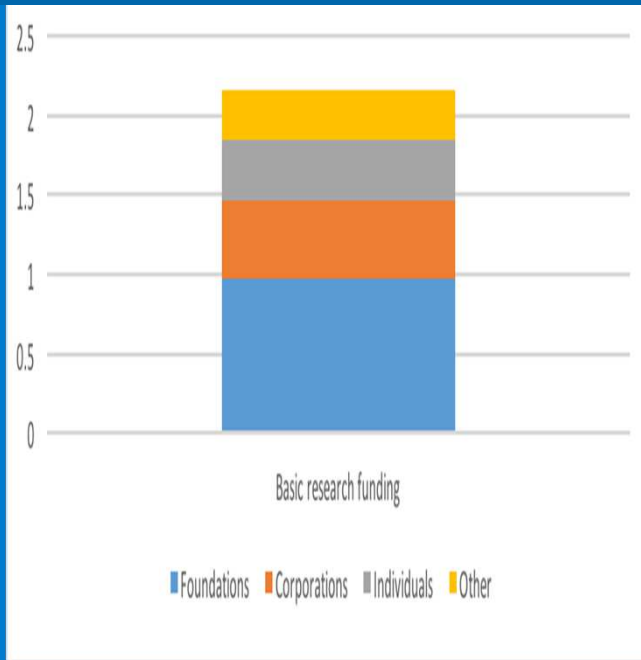
Univeristy Utara Malaysia

[http://rimc.uum.edu.my/index.php/en/research/international-grants/
185-international-grant-15022017](http://rimc.uum.edu.my/index.php/en/research/international-grants/185-international-grant-15022017)

Example

Funding Organization	EARTHWATCH INSTITUTE
COUNTRY	USA
GRANT	Earthwatch programme
TYPE	Postdoctoral Awards
DISCRIPTION	Earthwatch provides citizen scientist and financial support to research projects addressing urgent global needs all over the world. We support scientists who seek to inform solutions to environmental and cultural challenges and who are passionate about engaging people in their research.
FIELD OF STUDY	- NA
DATELINE	Throughout the year
LINK	http://earthwatch.org

US Private funding of basic research at universities and colleges by source (2015)



- Foundations : \$979 million (45%)
 - Corporations : \$481 million (22%)
 - individuals : \$382 million (18%)
 - “other” : \$313 million (15%).
- Total : \$2.155 billion

<http://www.sciencephilanthropyalliance.org/what-we-do/news/private-funding-for-basic-science-research-at-u-s-universities-and-colleges-exceeds-1-2-billion-in-2015-news-release/>

2. Types of Proposals:

The sponsor determines the type of the purpose of funding

- **Fundamental research**
(returns expected in **25 years** – outcome uncertain.
Mostly fundad as **a grant with no obligation**)
“NSF provides funds on merit, not on need“
- **Applied research**
(returns expected in **15 years** – outcome predictable)
- **Development**
(returns expected in 5 years – outcome expected)
- **Practical execution of a task**
(returns expected on **project completion**)

2. Types of Proposals:

Applied Research, Development Projects and Practical Implementations are usually funded as a contract with delivery obligations

Public Grants (or Contracts) are more regulated in form or purpose; applications usually require prescribed forms. The proposals should be between 15 and 100 pages long

Private Grants (or Contracts) are usually satisfied with a shorter “letter proposal”.

3. Internet references for writing proposals

The Internet contains many references for writing project proposals, most of which are from the US, which even start at fund raising or the finding of a sponsor.

➤ Internet references from the US are:

➤ www.foundationcenter.org

➤ www.mtsu.edu

➤ <http://research.microsoft.com>

➤ www.research.umich.edu

➤ www.nsf.gov

www.cs.uiowa.edu

➤ www.tgci.com

www.scn.org

<http://grants.library.wisc.edu>

➤ www.wpi.edu

www.gsa.gov/fdac/queryfdac.htm

➤ www.mcf.org

www.jmu.edu

3. Internet references for writing proposals

Non-US Internet References:

<http://ec.europa.eu/research/index.cfm>

<http://scottish-enterprise.com>

http://ec.europa.eu/research/fp6/index_en.cfm?p=0_doc

www.funding.aau.dk/eufund.htm

www.mdx.ac.uk

www.education.monash.au

www.biu.ac.il

<https://sea-eu.net/object/document/282>

<http://www.arc.gov.au/>

<http://www.southasiafoundation.org>

<http://www.jica.go.jp/english/index.html>

<https://www.adb.org/site/funds/main>

4. Contents of a Proposal

The web recommendations all have a similar recommendation for the preparations for and the contents of a proposal for a governmental grant or contract:

Preparation:

Step 1: download application forms and guidelines from the grant webpage

Step 2: call a past grantee

Step 3: call a past reviewer

Step 4: contact the program officer

4. Contents of a Proposal

Proposal Writing:

4.1. Introduction

- who are you
- goals
- prove your credibility
- state the problem

4.2. Problem Statement and Need

- demonstrate your understanding
- focus on project
- relation to larger problems
- importance of project
- feasibility to solve the problem
- aim to be reached

4. Contents of a Proposal:

Proposal Writing:

4.3. Objectives - specify the end product (specific, measurable, practical, logical)

4.4. Methods - data collection, use

4.5. Evaluation - to improve project

4.6. Budget

4.7. Abstract

4. Contents of a Proposal:

A letter proposal for a private sponsor may not need any forms. It should contain a similar (shorter outline):

- Part 1 Summary
 - self identification
 - uniqueness
 - sponsor expectations
 - budget
- Part 2 Sponsor Appeal
 - why to approach this sponsor
- Part 3 Problem
- Part 4 Solution
- Part 5 Capabilities
 - demonstrate credibility
- Part 6 Budget
- Part 7 Conclusion

sign by „heavy weight person“, multiple application is expected, but notify

5. Evaluation Process:

As a rule all applications are reviewed by a group of experts.

Why are proposals rejected?

- | | |
|------------------------------|--|
| Problem Statement 58% | <ul style="list-style-type: none">- problem not important- problem too complex- only of local significance- premature |
| Approach 75% | <ul style="list-style-type: none">- methods unsuited- description too nebulous- not thought out |
| Investigator 55% | <ul style="list-style-type: none">- not sufficient experience- unfamiliar with literature- poor publication record |
| Other 16% | <ul style="list-style-type: none">- resource assessment unrealistic |

6. Do's and Dont's:

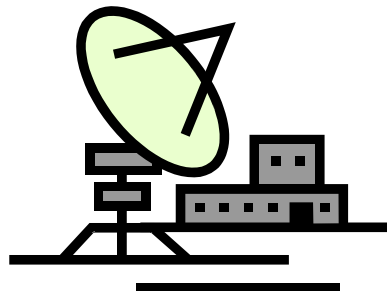
- Do:**
- add interesting technology components to proven ideas
 - know how to fit into past and current projects
 - involve a team
 - proofread the submission thoroughly

- Don't**
- say little is known or done
 - think you know everything
 - confuse objectives with actions
 - define objectives you do not wish to achieve
 - use abbreviations
 - focus on the „cutting edge“
 - request funding for basic operations

< An example of Project Proposal >



Resilience against Disasters using Remote Sensing and Geoinformation Technologies for Rapid Mapping and Information Dissemination (RAPIDMAP)



**Kohei Cho / Tokai University (TU), Japan
Emmanuel Baltsavias / ETH Zurich (ETHZ), Switzerland
Fabio Remondino / Fondazione Bruno Kessler (FBK), Italy
Uwe Soergel / Leibniz Universität Hannover (LUH), Germany
Hiroyuki Wakabayashi / Nihon University (NU), Japan**



What is CONCERT JAPAN?

CONCERT-Japan is a joint project between European countries and Japan to promote an effective and coordinated science and technology cooperation.

It was decided to perform a coordinated pilot joint call for joint funding between European countries and Japan

The goal of the CONCERT-Japan Joint Call is to bring together Japanese and European researchers to collaborate on a joint topic of mutual interest.

thematic areas:

- 1. Efficient Energy Storage and Distribution**
- 2. Resilience against Disasters**

Funding parties

Japan: Japan Science and Technology Agency (JST)

Belgium/Flanders: Research Foundation Flanders (FWO)

France: French Ministry of Foreign Affairs (MAE) etc.

Germany/Region of North Rhine Westphalia

Hungary: Hungarian Scientific Research Fund (OTKA)5

Italy/Region of Lombardy, Italy/Province of Trento

Norway: Research Council of Norway (RCN)

Romania: National Authority for Scientific Research (ANCS)

Slovakia: Slovak Academy of Sciences (SAS)

Spain: Ministry of Economy and Competitiveness (MINECO)

**Switzerland: ETH Zurich on behalf of State Secretariat for
Education and Research**

**Turkey: Scientific and Technological Research Council of
Turkey (TÜBİTAK)**

Who can apply to the Joint Call?

- Each project consortium should consist of **at least 3 partners** **one from Japan** and **two from two different European countries** participating in the JC.
- A partner should be a research institution or company.
- Each project should clearly demonstrate the added value of working together.
- **Funding of each country will be based on national/regional regulations.**
amount per funding institution will therefore differ between countries.
- **Deadline : October 30, 2012**
- **Selection: March 2013**

How did we make a proposal?

- One day, Fabio Remondono of Italy found a Joint Call of Concert-Japan and send an e-mail to Kohei Cho for cooperation.
- After few e-mail exchange, they decided to set up an international team consisted of **two scientists from Japan and three scientists from EU Countries**.
- The team exchanged ideas via e-mails and Skype, we wrote a 18 pages of proposal within three weeks.
- **The proposal was submitted on October 30, 2012.**
- Total of **53** projects were proposed to the Joint call, and after peer review by JST and EU, **5** was adopted for **“Resilience against Disasters”** including *RAPIDMAP*.

Our proposal : Rapidmap

Project title: Resilience against Disasters using Remote Sensing

**and Geoinformation Technologies for
Rapid Mapping and Information Dissemination**

Project acronym: *RAPIDMAP*

Project leader for **Japan**

Kohei Cho / Tokai University, Japan (overall project leader)

Project leader for **Europe**

Emmanuel Baltsavias / ETH Zurich, Switzerland

Other project partner

Fabio Remondino / Fondazione Bruno Kessler, Italy

Uwe Soergel / Technical University of Darmstadt,

Hiroyuki Wakabayashi / Nihon University, Japan

Proposal: Top page

- **Project title:** Resilience against Disasters using Remote Sensing and Geoinformation Technologies for Rapid Mapping and Information Dissemination
- **Project acronym:** RAPIDMAP
-
- **Name/institution of project leader for Japan:**
- Kohei Cho / Tokai University (TU), Japan (overall project leader)
-
- **Name/institution of project leader for Europe:**
- Emmanuel Baltsavias / ETH Zurich (ETHZ), Switzerland
-
- **Names/institutions of other project partners:**
- Fabio Remondino / Fondazione Bruno Kessler (FBK), Italy
- Uwe Soergel / Leibniz Universität Hannover (LUH), Germany
- Hiroyuki Wakabayashi / Nihon University (NU), Japan

Proposal: from the second page

1. General information

1.1. Short abstract of the project (max. 1/2 page)

1.2. Main Objectives of the project (max. 1/2 page)

1.3. The project description (max. 2pages)

1.4. Scientific excellence of the project and the project partners (*max. 1page*)

1.5. Project coordination and management (*max. 1 page*)

2. Work plan (*max. 1 page per aspect below*)

2.1. Research methodology

2.2. Work plan (timetable / Gantt chart)

2.3. Envisaged types of activities (including main milestones, deliverables and place in case of events)

2.4. Involvement of each partner

3. Expected impact of project results (*max. 1page*)

4. Added values of multilateral cooperation (*max. 1page*)

5. Short CVs of main participating researchers (*max. 1 page per researcher*)

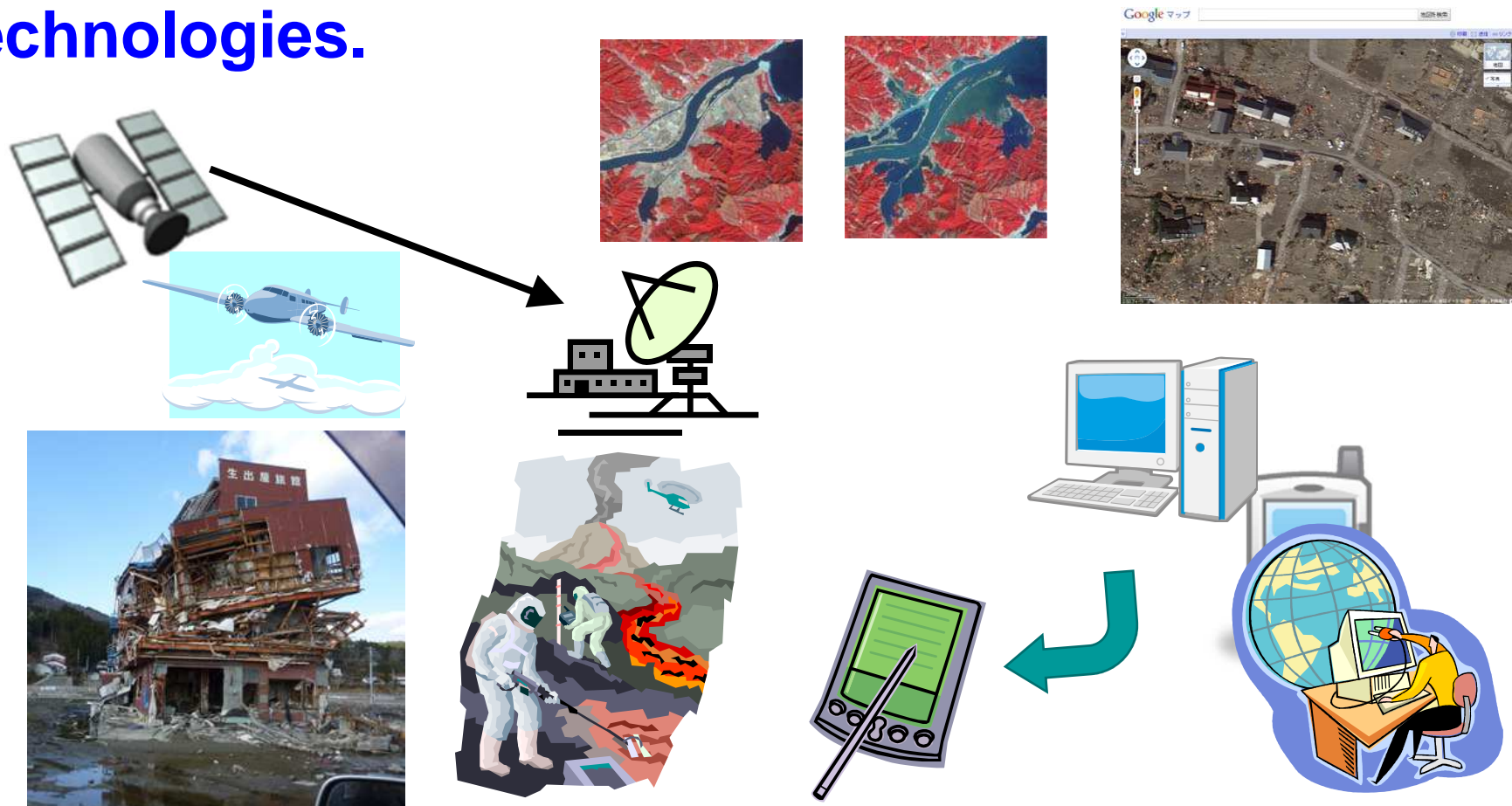
1. General information

1.2. Main Objectives of the project (*max. 1/2 page*)

One of the most important things in the beginning of a disaster is to figure out its damages for search and rescue as well as activities coordination. **The main objectives of the *RAPIDMAP* project are to construct practical ways to gather and extract useful information to figure out the damages of disaster in near real time by utilizing RS and GIS technologies.** Disaster response requires indeed rapid mapping from as many information sources as possible and an easy access to such information. With respect to RS, this means, firstly, to deal with imagery from diverse sensors which capture complementary data in different spectral and spatial domains (e.g., visible and microwave, from space to ground) and, secondly, to compare pre- and post-event imagery in order to detect relevant changes. In any case, a very precise co-registration of the data is a prerequisite to enable information extraction and rapid delivery of data to policy makers and rescue teams. In the *RAPIDMAP* project, novel, reliable and robust methodologies will be developed in order to achieve the aforementioned goals using high-resolution satellite, airborne, UAV and terrestrial data. For the rapid information delivery, *RAPIDMAP* will develop WebGIS tools to provide integrated information to end-users using wireless network and portable terminals in near real time. The project will be practically tested and demonstrated at the Tohoku area in Japan and the Emilia region in Italy, which were recently affected by large disasters. Through these demonstrations, the importance of cooperation between Japan and EU countries will be enhanced.

<Main objective>

The main objectives of the *RAPIDMAP* project are to construct practical ways to gather and extract useful information to figure out the damages of disaster in near real time by utilizing RS and GIS technologies.



2. Work plan

2.2. Work plan (timetable / Gantt chart)

See additional information in 2.3.

WP 1: Management

Lead: TU, Partners: ETHZ, FBK, LUH, NU Start month: 1, End month: 24

Tasks:

- Activity planning and monitoring
- Quality assurance of deliverables

WP 2: Near real time monitoring

Lead: TU, Partners: NU, FBK Start month: 1, End month: 18

Tasks:

- Image receiving and processing
- UAV platform exploitation

WP 3: Data co-registration

Lead: ETHZ, Partners: LUH, NU Start month: 1, End month: 23

Tasks:

- Co-registration between optical and radar images (before, after the disaster)
- Co-registration between different spectral optical bands (before, after the disaster)
- Co-registration of UAV images with other geodata

WP 4: Data fusion and change detection

Lead: LUH, Partners: ETHZ, TU Start month: 4, End month: 22

Tasks:

- Fusion of data at feature / object / semantic level
- Detect changes from same and different sensor type (same/different view)
- Investigate useful object features for change detection

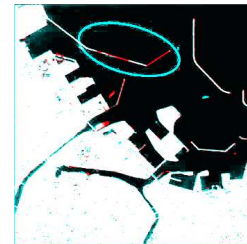
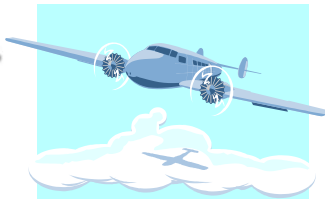
2. Work plan

Time Chart

		2013										2014										2015			
		apr	may	jun	jul	ago	sep	oct	nov	dec	jan	feb	mar	apr	may	jun	jul	ago	sep	oct	nov	dec	jan	feb	mar
WP1	management																								
WP2	near real time monitoring																								
WP3	data co-registration																								
WP4	data fusion and change detection																								
WP5	decision support system (webGIS)																								
WP6	data collection and benchmark tests																								
WP7	dissemination																								

2.4. Involvement of each partner

1. Near real time monitoring with satellites as well as Unmanned Airborne Vehicles (UAV). **[Japan]**
2. Co-registration of various images as well as maps coming from different sources. **[Switzerland]**
3. Data fusion and change detection using optical sensor data and active microwave **[Germany]**
4. Decision Support System (DSS) development based on WebGIS technologies **[Italy]**



5. Short CVs of main participating researchers

Personal data

Name	Kohei Cho, Prof. Dr.
Institution	Tokai University, School of Information and Science & Technology
Address	4-1-1 Kitakaname Hiratsuka, Kanagawa 259-1292, Japan
Phone / Fax	+81-463-58-1211 / +81-463-50-2426
E-Mail / WWW	cho@yoyogi.ycc.u-tokai.ac.jp / www.tric.u-tokai.ac.jp

Scientific Career and Education

since 04/2002	Professor, Dept. of Human & Information Science, Tokai Univ., Japan
04/1994-03/2002	Associate Professor, Dept. of Network & Computer Engineering, Tokai Univ.
09/1992-03/1994	Researcher, Department of Network & Computer Engineering, Tokai University, Japan
04/1982-03/1992	Researcher, Remote Sensing Technology Center of Japan (RESTEC)
03/1981	MSc, Chiba Univ.

Activities in scientific community

2009- : General Secretary AARS

2008-2012: Scientific Secretary, ISPRS Commission VIII “ Remote Sensing Application)

2004-2008: President, ISPRS Commission VI “Education and Outreach”

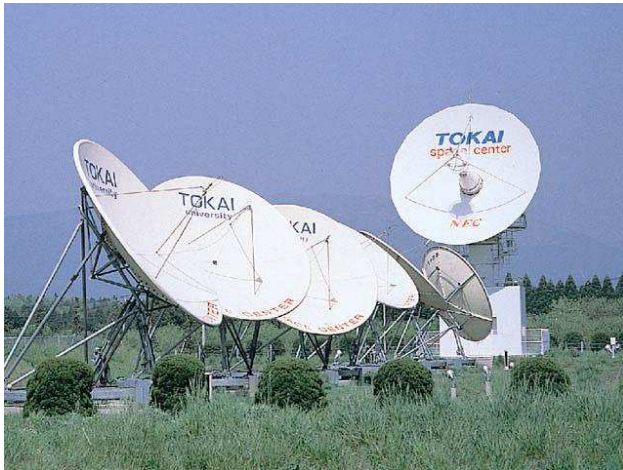
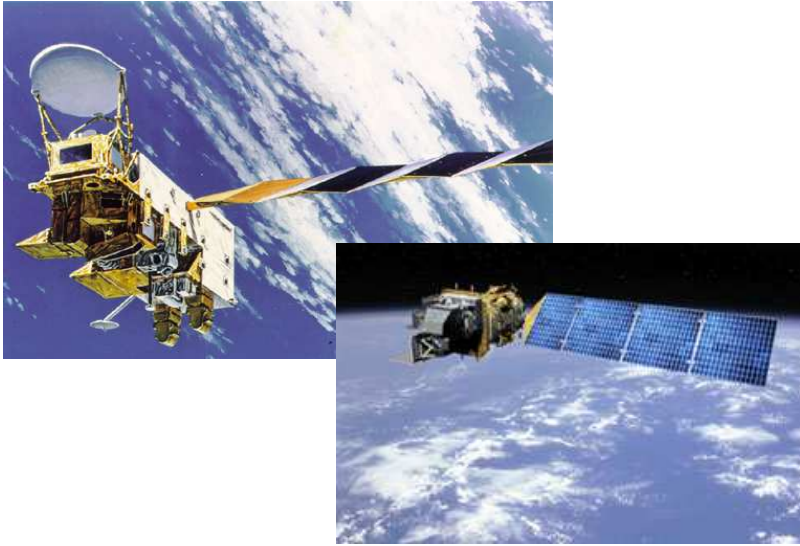
1992-2000: Chair ISPRS WG VI/2 “Computer Assisted Teaching”

5. Short CVs of main participating researchers

Selected publications (peer-review papers only)

- 1. Cho K, Yokotsuka H, Shimoda H and Matsumae Y (2012), “A study on Near Real Time Monitoring with Earth Observation Satellites”, Proc. of the School of Information Science and Technology, Tokai University, Series J, pp. 3-1.**
- 2. Toyota T, Ono S, Cho K, Ohshima K (2011), “Retrieval of sea-ice thickness distribution in the Sea of Okhotsk from ALOS/PALSAR backscatter data”, Annals of Glaciology, Vol. 52, No. 57, pp. 177-184.**
- 3. Yaguchi R, Cho K (2009), “Validation of sea ice drift vector extraction from AMSR-E and SSM/I data by using MODIS data”, Journal of the Remote Sensing Society of Japan, Vol.29, No. 1, pp. 242-252.**
- 4. Fukue K, Sone M, Yokotsuka H, Cho K, Shimoda H (2009), Influence of radiometric density noise and geometric position noise in reconstruction based superresolution, Journal of the Japan Society of Photogrammetry and Remote Sensing, Vol. 48, No. 6, pp. 289-298.**
- 5. Yokotsuka H, Fukue K, Sone M, Cho K, Matsuoka R, Sudo N, Shimoda H, Matsumae Y (2006), “A Proposal on Antenna Alignment Calibration Method of a Receiving Ground Station for Earth Observation Satellite”, The transaction of the Institute of Electrical Engineers of Japan. C, A publication of Electronics, Information and System Society, Vo. 126, No. 1, pp. 14-23**

Near Real time Monitoring with Satellites and UAV



Way of Comparison (Kadowaki Primary School)

↑ Observation Height

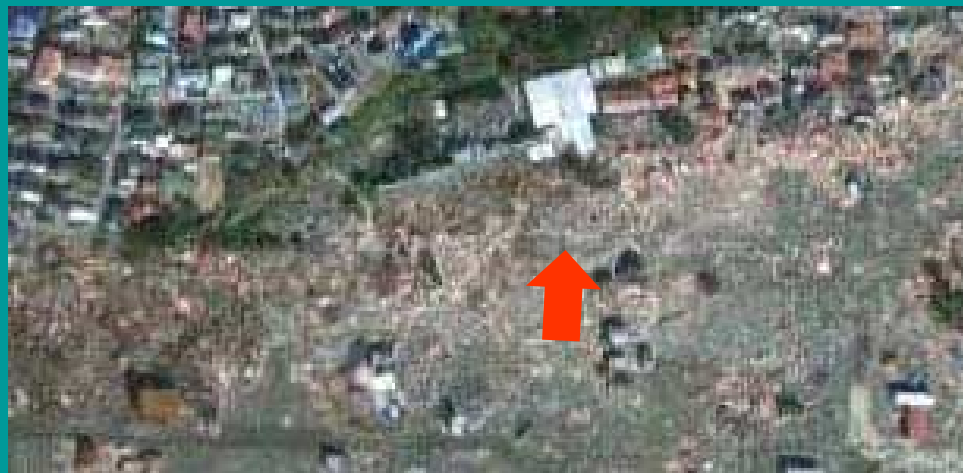


Terminal Development

Rapidmap Terminal



Satellite image of before



Satellite image of after

Rapidmap Terminal



Photo Before



Photo After

RAPIDMAP Workshop in Tokyo(sep. 2014)



Rapidmap Workshop



Ground survey at Sendai



Summary of Actions

2013

April

Official Contract with JST

July

Official Join project started

September

Ground survey in Tohoku area.

October

Presentation at ACRS in Bali

November

Presentation at ACRS in Antalya.

2014

March

Ground survey in Tohoku area.

May

Presentation at JSPRS in Tokyo

Sep

Workshop in Tokyo / Ground survey in Tohoku

Oct

Presentation at ACRS in Ney Pie Tau

November

Joint Workshop in Tokyo

Final Evaluation : A