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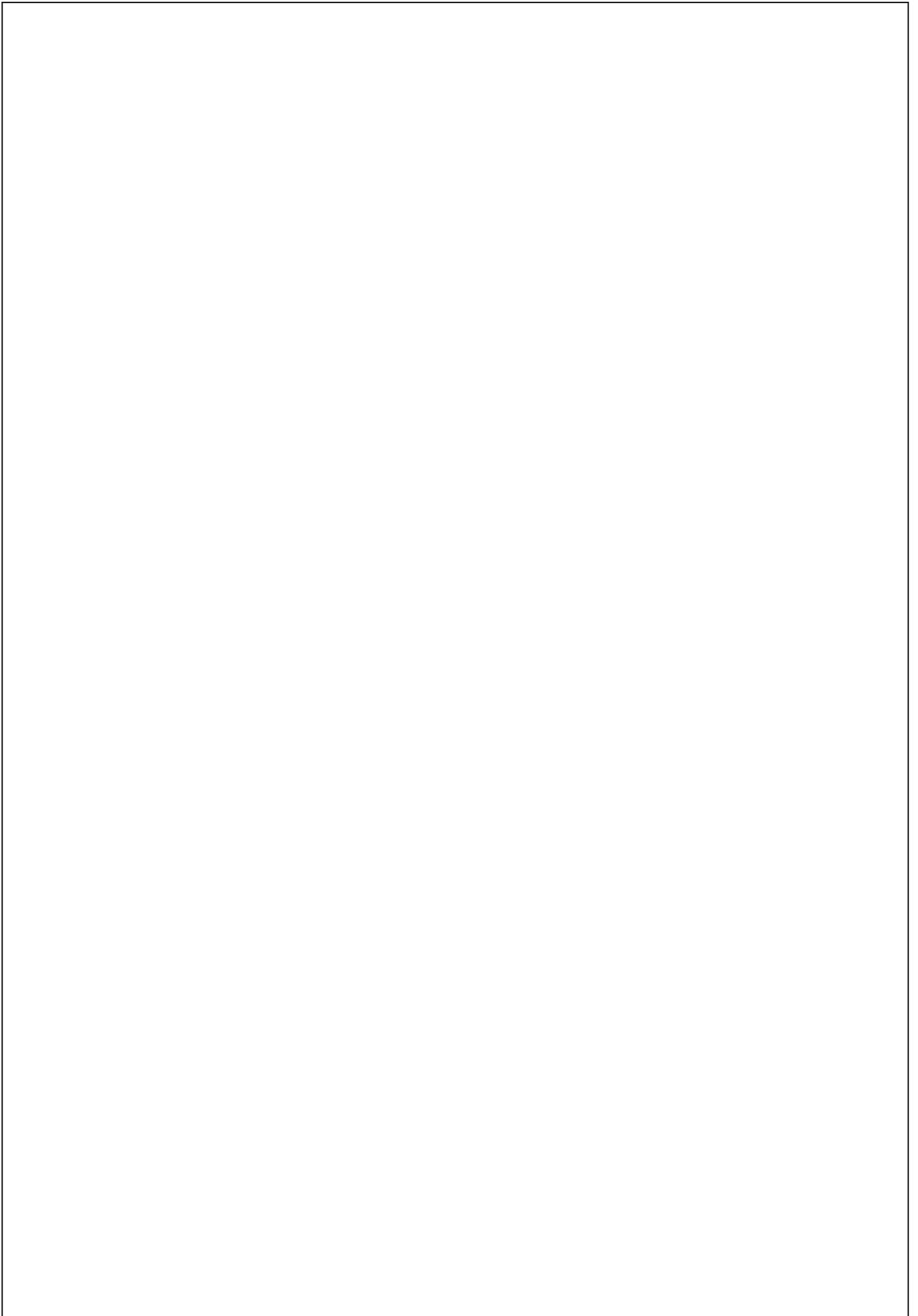
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| PP                  | Restricted to other programme participants (including the Commission Services)        |   |
| RE                  | Restricted to a group specified by the consortium (including the Commission Services) |   |
| CO                  | Confidential, only for members of the consortium (including the Commission Services)  |   |



## **Abstract**

Feedback from the first MATRIX Stakeholder Workshop has been received from the participants, while a 2<sup>nd</sup> MATRIX-Stakeholder workshop is planned for June 2013 to foster the cooperation with National Platforms for Disaster Reduction and Hyogo Framework for Action Focal Points. A joint paper with the National Platforms is in preparation, while an article in the German Civil Protection Magazine has been prepared and will be published in May 2013. A document outlining the MATRIX project has been prepared for the GRIPweb website, a presentation about MATRIX is on the agenda of the upcoming European Forum for Disaster Reduction.

## **Acknowledgments**

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# 1 Contacts to National Platforms V

In order to foster the cooperation with and disseminate MATRIX results to the National Platforms, HFA Focal Points and other selected organisations acting as Cooperation Partners and the private sector, including operators of critical infrastructures and insurance, a 2<sup>nd</sup> MATRIX stakeholder workshop is planned to be held in Bonn on 27/28 of June 2013.

## 1.1 Status of Cooperation

The current status of cooperation is displayed in Table 1, Appendix 1. New organisations have been contacted and invited to the 2<sup>nd</sup> MATRIX Stakeholder Workshop in order to extend the group of Cooperation Partners. These include:

- Iceland - Department of Civil Protection and Emergency Management.
- Iceland - Icelandic Met Office.
- Liechtenstein- Department of Civil Protection.
- The Austrian Railway (ÖBB).
- The German Railway (DB).
- German Insurance Association (GDV).
- RWE

## 1.2 Feedback from National Platforms and Civil Protection

The results of the feedback sheets that were submitted to the participants of the 1<sup>st</sup> MATRIX–Stakeholder Workshop (held in Bonn, 5/6 July 2012) are presented in Appendix 2 and summarized below. These results will be also utilised within the context of deliverable D8.15 “Platforms and MATRIX community: Performance evaluation of interaction between platforms and MATRIX community”. It is planned to distribute similar feedback sheets to the participants after the 2<sup>nd</sup> MATRIX–Stakeholder Workshop, which currently is under preparation, as described in section 1.3.

### ***Quality of presentations and discussions***

*Did the presentations and discussions convey new findings and insights to you?*

All representatives of the National Platforms for Disaster Risk Reduction stated that the presentations and discussions conveyed new findings and insights.

- The presentations and the event contributed to a broader understanding of the concepts of multi-risk and multi-hazard, including the consideration of spatial and temporal correlations of events, consideration of dynamic vulnerability and the identification of sources and types of uncertainty. The event pointed to the importance of the multi-risk concept and conveyed

new insight through the presentation of the results of stakeholder survey (see deliverable D8.11 “Contacts to National Platforms IV” Appendix 4 - Synthesis of Stakeholder Questionnaires).

- It offered to the stakeholders new approaches to risk-analysis, risk-assessment and risk-mapping.
- MATRIX-CITY and the exercise in Stakeholder-Driven Decision Analysis showed the possibilities of integrating multi-hazard and multi-risk assessment into one tool, for example MATRIX-CITY.
- MATRIX-CITY and the exercise in Stakeholder-Driven Decision Analysis are capable of stimulating the development of appropriate exercises for the stakeholders.
- The event facilitated the networking of researchers and experts.

*Do you consider contents, results and discussions of the workshop as useful for the work in your organization?*

- The event increased the awareness for multi-risk events and pointed to the necessity of this type of approach and the advantage of using a multi-risk approach.
- It motivated the stakeholders to:
  - put forward discussions with respect to the concept of multi-risk,
  - experiment with new tools like MATRIX-CITY,
  - establish a knowledge base on multi-type risk in Europe,
  - use the multi-risk concept for teaching purposes,
  - apply a multi-risk approach to analyse a drainage basin (Lake Vänern in Sweden).
- Risk MATRIX Analysis - An Exercise in Stakeholder-Driven Decision Analysis. An efficient support tool for the decision making process is an essential tool for stakeholders and in particular for Civil Protection Organizations. The exercise presented to determine rankings within the decision processes was a good example for the practical application of multi-hazard-risk concepts and for the use of the “Risk Matrix”. It has been used by the Italian Civil Protection, as a stakeholders exercise, in a workshop of the 12th Euromed-PPRD South Program in Lisbon (17-19 October 2012).
- In two of the responses, the contents, results and discussions of the workshop were considered to be not yet useful for the work of the organization. Further project outcomes and results will thus need to be seen if the contributions from MATRIX could be useful.

***Interaction: Do you have the impression that the discussions will have an impact on the further research activities of MATRIX?***

The participants were asked to provide answers on a scale from 1 to 5, while 1 was bad and 5 very good. On average, the participants valued the expected impact of the workshop on further MATRIX research activities as being satisfactory (average value 3,2).

**Organisational** (scale from 1 to 5, where 1 is bad and 5 is very good)

1.1 Information: Was the information in preparation of the workshop helpful (e.g. Workshop Concept Note) in order to understand the workshops objectives and your role in this context? **3,9**

1.2 Logistics: **3,4**

1.3 Time reserved for discussions: **4**

1.4 Moderation: **4,1**

1.5 Venue: **4**

**Outlook**

*Did the workshop change your view on multi-risk issues?*

Four out of seven responders stated that the workshop changed their views on multi-risk. Mentioned key points in this context are the following:

- Improved knowledge on multi-risk and broadened the understanding on multi-risk. Provided new definitions and perspectives on multi-risk.
- Gave an overview of the conceptual importance of multi-risk. Hence, it raised the awareness of the concept.
- Reduced the scepticism about the usefulness of the multi-risk approach.

*Are you interested to attend another MATRIX-stakeholder meeting in the future (1 to 1 ½ years) when either new results and/or better examples are available?*

All participants expressed their interest to attend a follow-up workshop in case they are available for the event.

**Comments from Stakeholders**

Some additional comments were provided by the stakeholders.

- very good setting and productive atmosphere;
- the benefit (and real impact) of MATRIX can only be assessed at the end of the project, because a number of similar projects are underway at the worldwide/international level, all with comparable objectives;

- Despite the definitions given during the workshop, one stakeholder had the feeling that the concept of multi-risk has still various meanings, depending on the considered stakeholder. He hopes that the work of the project will lead to a convergence towards a commonly agreed definition;
- Issues suggested to be further developed by MATRIX are:
  - Evaluate in some practical example the effective conditional probabilities of multiple hazards (cascade-domino effects).
  - Determine/demonstrate, in a quantitative and not only qualitative way, when multi-type methods provide better (or worse) results compared with single-type hazards and risks.
  - Provide an effective support tool for the decision making actions (WP6) carried out by Civil Protection and disaster management authorities.
- A reference to MATRIX was made in the FP7 Sec-2013-1 call in a project with the acronym - FireMine “Advancement of monitoring and management of large scale forest fires in particularly dangerous areas”.

### **1.3 2<sup>nd</sup> MATRIX – Stakeholder Workshop in Preparation**

After the successful first MATRIX-Stakeholder Workshop held in Bonn on 5/6 July 2013, the participants expressed their interest in a second MATRIX workshop. The group of participants attending the 2<sup>nd</sup> MATRIX workshop will be extended by including operators of critical infrastructures and the insurance sector. The focus of the second workshop will be on identifying the lessons learned and still existing knowledge gaps from past multi-risk events.

A concept note, a draft agenda and invitations have been prepared and were sent out on 28.03.2013 to the existing Cooperation Partners and other organisations, such as the EC, UNISDR and the CoE. Additional civil protection authorities have been invited from Liechtenstein and Iceland. Furthermore, representatives from the private sector, for example, the German Insurance Association (GDV), have been invited, as well as the German and Austrian Railways and the RWE. The GDV has already confirmed that it will give a presentation on the insurance perspective of multi-risk events, while representatives from the National Platforms from Sweden and France have already confirmed that they will contribute with case studies on cascading events. The Icelandic Met Office confirmed to give a presentation on risk assessment in Iceland, which will consider the topic of multi-risk, while the Faculty of Civil Engineering, Architecture and Geodesy of the University of Split will focus on Web-based decision support in incident situations.

For further details on the workshop, please refer to Appendix 3 - Workshop Concept Note.

#### **1.4 Joint Paper**

Based on the results of the 1<sup>st</sup> MATRIX-Stakeholder Workshop, a joint paper is in preparation and will be submitted to the Cooperation Partners in order to take into account their views and comments. This joint paper is planned to be finalised during May 2013 and will deal with the perceptions of the stakeholders on multi-hazard risk assessment tools.

#### **1.5 MATRIX Article in the Civil Protection Magazine**

DKKV, with contributions from ETH Zürich, has prepared and submitted an article for a magazine which is published quarterly by the German Federal Office of Civil Protection and Disaster Assistance (BBK). The article will be published in the so called „Bevölkerungsschutz“ in the middle of May 2013.

#### **1.6 MATRIX in the IRDR Annual Report**

A short description of MATRIX was published in the Integrated Research on Disaster Risk (IRDR) Annual Report.

#### **1.7 PreventionWeb / GRIPweb**

It was planned to disseminate MATRIX through PreventionWeb, which is a popular website for all stakeholders interested in Disaster Risk Reduction. However, PreventionWeb does not store project information and does not provide any other appropriate category to disseminate the MATRIX results. Therefore, instead of PreventionWeb, MATRIX information have been put on GRIPweb website.

GRIPweb is available at <http://www.gripweb.org/> and is:

- "an innovative information and knowledge tool for disaster risk assessment professionals, practitioners, and policy and decision makers."
- "an online platform for those who want to share practices and experience, develop methodologies, tools and guidelines or build their skills in risk assessment in the information era, based on the concept of centralized integration and personalized consumption of risk information and knowledge".

A project description was agreed upon with the MATRIX management and will be submitted to GRIPweb for publication.

#### **1.8 European Forum for Disaster Risk Reduction**

MATRIX will be presented during the European meeting of National Platforms within the framework of the European Forum for Disaster Risk Reduction, which will take place in Oslo from 23-25. September 2013.

#### **1.9 MATRIX-Stakeholder Workshop Follow-up Interactions**

Arnaud Mignan (Swiss Seismological Service, ETH Zurich) followed up on an invitation to the 12th PPRD South "Prevention and preparedness" workshop for staff-

level officials - “Multi-hazard risk assessment in urban environment” in Lisbon, Portugal, 17-19 October 2012. The objective of the 3-day workshop was twofold: educate in the field of multi-hazard and multi-risk assessment and present the state-of-the-art research developed in recent and on-going EU projects. Dr. Mignan was selected for this workshop for his expertise in this field of research and to represent the MATRIX project. During the meeting, the MATRIX-CITY platform was presented and an exercise conducted on multi-hazard based on the methodology developed in MATRIX-CITY.

Bijan Khazai from Karlsruhe Institute of Technology (KIT) and The Federal Office of Civil Protection and Disaster Assistance (BBK) are planning a meeting for May 2013. The meeting will include a detailed demonstration of the decision support tool that was presented at the 1<sup>st</sup> MATRIX-Stakeholder Workshop and further discussions will be held in order to understand the potential and limitations of such a tool for the mitigation of multi-risks.

### **1.10 Conclusions and Outlook**

Different types of activities have been initiated in order to disseminate MATRIX results and involve National Platforms and Civil Protection into the project. Further efforts will be made in order to publish MATRIX articles in the magazines of the Civil Protection authorities. Existing websites like GRIPweb and conferences will be used in order to disseminate MATRIX results. The private sector will be involved in the project by the 2<sup>nd</sup> MATRIX stakeholder workshop, which will be held at the end of June 2013.

## **Appendix**

## Appendix 1 - Status of cooperation as of 22.04.2013

| Country        | Status of cooperation  | Organisation  | Contact persons  | Position  |
|----------------|--|---|--|---|
| Austria        | Confirmed cooperation  | Federal Ministry of Agriculture, Forestry, Environment and Water Management | <b>Mr PICHLER Andreas</b> and Mr JACHS, Siegfried (Federal Ministry of the Interior in CC) | Austrian Service for Torrent and Avalanche Control  |
| Bulgaria       | Confirmed participation in the 2 <sup>nd</sup> MATRIX-Stakeholder Workshop | Ministry of Interior - DG Fire Safety and Protection of the Population      | <b>Ms STANIMIROVA, Maria Stanimirova,</b>  | Head of International Cooperation, NATO, EU and Humanitarian Operations Unit<br><br>DG Fire Safety and Civil Protection Ministry of Interior Republic of Bulgaria |
| Czech Republic | Confirmed cooperation  | Czech National Committee for Natural Disaster Reduction                     | <b>Mr OBRUSNIK Ivan</b>  | Former Director CHMI  |
| Croatia        | Confirmed cooperation  | National Protection and Rescue Directorate                                  | <b>Ms BILJAKOVIC Katica</b> and Ms IVANCAN-PICEK Branka                                    | Scientific advisor at Institute of Physics, Zagreb;<br>Representative of the Ministry of Science in CCPDR (Committee of Croatian Platform for Disaster            |

|               |   |  |  |  |
|---------------|---|--|--|--|
|               |   |  |  | Reduction)   |
| France        | Confirmed cooperation   | Ministère de l'Écologie, de l'Énergie, du Développement durable et de la Mer                                 | <b>Mr GERARD François</b>                              | Former Chef du bureau information préventive, coordination et prospective MEEDDAT / DGPR / SRNH / bipcp                              |
| Germany (BBK) | Confirmed cooperation   | German Committee for Disaster Reduction and Federal Office of Civil Protection and Disaster Assistance (BBK) | <b>Ms CLEMENS-MITSCHKE Angela &amp; GEIER Wolfgang</b> | Head of Department II.1 - General policy issues of civil protection (population protection); risk management; emergency preparedness |
| Hungary       | Cooperation not confirmed   | National Directorate General for Disaster Management - Ministry of Interior                                  | <b>Ms RAJICIC Ágnes</b>                                | Senior Desk Officer - Department for International Relations and Legal Affairs   |
| Italy         | Confirmed cooperation   | Civil Protection Department  | <b>Mr SABETTA Fabio</b> and <b>Mr ROSSI Luca</b>       | Department - Seismic and Volcanic Risk   |
| Liechtenstein | Participation in the 2 <sup>nd</sup> MATRIX Stakeholder Workshop be confirmed | Department of Civil Protection   | <b>Mr BANZER Emanuel</b>                               | Chief officer  |

|        |  |  |   |   |
|--------|--|--|---|---|
| Norway | Confirmed cooperation / sharing of some expertise and participation in MATRIX workshops  | Directorate for Civil Protection and Emergency Planning                      | <b>Mr HOGVOLD Dag Olav</b> and Mr. LARSEN Nils        | Senior adviser - Research and analysis  |
| Poland | Confirmed cooperation  | Institute of Meteorology and Water Management Branch Office in Cracow (IMGW) | <b>Mr WALCZYKIEWICZ Tomasz</b>                        | Division of Water Management  |
| Spain  | Cooperation not confirmed  | Dirección General de Protección Civil y Emergencias                          | <b>Mr LAHORE Juan Pedro</b>                           | Director  |
| Sweden | <p>Swedish NP proposes to contact the following institutions and bodies instead, to act as cooperation partners:</p> <ol style="list-style-type: none"> <li>1. Center for climate and safety</li> <li>2. Centre for Natural Disaster Science</li> <li>3. Department of Fire Safety Engineering and systems</li> <li>4. Municipality of Karlstad</li> </ol> | Swedish Civil Contingencies Agency (MSB)                                     | <b>Ms LINDAHL OLSSON</b> Mette and Ms POSTGARD Ulrika | Head of Natural Hazards & Critical Infrastructure Section - Risk & Vulnerability Reduction Department |

|                                    |  |   |  |  |
|------------------------------------|--|---|--|--|
| Sweden                             | Confirmed cooperation  | Department of Fire Safety Engineering and systems                 | <b>Mr PETERSEN Kurt</b>  | Prof.  |
| Sweden                             | See → Center for Climate and Safety  | Center for Natural Disaster Science                               | <b>Mr HALLDIN Sven</b>   | Prof.  |
| Sweden                             | Confirmed cooperation  | Center for Climate and Safety                                     | <b>Mr NYBER Lars</b>   | Coordinator                                      |
| UK                                 | Cooperation not confirmed  |   | <b>Mr BARNES Steven</b>  |  |
| Iceland                            | Participation in the 2 <sup>nd</sup> MATRIX Stakeholder Workshop to be confirmed | Iceland - Department of Civil Protection and Emergency Management | <b>Mr. REYNISSON Víðir</b> and <b>Mr GYLFASON Ágúst Gunnar</b> | Department Manager                               |
| Iceland                            | Confirmed participation in the 2 <sup>nd</sup> MATRIX-Stakeholder Workshop       | Icelandic Met Office  | <b>Ms KARLSDOTTIR Sigrún</b>                                   | Director of Natural Hazards                      |
| <b>Other organisations</b>         |  |   |  |  |
| German Insurance Association (GDV) | Contribution for the 2 <sup>nd</sup> MATRIX Stakeholder Workshop confirmed       | N/A   | <b>Mr BURGHOFF, Olaf</b>                                       | Head of Statistics and Hazard Modelling Division |
| German Railway                     | Participation in the 2 <sup>nd</sup> MATRIX Stakeholder Workshop to be           | N/A   | <b>Mr BIEGER, Klaus-Jürgen</b>                                 | Emergency Management at Deutsche Bahn AG         |

|                       |  |   |   |  |
|-----------------------|--|---|---|--|
|                       | confirmed  |   |   |  |
| Austrian Railway      | Not able to attend the 2 <sup>nd</sup> MATRIX Stakeholder Workshop but asked to keep ÖBB updated about the project | N/A   | <b>Mr RACHOY, Christian</b>               | Integrated Rail management, division Natural Hazard Management     |
| RWE                   | Not responded to the workshop invitation yet   | N/A   | LAMBERTZ, Lothar and ACKERMANN, Sebastian | Press officer – Nuclear energy<br>Distribution networks (Westnetz) |
| CoE                   | Confirmed participation and the sharing of expertise with MATRIX   | European and Mediterranean Major Hazards Agreement (EUR-OPA) Council of Europe  | <b>Mr FERNÁNDEZ-GALIANO Eladio</b>        | Executive Secretary  |
| EC (DE LANNOY Thomas) | Confirmed participation and the sharing of expertise with MATRIX   | European Commission - DG - ECHO Humanitarian Aid and Civil Protection - Unit ECHO C3 Civil Protection - Disaster Response | <b>Mr DE-LANNOY Thomas</b>                |  |
| ISDR Europa           | Confirmed participation in the area of dissemination and participation in workshops                                | United Nations International Strategy for Disaster Reduction, UNISDR  | <b>Ms DANNENMANN Stefanie</b>             | Programme Officer  |



## Appendix 2 – Feedback Sheets MATRIX Stakeholder Meeting Bonn 5./6. July 2012

### Austria - Federal Ministry of Agriculture, Forestry, Environment and Water Management

#### 1. Quality of presentations and discussions. **Note: Please only value the presentations from the MATRIX-team**

- Did the presentations and discussions convey new findings and insights to you? **yes**
  - If yes. Please list max. 3 major points:
    - Integration of multi-hazard and multi-risk assessment in one tool
    - Synthesis of questionnaires
    - How to address dynamic vulnerability
- Do you consider contents, results and discussions of the workshop as useful for the work in your organization? **Not at the moment, what doesn't necessarily means that the MATRIX project isn't interesting, but I'll wait on the results and outcome of the project.**

#### 2. Interaction (please value, **while 1=bad and 5=very good**):

- Do you have the impression that the discussions will have an impact on the further research activities of MATRIX? **4**

#### 3. Organisational (please value, **while 1=bad and 5=very good**):

- Information: Was the **information in preparation of the workshop helpful** (e.g. Workshop Concept Note) in order to understand the workshops objectives and your role in this context? **5**
- Logistics: **5**
- Time reserved for discussions: **4**
- Moderation: **4**
- Venue: **4**

#### 4. Outlook

- Did the workshop change your view on multi-risk issues? **no**
- Are you interested to attend another MATRIX-stakeholder meeting in the future (1 to 1 ½ years) when either new results and/or better examples are available? **yes**

#### 5. **Comments:** Please feel free to enter any other comments

Very good setting and productive atmosphere; the benefit (and real impact) of MATRIX can only be assessed at the end of the project, because a number of similar projects are underway at worldwide/international level, all with comparable objectives.

Good luck!

### Croatia - National Protection and Rescue Directorate

#### 1. **Quality of presentations and discussions. Note: Please only value the presentations from the MATRIX-team**

- Did the presentations and discussions convey new findings and insights to you? **(yes)**
  - If yes. Please list max. 3 major points:
    - *Consideration of spatial and temporal correlations*
    - *Consideration of dynamic vulnerability*
    - *Pointing to the importance of both points above*  
*(although without a real strategy/criteria for application)*
- Do you consider contents, results and discussions of the workshop as useful for the work in your organization? **(yes)**
  - If yes. Please specify added values.
    - *Increased awareness for multi-risk events*
    - *Elemental consideration (criteria) of the necessity of this type of approach*

## 2. Interaction (please value, while 1=bad and 5=very good):

- Do you have the impression that the discussions will have an impact on the further research activities of MATRIX? **3**

## 3. Organisational (please value, while 1=bad and 5=very good):

- Information: Was the **information in preparation of the workshop helpful** (e.g. Workshop Concept Note) in order to understand the workshops objectives and your role in this context? **4**
- Logistics: **5**
- Time reserved for discussions: **5**
- Moderation: **4**
- Venue: **5**

## 4. Outlook

- Did the workshop change your view on multi-risk issues? **(yes)**

*as it gave me an overview of its conceptual importance*

- Are you interested to attend another MATRIX-stakeholder meeting in the future (1 to 1 ½ years) when either new results and/or better examples are available? **(yes)**

## 5. Comments: Please feel free to enter any other comments

We have submitted one FP7 (Sec-2013-1 call) project at the end of November, 2012 (acronym - FireMine )

“Advancement of monitoring and management of large scale forest fires in particularly dangerous areas”

We gave a link to MATRIX project related to the coupled risk from large scale forest fire in regions covered by residual mines.

## France - Ministère de l'Écologie, de l'Énergie, du Développement durable et de la Mer

### 1. Quality of presentations and discussions. **Note: Please only value the presentations from the MATRIX-team**

- Did the presentations and discussions convey new findings and insights to you? **Yes**
  - If yes. Please list max. 3 major points:
    - **MATRIX-CITY**
    - **The Norwegian and Italian presentations**
- Do you consider contents, results and discussions of the workshop as useful for the work in your organization? **Yes**
  - **If yes. Please specify added values.**
    - **To put forward discussions on the concept of multi-risk approach**
    - **To experiment new tools like MATRIX-CITY**

### 2. Interaction (please value, **while 1=bad and 5=very good**):

- Do you have the impression that the discussions will have an impact on the further research activities of MATRIX? **3**

### 3. Organisational (please value, **while 1=bad and 5=very good**):

- Information: Was the **information in preparation of the workshop helpful** (e.g. Workshop Concept Note) in order to understand the workshops objectives and your role in this context? **4**
- Logistics: **5**
- Time reserved for discussions: **3**
- Moderation: **4**
- Venue: **4**

### 4. Outlook

- Did the workshop change your view on multi-risk issues? **No**
- Are you interested to attend another MATRIX-stakeholder meeting in the future (1 to 1 ½ years) when either new results and/or better examples are available? **Yes**

5. **Comments:** Please feel free to enter any other comments

Despite the definitions given during the workshop, I feel that the concept of multi-risk has still various meanings according to the considered stakeholder. I hope that work of the project will ease converging towards a commonly agreed definition !

## Germany - Federal Office of Civil Protection and Disaster Assistance (BBK)

1. **Quality of presentations and discussions. Note: Please only value the presentations from the MATRIX-team**

- Did the presentations and discussions convey new findings and insights to you? (yes/no) → **partly**
  - If yes. Please list max. 3 major points:
    - e.g. identification of sources & types of uncertainty
- Do you consider contents, results and discussions of the workshop as useful for the work in your organization? (yes/no) → **currently not**
  - If yes. Please specify added values.

2. **Interaction (please value, while 1=bad and 5=very good):**

- Do you have the impression that the discussions will have an impact on the further research activities of MATRIX? **3**

3. **Organisational (please value, while 1=bad and 5=very good):**

- Information: Was the **information in preparation of the workshop helpful** (e.g. Workshop Concept Note) in order to understand the workshops objectives and your role in this context? → **3 (as far as I remember I did not receive a "Workshop Concept Note" in advance)**
- Logistics: **3**

- Time reserved for discussions: 3
- Moderation: 4
- Venue: 4

#### 4. Outlook

- Did the workshop change your view on multi-risk issues? no
  - If yes, please specify:
- Are you interested to attend another MATRIX-stakeholder meeting in the future (1 to 1 ½ years) when either new results and/or better examples are available? yes, if my time schedule allows for it

#### 5. Comments: Please feel free to enter any other comments

### Italy - Civil Protection Department

#### 1. Quality of presentations and discussions. **Note: Please only value the presentations from the MATRIX-team**

- Did the presentations and discussions convey new findings and insights to you? yes
  - If yes. Please list max. 3 major points:
    - Arnaud Mignan - MATRIX City – a Common IT System for Multi-Hazard and Multi-Risk Assessment. It's a new and interesting tool very useful to understand better the multi-hazard issues and to develop exercises with the stakeholders.
    - Bijan Khazai - Risk MATRIX Analysis - An Exercise in Stakeholder-Driven Decision Analysis. An efficient support to the decision making process is an essential tool for stakeholders and in particular for Civil Protection Organizations. The exercise presented to determine rankings within the decision processes has been a good example for the practical application of multi-hazard-risk concepts and for the use of "Risk Matrix". It has been used by the Italian Civil Protection, as stakeholders exercise, in a workshop of the 12th Euromed-PPRD South Program in Lisbon (17-19 October 2012).
- Do you consider contents, results and discussions of the workshop as useful for the work in your organization? yes

- If yes. Please specify added values.
  - Understand better the correlations among multiple hazards (cascade-domino effects) and the advantage of using multi-risk approach
  - Establish a knowledge base on multi-type risk in Europe

## 2. Interaction (please value, while 1=bad and 5=very good):

- Do you have the impression that the discussions will have an impact on the further research activities of MATRIX? **3**

## 3. Organisational (please value, while 1=bad and 5=very good):

- Information: Was the **information in preparation of the workshop helpful** (e.g. Workshop Concept Note) in order to understand the workshops objectives and your role in this context? **3**
- Logistics: **3**
- Time reserved for discussions: **4**
- Moderation: **4**
- Venue: **3**

## 4. Outlook

- Did the workshop change your view on multi-risk issues? **yes**
  - After the workshop much less sceptical about the usefulness of multi-risk approach
- Are you interested to attend another MATRIX-stakeholder meeting in the future (1 to 1 ½ years) when either new results and/or better examples are available? **yes**

## 5. **Comments:** Please feel free to enter any other comments

I believe that the crucial issues that need to be further developed by MATRIX are the following.

- Evaluate in some practical example the effective conditional probabilities of multiple hazards (cascade-domino effects)

- Determine/demonstrate, in a quantitative and not only qualitative way, when multi-type methods provide better (or worse) results compared with single-type hazards and risks
- Provide an effective support for decision making actions (WP6) carried out by Civil Protections and disaster management authorities

## **Norway - Directorate for Civil Protection and Emergency Planning**

### **1. Quality of presentations and discussions. Note: Please only value the presentations from the MATRIX-team**

- Did the presentations and discussions convey new findings and insights to you? **Yes**
  - If yes. Please list max. 3 major points:
    - I find different approach to risk- analysis, risk- assessment and risk-mapping
- Do you consider contents, results and discussions of the workshop as useful for the work in your organization? **yes**
  - If yes. Please specify added values.
    - Yes. It gave me a better oversight in the field

### **2. Interaction (please value, while 1=bad and 5=very good):**

- Do you have the impression that the discussions will have an impact on the further research activities of MATRIX?**4**

### **3. Organisational (please value, while 1=bad and 5=very good):**

- Information: Was the **information in preparation of the workshop helpful** (e.g. Workshop Concept Note) in order to understand the workshops objectives and your role in this context? Enter a value = **4**
- Logistics: Enter a value = **4**
- Time reserved for discussions: Enter a value = **4**
- Moderation: Enter a value = **4**

- Venue: Enter a value = 4

#### 4. Outlook

- Did the workshop change your view on multi-risk issues? **yes**
  - We have a multi-risk approach in the risk-assessment/analysis in Norwegian municipalities, but I have never think about it on that way.
- Are you interested to attend another MATRIX-stakeholder meeting in the future (1 to 1 ½ years) when either new results and/or better examples are available? I think that some from the Directorate will participate. **I have changed unit and work, so I am not sure.**

#### 5. **Comments:** Please feel free to enter any other comments

### **Sweden - Center for Climate and Safety**

#### 1. **Quality of presentations and discussions. Note: Please only value the presentations from the MATRIX-team**

- Did the presentations and discussions convey new findings and insights to you? **yes**
  - If yes. Please list max. 3 major points:
    - A broader understanding of the multi-risk and multi-hazard concepts
    - Interesting European examples of multi-risk systems
    - Nice contacts with a new group of researchers and experts
- Do you consider contents, results and discussions of the workshop as useful for the work in your organization? **yes**
  - If yes. Please specify added values.
    - I am keen to apply a multi-risk approach to analyse a drainage basin (Lake Vänern in Sweden)
    - I will use the multi-risk concept more in my teaching

**2. Interaction (please value, while 1=bad and 5=very good):**

- Do you have the impression that the discussions will have an impact on the further research activities of MATRIX? **3**

**3. Organisational (please value, while 1=bad and 5=very good):**

- Information: Was the **information in preparation of the workshop helpful** (e.g. Workshop Concept Note) in order to understand the workshops objectives and your role in this context? 4
- Logistics: 4
- Time reserved for discussions: 5
- Moderation: 5
- Venue: 4

**4. Outlook**

- Did the workshop change your view on multi-risk issues? **yes**
  - If yes, please specify:
  - Or, rather, developed my view. My previous knowledge were not very specific.
- Are you interested to attend another MATRIX-stakeholder meeting in the future (1 to 1 ½ years) when either new results and/or better examples are available? **yes**

**5. Comments:** Please feel free to enter any other comments

## Appendix 3 – Workshop Concept Note

### Workshop Concept Note

**Past and Future Challenges in Multi-Risk Practice**

**Tentative date: 27/28 June, Bonn, Germany**



#### 1. Rationale

The first MATRIX Stakeholder Workshop (5/6 July 2012) aimed at encouraging discussion about multi-risk concepts and practices as currently understood and used by European Civil Protection Agencies, and the presentation of two tools developed in MATRIX, the MATRIX-CITY IT Tool and the Multi-Criteria Decision Support Tool.

This second Stakeholder Workshop addresses again the question of multi-risk concepts from the stakeholder and scientific perspectives, however, this time with its focus on case studies. MATRIX has developed three ‘test cases’ – Cologne, Guadeloupe, and Naples – with different hazards and combinations of hazards. The Cologne study, where the main hazards are earthquakes, floods and winter storms, has focused on how flood risk for this city and the surrounding area may be affected by seismic events compromising the flood defence dyke system. The Guadeloupe case covers volcanic and seismic hazard, as well as hurricanes, river flooding, landslides, tsunamis and sea submersion, and their effect on the functionality of various infrastructure systems. The Naples study considers the combined effect of earthquake and volcanic incidents and the impact on building losses.

The MATRIX case histories will supplement the existing records of multi-risk events that have occurred in Europe in the past, as presented and analysed by colleagues from the Civil Protection Agencies. Such scenarios include the consequences of wind storms, storm surges and landslides on critical infrastructure like power supply and transportation, the combination of floods and landslides, and could include the experience gained from recent volcanic events in Iceland and their consequences.

The case histories and their discussions should identify past and future challenges in dealing with cascading events, conjoint events and social and economic vulnerability in a multi-risk context from the perspectives of civil protection, operators of critical infrastructures and the insurance. Out of the multi-stakeholder discussions and working groups, recommendations will be proposed on how risk assessment can be utilized and how to consider and cope with multi-risk scenarios in the future.

The anticipated outcome of the workshop includes:

1. Clarification of multi-risk concepts (cascading and conjoint events), requirements and challenges from the scientific assessment, response, mitigation and private sector perspectives. This would include the question of how much and which specific knowledge would have been beneficial in the real cases?
2. Recommendations for future research from a Civil Protection and private sector perspective.
3. Identification of knowledge gaps in assessment and consequence analysis regarding catastrophic impacts on critical infrastructure.
4. Documentation of the findings and further discussion within the European National Platforms for Disaster Risk Reduction.

## **2. Format of the Workshop**

- Max. 25 people
- Start: mid-day, end: noon of the following day so that participants can travel to the workshop, participate and then return home in two days.
- No long sequences of presentations, only short introductions. Most of the time will be reserved for participant discussions.
- Date: Tentative date 27/28 June
- Location: Bonn, Germany