Improving the resilience of informal urbanization against landslides through participative networks of early warning systems, web based technologies and landscape design - Case Study Medellín, Colombia
Neighborhood Scale
1. Milestone: Neighborhood Selection


4. Milestone: Handover

**WORK PACKAGES**

**INVESTIGATION**
- WP 1 - NATURAL HAZARD ASSESSMENT
  - TUM in charge
- WP 2 - EXPOSURE & VULNERABILITY ASSESSMENT
  - DLR in charge
- WP 3 - RISK ASSESSMENT
  - THD in charge

**TRANSFORMATION**
- WP 4 - DESIGN OF SENSOR SYSTEM & PUBLIC SPACES
  - AGR in charge
- WP 5 - COMMUNAL WARNING & EVACUATION STRATEGIES
  - DAGRD in charge
- WP 6 - INSTALLATION OF EARLY WARNING & EVACUATION SYSTEM
  - EAFTI in charge

**IMPLEMENTATION**
- WP 7 - TESTING OF EARLY WARNING AND EVACUATION SYSTEM
  - DAGRD in charge
- WP 8 - EVALUATION
  - SIATA in charge
- WP 9 - HANDOVER, TRANSFER & DISSEMINATION
  - LUH in charge

**OVERALL COORDINATION: LUH AND EAFTI**

**PARTNERS**
- Germany:
  - LLUH: Leibniz Universität Hannover
  - TUM: Technical University of Munich
  - THD: Technische Hochschule Deggendorf
  - DLR: German Aerospace Center
  - AGR: AlgoGeofisk
  - SLU: Sachverständigen Büro für Luftbildauswertung und Umweltforschung
- Medellín:
  - EAFIT: Escuela de Administración, Finanzas e Instituto Tecnológico
  - DAGRD: Departamento Administrativo de Gestión del Riesgo de Desastres
  - SIATA: Sistema de Alerta Temprana de la vella de Aburrá
  - DAP: Departamento Administrativo de Planeación
  - ORIM: Oficina de Resiliencia de Medellín (NGO)
  - FIS: Fundación Sumapaz (NGO)
  - DC: Defensa Civil
  - MADS: Ministerio de Ambiente y Desarrollo Sostenible, Colombia
PARAMETERS OF SUCCESS

1. TECHNICAL

2. ADMINISTRATIONAL/POLITICAL

3. SOCIAL/CULTURAL
Monthly Stakeholder Meeting
### WP 100 Process analysis and recording of slope movements, Management: TUM

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<th>110 Hazard and risk data research (all levels)</th>
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<td>120 Geological+geomorphological terrain survey, evaluation process analysis (District + neighbourhood level)</td>
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<td>130 Hazard analysis of slope movements (District + neighbourhood level)</td>
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### WP 200 Exposure and Vulnerability Assessment, Management: DLR

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<th>210 Site data collection (all levels)</th>
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<td>220 Data inventory via drones and satellite imagery (all levels)</td>
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<td>230 Progr. mapping by Smartphone-based crowdsourcing / VGi (District + neighbourhood level)</td>
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### WP 300 Risk Assessment, Management: THD

| 310 Examination of the existing risk management system (District + neighbourhood level) | LUH |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |
| 320 Synthesis of risk assessment (District + neighbourhood level) | LUH |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |
| 330 Public discussion of risk assessment (District + neighbourhood level) | LUH, TUM, AGR, THD |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |
| 340 Selection of neighbourhood (District + neighbourhood level) | LUH, TUM, AGR, THD |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |

### Milestone 1: Selection of the neighbourhood

#### M1: Selection of Neighborhood

- Status Meeting (Colombia)

### WP 400 Design of geosensor networks and public spaces, Management: AGR

| 410 Automated numerical process modeling (District + neighbourhood level) | AGR |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |
| 420 Solutions for the technical and creative conception of the geosensor network (District + neighbourhood level) | AGR |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |
| 430 Data management system and data visualization (District + neighbourhood level) | AGR |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |
| 440 Integration of the warning system into public space (neighbourhood level) | AGR |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |

### WP 490 Solutions for structural risk mitigation (neighbourhood level)

| 450 Solutions for structural risk mitigation (neighbourhood level) | LUH |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |

### WP 500 Public decision of design measures (neighbourhood level)

| 460 Public decision of design measures (neighbourhood level) | LUH |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |

### WP 700 Implementation planning of geosensor network and public space (neighbourhood level)

| 470 Implementation planning of geosensor network and public space (neighbourhood level) | AGR |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |
## Meetings 2019

01.03. / internal kick-off meeting in Munich

22.03. / kick-off meeting in Hanover

03.05. / meeting in Munich (WP 140)

20.-24.05. / 1st official meeting with Colombian partners in Medellín

27.+28.06. / 2 days workshop in Deggendorf

30.09.+01.10. / 2 days workshop in Hanover

08.11. / 1st status meeting in Medellín