



## WIND – WEATHER INFORMATION ON DEMAND

### Fraunhofer Institute for Open Communication Systems FOKUS

Competence Center ESPRI  
Steinplatz 2  
10623 Berlin  
Germany

#### Contact

Daniel Faust  
Phone +49 30 24306-474  
Fax +49 30 24306-599  
daniel.faust@fokus.fraunhofer.de

[www.fokus.fraunhofer.de](http://www.fokus.fraunhofer.de)

### PROTECTION FROM EXTREME WEATHER CONDITIONS

Worldwide occurring catastrophes like floodings, tornados, thunderstorms and heavy snowfall demonstrate how dangerous nature can be. But also typical unpredictable weather changes in autumn and winter can cause unpleasant surprises – starting with flooded cellars to black ice on highways and thunderstorms during hiking tours. The consequences of extreme weather conditions are profound: According to the Munich Re (press release “Wenig Großschäden durch Naturereignisse 2009”, 29.12.2009) from 2000 to 2007 an average of 770 natural phenomena caused relevant damages. The economic losses amounted to ca. 115 billion US-dollars; the sum of insured damages added up to 36 billion US-dollars. Per year, an average of ca. 75,000 persons decease in events related to natural disasters. Only who receives adequate information on such phenomena in time, can protect himself.

### EUROPE'S LARGEST WEATHER WARNING SYSTEM

The Fraunhofer FOKUS developed the information-logistics warning system – **WIND** (Weather Information on Demand) and, together with partners, they implemented Europe's largest severe weather warning system. **WIND** provides its users with perfectly precise, individualized storm warnings via SMS, pager, e-mail or fax. In this way, data regarding weather phenomena are sent at the right time to the right place, according to the needs of the user.

### CUSTOMIZED INFORMATION WITH TOP RATINGS

**WIND** makes it possible to adjust settings – like type of weather condition, alert level, communication channel, position of the user, alert period (e.g.: No warning during the night) – flexibly to the needs of single persons or user groups. For example car drivers require other warnings than house



## WIND IN ACTION

The system **WIND** is one of the largest private warning systems for severe weather in Europe and emerged from a multi-year project of the Fraunhofer FOKUS. The institute has been offering **WIND** together with public insurers and meteorological service providers since 2003.

owners. In brief: Each customer receives by the **WIND** system personalized warnings and safety instructions according to his individual needs. Within various surveys among private customers and townships, which were conducted on behalf of German insurance companies, the services offered by **WIND** scored 1.5 within the (German) school mark system.

### WIND FUNCTIONALITY

The reason for the high degree of acceptance of **WIND** is the high-resolution of information regarding time and positioning. In order to make this possible, precise, radar-based algorithms calculate weather information like intensity, location, origin, traction speed and direction. Those pieces of information ensure exact and individualized warnings. **WIND** is implemented with the help of a concept of architecture for high-performance early-warning systems that has been developed by the Fraunhofer FOKUS itself. Within this concept the information demand of the affected person is transformed into orders. Afterwards those orders become structured and revised by special components: The "content broker" makes the requested content available, the "locator" provides the whereabouts of the observed person or object, and the "timer" the moment of delivery. The component "presentation producer" edits the information according to the terminal and delivers it to the user.

### INFORMATION LOGISTICS PLATFORM FOR NUMEROUS END DEVICES

**WIND** is based on an information logistics platform, which is employable as dissemination platform for various early-warning systems. Due to the fact that it has been designed to be open and flexible, contents from other content systems can be delivered via **WIND** place- and time-appropriately as well. Even the integration and usage of detection devices is possible. In spite of its high degree of individualization the system stays high-performant and can be scaled for any desired numbers of users. The weather information is being calculated by Meteomedia with precisely radar-based methods.

### RANGE OF OFFERINGS IN THE FIELD OF EARLY-WARNING SYSTEMS

Objective of the developments in the area of early-warning systems is to offer effective warning and alert systems, which provide task forces, citizens and the industry quickly and reliably with customized warnings. For this purpose we offer:

- flexible multi-hazard and multi-channel solutions for highly effective early-warning system infrastructures for the commercial and public sector;
- semantic combinations of contents with situation and task models;
- information models which register their current environment as well as detected and predicted changes over time;

- feasibility studies, requirements reviews and profitability analyses in the fields of information demand, positioning and sensor technologies, dynamic personalization of mobile services and service platforms;
- mentoring for the conception, architecture development, implementation and handling of location and situation-based services, in particular early-warning systems.

### PROJECT PARTNERS

- Meteomedia AG and UbiMet GmbH
- all German public insurance companies:
  - Versicherungskammer Bayern
  - Provinzial NordWest
  - SV Sparkassen Versicherung
  - Provinzial Rheinland
  - VGH Versicherungen
  - Sparkassen-Versicherung Sachsen
  - Öffentliche Versicherung Braunschweig
  - Badischer Gemeinde-Versicherungsverband
  - Öffentliche Versicherungen Oldenburg
  - ÖSA - Öffentliche Versicherungen Sachsen-Anhalt
  - Lippische Landes-Brandversicherung
  - Ostfriesische Landschaftliche Brandkasse
  - Öffentliche Versicherung Bremen
- UNIQA for Austria and Eastern Europe