

# SIDARTHa

European Emergency Data-based Syndromic Surveillance System

This project is co-funded by the European Commission,  
DG Health & Consumers (2007 208).



[www.sidartha.eu](http://www.sidartha.eu)

## SIDARTHa European Emergency Data-based Syndromic Surveillance System

**Alexandra Ziemann  
Thomas Krafft**

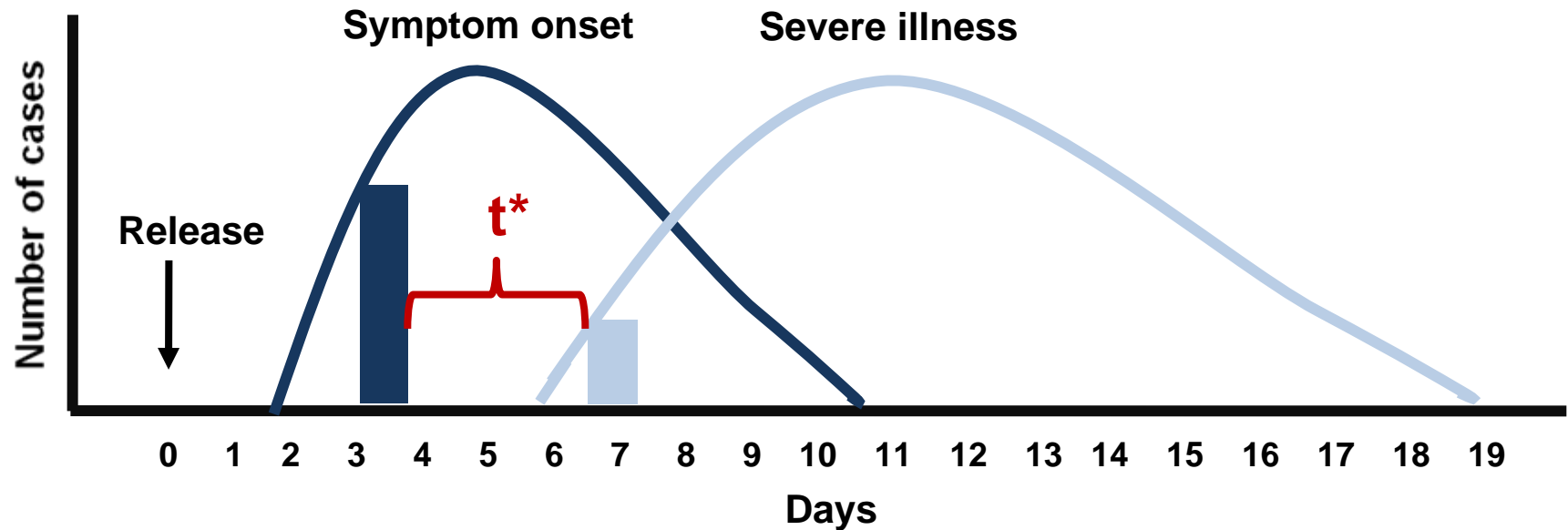
**on behalf of the SIDARTHa project group**

**Workshop on Health Programme Projects  
on Generic Preparedness Planning and Response  
in Health Emergencies**

**Luxembourg, 30 September 2009**



# Why Syndromic Surveillance?



**\*  $t$  = time between detection by syndromic (prediagnostic) surveillance and detection by traditional (diagnosis-based) surveillance**

Henning, K (2004): Overview of Syndromic Surveillance. What is Syndromic Surveillance? *MMWR Supplement* September 24, 2004 / 53(Suppl);5-11

# SIDARTHa Approach



ROUTINE DATA

REPORT/ALERT



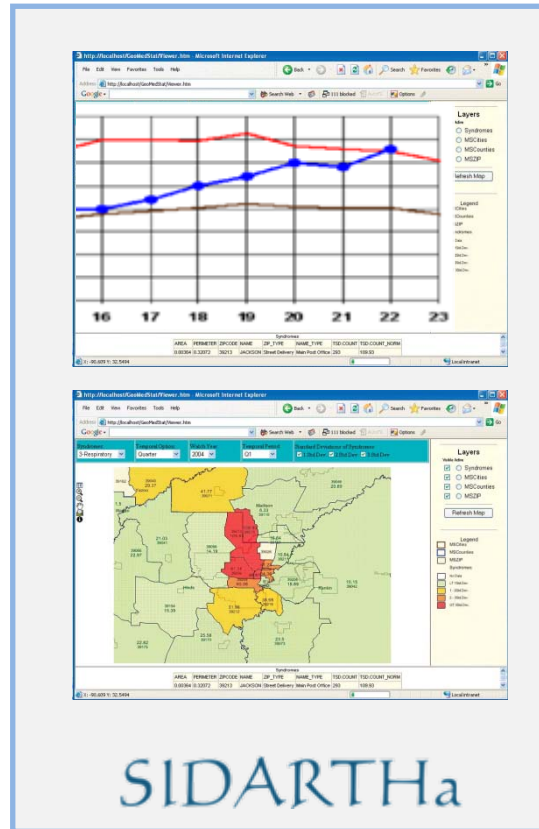
ROUTINE DATA

REPORT/ALERT



ROUTINE DATA

REPORT/ALERT



REPORT/ALERT



REPORT/ALERT



REPORT/ALERT



REPORT/ALERT



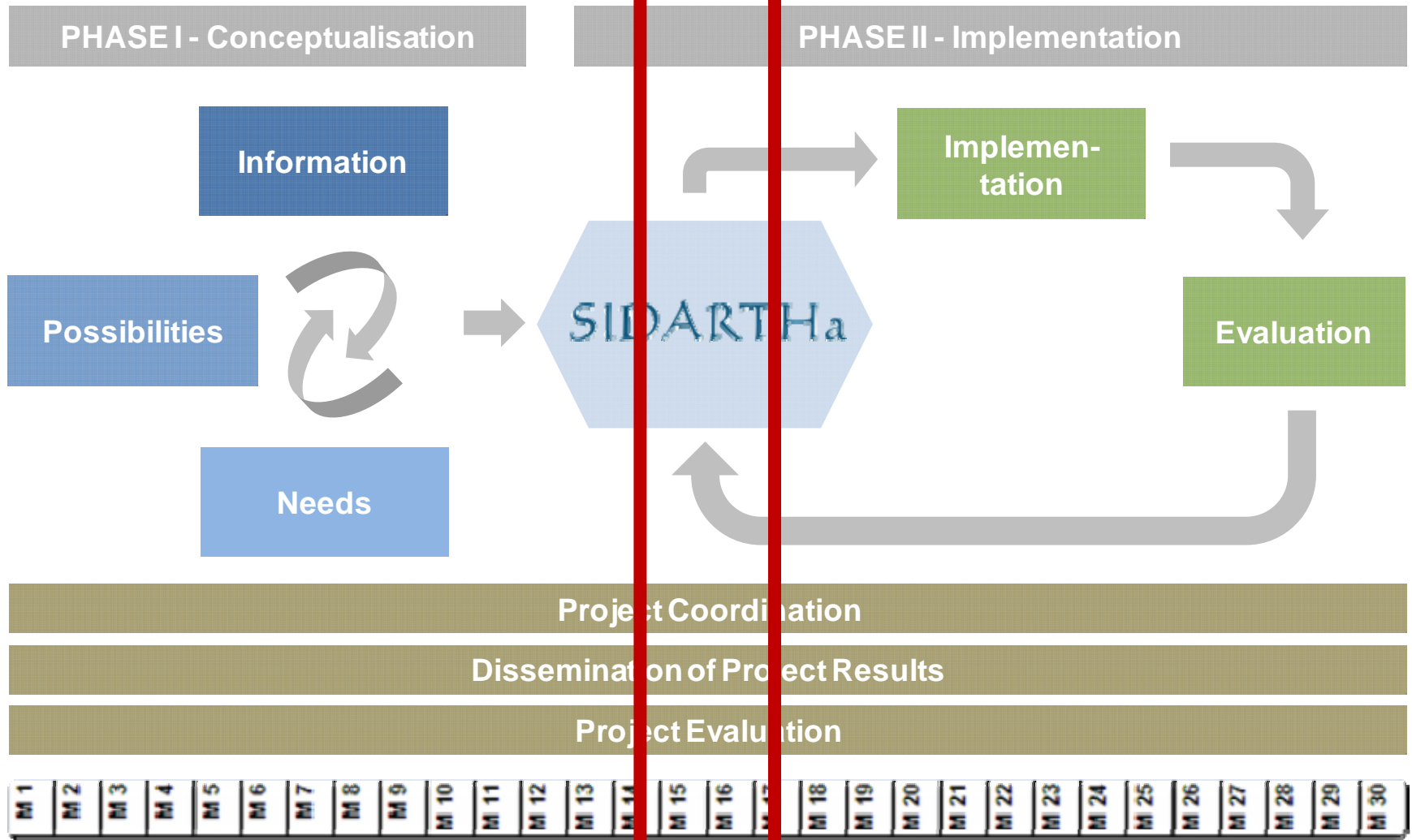
Routine data from (i) emergency medical dispatch centres, (ii) ambulance run-sheets and (iii) emergency department information systems is analysed for spatial and temporal aberrations at the local level.

SIDARTHa alerts emergency care professionals and local public health authorities if a threshold is exceeded;  
Via national authorities the European Commission, ECDC and WHO are informed about local and cross-border alerts;  
SIDARTHa only complements but does not replace any existing system.

# Why Emergency Data?

- Emergency care demand shows a pattern allowing for detection of **unusual aberrations** from the expected demand
- **Earlier detection** of health threats as emergency system is the first tier of the health system which comes to know about a health threat
- Data can be used to detect **communicable and non-communicable and unknown** health threats (e.g., influenza, heat-related illness)
- **Routine electronic** data collection enables **real-time, automated** information reporting
- **Common variables** collected across European emergency systems enable a **Europe-wide surveillance**
- **Geographic reference** routinely collected for every incident enables for **small scale temporal-spatial surveillance**

# SIDARTH<sub>a</sub> Project Methodology



current project status

# Results: From Emergency Data to Syndromes

Syndromes that can be generated using routine emergency data (SIDARTHa consortium):

- Influenza-like-illness
- Gastroenteritis
- Intoxication
- Environmental (heat/cold)
- Respiratory Distress (infectious disease-related, environmental)
- Unknown threats

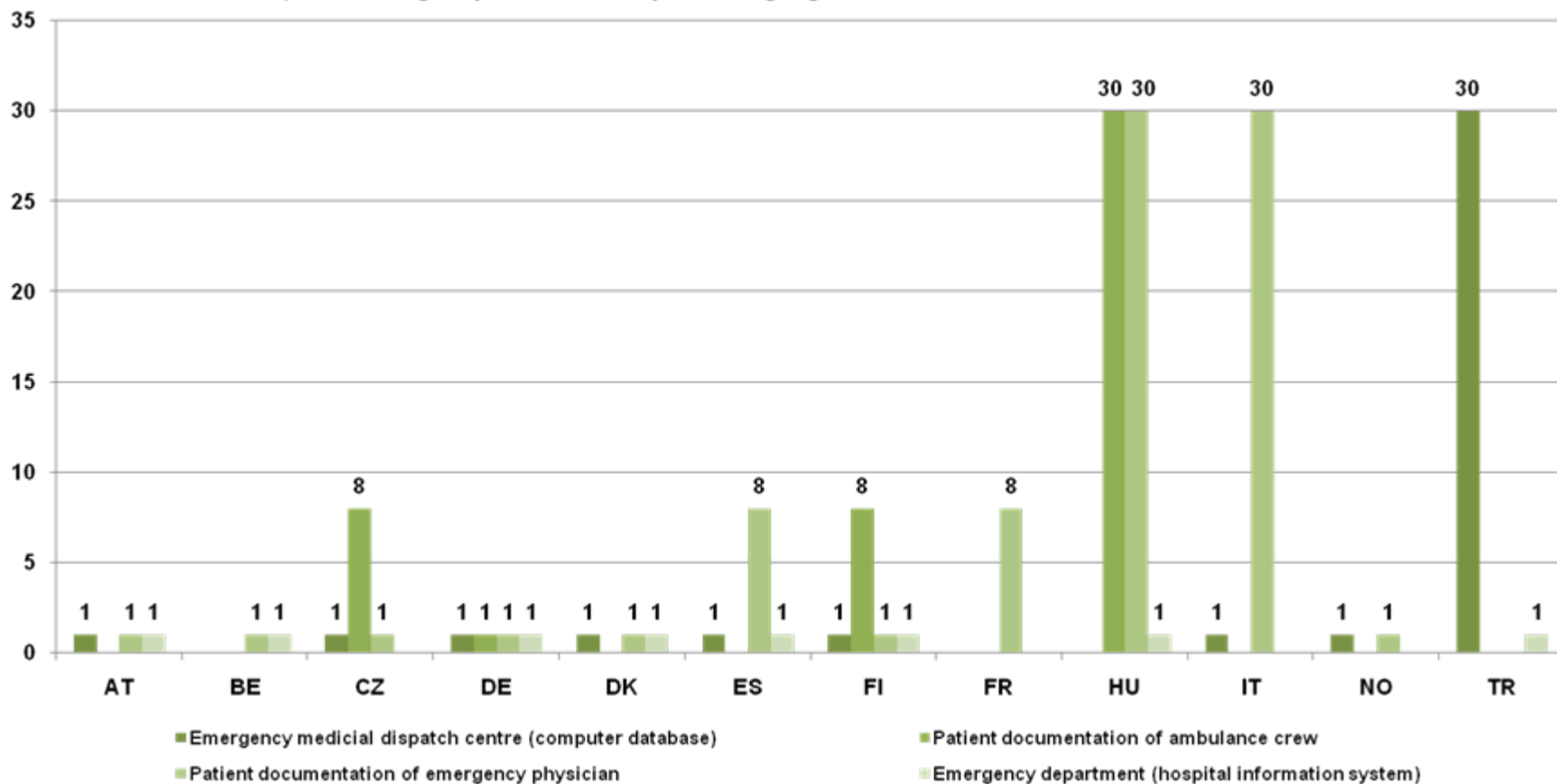
Routine data generated in emergency care institutions



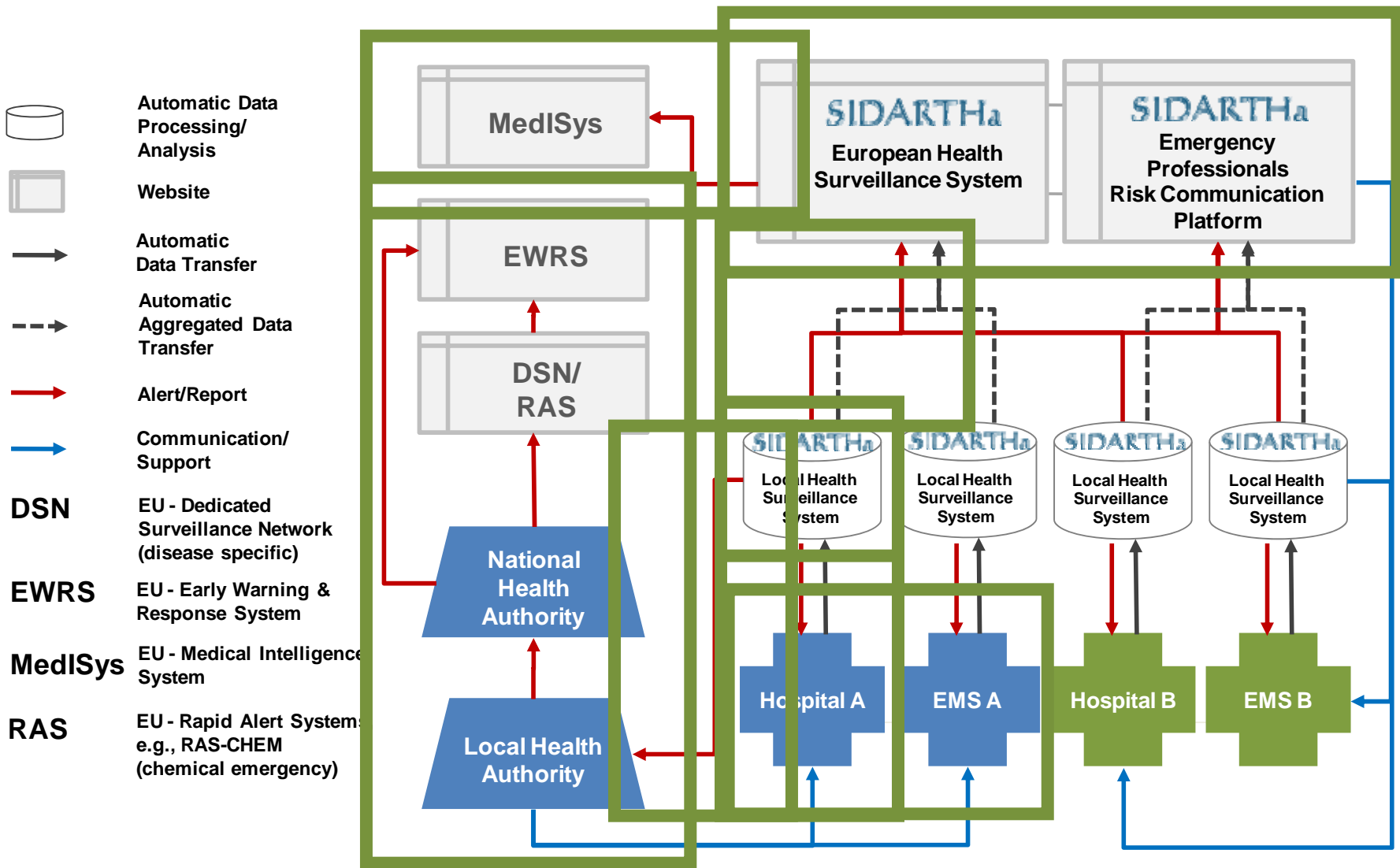
Public Health Threat	Syndrome	Region A Dispatch	Region A Ambulance	Region A Emergency Dept.	Region B Dispatch	Region B Ambulance	Region B Emergency Dept.
Non-specific	unknown	No. of calls for medical request	No. of responses; No. of deaths at arrival on scene	No. of high priority visits	No. of highest priority calls for medical request + age > 65	N/A no ambulance participating in SIDARTHa	No. of visits + age > 65
Infection	Influenza-like-illness	No. of Chief complaint = fever+cough+age (or any of these alone);	No. of ICD 10 J111; No. of freetext: = fever	No. of ICD 10 J 111 + age > 65; no. of freetext: cough+fever;	...	...	...
	Gastro-enteritis	...	...	...	...	...	...

# Results: From Emergency Data to Syndromes

Max. time until emergency data is electronically available (in days)  
 (n= 32 emergency institutions representing regions of SIDARTHa consortium - no nat)



# SIDARTH<sub>a</sub> Surveillance System Design



**DSN** EU - Dedicated Surveillance Network (disease specific)

**EWRS** EU - Early Warning & Response System

**MedISys** EU - Medical Intelligence System

**RAS** EU - Rapid Alert System e.g., RAS-CHEM (chemical emergency)

# Contribution to Generic Preparedness in Europe

- **Earlier warning between timeliness of non-medical information sources and validity of laboratory-confirmed cases**
- **Enhance generic preparedness and risk communication of emergency medical care sector (also cross-border)**
- **Enhance cross-sectoral collaboration between emergency medical care / civil protection and public health at the local/regional level**
- **Cross-check with other early warning systems (MedISys, Promed, etc.)**

# SIDARTHa

European Emergency Data-based Syndromic Surveillance System

This project is co-funded by the European Commission,  
DG Health & Consumers (2007 208).



[www.sidartha.eu](http://www.sidartha.eu)

## Thank you! Questions?

**SIDARTHa Scientific/Technical Coordination Office**

**c/o GEOMED Research Forschungsgesellschaft mbH  
Ms. Alexandra Ziemann**

**Hauptstr. 68  
53604 Bad Honnef  
Germany**

**Tel. +49 2224 77 99 896**

**Fax +49 2224 77 99 897**

**Email: [mail@sidartha.eu](mailto:mail@sidartha.eu)**

**Web: [www.sidartha.eu](http://www.sidartha.eu)**