

MedSys

A Multilingual Media Monitoring Tool for Medical Intelligence and Early Warning



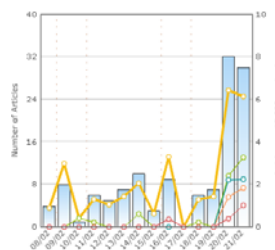
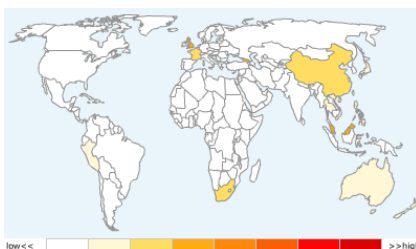
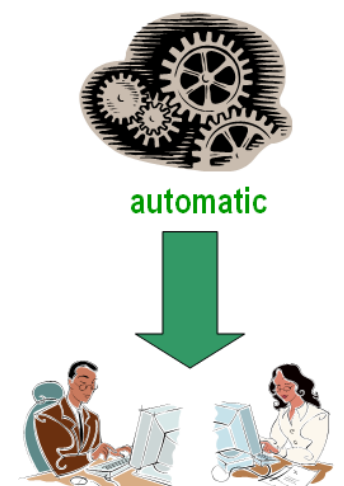
International Disaster and Risk Conference IDRC
Davos, 27 August 2008

Ralf Steinberger, Flavio Fuart, Bruno Pouliquen & Erik van der Goot
European Commission – Joint Research Centre (JRC)

MedSys - Overview



- Objective:
 - Support national and international Public Health (PH) organisations
 - to monitor issues of Public Health concern (CBRN)
 - Replace manual scanning of multiple newspapers and web portals
- Functionality:
 - Gather, filter, classify, extract and aggregate** CBRN-related information
 - Monitor trends**, detect breaking news
 - Visualise** analysis results
 - Alert** users
 - Allows **customised** views
 - In combination with RNS tool, allows **manual moderation**.



• **Supranational organisations**

- Directorate General Health and Consumer Protection (SANCO)
- European Centre for Disease Control, Stockholm (ECDC)
- Euro-Surveillance
- World Health Organisation (WHO)

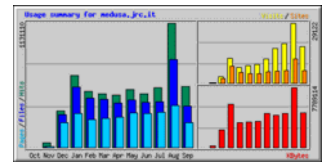


• **National Public Health organisations**

- Swiss Federal Office of Public Health
- Icelandic Ministry of Health
- Spanish Ministry of Sanitation
- Spanish Ministry of Health and Consumer Protection
- Institut de Veille Sanitaire France
- Global Public Health Intelligence Network (Canada)
- Danish Emergency Management Agency
- Italian Ministry of Health
- Italian Ministry of Defence
- Dutch Institute of Public Health
- Dutch Food and Consumer Product Safety Authority



• **The Public:** < 2000 visitors / day



Alert Statistics for Ebola
08/02/2008 - 21/02/2008

Disease	Time	Location	Cases
Tuberculosis		Tanzania	
Pneumonia	February 20	Vietnam	the children
Jungle Yellow Fever	wednesday	Paraguay	Seven cases

- We continuously add more **news sources** and **new categories**, e.g. concerning
 - Events: Olympic Games 2008, UEFA Euro 2008, ...
 - New diseases
 - Other classes, e.g. *deliberate release of chemicals*
- Output format:** web pages, email alerts, or RSS feed to integrate into your environment.

- Email alerts:**
 - daily vs. breaking news only
 - for daily notification: specify hour
 - for breaking news: level-dependent
 - User-selected languages only



Alert	Daily	Immediate	Breaking
YellowFever	<input type="checkbox"/>	<input type="checkbox"/>	no breaking news
Your current subscriptions			
SARS	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Very High
Haemorrhage	<input type="checkbox"/>	<input type="checkbox"/>	Very High



- | | | | |
|---|---|--|---|
| <input type="checkbox"/> All languages | <input checked="" type="checkbox"/> ar - Arabic | <input type="checkbox"/> be - be | <input type="checkbox"/> bg - български |
| <input type="checkbox"/> bs - bs | <input type="checkbox"/> ca - Catalan | <input type="checkbox"/> cs - Čeština | <input type="checkbox"/> da - Dansk |
| <input checked="" type="checkbox"/> de - Deutsch | <input type="checkbox"/> el - Ελληνικό - Ellinika | <input checked="" type="checkbox"/> en - English | <input checked="" type="checkbox"/> es - Español |
| <input type="checkbox"/> et - Eesti keel | <input type="checkbox"/> fa - Farsi | <input type="checkbox"/> fi - Suomi | <input checked="" type="checkbox"/> fr - Français |
| <input type="checkbox"/> hr - hr | <input type="checkbox"/> hu - Magyar | <input type="checkbox"/> in - in | <input type="checkbox"/> is - is |
| <input checked="" type="checkbox"/> it - Italiano | <input type="checkbox"/> it - Lietuvių kalba | <input type="checkbox"/> lv - Latviešu valoda | <input type="checkbox"/> mo - mo |
| <input type="checkbox"/> mt - Malti | <input type="checkbox"/> nl - Nederlands | <input type="checkbox"/> no - Norwegian | <input type="checkbox"/> pap - pap |
| <input type="checkbox"/> pl - Polski | <input type="checkbox"/> pt - Português | <input type="checkbox"/> ro - Română | <input checked="" type="checkbox"/> ru - Russian |
| <input type="checkbox"/> sa - sa | <input type="checkbox"/> se - se | <input type="checkbox"/> sk - Slovenčina | <input type="checkbox"/> sl - Slovenščina |
| <input type="checkbox"/> sq - sq | <input type="checkbox"/> sr - Serbian | <input type="checkbox"/> sv - Svenska | <input type="checkbox"/> tr - Turkish |
| <input type="checkbox"/> uk - Ukrainian | <input type="checkbox"/> vi - vi | <input checked="" type="checkbox"/> zh - Chinese | |

إلى الحوار والوحدة في الساحة الفلسطينية
aljazeera 28 October 2007 15:25:00 o'clock CET [i](#)
 هل نقول: هذا خطر مدبر فتحيوه، وأحيا القوة ليس ضد بعضنا وإنما لمواجهة مناورات العدو السياسية وضرباته العسكرية؟ إن هذا قول ضروري ومفيد، ولكنه لا يكفي، لأنه من أضعف الإيمان. ومع ذلك يجب أن نغفل شيئاً، فما هو الذي يجب أن تغفله القوى الشعبية الفلسطينية والحزبية يدافع إلى الحوار والوحدة....

Spór o budżet
wprost 19 December 2007 00:09:00 o'clock CET [i](#)
 Kluby PO i PSL poparą przygotowany przez poprzedni rząd projekt budżetu, zmieniony poprawkami. Jednak zdaniem PiS, koalicyjne zmiany "psują" projekt. LiD uzależnia swoje poparcie od przyjęcia poprawek Lewicy....

李光耀：星機橫注資 國際銀行將升值上光
chinatimes 12 February 2008 17:09:00 o'clock CET [i](#)
 中央社 新加坡內閣資政李光耀昨晚樂觀地說，新加坡兩大官方投資機構新加坡政府投資公司和淡馬錫控股注資三大國際金融機構二百二十億新元（新台幣四千九百七十二億元），最後將可能翻倍升值至七百億新元（新台幣一兆五千八百二十億元）。...

Атипичное наследство Дракулы
gazeta.ru 20 February 2008 14:24:00 o'clock CET [i](#)
 Оказывается, человечество уже успело пострадать от "спутников Дракулы". Как выяснили ученые, именно летучие мыши передали человечеству вирус атипичной пневмонии (SARS), завладевший лёгкими тысяч азиатов и умами миллионов журналистов по всему миру. А зверьки, которых истребили в борьбе с вирусом, получили его уже от человека....

Importance of multilingual information gathering

Locations mentioned in MedISys medical articles across languages



Italian - German



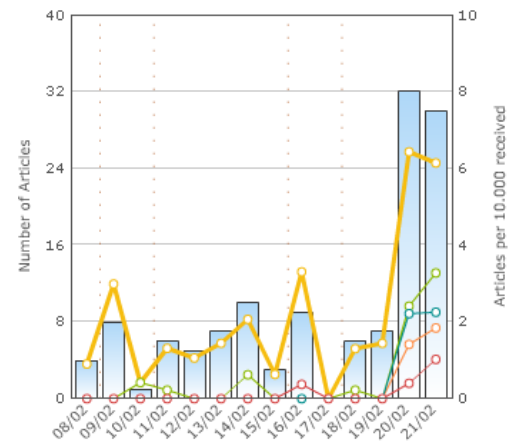
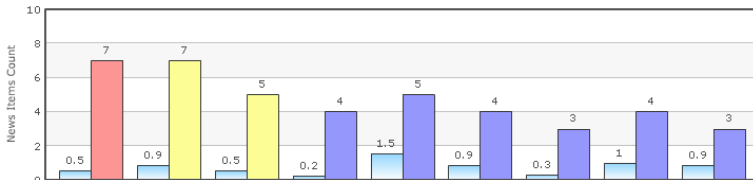
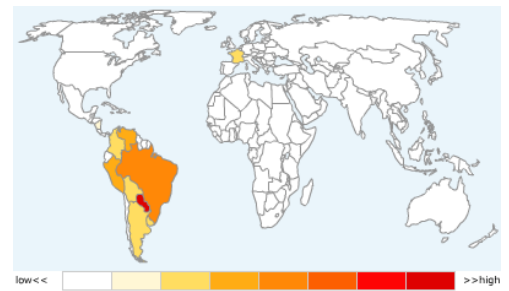
English - French



Spanish - Portuguese



- Documents from all languages get classified according to the same countries and categories.
- An increase of the number of media reports on any country-category combination is detected, independently of the reporting language.
- Graphs and alerts may show events not yet reported in your own language.



- Links to Machine Translation programs, where available.
- Display of other MedISys categories, of persons and organisations found in text.

Latest News - Yellow Fever

Yellow fever hits Paraguay

caycompass 20 February 2008 23:06:00 o'clock CET

Yellow fever[1]; yellow fever[5];

Translate:[ar] [zh] [fr] [de] [it] [ja] [ko] [pt] [ru] [es]

Entities:Oscar Martinez[1]; Pedro Martinez[1];

Other categories:Vaccination; Fever; WHO; Vomiting;

ASUNCION, Paraguay (AP) - Seven people have died from Paraguay's first outbreak of yellow fever in 34 years and authorities

Latest News - Salmonella

美FDA准許菠菜萆苣以放射線殺菌

udn-zh 23 August 2008 01:37:00 o'clock CEST

沙門氏菌[2]; 沙門氏菌感染[1];

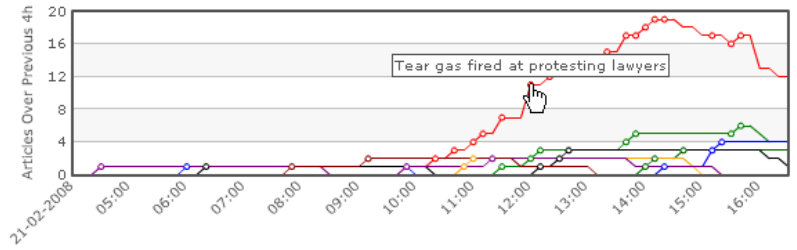
Translate:[ar] [bg] [hr] [cs] [da] [nl] [en] [fi] [fr] [de] [el] [hi] [it] [ja] [ko] [no] [pl] [pt] [ro] [ru] [es] [sv]

Other categories:Virus; Escherichiacoli; Contamination;

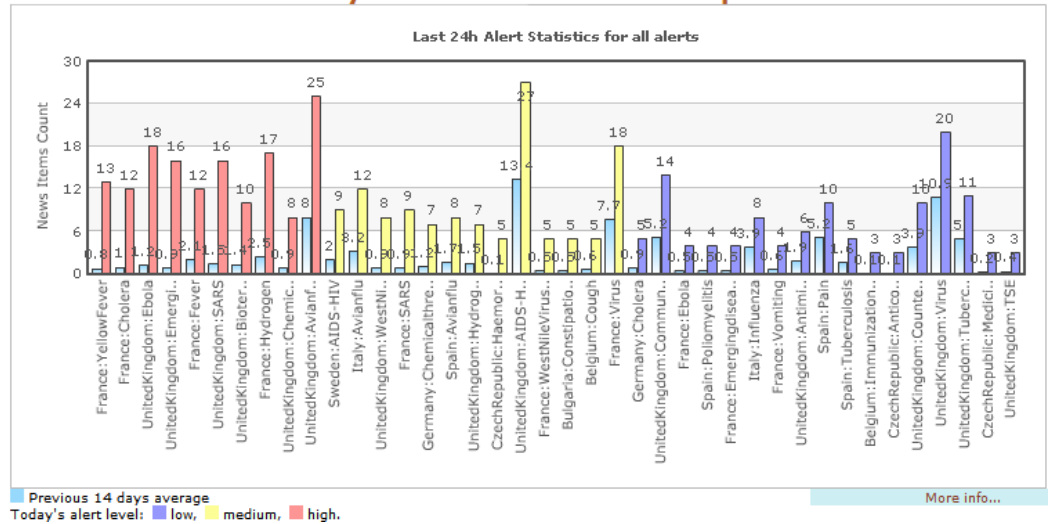
在接連傳出蔬果受污染導致疾病爆發後，美國食品與藥物管理局（FDA）今天起將允許利用放射線針對民眾常生食的新鮮菠菜與萆苣進行殺菌。

Graphs visually summarise, e.g.

- 'Top stories today'
- Alert statistics: threat-country combinations (all, or per region)



Today's Alert Statistics for European Union



Customisability: Filter by language / news source / category

Show only articles about:

No language/source filter.
 Show only news articles written in selected languages.
 Show only news articles from selected sources.

Selection: all

Clear Filter

Save Cancel

All languages
 bs - bs
 de - Deutsch
 et - Eesti keel
 hr - hr
 it - Italiano
 mt - Malti
 pl - Polski
 sa - sa
 sq - sq
 uk - Ukrainian

sr - Arabic
 be - be
 bg

By Country: **France**

Select all
 afp-arabic
 afp-english
 afp-espano
 afp-portugues
 courrierinter
 dna-bilingue
 dna-france
 estrepubicain
 Europe1
 France2
 France3
 journaleuropa
 la-croix
 LeBien
 lavoixdunord
 LeParisien
 LeMondeDiplomatique
 LePaysan
 leprogres-rhone
 LesEchos
 Liberation
 m6
 NEA
 normandie
 NouvelObservateur
 oecdobserver

Custom Category Filter Definition

Create and review your custom filter here.
Please note: Currently the filter is applied to alert and filter pages of NewsBrief.

Show only articles about:

No language/source filter.
 Show only news articles written in selected languages.
 Show only news articles from selected sources.

Selection:

- all articles
- out breaks
- treatment
- socio-economic issues
- legislation
- containment
- preparation
- scientific response

Clear Filter

Save Cancel

By default the system shows news articles from all sources written in the... You can change the default behaviour by selecting news sources or langu...

Manual selection of news items, drag and drop compilation of newsletters.

https://medirns.jrc.it - Total of Articles: 5 - Mozilla Firefox

RNS Alert Workspace

Options: Alert: Avianflu Period: articles in the last 24 hours Languages: ca, da, de, en, es, fi, fr, gr, it Feeds: bbc, biomedcentral, ChinaPost, DiarioDigital, dominicantoday, ElComercio, elnacional, estadao

newsletter | email | sms | flash

Importance: Normal

H5N1

- Danger zone UK as animal infections threaten the population *TheScotsman*
- Vietnamese man might die from bird flu *xinhuanet_en*

Dengue fever

- Dengue fever caused death *caycompass*
- Bolivia: Salud realizará intervención sanitaria para prevenir dengue y leptospirosis *reliefWeb*
- Yellow fever crisis hits Paraguay *angolapress-en*

Despite constraints, FAO helping Gaza farmers
fao-en 10:24 Thu, 21 Feb 2008
 avian[1] influenza[1]
 21 February 2008 - Despite restrictions which make it hard to import essential inputs, FAO is helping restore agricultural production and improve farmers' livelihoods in the Gaza Strip.
 This article also triggered: FAO; ECDC-HeatWave;

Map pinpoints disease 'hotspots'
bbc 07:28 Thu, 21 Feb 2008
 bird[1] H5N1[1] flu[1]
 Scientists compile a detailed map highlighting the world's hotspots of emerging infectious diseases.
 This article also triggered: ECDC-HeatWave; Communicabledisease; SARS; WestNileVirus; Emergingdisease; Ebola; AIDS-HIV;

Backing for £45m medical school
bbc 05:35 Thu, 21 Feb 2008
 avian[1] flu[1]
 A new £45m medical school is to be built in St Andrews which will lead research in areas such as cancer.
 This article also triggered: RugbyWorldCup;

Next plague likely to emerge from poor tropical countries
ChinaPost 05:21 Thu, 21 Feb 2008
 bird[2] H5N1[1] flu[2]
 Scores of infectious diseases have emerged to threaten humans in the past decades as viruses leap the species barrier from wild animals and bacteria mutate into antibiotic-resistant strains, scientists reported on Wednesday.
 This article also triggered: ECDC-HeatWave; RugbyWorldCup; Tuberculosis; Escherichiacoli; Communicabledisease; SARS; Emergingdisease; Malaria; Ebola; AIDS-HIV;

Vietnamese man might die from bird flu
xinhuanet_en 03:56 Thu, 21 Feb 2008
 Bird[1] bird[10] flu[11]
 HANOI, Feb. 21 (Xinhua) -- A 40-year-old man from Vietnam's southern Bac Lieu province has died of acute pneumonia, who has been suspected of having contracted bird flu, according to local newspaper Youth on Thursday. The man named Lai Van Tan from the province's Bac Lieu town was hospitalized and died on Feb.
 This article also triggered: ECDC-HeatWave;

Danger zone UK as animal infections threaten the population
TheScotsman 01:30 Thu, 21 Feb 2008
 BIRD[1] FLU[1]
 ANIMAL diseases like bird flu and Sars are the biggest threat to human health in the future and Britain is a hot

Map | Satellite | Hybrid

Real Time News Geo-Located Article Clusters
 Singapore, Central Singapore, Singapore Lat/Lon: 1.298828,103.824898
 Total Articles: 2 in Class 1
 Clusters at this location:
 5 new cases of chikungunya fever found at Lim Chu Kang area
 Last update 2008-08-25T17:11+0200 EMM Cluster Size:2
 SINGAPORE: A new cluster of chikungunya fever has been identified in the Lim Chu Kang area.

Map data ©2008 Europa Technologies - Terms of Use



Recent Disease Incidents

Disease	Start time	End time	Location	Status	Cases	Description
Escherichia Coli	2008.08.25	2008.08.25	USA/Oklahoma	†	one person	1 dead in Tulsa after bacterial outbreak - KTEB
Listeriosis	-	2008.08.25	Canada	†	Four people	Toronto plant linked to deadly outbreak
Malaria	2008.08.25	2008.08.25	USA		the Anopheles mosquito	New mosquito virus could help control malaria
Dengue	-	2008.08.25	Trinidad and Tobago	†	any confirmed dengue deaths	Protect yourself from dengue! --
Cholera	2008.01.01	2008.08.25	Vietnam		722 cholera patients	Vietnam reports 722 cholera patients
Acute Diarrhea	2008.08.01	2008.08.25	Vietnam		390 people	Vietnam reports 722 cholera patients
Dengue	2008.08.01	2008.08.25	Palau		31 dengue cases	Palau dengue reaching epidemic, says public health director
Dengue	-	2008.08.24	Taiwan		Two more cases	Two new cases of dengue fever in Taipei City
Listeria Monocytogenes	-	2008.08.24	Canada		21 confirmed cases	More listeria cases expected; Maple Leaf Foods expands recall
Dengue	-	2008.08.24	American Samoa		144 cases	New strain of Dengue in American Samoa. 23:24 on 24 August, 2008 UTC
Listeria	2008.08.24	2008.08.24	Canada	†	A person	Canadian Officials Link 4th Death to Food-Poisoning Outbreak - Bloomberg
Meningitis	2008.08.23	2008.08.23	West Coast		2008 A one-year-old baby	Likely meningitis case flown to Christchurch
Unknown Disease	2008.08.23	2008.08.23	Hong Kong	†	total fatalities	Mystery illness kills three persons in Hong Kong
Dengue	2008.08.17	2008.08.23	Spain	†	eight year old Sashha Bickram	Twenty-five cases of dengue reported in Trinidad & Tobago

Contact

- Public access at <http://medusa.jrc.it/>
 - Further public media monitoring applications available at <http://press.jrc.it/overview.html>

 <p>NewsBrief</p>  <p>Breaking News and Live News of the Last Few Minutes and Hours</p> <p>News classified according to subjects</p>	 <p>NewsExplorer</p>  <p>Daily News Summary</p> <p>Analysis Across Languages and Over Time</p> <p>Information About People and Organisations</p>	 <p>MediSys</p>  <p>Real-Time News Analysis for Medical and Health-Related Topics</p> <p>Early Warning Alerts per Category and Country</p>	 <p>EMM-Labs</p>  <p>Adding Value to News through Graphical Analysis</p> <p>Social Networks, Trends</p> <p>Latest Research Developments</p>
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- Details: Ralf Steinberger, Flavio Fuart, Erik van der Goot, Clive Best, Peter von Etter & Roman Yangarber (forthcoming). **Text Mining from the Web for Medical Intelligence**. In: Fogelman-Soulie Françoise, Domenico Perrotta, Jakub Piskorski & Ralf Steinberger (eds.): Mining Massive Data Sets for Security. IOS Press, Amsterdam, The Netherlands
- Contact for access to **restricted version**: (more functionality; moderation interface; your own categories)

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