

webLyzard
technology

MODUL VIENNA
UNIVERSITY
WKO PRIVATE UNIVERSITY

Web Intelligence and Visual Analytics
WWW.WEBLYZARD.COM

Semantic Systems & Visual Tools to Analyze Climate Change Communication

Prof Arno Scharl | scharl@weblyzard.com

Barcelona Supercomputing Center, 13 May 2016

- **News** and **social media channels** represent important sources to capture stakeholder communication. The webLyzard Web intelligence platform **analyzes** and **visualizes** emerging trends across these channels.
- To support decision making, we identify **relevance** & **sentiment** of emerging topics, extract **matadata** automatically, and provide a **visual analytics** dashboard to navigate content repositories.



Given the intense attention that online media channels attract these days, key questions for large organizations such as NOAA are how stakeholders perceive specific issues, how opinion leaders react to new insights, and how journalists present scientific knowledge to the public. The metrics and visualizations of webLyzard have proved invaluable for addressing these questions.



David Herring

AAAS Fellow and Director of Communications at the Climate Program Office of the U.S. National Oceanic and Atmospheric Administration (NOAA)


ASAP Project | Adaptable Scalable Analytics Platform


Home Notifications Messages Search Twitter Tweet

ASAP FP7 Project
@ASAP_EU
Adaptable Scalable Analytics Platform
EU FP7 Research Project
asap-fp7.eu


TWEETS 43 FOLLOWING 294 FOLLOWERS 176 LIKES 35 Edit profile


Tweets Tweets & replies


You Retweeted
 **H2020-ICT: Ideal-ist** @ICT_IDEALIST · Mar 4
 Save the date for the #netfutures16 event on 20-21 April 2016 in Brussels ow.ly/Z4cci

ASAP FP7 Project @ASAP_EU · Mar 20
 Best Paper Award for an @ASAP_EU publication at #HICSS 2016 - Scalable Knowledge Extraction and Visualization eprints.webylard.com/88

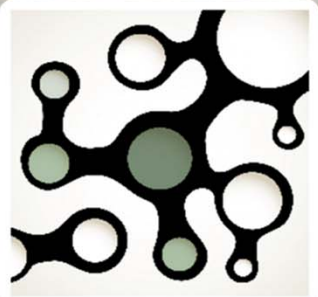
Who to follow · Refresh · View all

 Semantic Web Journal @S... ×
Follow

 The New York Times @n... ×
Follow

 Horizon 2020 @Horizon2020... ×
Follow

Find friends



TWEETS 561 FOLLOWING 1,121 FOLLOWERS 459 LIKES 118

Edit profile

DecarboNet Project

@DecarboNet

European research project to tackle climate change with collective intelligence and social innovation. #climatechange #energyconsumption #H2020 #globalwarming

decarbonet.eu

Joined May 2013

49 Photos and videos

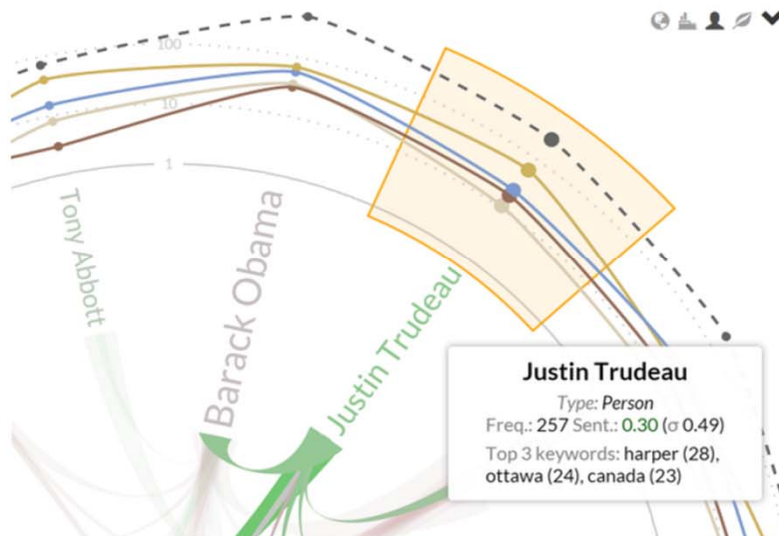


Tweets Tweets & replies Photos & videos



DecarboNet Project @DecarboNet · Dec 7 Track #Media Associations with Politicians at #COP21 ecoresearch.net/climate @Connect4Climate @EarthHour #InfoViz

You, webLizard technology, COP21 - Paris 2015 and Justin Trudeau

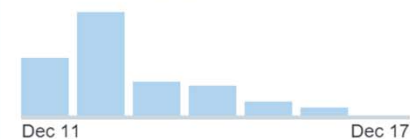


Justin Trudeau
 Type: Person
 Freq.: 257 Sent.: 0.30 (σ 0.49)
 Top 3 keywords: harper (28), ottawa (24), canada (23)

Retweets 13 Likes 9

Your Tweet activity

Your Tweets earned 4,676 impressions over the last week



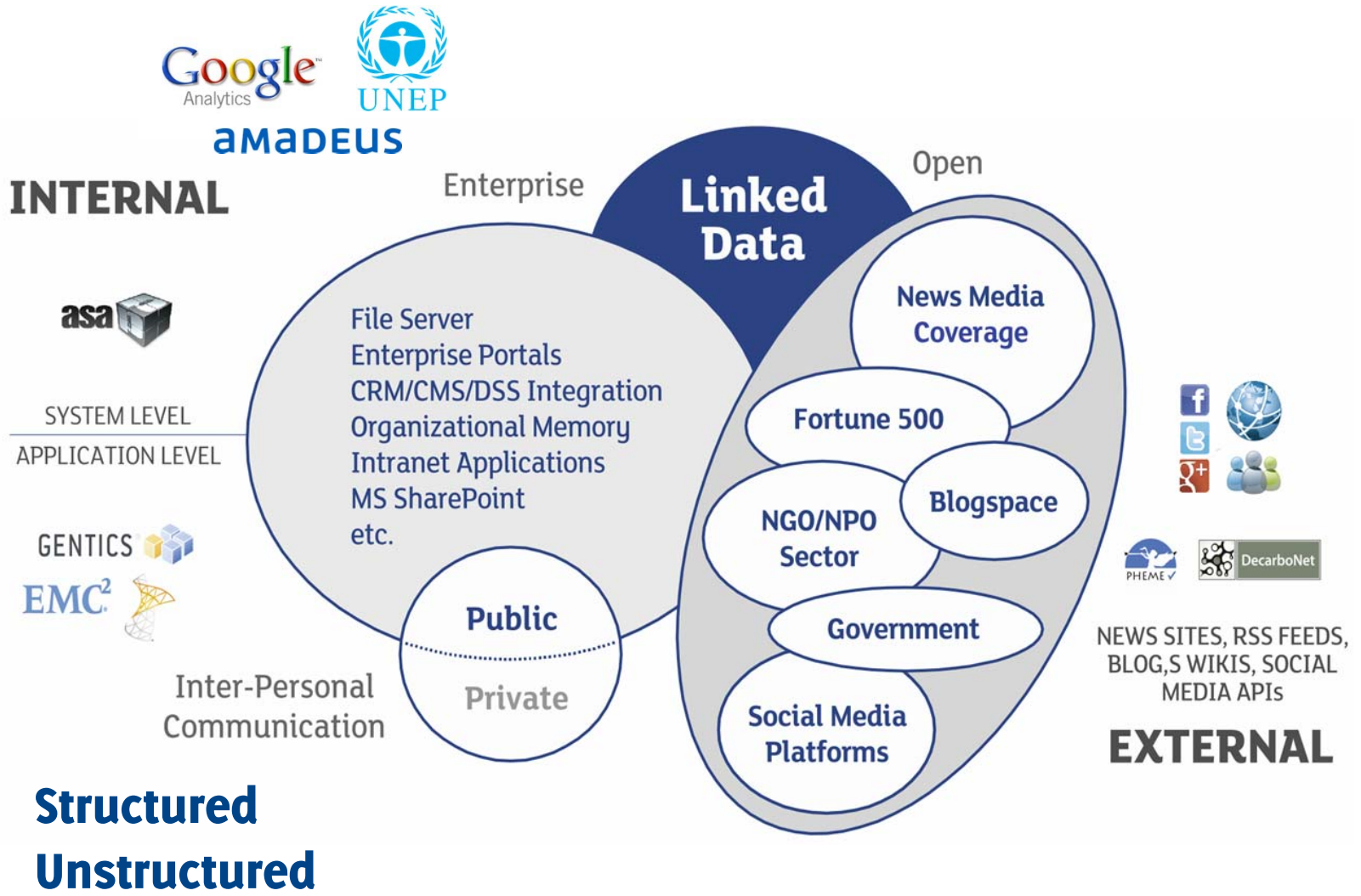
View your top Tweets

Who to follow · Refresh · View all

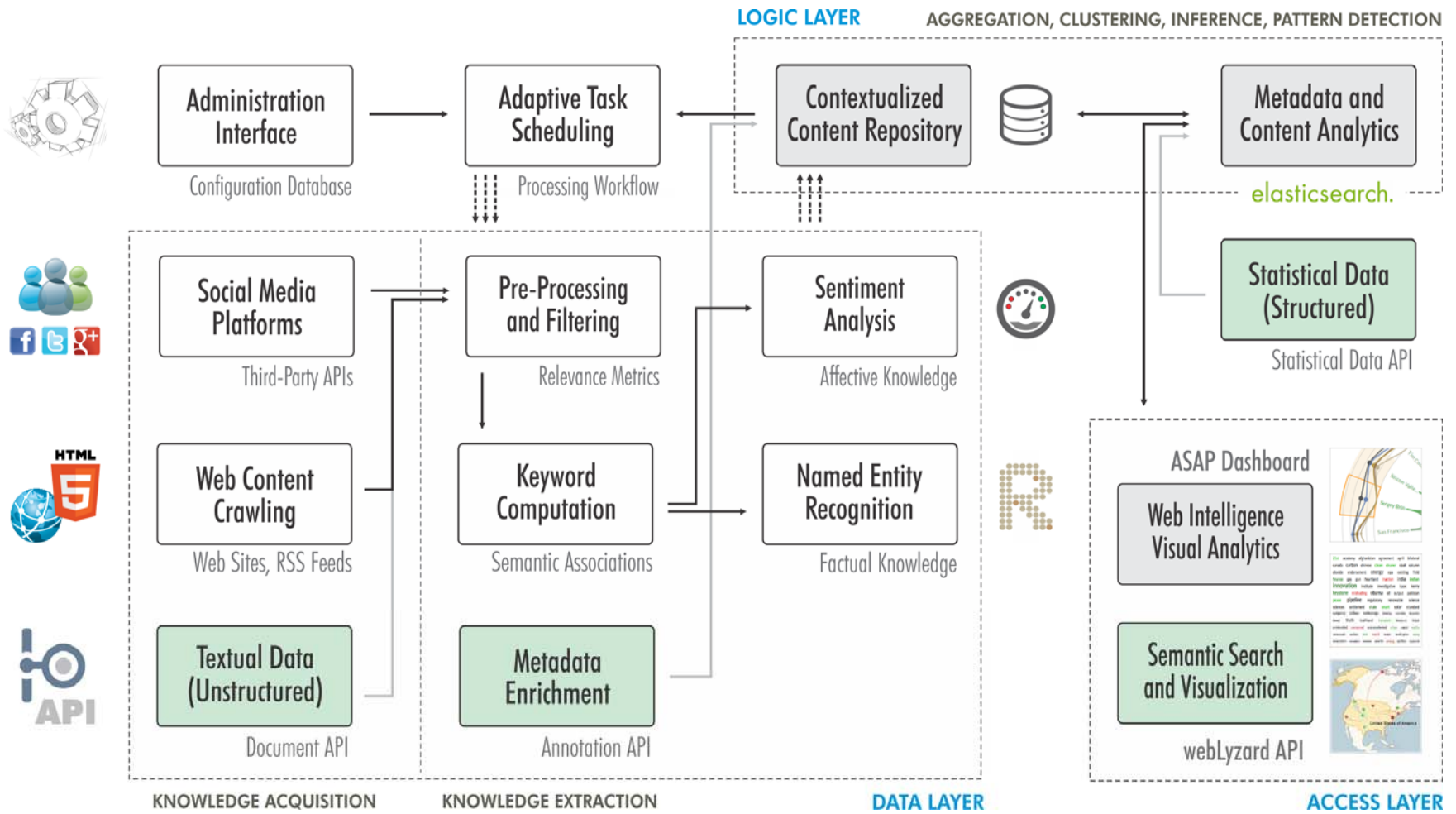
- 100% POSSIBLE** Climate Watcher @pmagn Follow
- CLEAN ENERGY WIRE** Clean Energy Wire @clean... Follow
- AlternativeEnergyAns @AL... Followed by Viking Services ... Follow

Find friends

Integrated Web Intelligence





webLyzard Platform



Applications :: External Data

News, Social Media, Competitor Web Sites

- Frequency and Sentiment Analysis
 - Brands, Products, Persons, etc.
 - Trend Scouting and Early Warning System
- WYSDOM Success Metric 
- Brand Reputation Radar 
- Strategic Positioning and Topic Identification



Knowledge Management

- Semantic Search
- Automated Document Labeling and Classification
- Interfaces to CMS und CRM Systems
- Data Integration for Enterprise Portals
- Organizational Memory
- New Forms of Communication and Collaboration



Semantic Search | toolkit.climate.gov



Partner

U.S. Climate Resilience Toolkit

- Executive Office of the President of the United States
- National Oceanic and Atmospheric Administration (NOAA)
- National Aeronautics and Space Administration (NASA)



Project Description

webLyzard integrates and classifies climate-relevant online content in order to provide a **visual analytics portal** and a **faceted search widget** that helps U.S. citizens and environmental stakeholders to find relevant information resources across the Web sites of 13 government agencies and participating climate centers.

- Environmental Protection Agency
- Department of Energy
- Department of State
- Department of Commerce
- Department of Transportation
- Department of Agriculture
- Department of Defense
- Department of the Interior
- Department of Health & Human Services
- National Aeronautics and Space Administration
- National Science Foundation
- The Smithsonian Institution
- U.S. Agency for International Development



The screenshot displays the homepage of the U.S. Climate Resilience Toolkit. The header includes the logo, navigation links (Get Started, Taking Action, Tools, Topics, Expertise), and a search bar. The main content area features a large image of a house being moved on a trailer, and a vertical list of five steps: 1. Identify the Problem, 2. Determine Vulnerabilities, 3. Investigate Options, 4. Evaluate Risks & Costs, and 5. Take Action. Below this, there are smaller images of construction workers and a road closure sign.

U.S. Climate Resilience Toolkit

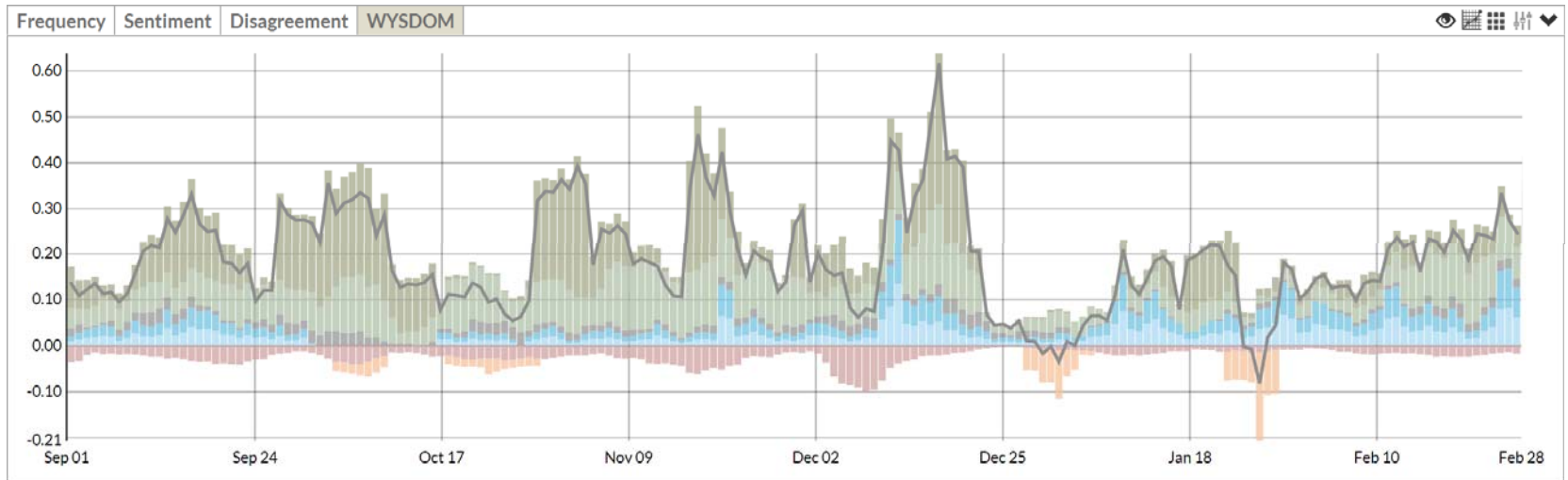
About Contact Funding Opportunities FAQ

Get Started Taking Action Tools Topics Expertise

Search

- 1 Identify the Problem
- 2 Determine Vulnerabilities
- 3 Investigate Options
- 4 Evaluate Risks & Costs
- 5 Take Action

ROAD CLOSED

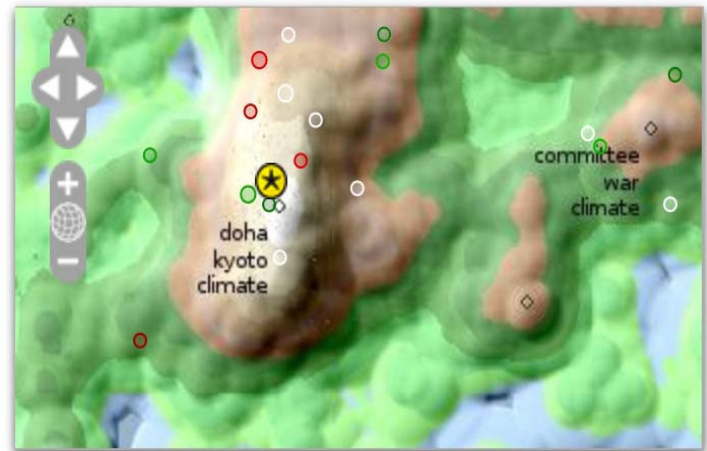


webLyzard Stakeholder Dialog and Opinion Model
www.weblyzard.com/wysdom

Desired Associations
Number of Positive References

Number of Negative References
Undesired Associations

Page Views, Visits (Google Analytics)



SOURCES AND CONFIGURATION

TOPICS

Regional Focus

- Italy :: Tourism 612
- Italy :: Telecom 162

Technology Sector

- Telecommunications 1055
- Big Data 756

DESIRED

UNDESIRED

- Apple :: iPhone 688
- Samsung :: Galaxy 1277
- Microsoft :: Lumia 33

+ Add New Category



ASSOCIATED TERMS

Current Search

- Big Data 756

Associations

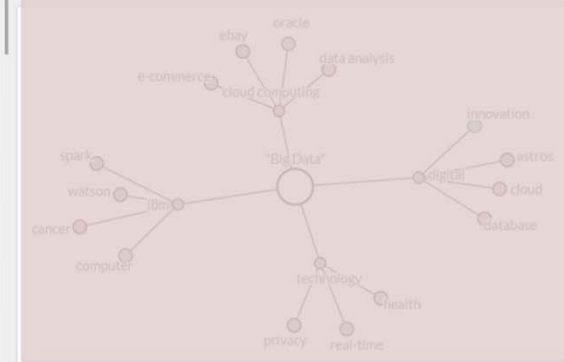
- cloud computing 315
- digital 8928
- ibm 523
- technology 19869
- health 14702
- data 11022
- innovation | bmc 17
- computer 8200
- real-time 11022
- privacy 11615
- startup 17848
- internet 11615
- heart 17848
- research 24475
- stanford 1190

QUERY RESULTS, CONTENT VIEW

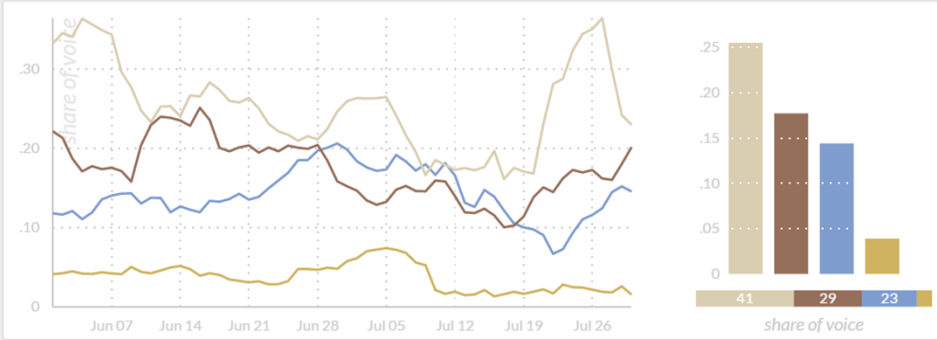
Source	Count	Reach	Impact	Sentiment
bizjournals.com	142	1	142	+0.56
venture jose technology news columbus				
forbes.com	88	1	88	+0.48
cloud cloud computing enterprise				
washingtonpost.com	59	1	59	+0.26
health health care bush				
theguardian.com	40	1	40	+0.33
google ecosystem internet				
blogs.wsj.com				+0.50
real-time cloud computing				
dailymail.co.uk	20	1	26	-0.31
festival dog automated				
article.wn.com				+0.31
development malaysia advice				
reuters.com	21	0.5	10.3	+0.02
acquisition cloud computing cloud				
jsonline.com	17	0.9	15.3	+0.37
innovation bmc				
abc.net.au	17	1	17	+0.19
acquisition cloud computing cloud				
abc.net.au	16	1	16	+0.45
agriculture agribusiness competitiveness				
smh.com.au	16	1	16	+0.39
anz david apn				
iol.co.za	15	0.9	13.5	+0.15
ibm cloud cancer				
scoop.co.nz	15	0.7	10.5	+0.64
cloud interface businessdesk				

MAPS AND VISUAL ANALYTICS

amazon analyst apple astros beacon cancer cardiovascular cisco computer consulting credit cybersecurity database dna electronic enterprise firm ge... ibm innovation intel intelligenc... medication medicine microsoft mlb mobile nordic offline oracle platform pri... research revenue risk saas se... smart spark spotify stanford startup stock stockholm storage streaming study systems techflash technologies tracking trove ve... woolworths

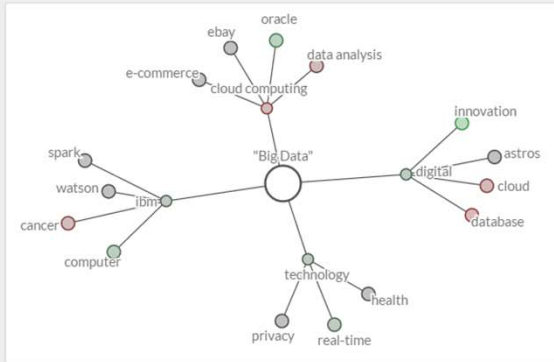


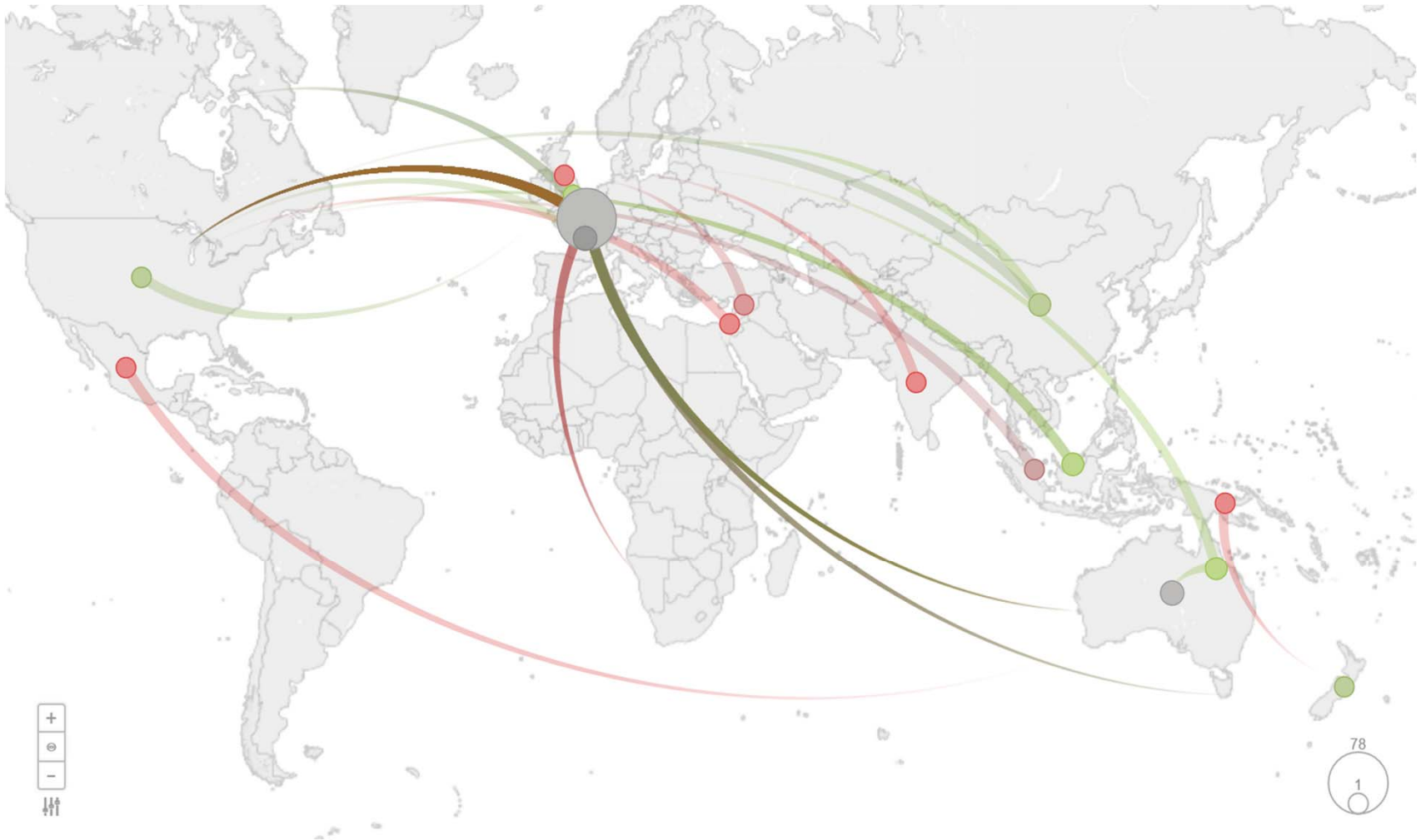
- Regional Focus
- Italy :: Tourism 612
 - Italy :: Telecom 162
- Technology Sector
- Telecommunications 1055
 - Big Data 756
- DESIRED
- UNDESIRED
- IMR Products
- Apple :: iPhone 2688
 - Samsung :: Galaxy 1277
 - Microsoft :: Lumia 33
- + Add New Category



Source	Count	Reach	Impact	Sentiment
bizjournals.com	142	1	142	+0.56
venture jose technology news columbus				
forbes.com	88	1	88	+0.48
cloud cloud computing enterprise				
washingtonpost.com	59	1	59	+0.26
health health care bush				
theguardian.com	40	1	40	+0.33
google ecosystem internet				
blogs.wsj.com	27	1	27	+0.50
real-time cloud computing cio journal				
dailymail.co.uk	26	1	26	-0.31
festival dog automated				
article.wn.com	21	0.9	18.9	+0.31
development malaysia advice				
reuters.com	21	0.5	10.5	+0.02
acquisition cloud computing cloud				
jsonline.com	17	0.9	15.3	+0.37
start-up innovation bmo				
theage.com.au	17	1	17	+0.19
department store david apn				
abc.net.au	16	1	16	+0.45
agriculture agribusiness competitiveness				
smh.com.au	16	1	16	+0.39
anz david apn				
iol.co.za	15	0.9	13.5	+0.15
ibm cloud cancer				
scoop.co.nz	15	0.7	10.5	+0.64
cloud interface businessdesk				

amazon analyst apple astros beacon cancer cardiovascular cisco computer consulting credit cybersecurity database dna electronic enterprise firm genome google ibm innovation intel intelligence internet machine manfred medication medicine microsoft mlb mobile nordic offline oracle platform privacy professor pump research revenue risk saas scientist silicon simulation smart spark spotify stanford startup stock stockholm storage streaming study systems techflash technologies tracking trove ventures venturewire watson weather woolworths





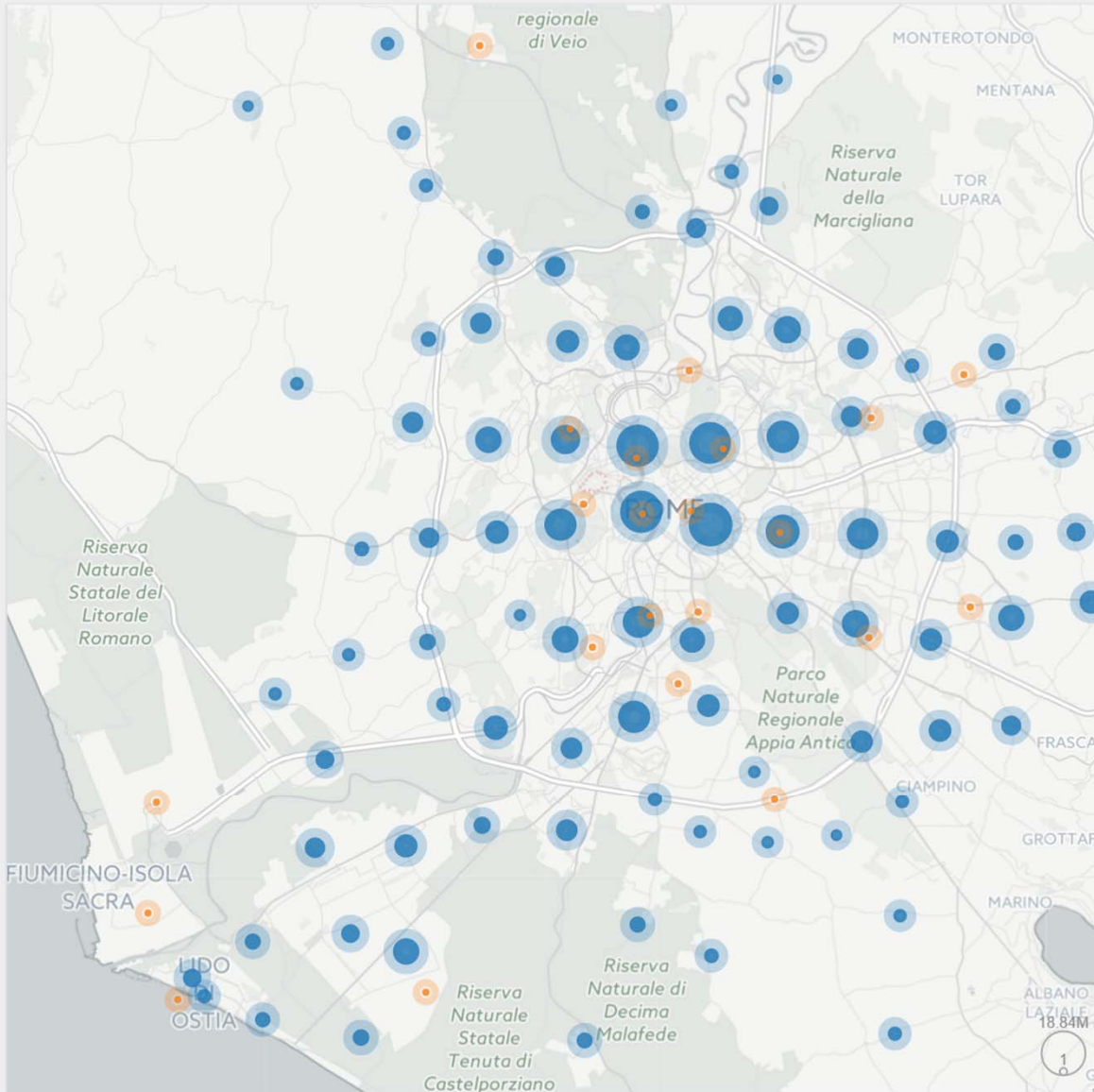
ASAP Embeddable Visualization API

Real-Time Geographic Clustering and Tightly Coupled Views

Indicators

Tweets

Update Data

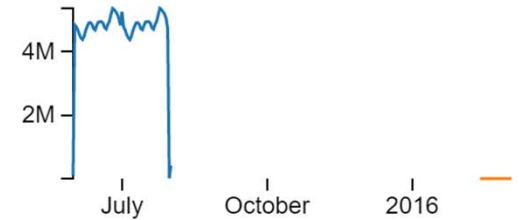


8.575m

WIND Observations

180

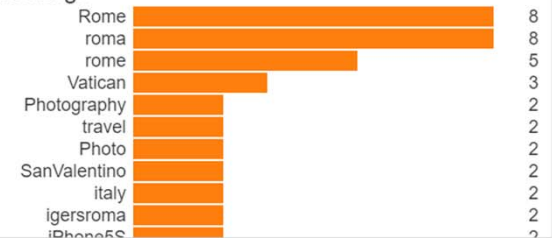
Tweets



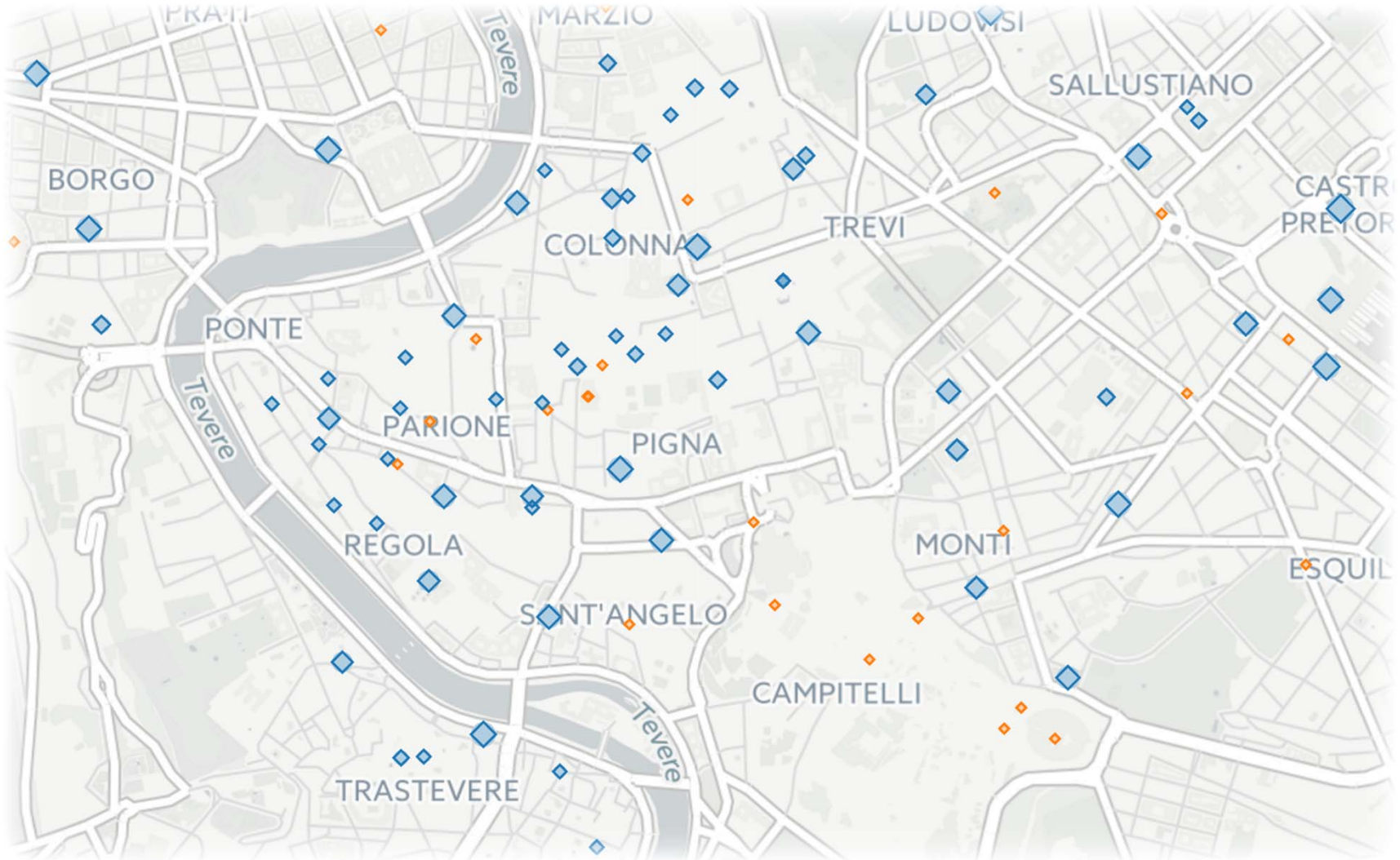
language



hashtags



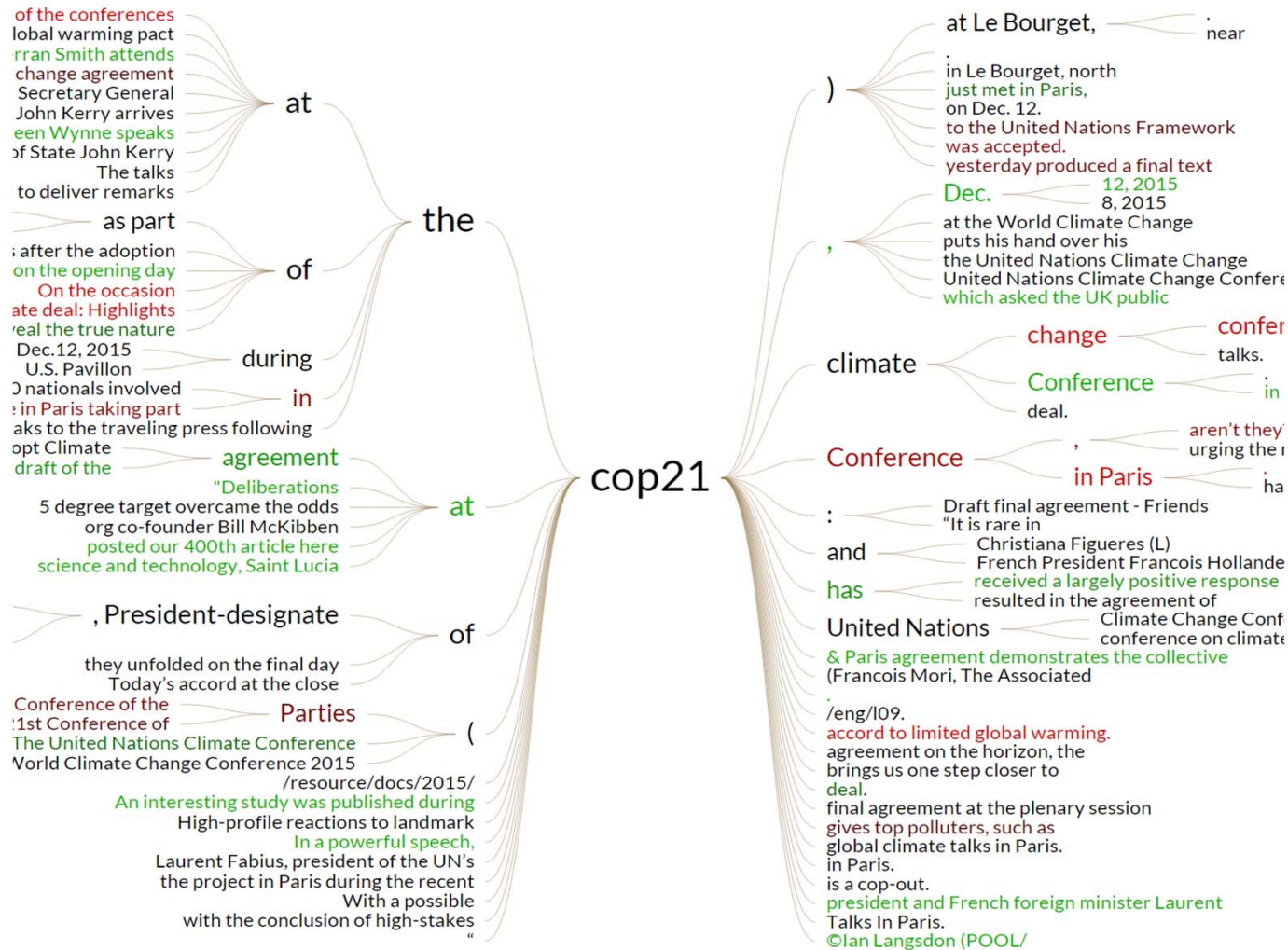
Geographic Map – Incremental Dataset Rendering
















Concordance List – Lexical Context

tries at the 21st Conference of Parties (cop21) to the United Nations Framework Conve
 ntary of State John Kerry arrives at the cop21 United Nations Climate Change Conferen
 e climate pact Sunday. "Deliberations at cop21 & Paris agreement demonstrates the co
 d the project in Paris during the recent cop21 climate change talks. Haiti Takes Roo
 nside with the conclusion of high-stakes cop21 global climate talks in Paris. "Const
 US Secretary of State John Kerry at the cop21 United Nations conference on climate
 issions. The 21st Conference of Parties (cop21) to the United Nations Framework Conve
 ution" meeting on the opening day of the cop21 ©Ian Langsdon (POOL/AFP). In Paris, M
 e climate pact Sunday. "Deliberations at cop21 & Paris agreement demonstrates the co
 shackled, Dec. 5. On the occasion of the cop21 climate change conference going on in
 for the 21st Conference of the Parties (cop21). They all spoke about the need for a
 n interesting study was published during cop21 , which asked the UK public how much tl
 of a historic global warming pact at the cop21 Climate Conference. Almost 200 nation
 y of the 21st Conference of the Parties (cop21) yesterday produced a final text which
 amp-up investment. In a powerful speech, cop21 president and French foreign minister
 y of the 21st Conference of the Parties (cop21) was accepted. The decision was greet
 ING ISSUE: One of the conferences at the cop21 Conference in Paris. Photo: Christoph
 is who who I am fighting for today. TdB #cop21 pic.twitter.com/ncGvZmq5qp. – Tony de
 e risks of #climatechange - Ban Ki-moon #cop21 pic.twitter.com/B7Ai8whck0. – United I














Word Tree – Lexical Context



Sources – Social Media

Source	Count ▲	Reach	Impact	Sentiment	🏠
🐦 livecop21 cop climate climatechange	3292	0.5	1646	+0.29	
🐦 nilimajumder cop climatechange climate	1020	0.5	510	+0.47	
🐦 wmbtweets cop climate action	683	0.5	341.5	+0.75	
🐦 unfccc cop action ahead	679	0.5	339.5	+0.73	
🐦 ineeshadv cop climate unfccc	604	0.5	302	+0.36	
🐦 johnlundin cop climate paris	580	0.5	290	+0.23	
🐦 watertrends cop climate climatechange	561	0.5	280.5	-0.29	
🐦 theearthnetwork cop climate paris	484	0.5	242	+0.21	
🐦 bordodes cop climatechange unfccc	465	0.5	232.5	+0.49	
🐦 andreas_o_joeda cop climate action	408	0.5	204	+0.57	
🐦 deepgreendesign cop climate design	401	0.5	200.5	+0.03	
🐦 climawise2015 cop climatechange climate	330	0.5	165	+0.04	
🐦 undp cop climatechange climateaction	319	0.5	159.5	+0.29	

Sources – News Media

Source	Count ▲	Reach	Impact	Sentiment	Home
dailymail.co.uk ap photofrancois photofrancois mori mori	149	1	149	-0.08	
theguardian.com paris food cop21 climate	139	1	139	+0.07	
article.wn.com draft agreement asia-pacific draft	88	0.9	79.2	+0.11	
cbc.ca trudeau cbc news alberta	67	1	67	+0.15	
edition.cnn.com cnn adp 17250-foot	66	1	66	+0.01	
scoop.co.nz delegation zealand climate finance	55	0.7	38.5	+0.41	
independent.ie text draft text aid agency	51	0.9	45.9	-0.18	
iol.co.za africa south africa declaration	48	0.9	43.2	+0.19	
theglobeandmail.com trudeau mr trudeau climate-change	48	1	48	+0.15	
abcnews.go.com nations climate change united nations clim...	45	1	45	+0.12	
washingtonpost.com text carbon neutral anderson	44	1	44	+0.04	
abc.net.au balanced adelaide 5min	39	1	39	-0.11	
washingtontimes.com dave boyer boyer mr obama	38	1	38	-0.16	

Source Map – News Media



Entity Map – Opinion Targets

- Adaptation ■ 612
- Climate Policy ■ 473
- Climate Science ■ 305
- Mitigation ■ 642

Select Entities to compare

Laurent...	John Ke...	Ban Ki-...
F: 105 S: 0.22	F: 73 S: 0.17	F: 71 S: 0.27

105 73 71

21 25 14

16 18 10

6 5 3

clear selection

Sort Entities alphabetically
 # 🕒 ⚡ 👤

medium
 Level of Relation Detail
 20
 Number of Entities

Ban Ki-moon
 Type: Person
 Freq.: 71 Sent.: 0.27 (σ 0.43)
 Top 3 keywords: draft (9),
 draft agreement (7), fabius (7)

Co-Founders

- **Managing Director**
Prof DDr Arno Scharl
- **Technical Director**
Prof Dr Albert Weichselbraun



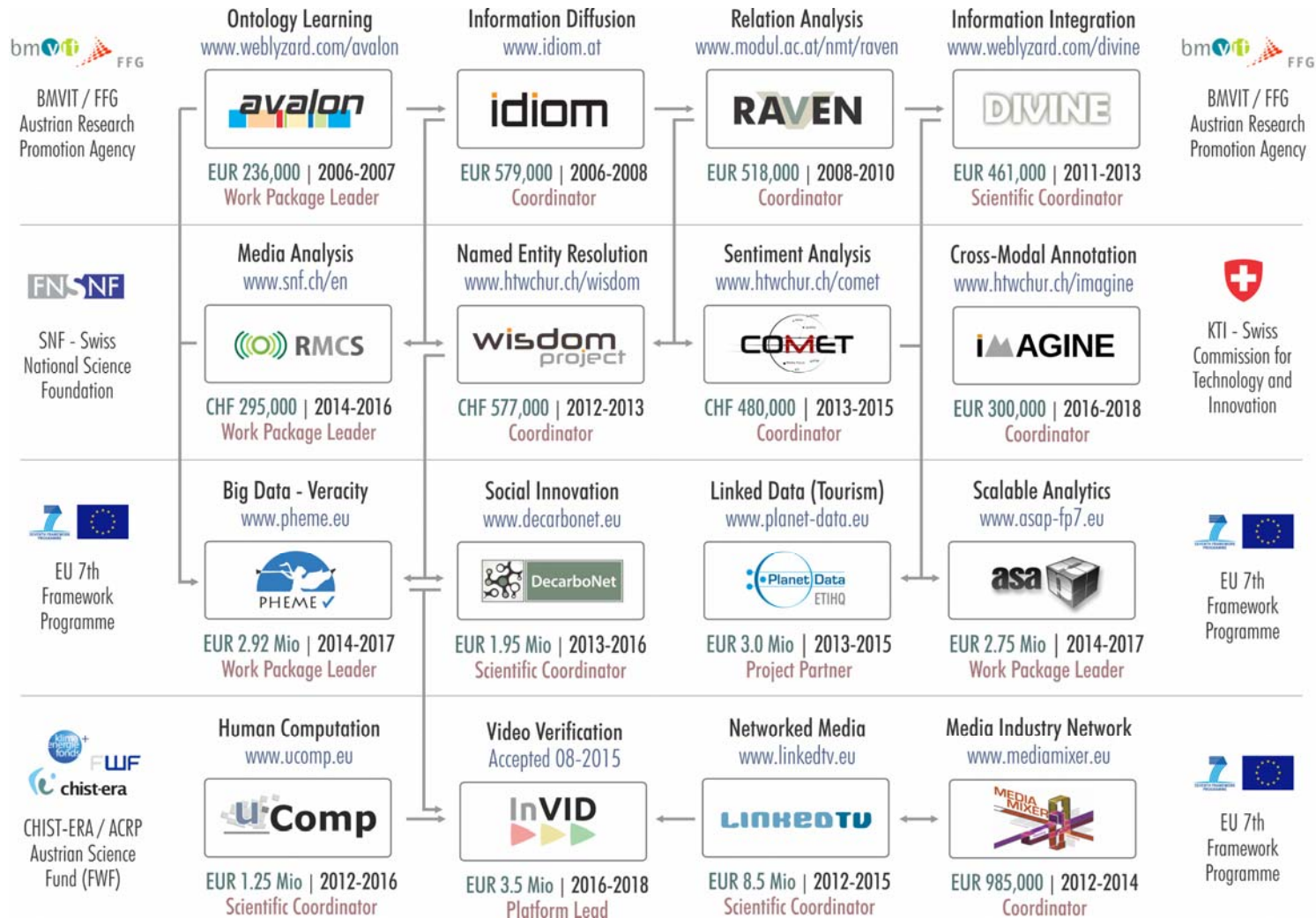
Portfolio



- **Reference Clients**
Executive Office of the President of the United States, U.S. Department of Commerce (NOAA Climate Program Office), Federal Austrian Chamber of Commerce and Industry, United Nations Environment Programme (UNEP), National and International Corporate Brands
- **R&D Funding of more than 6 Mio EUR**
 - Austrian Research Promotion Agency (FFG)
 - European 7th Framework and H2020 Programs



Project Overview | H2020, FP7 & National Programs



Public Technology Showcases

unep.ecoresearch.net | **UNEP Live Web Intelligence**

toolkit.climate.gov | **Climate Resilience Toolkit**

www.ecoresearch.net/climate | **Climate Change**

pHEME.weblyzard.com | **Mental Health**

Department of New Media Technology

www.modul.ac.at/nmt

Insight Newsletter

www.weblyzard.com/newsletter

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scharl@weblyzard.com

Twitter

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[@ASAP_EU](https://twitter.com/ASAP_EU) [@InVID_EU](https://twitter.com/InVID_EU) [@PhemeEU](https://twitter.com/PhemeEU)



ECOresearch.net

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