

Focus on what truly matters!

Interpretation of **Trading-Relevant**



Sentiment Analysis Symposium

June 27–28, 2017

New York

💹 LingRep **Text Analytics**

- What are relevant <u>Information Sources</u>?
 - Data, Structured: Databases, APIs, ...
 - Texts, Unstructured: News, AdHocs, Blogs, Reports, Social Media, ...
- What is <u>Trading-Relevant</u> within Texts?
 - Semantic Units
 - Underlyings, Indicators, Locations, People, ...
 - Explicit Information
 - Numbers & Values: Normalization, Abbreviations, Spans, Units, ...
 - Context
 - Analyst Ratings, Earnings Announcements, Project Wins, ...
 - Implicit Information
 - Mood & Impact: Sentiment, Impact, Relevance, Scoring, ...
 - Classification
 - Linkage



Semantic Units I



Janet Yellen

Name

Goals

- Identify, Augment, Filter

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Semantic Units II



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DY DAVID STREPHIUSUN WASHINGTUN, JUNE 17 (REULEIS) - President Dunatu Trump witt meet with the timer executives of technology companies including Apple Inc <AAPL.O> and Amazon.com Inc <AMZN.O> on Monday as the White House looks to the private sector for help in cutting government waste and improving services.

UPDATE: UPDATE 3-Tech CEOs meet with Trump on government overhaul 3 days ago

By David Shepardson WASHINGTON, June 19 (Reuters) - President Donald Trump met on Monday with the heads of 18 U.S. technology companies including Apple Inc <AAPL.O>, Amazon.com Inc <AMZN.O> and Microsoft Corp <MSFT.0>, seeking their help to make the government's computing systems more efficient. [...] Today it doesn't," Apple Chief Executive Officer Tim Cook said

UPDATE: *TOP NEWS*-U.S. Companies 3 days ago

Apple tells court Qualcomm chip licenses are invalid [nL1N1JH00S] >

UPDATE: BREAKINGVIEWS-Trump's CEOs do more listening than influencing 2 days ago

Amazon <AMZN.O> CEO Jeff Bezos, Apple CEO Tim Cook and Microsoft CEO Satya Nadella were among the attendees.

UPDATE: Tesla's autopilot software head guits in less than six months<TSLA.0> 2 days ago

"Turns out that Tesla isn't a good fit for me after all," Lattner, who worked at Apple Inc <AAPL.O> for more than a decade before joining Tesla in January, tweeted.

UPDATE: Parkopedia 2017 Global Parking Index: Spotlight on Germany 2 days ago

Parkopedia is the world's leading parking service provider used by millions of drivers and organizations such as Audi, Apple, BMW, Coyote, Ford, Garmin, GM, Jaquar, Land Rover, Peugeot, Sygic, TomTom, Toyota, Volvo and many others.

UPDATE: Workplace Electric Vehicle Chargers to Increase 10X by 2022 2 days ago

PR NEWSWIRE

"Tesla with autonomous driving has captured the imagination of new car buyers who want a complete transformation in their next vehicle purchase," says Mareca Hatler, ON World's research director, "This phenomenon is reminiscent of how Apple's iPhone completely disrupted the mobile communication industry and now Tesla, Google, Apple and others are investing billions in deep learning electric vehicles that will completely revolutionize our transportation systems.

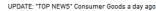
UPDATE: Apple Co-Founder Steve Wozniak to Address Global Leaders at DC Tech Summit 2 days PR NEWSWIRE ago

Apple Co-Founder Steve Wozniak to Address Global Leaders at DC Tech SummitThe Silicon Valley icon will speak at the 2017 Future of Technology Summit [Nov. [...] WASHINGTON, June 21, 2017 /PRNewswire/ -- Computer engineer and innovation mastermind Steve Wozniak, best known as co-founder of Apple, Inc., is headed to Washington, DC on November 2(nd) to share his vision for the future of technology with leaders from local and international business, government, and social sectors. [...] In addition to co-founding Apple, Steve Wozniak has been an innovator, philanthropist, and Silicon Valley icon for many years, focusing special attention on leveraging technology for education. [...] Apple Co-Founder Steve Wozniak to Address Global Leaders at DC Tech Summit 2017-06-21T12:45:00.000Z

UPDATE: Parkopedia 2017 Global Parking Index: Spotlight on Germany 2 days ago

PR NEWSWIRE

Parkopedia is the world's leading parking service provider used by millions of drivers and organizations such as Audi, Apple, BMW, Coyote, Ford, Garmin, GM, Jaquar, Land Rover, Peugeot, Sygic, TomTom, Toyota, Volvo and many others.



Although 80% of charging is done at home, charging availability is consumers' number one concern while driving around town as well as, increasingly, at work. ON World's 2017 survey with 2,000 U.S. EV early adopters from the Bay Area to San Diego found that over half are concerned about the availability of public charging stations.

Workplace Electric Vehicle Chargers to Increase 10X by 2022

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PR Newswire

SAN DIEGO, June 21, 2017

Workplace Electric Vehicle C

i) pdf.reuters.com/

SAN DIEGO, June 21, 2017 /PRNewswire/ -- With millions of plug-in electric vehicles in use worldwide, demand for smart charging solutions has become an enormous developer and investment opportunity, according to a recently published report by IoT market research firm ON World.

"Tesla with autonomous driving has captured the imagination of new car buyers who want a complete transformation in their next vehicle purchase," says Mareca Hatler, ON World's research director. "This phenomenon is reminiscent of how Apple's iPhone completely disrupted the mobile communication industry and now Tesla, Google, Apple and others are investing billions in deep learning electric vehicles that will completely revolutionize our transportation systems."





REUTERS NEWS

Semantic Units III



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Semantic Units IV



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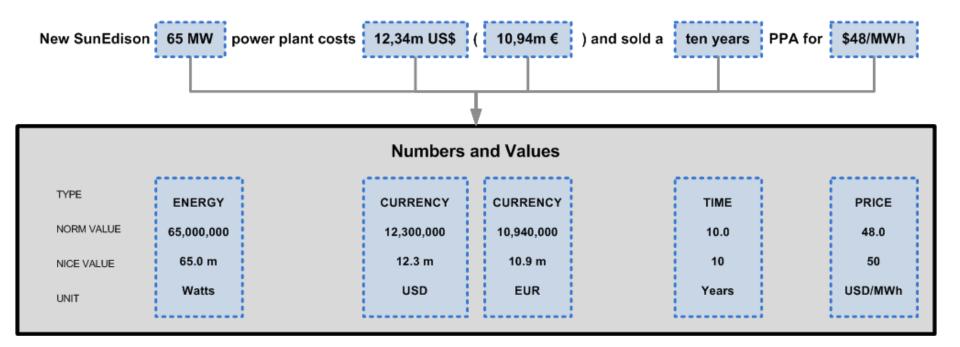
Explicit Information I



Goals

- Normalize, Convert, Extract

Numbers, Scales, Units, ...



Explicit Information II





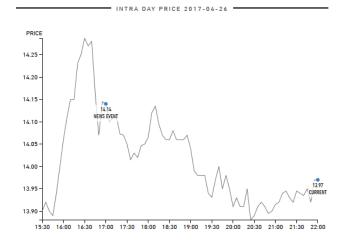
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PR NEWSWIRE

Canadian Solar: ProjectWin (COMPLETING)

Canadian Solar Supplies 10 MW of Modules to the Largest Solar Project in Uganda 2017-04-26T11:00:00.000Z [...] Canadian Solar Supplies 10 MW of Modules to the Largest Solar Project in Uganda PR Newswire [...] (http://www.canadiansolar.com/) (the "Company", or "Canadian Solar") (NASDAQ: CSIQ), one of the world's largest solar power companies, today announced that the company has supplied 10 MW of PV Modules to Soroti Photovoltaic Plant in Uganda.



- RELEVANT RATIOS -

PROJECTED ANNUAL SALES / TOTAL SALES 😒

The projected change in sales is an important market factor. DESCRIPTION The additional projected annual sales are put in relation to the total sales of the company and the percentage change is calculated. Solar Power Project [MW] * Average Power Purchase Agreement Project [\$/MWh] * Capacity Factors Solar Farms (Industry Wide Data) [Ratio per MW] *24 * 365 VALUES 10.0000 MW Average Power Purchase Agreement Price (Industry Wide Data) 44,3 \$/MWh 2016-03-31 0,286 Capacity Factors Solar Farms (Industry Wide Data) 2016-03-31 3.467.626.000 \$ Revenue 2015-12-31

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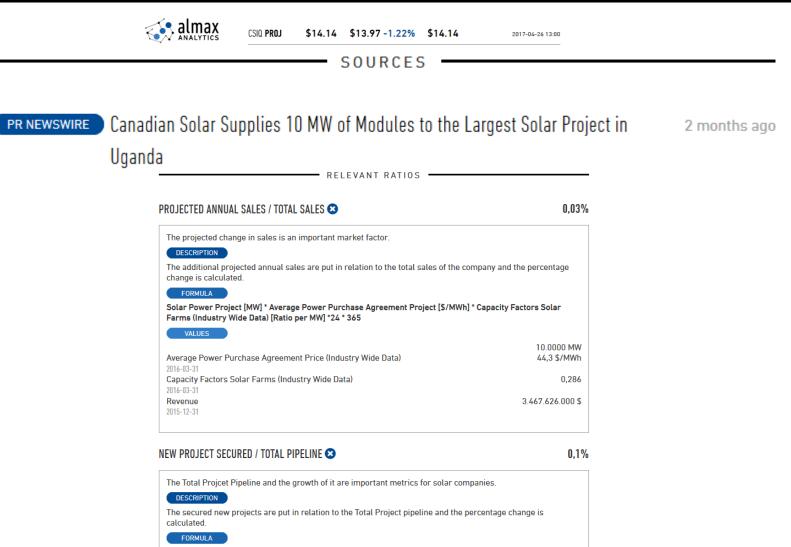
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Explicit Information III





Solar Power Project [MW] / Total Project Pipeline [MW]

Total Solar Project Pipeline (Utility Scale) 2016-03-31 10.0000 MW 10.419,94 MW

Explicit Information IV



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	ended Sept. 30 from \$23.4 billion a year earlier			
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,00	from continuing operations fell to \$3.46 billion,	or \$3.46 per KeyIndicator		
999 ! IBM Profit 03 2014 \$ 3.460.000.000	share, from \$4.14 billion, or \$3.77 per share.	Matching Rule		
	(Reporting by Anya George Tharakan in Banga	lore; Editing by Don		

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Keywords: IBM RESULTS

((anyageorge.tharakan@thomsonreuters.com; within U.S. +1-646-223-8780; outside U.S. +91 80 6749 7118;; Reuters

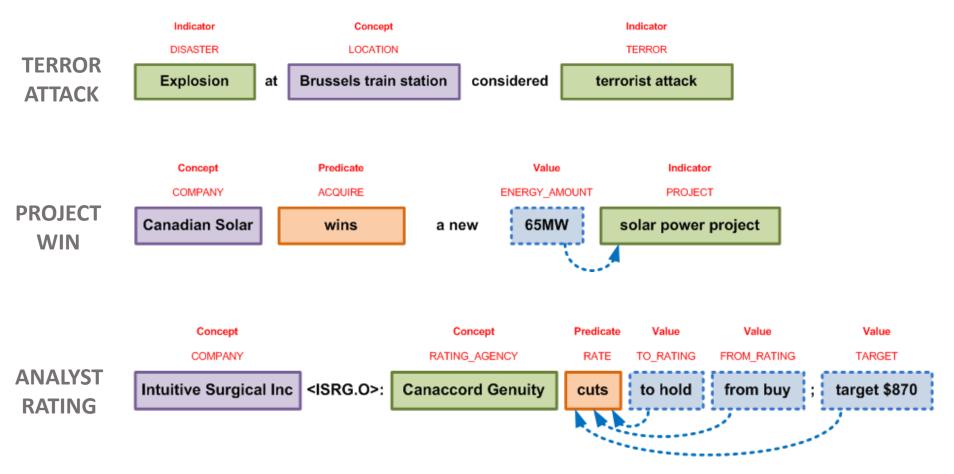
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Context I



Goals

- Combine, Contextualize, Understand



Context II



Outlook Stable JKS PROJ \$20.53 \$20.25 - 1.38% \$20.53 2017-0 REVIEWSWIRE JinkoSolar to Supply 38.4 MW of PV Modules to Solar Plant in Hokkaido 2017-0 REVIEWS BRIEF-JinkoSolar to supply 38.4 MW of PV modules to solar plant in Hokkaido 2017-0 JKS PRJSA \$20.53 \$20.25 - 1.38% \$20.53 PR NEWSWIRE JinkoSolar to Supply 38.4 MW of PV Modules to Solar Plant in Hokkaido 2017-0 TSLA PROJ \$371.52 \$372.24 0.19% \$371.52 GLOBENEWSWIRE VOLT Energy Vanadium Strategy Underway in Central Asia 2017-0 REUTERS MEWS Tesla close to agreement on first production plant in China-Bbg <tsla.0-< td=""> 2017-0 REUTERS MEWS Tesla close to agreement on first production plant in China-Bbg<tsla.0-< td=""> 2017-0 REUTERS MEWS Tesla close to agreement on first production plant in China-Bbg<tsla.0-< td=""> 2017-0 REUTERS MEWS Tesla close to agreement on first production plant in China-Bbg 2017-0 REUTERS MEWS</tsla.0-<></tsla.0-<></tsla.0-<>	06-22 16:46 06-22 12:50 06-22 12:50 06-22 12:50 06-22 12:50 06-22 12:50 06-22 12:50 06-20 15:00 06-20 00:23 06-20 00:23 06-20 15:00
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Action Lawsuit against SunPower Cornoration and Reminds Investors with	06-21 22:41
Action Edward against oann ower oorporation and Rennings investors with	
Losses to Contact the Firm	
CSIQ PRJSA No prices available 2017-0	06-19 13:00
PR NEWSWIRE EDF Energies Nouvelles to Partner with Canadian Solar for an Additional 2017-0	06-19 13:00
115 MWp of Solar Project in Brazil	
CSIQ PROJ \$13.05 \$13.03 -0.15% \$13.05 2017-0	06-19 13:00
(PR NEWSWIRE) EDF Energies Nouvelles to Partner with Canadian Solar for an Additional 2017-0	06-19 13:00

June 2017

\$13.61 \$13.70 0.66% \$13.61 CAFD **PROJ** 2017-06-19 12:00

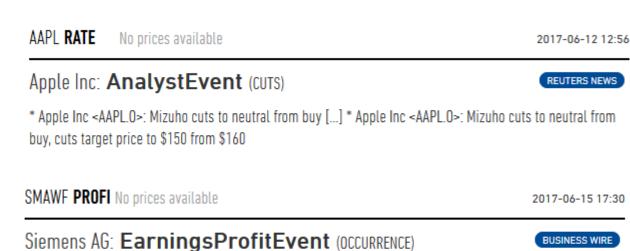
(PR NEWSWIRE) Pattern Energy Announces Key Strategic Initiatives for Major Expansion of 2017-06-19 12:00

12

Context III







In fiscal 2016, which ended on September 30, 2016, Siemens Healthineers generated revenue of €13.5 billion and profit of over €2.3 billion and has about 46,000 employees worldwide.



FSLR CRED \$37.56 \$36.65 -2.48%	\$37.56
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2017-06-09 08:00

BUSINESS WIRE

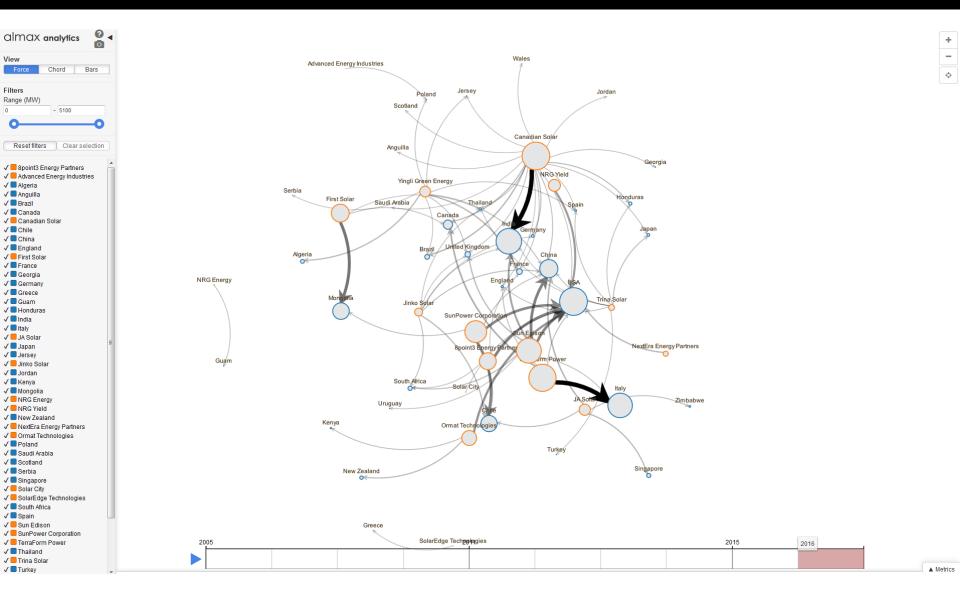
First Solar: CreditGranted (CLOSING)

First Solar Secures Syndicated Development Loan Facility from Mizuho Bank for Utility-Scale Solar Projects in Japan 2017-06-09T06:00:00.000Z [...] This financing represents the first syndicated solar project development loan facility arranged and participated in by Mizuho Bank, and it is the third loan facility First Solar has secured with Mizuho Bank. [...] First Solar Secures Syndicated Development Loan Facility from Mizuho Bank for Utility-Scale Solar Projects in Japan



Context IV





Implicit Information I



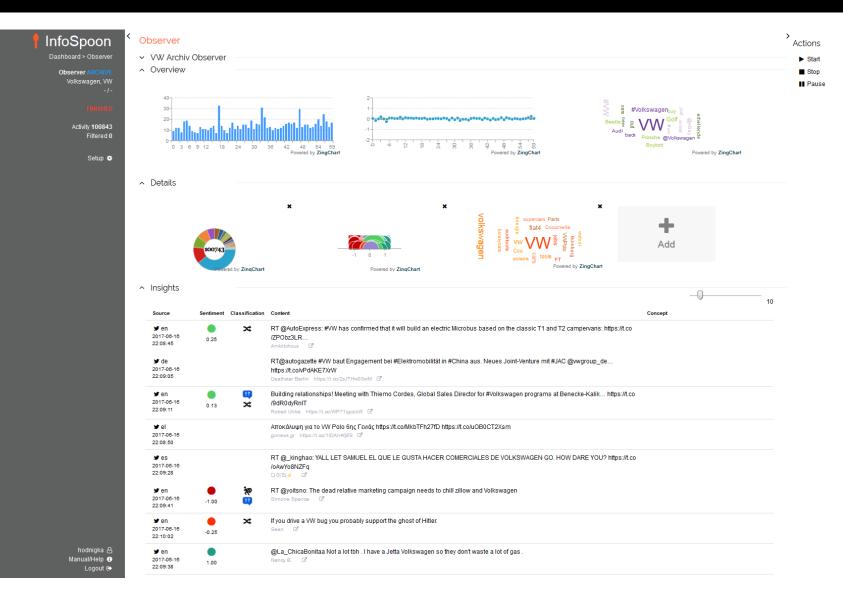
Goals

- Interprete, Decompose, Classify

Tweet	Торіс	Class	Eval
@Cheeky_Blobfish a drop of just 25% in sales would cost the German auto industry about 5 billion pounds that ginna hurt any economy 2016/11/19 16:38:31 (165ms), mick	Sales	Buy / Sell	-0.27
German economy creates more jobs, but employment growth slows Related Articles: https://t.co/ 0ekUh2ZVJw https://t.co/YrXakcxA6Z 2016/11/18 17:24:34 (386ms), Business News	Labor Market	Global Economy	-0.50
RT @shelleypetersen: German economic growth to be slower for rest of 2016: ministry https://t.co/ 7FbszRazeU healthinnovations #pharma #ban 2016/11/18 17:02:11 (460ms), meeeh	Growth	Global Economy	-0.18
German exports to UK, U.S. fall sharply in third quarter https://t.co/WOwt59hFJ2 https://t.co/SiXhzEmOW1 2016/11/18 16:06:02 (208ms), Vanilla Bizcotti, Menasha, WI	Exports	Global Economy	-0.75
Performance still good despite Brexit – German economy ministry https://t.co/rJZwHOgGPA 2016/11/18 07:37:26 (562ms), Orix Capital Trading, Japan	Performance	Trading	0.66
RT @OlafGersemann: This just in: Inflation in #Germany was .8% yoy in October, hitting a two-year high, @destatis reports. Germany OlafGersemann,destatis 2016/11/11 09:01:54 (424ms), Isabel Schnabel, Bonn, Germany	Inflation	Global Economy	-0.25

Implicit Information II

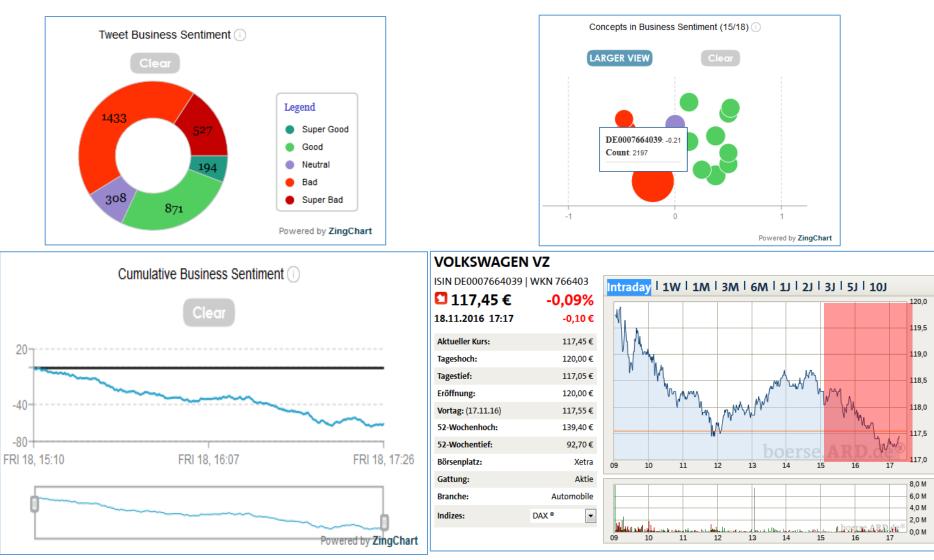




Implicit Information III



Volkswagen (VOW3, DE0007664039)



Findings & Background



Findings

- No One-Fits-All
 - Different Sources

 Different Goals
 - Tailored Processing Steps & Pipelines
 - Augmentation, Extraction, Interpretation \rightarrow Take Actions
- NLP Middle Layer
 - Text Processing + Application-specific Aggregation → Backend Unit
 - Application on Top
- Varying Quality Requirements
- LingRep TextAnalytics
 - Customizable, light-weight, simple API
 - Proven technology in
 - Finance, Insurance, eHealth, Communications, Marketing

http://lingrep.com, http://processing.lingrep.com

Take Away Messages

- Trading on Textual Information
 - Financial Expertise Essential
 - Sources + Experience + Impact
 - Clear Application Goals Required
 - Analytics
 - Even Small Mistakes are Expensive
 - High Risk

→ <u>No Absolute Truth, but Good Indiction</u> on what has proven well

