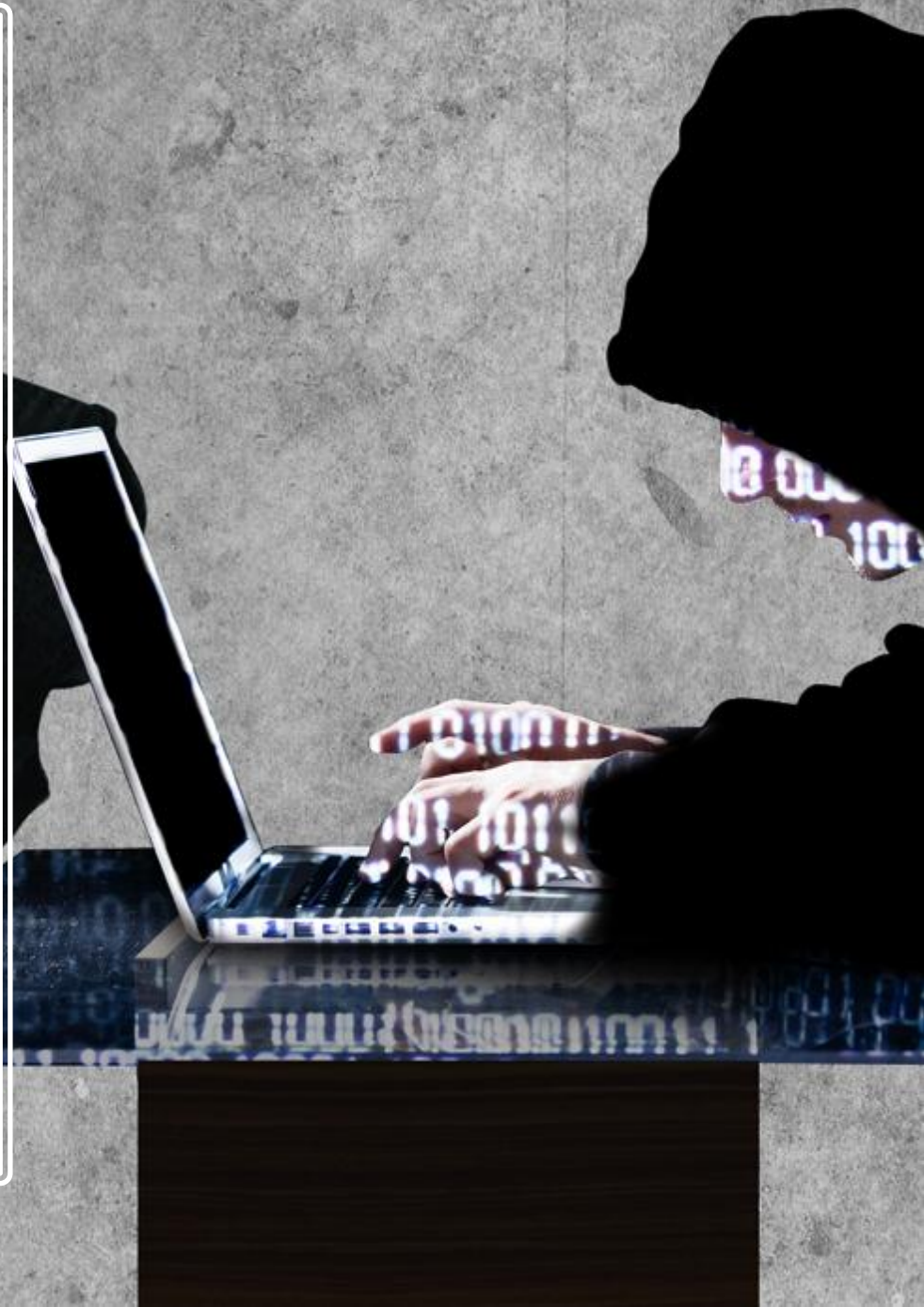
Online Radicalisation

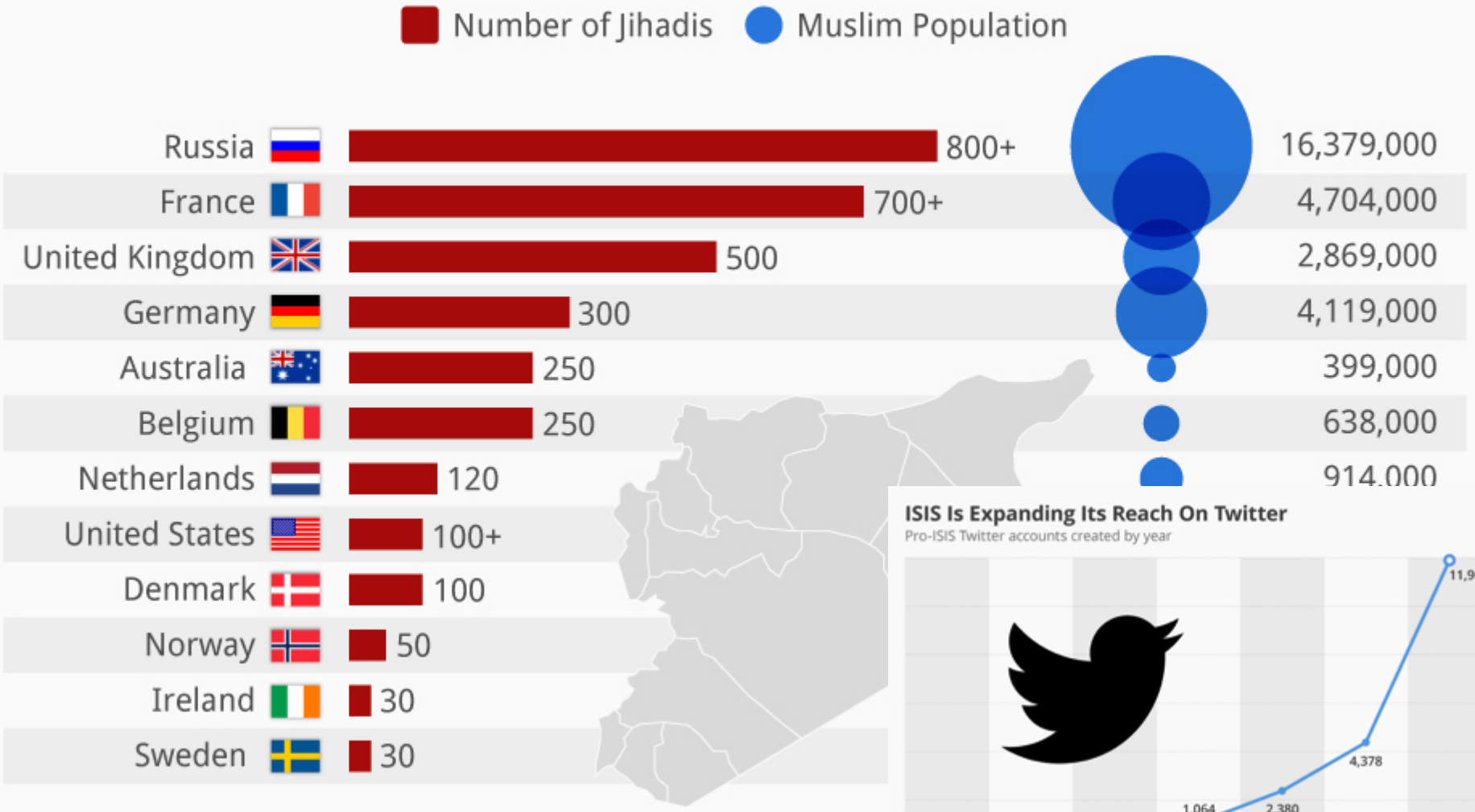
- Is the process by which individuals are introduced to ideological messages and belief systems that encourage movement from mainstream beliefs toward extreme views, primarily through the use of online media [International Assoc of Chiefs of Police and United States of America]

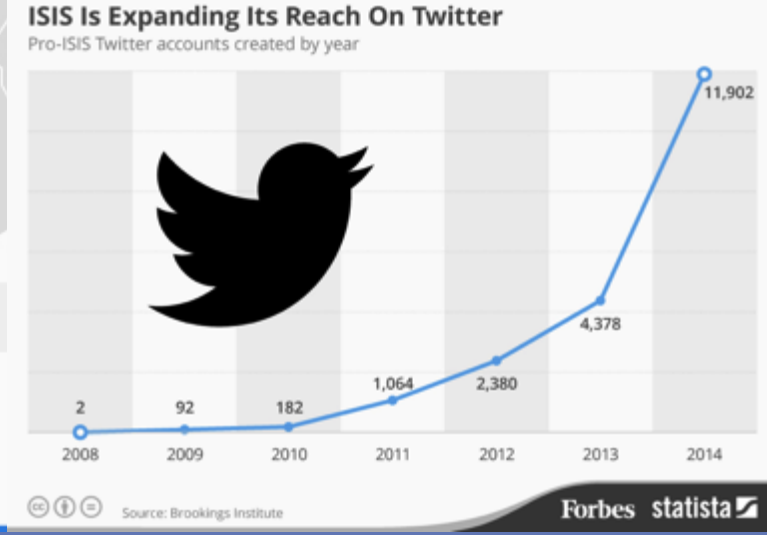


2 Social Media Propaganda & Recruiting

Where Syria's Foreign Fighters Come From

Estimated number of jihadis in Syria from selected countries in 2014*

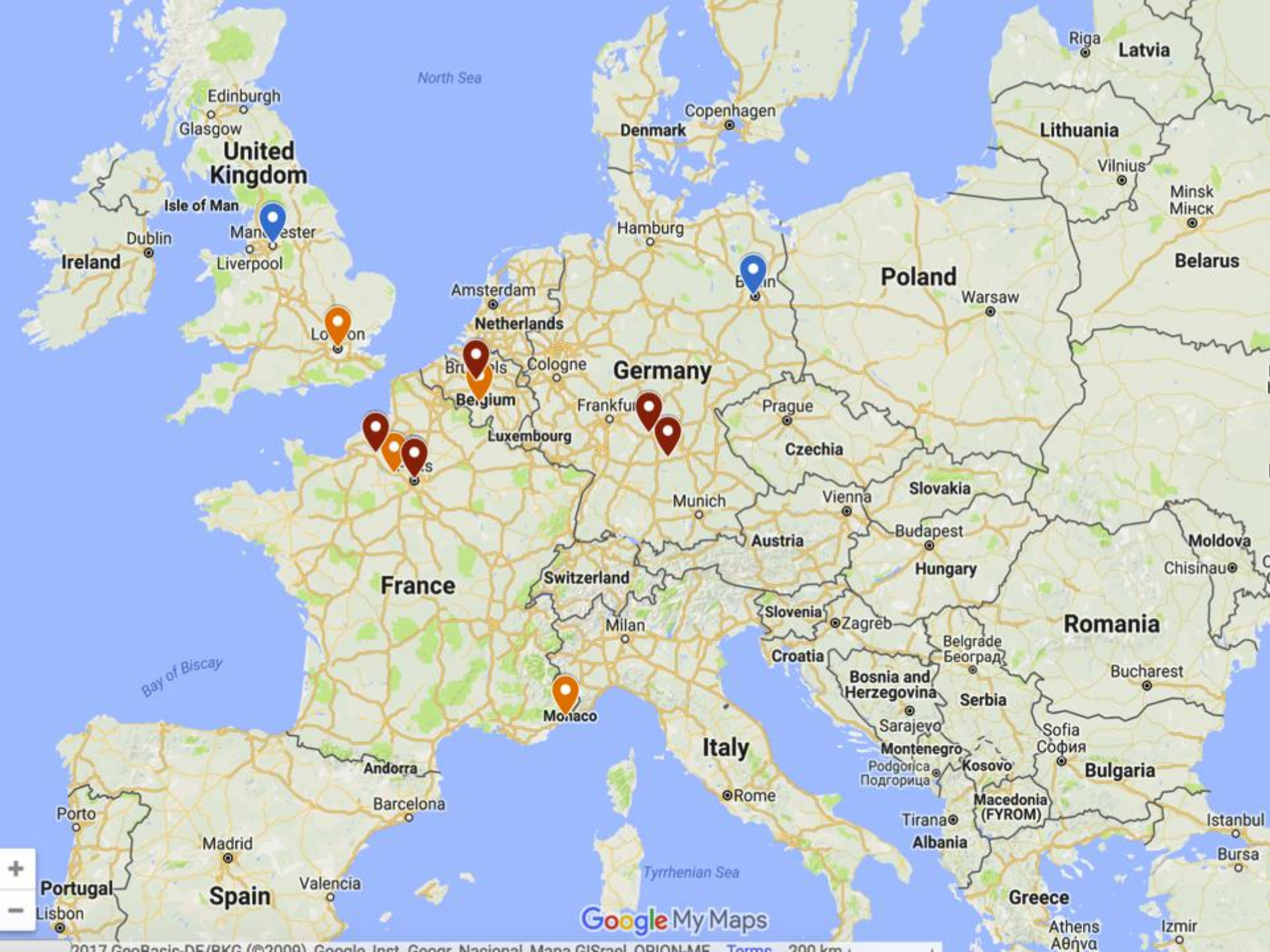




@StatistaCharts

* Excluding Islamic majority countries

Sources: CNN, National Governments, Pew Research


North Sea
Edinburgh
Glasgow
United Kingdom
Isle of Man
Dublin
Ireland
Liverpool
Amsterdam
Netherlands
Cologne
Germany
Belgium
Luxembourg
Frankfurt
Hamburg
Copenhagen
Denmark
Riga
Latvia
Lithuania
Vilnius
Minsk
Минск
Belarus
Poland
Warsaw
Prague
Czechia
Slovakia
Vienna
Budapest
Hungary
Austria
Munich
Moldova
Chisinau
Switzerland
France
Milan
Slovenia
Zagreb
Croatia
Romania
Belgrade
Београд
Bucharest
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Serbia
Sarajevo
Montenegro
Podgorica
Подгорица
Kosovo
Sofia
София
Bulgaria
Macedonia (FYROM)
Tirana
Albania
Istanbul
Bursa
Izmir
Greece
Athens
Αθήνα
Italy
Rome
Monaco
Bay of Biscay
Andorra
Barcelona
Porto
Madrid
Valencia
Portugal
Lisbon
Spain
Tyrrhenian Sea
Google My Maps

What are the mechanisms that govern the process of radicalisation, and online radicalisation in particular?

Social Science

Factors

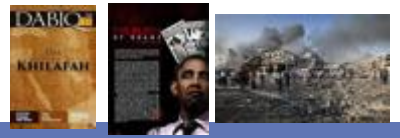
- Failed Integration
- Poverty
- Discrimination
- Others …

Stages

Pre-radicalisation → Self-identification → Indoctrination → Jihadization

Roots

- Micro, or individual roots
- Meso, or social roots
- Macro, or global roots



Computer Science

Data Collection

Analysis

- Communication flow
- Spiritual authorities
- Propaganda
- Language evolution
- Radicalisation process
- Radicalisation channels

Detection

- Content
  - Lexicon-based
  - Machine-learning
- Users
  - False Positives

BBC

Prediction

- Adopt extremist content (share)
- Interact with extremist accounts

The majority of "ground truth" datasets used to research online radicalisation lack of solid verification

Anonymous 'anti-Islamic State list' features Obama and BBC News

By Grace Dean
Newsbeat reporter

TECH | 26 Nov 2015

http://www.bbc.co.uk/newsbeat/article/34919781/anonymous-anti-islamic-state-list-features-obama-and-bbc-news

Knowledge Media Institute

The Open University

Online Radicalisation: Towards the Generation of Gold Standard Datasets

Presenting: Miriam Fernandez,
Knowledge Media Institute
Open University

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fernandezmiriam
@miriamfs

Miriam Fernandez

Moizzah Asif

Harith Alani

What are the mechanisms to collect, verify and published datasets?

Data Collection

- Use of radical terminology
- Sharing radical material
- Following known radical accounts
- Commenting on known radical channels
- Blocked accounts from data observatories

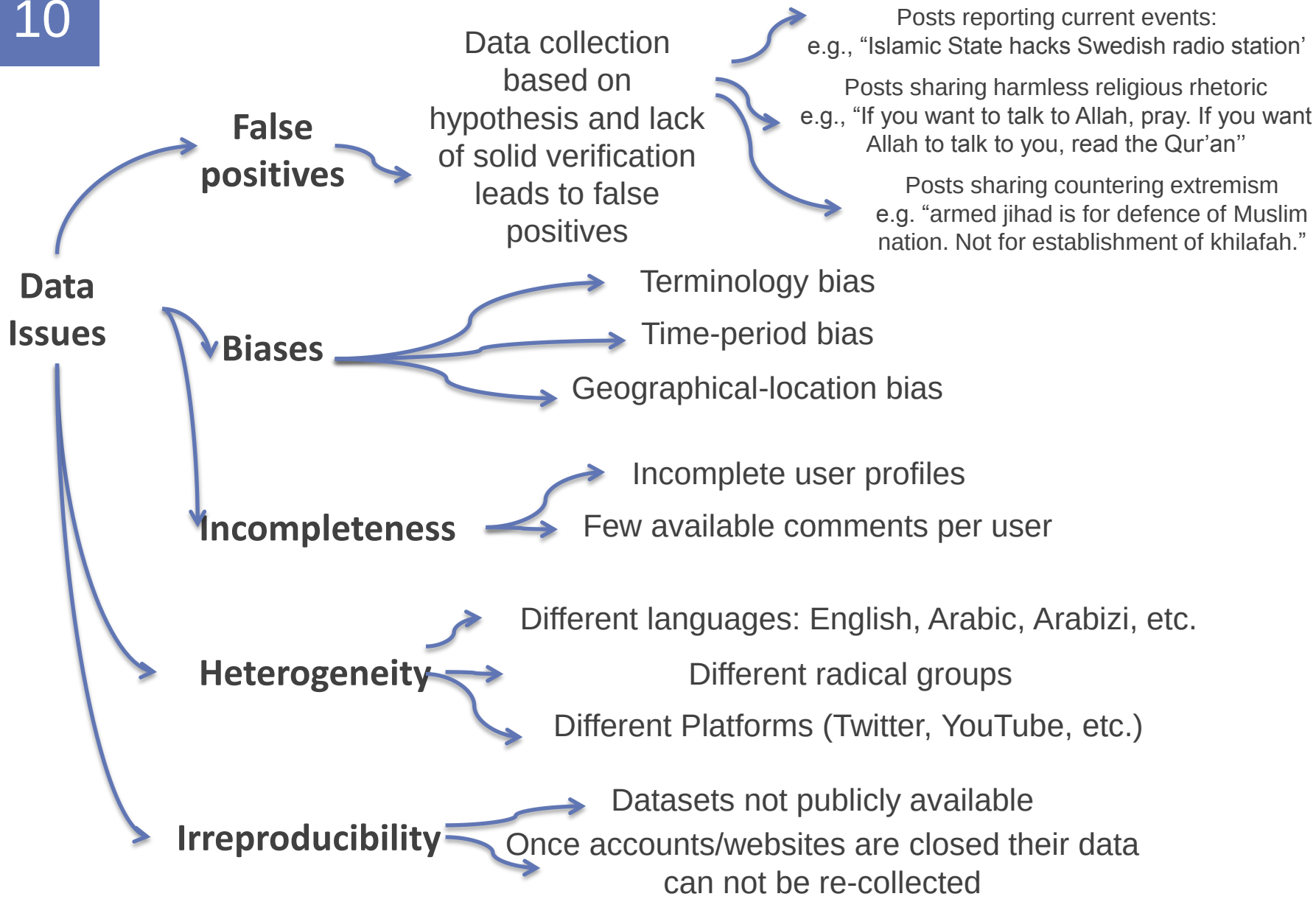
Data Verification

- Non or little verification of the Lack of religious / political / domain knowledge
- Partial verification/annotation of a reduced subset of the data

Data Publication

- Datasets are rarely made public
- Blocked accounts/data can not be re-collected

What are problems with existing datasets?



Radicalisation Analysis Works & Datasets

Work	Goal	Data	PA
Klausen [19] A	Study Influence in the jihadists' operational strategy in Syria and Iraq	59 pro-ISIS Twitter accounts (manually assessed) and their networks (29,000 accounts)	No
Carter [11] A	Examine how foreign fighters receive information and who inspires them	190 pro-ISIS Twitter and Facebook accounts (manually assessed)	No
Chatfield [12] A	Investigate how ISIS members/ supporters used Twitter to radicalise and recruit other users	3,039 tweets from one account of a known ISIS "information disseminator" (Twitter)	No
Rowe [28] A	Study Europe-based Twitter users before, during, and after they exhibited pro-ISIS behaviour to better understand the radicalisation process	727 pro-ISIS Twitter accounts. Categorised as pro-ISIS base on the use of radicalised terminology and sharing from radicalised accounts	No
Bermingham [7] A	Explore the use of sentiment and network analysis to determine whether a YouTube group was used as radicalisation channel	135,000 comments and 13,700 user profiles. YouTube group manually assessed	No

PA = Publicly Available

Radicalisation Detection Works & Datasets

Work	Goal	Data	PA
Berger [5] D	Identify individuals prone to extremism from the followers of extremist accounts	3,542 Twitter accounts (followers of 12 known pro-ISIS accounts)	No
Saif [29] D	Create classifiers able to automatically identify pro-ISIS users in social media.	1,132 Twitter users (566 pro-ISIS, 556 anti-ISIS). Annotation based on the terminology used and the sharing from known radicalised accounts	No
Berger [6] D	Create a demographic snapshot of ISIS supporters on Twitter and outline a methodology for detecting pro-ISIS accounts	20,000 pro-ISIS Twitter accounts (7574 manually annotated to test classification)	No
Agarwal [2] D	Automatic identification of hate and extremism promoting tweets	10,486 hate and terrorism-related Twitter posts extracted based on hashtags) + 1M random tweets annotated by students for validation	No
Ashcroft [3] D	Automatically detect messages released by jihadist groups on Twitter	2,000 pro-ISIS Twitter posts (containing pro-ISIS terminology and extracted from the accounts 6,729 ISIS sympathisers), 2,000 anti-ISIS tweets(extracted from manually assessed anti-ISIS accounts), 2000 random tweets. Numbers of pro and anti-ISIS tweets are not reported but estimated based on the experiments	No
Lara-Cabrera [22] D	Translate a set of indicators found in social science models into a set of computational features	17K Twitter posts from pro-ISIS users provided by Kaggle. 76K tweets from pro-ISIS users provided by Anonymous. 173K tweets randomly selected	Yes

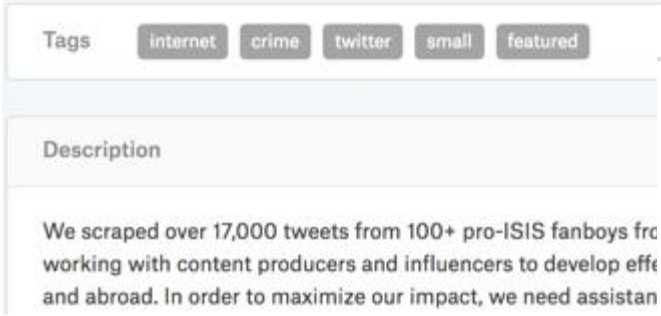
Radicalisation Prediction. Works & Datasets

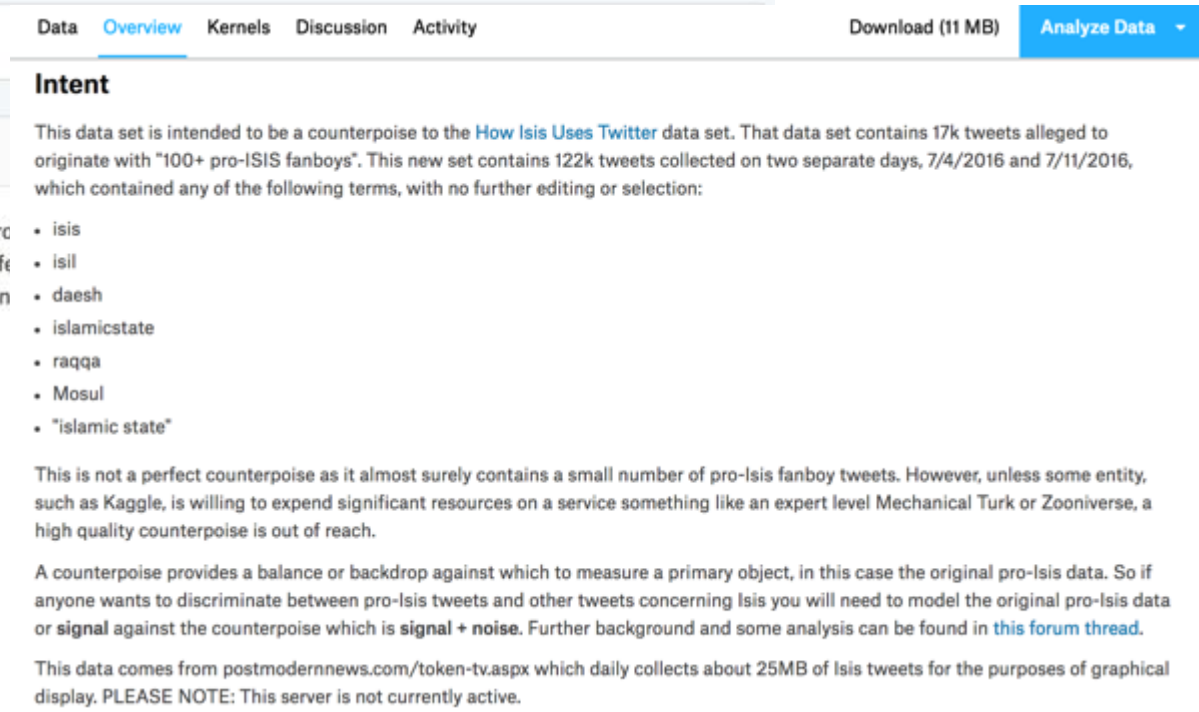
Work	Goal	Data	PA
Ferrara [16] P	Propose a computational framework for detection and prediction of extremism in social media	Over 3M Twitter posts generated by over 25 thousand extremist accounts (manually identified, reported, and suspended by Twitter [15]). 29M posts from the followers of these accounts	**No longer available**

References available at: Fernandez, Miriam, Moizzah Asif, and Harith Alani. "Understanding the Roots of Radicalisation on Twitter." (10th ACM Conference on Web Science, Amsterdam, 27-30 May 2018) http://oro.open.ac.uk/54344/1/wbsc052-fernandezA-hm.pdf

The Kaggle Datasets

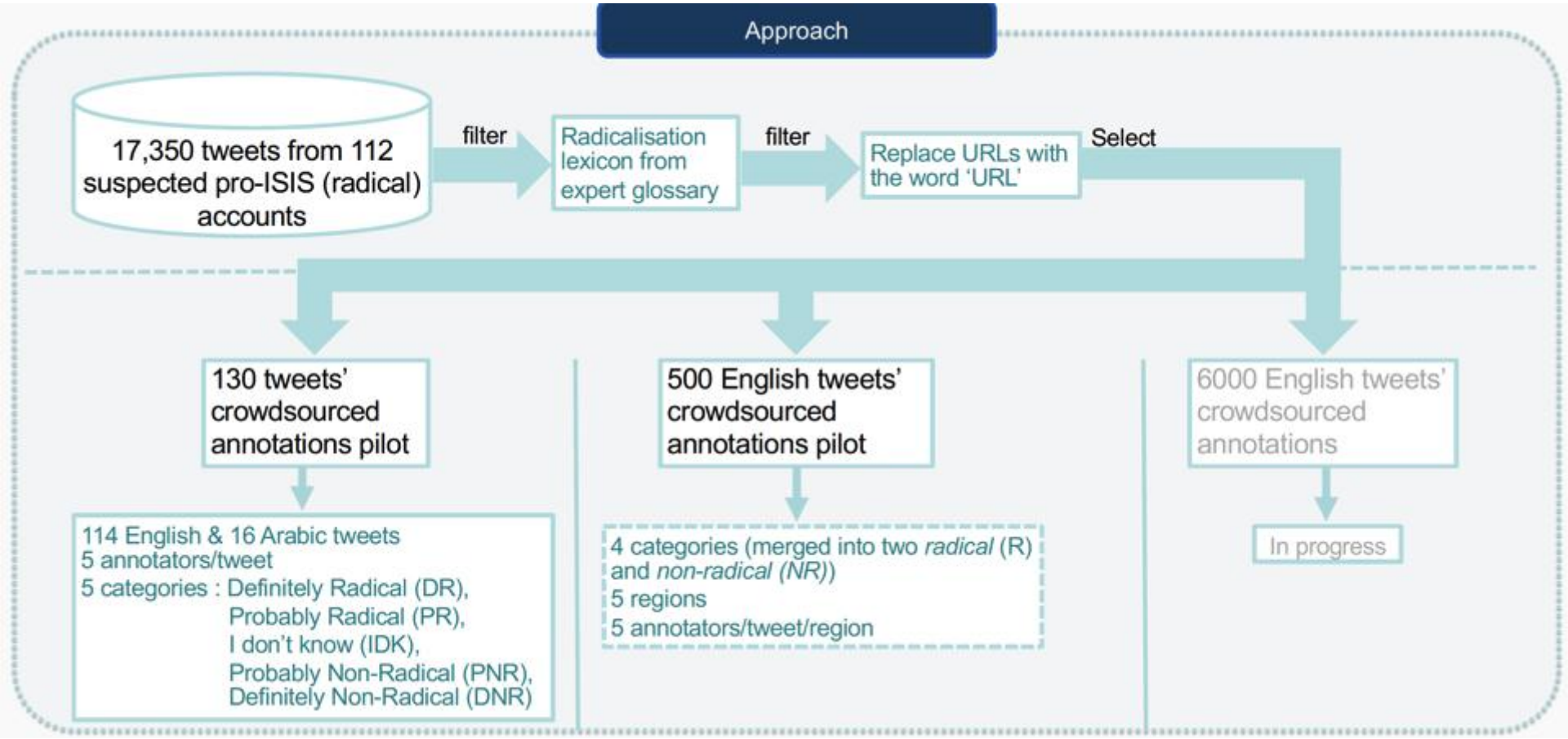
https://www.kaggle.com/fifthtribe/how-isis-uses-twitter/home



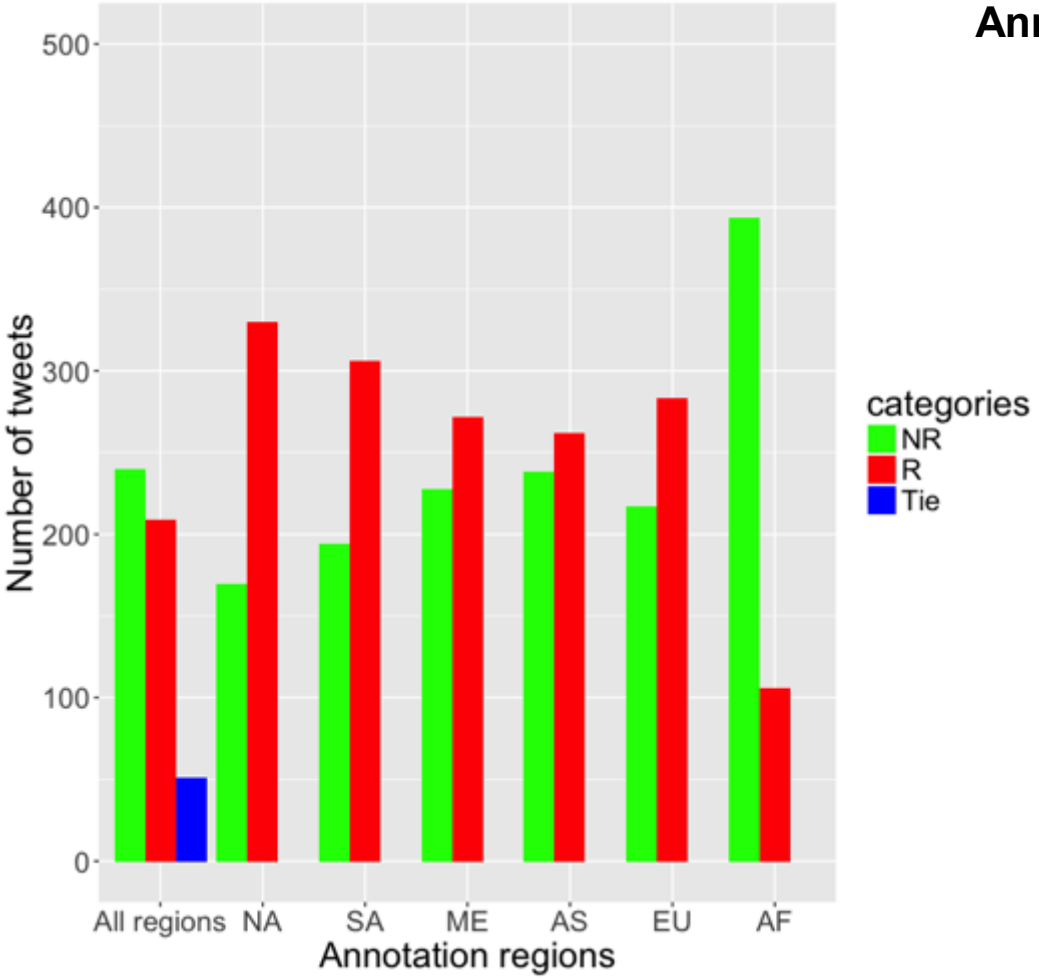


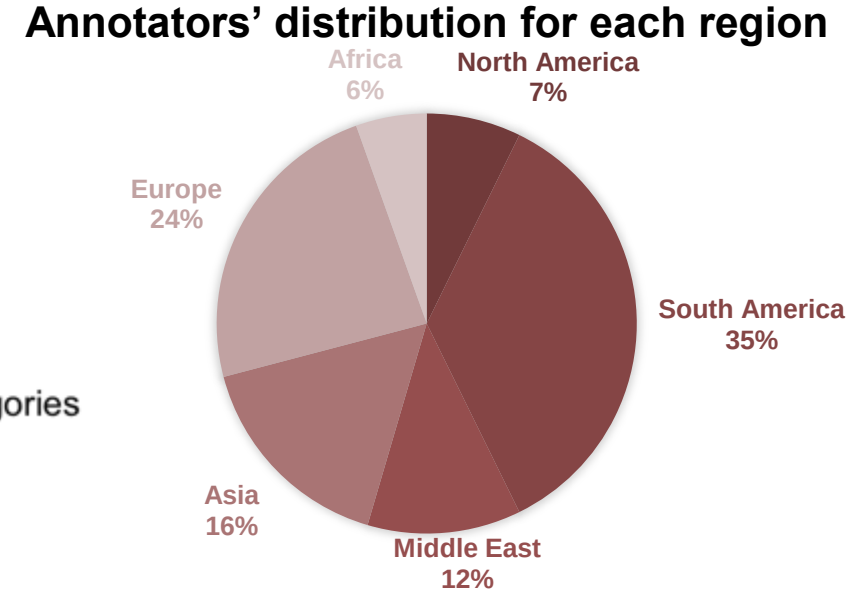
https://www.kaggle.com/activegalaxy/isis-related-tweets/home

Crowdsourcing Tweets to create Gold Standard Datasets for Online-Radicalisation Studies



Initial Results





Annotators from different regions of the world have different perceptions of radicalisation

Conclusions & Future Work

- The majority of ground truth datasets used to study online radicalisation lack of solid verification
- We continue to observe false positives, incompleteness and biases in those datasets
- Many of existing datasets are not currently available and recollecting data is no longer possible
- Obtaining and annotating data to create reliable gold standard datasets (as well as sharing them for reproducibility purposes) are key future steps for research on online radicalisation.

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TRIVALENT

Terrorism pReventIon Via rAdicaLisation countEr-NarraTive

TRIVALENT is an EU funded project which aims to a better understanding of root causes of the phenomenon of violent radicalisation in Europe in order to develop appropriate countermeasures, ranging from early detection methodologies to techniques of counter-narrative.

READ MORE

News

CPD Week day 5 - Our partnerships

Our final contribution to CPD Week focuses on some of the work we have done in collaboration with our partners from the College of Policing and police forces that are members of the Centre.

CPD Week day 4 - Most viewed courses and videos

For our CPD week theme today we are going to focus on the courses that you have already found the most

Future events

Membership Group Meeting

December 5th, 2017

Society of Evidence Based Policing Conference 2018

March 1st, 2018 to March 2nd, 2018

Digital Health and Wellbeing Conference

April 30th, 2018 to May 3rd, 2018

Tweets

OU-Police-Consortium *2 days 4 hours ago*
@OU_police_res
Many congrats Arosha @arosha !
https://t.co/09ldCB66g5

OU-Police-Consortium *2 days 4 hours ago*
@OU_police_res
Inaugural Lecture in Milton Keynes and online 28 Nov 2017, 6-7pm by Professor