PUBLICLY AVAILABLE INFORMATION (PAI) & METHODS FOR ARMS CONTROL: TEN YEARS & BEYOND

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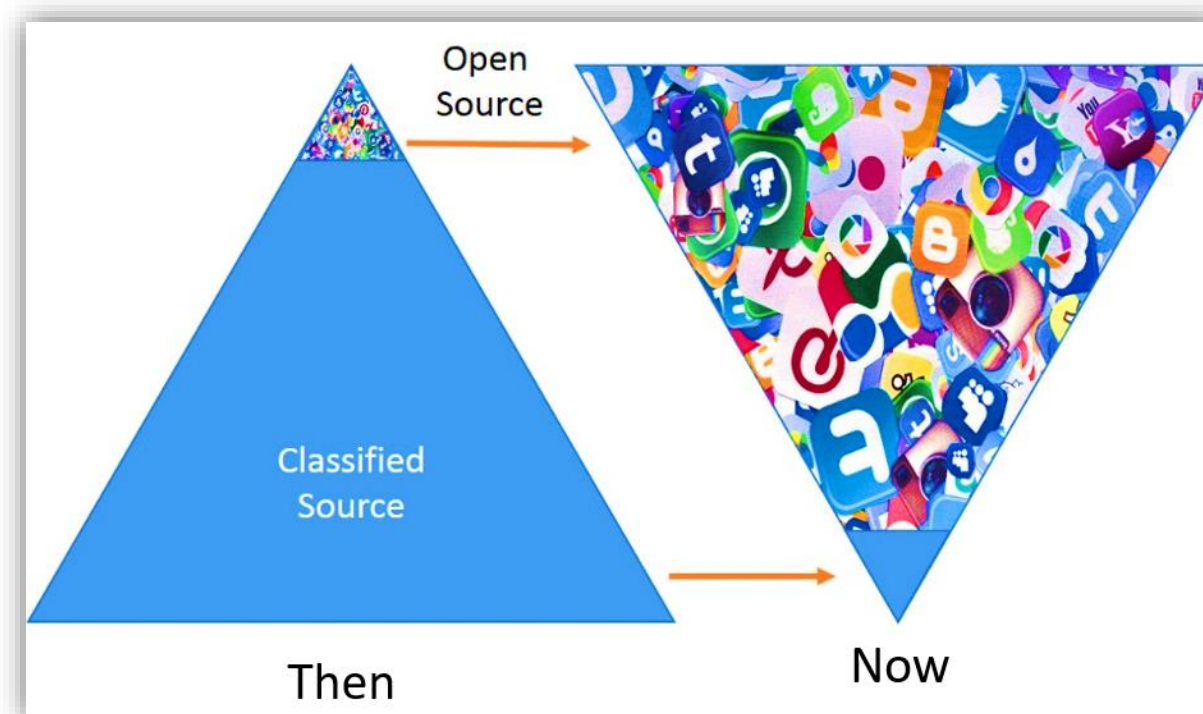
PLANETRISK

PAI

RETHINKING PUBLICLY AVAILABLE INFORMATION (PAI)

▪ MANY THINK PAI IS ONLY VALUABLE TO SUPPORT TIPPING AND QUEUING OF CLASSIFIED INTS THAT CAN BE TASKED

▪ **PAI IS NOT AN INT BUT A DOMAIN THAT CONTAINS ALL INTS** (E.G., GEOINT, HUMINT, SIGINT, FININT, SOCMINT)

▪ THIS DEFINITION OF PAI REQUIRES RETHINKING WHAT WE PAY TO KEEP SECRET, FOR HOW LONG, AND WHAT WE NOVELLY EXPLOIT IN THE OPEN
  ▪ REDUCE INSIDER THREAT CHALLENGES/CONTINUOUS MONITORING
  ▪ BREAK DOWN BARRIERS TO COMMERCIAL INNOVATION INSIDE GOVERNMENT
  ▪ RETHINK SKILL SETS WE SEEK IN GOVERNMENT

PAI

DATA, DEEP LEARNING, ARTIFICIAL INTELLIGENCE, AND THE INTERNET OF THINGS

1 ZB= 1,024 exabytes
(2^{70} bytes)

COLLECT

WHERE EMPHASIS HAS BEEN

ACT

PROCESS

2025 = 180 ZETTABYTES
VS
2015 = 10 ZETTABYTES
(PRESS 2017)

DECIDE

ANALYZE

WHERE WE NEED TO FOCUS

PLANETRISK

PAI
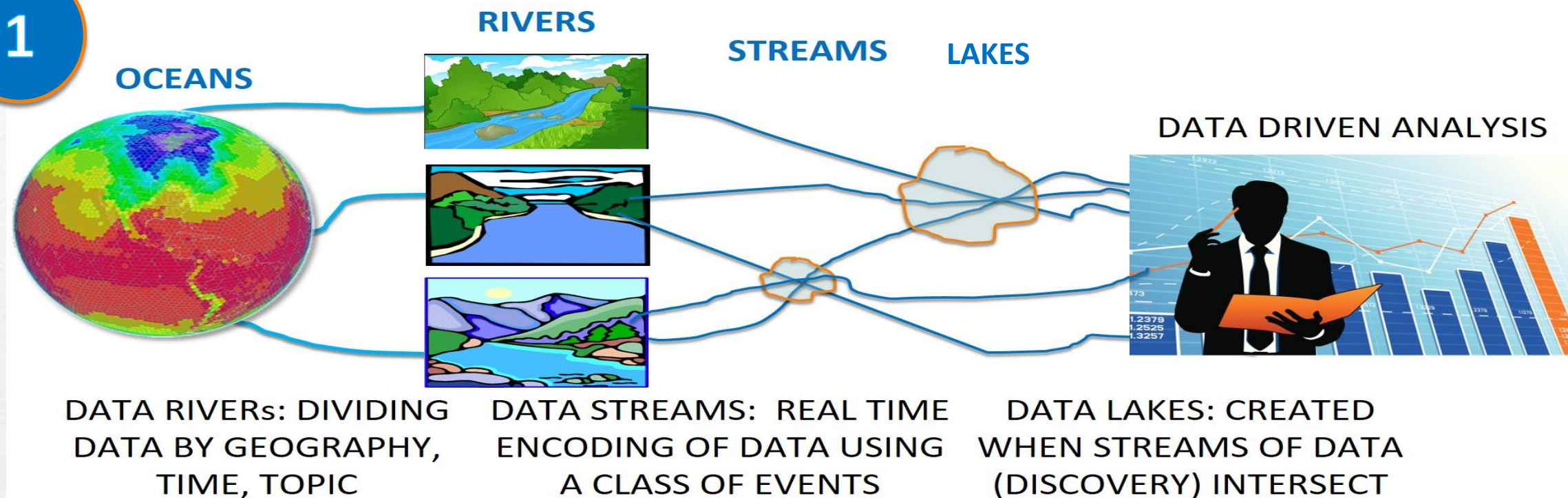
PAI GROWS MORE CRITICAL DAILY FOR ARMS CONTROL & NONPROLIFERATION
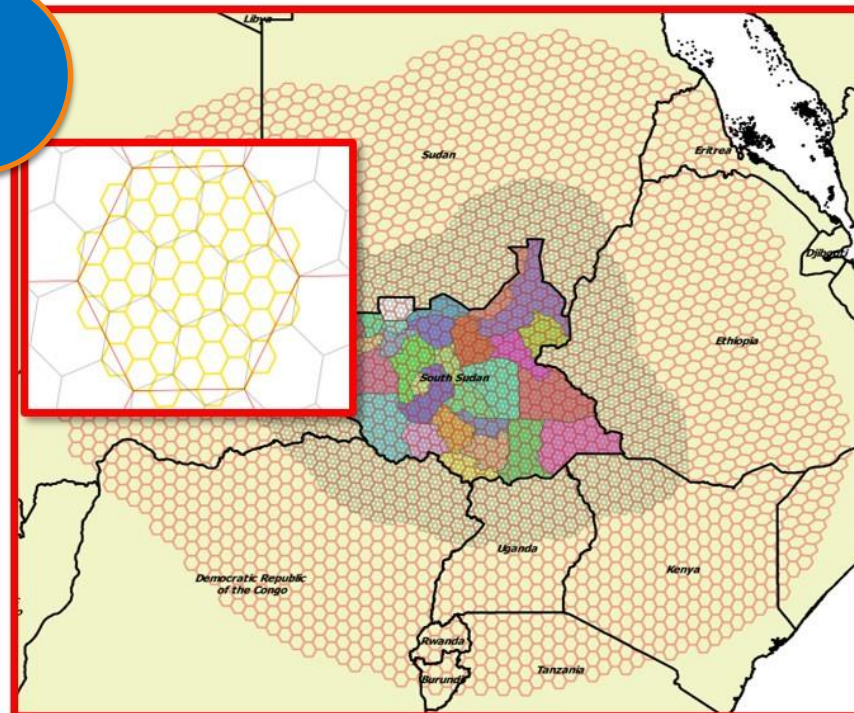
- **VALUE, VOLUME, VARIETY, VELOCITY, VERACITY**
    - **VARIETY** IS WHAT MAKES PAI SO VALUABLE
    - **VERACITY** REMAINS A CHALLENGE BUT NOT INSURMOUNTABLE
    - ASTROTURFING, TROLL ARMIES, BOTS, AND GOVERNMENT CONTROLLED ACCESS REQUIRE DEEP DATA SCIENCE EXPERIENCE BUT PROVIDE VALUABLE INFORMATION

- FOUR PRIMARY CLASSES OF PAI
    - **FREE RAW**: 1% TWITTER, OPENSTREETMAP, YOUTUBE, WORLDCAM, INSTAGRAM, REDDIT, WIKIPEDIA, AIS SHIPTRACKS, EVERYPOLITICIAN, EBAY
    - **FREE PROCESSED**: NEWS, OILPRICE.COM, WHOIS, THINK TANK PAPERS, WORLD BANK DATA, RAIL-LOCATOR, SEA RATES, CDC.GOV, OPEN GOVT DATA, OFAC
    - **CHARGE RAW**: TWITTER FEED, VK FEED, WEIBO, RENREN, DIGITAL GLOBE ENHANCED VIEW, FACEBOOK, RF MAPPING, TELEMETRY DATA
    - **CHARGE PROCESSED**: TWITTER (DECAHOSE+), INTERFAX, JANES, BLOOMBERG, WEB OF SCIENCE, INTELIUS, INSTANTCHECKMATE

- **"YOU'RE NOT THE CUSTOMER, YOU'RE THE PRODUCT"**
    - GOODMAN, FUTURE CRIMES (2016)

PLANETRISK

PAI

EXAMPLE APPROACHES FOR ANALYSIS AND DECISION MAKING

1

OCEANS **RIVERS** **STREAMS** **LAKES**

DATA DRIVEN ANALYSIS

DATA RIVERs: DIVIDING DATA BY GEOGRAPHY, TIME, TOPIC

DATA STREAMS: REAL TIME ENCODING OF DATA USING A CLASS OF EVENTS

DATA LAKES: CREATED WHEN STREAMS OF DATA (DISCOVERY) INTERSECT

2

GRANULAR GEOSPATIAL SCALING (1 KM X 1KM) ALLOWS :

(A) AGGREGATION OF RISK UP AND OUT BY THE EQUIVALENT OF NEIGHBORHOOD, CITY, STATE, COUNTRY, REGION WHILE NOT AGGREGATING OUT CRITICAL RISK

(B) PROPERTIES OF SELF-SIMILARITY WHERE CRISIS-PRONE CONDITIONS MODELED IN ONE GRID CAN BE QUICKLY EXTRAPOLATED TO ADJACENT OR DISTANT GRID UNITS, LEADING TO PREDICTION OF CRISES

PAI

SOME WAYS PAI CAN HELP ARMS CONTROL & NONPROLIFERATION
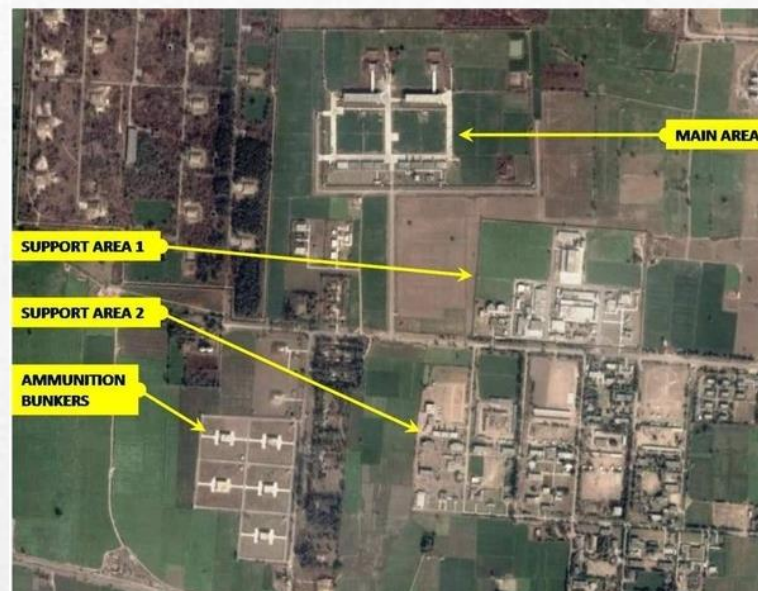
**PROLIFERATION PATTERNS ACROSS COUNTRIES VIA FACILITY SIMILARITY**
(COMMERCIAL IMAGERY)
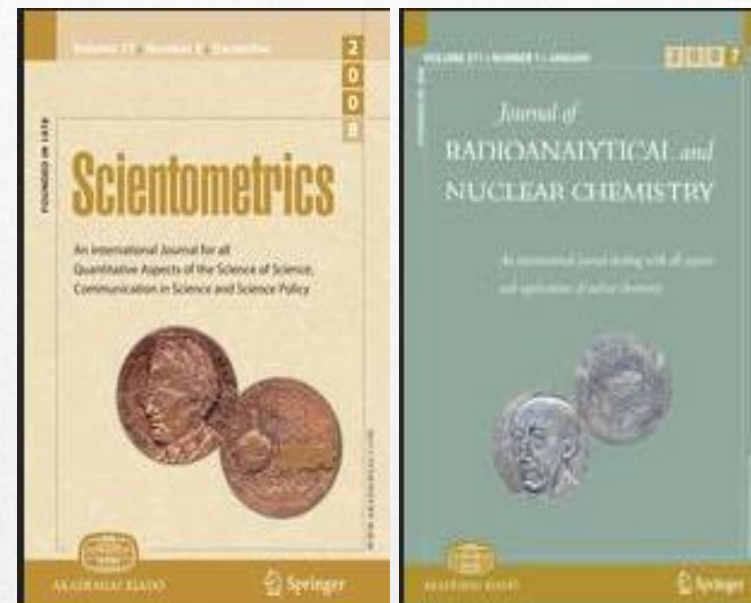
SCIENTOMETRIC & BIBLIOMETRIC ANALYSES AUTHOR/TOPIC/INSTITUTION LINKS
(WEB OF SCIENCE, ACADEMIA)

COVERT FINANCING OF & PROCUREMENT FOR NUCLEAR PROGRAMS
(NGOs, BLOOMBERG, FT.COM)

LABORATORY INSIDER THREAT RISKS AND NEXES WITH TERRORISM
(SOCMINT, TRAVEL RECORDS, FINANCES, PHOTO SHARING)
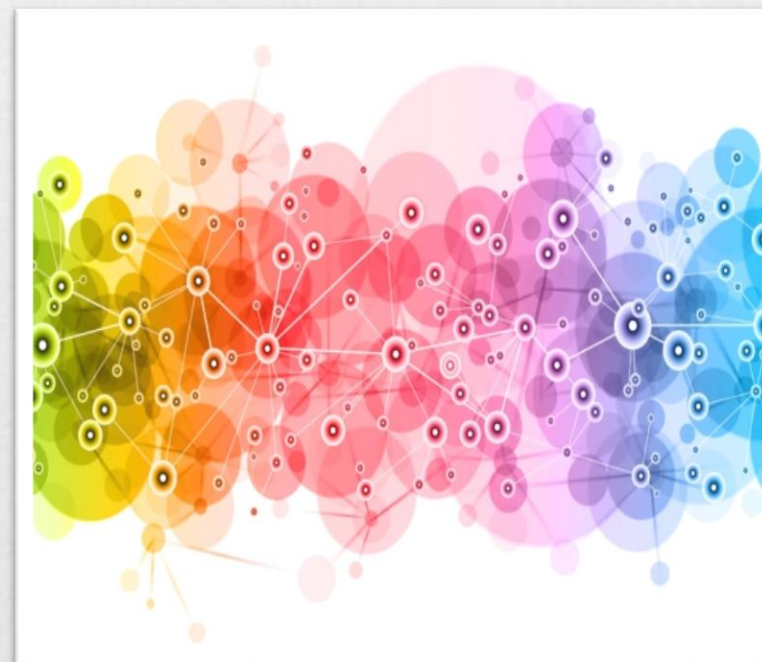
ENIGMA SITE PURPOSES AND ROLE IN PROGRAMS
(DEMOGRAPHY, SKILL SETS, WEALTH, POPULATION FOR INFRASTRUCTURE)

VALIDATION AND VERIFICATION OF TREATY COMPLIANCE
(ALL OF THE ABOVE + COMMERCIAL MASINT, TELEMETRY)