MAC-MIGS INDUSTRIAL SANDPIT

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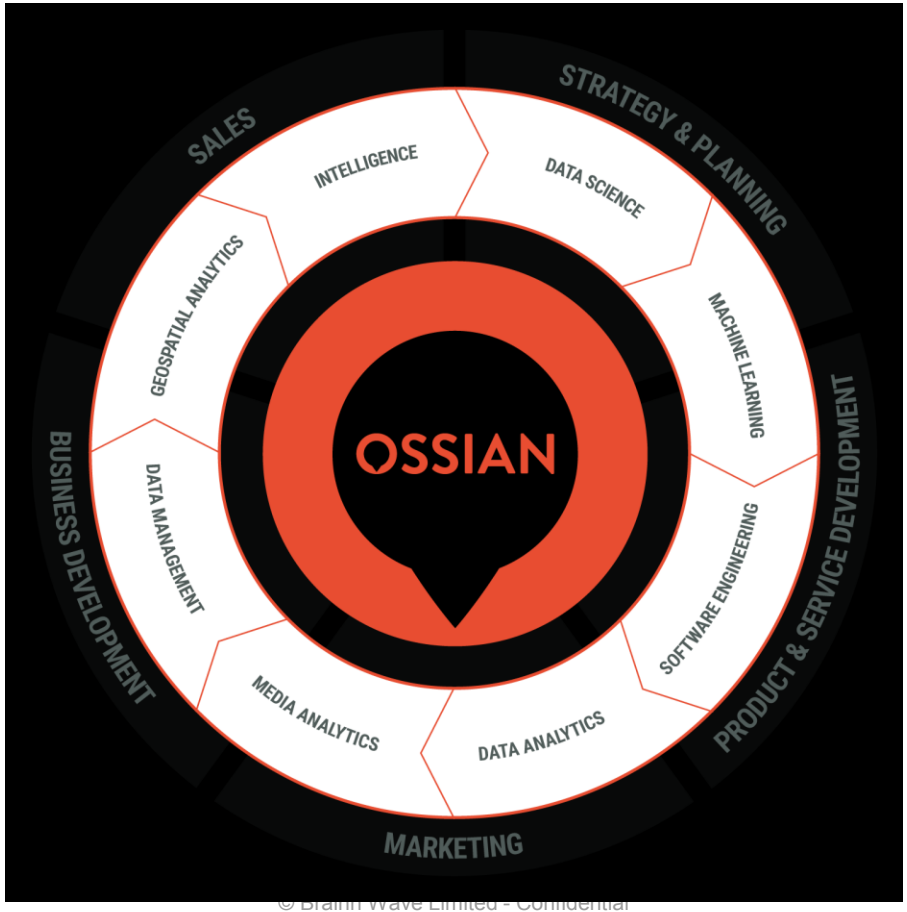
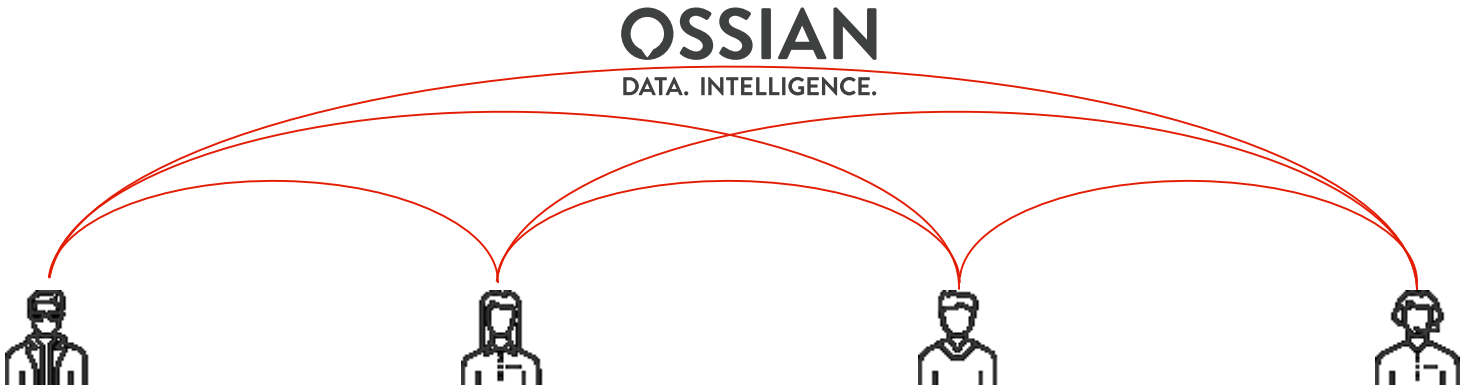
Introduction to Brainnwave



The change: break down silos and get your people working more effectively together using technology to do the heavy lifting



Strategic planning

Clear strategies that turn into operational excellence

Senior execs & the board

Single view of entire organisation

Business development

Surface new sales opportunities

Marketing

Engaging and rich data driven campaigns

Two recent projects

Community Housing

- Improve visit success
- Predict rent arrears

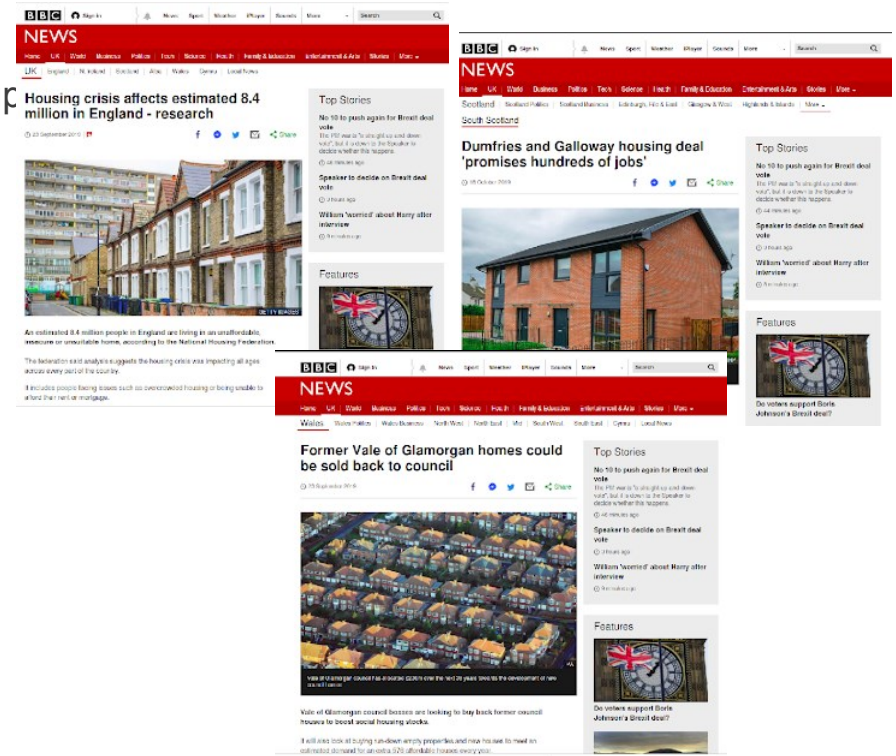
Gas Flaring

- Analyse satellite data
- Visualise gas flaring volumes


OSSIAN
DATA. INTELLIGENCE.
BY
brainwave
Wheatley Group
Can advanced data analytics improve business outcomes and help us to see the right people, at the right time and have the right conversation?

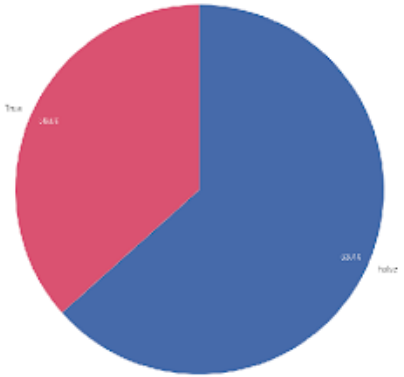
Two recent projects

- Working with a Scottish community housing group
- They maintain social rented homes,
- Dedicated to improving their service to their customers,
- Lots of data on accounts and services.



COMMUNITY HOUSING – IMPROVING VISIT SUCCESS

- 36.6% of community support officer visits are unsuccessful.
- Equates to 25K man hours in just one year!
- Tenants don’t receive the best service possible.
- Can we predict if a visit will succeed?



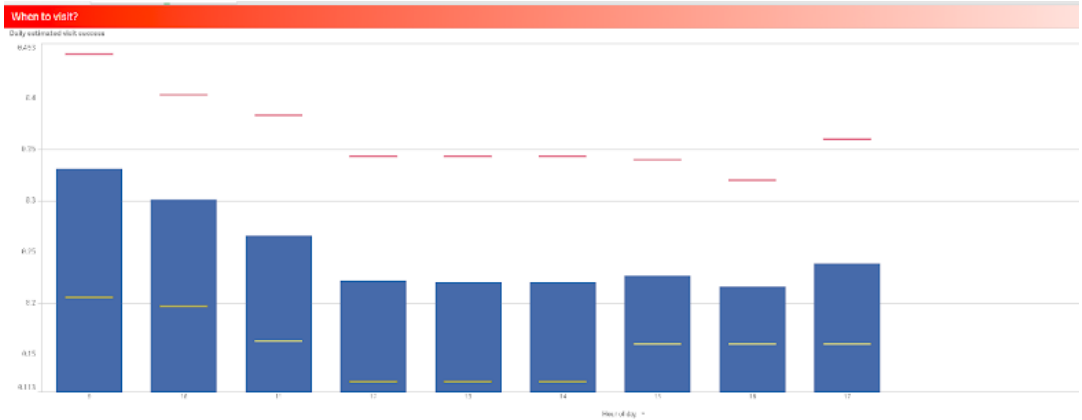
COMMUNITY HOUSING – IMPROVING VISIT SUCCESS

- Implement a random forest classifier.
  - Data is categorical and continuous,
  - Very interpretable results.
- Ask the question: will the visit be a success?
- 82% accuracy.
- Important features: patch, tenant age, postcode.
- Unimportant features: if the visit is scheduled, ethnicity, gender.

COMMUNITY HOUSING – IMPROVING VISIT SUCCESS

Benefits of analysis?

- Understanding their data
- Visit scheduling tool
- Improve customer service
- Improve employee efficiency



Gas Flaring

- Every year, 150 billion cubic metres of gas is burned during oil refinery processes
- Equivalent to the gas usage of central and south America
- Such a waste!
- World Bank: eradicate flaring by 2030
- Very hard to regulate

Gas Flaring

Aim: Construct a real time algorithm that:

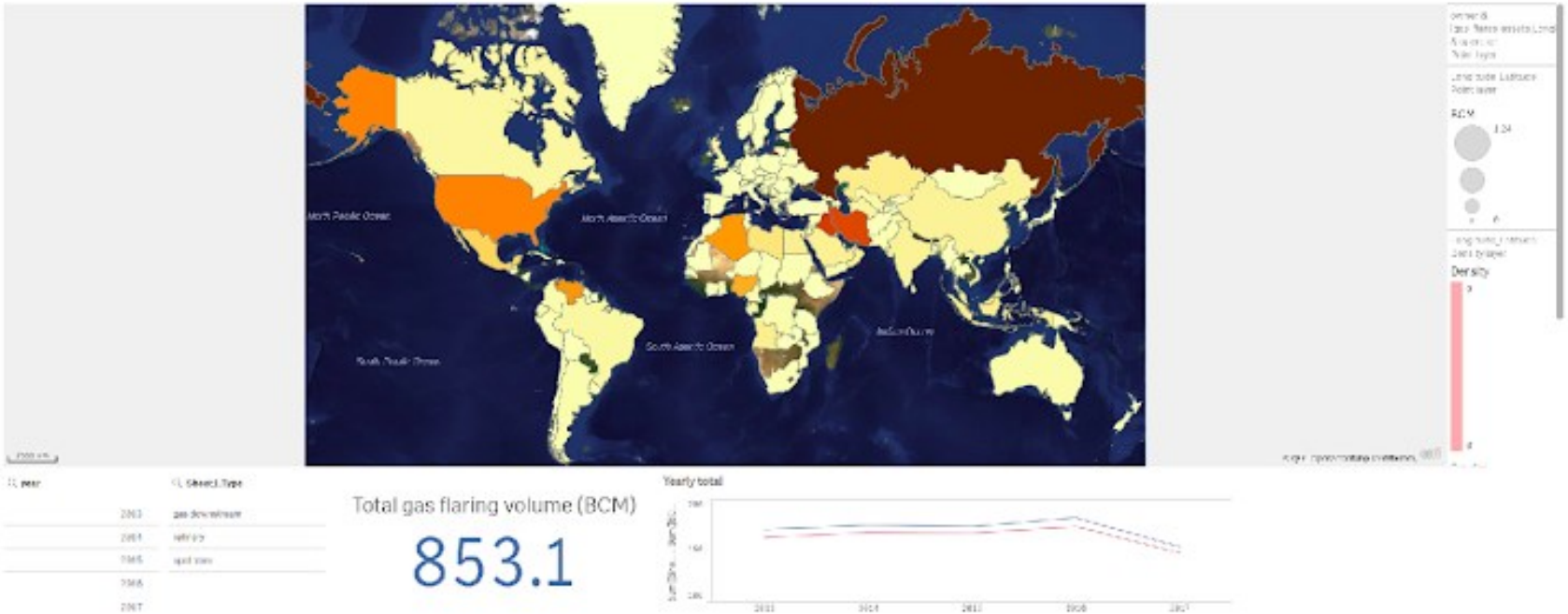
- Calculates the volume of gas burned by each flaring site,
- Assigns flaring volumes to asset owners and operators.

Resources:

VIIRS Nightfire

COLORADO SCHOOL OF MINES

Gas Flaring: Results



Gas Flaring: Open Problems

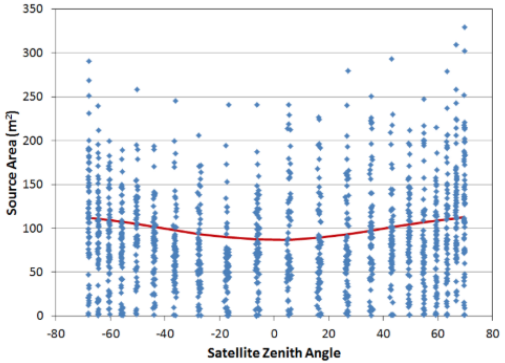
Identifying gas flaring sites

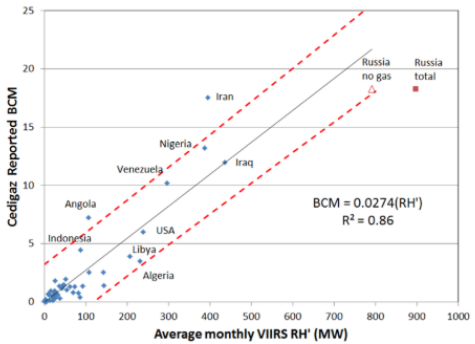
- Can we use supervised learning algorithms to identify gas flaring sites?

Gas Flaring: Open Problems

Predicting gas flaring volumes

- Can we make real time predictions?





Elvidge et. al., *Energies,* **2016**, 9(1), 14.

Gas Flaring: Open Problems

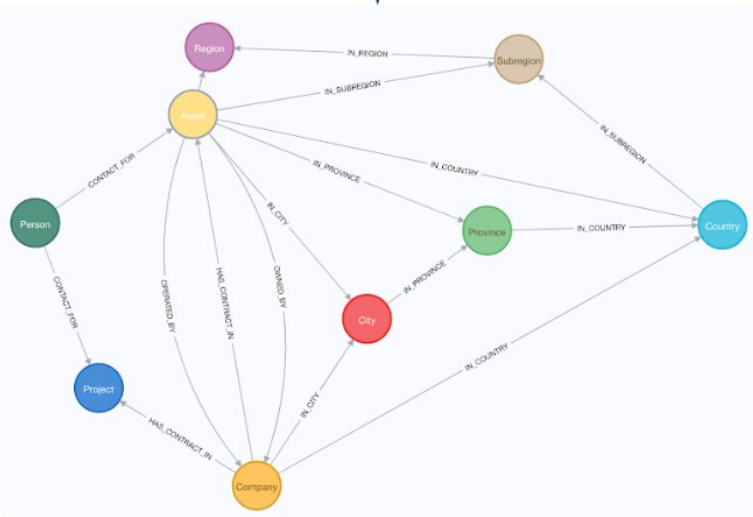
Assigning flare volumes to assets

- Can we tie owners to flaring?

GraphDB: Open Problems

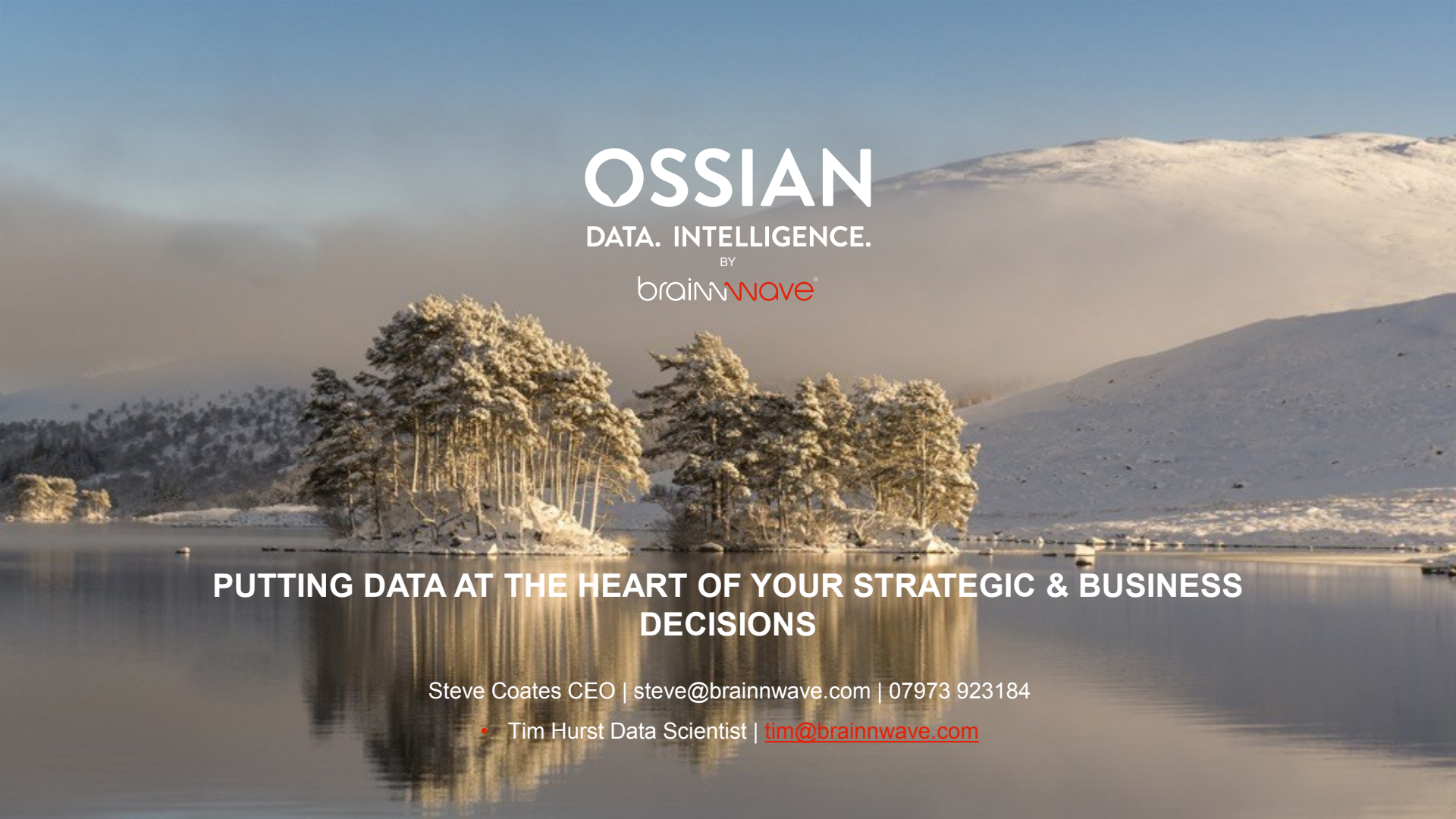
Mining data:

- Can we apply modern network algorithms to gain insight from the mining network?



SUMMARY OF PROJECTS

- Predicting gas flaring volumes and assigning them to locations
- Applying state of the art network algorithms to the mining industry
- We’re also open to any other project suggestions!



PUTTING DATA AT THE HEART OF YOUR STRATEGIC & BUSINESS DECISIONS

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