



LOCATION  
SCIENCES

LOCATION SCIENCES GROUP PLC

8 November 2018

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AGENDA  
● ● ●



Mark Slade  
CEO



David Rae  
CFO

- Introduction  
...
- 2018 Review  
...
- Platform Business Model  
...
- Ad-Fraud – A Global Problem  
...
- Verify – The Solution  
...
- Summary  
...
- Q&A

# INTRODUCTION



“HIGH GROWTH SCALABLE PLATFORM BUSINESS IN A GLOBAL MARKET PLACE”

UK market leader in high growth location data and insights market

Highly scalable platform / SAAS business model

Verify answers the global location ad-fraud problem

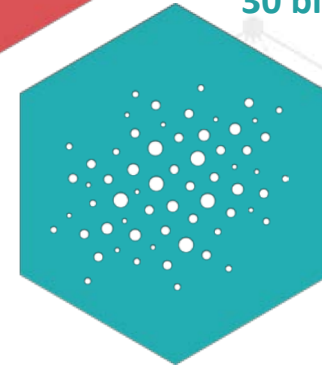
# LOCATION SCIENCES



- First mover in emerging location verification global market
- Management team have proven ad-tech growth & exit track records
- Successful turnaround of old Proxama business implemented
- Five core platform products already designed, developed and launched
- Verify product – answers global location ad-fraud problem



**£702k** sales forecast for 2018  
(Stockdale Securities research)



**30 billion** data points

## LOCATION SCIENCES

# LEADERSHIP TEAM



**Mark Slade - CEO**

Mark's expertise is in executing in the high growth ad tech sector.

Prior to joining Location Sciences, Mark founded and sold his mobile advertising business, 4th Screen, to Opera, and then helped grow the business to over \$100m in revenues.



**David Rae - CFO**

David is a fast growth company specialist with significant technology experience.

Prior to joining Location Sciences, he was CFO of STC Energy Management, a leading energy software technology provider, where he led the sale of the company to Inspired Energy PLC.



**Paul Hayton - CTO**

Paul obtained a PhD in engineering from Oxford forming part of the Neural Network Research Group.

Prior to joining Location Sciences he co-founded AdX, the first to market mobile company specialising in in-store attribution, subsequently acquired by Criteo where he used his experience in solving big data analytics problems.



**Steve Hanson - CRO**

Steve is a leading senior sales executive with vast advertising and digital marketing experience.

Prior to joining Location Sciences, he built and led global sales teams at Opera Mediaworks, Unruly and Vibrant Media.

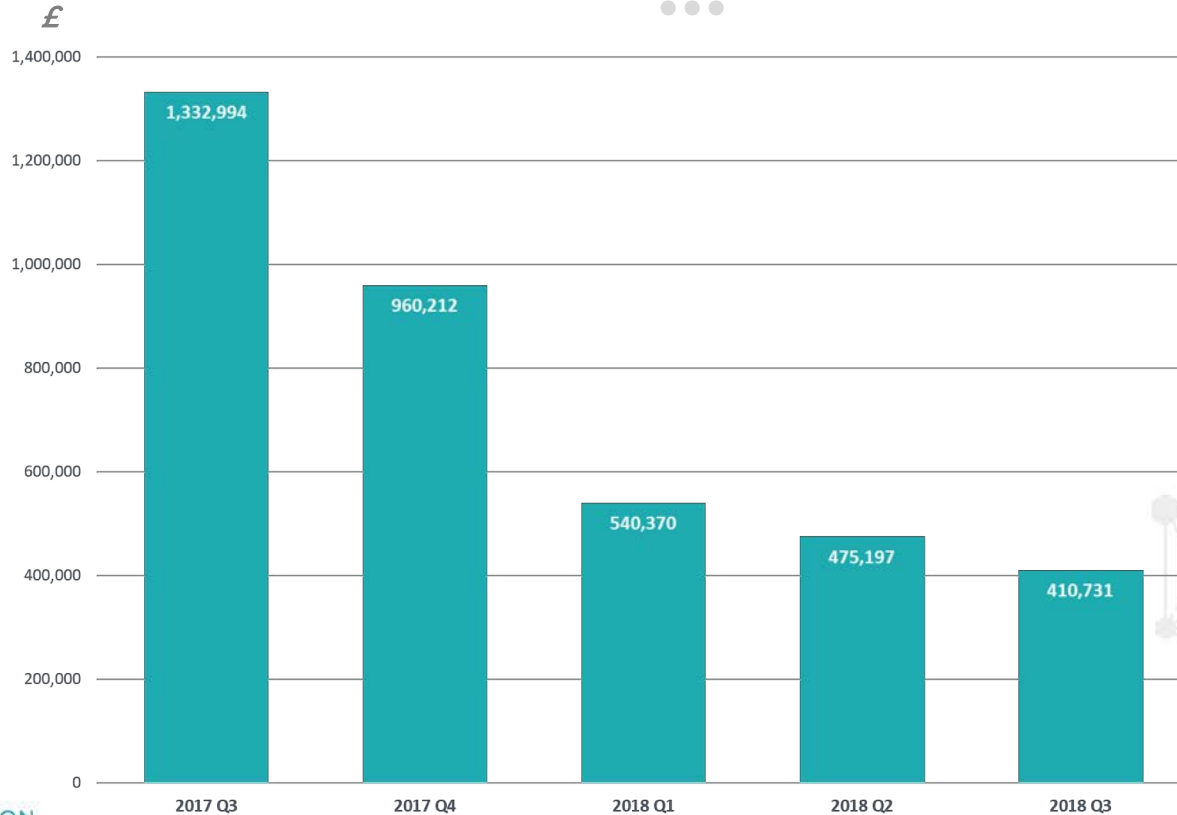




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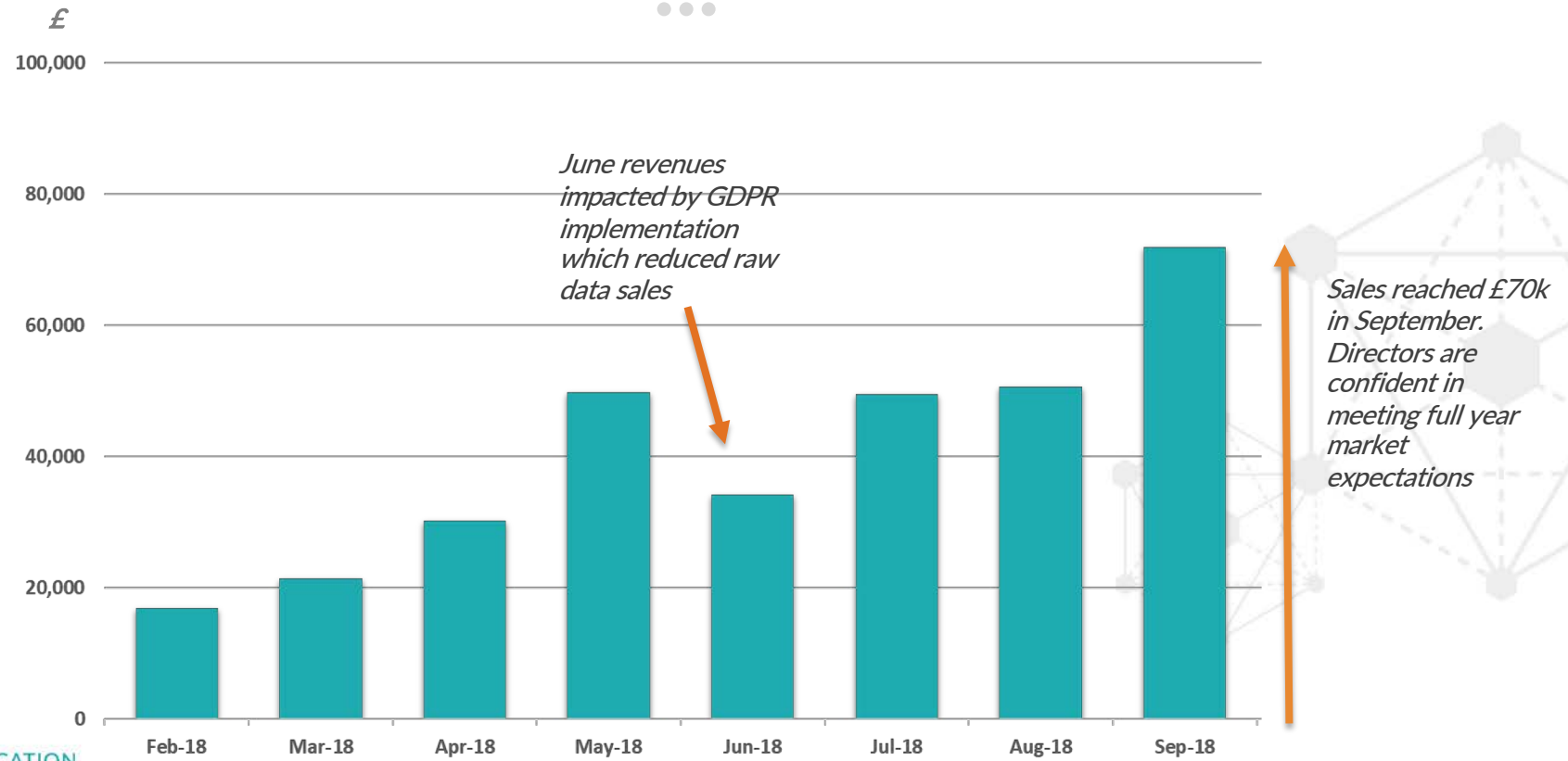
## 2018 REVIEW

# LEAN COST STRUCTURE\*



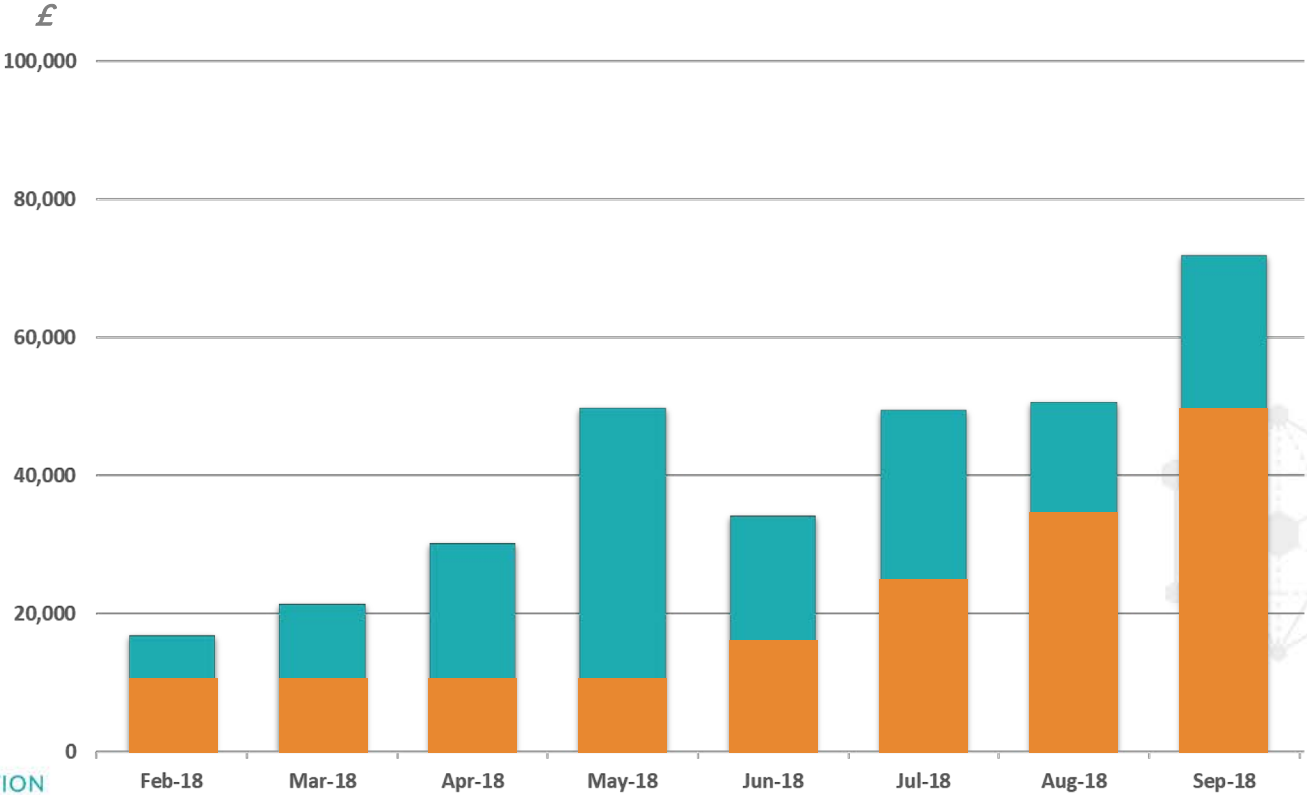
*\*excludes depreciation, amortisation, finance costs and restructuring expenses*

# SALES GAINING PACE





# RECURRING REVENUES BUILDING



*Recurring revenues continually building, demonstrating strength of licensing model*



# CACI CONTRACT – 3 OCTOBER 2018



## Location Sciences partners with CACI to bring accurate location data to the commercial property sector

- 12 month agreement
- CACI is the pre-eminent location planning business in Europe
- Partnership allows CACI to incorporate Location Sciences' proprietary location data into its wider dataset, to deliver greater accuracy and precision in location data intelligence to its clients, which include many of the largest companies in the UK's retail and property industries.
- CACI will use Location Sciences data to deliver footfall analysis, competitor analysis and catchment area analysis via a centralised dashboard
- One of CACI UK's main product offerings is the Acorn consumer classification that segments the UK population by analysing demographic data, social factors, population and consumer behaviour

**CACI**

The CACI logo is displayed in a large, bold, black serif font. A thick red horizontal line is positioned directly beneath the letters. The background behind the logo features a faint, grey network diagram consisting of interconnected nodes and lines, with some nodes highlighted in light blue.

# TALON CONTRACT – 17 OCTOBER 2018



Location Sciences signs multi-year contract with Talon Outdoor Limited, one of the UK's pre-eminent Out of Home marketing agencies



- 24 month agreement
- Talon is the UK's leading Out of Home ("OOH") planning and buying agency
- Location Sciences location data provides Talon's clients with unrivalled insight into the impact of their OOH advertising campaigns
- Talon licenses Location Sciences' proprietary location data, and also works in partnership with the Location Sciences Data Science and Engineering teams, to create improved frameworks and accuracy for planning and attribution
- Talon's clients, include McDonald's, Sony Pictures, VW Group and Google

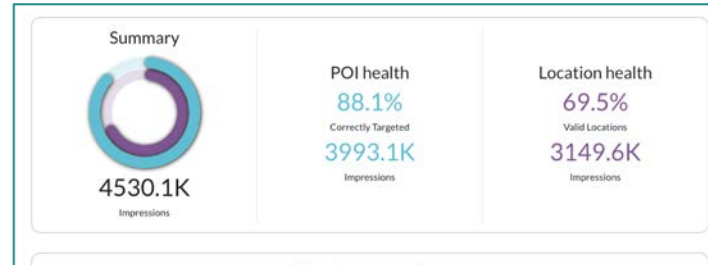


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PLATFORM BUSINESS MODEL

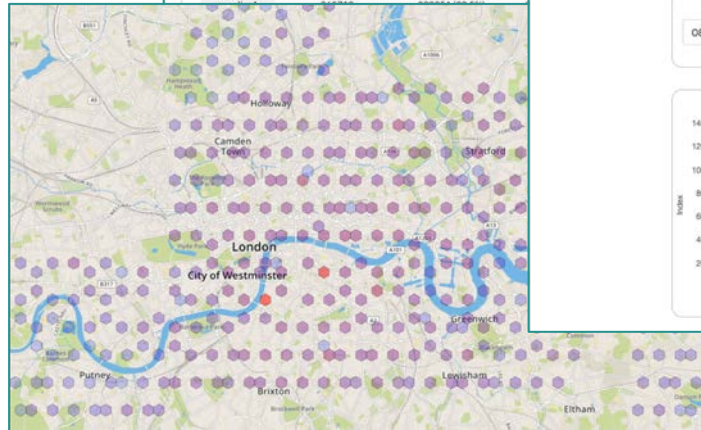
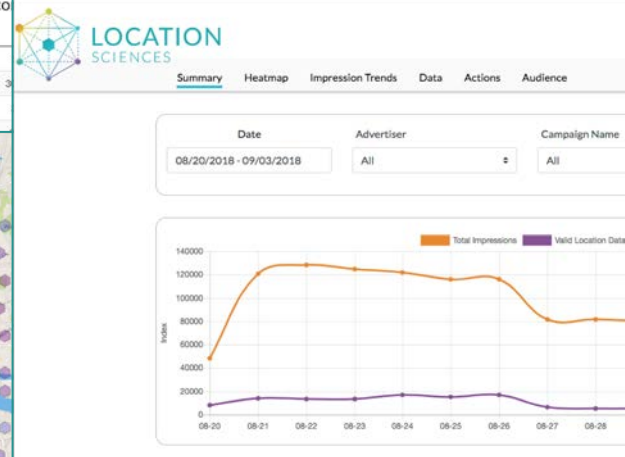
# LOCATION SCIENCES PLATFORM SOLUTIONS

- The Directors are moving Location Sciences away from managed service solutions
- Products are typically delivered via **self-service** client dashboards
- Enhances client offering
- Reduces Location Sciences' resource requirements
- Significantly improves scalability



Supplier co

Supplier	Total Impressions	In-App
supplier1	59643	24467 (41%)
supplier2	3357212	3045 (0.1%)
supplier3	164747	164747 (100%)



# TWO CORE PLATFORMS



## UK DATA & INSIGHTS

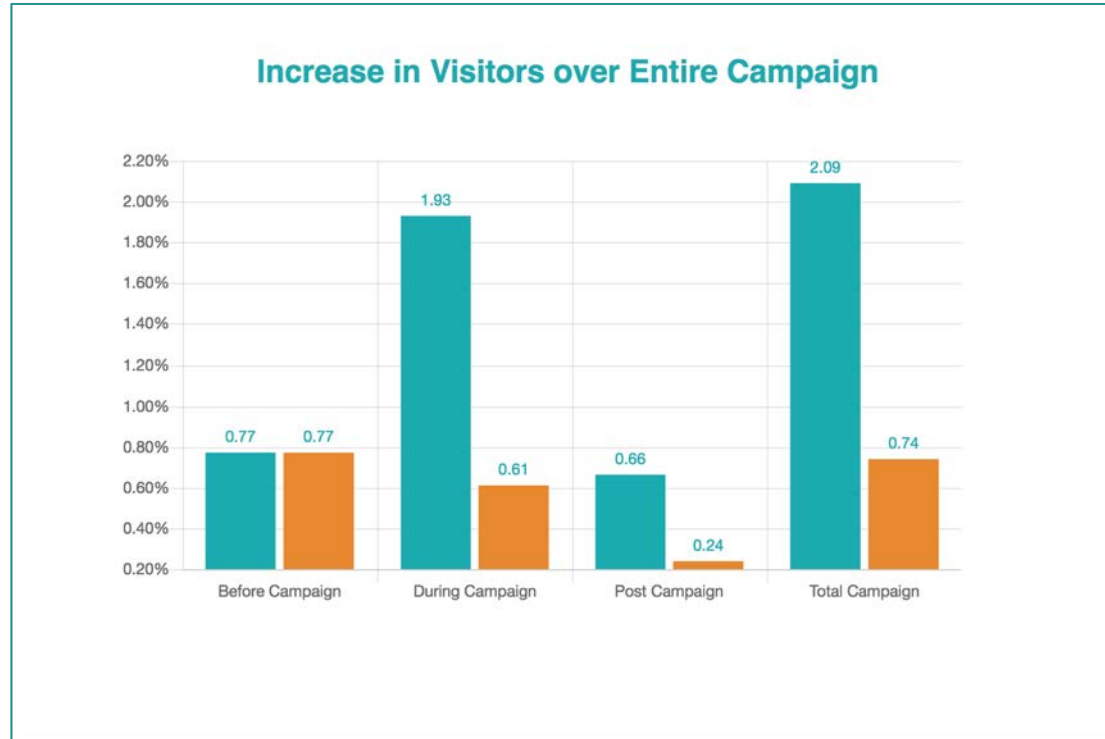
- 5 million UK device panel of location data movements
- 12 month license contracts
- Three main product offerings:
  1. Online to Offline Attribution
  2. Out of Home Solutions
  3. Insights and Audiences
- Clients include CACI, Talon and On Device Research

## VERIFY

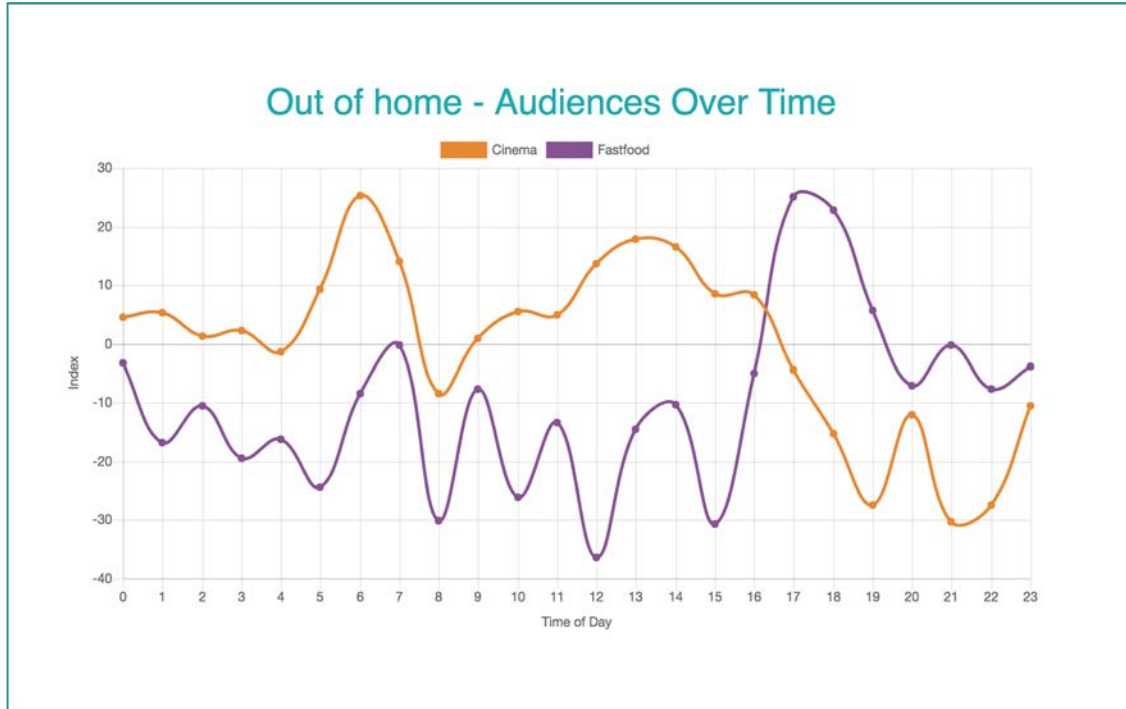
- Developed to tackle the global location ad-fraud problem
- Location Sciences code implanted into advert collects data
- Company heritage in location technology
- Management expertise in AdTech
- First mover advantage
- Highly scalable
- Clients include Pizza Hut and Deliveroo



# ONLINE TO OFFLINE



# OUT OF HOME ADVERTISING





# INSIGHTS & AUDIENCES



## Traffic and Place Attachment Algorithm

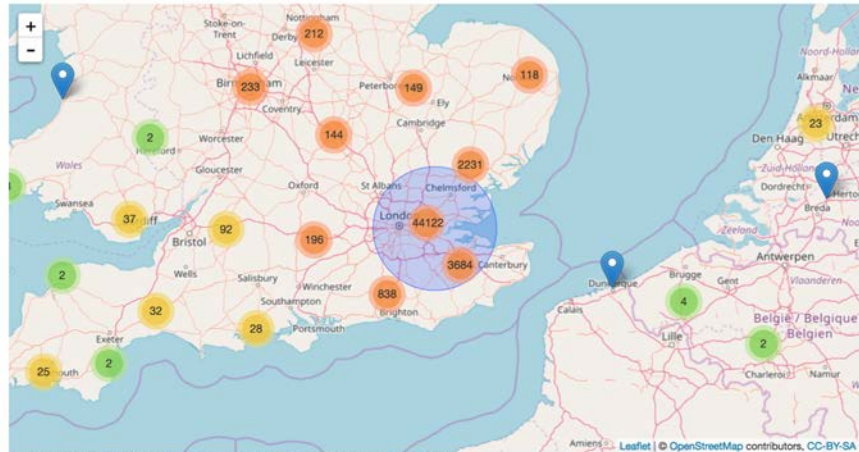
For purpose of the analysis, we use a sample of 762K events between 01/01/2018 to 31/03/2018.

The plot below shows a scatterplot map of all events.



## Home Location Algorithm and Catchment Area

The sample data contains 55k distinct hashed IDs and IDs with home locations are 53k (circa 97%). We can calculate that 45k IDs (circa 85%) live within 50Krn distance from Lakeside (the blue circle).



Home Location algorithm is based on several steps applied to data including:



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AD-FRAUD — A GLOBAL PROBLEM

# THE PROBLEM OF AD-FRAUD



**“Measurement and trust should be a key focus for any organisation” *IAB, 2017***

**Marketers lost \$7.2 billion to digital ad-fraud in 2016**

(WhiteOps, 2016)

**Advertisers will lose \$51 million (£36.5 million) per day on ad-fraud in 2018, totalling \$19 billion (£13.6 billion) over the year**

(Jupiter, Sept 2017)

**1 in 5 ad-serving websites are visited exclusively by fraud bots**

(The Verge, 2017)

**50 per cent. of ad impressions served on Internet Explorer were to non-human traffic**

(FraudLogix, 2016)

**65% of marketers have also expressed concern around the quality of location data available in the market and it is widely perceived that up to 80% may be imprecise or fraudulent**

(LBMA Global, 2017 Global Location Trends Report)

**78% of marketers cite click fraud as their top concern**

(Adweek, 2016)

**1 in 5 pay per clicks were fraudulent in January 2017**

(Pixalate, 2017)

**69% of marketers citing that at least 20% of their budgets are exposed to fraud on mobile web and 71% for in-app advertising**

(Forrester, Jan 2018)

# WHY IS THERE LOCATION FRAUD?



- Location signals **POWER** mobile advertising
- **Massive market - \$106bn** global advertising market (source: Zenith 2017) with large proportion location targeted\*



Source: [www.statista.com](http://www.statista.com) @ Q3 2018



*\*Location targeted advertising is estimated to be 43% of the £5.4bn UK mobile advertising spend (Source: Posterscope, Sept 2017) and 34% of the \$49.9bn US mobile advertising spend (Source: IAB, Oct 2018 and BIA, Feb 2018)*

# ACCURATE LOCATION DATA DELIVERS RESULTS



Geofence **specific** locations

Retarget offline customers

Deliver **location-aware** creatives

Measure **footfall**

Competitor **conquesting**

“ 96% of marketers say they consider location data to be important ”

# LOCATION ADVERTISING SPEND IS EXPENSIVE



Location-based advertising impressions command a **premium price**

Advertisers will typically pay \$10 - \$20 CPM

The more **accurate** the data, the more **value** it has

# CONSENT – A KEY DRIVER OF LOCATION FRAUD



## The Economics of Location Advertising

Revenue for a publisher serving 1 million impressions including location data:

$$\Rightarrow 1,000,000 * \$10.0 \text{ CPM}^* = \$10,000$$

**BUT** once opted-out consumers are factored in:

$$\Rightarrow 200,000 * \$10.0 \text{ CPM} = \$2,000$$

$$\Rightarrow 800,000 * \$0.5 \text{ CPM} = \$400$$

This equates to a **76% reduction** in publisher income\*\*

\* per thousand advertising impressions

\*\* assumes 20% consented consumer base

# ACCURATE LOCATION DATA DELIVERS RESULTS

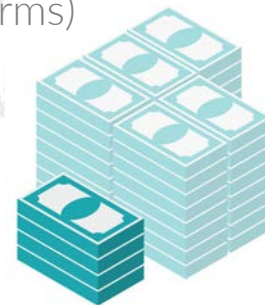


App publishers incentivised to append location data to advertising inventory

Location data ad-fraud is the supply of fake consumer location information to the agency and / or advertiser

No way of verifying if real or not (On supply and demand side platforms)

20x







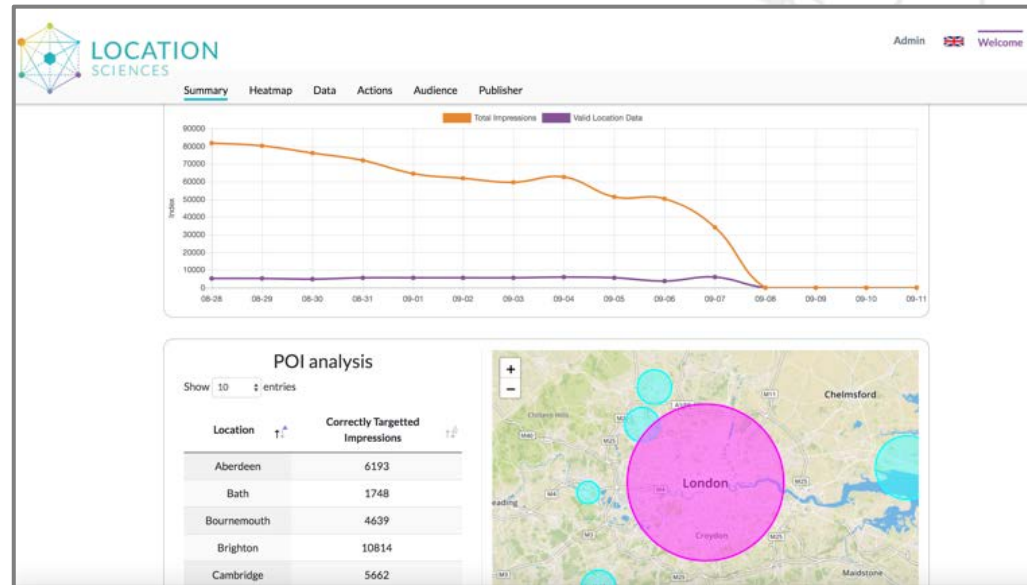
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VERIFY – THE SOLUTION TO  
LOCATION DATA AD-FRAUD

# VERIFY TACKLES LOCATION DATA AD-FRAUD



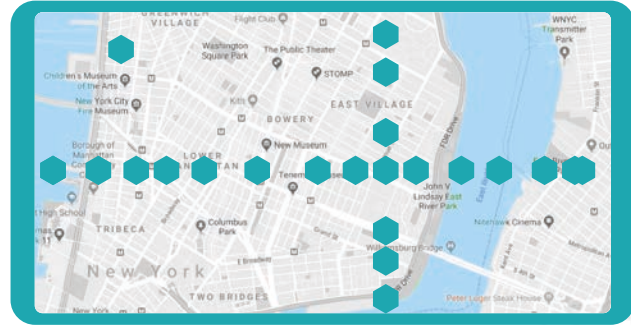
- Location Sciences code implanted into advert collects data
- **Machine learning** and distribution analysis identifies fake or computer generated location data
- Globally scalable:
  - ✓ Live in UK, US, DE, FR, & SA
- **Multi-lingual** online platform



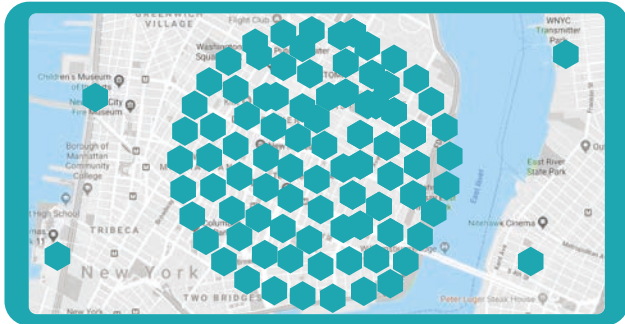
# FRAUD IDENTIFIED - AI & MACHINE LEARNING



Uniform Distribution



Linear Distribution

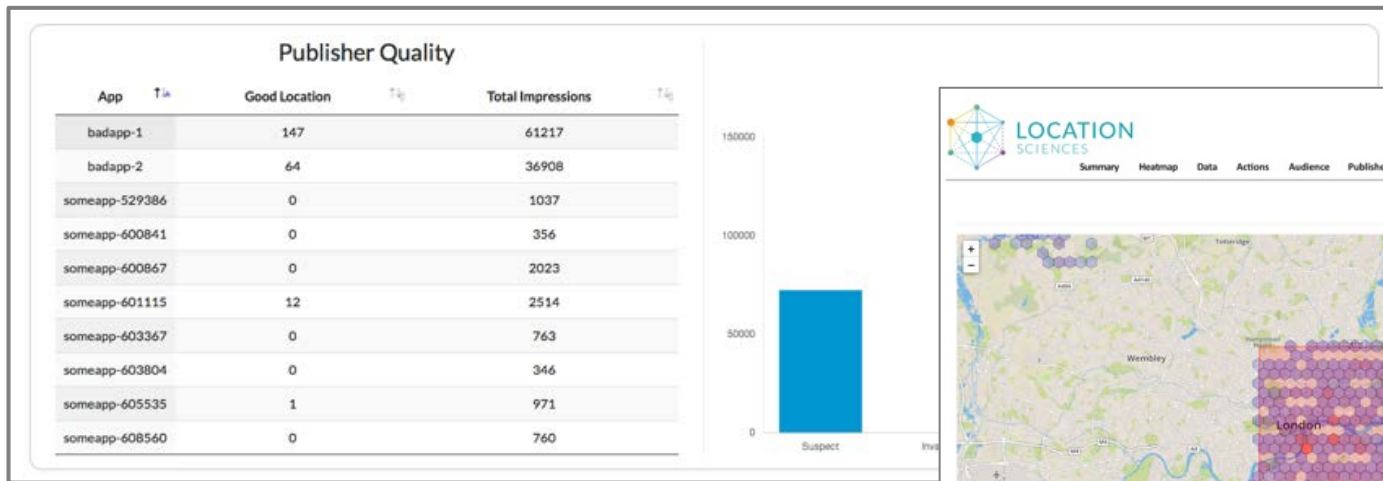


Gaussian Distribution

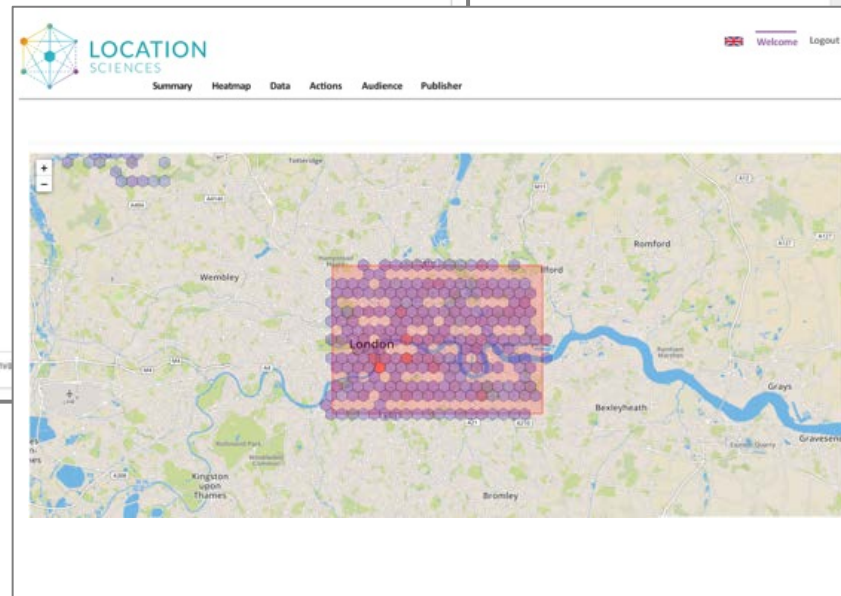


Centroid

# LOCATION SCIENCES PUBLISHER INSIGHTS



PUBLISHER DETAILS\*



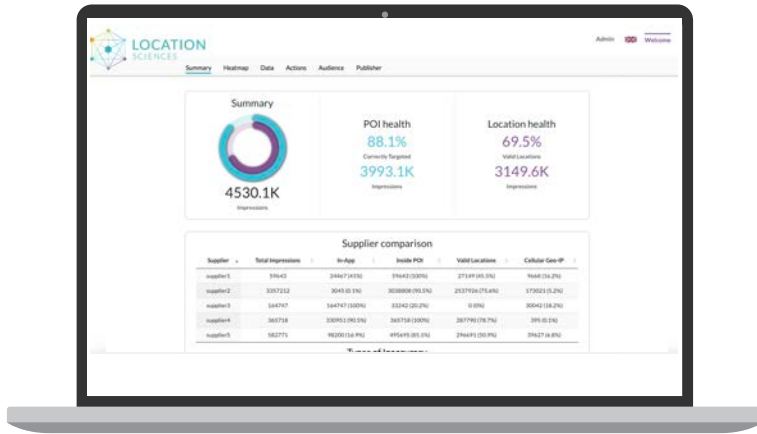
LOCATION VISUALISATION



\*publishers have been anonymised

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## VERIFY CREATES TRANSPARENCY



Verify provides impression-level authentication

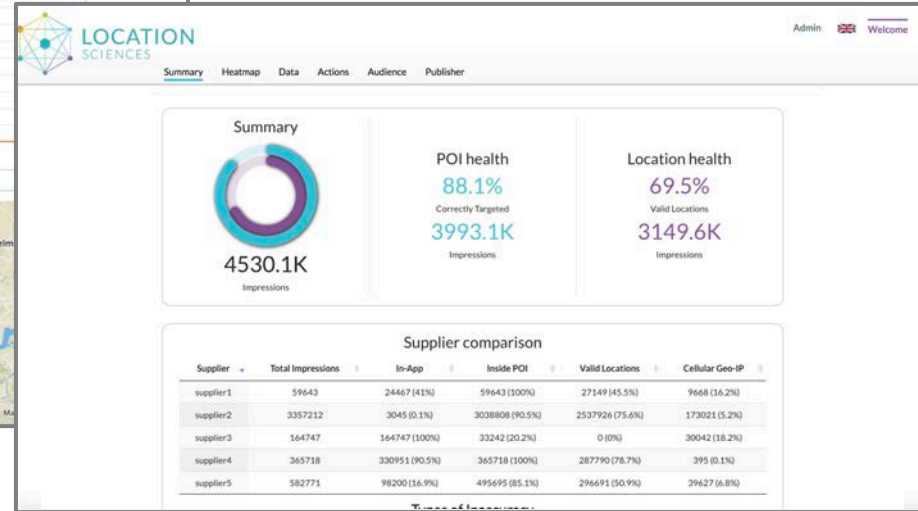
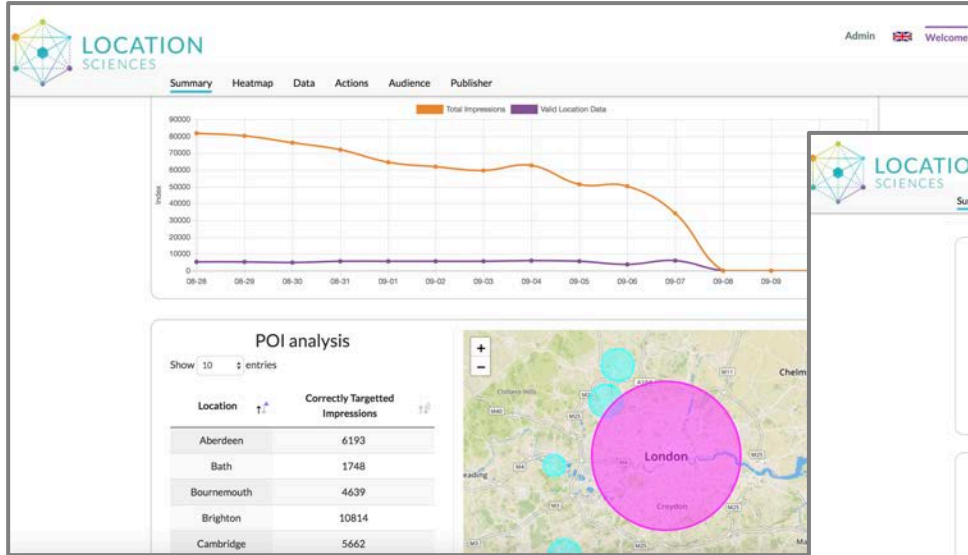
Advertiser data independently collected directly from ad calls using Verify tag

Every advert impression individually reviewed

Distribution analysis identifies anomalies in the location data supplied by publishers

Verify confirms location accuracy against proprietary Point of Interest (POI) truthset

# LOCATION SCIENCES VERIFY CREATES TRANSPARENCY



*\*publishers have been anonymised*



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## SUMMARY

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M&A ACTIVITY



MOAT

Acquired by Oracle – April 2017  
Viewability  
\$850m

grapeshot

Acquired by Oracle – April 2018  
Brand Safety  
\$300m

DV

DoubleVerify

Majority Stake by Providence Equity – August 2017  
Viewability  
\$300m valuation

IAS Integral  
Ad Science

Majority Stake by Vista Equity Partners – June 2018  
Brand Safety  
\$850m valuation



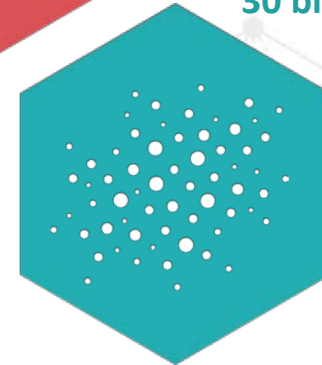
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- **Verify highly scalable** – answers global location ad-fraud problem



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# LOCATION SCIENCES

Q&A

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Independent location measurement and verification.

We offer ultra-precise location technology with highly valuable insights and analysis.

Connect with us to find out more:

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[www.locationsciences.ai](http://www.locationsciences.ai)

