



# Deploying R&D analytics at the pace of the data driven business

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# ANALYTICS & DATA SCIENCE CONSULTING SERVICES

Helping innovation, engineering and research leaders create solutions to complex challenges

## INDUSTRIES



**FOUNDED  
IN 1980**



**8**   
**OFFICES IN**  
**4** **TIME ZONES**

**£24**  
**MILLION**  
**REVENUE**  
**2015 / 2016**

# Our Clients Analytics Needs



“The questions we need to answer would require about  $n$  FTE over the year, but that’s an average number. The actual demand isn’t constant, and sometimes answers are needed quite quickly”

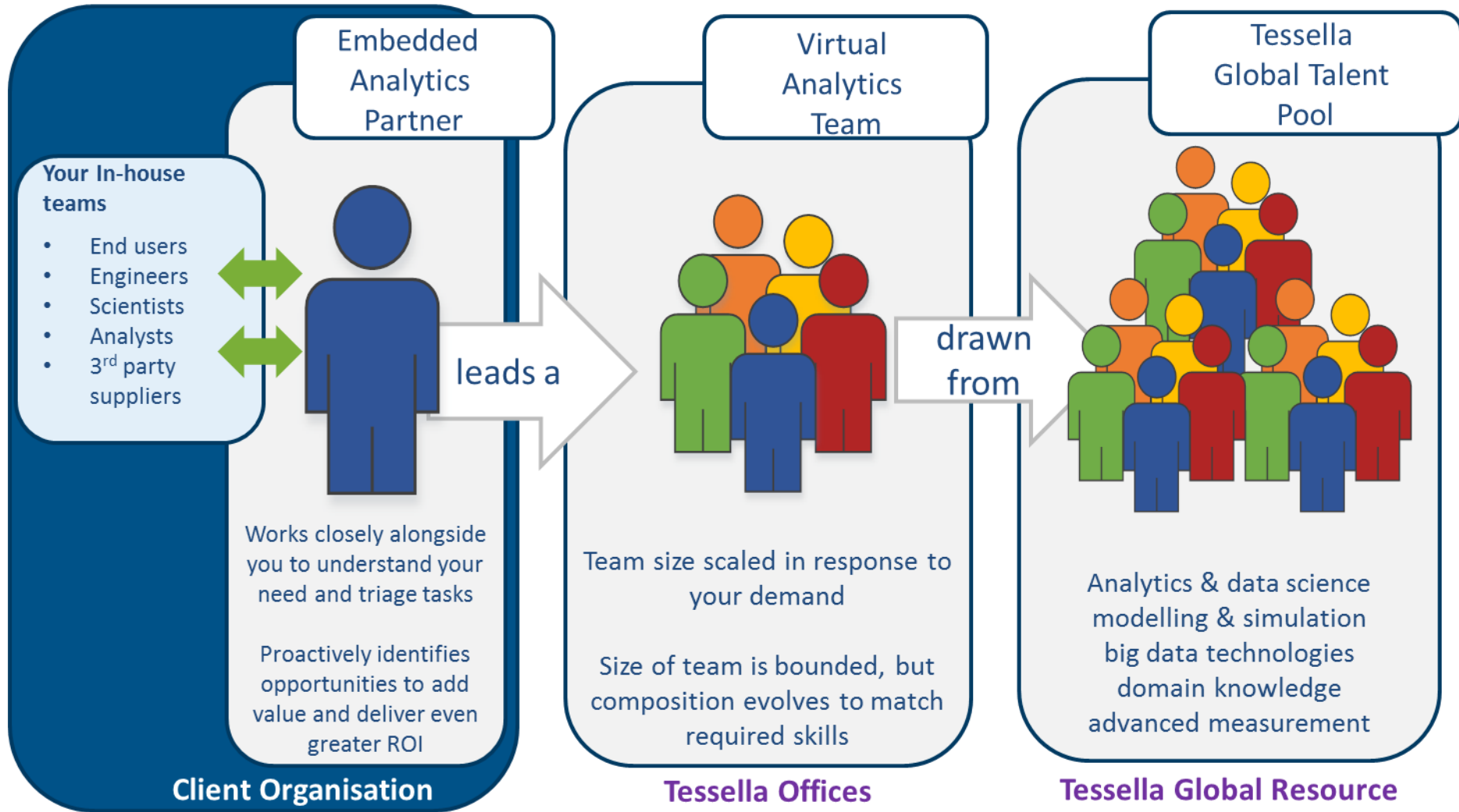
“We find we need skills in statistics, modelling, simulation, machine learning, visualisation, text analytics...The list is huge, and we can’t possibly retain all those skills in a small team.”



Key points – fast, flexible access to a broad range of deep skills.



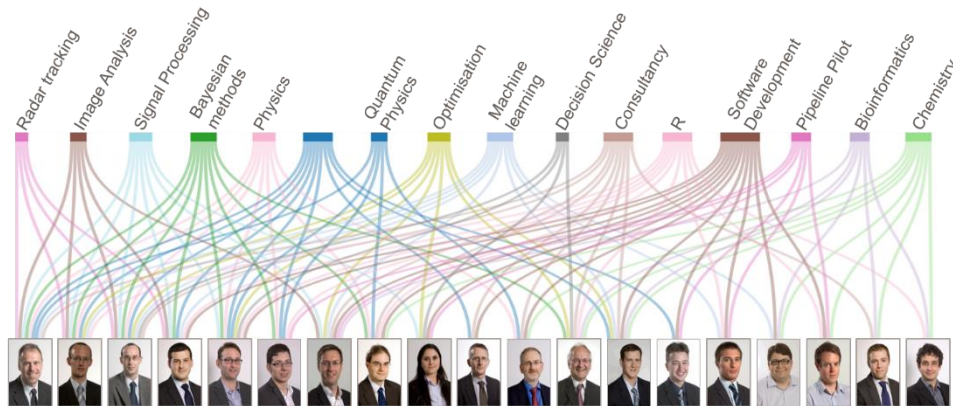
# The Tessella Analytics Partnership Model



# How Does it Work in Practice

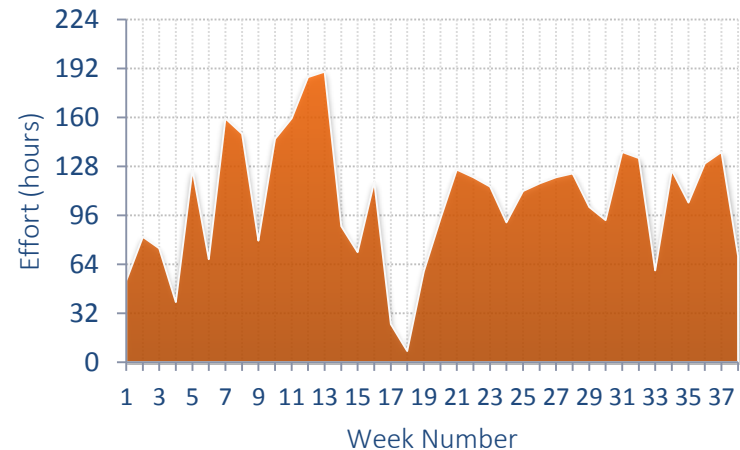
## Broad range of deep skills

4 FTEs of work paid for was delivered by 23 different specialists



## Flexible access

The hours worked in a given week was varied often by a factor of 2



# Case Study: Rothamsted Farm Platform

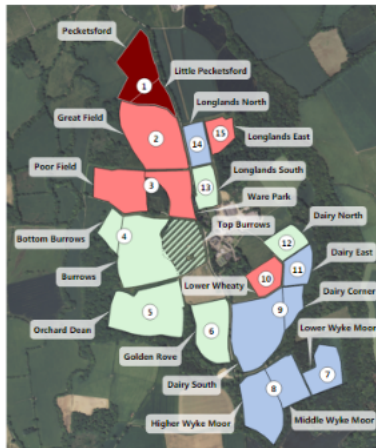


Farm Platform  
Data Portal

[Home](#) [About](#) [Contact](#)

You are logged in as [jason.pattle@rothamsted.ac.uk](#) [Log off](#)

Click on the map below to select catchments



[Select historic catchments and other locations](#)

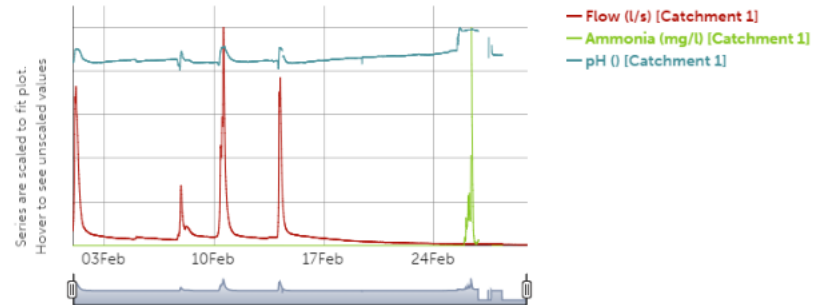
Start  
Date

2013-02-01

End  
Date

2013-03-01

Data Preview for 15 min time series data only



[Download](#)

The above preview plot is restricted to 6 months of data from the selected start date and 5 individual series. *This limitation does not apply to downloaded data.*

Time Series Data

Livestock, Field Event and Survey Data

MET Station for whole of Farm Platform

(Data available from 15/04/2013 to 23/12/2013)

Soil Moisture and Precipitation for each catchment

(Data available from 31/10/2011 to 23/12/2013)

Water Flow and Properties for each catchment

(Data available from 01/10/2012 to 23/12/2013)

☒ Flow (l/s)

☐ Dissolved Organic Carbon (mg/l)

☐ Conductivity ( $\mu\text{S}/\text{cm}$ )

☐ Temperature ( $^{\circ}\text{C}$ )

☐ Pump (On/Off)

☒ Ammonia (mg/l)

☐ Dissolved Oxygen (%)

☐ Turbidity (NTU)

☐ Nitrite and Nitrate (mg/l)

☐ Ammonium (mg/l)

☒ pH

☐ Total Phosphorus (mg/l)

# Case Study: PredICT

 **1,697**  
studies

**2,507,352**  
result data  
**points**

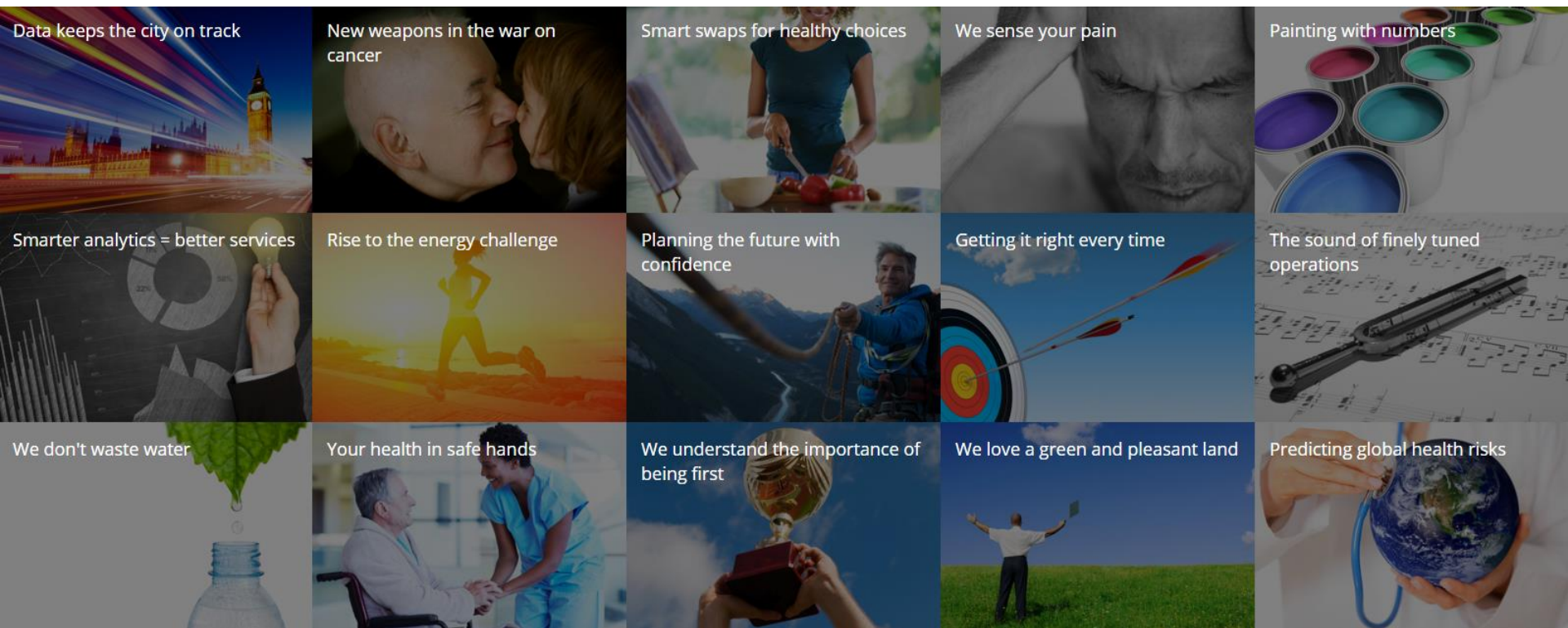


 **122**  
projects

**4**research  
areas 

30% time saving for modellers (~7 FTE)  
Reduces modelling outsourcing costs by 10%  
Approximately 10 FTE efficiency savings  
annually in the studies  
Significant improvements to data quality,  
integrity and consistency across all R&D sites

# ... and lots more examples



<https://littlebookofdatascience.tessella.com/>



# Closing Thoughts

The 3 key needs to succeed  
in data driven R&D are:

- Speed of insights
- Flexible access to expert resources
- A broad range of deep skills

“ The data challenges  
that we all  
face cross industry and  
domain boundaries ”



We've found embedding staff with our clients to really understand their problems, backed up by a strong pool of experts is far more successful than clients having transactional exchanges with disconnected statisticians