



# Data by Corndel Digital

Build scaled data analytics capability, fully funded by your Apprenticeship Levy



Corndel  
Digital.

# The Data Analytics skills gap

Organisations across the world have recognised the importance of having an effective data analytics capability to enable them to better make business-critical decisions based on fact rather than instinct.

Many organisations, however, are not fully realising the value of this capability due to a shortage of core data skills throughout the workforce.

**3x**  
the number of  
UK job listings



for Data Scientists and Advanced Analysts since 2015 (Royal Society, 2019). Across industries, organisations have created dedicated functions of highly skilled experts in order to maximise the value of their data.

**3/4**  
of UK digital leaders



believe their workforce has insufficient knowledge and expertise to execute digital strategy (Deloitte 2019), despite the increased demand for data science experts.

**53%**  
of the working  
population

do not have the essential digital skills needed for the workplace. This is predicted to rise to 66% by 2030 (Industrial Strategy Council, 2019).



Only  
**20%**  
of all employees

said they felt confident working with data and half of all employees stated they tended to rely on gut-feel in decision making rather than evidence-driven insights (Accenture, 2019). There is a skills gap between the highly skilled analysts producing insights and the workforce who need to effectively interpret and use those tools to take action.



**£10k**  
difference

in annual productivity between employees with insufficient digital skills and their more data-confident peers (APPG on Data Analytics, 2020).



**£10bn**  
annual cost

to UK economy in lost productivity due to lack of data skills.

For organisations to fully realise the value of their data analytics capability, they need to invest in high quality vocational training that equips their existing workforce with the skills to better understand, interpret and take action based on the data in the business.

The Apprenticeship Levy enables organisations to develop these essential data skills at zero cost.

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# The Corporate Data Analytics Community

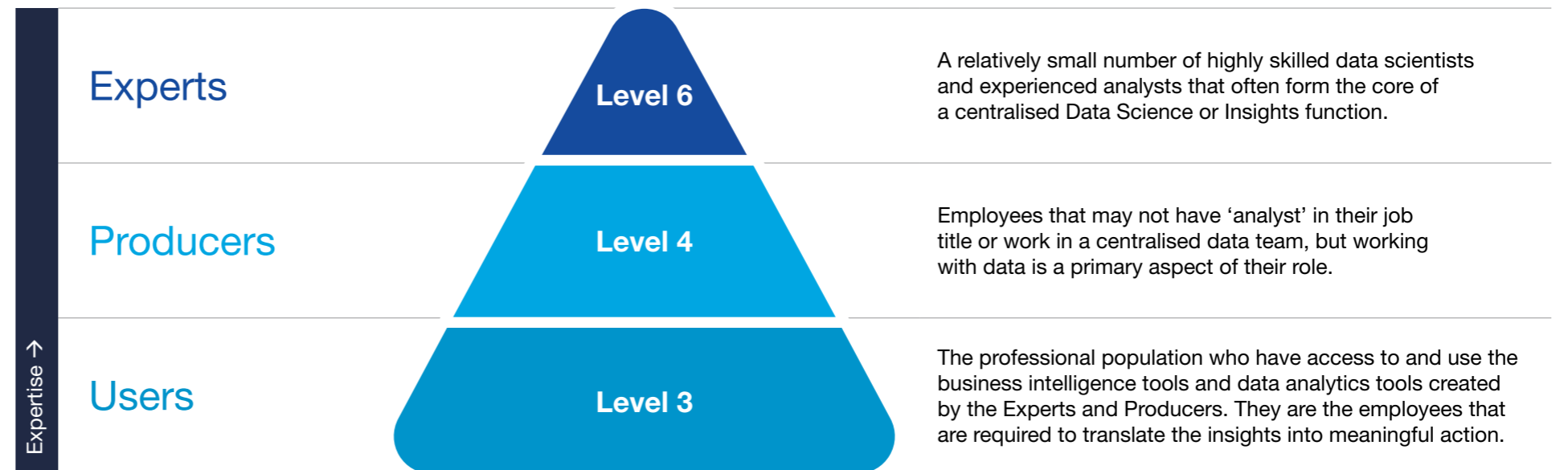
## What is the Data Analytics Community?

Everybody in an organisation that has access to data, business intelligence and management information can be described as a member of the corporate data analytics community.

That community spans business functions, roles and levels of seniority. Each member of the community has different needs of data and requires different skills in order to use it effectively.

In most organisations, the data analytics community can be visualised as a pyramid. The higher up the pyramid, the greater the level of expertise in using data to create predictive or prescriptive tools, as well as knowledge of architecture and database technologies.

The data analytics community typically includes three levels:



## The Data Analytics Community and the skills gap

In theory, the flow of insights and information through the pyramid enables effective, data-driven decision making throughout the organisation.

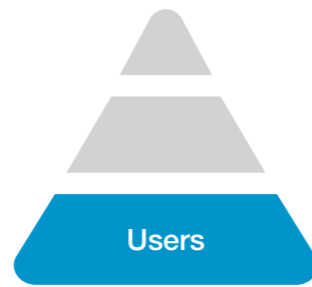
However, the shortage of fundamental data skills throughout the workforce creates a disconnect between the highly skilled Experts and the rest of the community, resulting in only 32% of companies reporting being able to realise tangible and measurable value from their data.

Developing the skills of the employees in the Producers and Users categories closes that gap and maximises the value of organisational data. Addressing this issue by improving data literacy is expected to become a fundamental pillar of over 80% of organisations' data analytics strategies over the coming years (Gartner 2019).





# The Data Professional Diploma



The Data Professional Diploma is a 14-month professional development programme to develop data literacy throughout the organisation.



Talk to us about the Corndel Data Professional Diploma

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## Who is it for?

The Data Professional Diploma is for Users of data analytics and business intelligence, but whose primary role isn't the manipulation and interrogation of large amounts of data.

They are likely to use tools like Excel, or may use business intelligence suites such as PowerBI to identify trends and relationships.

**Aligned to level 3 Data Technician Apprenticeship Standard**



## Programme features

- 14-month blended learning delivery model;
- Fortnightly coaching with a Professional Development Expert;
- 8 hands-on workshops delivered by experienced data scientists;
- Bite-sized, practical projects to embed learning;
- Flexible learning content in a range of formats;
- Fully funded through the Apprenticeship Levy.



## Ideal for employees who would benefit from

- Building confidence in understanding business intelligence and using that information to inform decision making;
- Handling data securely and safely;
- Being better able to communicate with data to influence others;
- Working more effectively with more technical colleagues that produce data analytics models and tools;
- Being better able to identify trends and relationships, and to be able to present this information clearly.



## Improved data skills

Upon completing the Corndel Data Professional Diploma, employees will be highly data literate and have the skills to:

- Handle data responsibly within legal and ethical frameworks;
- Manipulate data, performing simple ad-hoc analysis;
- Understand the importance of data quality and identify potential issues;
- Communicate analysis well to a range of stakeholders, producing easily understood charts/visualisations;
- Work effectively with more expert analytical colleagues;
- Enable data driven decision making.



## Business impact

The Corndel Data Professional Diploma will help you achieve a data-driven culture, leading to:

- Evidence-based decision making at all levels through a greater understanding of data;
- Increased value realised from data analytics projects through more informed use of outputs;
- Improved flow of information throughout the organisation through better communication of insights;
- Organisational data handled more safely and securely.

1

### UNIT 1: Enabling great data conversations

- Introduction to data
- Basic statistics
- Descriptive vs. inferential statistics
- Communicating with different audiences
- Data-driven decision making

2

### UNIT 2: Storage, security and compliance

- Data security and compliance
- Data lifecycle
- Accessing data
- Storing data
- Ensuring data quality

3

### UNIT 3: Data integration and preparation

- Data integration
- Outliers, missing values and transformation
- Validating and checking for errors
- Collaborating in Excel
- Advanced capabilities of Excel

4

### UNIT 4: Data Storytelling

- Communicating insights
- Know your audience
- Choosing the right medium
- Charts and graphs
- How humans process information

5

### UNIT 5: Data driven insights

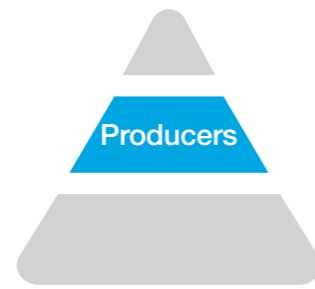
- Data analysis
- Interpreting analysis
- Raising data literacy
- Business insights
- Enabling data driven insights

6

### UNIT 6: Growing digital world

- Introduction to data science
- Machine learning
- Predictive models
- Digitally connected world
- Stronger data ethics

# The Data Analytics Diploma



The Data Analytics Diploma is an 18-month professional development programme to build technical skills to generate actionable insights from organisational data.



Talk to us about the Corndel Data Analytics Diploma

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## Who is it for?

The Data Analytics Diploma is for professionals whose roles would benefit from being able to collate, prepare and analyse large amounts of data and build predictive tools to inform business decisions.

They may already work with data as a primary aspect of their role and want to build their skills, or are looking to further their professional development by gaining more advanced technical skills.

**Aligned to level 4 Data Analyst Apprenticeship Standard**



## Programme features

- 18-month blended learning delivery model;
- Fortnightly coaching with a Professional Development Expert;
- 16 hands-on workshops delivered by experienced data scientists;
- Bite-sized, practical projects to embed learning;
- Flexible learning content in a range of formats;
- Fully funded through the Apprenticeship Levy.



## Ideal for employees who would benefit from

- Building confidence with a range of database technologies;
- Building automated processes and performing machine learning to inform business decisions;
- Being able to build predictive or prescriptive tools to inform decisions on how to optimise future performance;
- Being better able to design and manage data analytics projects end-to-end;
- More effectively communicating their findings and influencing others.



## Improved data skills

Upon completing the Corndel Data Analytics Diploma, employees will be able to apply data analytics to their day-to-day role and have the skills to:

- Understand a range of database technologies;
- Effectively use relational databases;
- Code with SQL to extract data from relational databases;
- Use Python or R to create repeatable processes and perform machine learning;
- Apply machine learning techniques including regression, clustering and time series analysis;
- Manage data analytics projects end-to-end;
- Effectively communicate insights with a range of stakeholders.



## Business impact

The Corndel Data Analytics Diploma equips professionals with the techniques, skills and knowledge to generate meaningful insights from organisational data that leads to tangible business impact, including:

- Improved performance based on predictive, automated insights built in-house;
- Robust analysis throughout the organisation through better designed and managed analytics projects;
- Increased capacity in centralised highly-skilled functions by building more widespread capability for business-as-usual data analytics tasks;
- Data analysed more safely and securely within organisational infrastructure.

1

### UNIT 1: Core concepts of data analytics

- Introduction to data analytics
- Introduction to statistics and probability
- Introduction to database structures
- Introduction to programming languages

2

### UNIT 2: Programming languages

- Learn how to code
- Comparison of Python and R usage
- SQL
- Python / R

3

### UNIT 3: Data management

- Data types and structures
- Data audit and compliance
- Ensuring data quality
- Data integration

4

### UNIT 4: Advanced analytics

- The data analytics lifecycle
- Linear and logistic regression
- Clustering and association rules
- Time series analysis

5

### UNIT 5: Communicating with data

- Data visualisation
- Operationalising an analytics project

6

### UNIT 6: Database design

- Database design
- Database maintenance
- Big Data

7

### UNIT 7: Data analytics projects

- Developing data project briefs
- Application of business related projects



# Data Scientist Degree Apprenticeship



Talk to us about the Corndel Data Analytics Diploma

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Across industries, organisations continue to need dedicated functions of highly skilled experts in order to maximise the value of their data.

## The opportunity

Data scientists are in high demand, not least due to the complex blend of technical expertise, business acumen and communication skills that enable effective data-driven decision making.

Corndel has partnered with the University of Nottingham to offer UK employers the chance to develop home-grown Data Scientists and Advanced Analysts.

Investing in your talent to develop sought after data science skills will both underpin your digital transformation efforts and provide an exceptional opportunity for your valued employees to future-proof their careers.

Together we offer a streamlined suite of professional development opportunities for employees with different needs of data. The University of Nottingham offers a streamlined suite of professional development opportunities for employees with different needs of data, along with educational excellence.



## Programme features

- 12-month blended learning delivery model;
- BSc (Hons) Data Science qualification from the University of Nottingham delivered through block release, with a blend of lectures, group projects and work-based learning;
- Delivered through block release, with a blend of lectures, group projects and work-based learning;
- Aligns to Data Scientist apprenticeship standard;
- Fully funded through the Apprenticeship Levy.



## About the Data Scientist Degree Apprenticeship

Delivered by leading data scientists at the University of Nottingham, an institution celebrated for its academic excellence, pioneering research, employability and world-leading campuses and facilities. This programme offers a challenging, modern curriculum that will enable employees from businesses across a broad range of industries to gain a deep understanding of the area of data science.

Learners will develop the skills to address the issues raised by large-scale data analysis and facilitate data-driven decision making. They will use real-life examples from the workplace to enhance and consolidate teaching and learning, delivering real-time benefits to their employer.



## Who is it for?

This programme will suit:

- Existing employees with a keen interest in data science and a strong mathematical background;
- Employees who work in a role that provides opportunities to work with data and put new skills into practice;
- Those who have completed Corndel's Level 4 Data Analytics Diploma and wish to progress towards a career in data science, and who have fulfilled the University of Nottingham's programme entry requirements.



## Improved Data Skills

- Use data insights to help solve complex business-critical challenges;
- Develop a deeper understanding of your business and customers
- Lead a culture of data-driven decision making;
- Ensure the data available to the organisation is secure and of high quality;
- Drive efficiency through automating processes and building dashboards and reports;
- Lead how the business uses latest technology including machine learning, data mining tools and Artificial Intelligence;
- Use sophisticated data visualisation techniques to share business insights and influence decision makers.

1

### YEAR 1:

- Probability
- Statistics
- Mathematics for Data Science
- Programming and Algorithms

2

### YEAR 2:

- Probability Models and Methods 1 & 2
- Statistical Models and Methods 1 & 2
- Software Development for Data Science
- Artificial Intelligence Methods

3

### YEAR 3:

- Applied Data Modelling and Analysis
- Applied Statistical Modelling 1 & 2
- Machine Learning 1 & 2
- Responsible Decision Making 1 & 2

4

### YEAR 4:

- Work-based Synoptic Project
- End Point Assessment



University of Nottingham

UK | CHINA | MALAYSIA



# Built for business

Corndel's Data Advisory Board brings together leaders from industry and academia to shape our course content and delivery to ensure its relevance to the needs of businesses.



**Kim Nilsson**  
Chief Executive – Pivigo

Kim is Chief Executive of Pivigo and former Hubble astrophysicist. Kim ensures the Corndel programme bridges the gap between academia and business, having built data science capabilities for the likes of KPMG, Barclays and British Gas.



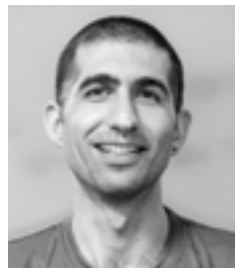
**Greg Hawkins**  
Senior Technical Advisor – Starling Bank

Greg was Chief Technology Officer at Starling Bank from the Bank's launch. Greg advises on the technology taught and incorporated into the Corndel programme, including the use of organisational data in the course.



**David Pool**  
Co-Founder – Mind Foundry

David co-founded Mind Foundry in 2015 as a machine learning spin-out from Oxford University. David ensures the Corndel programme is up to date with the latest trends and applications of data science in the professional world.



**Toby Gee**  
Professor of Mathematics – Imperial College, London

Toby is a multiple award winning and highly influential mathematician. Toby advises on the academic integrity and educational methodology behind the creation of the Corndel programme content and delivery.



**Duncan Shaw**  
Lecturer in Information Systems – Nottingham University Business School

Duncan is a Lecturer in Information Systems at Nottingham University Business School and his research and consultancy interests include AI and Big Data strategy, Digital Services and Business Ecosystems.



## Delivered by experts

One-to-one coaching is at the heart of the Corndel experience. We match each participant to an experienced data scientist who will personally support them throughout the programme, ensuring they confidently apply their new skills.

### Professional Development Expert spotlight: Claire Kelleher

Claire Kelleher is a commercial and academic data scientist who brings a wealth of experience to her role as a Professional Development Expert for Corndel's data programmes.

Claire followed the completion of her Master's degree in Big Data Science with over six years' professional experience with the likes of Sainsbury's, MoneySupermarket and Citi.

Claire has achieved a number of prestigious professional accolades. Claire was an integral part of the team that won Deloitte's Top Technology Talent competition in 2015. She also presented her Master's thesis on Alzheimer's at the 2018 Human Brain Project Conference.

Throughout Claire's career, she has led data science projects that directly deliver business impact.

At MoneySupermarket, Claire built a model for the marketing team to quantify at what rate PPC (paid for) clicks were eating into SEO (free) clicks. These results supported investment decisions for the different channels across the company. Her vast knowledge of on-site consumer to product click behaviour comes from leading the A/B Testing team for the financial vertical.

Claire has extensive experience of supporting non-technical colleagues to effectively use data analytics.

"I developed and delivered a training programme to improve data literacy across the business. We covered typical pitfalls for beginner data analysts and later trained product analysts to become data analysts."





### Professional Development Expert spotlight: Minesh Patel

Minesh Patel has over 15 years of extensive financial services experience across an array of fields including financial reporting, financial control, investment management, finance strategy, project management and management accounting.

He has worked in organisations both in the UK and USA reporting to various levels of management including board level.

His career highlights include winning the Finance Leadership Development Network award at Barclays Bank, along with various recognition awards for going over and above expectation. Has delivered our Data programme to various Corndel clients including Liverpool Victoria, BUPA & UBS

His professional qualifications are extensive and wide-ranging, and include:

- ACMA, CGMA, Chartered Management Accountancy
- Prince 2 Practitioner Certified in Project Management
- BA (Hons) Finance and Business
- AET, Teaching and Training Qualification

Corndel attracts commercially experienced data scientists with a passion for people development. We have an unrivalled pool of Professional Development Experts ready to support your employees.

# About Corndel

Corndel is an industry leading training company, already working with some of the UK's largest organisations.



We launched our third data analyst apprenticeship cohort with Corndel this week. The move to 100% virtual has been seamless. During these challenging times the depth of relationship and care provided by Corndel together with the quality of the learning and coaches has been more valuable than ever.

**Charlotte Stacey**  
Head of UK Apprenticeship Programmes, bp



We're building a data-driven culture at Johnson Matthey and this programme is a fantastic opportunity to develop data skills across the business.

**Richard Head**  
Head of Digital Analytics, Johnson Matthey



YOOX NET-A-PORTER is committed to building a data-driven culture and Corndel has been pivotal in enabling us to align the investment of our Apprenticeship Levy with this important strategic objective.

**Alessia Kosagowsky**  
Chief Data & Analytics Officer, YOOX NET-A-PORTER GROUP

## Why choose Corndel

- ✓ We are market leaders in designing and delivering practical, tailored apprenticeship programmes at zero-cost to our clients;
- ✓ We work with over 3,500 learners annual, helping each of them do their jobs better and enhance their careers;
- ✓ Bite-sized, modular course content that aligns with day-to-day working practices is delivered through video, audio and text;
- ✓ Dedicated personal coaching underpins every Corndel learning experience, developing practical skills that deliver real impact.

Talk to us about using your Apprenticeship Levy to build digital skills capability, at scale

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**Corndel.**

Corndel works with leading UK businesses to develop the organisational capabilities which drive performance.

We design and deliver people development programmes to support operational improvement, digital transformation, data analytics, cultural change and leadership development.

Our programmes are carefully designed to take advantage of the apprenticeship levy, so organisations can maximise their investment in valued employees.



## **Corndel**

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