# POWER BI GUIDE

Turning data into insight

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# Introduction

The biggest buzz in technology is data. There are huge innovations across the sector, but for many organisations simply trying to access and make sense of their data is their main challenge. If cracked it can clearly be a source of competitive advantage.

Being able to take your data, access it and delve into what it is telling you in a meaningful way is key. These insights can then be used to make informed decisions, and this is where Power BI comes in.

Power BI is Microsoft's suite of BI & data visualisation solutions. It is the single best step an organisation can take to start doing more with their data and turn it into insights. Power BI is affordable and easy to use and with the right data it can be truly transformational.

This guide is designed to provide you with everything you need to know about Microsoft Power BI, what it does, what services are available and how much it costs.

THIS GUIDE COVERS:

» Data Visualisation

» Power BI overview

» Power BI features

» Power Bi offerings

» Power BI licensing

» Rolling out Power BI

# Data visualisation and business intelligence

It is clear that an organisations data is now one of their most valued assets. The ability to make better decisions based on this data could provide a wide range of benefits. Many organisations are on the path to improving and accessing their data, but most have a long way to go.

For most organisations disconnected systems, spreadsheets, on-premise servers and poor quality data are the norm, so making data driven decisions is out of the question.

Others overly rely on Excel spreadsheets. Whether these are exports from systems, or interconnected reporting matrixes or simple Macros. Spreadsheets provide a simple and easy to use solution that most businesses are built upon. However, they come with huge levels or risks, it is too easy to delete a cell or make a formula mistake or a macro failure that crashes the whole system. Moving organisations to more robust reporting and business intelligence tools is key.
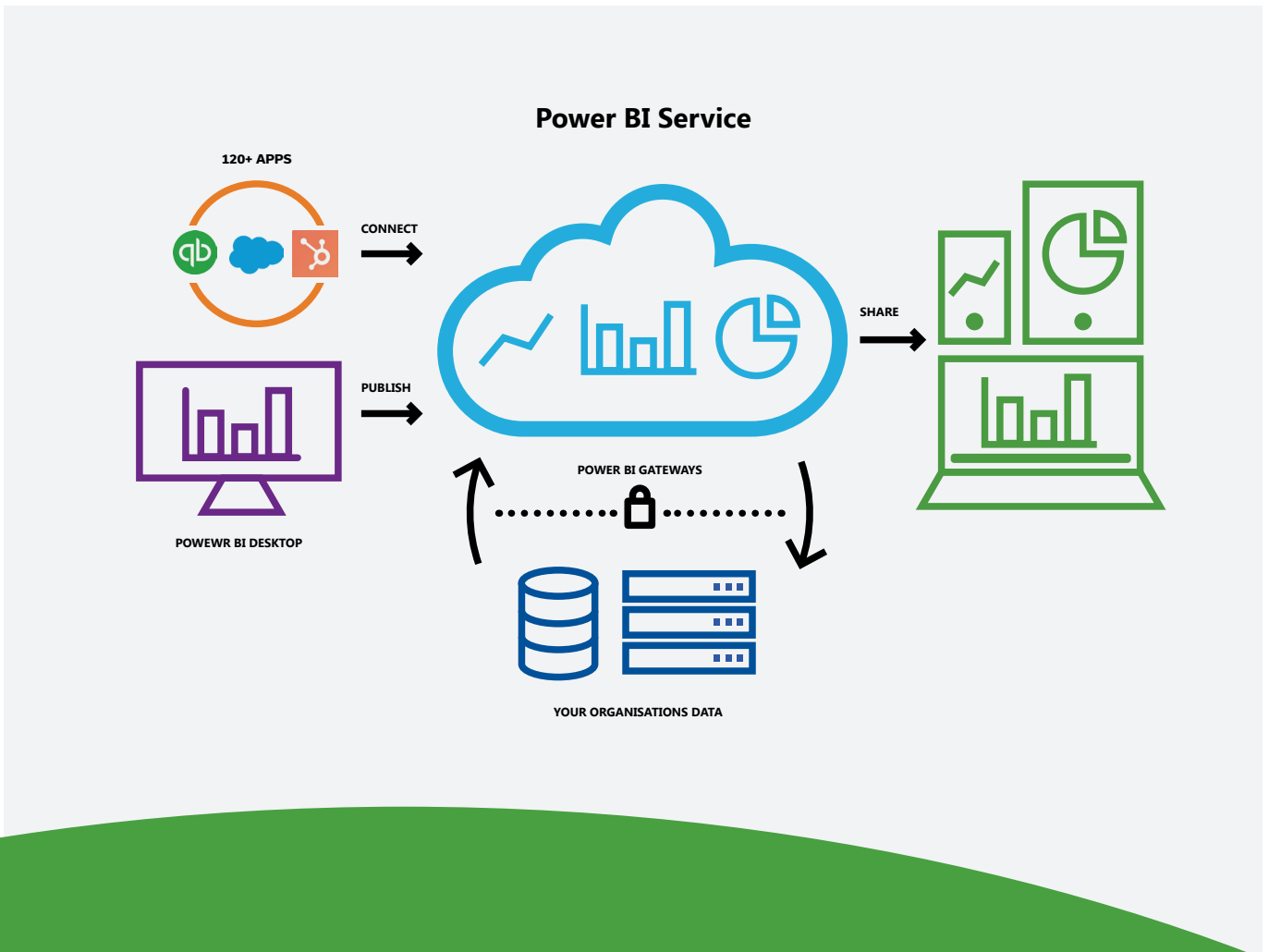
One of the biggest developments in the BI space is the rise of citizen developers. Older BI solutions like SQL Server Reporting Services [SSRS] were the realm of technical code savvy people. But as these solutions have improved dramatically over the years, incorporating drag and drop functionality, replicating Excel capability and incorporating simple wizards to support things like data integration. All of this leads to BI solutions being available and more widely used by a much wider range of people. This brings some risks as there is more chance of making mistakes but it puts data and reporting into the hands of your business people.

# Power BI overview

Power BI is a collection of software services, apps, and connectors that work together to turn your unrelated sources of data into coherent, visually immersive, and interactive insights. Your data may be an Excel spreadsheet, or a collection of cloud-based and on-premises hybrid data warehouses. Power BI lets you easily connect to your data sources, visualise and discover what's important, and share that with anyone or everyone you want.

Power BI is not just for professional developers and BI consultants. Anyone who is a regular or super user of Excel will find Power BI very similar and easy to use. It is designed to bring the power of data to your employees across your entire organisation.



**Power BI Service**

120+ APPS

CONNECT

PUBLISH

SHARE

POWEWR BI DESKTOP

POWER BI GATEWAYS

YOUR ORGANISATIONS DATA

Power BI according to Gartner is by far the leader in the Business Intelligence segment and has been for 14 years. From its rich range of functionality, market leading pricing and weekly updates & new capability all make Power BI the top BI platform.



Gartner Magic Quadrant showing Business Intelligence platforms plotted on axes of "Ability to Execute" (vertical) and "Completeness of Vision" (horizontal), divided into four quadrants: Challengers, Leaders, Niche Players, and Visionaries.

- LEADERS: Microsoft, Tableau, Qlik
- CHALLENGERS: Google (Looker), MicroStrategy, Domo
- VISIONARIES: ThoughtSpot, TIBCO Software, Oracle, Sisense, SAP, SAS, Yellowfin
- NICHE PLAYERS: Amazon Web Services, IBM, Alibaba Cloud, Pyramid Analytics, Board, Infor, Information Builders

As of February 2021    © Gartner, Inc

# Power BI features

Power BI can be broken down into 5 main areas.
Below we discuss these areas of functionality.

### Data visualisation

Most people will be familiar with what Power BI looks like. Power BI provides the ability to make dashboards or reports that combine a wide range of data visualisation techniques. From charts, graphs, maps, tables and more, the ability to represent your data in a way that allows your users to easily see and interpret it.

Another great feature of Power BI is the way you can drill down to the data to better understand it. For example, if you want to look at a particular month, simply click on it and all the visuals will filter to just that period, providing a much deeper insight.



Fully Customisable Dashboard with a wide range of data types:
AREA CHARTS, BAR CHARTS, COLUMN CHARTS, COMBO CHARTS, CARDS, DECOMPOSITION TREES, FUNNELS, MAPS, TABLES.

## Reports and dashboards

Power BI reports are the most commonly used in Power BI. Taking a data source and querying the data with a range of visuals across potentially multiple pages to give you insights that can be used to make decisions.

Dashboards are normally made up of visuals from different reports to give a more high-level view of how your organisation is performing across KPIs. When looking at a dashboard and wanting to do deeper analysis you normally drop into the report for that particular area and do the analysis there.

The differences include reports being able to slice data and reports having multiple pages. Reports are where the interactive elements of Power BI live, if you click on a visual in a dashboard then you are pointed to the report where that visual can be found and here you can then drill down further.
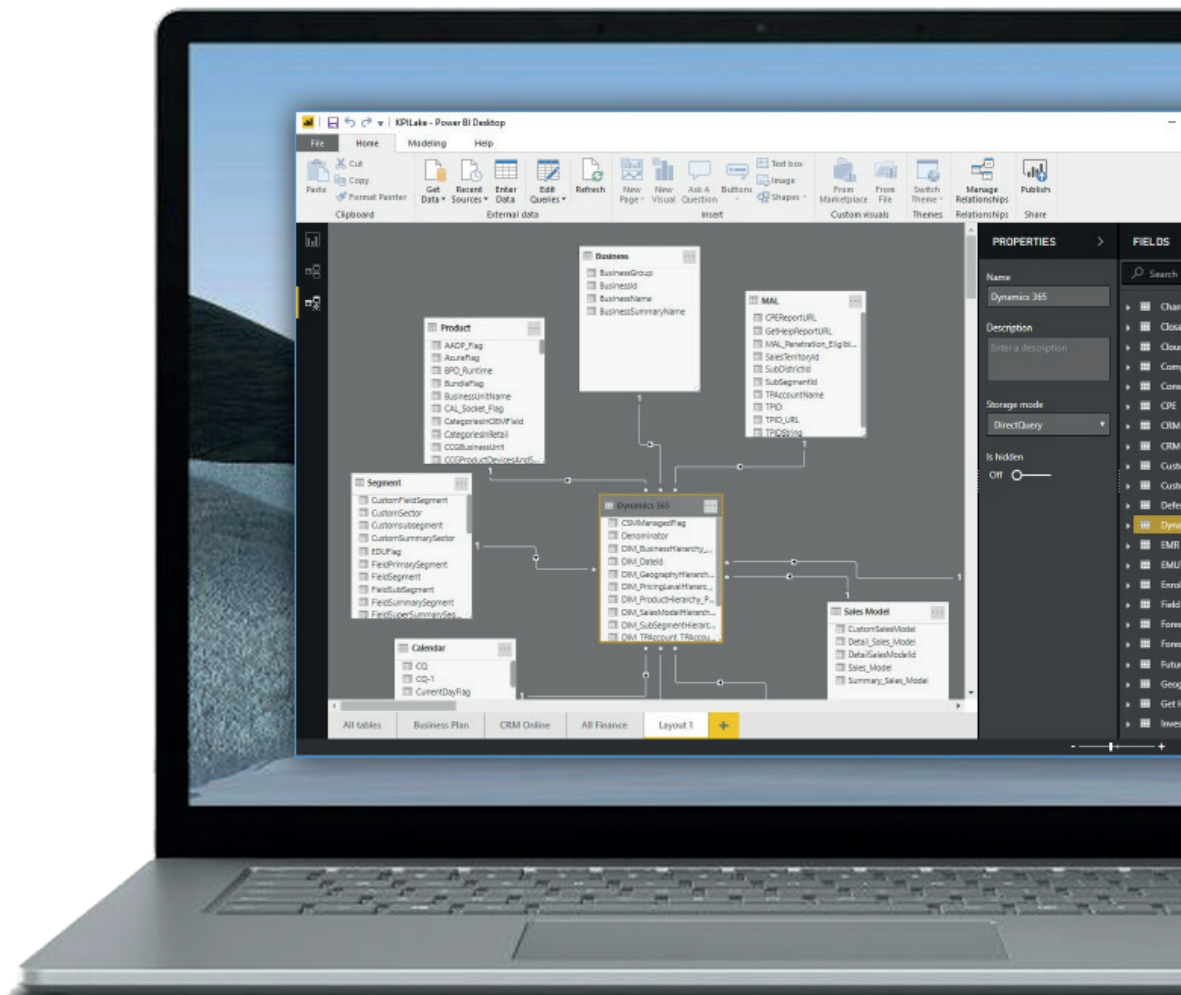
## Data modelling

Power BI is one of the only BI platforms available that allows you to build a data model within the platform. So, whether you are using well-structured data or connecting to raw data sources, Power BI can help you transform it.

You can easily query the data using Power Query. You can edit the data, remove columns or rows, define relationships, add formulas and a wide range of other features to get your data into shape. In Power Query you can also define relationships between multiple sources of data, allowing the data to interact in your reports.

Power BI uses Data Analysis Expressions [DAX]. DAX is a collection of functions, operators, and constants that can be used in a formula, or expression, to calculate and return one or more values. For regular users of Excel, DAX will be easy to pick up as it shares a similar approach.

Power BI can be used to present live or near live data in your reporting. This can be done through a number of different mechanisms within the platform. This is great for automatic data feeds such as from IoT devices. Power BI comes as standard with the ability to refresh data manually or schedule refreshes throughout the day allowing you to keep your data up to date.

**Data connectivity**

Before you can build your data model or reports, you need to be able to access your data. As Power BI is part of the Power Platform there is a huge number of out-of-the-box connectors for a wide range of digital solutions from leading providers. These are available to allow you to easily connect data straight into Power BI.

If you have a data warehouse or cloud-based data model, regardless of the platform, it is also extremely easy to access this data in Power BI. Any cloud service with an API available can easily be accessed.

For on-premise data in older systems, there is an on-premise gateway for SQL data that should provide you with all of the access you need but may require a developer to do.

If you have data in spreadsheets this can also easily be uploaded or if it's stored in OneDrive/ SharePoint connected to as well.

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## Sharing your findings

After you've created reports and dashboards, you can share them so end users in the Power BI service and mobile devices can view and interact with them. Being able to control how you share your work is one of the most important features of the Power BI service.

You create workspaces where you and your colleagues can collaborate on reports and dashboards. Then you can bundle and distribute them as apps. You can also share the datasets themselves, so others can use them as a basis for their own reports.

Like most Microsoft offerings you can easily access Power BI reports on any device, via a browser, making it even easier to access findings and data on the go.

# Security

Power BI is completely secure in the cloud. Using Azure Active Directory permissions similar to across your entire Microsoft 365 suite, you define who has access to workspaces, reports, data sources and even row, field or column level security.

Azure Active Directory provides multi factor authentication and a range of security features making it the ideal tool to support Power BI.
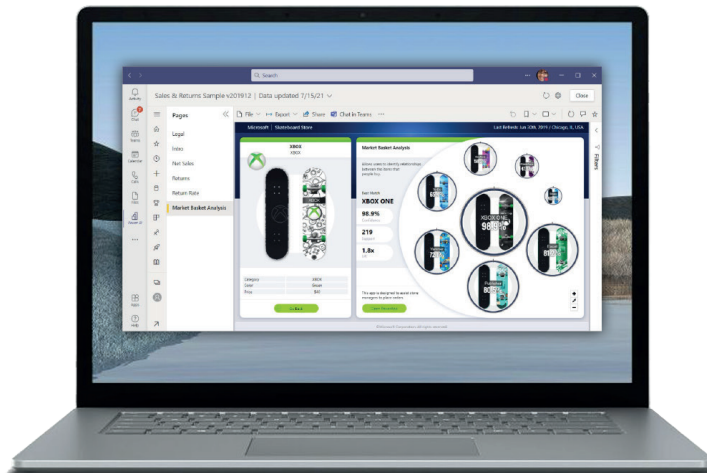
You can utilise Microsoft information protection sensitivity labels across your data, reports and dashboards to guard your data against unauthorised access.

# Power BI & Microsoft offerings

### Microsoft 365

Full integration is available with Microsoft 365 including Teams, SharePoint and the rest of the solutions. You can easily embed Power BI reports in Microsoft Teams to make them more accessible than ever. With SharePoint you can use Excel spreadsheets stored in SharePoint or SharePoint lists as data sources for your reports as well as embed Power BI reports within SharePoint pages.
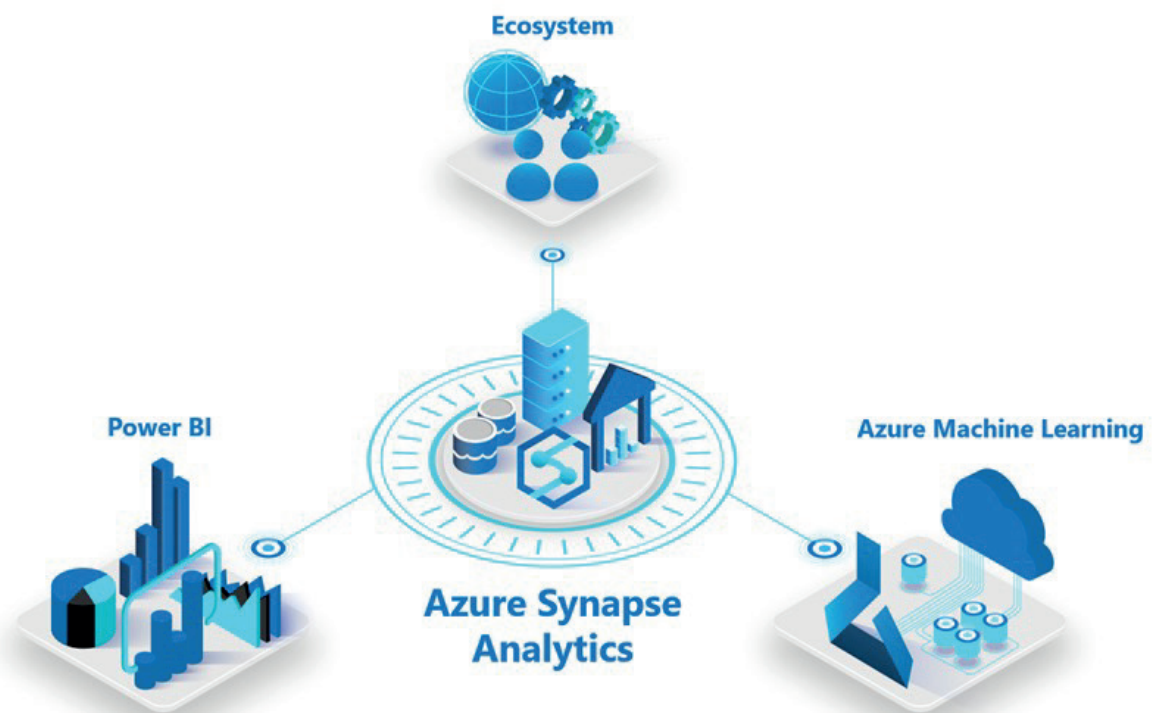


### Dynamics 365

Power BI is well embedded in the Dynamics 365 suite. Many of the Dynamics 365 solutions have replaced the inbuilt reporting capability with Power BI reports and there is a simple set of connectors to connect that data to Power BI to create custom reports.

## Azure Data Platform

One of the best integrations available is with Microsoft Azure Data Platform capability, specifically Azure Synapse Analytics. Azure Synapse Analytics is Microsoft's leading data warehouse and analytics platform. It allows organisations to capture and store their data in a structured way. It also comes with full integration with Power BI, allowing you to link your workspaces and share data easily.

You can create new reports or consume your existing Power BI datasets and reports, all within Synapse by simply linking your Power BI and Synapse workspaces. You can make any edits to your reports in Synapse and the changes will instantly propagate to all users. This tight integration between Power BI and Azure Synapse greatly reduces time to insights as BI Analysts and Data Engineers can collaborate easily in a single development environment.

# Power BI services

As Power BI is a collection of services, we thought it was worth explaining each of the offerings and how they should be used.

### Power BI Desktop

Power BI Desktop is a free application you install on your local computer that lets you connect to, transform, and visualise your data.

With Power BI Desktop, you can connect to multiple sources of data, and combine them [often called modelling] into a data model.

This data model lets you build visuals, and collections of visuals you can share as reports, with other people inside your organisation. Most users who work on business intelligence projects use Power BI Desktop to create reports, and then use the Power BI service to share their reports with others.

### Power BI Pro

Power BI Pro, is the most popular service available from Microsoft. It provides a wide range of capability and is for users within your organisation who need to create, share, publish and access Power BI reports. Collaboration and access to the online platform are the key capability provided by Power BI Pro.

### Power BI Premium

Power BI premium is the enterprise level solution from Microsoft. It is designed to support organisations with more complex reporting needs. Power BI Premium also provides a license option for your entire company, meaning you don't need to purchase a license for every user within your organisation. Power BI Premium also provides additional capability in terms of model sizes, refresh rates, on-premise connectivity and advanced AI capability.

Depending on the size of your company and the number of users, the per company one might be beneficial.

### Power BI embedded

Power BI embedded is a service targeted at developers or providers of digital solutions. It allows you to embed Power BI reports into your applications or websites and serve up these reports to users of this system.

The pricing for Power BI embedded is based on the compute requirements.

# Power BI licensing

**Desktop:**     Free

**Pro:**     £7.50

**Premium:**     £15.10 per user per month

     £3760.00 per month

**Embedded:**     Starts at £548.00 per month

**What bundles include Power BI:**

Power BI Pro is also included as standard in M365 E5 bundles and if you have M365 E5 and wish to purchase Power BI Premium per user you can upgrade for £7.50.
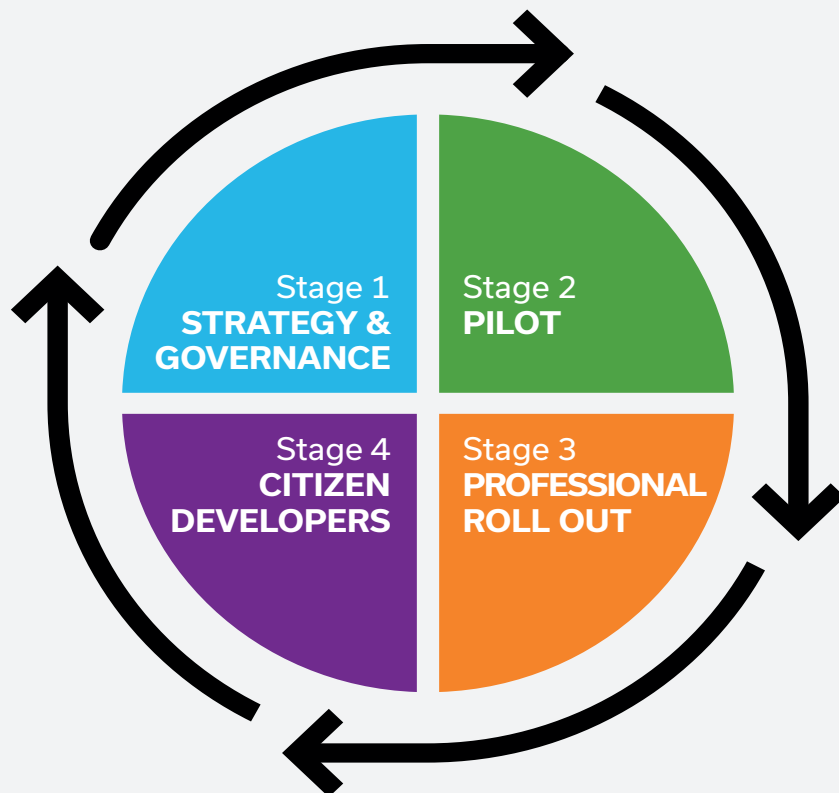
# Power BI roll out

Now you have learned what Power BI does, the licensing and the product options available, it is worth considering how you would roll this out within your organisation. This is a critical step to consider when ensuring you are getting the most value from your investment.

Power BI is an extremely easy to use platform that is designed to be used widely across your organisation. But simply giving everyone a Power BI license will not deliver the value you are looking for.

## Our approach

Our approach to rolling out Power BI is based on the idea of taking your organisation on a journey with data. It recognises a need for good governance and providing users support and training to maximise adoption.

**Stage 1 - Strategy and governance**

It is always valuable to define your strategy and what success looks like to you. This should include stakeholders from across your organisation. What is important to you, what resources you will need, who will own what stage of the roll out, all of this needs to be decided upfront.

Next is governance, keeping your data safe is a crucial step and having a governance strategy upfront is important to ensure control. Considering what groups of users will be able to access what data is important. Who gets a Power BI license and why, how do you request them. What happens once a citizen developer makes a report that becomes widely used, does your organisation validate the data to ensure its accurate. All of these will differ for your individual.

**Stage 2 - Pilot**

Once you have decided to roll out Power BI, it is always worth starting with a pilot project to demonstrate the value. This normally involves selecting a particular report or series of reports within your organisation and moving these to Power BI. Working with a Microsoft partner to design the project, ensure the data is prepared correctly and the report designed around the users and to support the key decisions being made.

**Stage 3 - Professional roll out**

Identify what reports and dashboards are critical to your organisation and ensuring these are developed and managed by your data or IT team/partner is important.

This is normally made up of finance reports, or management reporting for the board of directors, maybe reports that are publicised or shared with regulators. Key reports that can be used to run your business.

**Stage 4 - Citizen developers**

Rolling Power BI out to your users. The key words here are training and culture. Creating a group of super users and advocates, maybe one person from each department or team is a great way to start.

There are several training courses available where you can learn the basics in a day or two. These people can then go back into their teams and departments and start working on moving some of the spreadsheets and manual reporting to Power BI. This will help develop value in your organisation and build up familiarity with Power BI across a wider audience. Through a combination of super user led training and external training, you can help get more people up to speed with Power BI.

You can help set up this wider roll out for success by building a robust data model for your employees to use. Building reports is one thing but identifying, connecting to and transforming the data in your organisation to be ready to build reports is a more advanced step. By doing an assessment of your data, the different sources you have, the quality of your data and building a data model that you trust is a key step. Solutions like Azure Synapse Analytics are key to making a data warehouse and easily connecting this to Power BI. Providing users with no ability to edit the data but simply serve it up to their serve it up to their reports and dashboards.

# What's next?

## Power BI - Briefing

As one of a handful of preferred Microsoft content services partners, Bridgeall is perfectly placed to help improve the way your organisation collects, stores and shares knowledge.

If you would like to discuss how your business could implement and make the most of Power BI, get started with a Power BI briefing. Our Microsoft certified consultants will focus on your requirements and discuss how Power BI could benefit your business.

**FIND OUT MORE**

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Glasgow Head Office
George House
50 George Square
Glasgow, G2 1EH