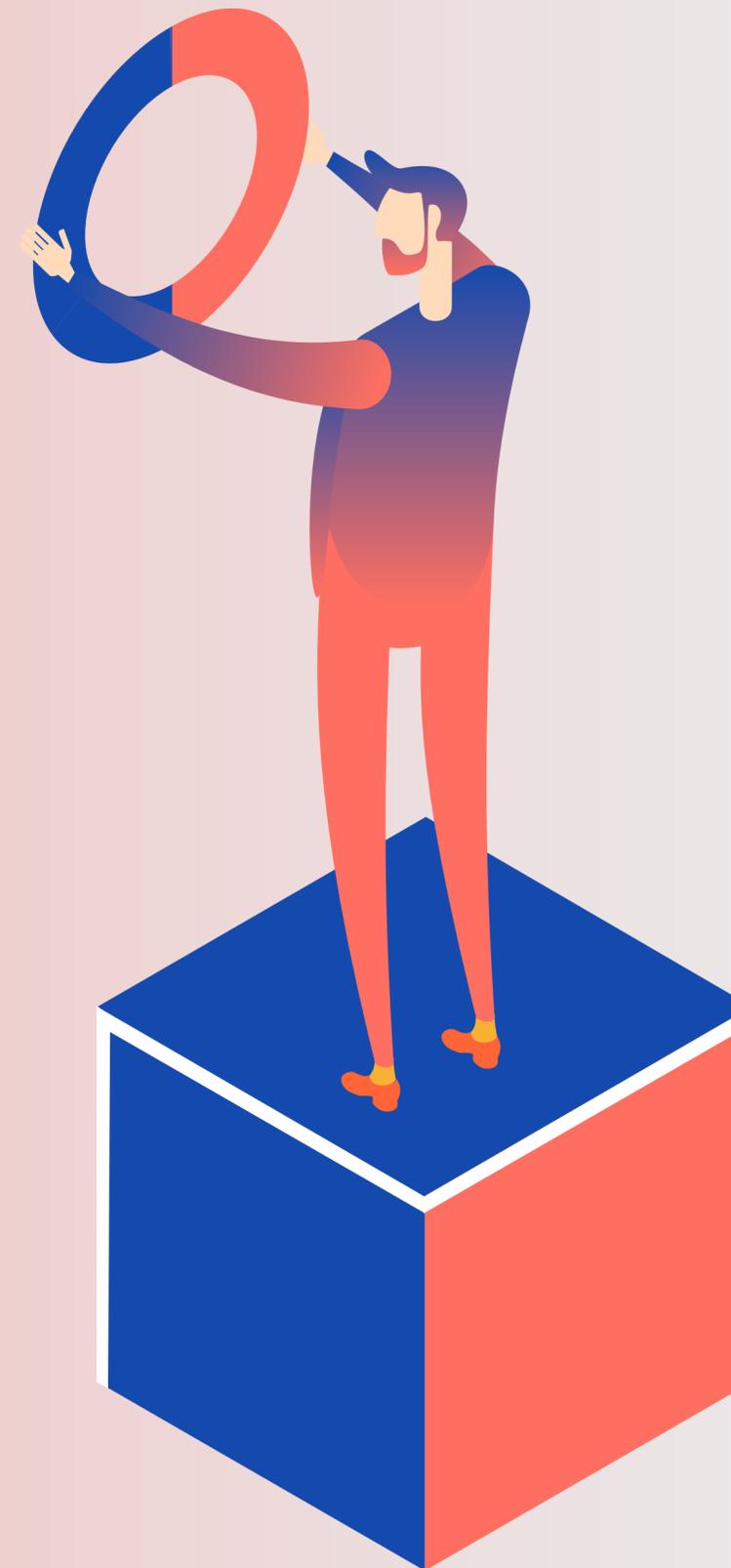


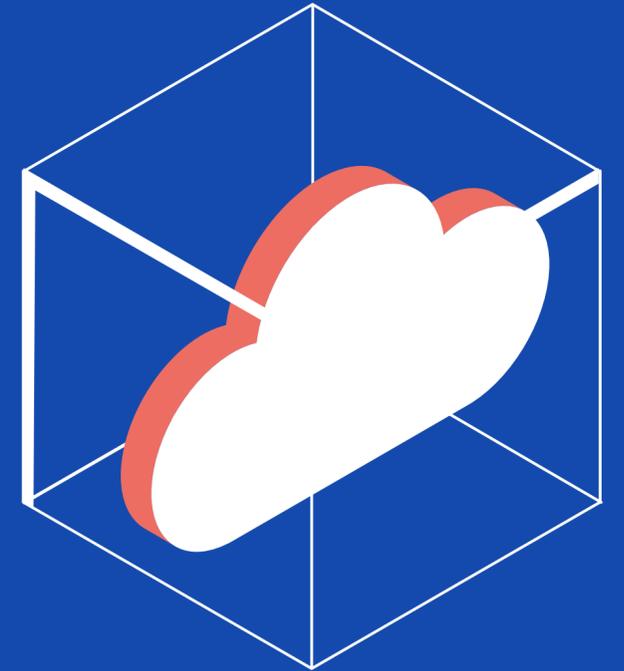
# *Google Analytics 4* **Why, when and how to start**

Janus de Visser



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# Business summary

Google Analytics is about to change – drastically. After two decades, Universal Analytics will be end-of-life mid-2023 (July for the free version, October for the paid version), and Google already released its successor in Google Analytics 4.

Google Analytics 4 merges app analytics and web analytics into a single package, and it's because of this reason that its initial branding name was app + web. But there's much more to this release than merely taking an all-in-one approach to analytics. Lift the bonnet (or hood, depending on your linguistic inclination) and you'll see what we mean.

Google is switching to a new data model, which means any organisation already using Google Analytics will also have to move with the times. And, although the platform is not fully delivered yet, is to be considered 95% ready for use. Allowing organisations to already learn, plan and capitalise on all great new features and be ready to make the switch when it becomes inevitable.





“



**The all-new Google Analytics is ready to take on the future.**

## So, what is Google Analytics 4?

Google Analytics 4 is far more than merely adding app data into the existing Google Analytics service. To understand this better, let's take a step back in time.

Google Analytics started out as Urchin Analytics – an analytics tool that Google acquired in 2005 and rebranded as we know it today. Did you know the code for Google Analytics properties starts with 'UA' – a reference to Urchin Analytics? And this is relevant to Google Analytics 4 because Universal Analytics' data model is as old as Urchin Analytics. Yes! It's now twenty years old.

Sooner or later, all legacy software reaches the end of its line, and that's where Universal Analytics is right now. Data volumes have been rising exponentially - on the back of smartphone and tablet usage - and Google Analytics' data model has been struggling to process these huge volumes. Time for Google to take action!

Brian Stark, Google Analytics product manager, revealed that Google wouldn't be able to process this data flow even if it used every single one of its servers. This won't be a surprise to hardcore Google Analytics users who will have noticed that the tool has been getting slower and slower over the past few years. Google is fully aware of the situation and is now taking steps to provide the solution.

Google Analytics 4 uses a totally revamped data model – far more than a cosmetic makeover. The all-new Google Analytics is ready to take on the future. So, it's time for all users to get ready for the future, too. Because the future's going to look very different than what we're used to.



# But is all this really that important?

Google Analytics 4 is the single most radical Google Analytics update in its twenty-year existence. The changes Google has made on the back end are so far-reaching that it has had to revamp the whole user front end, too.

In effect, we need to approach this as if it were a completely new tool. That's why it's important to get to grips with this change as soon as possible. Google will be phasing out its current, outdated version of Google Analytics. Google Analytics 4 is the future!

## Marketers

Your online marketers, who are currently using Google Marketing Platform's full arsenal of tools and Google Analytics data for Google Ads and DoubleClick, will have to learn how to build audiences using the new interface.

## Web/app analysts & CRO specialists

Analysts and CRO specialists spend the most time in Google Analytics and will be facing the biggest impact. Yet we're not actually all that worried about these two user groups because their in-depth knowledge of Google Analytics in particular and data models in general will enable them to get to grips with the new Google Analytics 4 data model in no time.



**It's up to your analysts to minimise Google Analytics 4's impact on your organisation.**





**There really won't be any valid excuses for this to be a surprise for your organisation.**

It's up to your analysts to minimise Google Analytics 4's impact on your organisation. Their task essentially boils down to providing data and insights and acting as first-line support for all your queries about the new Google Analytics. The sooner your analysts familiarise themselves with Google Analytics 4, the better they'll be able to support your marketers, managers and product owners with the transition to Google Analytics 4.

### **Developers**

One thing won't change – it's always been up to web and app developers to make sure that there's actually data available to use within Google Analytics. Nonetheless, they will have to get their heads around the changes that Google's new data model is imposing on them.

The good news is that we've developed a solution to minimise the impact on your developers. Developers will have to embrace a new way of working, which means you'll have to update your measurement plans and documentation.

### **Analytics-savvy managers & product owners**

We're anticipating that this user group will be the hardest hit. Those of us who don't use Google Analytics on a daily basis have probably only learned how to extract the most relevant or essential insights. They'll most likely have too little time to get to grips with the intricacies of the all-new Google Analytics 4, which will prompt one of two possible responses:

- 1** I'll forward all requests to the analysts (who'll soon be drowning in requests).
- 2** Data-driven working is too time-intensive.

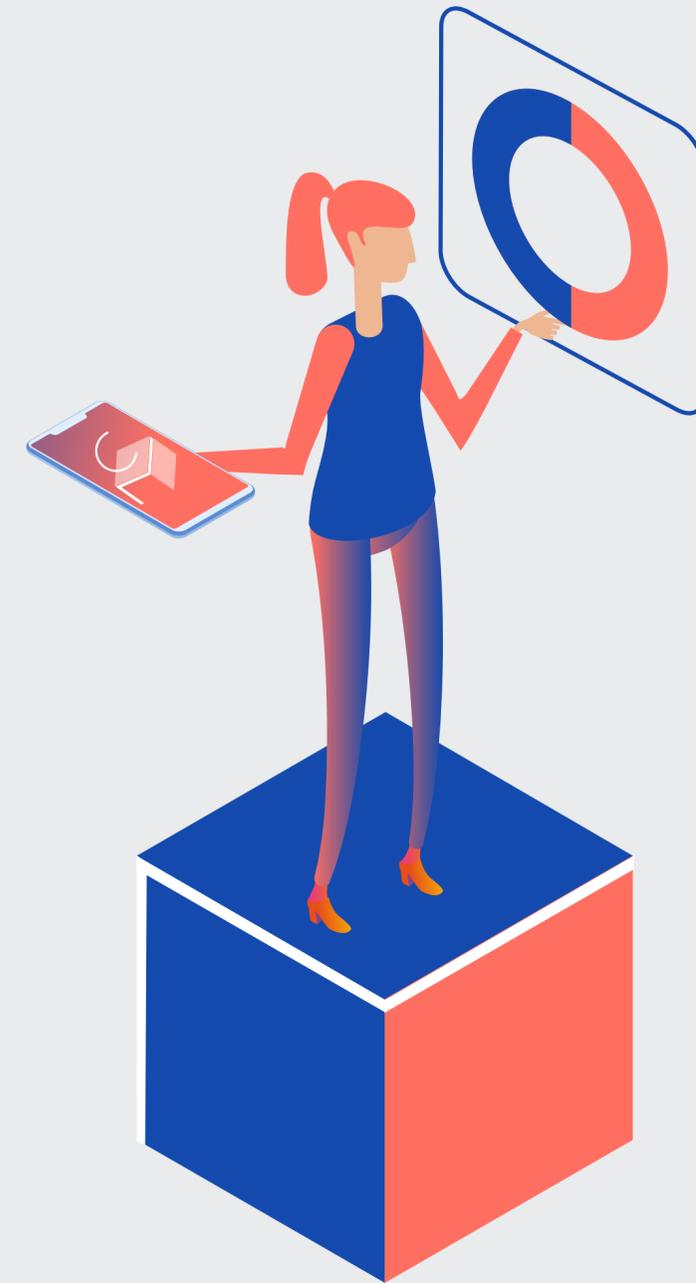


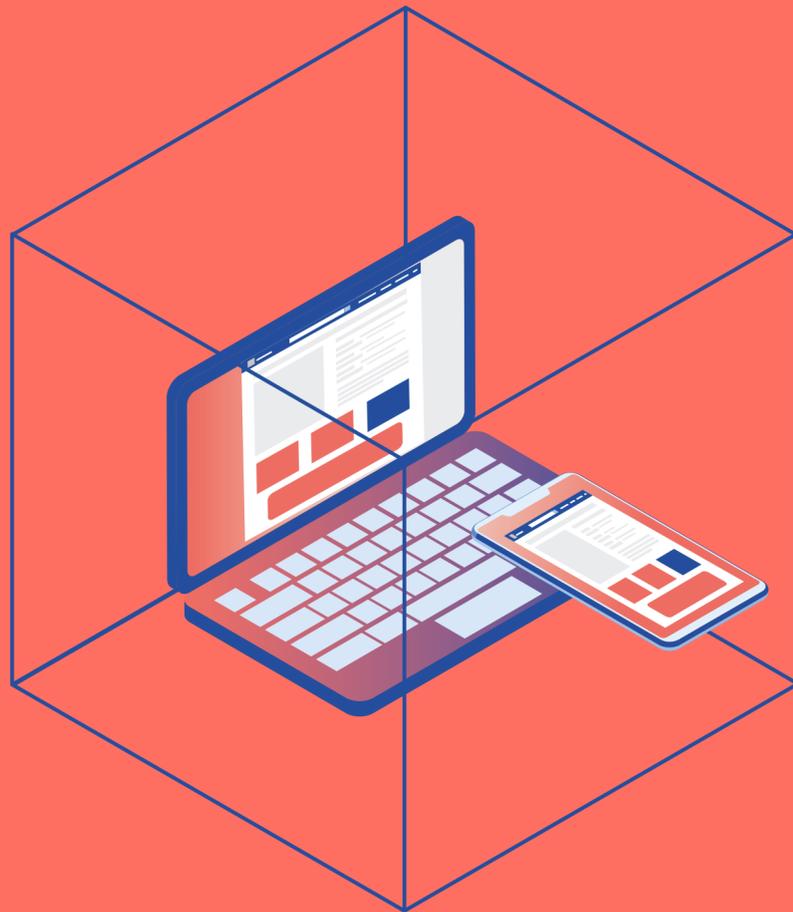
## BI Analysts and Data Scientists

With more advanced setups Google Analytics data is used in multiple reports and applications with the use of Google Cloud (BigQuery). With Google Analytics 4 the export to Google Cloud is renewed as well requiring rebuilding reports and applications, and getting familiar with the data model.

Proper preparation is paramount. And Google knows this as no other. Google saw the impact that even a minor update could have on an organisation with the arrival of Enhanced Ecommerce several years back. That's why it's made the Google Analytics 4 available early on and is rapidly developing features to improve user-friendliness and intuitiveness.

What's more, it makes now the perfect time for everyone to start familiarising themselves with Google Analytics 4 and preparing themselves properly for what's coming. There really won't be any valid excuses for this to be a surprise for your organisation.





# Added value

Up until now, we've only discussed the unavoidable impact of the switch. It would be missing the point to focus solely on safeguarding what Google Analytics already offers organisations. Fortunately, Google's new data model will provide a whole range of new features and upgrades that will truly benefit your organisation. Here's a selection of what Google Analytics 4 has to offer:

## Unified analytics

Visitors, users, customers and prospects interact with your platforms using a variety of devices. Google Analytics 4 makes it possible to consolidate these interactions into a single set of metrics and dimensions and attribute them to unique users on your platforms.

## Events, events, events

The new Google Analytics 4 data model focuses on 'events' (metrics) and gives you the flexibility to shape and mould them to your organisation's requirements.

## Measure events in a single click

Another great feature is the ability to turn selected events such as scrolls, outbound clicks and downloads on and off without the need for any programming. You'll be able to activate this feature in the Google Analytics admin environment without having to call on your developers or data engineers.



## Flexible analyses

With the arrival of Google Analytics 4, Google Analytics will also be winning the hearts and minds of even the most seasoned analysts. Its analytics module, previously available as a beta for Google Analytics 360 customers, will be available to one and all.

## Predictive audiences

Most of us still remember those infernal maturity model graphs in which predictive analytics was the be-all and end-all to success. Google will now be incorporating this into a simplified interface in the form of 'predictive audiences'.

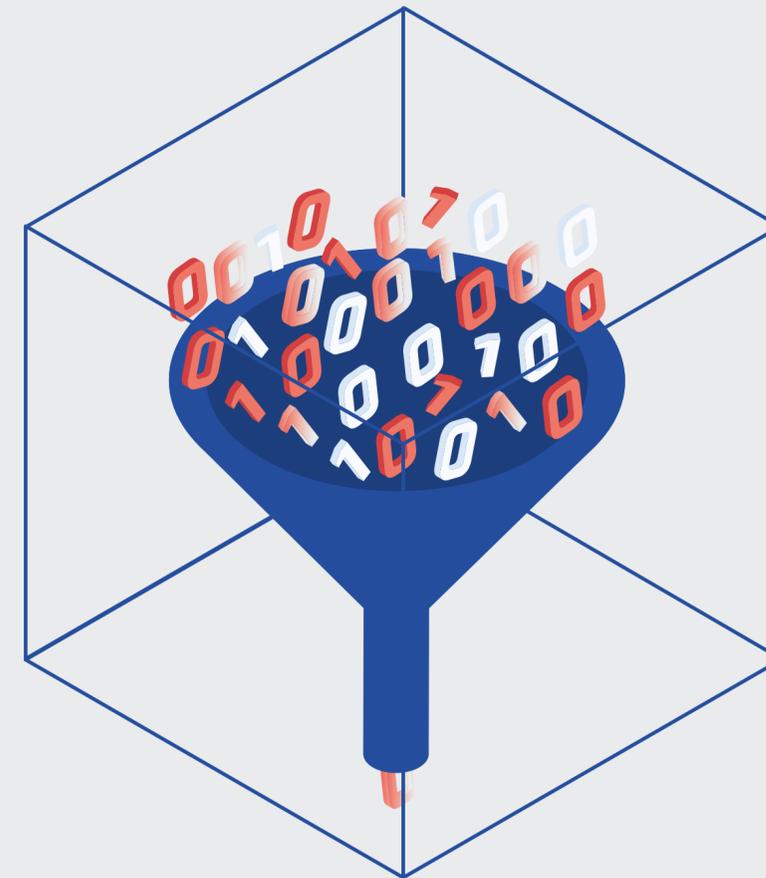
In just a few mouse clicks, you'll be able to create target groups of visitors you predict are most likely to make a purchase in the upcoming week. You'll also be able to split these groups using Google marketing tools to target a particular segment even more effectively or to skip a less promising campaign.

## Attribution Modelling

For Universal Analytics, the attribution model was standard last-non-direct click, for Google Analytics you can pick your own attribution model.

## Google BigQuery Integration

Google Analytics 4 comes with a free Google BigQuery integration, opening all sorts of applications. In Universal Analytics, a BigQuery integration was only for Google Analytics 360 users.



# What's Google's timeline?

Good question! Google announced in March 2022 that Universal Analytics will no longer process and collect any data onwards from 1st of July 2023 for the free plan, and 1st of October for Universal Analytics 360 users. 6 months later customers will no longer have access to their Universal Analytics data and properties.

In general it is advised to make sure you have a year's worth of data to allow for proper trend analysis and year-on-year insights. Which means ideally Google Analytics 4 data collection is properly set up 12 months before the end-of-life date of Universal Analytics: end of June 2022 for users of the free version, and end of September 2022 for users of the premium version.

In addition, although users of the premium version are given significantly longer to make the transition, they'd be well advised to make the switch as quickly as possible to reap the rewards of the numerous great new features the platform offers.



**Ideally Google Analytics 4 data collection is properly set up 12 months before the end-of-life date of Universal Analytics: end of June 2022 for users of the free version, and end of September 2022 for users of the premium version.**



# What's already possible with Google Analytics 4 and what's not?

The current version is 95% ready and allows you to familiarise yourself with the new property type. Additionally, Google Tag Manager already has the new tags you'll need for website monitoring purposes. These are both relatively self-explanatory. What's more, you can now easily add app data to the new property.

You can already find several articles explaining how to integrate your app and web data. Former Google employee [Krista Seiden](#) has already written several clear, concise blogs to help you set up this property – definitely worth a read! Google will be giving you time to get up to speed before you'll have to flip the switch within your organisation for good. But, you should start collecting data today by using the new property, the clock is ticking. Set up dual setup alongside your website's standard monitoring. Doing so will help you with the following:

## 1. Knowledge

A dual setup will help you learn how the new property works. You'll discover how to set up monitoring, how to visualise your data within the interface, and which limitations currently exist. By running both in parallel using the same data, it will make it much easier for you to familiarise yourself with the clear differences between the old and new interfaces.



## 2. Adoption

The sooner you start yourself, the sooner you'll be able to start sharing what you've learned with the rest of your organisation. From experience, adopting a new data model and a new tool takes a lot of time. Your co-workers will be used to using reports and seeing statistics in a given format.

This is all about to change, and the last thing you'll want is for everyone to come to a grinding halt if you decide to switch data formats on them overnight. Avoid friction and make sure your co-workers are prepared for what's in the pipeline.

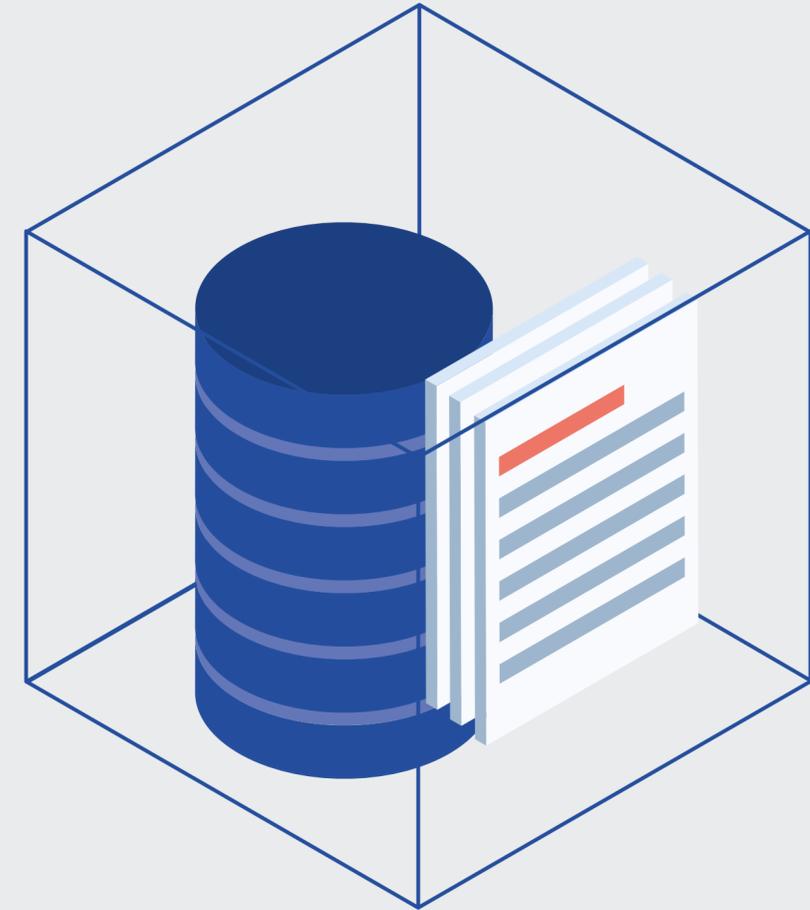
## 3. History

If you only start collecting data the instant you switch to Google Analytics 4, you'll suddenly realise you've got no historical data. Is this a big deal? Yes! For starters, you won't be able to make comparisons with the same period a year ago. And if you think you'll be able to compare your Google Analytics 4 property data with your existing property data, you'll be sorely mistaken. It will be like comparing apples and oranges.

Metrics in the new data model work differently and provide a very different perspective on reality. This is why it's vital you start collecting historical Google Analytics 4 data as soon as possible.

## 4. Preparation

A day will come when Google Analytics 4 is the default system, and you'll no longer be able to use your current Google Analytics properties. With proper understanding throughout your organisation and armed with your historical data, you'll be able to hit the ground running.



# Will you have to start from scratch?

We've already seen several data model changes. Cast your mind back to the arrival of Enhanced Ecommerce and the switch from Classic Analytics to Universal Analytics. And the arrival of Tag Management on the scene, too. All of these were major changes that meant you had to set up your monitoring differently. What's more, they all involved reconfiguring your system from scratch – a costly and time-consuming process for analysts and developers alike. So, will you have to do all this again with the arrival of the new property?

The shift to Tag Management systems meant that monitoring became more dynamic – information was no longer hardcoded within your website, but retrieved from a data layer and passed to any number of marketing platforms. Luckily, the data layer approach remains the best practice for Google Analytics 4, which means it's not actually necessary to implement an entirely new data structure on your website. So, you'll be able to reuse much of your existing data structure for the new Google Analytics. For your app data, you are already using Firebase.

Firebase Analytics, however, does rely on hardcoding, so this will require a different approach, but more about this later. Using an integration, you can link Firebase and Google Analytics 4 to populate the new property quickly and easily.

The Google Analytics 4 tag in Google Tag Manager requires a specific data layer structure for its e-commerce metrics – the current e-commerce data layer syntax will be changing, as will the naming conventions. For example, 'products' will become 'items'. Small changes like these are the reason why the Enhanced Ecommerce data layer is incompatible with the Google Analytics 4 tag.

Fortunately, you'll be able to reuse your current data layers by performing a few clever tricks in Google Tag Manager. How does this work? The information on your website is already valid, but you'll need to restructure it slightly. If you've already got an e-commerce data layer, then you can use this without any problems by making a few tweaks in Google Tag Manager.

Conversely, you may not yet have any e-commerce metrics, but you may have been thinking of implementing them. If so, should you opt for Universal Analytics or the Google Analytics 4 route?



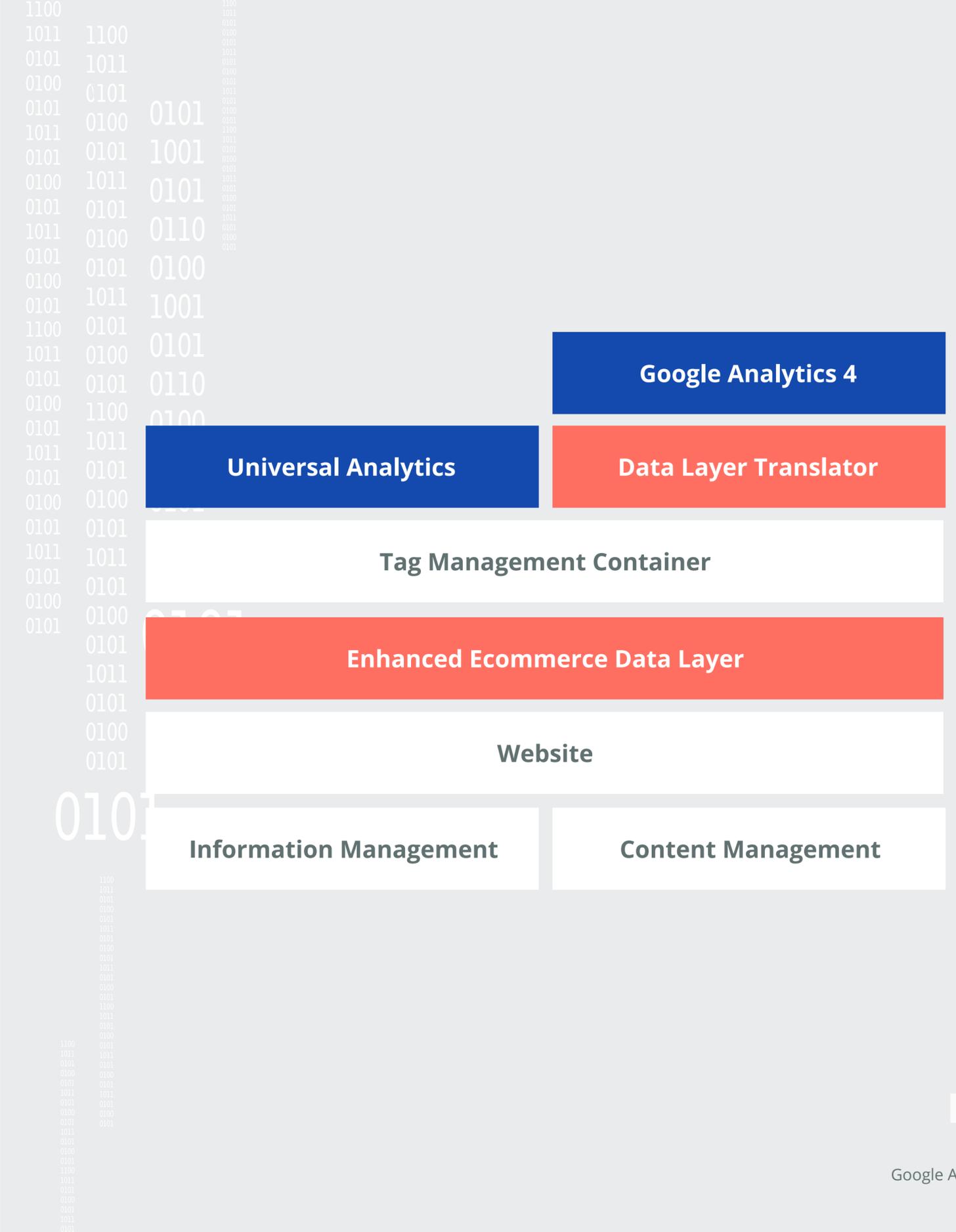
We've identified three scenarios for web:

## 1. Forward compatibility

If you've already implemented a fully functional data layer, and you're using Google Analytics Enhanced Ecommerce, then you've already got all the information you'll need on your website, even though you've most probably structured it for the current version of Google Analytics. Google Analytics 4's data layer design is different, which in theory would mean you'd have to rethink your data layer and invest the time, resources and money to do so. However, we've come up with a solution that avoids any additional investment by reusing your current set up.

It's possible to reuse your current (Enhanced Ecommerce) data layer, using an option in Google Tag Manager to create tag and variable templates. At Cloud Nine Digital, we've successfully created a template that 'maps' your existing Enhanced Ecommerce data layer to a Google Analytics 4 data layer before passing it on to Google Analytics.

This approach allows you to start using Google Analytics 4 quickly and easily with your current set-up. However, this is not a permanent solution. Ultimately, Google Analytics 4's data layer model will offer many new options and features that you'll want to use. So, think of the template as a temporary fix – a mapping or rather a map to direct you until you know your way around yourself.



## 2. Backward compatibility

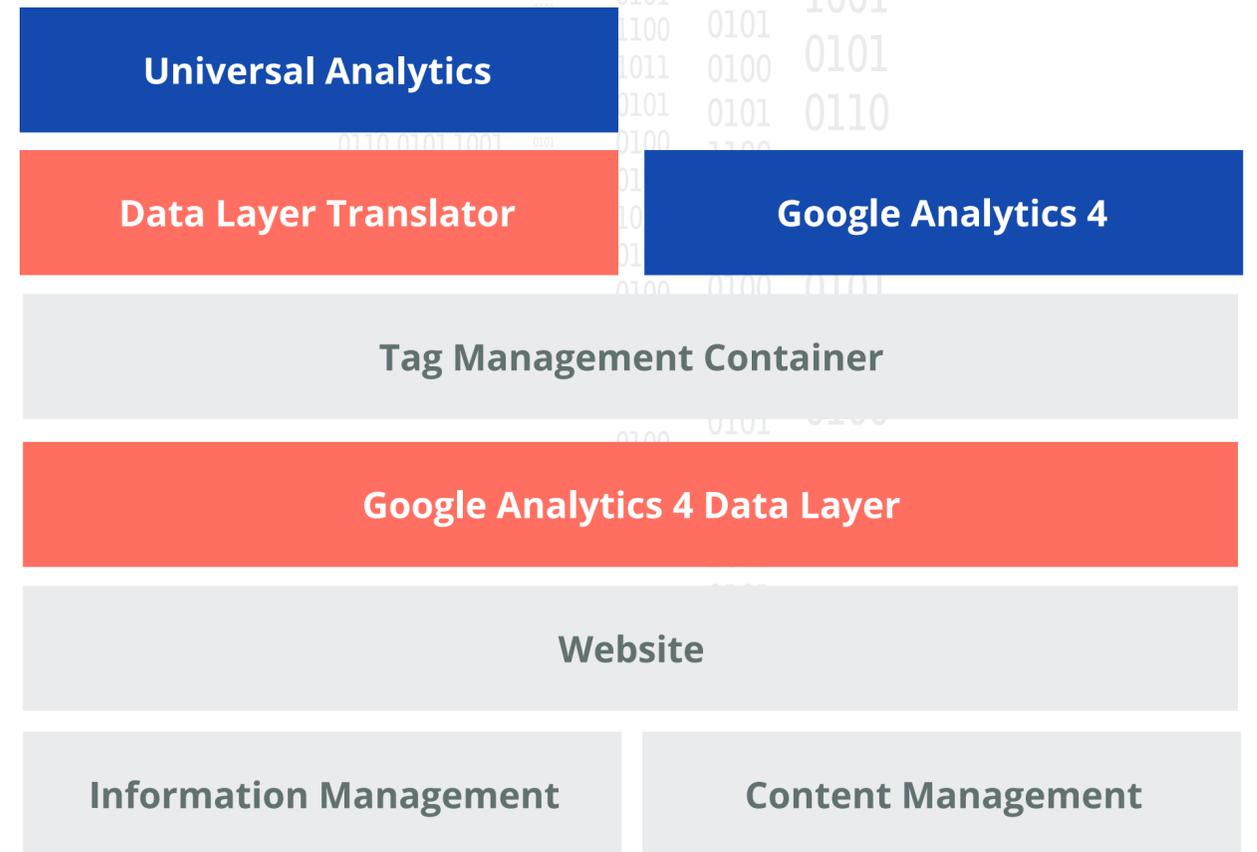
A second option is similar to the scenario we outlined above, but the other way around. It involves implementing the new Google Analytics 4 data layer and mapping this to your old Enhanced Ecommerce data layer for the duration of the transition. This option would be more logical if you were already thinking about revamping your data layer or setting up a new domain with analytics functionality.

From experience, the average lifespan lasts three to six years, depending on your maintenance and development rate. With this in mind, now may be the time to switch to the new Google Analytics 4 data layer design to avoid having to make a double investment in a short space of time.

At the time of writing this white paper, not all wished-for features are available in Google Analytics 4 properties. This means that if you opt to take the Google Analytics 4 route, you initially won't be able to make full use of your new set-up. So, if you opt for this approach, it's important that you map your data for your current Google Analytics set-up and don't become too dependent on the Google Analytics 4 version quite yet.

To achieve this, you can create a custom template in Google Tag Manager to map the new data layer for use with your current version of Enhanced Ecommerce. An added bonus is that you'll have all your reports – new and old alike – available in Google Analytics.

This approach is currently ahead of the curve, but the nearer we get to the transition period, the more relevant it will become.



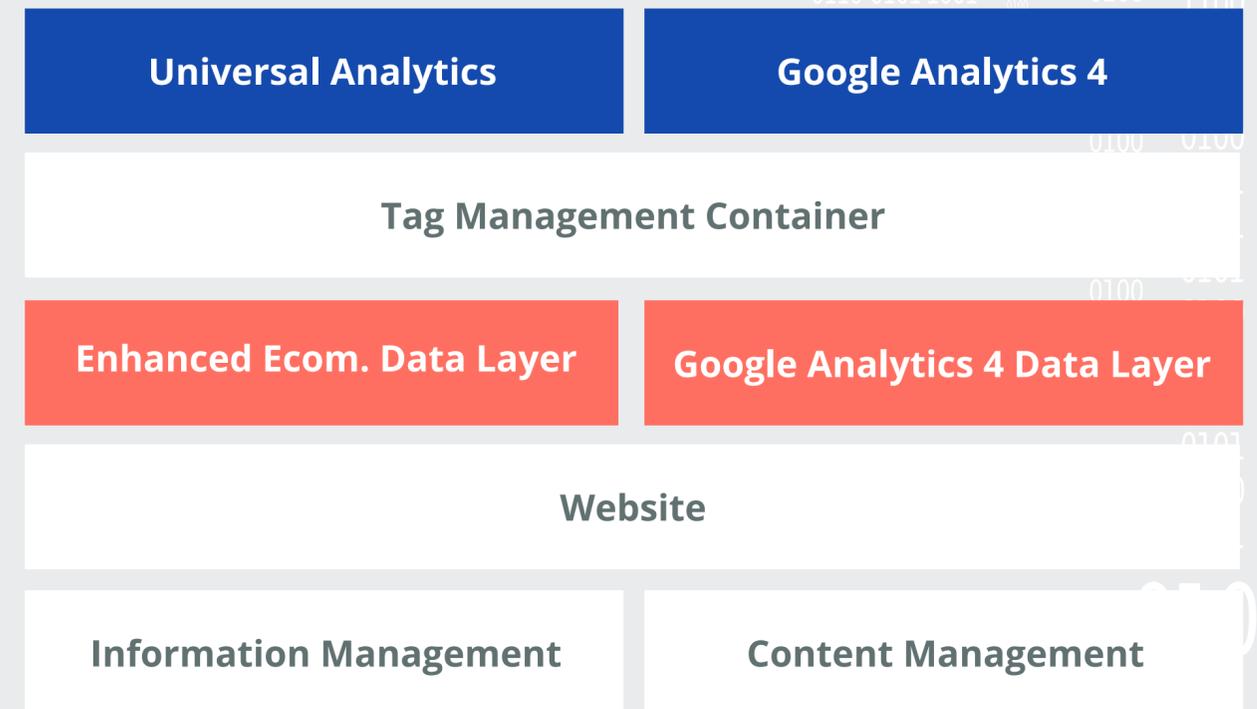
### 3. Parallel compatibility

The two approaches we detailed above rely on mapping from old to new or from new to old in Google Tag Manager. However, doing so adds an extra link to the data-processing chain, and with it a potential weak spot. Applying our usual philosophy, we'd much rather minimise the number of links in the chain in order to simplify maintenance and reduce costs. This is where our third approach comes into play – a parallel set-up with a Google Analytics 4 data layer alongside your existing data layer.

Taking this approach avoids having to map data and is, therefore, easier to maintain and less error-prone. However, it does involve the added cost of having to maintain two data layers instead of one.

We foresee that a parallel set-up will be most suitable for organisations that are highly adept at implementing and configuring analytics systems. Iteratively updating each data layer also minimises the overall impact and allows you to take immediate advantage of any improvements. So, by configuring the right data layer for your online domain, you'll have fewer links in the data-processing chain, less chance of errors occurring and zero reliance on custom Google Tag Manager templates.

This approach is particularly appealing if you've got plenty of development resources available. When it comes time to switch to Google Analytics 4 and you no longer need your old data layers, all you'll have to do is remove them from your site so you don't have any legacy set-ups hanging around.



# And how about your apps and Firebase Analytics?

Firebase Analytics is the app data collection tool Google Analytics 4 uses to measure and forward data to Google Analytics. Google Analytics 4 then combines data from two sources into a single reporting structure, without needing a new Firebase implementation for your app. It goes without saying that you'll have to be using Firebase Analytics to collect app data. We recommend paying careful attention to the following issues when setting up app analytics.

## SDK

Configuring app analytics starts with installing the basic Google Firebase SDK. Firebase is a platform for building and managing apps. It's a versatile platform that also offers several additional features besides analytics, such as sending direct messages and conducting A/B tests within apps.

When creating a Firebase project, you'll need to enable the Google Analytics option. (You can also find this setting under 'Integrations'.) Then, you'll have to implement Firebase in your app, including the analytics SDK.



## Naming conventions

It's vital that you take a close look at your naming conventions before you start expanding your app analytics with metrics that relate to any of your KPIs or similar objectives. This is something that many people overlook when reconfiguring analytics, but there's simply no escaping these where Google Analytics 4 is concerned.

Why is this? Combining app and web data forces you to use the same naming conventions for both. In most cases, you'll have been collecting web data for far longer, which means you'll have to reconfigure your app set-up to match your web set-up if you're looking to reap the benefits of unified analytics that Google now provides.

## Right first time

App releases work differently than web releases. You'll be familiar with the process of registering your apps with an app store and then waiting for approval before they're available to your users. What's more, you're then totally dependent on your users as to whether they actually update your app on their mobile devices. In other words, it takes at least a day before you get store approval for your app update and it may take months before all your users get around to installing it.

This means that you have to get it right first time around because tweaking things after the fact simply isn't an option for apps as it is for web. Configuration errors can contaminate data for months on end with major consequences.

## App developers & app analytics

We've been configuring analytics metrics in apps in close collaboration with app developers for several years now. As with web-based analytics, we encounter varying levels of expertise among these app developers. What we often see is that app developers are still relatively new to the concept of analytics and its related issues. This means that there's a greater likelihood of something going wrong and a need to focus more intently on support for your developers and quality control.

We regularly work shoulder to shoulder with developers while configuring app analytics so we can assist and answer any questions as they arise.

Another sweeping generalisation, but so often the case in our experience, is that iOS developers are more stubborn than Android developers. They're more inclined to assume everything will be okay. Don't buy this line – adopt the same stringent quality control for both.

## Double investment

We probably don't need to mention this, but don't forget that you'll need to budget for double the investment for your app analytics. For app developers, it goes without saying that if you want to develop for iOS and Android, they'll have to do a lot of things twice. A marketing manager, on the other hand, who's used to web analytics may overlook this crucial fact. In general, two operating systems means twice the amount of work.



# How to get started

It's great knowing that you can already start collecting web data, but where and how should you get started?

## Basics

We recommend starting with the configuration of your page view metrics. These include all your basic metrics and get you a long way towards achieving most of your goals. Google Analytics 4 also provides a feature called Enhanced Measurements. The all-new Google Analytics 4 pixel automatically collects the following metrics:

- File downloads
- Scroll
- Outbound clicks
- Site search
- Video engagement

These combined will give you a clear picture of visitor behaviour. Enabling this functionality will allow you to test whether the metrics meet your expectations.





## Customisation

Besides the basic metrics, you might want to collect more comprehensive metrics, for example e-commerce data, user IDs or custom events. To achieve this requires a deeper understanding of the platform. What's more, you'll also have to think quite carefully about how you configure your metrics given Google Analytics 4's current limitations. Some of the challenges you may encounter include:

- 1 How should I tackle parameters and event naming?
- 2 Do I need a new data layer?
- 3 How should I configure Google Tag Manager?

To answer these questions, it's vital that you have a clear picture of your requirements. Do you know which metrics you'll need and what they're for? Do you know who'll need which metrics and why? We recommend that you define these requirements in a Solution Design Reference (SDR). An SDR serves as a benchmark for all the metrics you'll need to collect. It clarifies which metrics you'll ultimately need to configure within Google Analytics 4 to carry out all your marketing and analytics activities.

Because Google Analytics 4 is still in development, it's still unclear what reports will look like and whether the logic behind the new property will remain the same, for example Enhanced Ecommerce's list attribute. Will e-commerce actions be attributed to a list referenced earlier in the e-commerce funnel as is currently the case, using list variables? No one knows.



## Approach

There are two basic approaches available to you:

### 1 Linear:

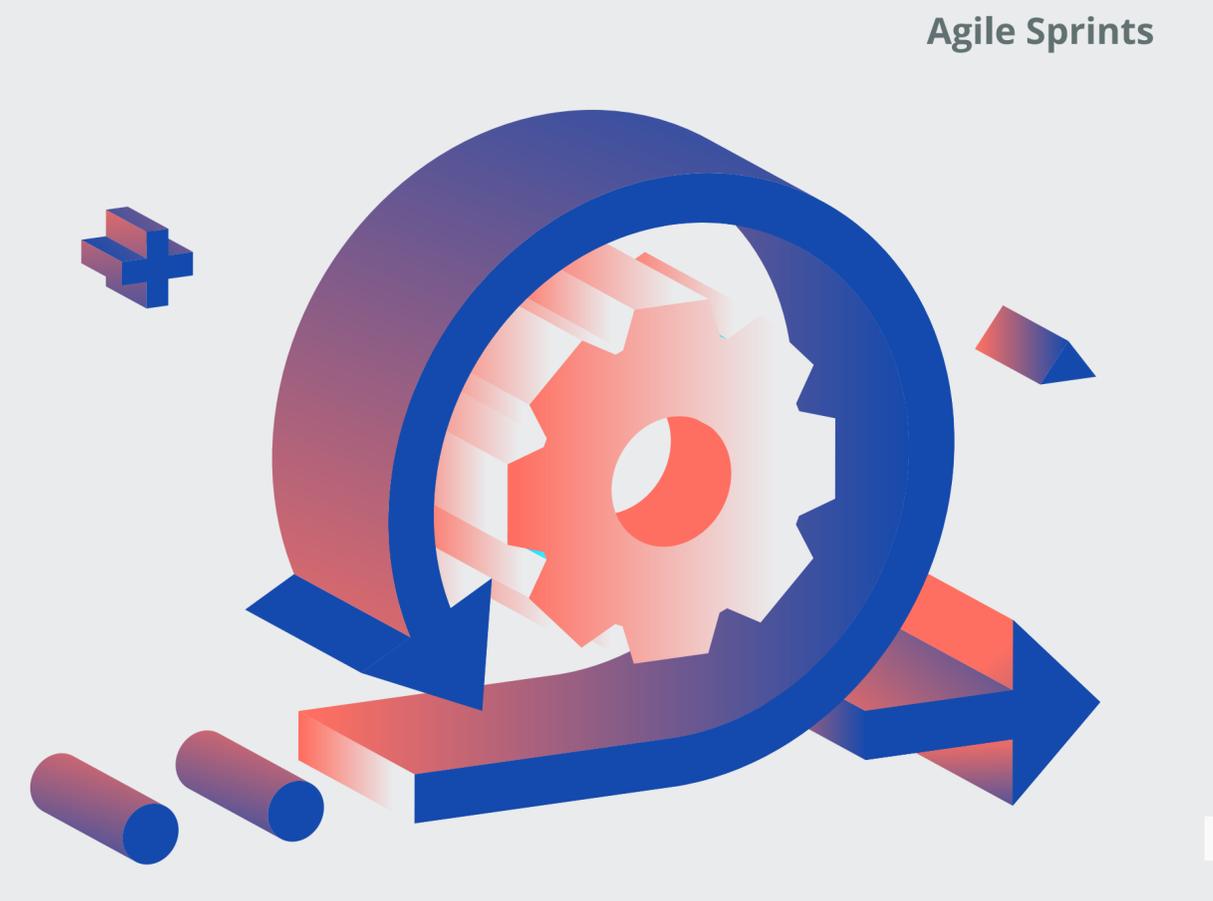
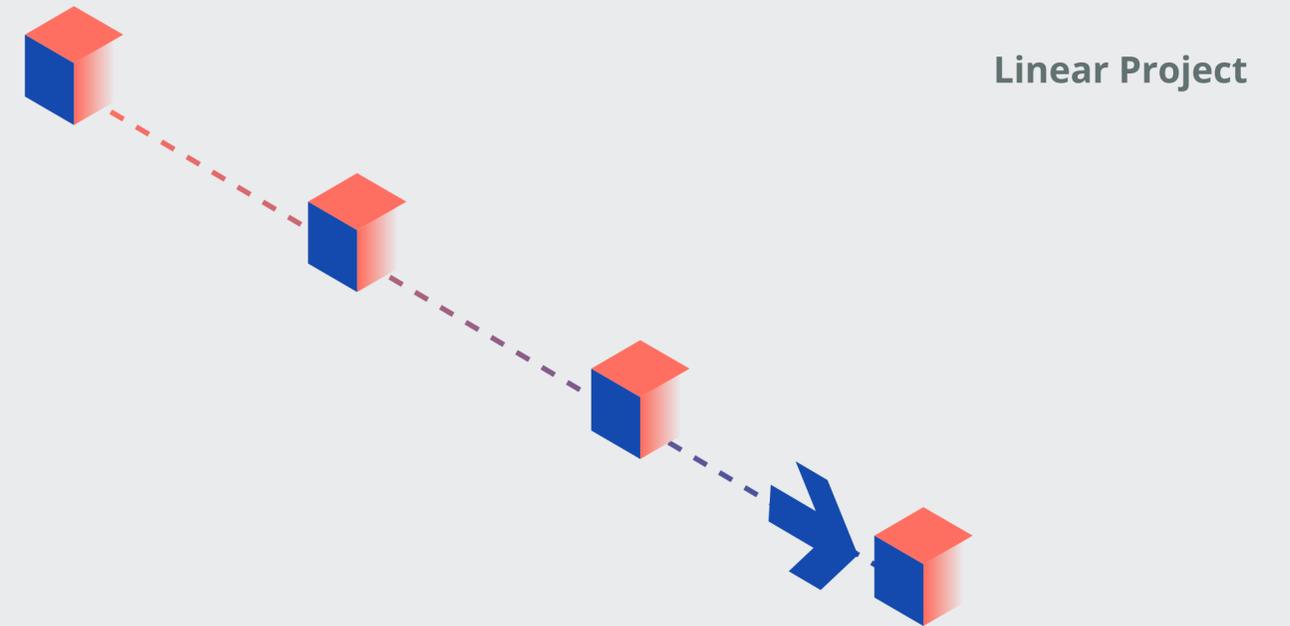
This approach has a set start and end point, and you check off each of your SDR requirements one by one.

### 2 Agile:

This approach is iterative, and you cycle through several rounds of transfer, development, testing and release stages to tackle all your SDR requirements.

We generally tackle configuration projects linearly, working with clearly defined start and end points. However, we're finding that an agile approach works better at the moment because we're so dependent on the features that Google has released or is still to release for the new property.

So, start with your KPIs and determine to what extent Google already supports them. Keep up to date with future Google Analytics 4 releases so you can take advantage of any new features.



## In summary, we recommend the following approach:



Create a new Google Analytics 4 property for your dual setup.



Start configuring Google Analytics 4 page views.



Integrate your app data into your property with a Firebase stream.



Determine the requirements for your Google Analytics 4 property.



Draft your data design and technical implementation



Tackle your implementation requirements by adopting an agile approach and keep abreast of future Google releases.





**Nothing causes  
greater resistance  
or pushback than  
surprises.**

## How to gain support for Google Analytics 4 adoption throughout your organisation

Needless to say, it may be quite a challenge implementing this new technology and way of working within some organisations. It's with good reason that change management exists as a specialism.

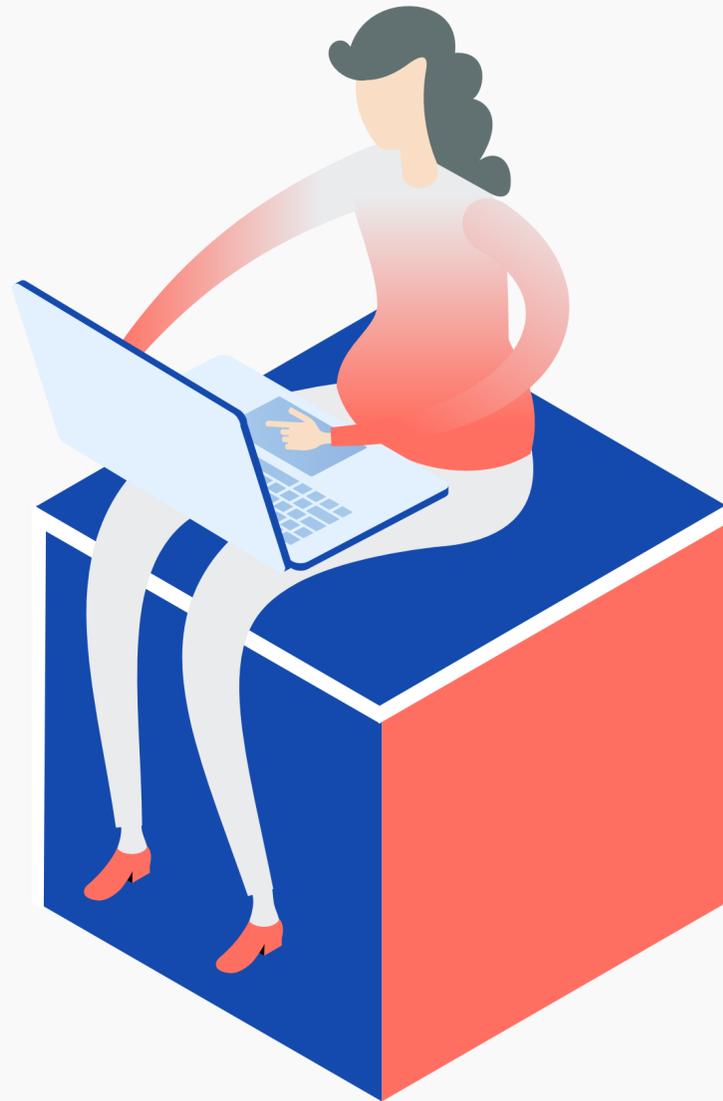
We've developed several methods that can help you gain support for successful Google Analytics 4 adoption throughout your organisation. Two major issues when garnering support are how to avoid surprises and ensure minimal impact. In other words, keep it sweet and simple (KISS).

### **Avoid surprises**

There's simply no way of getting around the fact that change management involves – yes, you guessed it – 'change'. And nothing causes greater resistance or pushback than surprises. It will help you enormously if you start communicating these changes as soon as possible to give people the time to prepare themselves and adjust to their inevitability.

We actually foresee an opportunity for quite a natural and organic process regarding communicating Google Analytics 4 developments within your organisation. The very nature of Google's beta phase and regular updates can help you in this respect. Take,





for example, predictive audiences, which will appeal to performance marketers in particular even though they'll require a new way of working. Send them an update explaining what it will allow them to do and where they can find more detailed information.

Gradually, more and more stakeholders will become aware of the pending changes – update by update.

## Ensure minimal impact

To minimise the impact of Google Analytics 4's adoption, we recommend that you focus on convenience. There's no better way to achieve this than by getting things ready for your users in advance. Your analysts play an important role in helping you pave the way. And these are just some of the preparatory tasks they can perform to minimise the impact:

### Rebuild existing reports

Many Google Analytics users have a fixed set of custom reports they use on a regular basis. Rebuild these reports in Google Analytics 4 and share a link to them with your users. This will help smooth the transition by lowering the hurdles.

What's more, providing this type of assistance will make any questions and queries you may receive far more relevant – certainly more profound than, 'Where can I find this report?'



## Get your segments, custom dimensions, conversions and audiences ready in advance

In a similar vein to rebuilding frequently used reports, there are many elements you can recreate in the new Google Analytics environment that will simplify things for your users. These include filters, segments and calculated metrics.

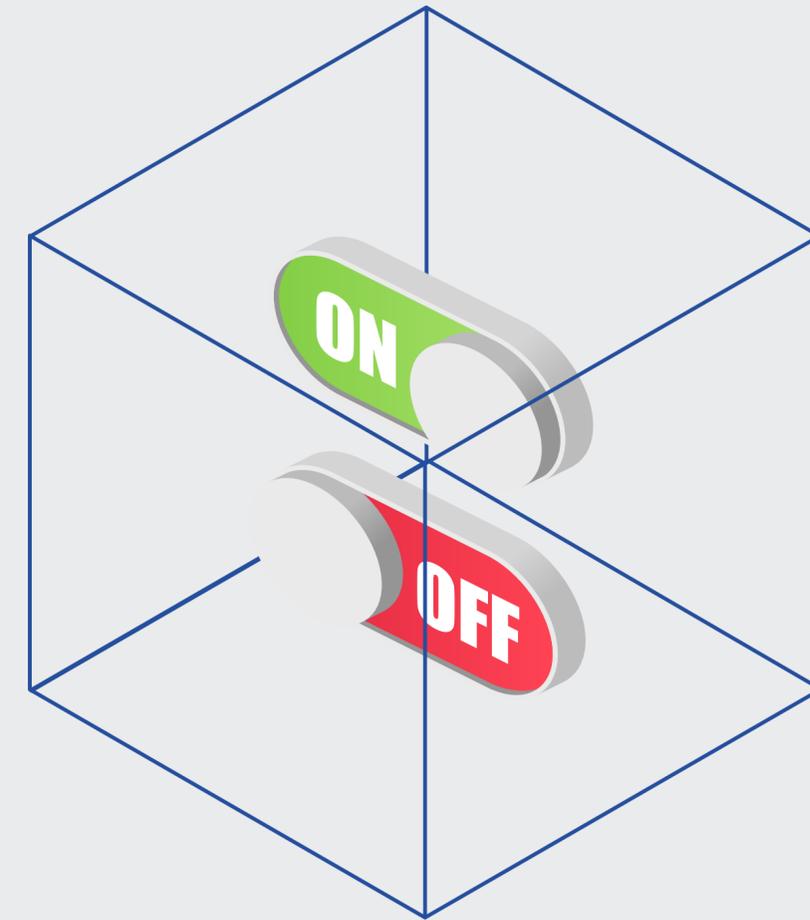
By focusing on the business at hand, you'll increase relevance and make it much easier for stakeholders to adopt and make the switch to Google Analytics 4.

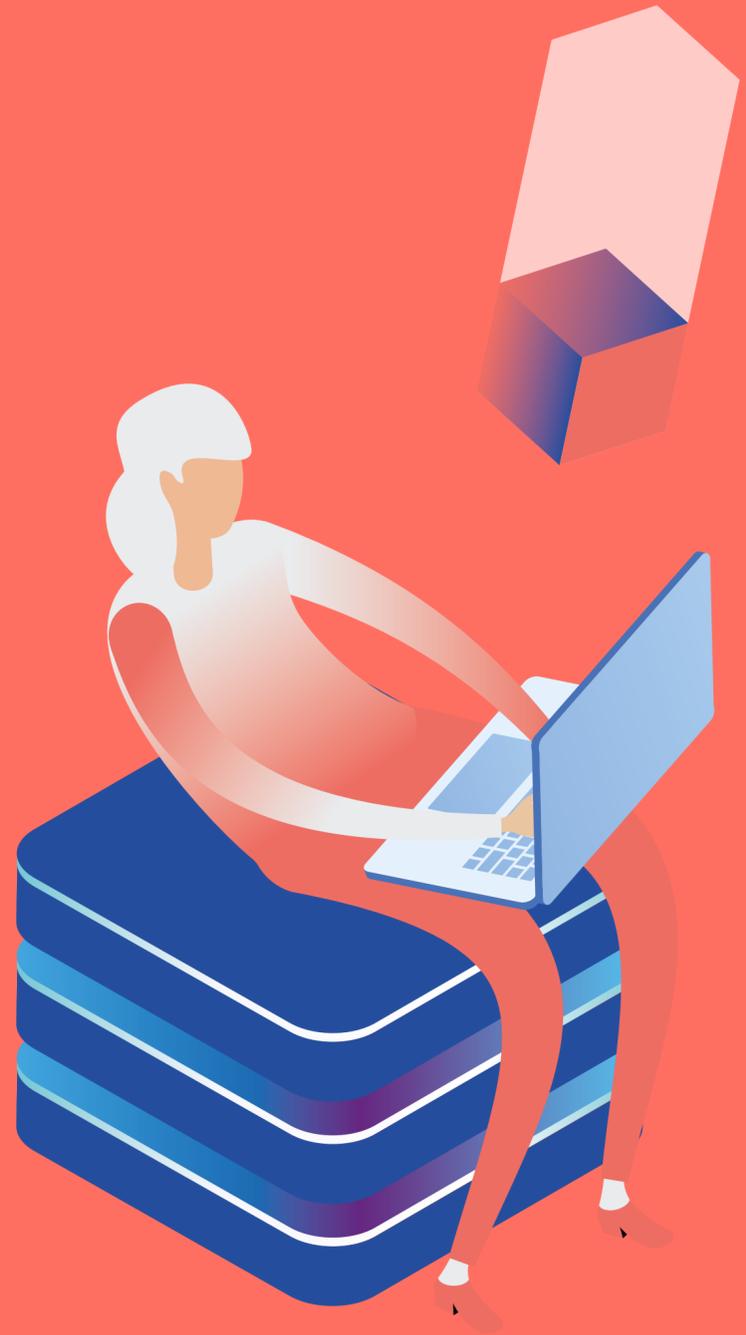
## Hold short introduction sessions

With the emphasis on 'short'. If data isn't your main focus, then it's only ever going to be a matter of secondary importance. And you'll simply ignore such matters if they threaten to take up too much of your time. We're only human, after all. But where adopting a data-driven way of working is concerned, it's vital that we avoid such a situation.

That's why we recommend holding short, highly relevant sessions to introduce each element you've already prepared. Pay particular attention to the duration of these sessions – no longer than two hours. By ensuring minimal impact on participants' agendas, you'll avoid them leaving your sessions with a feeling of information overload.

It's far more efficient to hold a series of short sessions than one mega session, as this maximises knowledge retention through repetition.





# Final considerations

Analytics isn't every organisation's favourite pastime. We regularly encounter worryingly low levels of data quality, as well as roadmaps to data driven working practices riddled with potholes and diversions. Each and every change is one headache too many. That's why many won't be welcoming the arrival of Google Analytics 4.

For many, it will be the migraine to top all headaches. To any of you who are feeling the onset of such a headache, we say, 'Start sooner rather than later!' At the very least, don't let a lack of time be the issue. Instead, use this time to change course once and for all and, who knows, perhaps even learn to love analytics.

Carpe diem! And reap the rewards of a fresh start.





## About Cloud Nine Digital

A new name on the scene, perhaps, but definitely not a new kid on the block. As a NetProfiler data & analytics spin-off, Cloud Nine Digital is in effect an Amsterdam-based agency with over 15 years of experience in digital data. We help over 200 Dutch and international businesses collect, manage and use their data to continuously improve customer interaction across their digital channels.



Google Marketing Platform  
Sales Partner



**Janus de Visser**  
Operations Director

## Premium Google Sales Partner

Working in digital data for such a long time has its perks. For example, we're especially proud of our long-term sales partnership with Google Marketing Platform.

## About the author

### Janus de Visser – Operations Director

As an experienced strategic business consultant, Janus leads teams of technical and solution specialists in data management, governance and usage, to help enterprises drive greater value from digital data on a daily basis.



