

WHITE PAPER

Qlik Embedding Analytics

Our Unique Approach

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INTRODUCTION

If you're reading this white paper, you're probably already on a quest to bring the power of data analytics to your business application or portal, workflow or information service.

Whether you're a product manager looking to get to market fast with powerful and intuitive visual analytics for your customers, or a business or IT manager looking to provide your users with analytics within applications or portals, this paper will provide a framework for evaluating and delivering a successful embedded analytics solution.

How Do We Define Embedded Analytics?

At Qlik, we see embedded analytics as the most democratizing force for increasing analytics usage and adoption by the broader organization. For our customers, partners, and out in the market, adopting an embedded approach provides in-the-moment operational context for people to do their jobs – stimulating faster, better, more accurate communication and decision-making.

We see embedded analytics as the seamless integration of data analytic capabilities within business applications, workflows, or information services anywhere that deliver business value. It provides in-context insights tailored to accelerate specific actions or enhance decision-making ability and accuracy – all where the business user works.

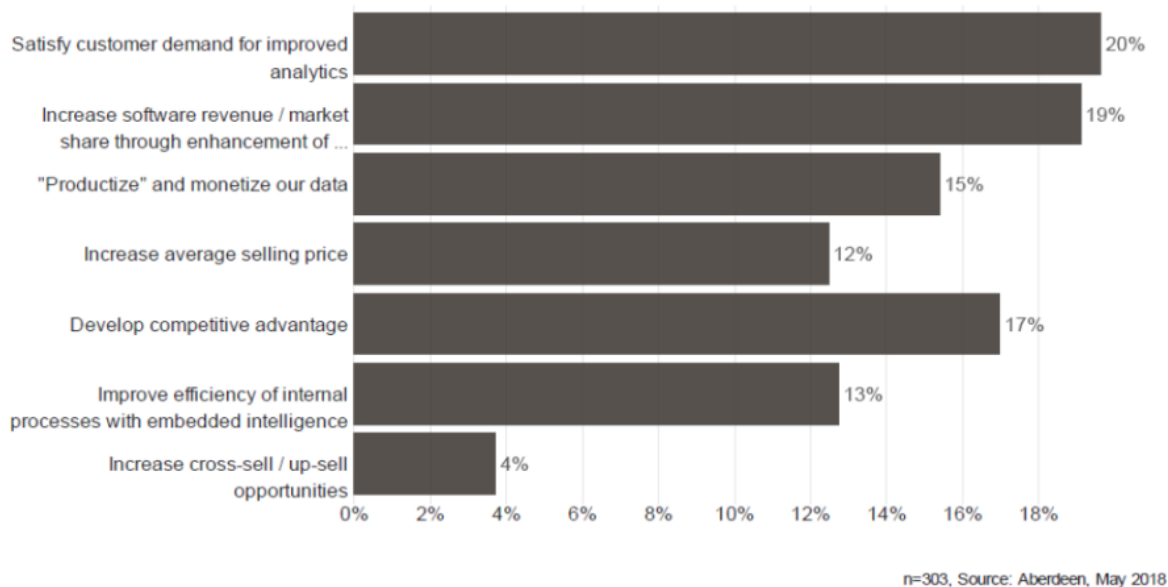
Embedded analytics can be as simple as embedding objects in web mashups. It can also encompass far more complex use cases, such as embedding a wide range of analytic capabilities with visualizations directly into business applications -- ERP, CRM, financial management or IoT platforms – to help provide relevant insights immediately within a business user's typical working environment.

What's Driving Embedded Analytics?

No longer just nice to have, advanced analytic tools and dashboards have become table stakes in today's hypercompetitive global economy. Your customers and end users expect some form of self-service analytics, highly customized portals, or dashboards tailored to their requirements. Users need to develop clearer, more informed narratives to make smarter business decisions.

Today, it's not only about making interactive visualizations and dashboards available; you'll also want to provide users with a range of analytical functionality. For example, including capabilities like data preparation, search, predictive analytics and AI has become more and more popular.

There are several driving factors that continue to compel product owners and developers to consider embedded analytics, as noted in a recent Aberdeen survey:



- To gain competitive advantage through product differentiation and build market share
- To improve the user experience, increasing adoption, satisfaction, and retention
- To create net-new revenue streams
- To meet the growing demand for analytics within a user's daily work environment, accelerating agile decision-making and discovery

In addition, cloud, Big Data, mobile, predictive analytics, and the Internet of Things are fueling the adoption of embedded analytics in a multitude of different use cases and industries. End users are leveraging embedded analytics to drive innovation; gain immediate, contextual insights; and create better and faster business outcomes.

Our Unique Approach: The Qlik Data Analytics Platform

You probably have some form of reporting in your solution today – and just as probably, it’s not enough to keep up with your customer expectations or market opportunities. Some software developers decide to build their own analytic dashboards and reporting functionality in-house – but, in our experience, most eventually decide to integrate a commercial business intelligence platform that they can customize to meet their market requirements.

The decision to build rather than buy is up to you, but the reasons to partner with a BI vendor and embed third-party technology are compelling:

- To deliver an unparalleled analytics experience for the end user
- To provide proven, best-in-class BI technology
- To accelerate development and time-to-market
- To free resources from support and maintenance
- And finally, to benefit from ongoing development of the BI product by the vendor, allowing you to stay focused on your core product or service

The Qlik platform offers the best of both worlds. It gives web and application developers the flexibility to take advantage of the years of product development investment in our best-in-class data analytics platform – while also allowing you to build customized applications that meet customer requirements, and even to build on top of what’s already in place.

“As we set high standards for our offering, building an in-house BI solution was not an option. It would take years, and we wanted to give our customers the best experience the market offers. Qlik proved to be the disruptive platform we were looking for. Where other ERP providers offer a BI module as a paid plug-in, we offer it for free to our customers.”

**— Bas van der Veldt,
CEO, AFAS Software**

The Qlik Platform

The Qlik platform is designed to allow developers to easily and flexibly embed powerful data analytics capabilities of Qlik into their own applications, portals, or workflows. These can be as simple as web mashups containing just a few charts or more complex integration within a cloud or on premise solution.

The Qlik platform is designed to accommodate embedded analytics, anywhere. Powerful, modern and open APIs provide developers with access to visualizations, security, data connectors and the market-leading Qlik Associative Engine used by all Qlik analytics products.

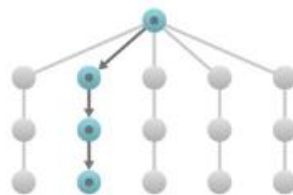
The Qlik Associative Difference

The Qlik Associative Model is the capability in our products that enables users of all skill levels to freely explore their data using simple searches and selections, asking questions in any direction without restrictions or boundaries. This fundamental, interactive functionality is unique to Qlik products. Developers can experience it first-hand in the Qlik Playground, an online destination designed for developers to explore the power of the Qlik Associative Engine, Qlik Core and Qlik APIs.

The Qlik Associative Engine fully combines large numbers of data sources and indexes them to find all possible associations, without leaving any data behind. It offers powerful on-the-fly calculation and aggregation that instantly updates analytics and highlights associations in the data, exposing both related and unrelated values after each click.

Thanks to the Qlik Associative Engine, users are free to search, explore, and pivot based on what they see, without limitations and without having to go back to experts and wait. Associative data indexing exposes relationships in complex, multi-source data sets that would otherwise be hidden in hierarchical or query-based approaches.

Query-Based Tools



- x Partial subsets of data
- x Restricted linear exploration
- x Slow performance
- x "Ask, wait, answer" cycle

Qlik's Associative Engine



VS.

- ✓ All your data
- ✓ Explore without boundaries
- ✓ Speed of thought
- ✓ Unexpected insights

Modern and Open APIs

Qlik platform APIs were built using modern standards and designed to work with today's most up-to-date web technologies. You get access to a set of industry-standard, open, and modern programming interfaces such as JavaScript®, HTML5, CSS3 and Node.js, which allow you to easily create and integrate analytics into any application.

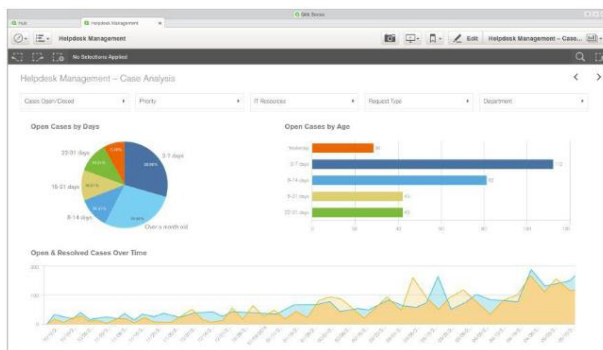
These are the same APIs Qlik uses to develop its own products, so developers get the flexibility they need to build the exact solution they want.



Build Engaging Visualizations

End users require compelling and intuitive analytics – and Qlik delivers, with engaging, best-in-class visual analytics you can embed anywhere in your applications.

You get access to the full Qlik Chart Library set of objects and visualizations, so you can take advantage of the unique Qlik visualization technology – including responsive design, mobile-ready and touch-ready, mapping, coloring and more.



What constitutes a modern analytics platform?

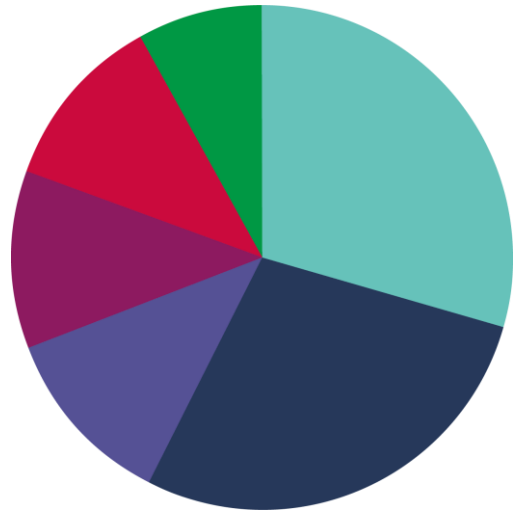
- Data indexing to support free-form exploration and discovery
- Open and standard API access with full capability to extend, embed and expand
- Data integration and management to enable complex, scalable analysis
- Library of modern visualizations to visualize data
- Toolkits to accelerate and simplify development and creation
- Choice of cloud, on-premise or multi-cloud deployment models
- Governance and security to protect data integrity
- Broad ecosystem and developer community to inspire innovation

Optimized for Security, Scalability, and Performance

The Qlik platform is designed to deliver analytics in a scalable, secure and governable way. You can deploy it on a single server and scale both vertically and horizontally, on-premise or in the cloud, to address availability and processing requirements. High performance in-memory analytics handle massive data sets while aligning to your security model.

The Qlik platform provides developers with an approach that accelerates embedding by:

- Allowing you to build on the years of development Qlik has already invested in our one-of-a-kind technology
- Providing a flexible and extensive development environment, where you can build custom analytics applications that fit your requirements
- Enabling you to build on what you have already – in most cases integrating existing data visualization components, if you have them



The Qlik platform provides developers with a single visual analytics platform to extend the use of Qlik beyond individual organizations. It easily allows analytics to be embedded into any workflow or business process within an application, and it permits the extension of analytics into partner portals and customer websites. The wide range of Qlik APIs covering front-end and back-end requirements are the same APIs used by Qlik R&D. Documentation, samples, and libraries are all readily available to accelerate rapid development and prototyping at developer.qlik.com and help.qlik.com.

Why Qlik?

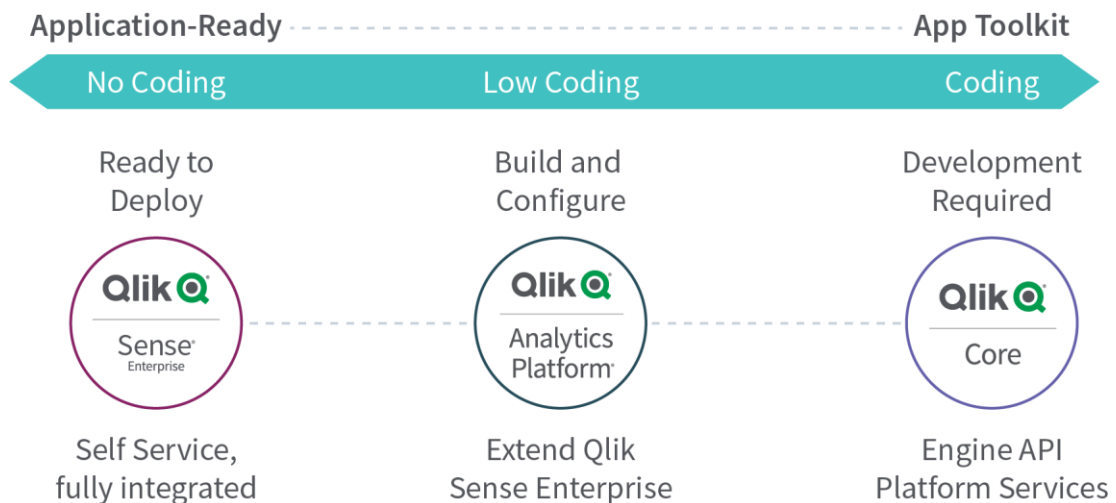
The business value of embedded analytics is tangible. It democratizes the use of analytics across the organization; it improves the sophistication of analysis and the efficiency of internal processes, enabling faster, more accurate decision-making; and it ultimately provides strategic advantage for your organization. The Qlik difference is significant in these key areas:

A Modern, Open Platform

The Qlik platform is powerful and flexible – from delivering compelling visualizations and intelligent data discovery to providing developers with the most advanced, scalable, and customizable development environment for embedded analytics. And the Qlik Associative Engine with associative indexing allows the end user to see all possible connections within their data.

Options Providing Integration Flexibility and Custom Application Development

Qlik's portfolio of products – including Qlik Sense Enterprise, Qlik Analytics Platform®, and Qlik Core – provide options for your embedded projects. The diagram below illustrates the spectrum of coding and integration required.



Qlik Sense is a complete, integrated BI offering that allows for a wide array of solutions to be built, while including a full stack for setting up rules for deployment and managing scale. With Qlik Analytics Platform, you can extend Qlik Sense implementations into mashups or lightweight portal integrations, which you design and configure. Qlik Core provides for a custom application experience. It's primarily an assemble-and-build offering, from the first point of data ingestion to the full application experience.

Qlik is unparalleled in its focus and attention to developer resources located on developer.qlik.com, its modern and broad range of open APIs, and deep expertise in embedding projects with some of the world's largest organizations.

Learn more about the embedded opportunity – and about Qlik's approach to embedded analytics – at embedded.qlik.com.

About Qlik

Qlik is on a mission to create a data-literate world, where everyone can use data to solve their most challenging problems. Only Qlik's end-to-end data management and analytics platform brings together all of an organization's data from any source, enabling people at any skill level to use their curiosity to uncover new insights. Companies use Qlik to see more deeply into customer behavior, reinvent business processes, discover new revenue streams, and balance risk and reward. Qlik does business in more than 100 countries and serves over 48,000 customers around the world.

qlik.com



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