

RESEARCH
NOTE

Delivering Value-Add Through Extensions for SAP Lumira Designer

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This study was prepared by BARC, an independent market analysis firm.
This study is available free of charge thanks to the generosity of Visual BI.



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Management summary

Lumira Designer plays a leading role in SAP's BI and analytics portfolio as well as in the analytical landscapes of many of today's enterprises. As an analyst company, BARC has seen increasing interest in Lumira Designer since SAP announced a major shift in its analytics strategy. Therefore, we are taking the opportunity to inform the market on how to deliver value-add through Lumira Designer.

Lumira Designer delivers robust dashboards to a broad audience, effectively guiding users along the analytical workflow by offering context-sensitive interactivity. However, providing sophisticated capabilities to end-users is a development-intense and time-consuming undertaking. Profound technical skills are required to leverage Designer's versatile development environment.

SAP App Center provides customers with numerous extensions for Lumira Designer to deliver enhancements to its out-of-the-box features. Improved capabilities are available to deliver better visualizations, geospatial analysis, more interactivity through enhanced tables, and dedicated controls. To broaden the reach of the solution and to address even more use cases, planning and simulation can be added as well as connectors to additional data sources.

Content that provides more insight through high interactivity and enhanced clarity can be developed in less time. This leads to greater user satisfaction, wider usage of analytics and ultimately more insight being gleaned to inform business critical decisions.

To maximize the return on Lumira Designer investments through extensions, customers should focus on these major areas to drive usage of your applications, user satisfaction and to save time and money when deploying BI content:

-  Incorporate standardized and mature functions to extend your applications to meet business requirements faster and with less risk
-  Use suitable visualizations to effectively communicate what is in the data for more and deeper insight
-  Provide guided and interactive apps to aid users answering their unique business questions for informed decisions
-  Access more data sources and support diverse use cases such as planning and simulation to deliver more insight to more people
-  Deploy certified collections of mature and integrated extensions with enterprise-level support to support business critical applications

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What you need to know about Lumira Designer

SAP's market position in BI and analytics

Worldwide, in Europe and especially in the German-speaking region (DACH), SAP is a leading vendor for ERP solutions and, in some industries, even holds a dominant position.¹ Based on the substantial number of installations and the data stored and produced in its solutions, customers often deploy SAP's BI and analytics tools to report, visualize and analyze their data. That leads to SAP's dominant position in the DACH BI and analytics market, as plotted in Figure 1 showing the market share in PAC's Vendor Ranking – Business Intelligence for Germany 2016.²

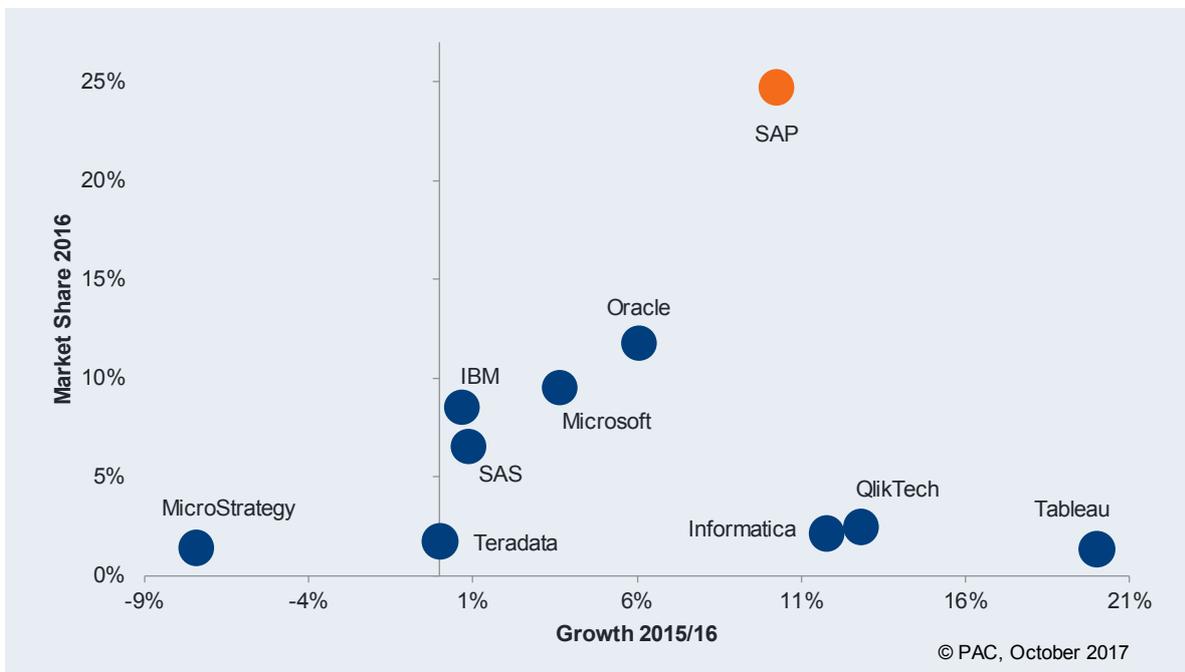


Figure 1: Leading BI Software Providers 2016 – Germany

Due to its huge market share and the breadth of analytics and BI capabilities offered, BARC considers SAP as a market leader for BI and analytics as shown in the BARC Score Enterprise BI and Analytics Platforms (see Figure 2).³ SAP's analytics platforms cover dashboarding, reporting, analysis and advanced analytics as well

1 See SITS Software & IT Services Vendor Rankings Germany for application software products, PAC: <https://www.pac-online.com/software-it-services-vendor-rankings-germany-8>

2 See SITS Business Intelligence Vendor Rankings Germany, PAC: <https://www.pac-online.com/business-intelligence-bi-vendor-rankings-germany-2>

3 See BARC Score Enterprise BI and Analytics Platforms: A Direct Comparison of Modern Enterprise BI Platform Providers 2017: <http://barc-research.com/barc-score-enterprise-bi-analytics-platforms-direct-comparison-modern-enterprise-bi-platform-providers/>

as business planning. The strategic platform for analytics and planning in the cloud is SAP Analytics Cloud (SAC) while the SAP BusinessObjects BI Platform is the platform of choice for customers deploying their analytics on premises.

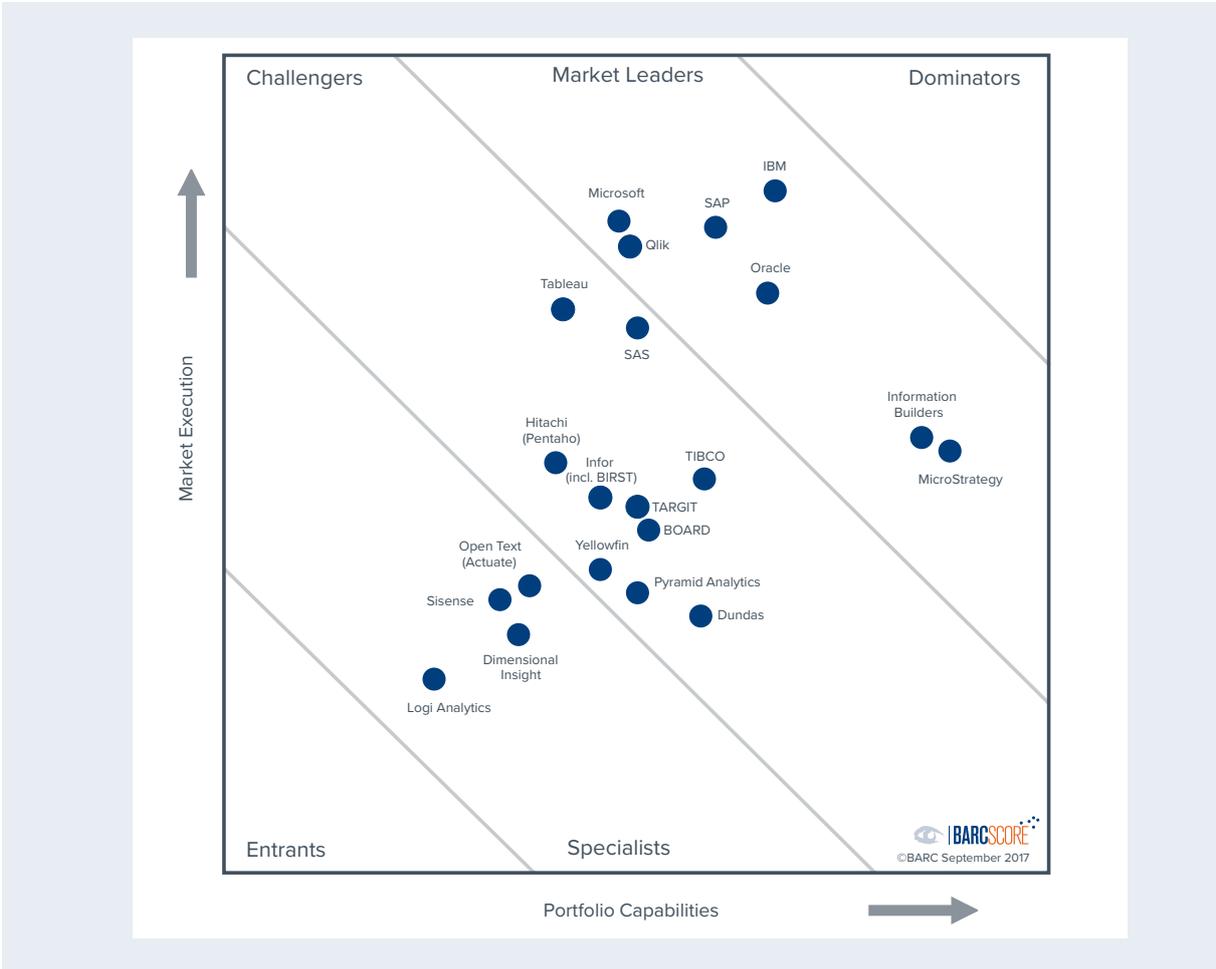


Figure 2: BARC Score Enterprise BI and Analytics Platforms

Lumira Designer – a powerful toolbox

The most versatile analytics front end in SAP’s portfolio is SAP BusinessObjects Lumira. The Lumira brand currently includes Lumira Discovery (formerly Lumira 1.x) and Designer (the former Design Studio) built on the same platform. Lumira Designer can serve a broad range of dashboarding and reporting use cases. Despite being a relatively new solution on the market it already has a large installation base. Consequently, Lumira Designer is SAP’s strategic on premises solution for providing corporate analytics applications and reports to satisfy the information demands of decision-makers.⁴

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⁴ See SAP 2018 Strategy and Roadmap for Business Intelligence Webcast: <https://blogs.sap.com/2018/02/15/asksap-sap-2018-strategy-and-roadmap-for-business-intelligence-webcast-recap/>

Lumira Designer delivers robust dashboards to a broad audience, effectively guiding users along the analytical workflow by offering context-sensitive interactivity. This type of content is typically created by professional BI developers in the Eclipse-based rich client environment. Information consumers access predefined dashboards, apps and reports with their browser of choice or mobile devices.

SAP positions Lumira Designer as the analytics solution of choice for SAP’s own data sources BW and HANA. BARC’s user survey “The BI Survey” shows that Lumira Designer typically serves a significantly larger number of users than the average of all of the 42 BI products evaluated (see Figure 3).⁵ Additionally, the tool is usually deployed using higher data volumes compared to similar solutions (see Figure 4).

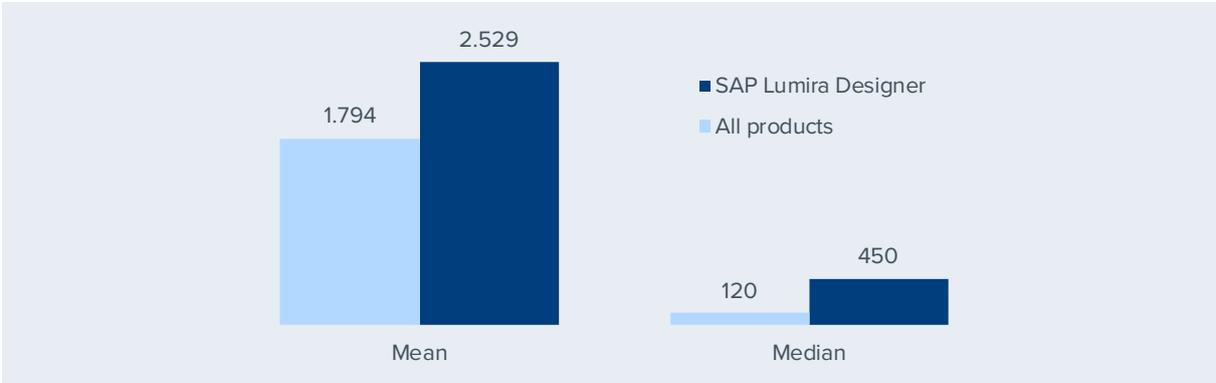


Figure 3: Number of users for Lumira Designer compared to all products

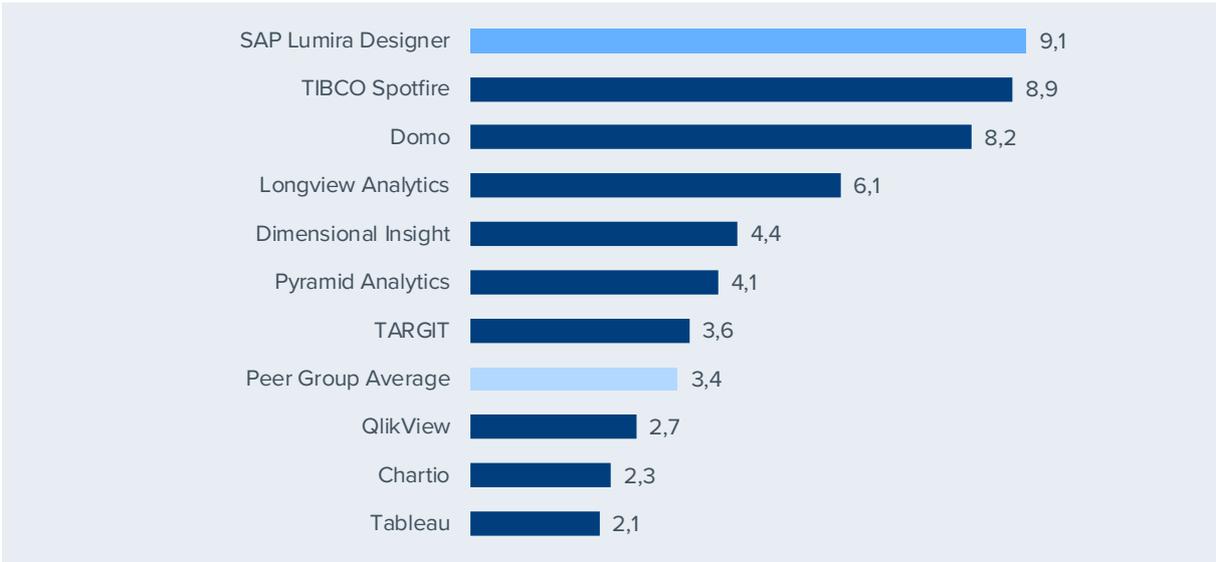


Figure 4: Data volume used by Lumira Designer compared to Top 10 dashboarding-focused products

5 See The BI Survey 17, BARC: <http://barc-research.com/bi-survey-17/>

Lumira Designer is primarily used for classical and managed BI with users accessing data predominantly through highly interactive and tailor-made BI applications, dashboards and standard reports. In contrast, navigating through data in analyses and ad hoc querying are not among the most common use cases (See Figure 5).

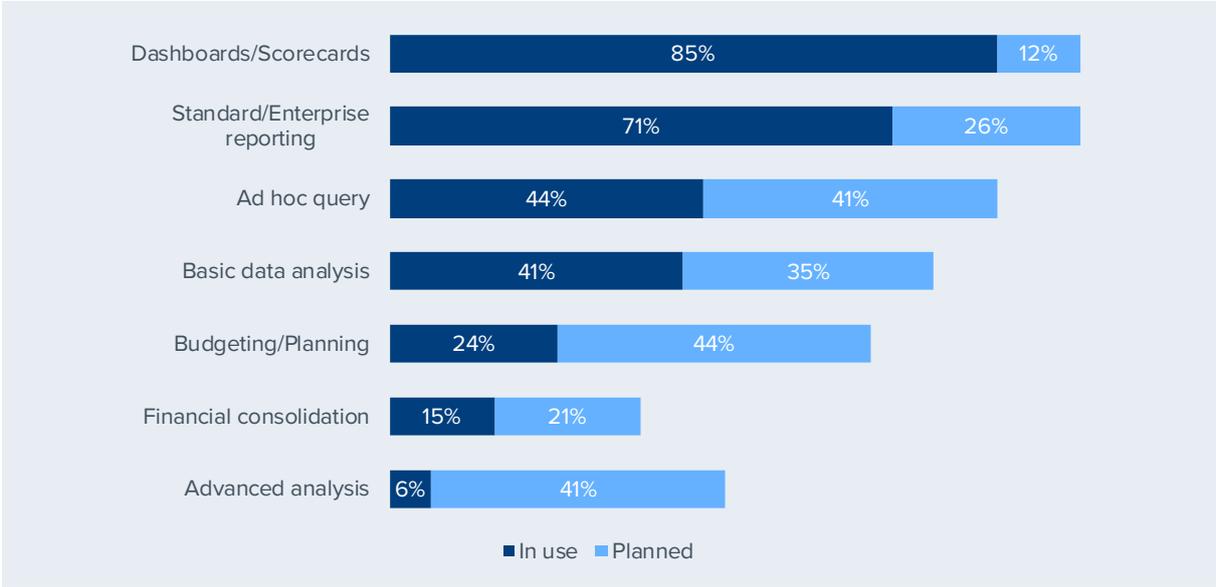


Figure 5: Usage patterns for Lumira Designer

Until early 2018, SAP followed a strategy to converge its on premises tools for dashboarding and data discovery within the Lumira brand. While Designer covers dashboarding and BI applications, it is also the platform of choice for the newly-shaped Lumira offering. Moving the functionality of Lumira 1.x to Discovery based on a common platform with Designer was intended to support the seamless exchange of content between developers building apps and business users using data discovery features in both directions. Nevertheless, in February 2018 SAP announced that SAP Analytics Cloud will be its strategic offering for data discovery in the future.⁶ In this message and throughout follow-up communication on the matter, SAP emphasized its ongoing commitment to its on-premises offering around the BusinessObjects BI Platform including Lumira Designer. By making a clean break, SAP allowed its customers to focus their investments on future-proof and sustainably developed solutions.

In February 2018 SAP announced that SAP Analytics Cloud will be its strategic offering for data discovery in the future.

Lumira Designer is a critical component in the analytical landscapes of many enterprises. Its successful deployment is crucial for not only the modernization of analytical architectures but also for gleaning insight and gaining real value-add from corporate data treasures.

⁶ See A Deeper Look into SAP's BI and Analytics Strategy: <http://blog-sap.com/analytic-s/2018/02/07/a-deeper-look-into-saps-bi-and-analytics-strategy/>

Challenges when deploying Lumira Designer

User adoption is a major challenge and area for potential improvement for BI and analytics solutions. Only the necessary adoption to truly democratize data access enables analytics to deliver value-add based on the data collected and stored in an organization. Distributing information and insight to a large share of employees is key for systems geared at improving decision-making by supplying relevant and correct information when and where needed.

To improve the clarity of content delivered, sophisticated visualizations that follow best practices of information design are vital. Proper data visualization allows viewers to grasp the essence of data and detect patterns quicker and more easily. Interactivity, on the other hand, is required for further and deeper analysis to identify root causes of developments often only observed on the surface by small variations in information patterns. When using Lumira, both require a lot of development effort. While Lumira is a powerful development environment that delivers high flexibility, it offers comparatively few features out of the box.

In rapidly changing market environments, quickly delivering on new and changing information needs is a success factor for today's companies that cannot be overestimated. If organizations fail to deliver, at best information silos and Excel-based reporting and analysis will spawn in every department. Beyond that, companies starving for information while drowning in data risk losing their market position to competitors.

Therefore, it is vital to quickly deliver new content to BI users. One common approach in BI to speed up the delivery process on the front-end side is to offer solutions that can be used by line-of-business users to create not only their own analyses, but also to spread the insight they gain from analyzing data. To enable this type of self-service, the barriers to analyzing data and quickly compiling simple but expressive reports, dashboards and stories must be low to actively attract users to contribute their own content to their teams and departments. Additionally, collaboration features allowing users to comment on findings and insight gleaned while sifting through data must be present in dashboard and reporting solutions. All these self-service and data discovery related requirements must be addressed. Companies that planned to cover those needs through Lumira Discovery must now adapt because of SAP's focus on Analytics Cloud for data discovery.

The single most important thing most BI software can improve is the performance of reports, dashboards and analyses delivered. Outstanding query performance significantly adds to the ease-of-use of a BI solution. Users can only effectively follow their analysis path if they are not constantly interrupted by spinning hourglasses. Good query performance speeds up development cycles too, because building content based on fast data sources can be done in an

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iterative fashion. That fits today’s needs of BI and analytics well, resulting in increased developer productivity and faster time-to-market - all the groundwork for greater user satisfaction.⁷

We observe a continually rising interest in Lumira Designer for delivering appealing and interactive BI content to users. Staying in an SAP environment to leverage interoperability with BW and HANA is a major attraction for potential buyers. But the challenges observed raise the question for SAP customers of how they can deliver a better user experience.

More for less through standardization

Lumira Designer customers need to tackle these challenges to achieve their aspiration to get faster and better at analytics.



Figure 6: Higher, faster, better with standardization

To deliver better solutions in less time, hence attracting more users and deeper usage, standardization in development leads the way. Leveraging enhanced standardized components allows developers to be more efficient than building and coding their own solutions e.g., to achieve increased interactivity or attractive visualizations. Using well tested, prebuilt components also increases the quality and stability of the content delivered as fewer customized components must be written.

In the back end, maintenance gets easier when using standards, effectively freeing up resources to further develop the solution instead of struggling to sustain the status quo. Upgrading solutions will become easier and standardized components offer the advantage of supporting iterative development (e.g., rapid prototyping) which is key in BI and analytics where requirements are hard to grasp

Leveraging enhanced standardized components allows developers to be more efficient than building and coding their own solutions.

7 See Pervasive BI - Dream or Reality?, BARC: <https://bi-survey.com/bi-deployment>

and quickly change. The benefits for dashboard and report recipients are clear: More functionality and interactivity delivered by standardized components, enhanced ease-of-use through consistent design and faster time to market for new requirements.

Extensions are the option of choice to standardize and speed up development in Lumira Designer while adding additional functionality. At the same time, they can decrease the reliance on developers within this market notoriously undersupplied with skilled personnel.

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SAP App Center extensions

While delivering a functionally rich platform, Lumira Designer’s focus on development-intensive delivery leaves room for improvement. To provide the openness required to leverage the development power and implementation expertise of its extensive partner network, SAP offers the mechanisms to build extensions through its software development kit (SDK) and to easily distribute them via its own “App Center” marketplace.

To maximize the value derived from the solutions in place and the data collected, customers should investigate extensions that enhance and augment the out-of-the-box functionality. The extensions offered for Lumira Designer can be classified in four categories (see Figure 7).



Figure 7: Extension categories for Lumira Designer on SAP App Center

Visualizations and geospatial analysis

A substantial portion of extensions cover either isolated, dedicated visualizations or packages of graph types currently not shipped with SAP’s solution. Some visualization extensions aim to deliver information in a standardized and consumer or reader-oriented manner, often referred to as information design. As BARC’s BI Trend Monitor shows, information design is considered a very important topic in Europe and especially in the DACH region.⁸

8 See BI Trend Monitor, BARC: <http://barc-research.com/research/bi-trend-monitor/>

Plotting geospatial and location data to enhance the comparability of data to spot trends and patterns not visible in other representations is also important and of ongoing interest to customers in the BI and analytics market. A good share of visualization extensions aim at enhancing Lumira Designer’s functionality in this area. They enable deeper analysis of geocoded data instead of just basic plotting capabilities. One of the vendors delivering capabilities for geospatial analytics is Galigeo with its GeoAnalytics extension. Hi-Chart is a further example of a vendor that delivers multiple visualizations with its certified Chart-me extension for IBCS compliant reports. Graphomate delivers various charting extensions that similarly aim to increase the visual appeal of Designer content. Visual BI Solutions is a vendor offering both additional charting and mapping options within its SAP Certified Visual BI Extensions Suite (VBX).

Visually enhanced delivery of data leads to more insight gained from data. Good visualization of data can increase the number of users accessing data, the frequency with which such a tool is used and the capabilities a user has access to, e.g., identification of patterns and quickly finding outliers.

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Interactivity and controls

Another large share of Lumira Designer extensions on SAP’s App Center incorporate features and controls to enhance the interactivity of dashboards and analytical applications. The interactivity of dashboards can often be enhanced by adding suitable controls and filters that are easy to use and integrate well into the application. Drilling and zooming into crosstabs and visualizations allow the user to focus on what is relevant to answering the business question at hand with data and analytics.

Better support for analysis is provided by enabling users to drill and dig deeper into the data to examine and analyze the root cause of variations without having to leave the application. This additional flexibility in consuming reports and dashboards enhances the insight gained from data. Furthermore, increased interactivity allows customers to cover multiple requirements with a single, yet flexible app geared, and shaped, at runtime for different user types and output formats. Examples of extension suppliers include iProsis, a provider of extensions like Navigation Bar and Multi Select on SAP App Center to increase the usefulness, interactivity and ease-of-use of BI content delivered by Designer by enhancing interactivity. This area is also covered by Visual BI’s VBX Suite. It offers multiple selectors, filters and sliders as well as advanced and interactive tables not shipped with Designer out of the box.

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By producing apps and dashboards to suit the needs of a broad range of users, adoption of the solutions provided will rise as every group of users gets the exact degree of flexibility they require. Persona oriented apps are easy to use for sporadic or casual users and come in a highly versatile fashion for analysts and power users.

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So, enhancing usability for casual users and usefulness for data experts is not a contradiction if solutions are built with the distinct roles and requirements in mind and the right tools at hand.

Another aspect to increasing interactivity is the possibility to add a channel for feeding information back to the system and distributing it to team members, or even the whole organization. Commenting on figures and variances in an intuitive way without losing the connection to the underlying data and disseminating the information is crucial to build on the insight gained by others as analytics today relies on team play more than ever. As we will see later, commenting plays a vital role in planning as well. Documenting all assumptions made and changes applied to plans, forecasts, and simulations is critical to getting value out of business planning.

Planning and simulation

Dashboards are typically used to display actual data in comparison with budgets, forecasts and target values for KPIs. Setting targets or adjusting forecasts in the very screen where variance analyses are carried out speeds up the process of aligning targets to changes in the business environment.

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When analyzing past developments, the wish often arises to simulate what would be e.g., the monetary impact in the future if an observed trend continues or even gains in importance. Even with specialized planning solutions this is often a cumbersome task due to their focus on gathering planning input from numerous users. It leads to relevant ad hoc simulations simply not being conducted or being run in disconnected Excel spreadsheets with no possibility to trace the data, automate the process or even feed results back to the analytical applications. A prerequisite for running simulations is having appropriate driver models in place that calculate the impact of external and internal factors on a company's performance or "the bottom line". However, more can be achieved with suitable and flexible driver models that can easily be changed by business users. To name just two examples: Users can quickly calculate forecasts considering the future impact of variances in past performance. Long-term plans can be calculated with a top-down approach to define strategic goals. Both methods offer significant advantages to organizations able to leverage and employ them properly within their management processes.

Within the SAP portfolio, the required functions combined with the necessary ease of use are only available on SAP Analytics Cloud. Therefore, customers must resort to extensions to build flexible driver models integrated in their on-premises SAP solutions. Modeling and simulation capabilities are offered on SAP App Center by e.g., Concerto Analytics with its Symphony Value Modeller. Also, Visual BI Solutions offers an extension for modeling, simulating and planning within its Value Driver Tree extension.

Planning, forecasting and simulating different scenarios are an integral part of most companies' CPM portfolio. Adding flexibility on the front end to run simulations and alter planning assumptions in driver models increases a company's ability to steer in ever-changing market conditions.

Administration and connectivity

Less visible for users on the front end, but still important, are enhancements around administration and connectivity. Automated documentation and data lineage help developers keep track of what has been built and to quickly assess the impact of changes in underlying data structures.

Providing mechanisms to add connectivity for additional data sources is also an area covered by extensions found on the marketplace. As the number and variety of relevant data sources grow in most of today's businesses, analytics must cover an increasing range of data sources. Besides relational databases, data sources typically found in organizations include OLAP sources, big data sources, and business and web applications. Connecting directly to the relevant data without adding additional semantic or persistent layers is often required to deliver data to the consumer efficiently and without latency. Surfacing data from more sources significantly increases the value gained from analytics.

To enhance the user experience in terms of delivering BI content, many users want a low entry barrier to their reports and dashboards. They want to have their personalized information delivered in their inbox on their mobile phones to digest while commuting. Others want to integrate content in PowerPoint slide decks to present in meetings. Alerts and event-driven exports ensure that only relevant information gets distributed. Consequently, enhancing export functions and providing responsive design containers for mobile and device agnostic delivery are additional fields addressed by extensions in the marketplace.

The capabilities mentioned above are delivered for example by BI Excellence with its Data Source Extender to access a broader range of data sources than originally supported by Designer. Additionally, BI Excellence provides the export suite biExport as a separate extension for enhanced exporting capabilities. As a further example, VBX Suite provides various utilities to make a developer's life easier, such as responsive design containers to build content once and deploy everywhere and automated email distribution. Performance is, as regularly stated by respondents to BARC's The BI Survey, a key success factor to attract users and to keep them using the solutions for analyzing data. So, any improvement in query performance will help a solution to deliver more information to more users. Data Utility, as part of VBX, provides performance optimization techniques to speed up querying in dashboards. Enhancements in the back end optimize the time to market as well as the quality of the solutions built.

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Collections of mature extensions

Many companies employing Lumira Designer need to improve on more than one of the aforementioned areas to meet the demands of their internal (and increasingly their external) customers. Most extensions only deliver isolated functions, such as one or only a few visualization types. So, customers must typically evaluate, license, test and deploy multiple extensions from various vendors side by side in their dashboards and BI apps. It goes without saying that this is not only a laborious undertaking, but also a risky one when it comes to compatibility of these solutions and support issues. It is important to ensure the availability of enterprise-level support for extensions that are used to enhance strategic BI solutions in an organization.

One of the main advantages of collections is the possibility to further standardize BI development for higher efficiency and lower risk. But this is only feasible with mature, integrated and sustainably developed extensions. VBX by Visual BI Solutions is an example of a suite of extensions that supplies customers with an SAP Certified collection of enhancements ranging from visualizations to maps and from controls to planning and administration features.

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Vendor profile

Visual BI, headquartered in Plano, TX, is a niche Business Intelligence & Analytics provider that has transformed the field of enterprise BI and analytics. With 230+ professionals, Visual BI helps enterprises drive better decisions by leveraging a combination of BI software, analytics, and consulting solutions.

Founded in 2010, the firm has received various industry recognitions including Best Companies to Work for in Texas - 2018, Top 50 in Deloitte Technology Fast 500 - 2015, #151 in the Inc-5000 list of fastest growing private firms in the US and CIOReview - Top 100 Big Data Companies in the US. Visual BI is an SAP Partner.

Product Excellence

Visual BI's innovative product offerings include Visual BI Extensions for SAP Lumira®, Designer edition (VBX 2.3), Value Driver Tree for Dynamic Planning and Simulations, and VBI View - One Portal for All BI Content.

Ranked #1 in SAP App Center, our foremost product - Visual BI's extensions (VBX) for SAP Lumira Designer enhances return on BI investments by delivering a powerful range of capabilities to executives and decision makers. The product consists of several components like 50+ Charts with 400+ properties, innovative Maps, out-of-the-box Selectors, and Utilities.

The product has been adopted by **100+ customers** worldwide, and delivers assurance through **24x7 global support**.

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CXP Group supports its customers in their decision making thanks to a unique 360° approach encompassing assessment capabilities covering global and local IT markets, products & technologies, services, and their business usage.

Every year the group supports more than 1,500 large and medium-sized business-user organizations in their sourcing decisions and investment projects, as well as their choice and optimization of software solutions, and offers consultancy services in many areas (BI, HR, ECM, IT management, finance, ERP, CRM, etc.).

Capitalizing on 40 years of experience, and with 155 seasoned professionals present in 8 countries, CXP Group supports more than 300 software vendors and IT service providers with market research products, strategic analysis, sales support & marketing services.

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