On the Radar: GoodData launches cloud data service so companies can make every decision data-driven

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Summary

Catalyst

Building upon a decade of experience in delivering business intelligence (BI) as an OEM service to more than 2.8 million registered users worldwide, GoodData is retooling to take on a new challenge. It aims to deliver Data as a Service (DaaS) as a means of enabling enterprises to make better decisions through self-service access to data-driven insights within any user-facing application.

Omdia view

The advent of cloud-native computing has fundamentally shifted the way companies think about data locality. With highly scalable, secure, and affordable storage readily accessible from cloud-born data stores like AWS S3 and Google Cloud Storage, companies are increasingly looking to the cloud to centralize data and deliver data-driven insights across the business at speed. There is just one problem with this approach. When it comes to delivering data for BI, advanced analytics, and data science, existing cloud migration strategies—that is, moving existing databases, data warehouses, and data lakes to the cloud—only serve to exchange one set of problems for another.
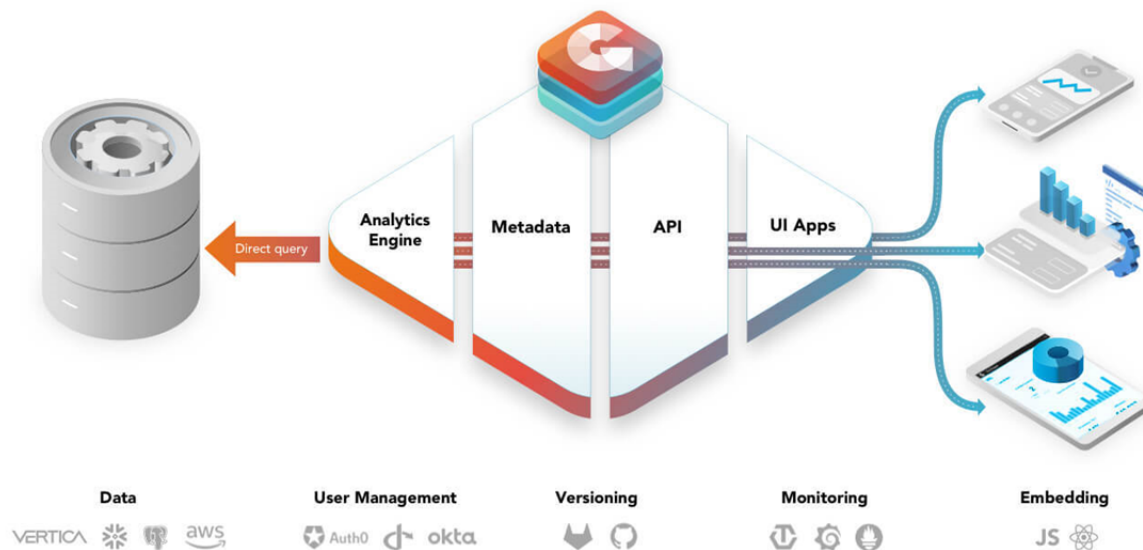
The low cost of entry and the open architectures found on public cloud platforms encourage fragmentation, enabling line of business departments to easily set up their own, isolated data fiefdoms, for example. And while the cloud itself facilitates the movement of data, companies must pay a hefty price in data egress charges if they want to analyze data from the business at large. This often leaves self-service data practitioners in a bind, forcing them to do a tremendous amount of repetitive preparatory work in collecting the data extracts needed to answer even the most basic of questions.

In response to this challenge, Omdia sees a huge opportunity for technology providers to create a unified data fabric such as an API-based DaaS. This should be something that imparts scalable, affordable, real-time, secure, and governed access to all corporate data. It should stay true to the tenets of self-service analytics but also allow practitioners to do far more than merely dip their toes into the larger ocean of available insights.

Why put GoodData on your radar?

GoodData is no stranger to the challenge of delivering data-driven insights to the business in the context of business processes themselves. As an early proponent of self-service analytics and embedded BI, GoodData has over the years crafted a cloud-native platform that already incorporates many of the capabilities necessary to support a full DaaS offering, particularly in handling complex data ingestion and preparation routines, delivering readily consumable analytics, meeting global security and compliance requirements, and scaling across numerous dimensions such as data, volume, and cost (see **Figure 1**). This solid foundation puts the company in good stead to make an immediate impact in bringing a DaaS offering to market. The principal challenge for GoodData will be in combating three established foes simultaneously: hyperscale cloud players, data integration/management vendors, and the database providers themselves.

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1. Figure 1: GoodData's Data as a Service model

Source: GoodData

Market context

The marketplace for managed hosted data services is both diverse and dynamic, populated by many disparate entities, each building unique solutions to a single problem—namely, how to efficiently put more data into the hands of business decision makers. To one degree or another, enterprises can garner cloud-born data services from across a wide array of vendors, including data integration and management players such as Informatica and Talend, database players such as Snowflake and MongoDB, application integration vendors such as TIBCO and IBM, and hyperscale cloud platform providers such as Google and AWS. But what is DaaS exactly, and why is it important?

Omdia views DaaS as a managed hosted service offering that facilitates performant, affordable, secure, and timely access to enterprise business data and analytics across various modalities (chart, API call, query language, etc.). As such, it encompasses or draws heavily from several well-established enterprise areas of expertise, including data integration and data preparation, as well as BI, data visualization, and discovery.

These technologies are currently enjoying a significant level of investment within companies. For example, a recent Omdia study (*ICT Enterprise Insights 2020/21*) of nearly 5,000 enterprise budget holders revealed that 61.3% of survey respondents were planning to invest in self-service data preparation, visualization, and analysis tools. Within this group, 25.5% of respondents considered their investments to be strategic to their companies' successes. That marks an increase of 4% from the previous year. And this same pattern repeats across data integration and preparation, data cataloging, metadata, and master data management, illustrating the ongoing importance of creating a solid data and analytics framework that encompasses the entire data-to-insight lifecycle.

Why invest in a cloud-born service that encompasses this lifecycle? Omdia recognizes several direct and indirect benefits:

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- **Better outcomes:** More effective access to the right data translates into better, more accurate IT and business decisions.

- **Cost savings:** Centralized query responses that can be reused save on data movement costs.

- **Agility:** Data can be disseminated in real-time and new data sources can be ingested without disruption.

- **A culture of data:** Data-driven insights delivered to the right person in the right context at the right time.

- **Trustworthy data:** Through user authentication, data security, and compliance adherence, DaaS serves as a consistent layer of trust for all data access requests.

- **Data exchange opportunities:** Emerging technologies such as homomorphic encryption, differential privacy, and confidential computing enable companies to open their data service to outside entities.
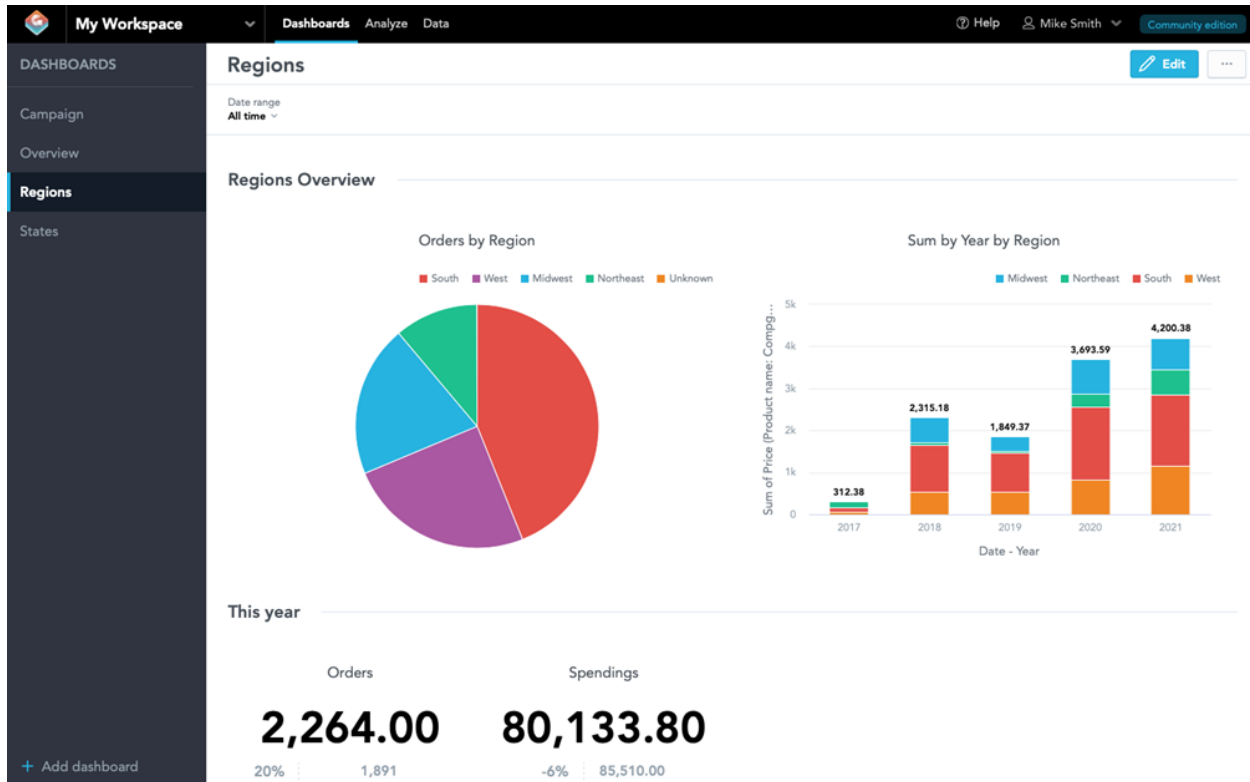
Note that while these services can be viewed as closely related to monetized data marketplaces and data exchanges provided by players such as Dun & Bradstreet, Bloomberg, Crunchbase, etc., Omdia sees enterprise DaaS as a separate market endeavor. Eventually, however, Omdia believes that as enterprise DaaS offerings and data privacy/security capabilities mature, a free interplay between the two will emerge, where enterprises can participate in the public exchange of data.

Product/service overview

GoodData's new DaaS is driven by GoodData.CN, a cloud-native "headless" BI engine that serves up metrics, analytics, and other assets to business consumers programmatically—that is to say, via a rich API. Users simply install or subscribe to GoodData.CN as a fully containerized service, scan their available data sources to build a semantic data layer on top of their physical data, create a desired calculation or visualization, and then expose that asset to the business (or the outside world) via a fully declarative RESTful API.

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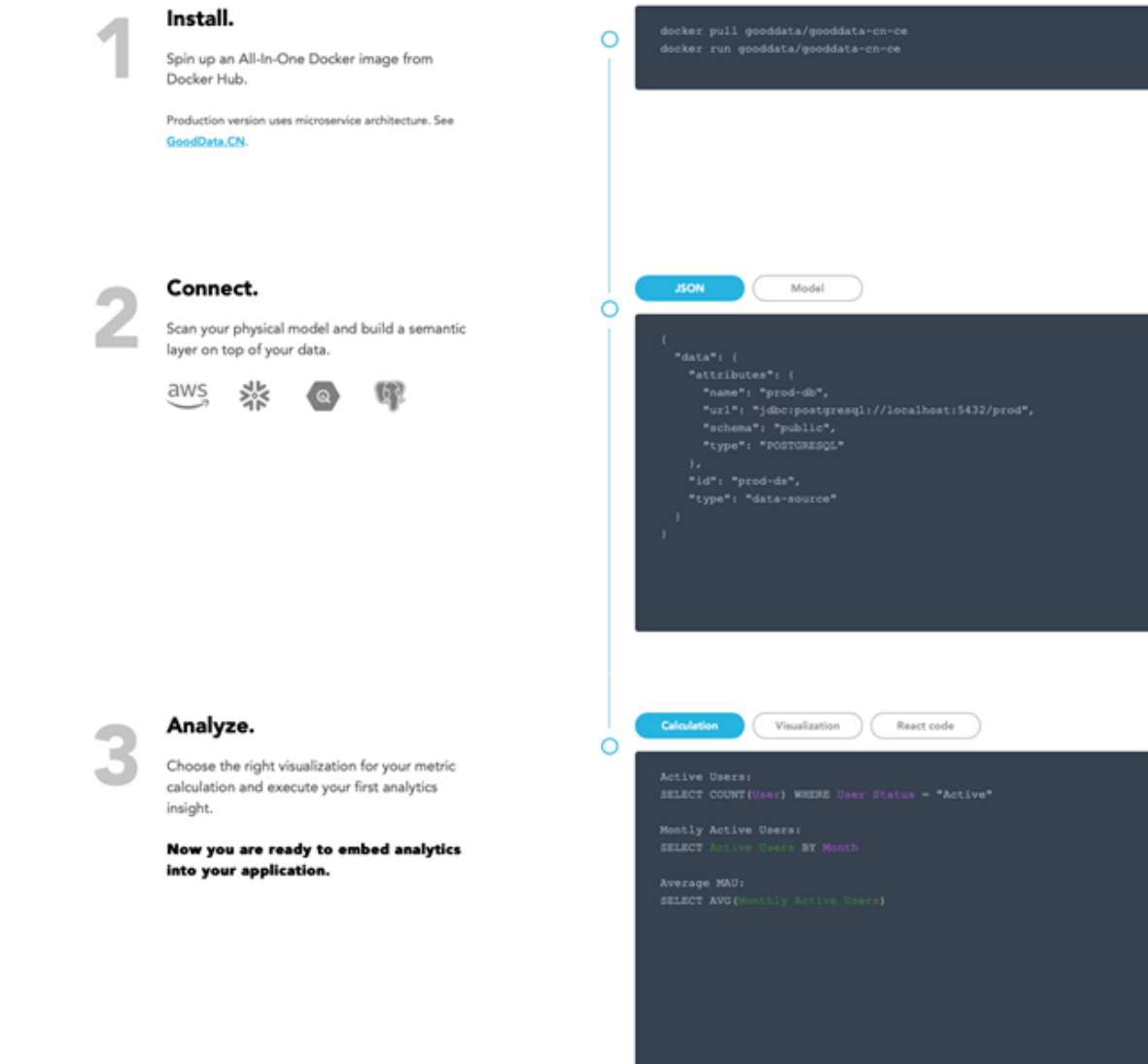**2. Figure 2: GoodData.CN Dashboard**

Source: GoodData

GoodData.CN (note that CN stands for cloud-native) comes with a set of user experiences, including interactive dashboards and no-code data exploration tools, that support self-service analytics use cases (see **Figure 2**). However, for customers seeking to build dashboards, visualizations, and queries directly into business apps, the company pairs GoodData.CN with GoodData.UI, which has been in the company's software stable for some time and is used by its OEM/embedded BI customers to acquire, analyze, and deliver data insights stored within the GoodData platform. Likewise, in support of the company's new DaaS offering, this JavaScript React component library will enable developers to rapidly build interactive analytics apps that draw from the GoodData.CN BI engine.

Together, the two components make up a complete, modular data platform—a data fabric—from which companies can build and deploy their own analytics apps in a flexible manner using a single source of truth that is secure and compliant with corporate data security and privacy mandates. Once developers have established a set of desired assets (calculations, visualization, queries, etc.), they can simply assemble those assets as JavaScript React.js components. These components behave like LEGO bricks in that developers can combine and recombine them as needed without having to worry about writing or rewriting any backend systems code.

With this approach, GoodData is abstracting the query away from both the server and the underlying data. In doing so, the company promises to future-proof GoodData.UI apps. Customers can layer GoodData's new service on top of existing investments in data integration, processing, storage, and analysis without replacing or disrupting those investments. GoodData will simply scan data from all sources and create its own semantic model with which users can create data processing logic and analytics queries in the form of API calls, surfacing the results of those calls as JSON objects where needed (see **Figure 3**).

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3. Figure 3: GoodData.CN installation

Install.

Spin up an All-In-One Docker image from Docker Hub.

Production version uses microservice architecture. See GoodData.CN.

```
docker pull gooddata/gooddata-cn-ce
docker run gooddata/gooddata-cn-ce
```

Connect.

Scan your physical model and build a semantic layer on top of your data.

JSON | Model

```
{
  "data": {
    "attributes": {
      "name": "prod-db",
      "url": "jdbc:postgresql://localhost:5432/prod",
      "schema": "public",
      "type": "POSTGRESQL"
    },
    "id": "prod-ds",
    "type": "data-source"
  }
}
```

Analyze.

Choose the right visualization for your metric calculation and execute your first analytics insight.

Now you are ready to embed analytics into your application.

Calculation | Visualization | React code

```
Active Users:
SELECT COUNT(User) WHERE User Status = "Active"

Montly Active Users:
SELECT Active Users BY Month

Average MAU:
SELECT AVG(Monthly Active Users)
```

Source: GoodData

Once a logical data model (LDM) has been established, developers can programmatically work with the available attributes, measures, filters, sorting rules, totals, etc. as code constants (see **Figure 4**).

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4. Figure 4: A visual component ready to render within an application

```
import { ColumnChart } from "@gooddata/sdk-ui-charts";

function MyColumnChart() {
    return (
        <ColumnChart measures={[myMeasure]} viewBy={[myAttribute]}/>
    );
}
```
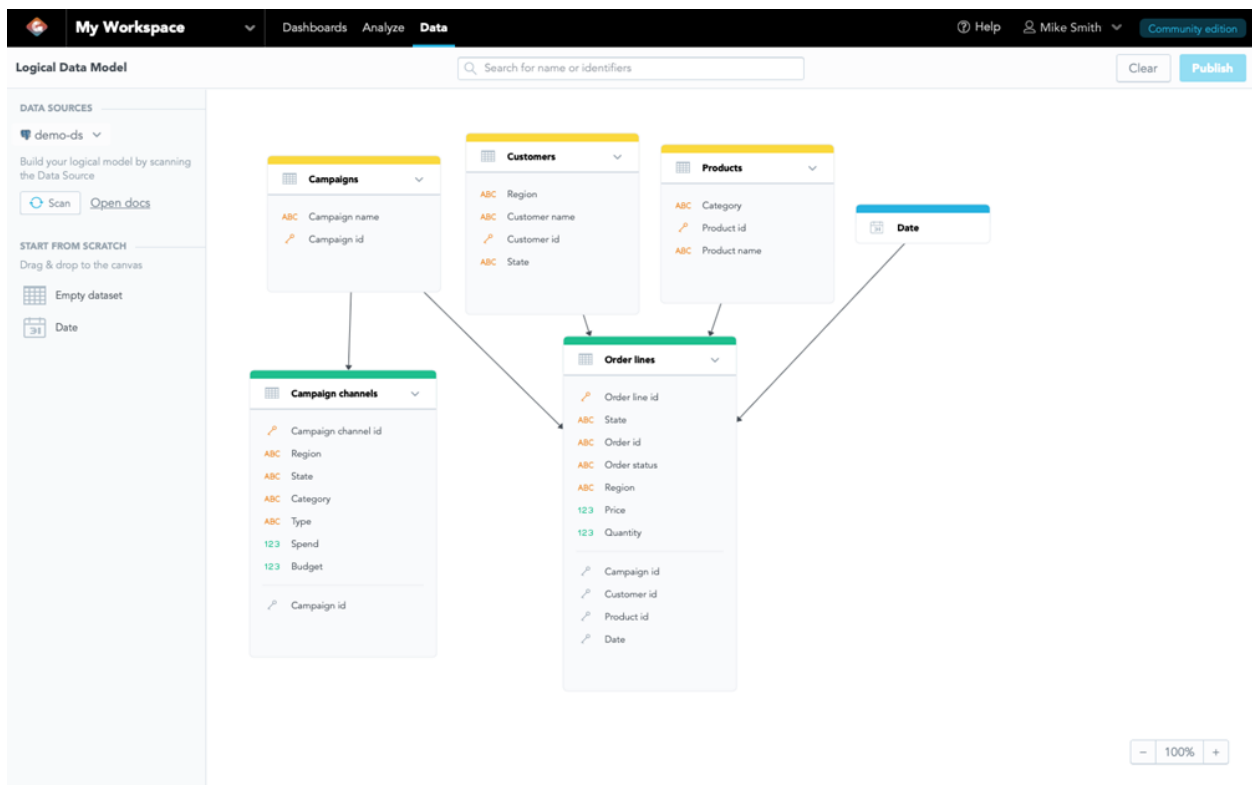
Source: GoodData

These constants are available for all the semantic layer entities, and they are, as their name implies, constants. This means that users can move the backend software and change or add data sources without having to rewrite any code (see **Figure 5**).

5. Figure 5: GoodData.CN LDM model

Source: GoodData

According to GoodData, GoodData.CN (together with GoodData.UI) has been architected as a direct response to the limitations imposed by traditional, on-premises analytics infrastructures. For GoodData, traditional BI works just like Microsoft Excel: it is easy to work with, but it does not afford much flexibility beyond traditional dashboard, chart, and table paradigms. Rather than simply push these conventional techniques to the cloud, GoodData's new service does away with BI limitations such as fragile data staging

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servers, limited and costly batch excerpts, and unwieldy portfolios of unmanaged dashboards. Instead, GoodData is proposing a new set of business and technology principles for analytics:

- **Business principles for analytics**
    - **Pricing based on logical domains:** Instead of charging by user seats or transactions, GoodData will charge according to the area of use, be that sales, customer support, marketing, etc., ostensibly aligning pricing with usage.

    - **Ecosystem-centric approach:** Leveraging API access, GoodData intends to evenly support a broad array of consumers (analytics practitioners, data scientists, marketers, and even corporate partners).

    - **Open deployment options:** GoodData intends for its DaaS offering to accommodate any cloud platform, any database, and any data streaming architecture.

- **Technology principles for analytics**
    - **Separate logic from presentation:** GoodData intends all process logic and analytics queries to be made available to anyone via API call.

    - **Declarative business rules:** By expressing query logic without describing how a query flows, GoodData hopes to avoid any sort of brittle ties to underlying data structures or query engines.

    - **Cloud-only architecture:** In order to strengthen the governability of data, GoodData intends to keep all data processing and storage within the DaaS service without allowing data to be copied to desktops.

Company information

Background

GoodData was established in 2007 by Roman Stanek, who was the original founder of the popular Java development tool, NetBeans (prior to its acquisition by Sun Microsystems in 1999). From its inception, GoodData has sought to deliver data-driven insights via customer-facing OEM, embedded BI solutions. Over the last 10 years, the company has approached this challenge by building a highly scalable, cloud-native data platform capable of supporting more than 2.8 million registered users worldwide across the globe. In order to reach that scale financially, the privately held company, which is based in San Francisco, has garnered more than $150m in venture funding over more than 14 rounds. Key investors include Andreessen Horowitz, General Catalyst Partners, Intel Capital, and TOTVS. In May 2020, the company expanded this roster to include Visa as both a customer and partner in furthering GoodData's vision for broad access to aggregated data and analytics.

Current position

GoodData's new DaaS offering will be delivered for consumption and deployment in three ways:

- A downloadable software package

- A fully managed service on top of GoodData's in-house cloud platform

- A hosted offering on top of public cloud platforms

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The hosted offering is currently available for download and as a hosted service on AWS in Europe. GoodData is actively building support for other cloud platforms, beginning with Google Cloud Platform and Microsoft Azure. No firm dates for this expansion have been set. Eventually, the company will also make use of its own, sizable North American private cloud platform. The downloadable package can be deployed within any Docker-capable containerized platform by companies themselves on premises, on a public cloud platform, and even on a local machine. The objective is to allow customers to take advantage of the GoodData platform wherever they want and on their own terms.

Further, the company has also launched a free version, GoodData.CN Community Edition (see **Figure 6**). Packaged as a single Docker image, this edition lets users explore GoodData.CN at their leisure. So long as the deployment is not run in production, customers are free to build a proof-of-concept solution with unlimited amounts of data in support of unlimited consumers. From there, they are encouraged to scale up to the company's Freemium Growth and Enterprise licensing options to gain access to enterprise-grade backend services such as auto-scaling.

6. Figure 6: GoodData.CN Community Edition page
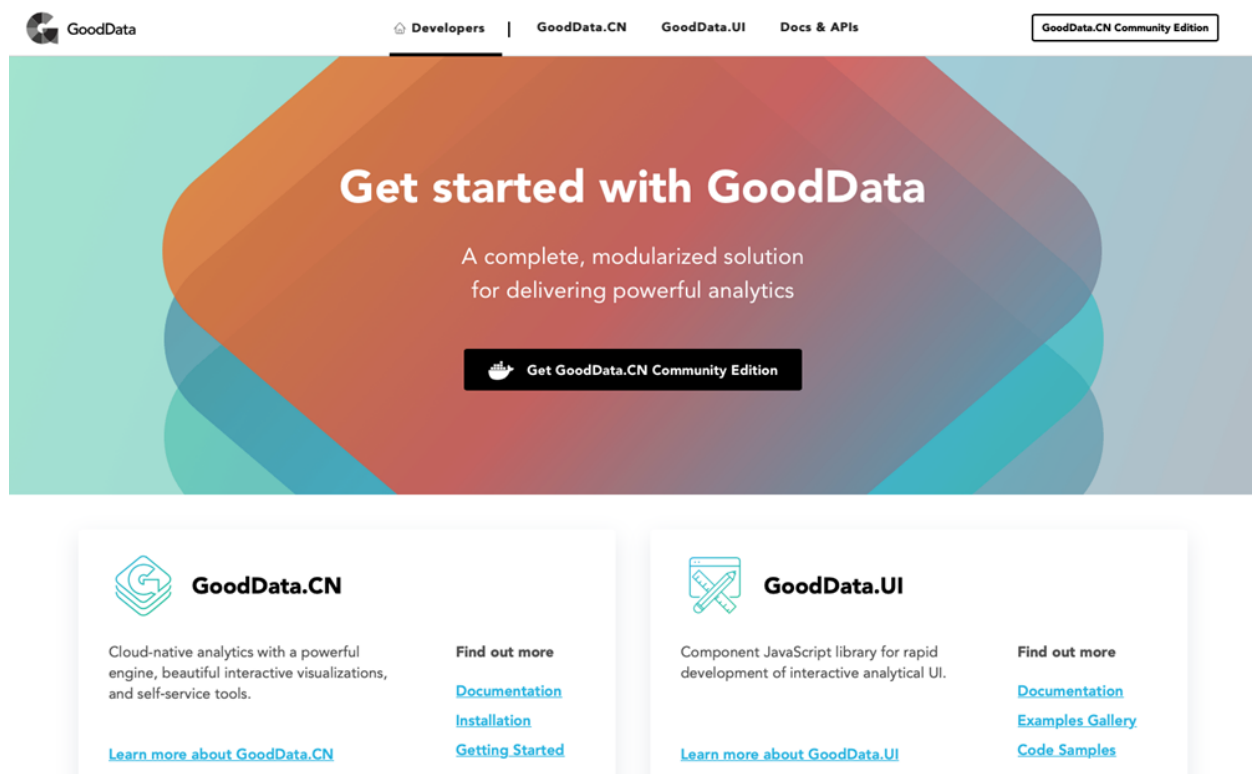
Source: GoodData

Future plans

GoodData's new DaaS offering builds upon its existing capabilities, extending the company's current go-to-market approach and serving as a technological driver for its established GoodData OEM/ embedded BI platform. For example, in February 2020, GoodData introduced new tools designed to improve data storytelling and data literacy, adding responsive bullet charts, enhanced drill-down tools, and advanced filtering (combined filters, ranking, etc.). These and future capabilities will surface within the GoodData.UI tool and will fuel both the OEM/embedded BI and self-service DaaS sides of the company's business going forward.

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Plying this technology roadmap that builds on earlier work, the vendor intends to continue investing in augmented intelligence tools such as predictive modeling. More immediately and in direct support of its DaaS offering, GoodData intends to focus on flexibility, supporting as many data sources as possible. At launch, GoodData.CN users can pull data via JDBC or directly from databases, including Vertica, Snowflake, PostgreSQL, and Amazon RedShift. As the company expands its public cloud deployment options, it will look to bring in new data warehouses and data lakes in particular, including Google BigQuery and Microsoft Azure Data Lake.

Interestingly, GoodData's plan to expand its public cloud hosting footprint will not just follow database integration opportunities. It will also prioritize data governance requirements. For example, GoodData chose the AWS Germany region as its sole launch point for the new service, not because it is close to the company's engineering & operations groups in Prague, Czech Republic, but because Germany matched customer demand for data sovereignty requirements and General Data Protection Regulation (GDPR) compliance. Building on this approach, the company has identified two regions for expansion, Australia and Brazil, where data privacy legislation plays a sizable role.

Key facts

Table 1: Data sheet: GoodData

Product/service name	GoodData.CN, GoodData.UI	Product classification	Containerized software and Managed cloud service
Version number	n/a	Release date	April 19, 2021
Industries covered	Technology, e-commerce, financial services, insurance	Geographies covered	Europe, North America
Relevant company sizes	Small medium and large with an emphasis on midmarket opportunities	Licensing options	Community Edition, Freemium Growth (based on resource usage), and Enterprise (unlimited)
URL	www.gooddata.com	Routes to market	Self-service, direct, partners (forthcoming)
Company headquarters	San Francisco, California	Number of employees	Approx. 350

Source: Omdia

Analyst comment

With GoodData.CN, it may seem as though GoodData is undertaking a radical change of direction. Moreover, it may seem like the company is trying to define a new market for DaaS. However, in truth, the company is simply extending its earlier efforts, taking lessons learned from over a decade of building a massively scalable data platform that runs within its in-house data centers. In building its own cloud

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platform, GoodData has created its own analytics engine, data mart, data warehouse, and extraction, transform, and load (ETL) tooling. All of the knowledge gained in building this software to support GoodData's extensive customer portfolio now feeds into the company's new DaaS solution.

However, this does not mean that GoodData.CN functions as a closed system. Far from it, the new service is a cloud-native platform built directly on top of several, open source technologies. For example, GoodData.CN uses Kubernetes, Docker, and Terraform for infrastructure and software orchestration, as well as Helm for auto-scaling. The new platform also integrates directly with several important cloud-native tools such as GitHub for versioning and Grafana for monitoring. By leveraging cloud-native functionality, GoodData views GoodData.CN as a means of opening up its core GoodData platform to customers outside of the company's traditional OEM/embedded BI route to market. Specifically, it will allow the company to directly target smaller customers—customers that do not require the full force of GoodData's in-house platform. It will also open up new geographic opportunities for companies that require data locality and sovereignty outside of North America, where GoodData's central platform resides.

More broadly and perhaps most importantly over the long term, Omdia believes that GoodData has an opportunity with GoodData.CN to help enterprises shift the way they view BI, data discovery, and advanced analytics. Over the past decade, the technology marketplace as a whole has steadily marched toward an API-led economy where all application services can be consumed flexibly, according to customer needs—as a response to a voice request, embedded within a business process, or scrolling across a Times Square billboard. However, the analytics community has struggled to make that same transition. Most analytics tools remain rooted within the monolithic software paradigm, with individual users making individual data extract requests from backend systems. It has only been in the last few years, with the rise of affordable, cloud-native data storage, that companies have begun exploring data and analytics as an operationalized platform service, rather than as a monolithic function reserved for user-facing apps like Microsoft Excel (see **Figure 7**).

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7. Figure 7: Semantic layer on top of customer data

Source: GoodData

With GoodData.CN, GoodData is well-positioned to help customers shrug off this older, table- and dashboard-oriented worldview and instead embrace the API-economy for data-driven insights. Its challenge will come in navigating a complex environment of like-minded competitors. Already, there are many companies espousing the benefits of data fabrics and DaaS, pure-play analytics rivals such as DOMO, data management players such as Informatica and Tamr, data integrators such as Talend and Alteryx, cloud platform providers such as Google and Microsoft, and even data warehouse vendors like Snowflake.

All are vying to deliver a single environment from which any user can securely access quality, governed data regardless of where that data might reside. Omdia believes, therefore, that GoodData should approach this diverse ecosystem of competitors cooperatively by doing what it does best: turning data into a unified API of data-driven insights. This will allow the company to help vendors like Snowflake close the last mile between platform and user experience, as but one example. In doing so, Omdia believes that GoodData can play an important role in driving the industry toward partner- and customer-driven opportunities such as open data exchanges and data asset marketplaces.

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Appendix

On the Radar

On the Radar is a series of research notes about vendors bringing innovative ideas, products, or business models to their markets. On the Radar vendors bear watching for their potential impact on markets, as their approach, recent developments, or strategy could prove disruptive and of interest to tech buyers and users.

Further reading

Analytics & Data Management Quarterly Briefing – 1Q21 (March 2021)

2021 Trends to Watch Analytics and Data Management (November 2020)

Author

Bradley Shimmin, Chief Analyst, AI Platforms, Analytics and Data Management

askananalyst@omdia.com

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CONTACT US

omdia.com

askananalyst@omdia.com