BARC

Data, BI and Analytics Trend Monitor 2025

The world's largest survey of data, BI and analytics trends

Research sponsored by:

denodo TARGIT

Authors

Larissa Baier
Senior Analyst Data & Analytics
lbaier@barc.com

Dr. Carsten Bange
Founder & CEO
cbange@barc.com

Florian Bigelmaier
Analyst Data & Analytics
fbigelmaier@barc.com

Jacqueline Bloemen
Senior Analyst Data & Analytics
jbloemen@barc.com

Dr. Christian Fuchs
Senior Analyst Data & Analytics
cfuchs@barc.com

Timm Grosser
Senior Analyst Data & Analytics
tgrosser@barc.com

Janis Lasmanis
Senior Online Editor / Senior Content Manager
jlasmanis@barc.com

Alexander Seeliger
Analyst Data & Analytics, Data Scientist
aseeliger@barc.com

Herbert Stauffer
Senior Analyst Data & Analytics
hstauffer@barc.com

Robert Tischler
Senior Analyst Data & Analytics
rtischler@barc.com

Table of Contents

Foreword

Every business is a data business. The primary role of data is to empower decision-makers across all levels with reliable, actionable insights. While automation is an emerging trend, staying competitive requires organizations to continually evolve their data capabilities, transforming raw information into insights that drive decision-making and long-term success.

However, becoming data-driven presents challenges. The BARC Data, BI and Analytics Trend Monitor 2025 shows that while AI and automation trends are gaining prominence, they do not overshadow the continued importance of fundamental data practices like security, quality and governance. These foundational aspects, alongside developing a data-driven culture and boosting data literacy, are still seen as vital to long-term success.

With 1,795 participants from across industries and regions, the BARC Data, BI and Analytics Trend Monitor 2025 reveals how data, BI and analytics professionals prioritize these trends globally. Their input helps distinguish between hype and enduring trends, offering crucial insights for organizations navigating the evolving landscape. Our time series comparisons also show how trends have developed, making it possible to distinguish hype from stable trends.

Dr. Carsten Bange
Würzburg, Germany, November 2024

Executive Summary

Executive Summary

The data management, BI and analytics landscape continues to evolve rapidly. Generative AI has become a transformative force since 2023, pushing discussions about decision-making and automation to the forefront. However, this study shows that the most valued trends remain rooted in fundamental topics like data security, quality and governance.

Our survey of 1,795 participants across industries offers a unique perspective. While AI and machine learning are gaining in importance, data professionals maintain a strong focus on the basics. The importance of building a data-driven culture and improving data literacy remains high, illustrating the balance between the human and technological elements necessary for success.

The study also provides a comprehensive insight into regional, company and industry-specific differences in the assessment of trends, some of which are viewed very differently. We have summarized the key findings of this study in six hot spots to illustrate the most striking contrasts and ongoing trends.

1 Hot Spot – Industry comparison

In 2025, industry-specific trends highlight distinct needs across sectors. For the **finance sector, advanced analytics and machine learning** remain critical, driven by the need for predictive insights and precise risk management. **Real-time analytics and streaming** are prioritized in **utilities** and **telecommunications**, where instant insights enhance network performance and customer experience. Meanwhile, sectors like the **public sector** and **retail** are increasingly focused on **operational BI** and **embedded analytics**, where real-time insights into operations are essential for efficiency. Despite these variations, **data quality management** and **data security** remain universal concerns across industries. In **healthcare**, security is paramount due to sensitive patient data and privacy regulations, while **manufacturing** prioritizes **data-driven culture** and **governance**, aiming to optimize supply chains and operational efficiency.

2 Hot Spot – Vendors vs. users

The 2025 survey reveals ongoing differences in how vendors and users prioritize trends. Users, primarily business and IT professionals, emphasize **data security**, **data governance** and **data-driven culture**, which are central to their operational challenges. Vendors, meanwhile, continue to promote **cloud for data and analytics**, reflecting their focus on future technology adoption. **Self-service analytics** is prioritized slightly more by vendors, who seek to drive adoption as their customers empower their business teams with greater autonomy, a trend also seen in best-in-class companies. While both groups acknowledge the growing importance of **AI and machine learning**, users prioritize building strong foundations, such as security and governance, before fully embracing these advanced technologies. The divide between vendor and user priorities underscores the need for alignment between technological innovation and practical application.

Executive Summary

3 Hot Spot – Best-in-class companies

This year, best-in-class companies set themselves apart by emphasizing **self-service analytics and data discovery**, ranking it fifth, one place higher than its overall sixth-place ranking. This focus on enabling business users to access and prepare data independently, reducing reliance on centralized IT teams, fosters greater agility and efficiency. Additionally, **data quality management** remains a priority for best-in-class companies, particularly as they modernize data architectures and invest in **integrated platforms for performance management, cloud analytics** and other scalable solutions.

While many organizations recognize the importance of AI, machine learning and advanced analytics, best-in-class companies place greater emphasis on decision intelligence, leveraging AI to automate and enhance decision-making, particularly in sectors like finance and telecoms, where real-time insights are crucial. These companies demonstrate that a blend of solid data foundations and cutting-edge technologies ensures leadership in a competitive landscape.

4 Hot Spot – Global differences

Regional differences in trend prioritization are evident in 2025. **South America** places high importance on **data security and privacy**, reflecting regional concerns over regulatory compliance. **Europe** remains more conservative, with an **emphasis on data quality management** and **data governance** over newer trends like **data mesh**. **DACH** countries stand out primarily for their focus on **data quality management**, **data governance** and **data & AI literacy**. They also show a solid commitment to **advanced analytics and machine learning**, though they remain more conservative in adopting newer trends like **data mesh** and **data lakehouses**. Meanwhile **Northern Europe** and **Eastern Europe** prioritize **data governance** and **self-service analytics**, reflecting their shift toward democratized data access. In **North America** and **APAC**, **AI-driven technologies** like **machine learning** and **advanced analytics** are rapidly being adopted, indicating a greater focus on operational efficiency and advanced decision-making, particularly in sectors like finance and telecoms.

Executive Summary

5 Hot Spot – Top trending topics

In its second year of being included in our survey, **data security and privacy** remains the top-ranked trend, reflecting the ongoing global focus on protecting sensitive information and adhering to increasingly stringent regulatory frameworks. **Data quality management**, which has been essential for ensuring reliable and valuable data usage across organizations, now ranks second. Alongside these foundational trends, **AI and machine learning** continue to gain momentum, increasingly recognized as key enablers of automation and efficiency, though they have not yet overtaken the more established priorities.

Data governance, despite dropping to fourth, retains its importance, playing a crucial role in not only securing and managing data but also shaping organizational data culture by balancing accessibility with compliance and ethical standards. **Data-driven culture**, introduced to this survey in 2019, and **data & AI literacy** continue to play a crucial role in equipping employees with the skills needed to make informed decisions.

Self-service analytics and data discovery, placed sixth, highlights the continued emphasis on empowering business users to explore data independently, enhancing agility across organizations. These trends reflect how foundational data practices and emerging technologies are coalescing to drive long-term success.

6 Hot Spot – Europe

In 2025, regional differences within Europe continue to shape how trends are prioritized across the continent. Data security and privacy remain a top concern, particularly in Southern Europe and the United Kingdom, where companies place greater importance on safeguarding sensitive data and ensuring compliance with regulatory requirements. This focus aligns with the broader European emphasis on privacy, driven by stringent regulations such as the GDPR. Data quality management continues to rank highly across all European regions, with a particularly strong focus in France and the BeNeLux and DACH regions. Here, companies prioritize high-quality data as the foundation for reliable business insights and decision-making.

Eastern Europe stands out for its emphasis on data literacy, which is viewed as a critical enabler of a data-driven culture. Organizations in this region recognize that empowering employees with the skills to interpret and act on data is essential for driving business success. In contrast, Northern Europe and the UK & Ireland have a growing interest in self-service analytics, reflecting a shift toward greater democratization of data access. This trend suggests that businesses in these regions are increasingly focused on providing business users with the tools they need to independently explore and analyze data, reducing reliance on IT departments.

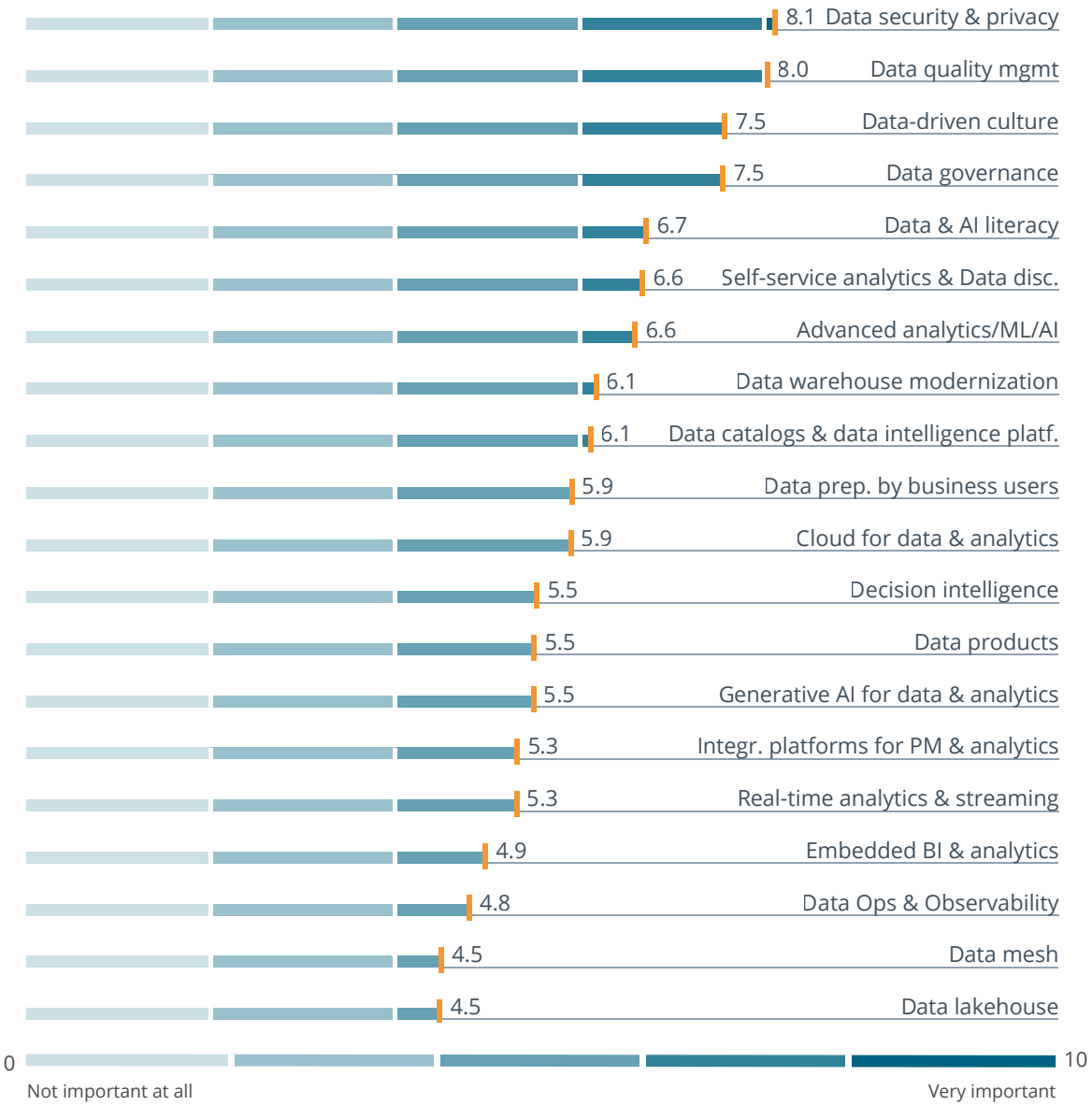
Overall, while foundational trends such as data quality and security remain consistent across Europe, regional differences in the prioritization of data literacy and self-service analytics demonstrate the diverse approaches European companies are taking to develop their data strategies.

Survey Results

Survey Results

Results Overview

Data security is the number one trend this year, closely followed by data quality management



n = 1,795

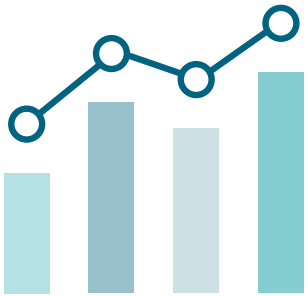
Viewpoint

We asked users, consultants and software vendors of BI and data management technology to give their personal rating of the importance of twenty trending topics that we presented to them.

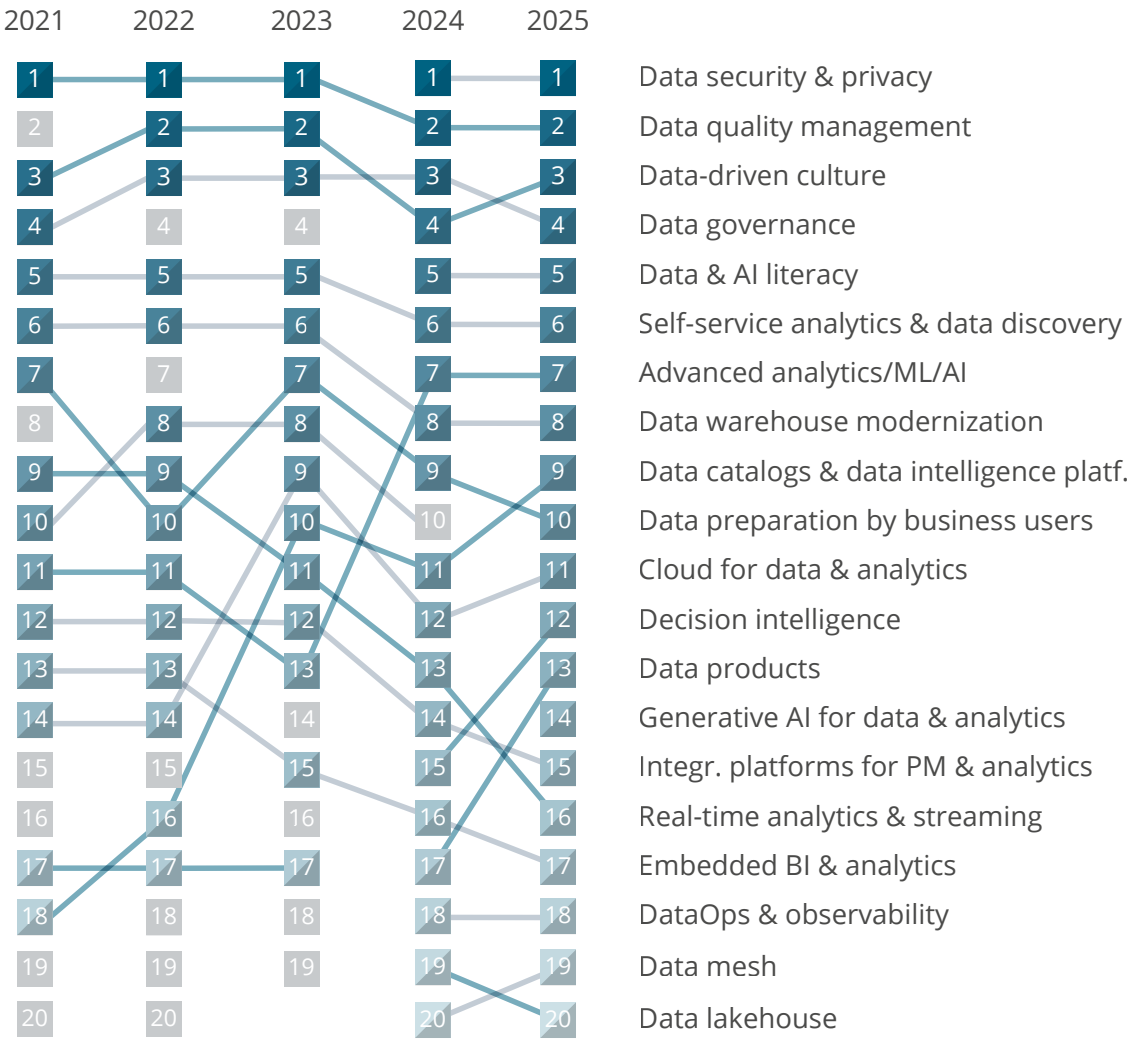
The 2025 BARC Data, BI and Analytics Trend Monitor shows that while foundational trends remain critical, emerging technologies are shaping the future. **Data security and privacy** continues to lead, while **data quality management**, which has been a top trend for a decade, holds second place. **Data-driven culture** and **data literacy** maintain their significance, with organizations continuing to prioritize skills development. **Data governance** has held its ground, ranking fourth, as organizations seek robust frameworks to manage increasingly complex data environments. In regions such as **North America** and **APAC**, **AI and automation technologies** are playing a larger role, particularly in **operational decision-making**. These top trends – security, quality, governance, culture and literacy – serve as the foundation for successful data management and usage in a rapidly evolving landscape.

Survey Results

Trends Development



Some movement this year: Real-time analytics loses ground, while data products and decision intelligence are becoming more important



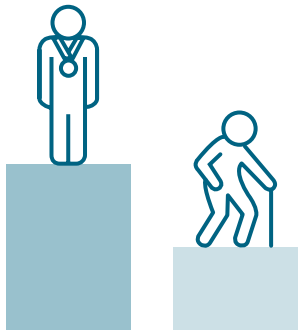
n = 1,795

Viewpoint

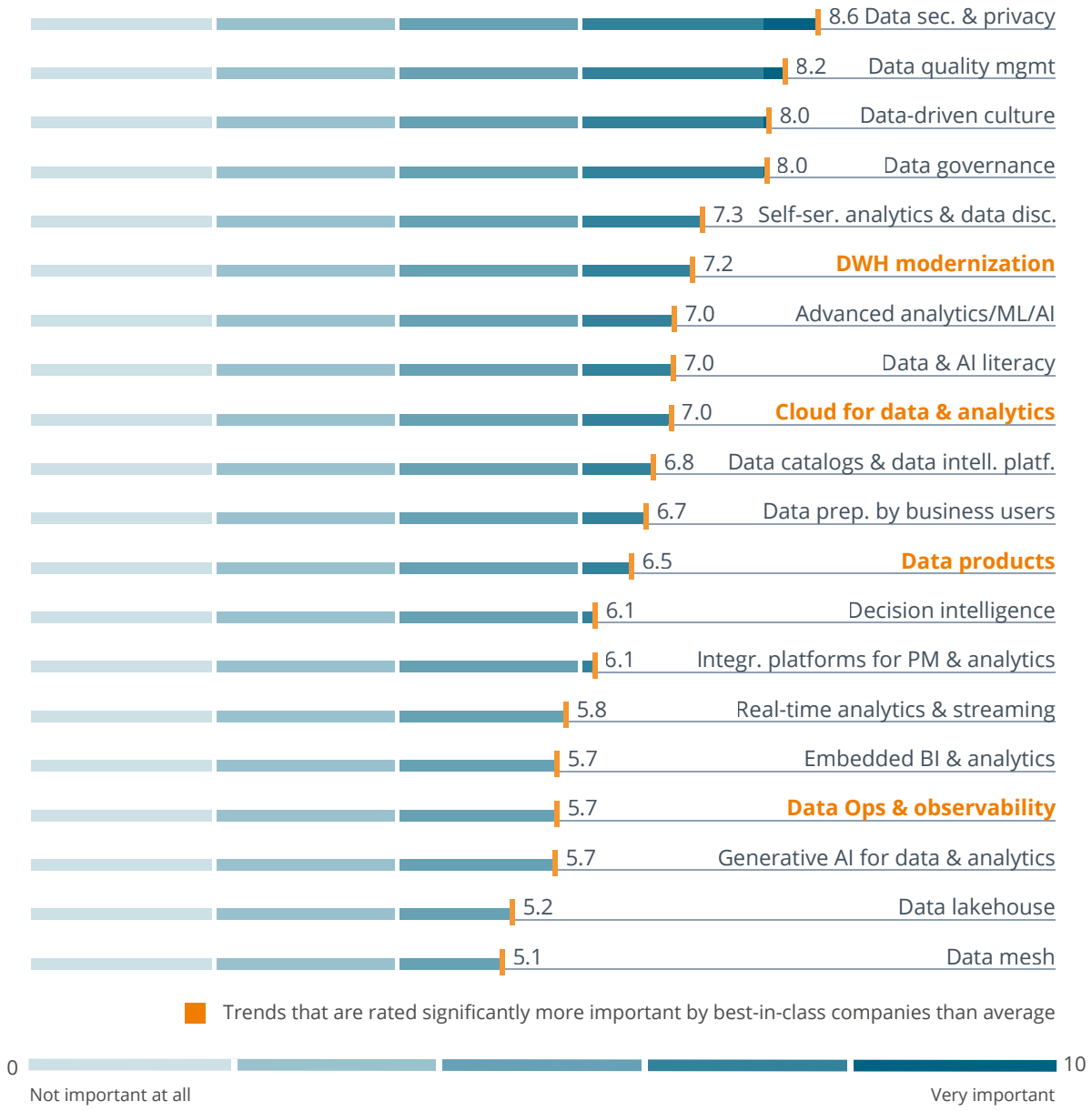
Trends in 2025 reflect shifts driven by technology and operational needs. **Decision intelligence** and **advanced analytics**, **machine learning and AI** have grown in prominence, fueled by advancements in automation and AI technologies. The continued emphasis on **data governance** is driven by increasingly complex data landscapes and regulatory requirements. **Cloud for data and analytics** has slipped slightly in ranking, reflecting its transition to a mainstream technology rather than an emerging trend. Similarly, **data quality management**, while still critical, now ranks second as **data security and privacy** takes precedence. Trends like **real-time analytics** and **embedded analytics** continue to decline, signaling their maturity and the rise of newer innovations, particularly in sectors such as **retail** and **telecommunications**, where operational efficiency is key.

Survey Results

Leaders vs. Laggards



Learning from the best: How best-in-class companies see the trends



n = 161

Viewpoint

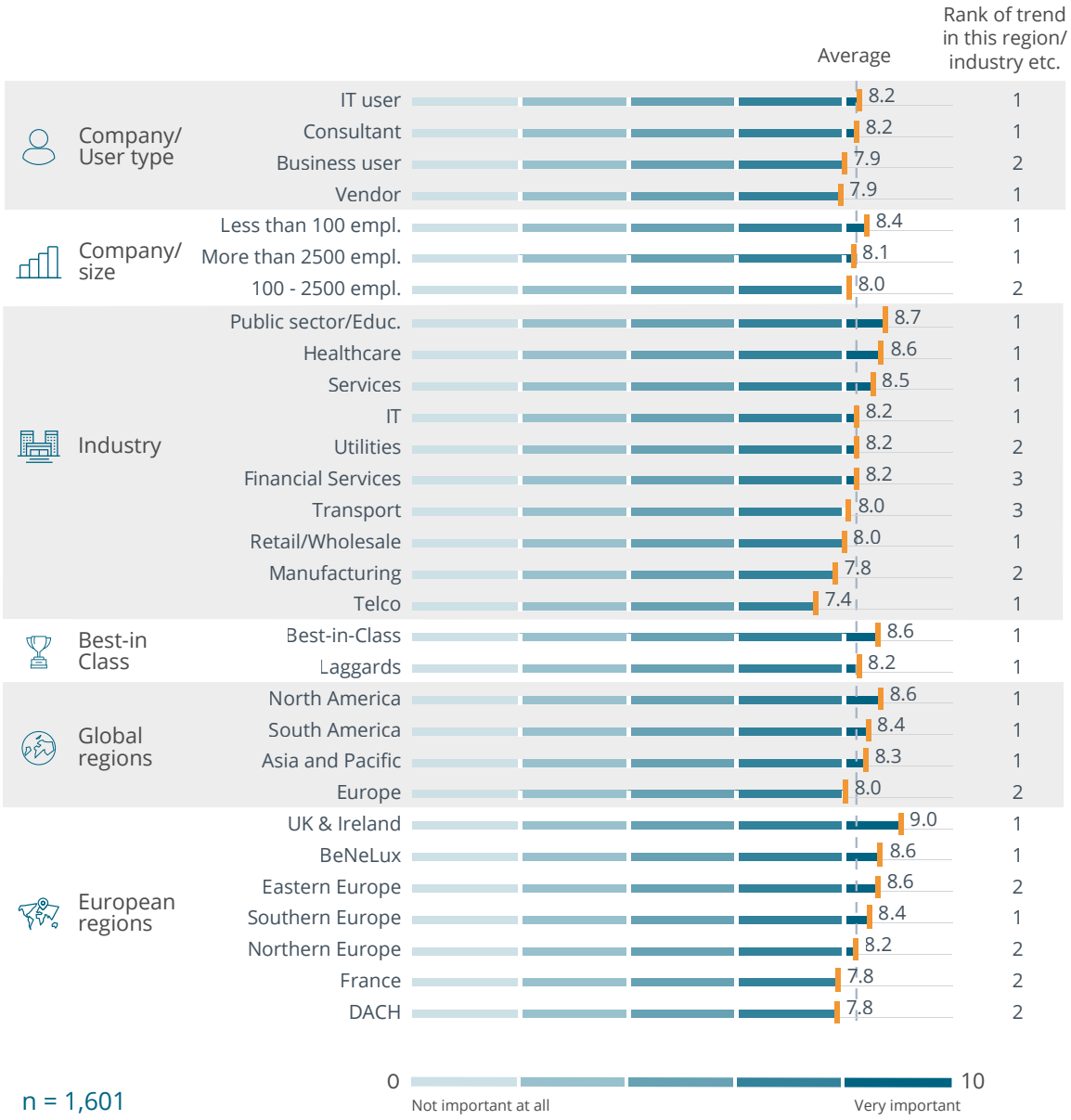
Best-in-class companies in 2025 prioritize **data quality management**, especially as these organizations modernize their data infrastructures to support advanced analytics, including the adoption of **data lakehouses** and integrated platforms. **Self-service analytics and data discovery** remains a key focus, which allows business users to explore and utilize data independently, fostering agility and reducing reliance on IT. **Decision intelligence** has also gained traction, as best-in-class companies increasingly rely on AI to automate decision-making, ensuring faster and more accurate outcomes. These companies are particularly advanced in sectors like **utilities**, **finance** and **telecoms**, where real-time insights and predictive analytics are critical to staying competitive. By blending foundational data practices with emerging technologies, these companies lead the way in using data for competitive advantage.

Top 20 Trends in Detail

Top 20 Trends in Detail

Data Security/Privacy

A major trend in UK & Ireland, but less important for the telecommunications sector



n = 1,601

Viewpoint

Data security is the protection of data against it being stolen, manipulated or destroyed. More and more professional cyber attacks, coupled with the general uncertainty in global markets and the political situation, are driving the desire for security and protective measures. The EU regulation NIS-2, which came into force on October 18, 2024, requires comprehensive protective measures for essential and important facilities to ensure security of supply (NIS = network and information security). However, the reality in business is often different: risk assessments, emergency plans and protective measures are often not up to date or do not exist at all.

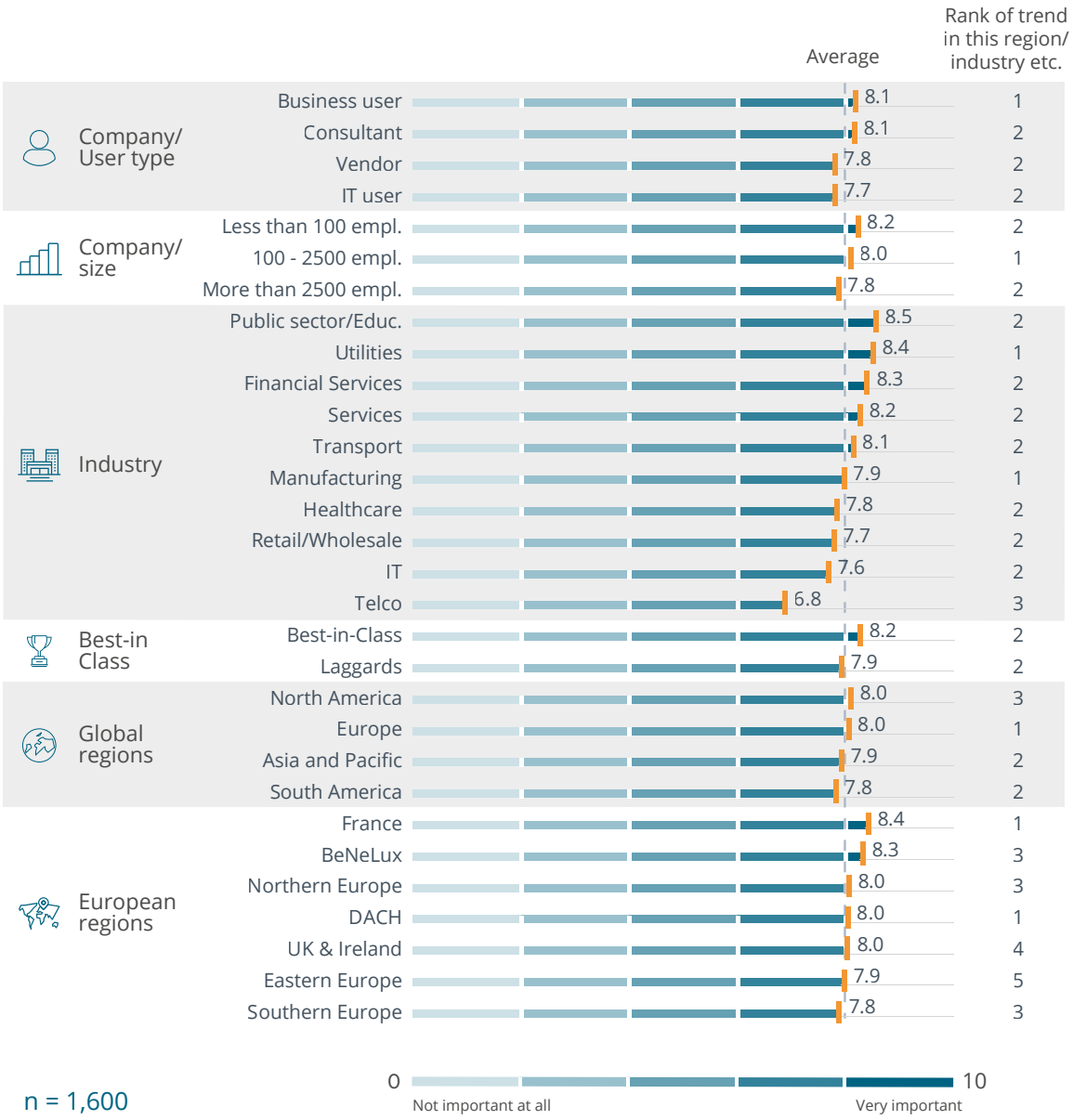
Our survey shows that companies are aware of security. But there is often a lack of time and resources to implement and adequately coordinate the necessary technical, physical and organizational measures.

Data security measures are grouped into three categories: prevention, detection and reaction. Data is protected by access restrictions, encryption and regulations on data transmission and storage. If a data breach does occur, it should be detected as quickly as possible, and damage prevented (or at least limited). A solid security concept and emergency plan includes options to detect the attacker, measures to restore the data and clear action and communication processes to limit the financial and non-financial damage. This also includes the obligation to provide information quickly if personal data is affected, in accordance with the applicable data protection laws.

Top 20 Trends in Detail

Data Quality Management

Data quality management is a bigger trend in France and the public sector, but less relevant for the telecommunications sector



n = 1,600

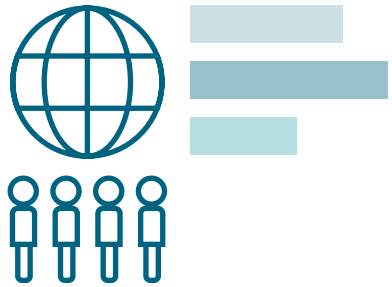
Viewpoint

The importance of data quality and master data management can be explained very simply: Correct decisions can only be made on the basis of reliable, consistent data. Models can only make accurate predictions if they are trained and supplied with the correct data. More than that, high data quality standards are essential in order to increase flexibility for business users and their trust in data.

Master data provides the structure to understand and use data. It is only through master data that transactional data, IoT data and clickstreams get their meaning and context. Harmonized master data is critical to the uniform understanding of data and the interaction of company divisions as it helps to ensure consistent reporting and data-driven operations.
In today's digital age, in which data is increasingly emerging as a factor of production, there is a growing need to flexibly use and produce high quality data to make new services and products possible. Especially for AI, high quality data is needed more than ever for high quality output (e.g., to prevent hallucinations or bias).

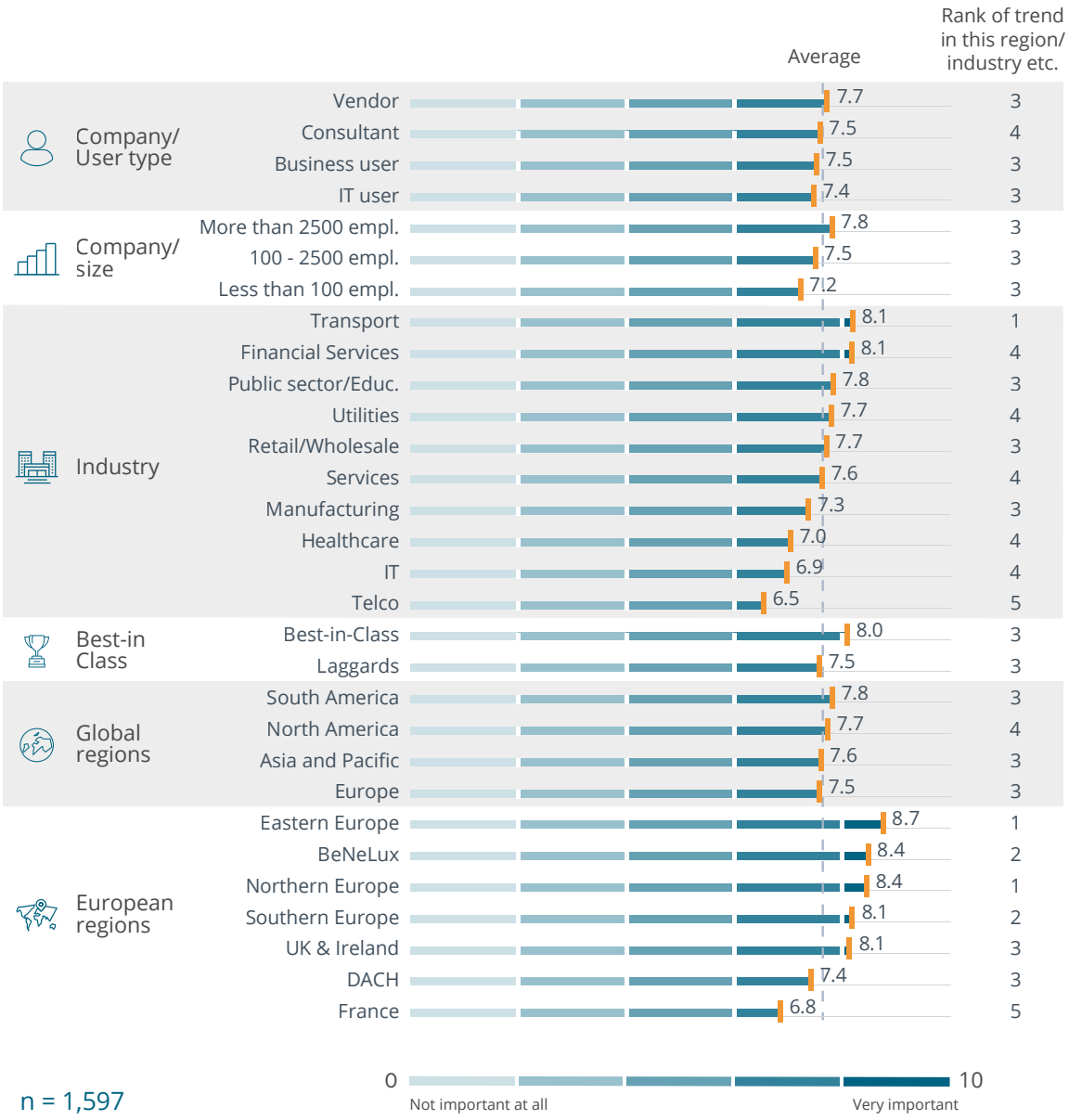
The critical success factors for sustainable high data quality are defined roles and responsibilities, quality assurance processes, the continuous monitoring of the health of a company's data and – most importantly – everyone's awareness and transparency regarding the impact of poor data quality.

Top 20 Trends in Detail



Data-Driven Culture

A big gap exists between Eastern Europe and France as well as between the transport and telecommunications sectors



n = 1,597

Viewpoint

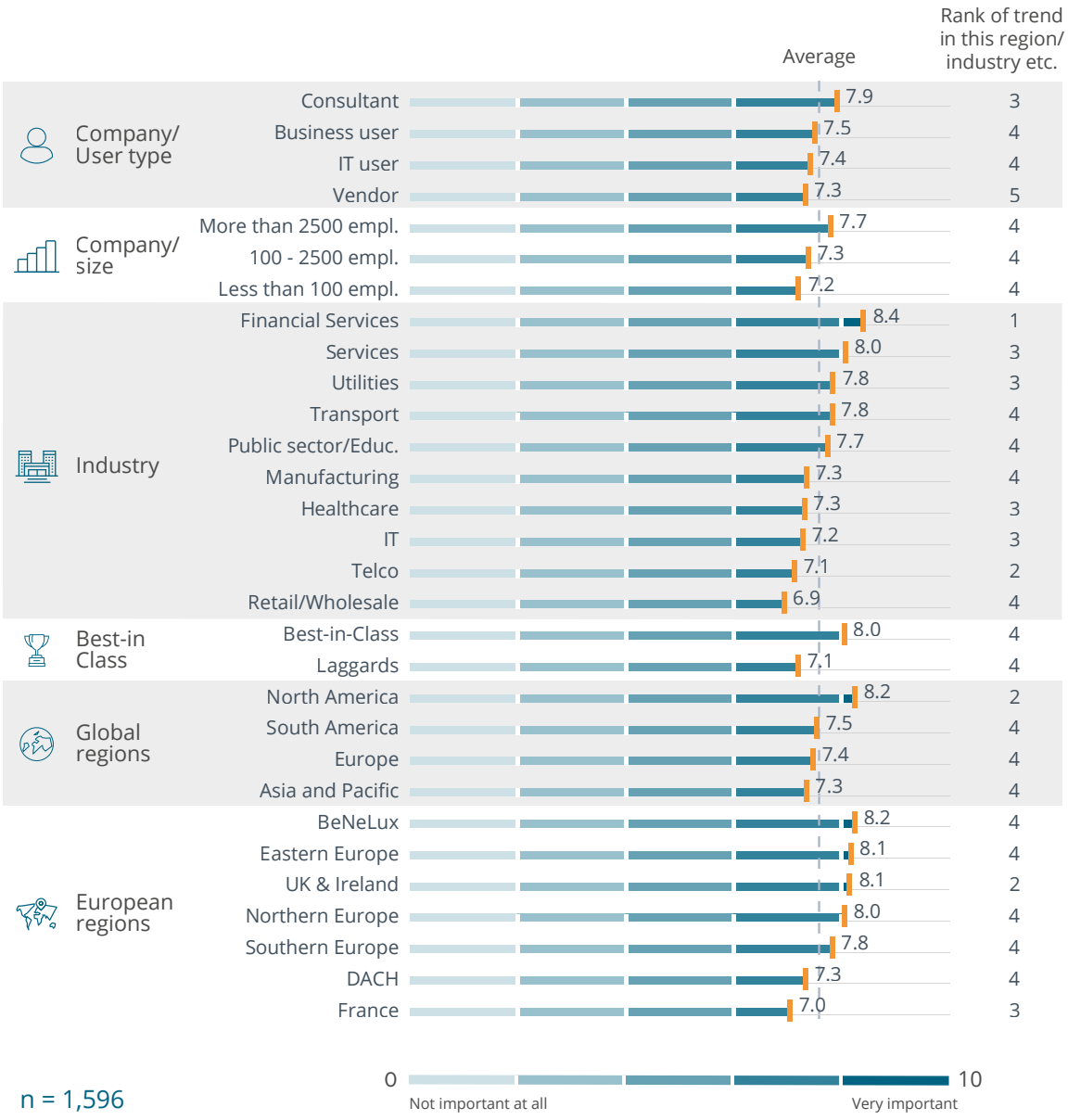
Many companies continue to pursue the goal of becoming data-driven, recognizing that the broad use of data and analytics across the organization is critical to achieving this. Being data-driven means that decisions and processes are consistently informed by data, allowing organizations to make more accurate and strategic choices, optimize operational efficiency and unlock new competitive advantages. However, technology investments alone are insufficient. The cultural shift toward data must involve all employees, fostering an environment where data is openly discussed and continuously integrated into daily activities.

To build this data-driven culture, companies must focus on the six key action areas outlined in the BARC Data Culture Framework: **data strategy**, **leadership**, **governance**, **literacy**, **communication and access**. These pillars align closely with the leading trends of 2025. For instance, the emphasis on **data governance** reinforces the need for clear guidelines and structures, while **data literacy** plays a central role in empowering employees across all levels to engage with data effectively. **Data security and privacy** support the governance and access pillars, ensuring that data is both safeguarded and accessible when needed. By focusing on these interconnected areas, organizations can create a culture where data is not just available but actively used to drive innovation and business success.

Top 20 Trends in Detail

Data Governance

BeNeLux and the financial services sector regard data governance as important. Smaller companies and retailers are some way behind



n = 1,596

Viewpoint

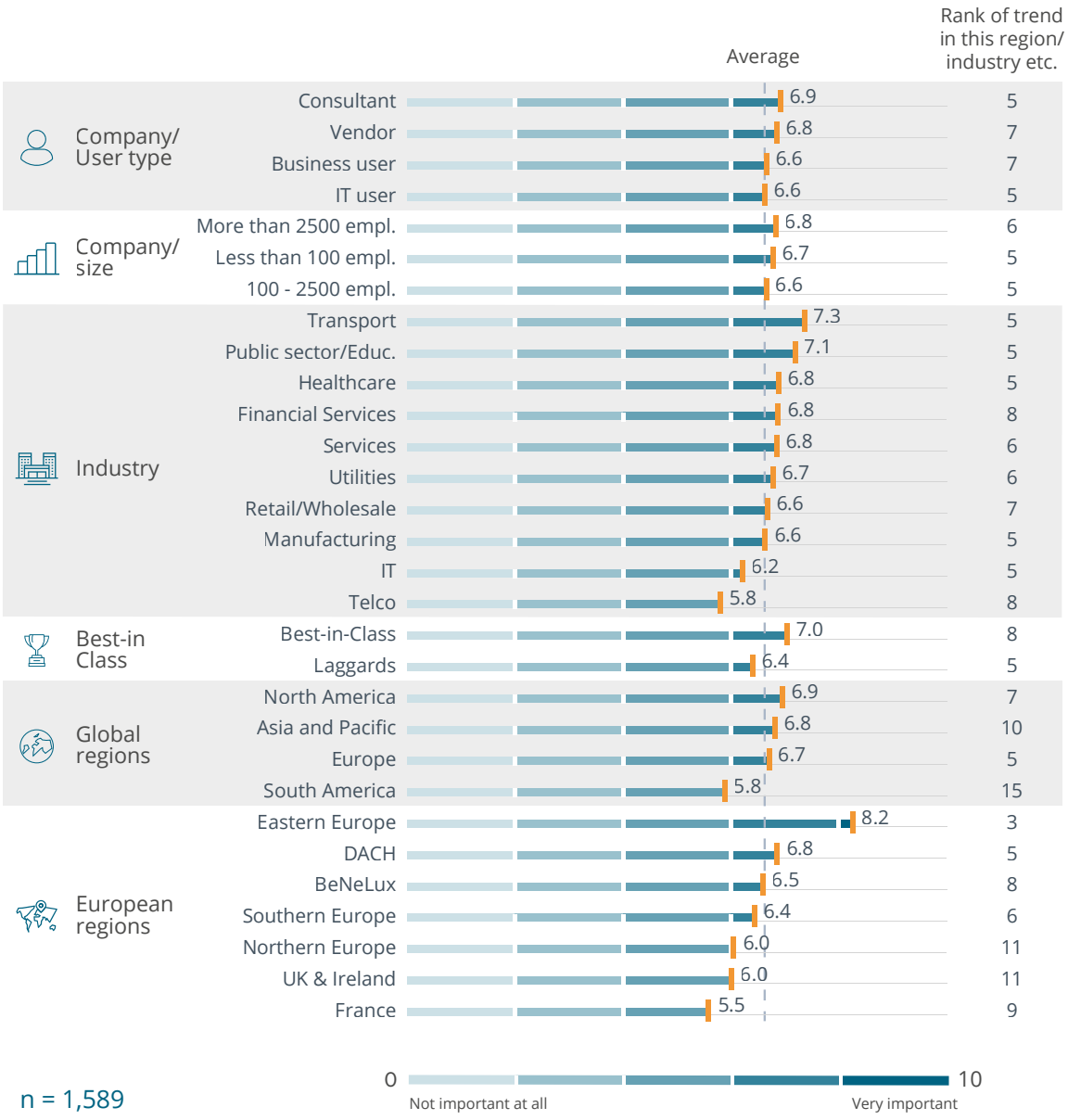
Unlike BI or analytics governance, which center on preparing and presenting data for analytical use cases, data governance focuses on the data in all systems that are dealing with data. Because business and technical responsibilities are traditionally covered at a 'per system' level, this overarching view of data needs to be specifically addressed. For a long time, this was usually performed by a central body within the organization. With the rise of data product thinking and data mesh, a decentralized and federated approach to data governance is now more prevalent. This requires broader thinking in terms of knowledge, people, organization and technology.

Data governance is needed as the steering mechanism for data strategy. A proper data strategy orchestrates how business strategy is translated into data and analytics. It enables the business to get value from data, for example, by applying data product thinking. Data strategy manages the exploitation of data across all business processes to promote business efficiency and innovation. Data governance is required to implement a data strategy, including policies and frameworks to manage, monitor and protect data capital while taking people, processes and technologies into account.

Top 20 Trends in Detail

Data & AI Literacy

The transport sector and companies from Eastern Europe place the most value on data literacy, France much less so



n = 1,589

Viewpoint

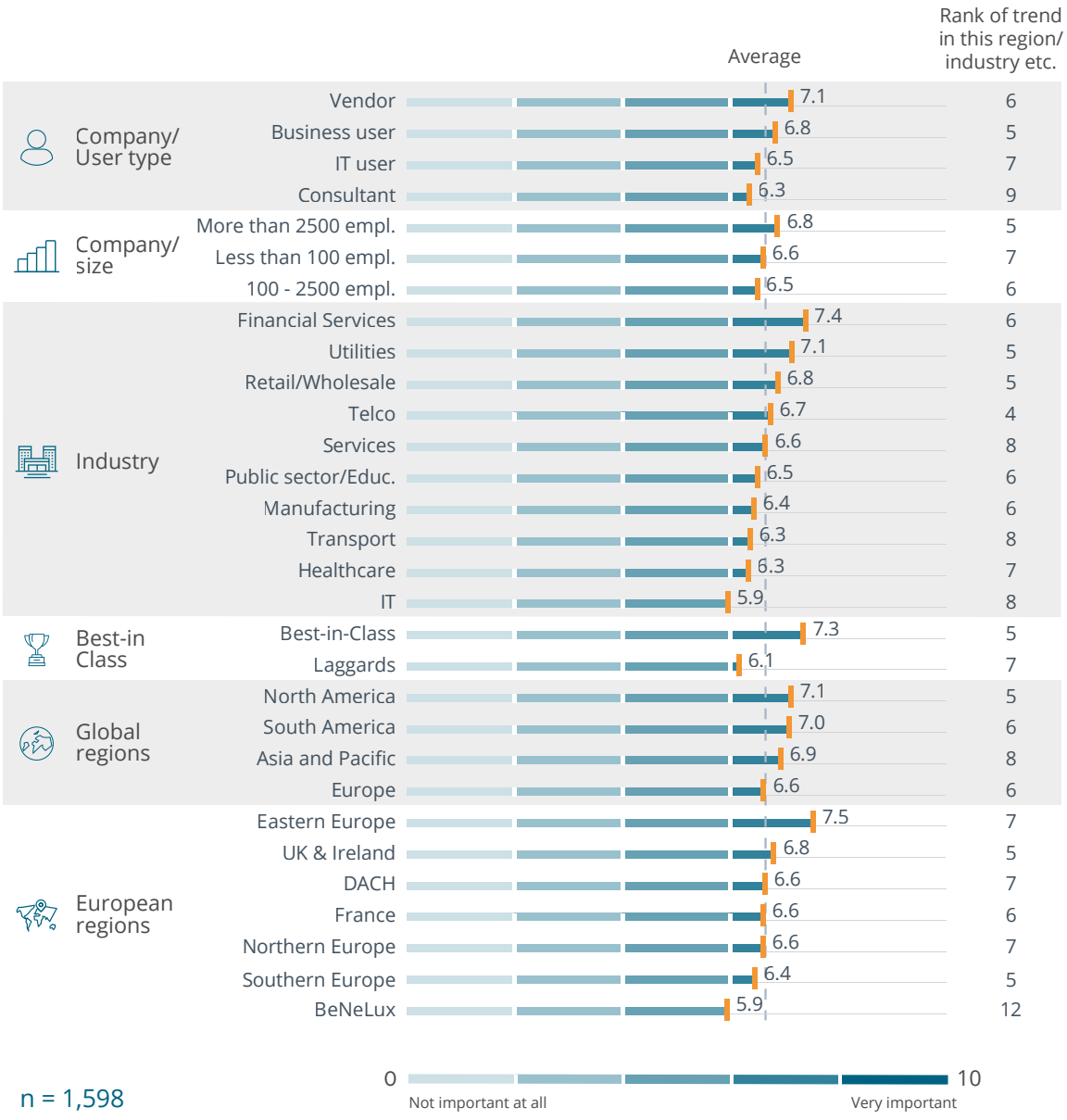
Data literacy is no longer limited to data professionals such as engineers and scientists; it has become a crucial skill for individuals in all roles and industries as data increasingly drives decision-making and problem-solving. At BARC, we define data literacy as the foundational ability to work with data, encompassing not only analytical skills but also an understanding of data models, data sources and the effective use of software tools in collaboration with others.

In 2025, **data literacy** remains a crucial trend, consistently ranked among the top five, reflecting its importance across industries. Survey results show that users rated data literacy **6.9/10**, while vendors gave it **6.6/10**, a slight increase on last year. This gap underscores the continued challenge for vendors in fully addressing the data literacy needs of organizations. As companies strive to become more data-driven, empowering all employees with data literacy is essential for translating data into actionable insights and business value.

Top 20 Trends in Detail

Self-Service Analytics & Data Discovery

Especially relevant in the financial sevices sector and for best-in-class companies, but not so much for laggards and the IT sector



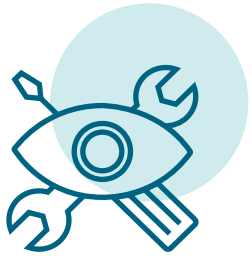
n = 1,598

Viewpoint

The enablement of business users to create BI and analytics content in a self-reliant manner has been adopted by many organizations but is still a hot topic. The continued high demand for self-service BI and analytics underscores the importance of empowering business users with sophisticated capabilities. However, there has been a shift away from point solutions as organizations have moved beyond simply providing self-service to meet departmental needs only. They want to democratize data access across the enterprise while ensuring efficient creation and consistent results by (or in spite of) cutting out the middlemen.

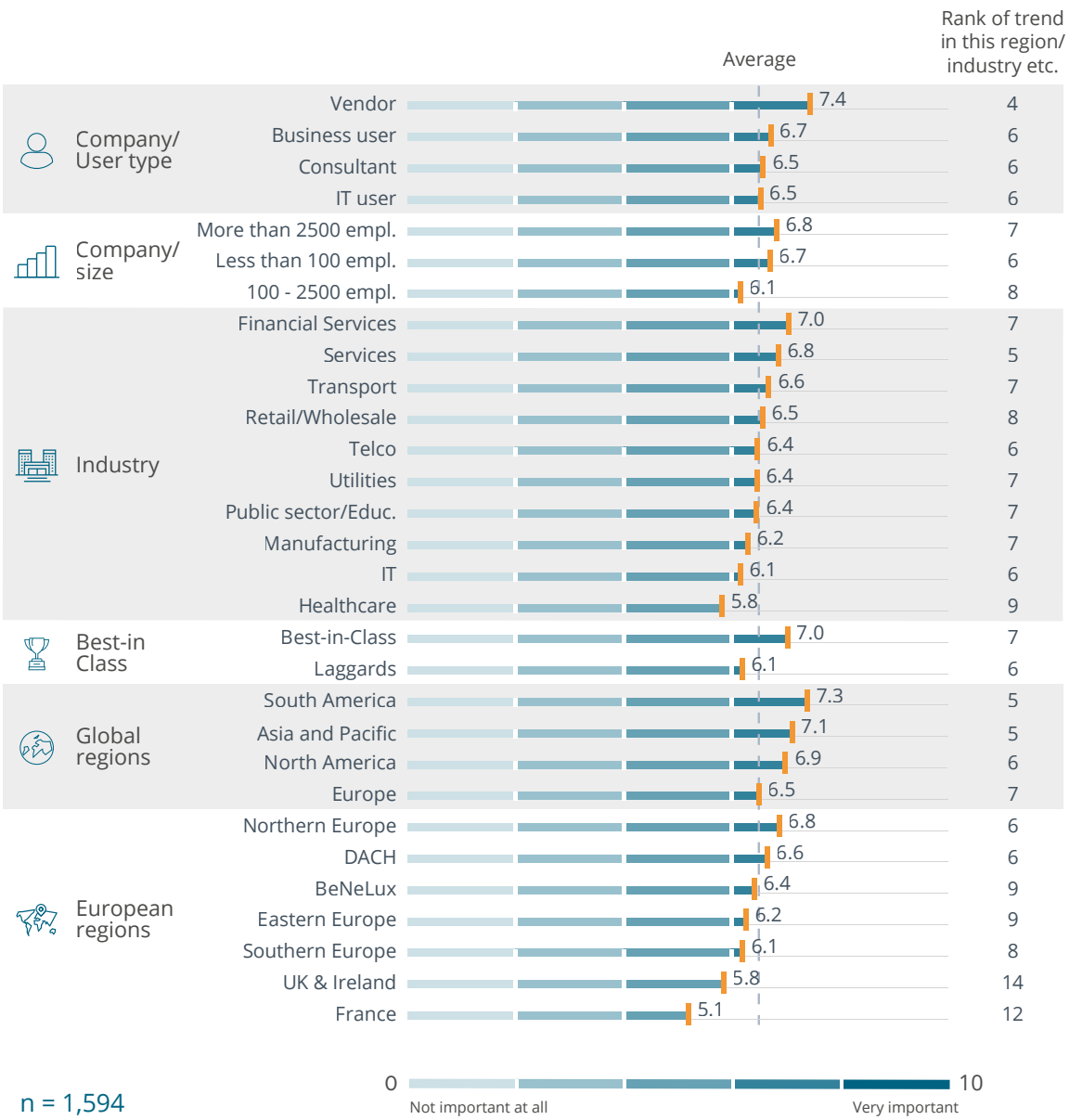
Self-service BI and analytics empowers business users to find answers to urgent questions and make informed decisions. They do this by communicating insights and results through visualizations, reports, dashboards and increasingly also analytical models that are created more quickly and efficiently. The share of organizations that empower business users to build content, at least in some areas, is already high. This creates more relevant content that then attracts even more users. However, not all business users create BI and analytics content. Organizations need to understand that self-service does not mean that business users do not need IT or BI and analytics experts. They still play a key role in enhancing, monitoring and supporting successful environments and serving business users.

Top 20 Trends in Detail



Advanced Analytics / Machine Learning / AI

Advanced analytics is especially popular with vendors, but less so in France



n = 1,594

Viewpoint

Advanced analytics, machine learning and AI are interrelated, each building on the others to enhance data-driven insights and automation. Advanced analytics uses statistical and algorithmic methods to analyze complex data and uncover insights. Machine learning, a subset of AI, enables systems to learn from data and improve predictions without explicit programming. AI, which includes machine learning, aims to mimic human intelligence, ranging from task-specific systems to more general applications, with machine learning providing the adaptability needed for AI systems to improve over time.

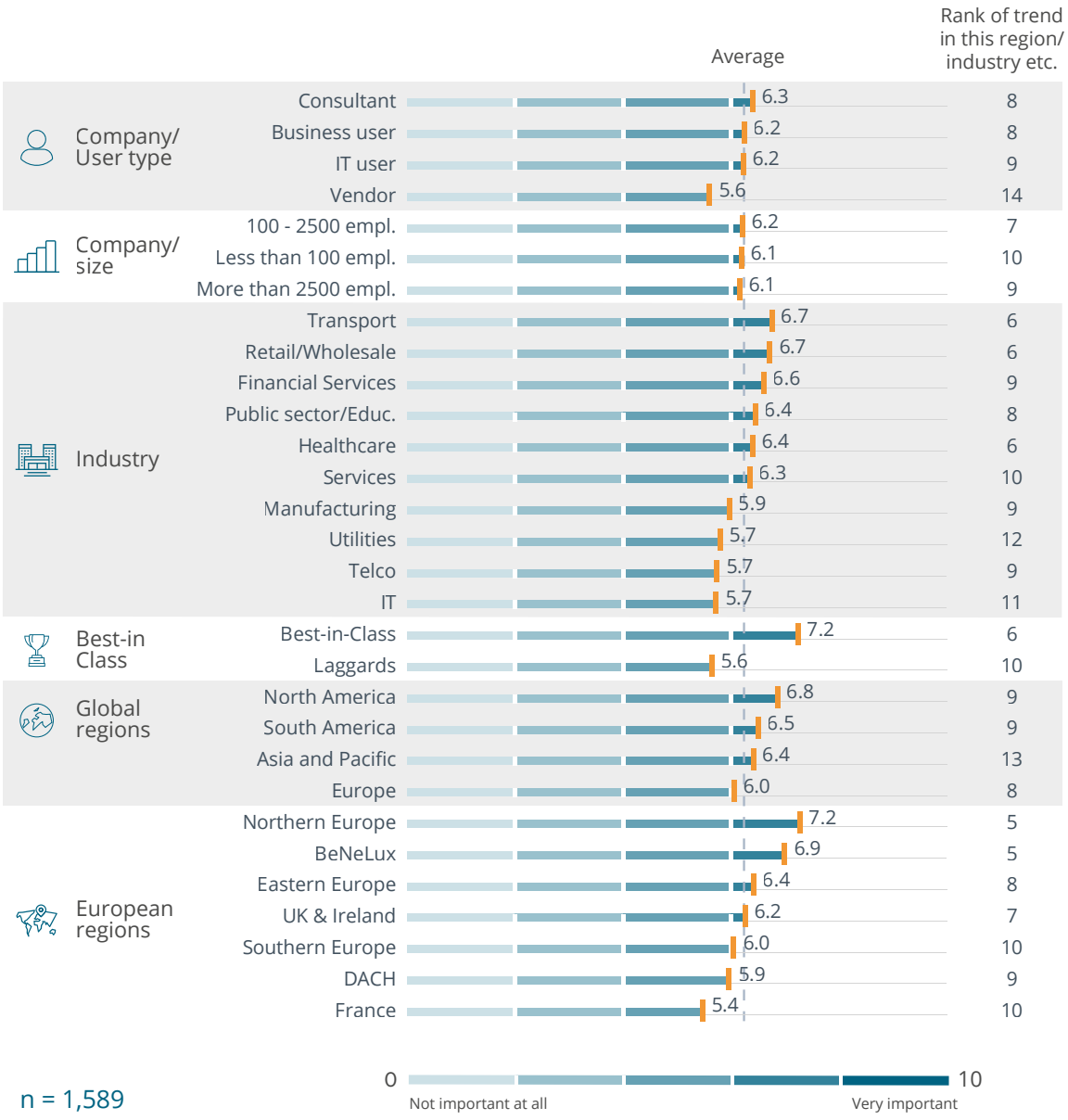
With the rise of AI, especially in automation, businesses are increasingly focused on using AI to completely automate specific decision processes, supported by new hardware and cloud services optimized for machine learning and AI solutions. This has significantly accelerated the deployment of AI solutions across industries. A notable advancement in the past year is 'Generative AI', which refers to large pre-trained AI models designed to create new content such as text, images, audio and video. The rapid innovation in this field is expected to bring fascinating advancements in the near future, with broad potential use cases that can enhance and optimize all forms of content creation.

For decision-makers, it is essential to prioritize use cases, assess the company-wide significance of advanced analytics and AI, identify necessary roles and skills, and select appropriate technology. Moreover, addressing bias and maintaining ethical standards in algorithmic decision-making is becoming increasingly important. Many organizations are now moving from AI experimentation to deployment, supported by DevOps, MLOps and cloud services that streamline the process.

Top 20 Trends in Detail

Data Warehouse Modernization

Best-in-class companies value data warehouse modernization much more than laggards do



n = 1,589

Viewpoint

Older data warehouse landscapes have become too complex to support agile development, or too expensive to have their functionality extended to accommodate modern analytics requirements. The type of implementation for which many data warehouse landscapes were originally designed and optimized does not cover the way analytics is currently moving forward in the direction of exploration and operational processing alongside classic BI requirements.

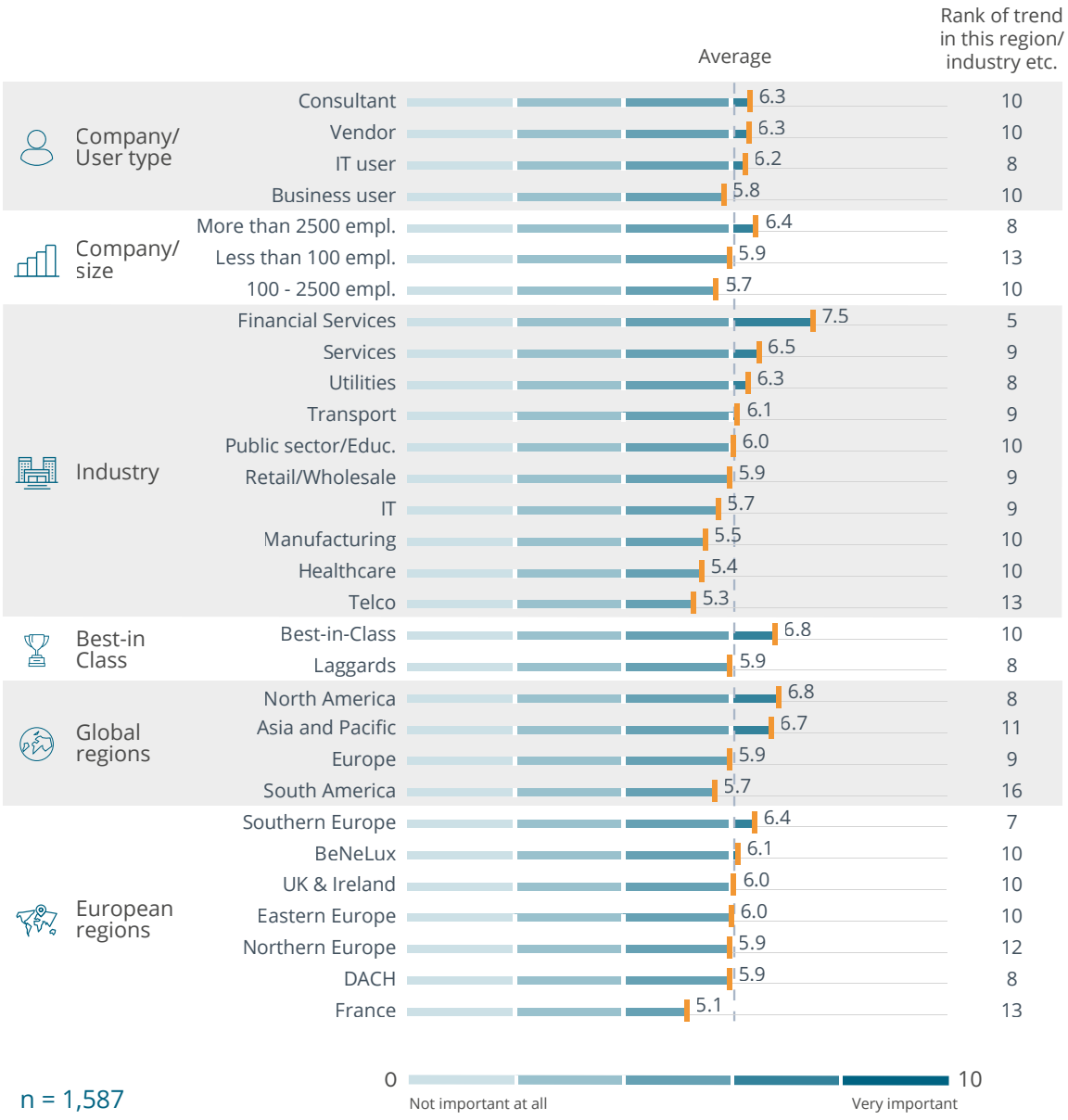
Now, organizations are beginning to understand the new challenges that arise from the increasing demand for flexible data access in complex data landscapes. They are starting to realize the potential of alternative methodologies, architecture approaches like data lakehouse and data fabric, and utilizing other technical options such as in-memory, cloud data platforms and data warehouse automation tools.

IT must be prepared for fast-changing analytical requirements and extensive self-service analytics in the line of business. Collaborative approaches are needed to meet the increasing expectations of the business to pull maximum value from data. It is now time to assess historically grown data warehouses against current demands and evaluate how updated hardware, technology and architecture approaches could make life easier.

Top 20 Trends in Detail

Data Catalogs & Data Intelligence Platforms

Very important in financial services. Less important in the telecommunications sector and in France



n = 1,587

Viewpoint

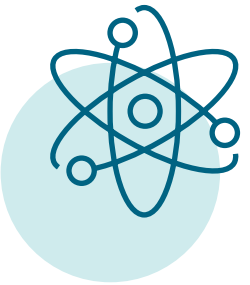
The biggest challenge for data consumers today is finding, understanding, trusting and using relevant data. Analysts spend a lot of time searching for the right data and analysis and repeating work that has already been done, which impacts their productivity.

A lack of available documentation and detailed knowledge stands in the way of achieving these goals. Such detailed knowledge is available in the organization in the form of metadata. However, metadata is rarely collected and brought to life using analytics and machine learning in any consistent way. Data cataloging embraces the systematic collection, linking and analysis of metadata with the goal of creating a better understanding of data. The use of a data catalog, however, requires a different way of thinking and an awareness that data catalogs must be actively maintained. Technology can assist in this process with connectors to different types of sources; workflows, analysis and collaboration functions; as well as the automation of time-consuming tasks such as metadata ingestion, linkage and preparation.

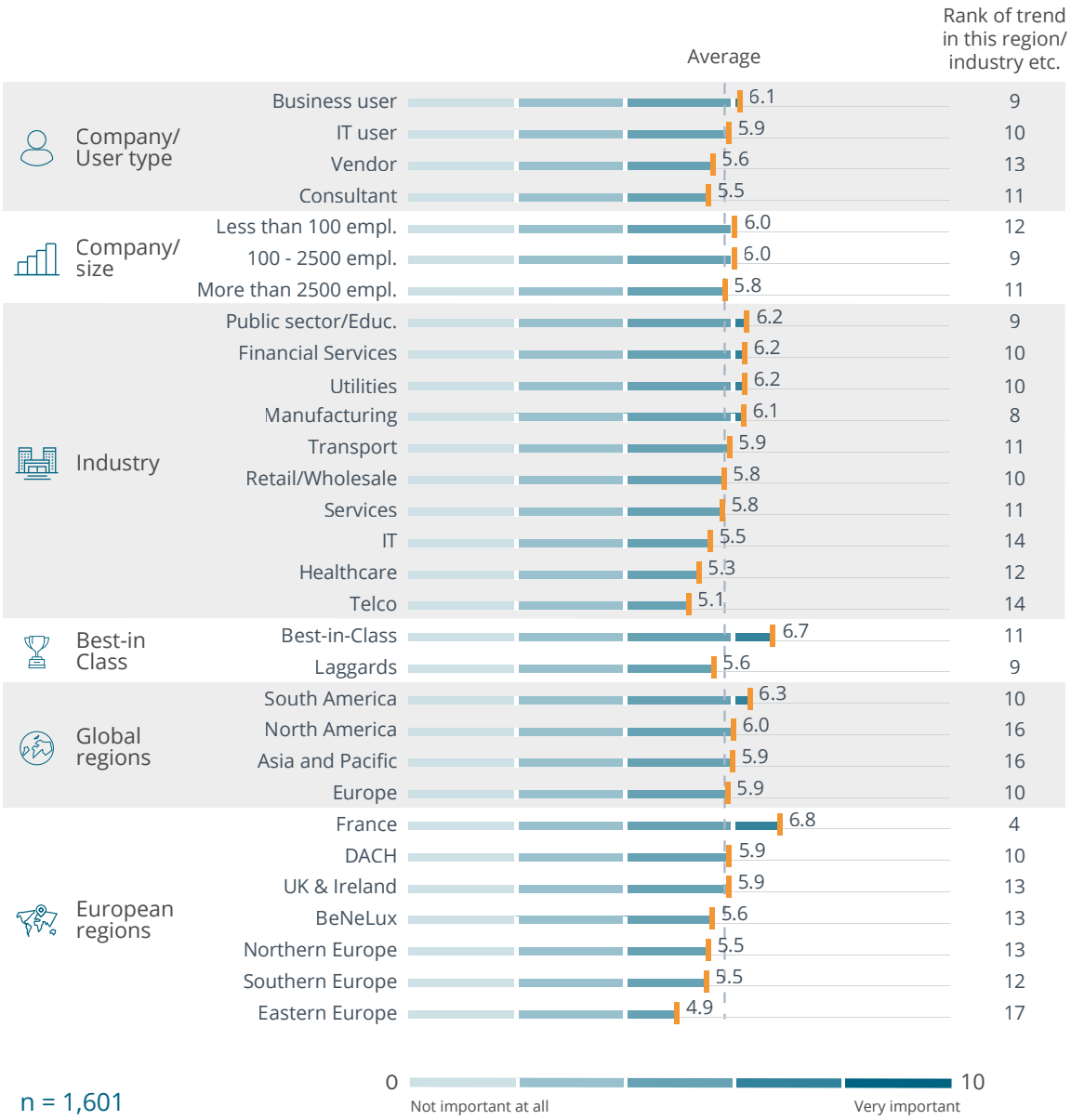
While a data catalog provides access to linked metadata, a data intelligence platform goes a step further and provides additional advanced functionality to activate metadata in different use cases like data governance applications or to support data product thinking (e.g., by adding marketplace functionality). However, building a data catalog or a data intelligence platform and keeping it alive is much more of an organizational challenge.

Top 20 Trends in Detail

Data Preparation by Business Users



France and best-in-class companies top the charts for data preparation. Eastern European countries are less focused on the trend



n = 1,601

Viewpoint

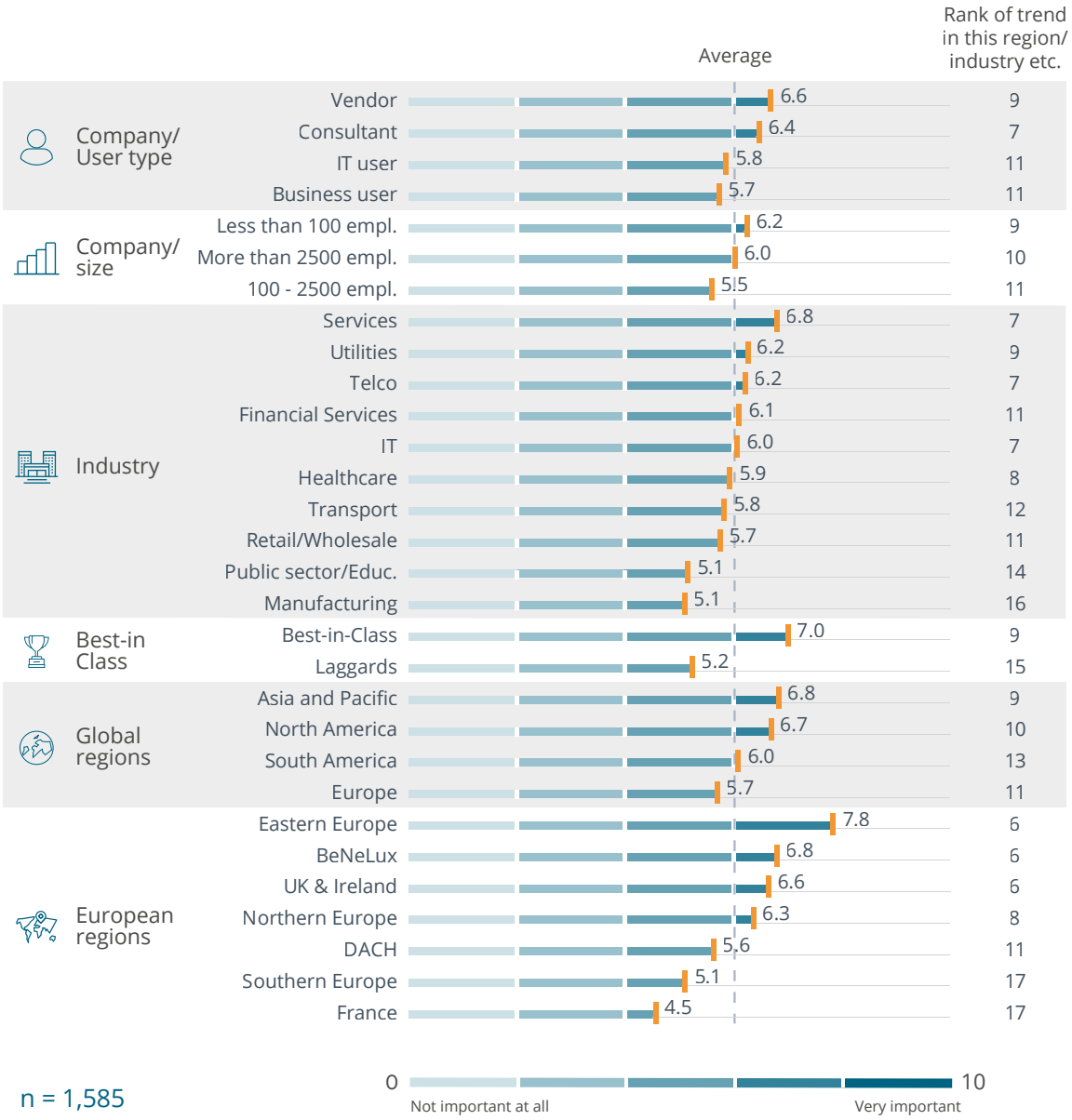
Data preparation encompasses profiling, cleaning, structuring and enriching data by business users for use in analytics. Its goal is to build valuable assets from raw data to help answer business questions though analytics. Achieving agile data preparation at scale is of utmost importance in today's volatile economy. It enables businesses to leverage enterprise and external data to inform decisions, automate processes and monetize data.

Increased agility is achieved by shifting the task of shaping and enriching data from IT to business users. Easy-to-use and intuitive tools with sophisticated user guidance and automation powered by machine learning are the foundation to infuse efficiency and quality into data preparation efforts. They empower business users to prepare data flexibly and anywhere. The governance of distributed data is therefore of high importance to ensure the quality of results and to avoid pipeline proliferation. Monitoring and collaboration between IT and business are also key elements for a successful data integration and preparation strategy. To promote flexible, democratized access to data, a balance between agility and governance has to be found. However, providing the systems and tools should only be one part of an overarching data access strategy that also needs to align with use case requirements, people and organization.

Top 20 Trends in Detail

Cloud for Data and Analytics

Eastern Europe and best-in-class companies regard cloud for data & analytics as very important. France is some way behind



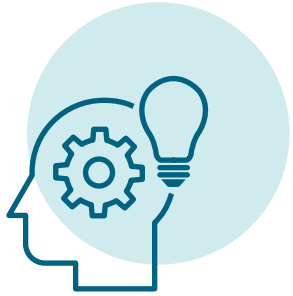
n = 1,585

Viewpoint

The global trend of running applications in a cloud environment began branching into the analytics domain about fifteen years ago, with startups disrupting the market through platform and software-as-a-service (SaaS) business models. Established vendors, who initially relied on on-premises implementations, soon followed, and today all the major players offer cloud-based solutions. Many vendors have adopted a "cloud-only" or "cloud-first" strategy, resulting in cloud products often offering more features than their on-premises equivalents. This is a significant reason why most new projects opt for cloud-based solutions, provided there are no legal or compliance concerns.

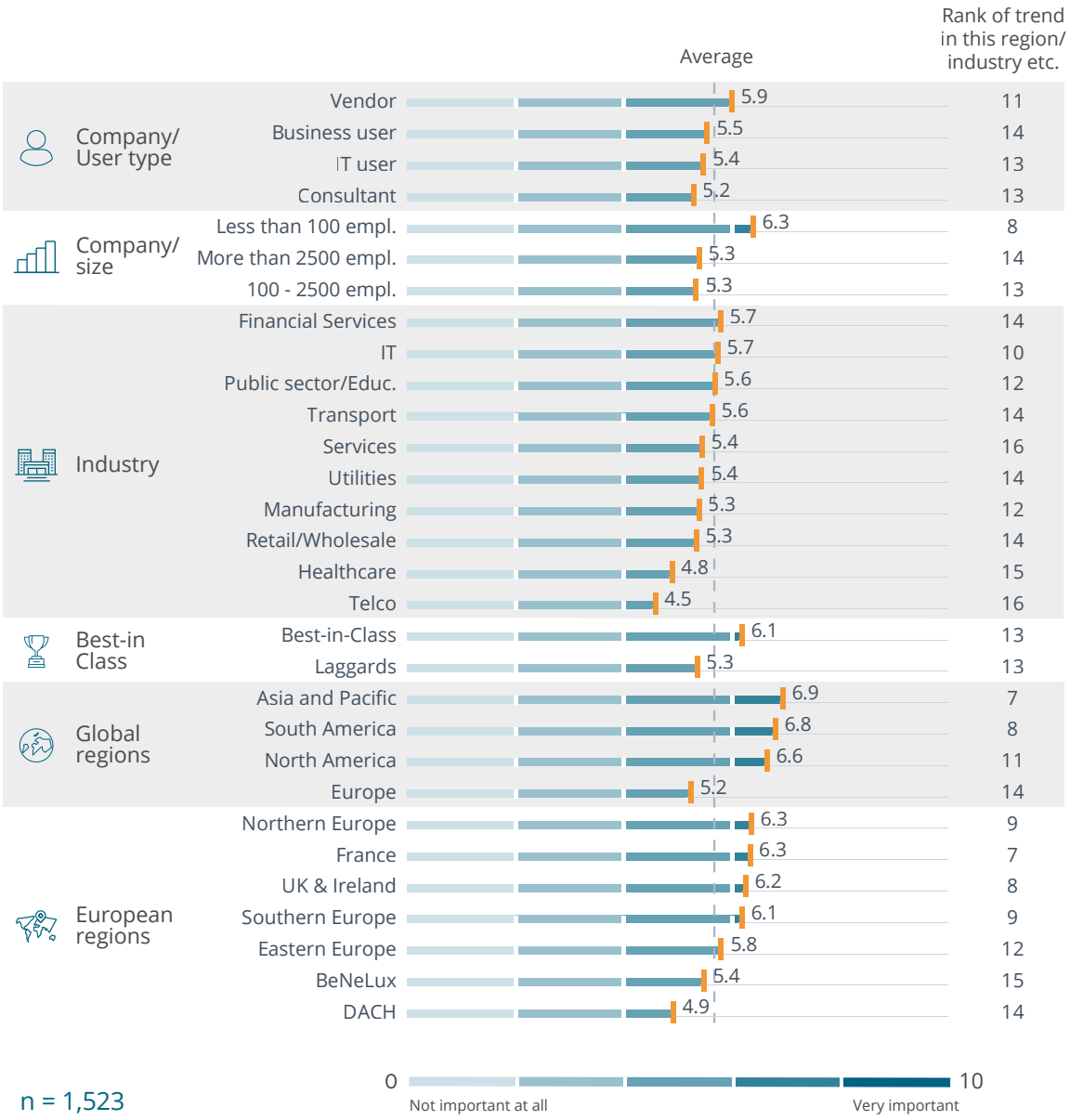
Despite the strong push toward the cloud, according to The BI & Analytics Survey 25, the adoption rate for cloud analytics and data management projects stands at 39 percent in 2024, reflecting a modest increase from previous years. A large portion of companies remain hesitant to migrate from their existing on-premises infrastructure, where long-standing license agreements are often more cost-effective. For many organizations, the perceived benefits of cloud adoption are still outweighed by concerns over migration complexity, cost and marginal functional advantages.

Top 20 Trends in Detail



Decision Intelligence

Asia & Pacific values decision intelligence much more than Europe, especially the DACH region



n = 1,523

Viewpoint

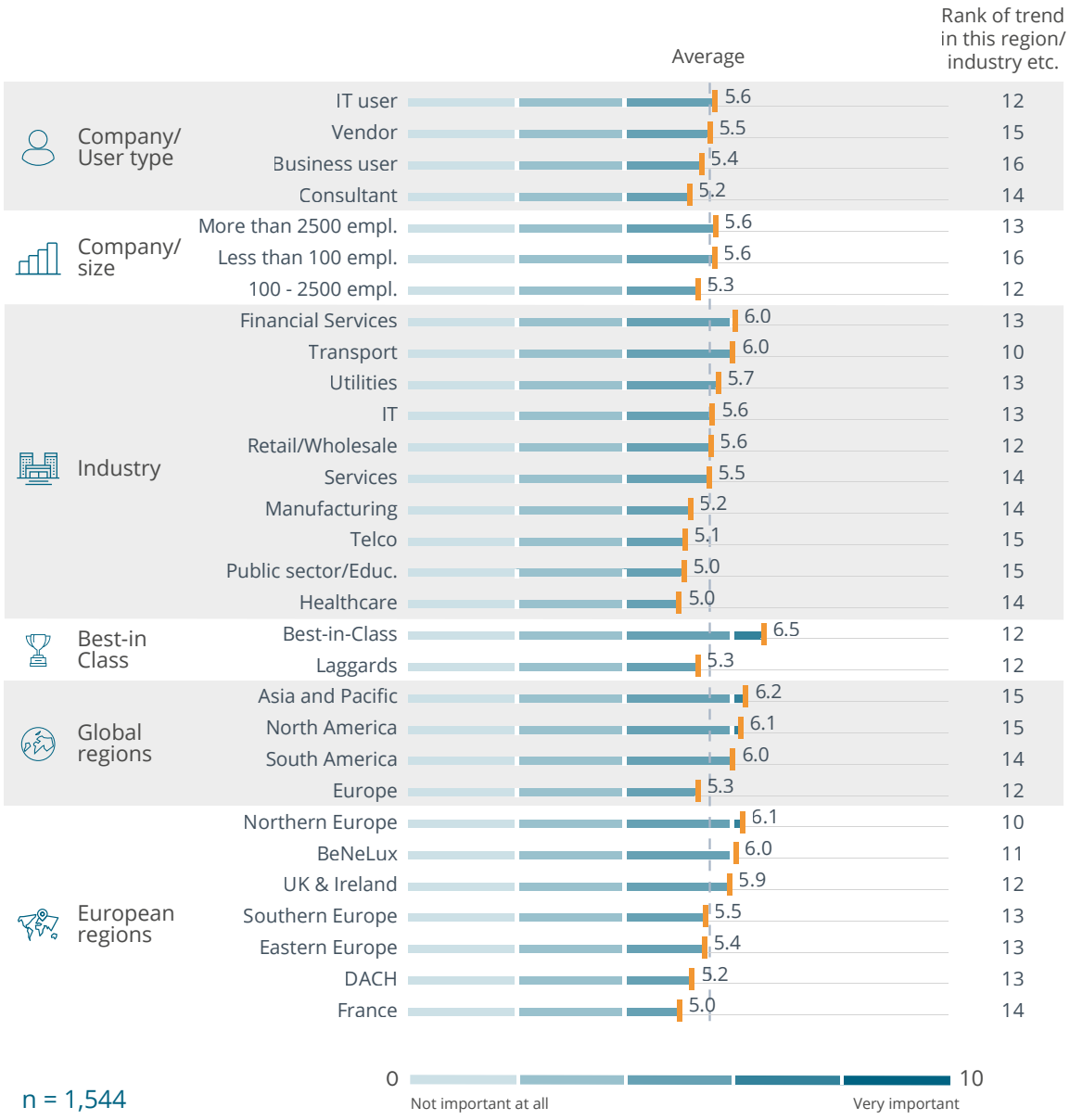
The primary goal of using data and analytics is to enable decision-makers to make better, more informed choices. However, as organizations handle increasingly complex data environments, decision intelligence – combining data, algorithms and machine learning – has become essential for automating decisions that surpass human capabilities. This is particularly relevant when the volume of data, the number of decisions or the complexity of decision-making factors outpaces what humans can manage.

In 2025, **automated insights** and **predictive planning** are gaining prominence, with machine learning models being used to enhance decision-making processes across industries. This is already evident in fraud detection for financial transactions, dynamic pricing in online retail, and order scheduling in logistics. In these examples, the role of humans has shifted from making decisions to designing and overseeing decision models. Decision intelligence is enabling companies to scale decision-making, offering the ability to automate primarily operational decisions.

Top 20 Trends in Detail

Data Products

Data products are prominent in best-in-class companies, but less important for laggards and companies in France



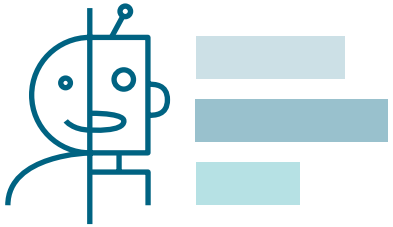
n = 1,544

Viewpoint

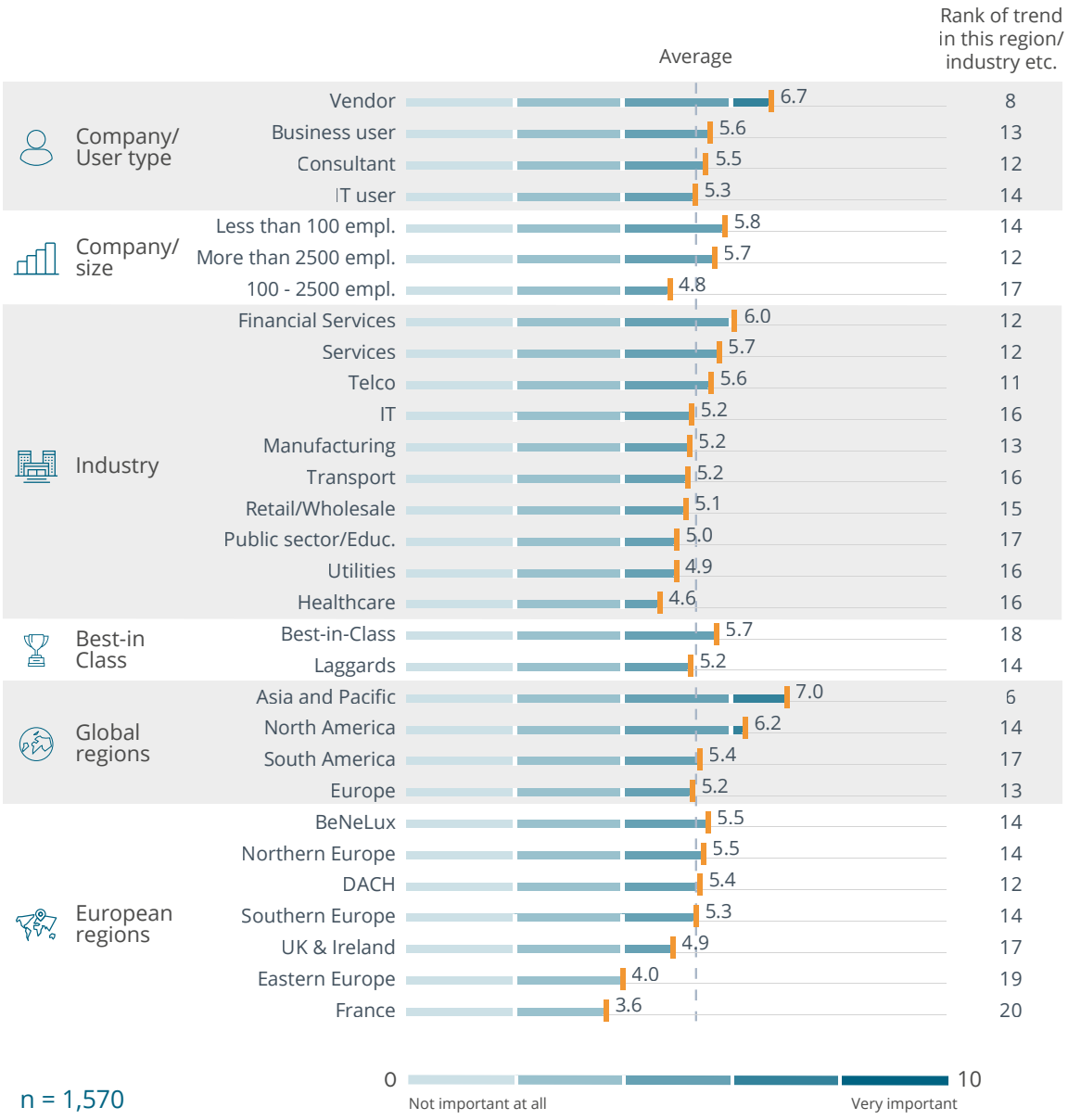
A data product conceptualizes data as a tailored asset designed for specific needs, emphasizing its entire lifecycle from conception to eventual evolution or retirement. This philosophy champions principles such as data ownership, quality assurance and continuous iteration based on user feedback. Essential attributes that define a high-quality data product are its value (utility and relevance), desirability (alignment with user needs) and feasibility (technically and economically viable to create and maintain). This approach is not just about collecting data but managing and refining it to remain pertinent across various sectors, from analytics dashboards to AI training. By integrating the lifecycle perspective, data products undergo periodic evaluations and enhancements to stay relevant. The data product concept underscores the significance of focusing on user needs throughout this lifecycle, promoting reliable and refined data that fosters informed decision-making and instills trust, thereby amplifying the data's strategic role in an organization.

Top 20 Trends in Detail

Generative AI for Data & Analytics



Very popular in Asia & Pacific and with vendors, less enthusiasm in France and Eastern Europe



n = 1,570

Viewpoint

Generative AI is increasingly applied in data and analytics to automate tasks and streamline processes. Key use cases include:

Code generation: AI automates SQL queries, creates scripts for data pipelines and generates machine learning code, reducing manual coding efforts.

User interaction: AI enhances user experience through natural language interfaces (conversational analytics) and automated generation of insights and visualizations, making data more accessible.

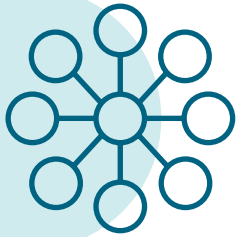
Data engineering: Generative AI aids in data cleaning, schema generation and automating data orchestration. It also produces synthetic data for testing and model training, which is particularly useful when dealing with sensitive data or limited access.

Advanced analytics: AI supports predictive analytics, anomaly detection and natural language summarization for large text data sets. It can also generate real-time recommendations for decision-making, such as in supply chain management or operational efficiency.

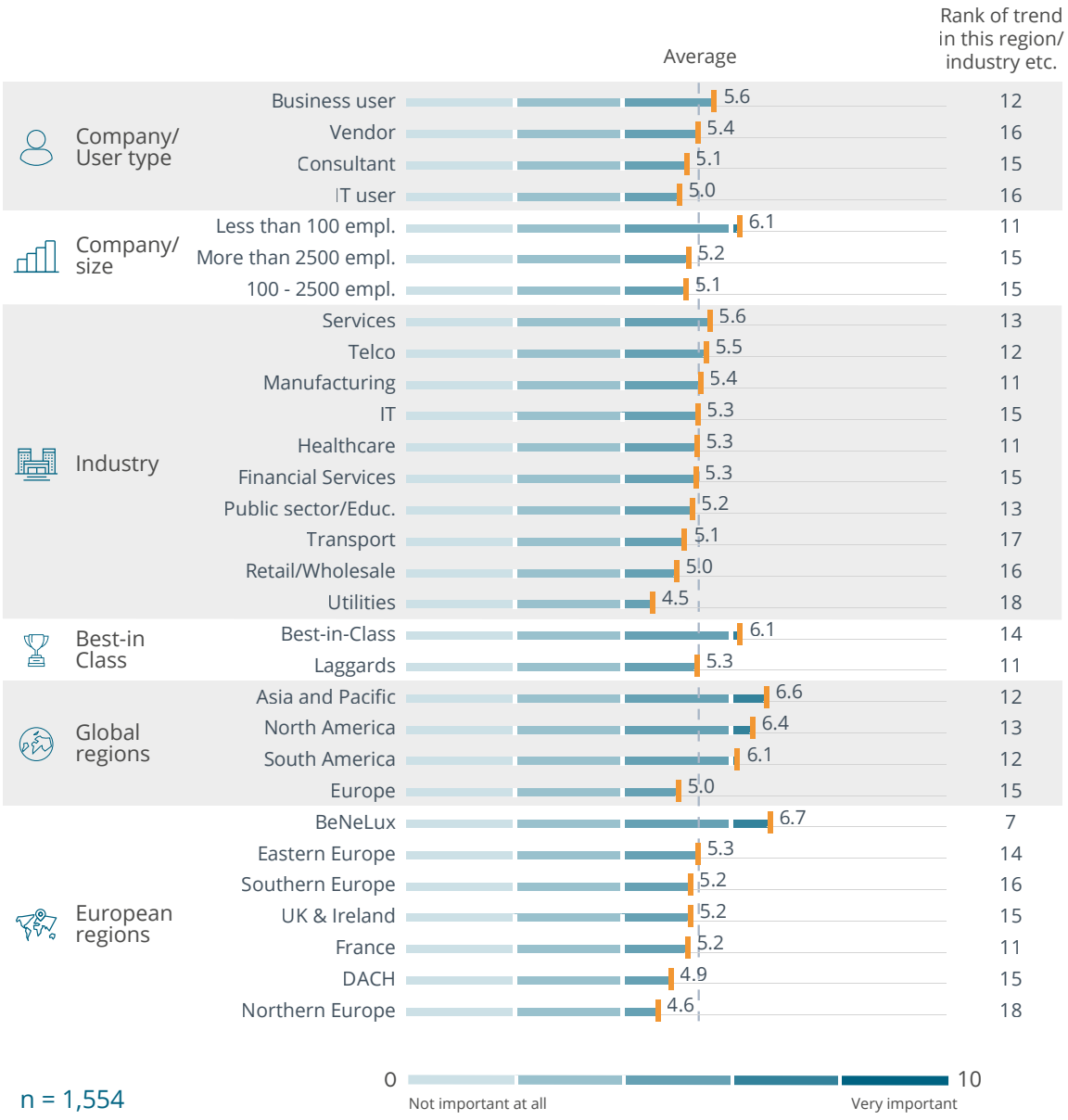
These use cases help businesses manage and analyze data more efficiently but require careful integration into broader business as well as data and analytics strategies.

Top 20 Trends in Detail

Integrated Platforms for Performance Management (PM) and Analytics



BeNeLux countries are much more aware of the value of integrated platforms for performance management than Northern Europe



n = 1,554

Viewpoint

Making decisions in an increasingly complex and volatile world requires transparent plans, consolidated figures and data analyses. Seamless integration of performance management (particularly planning) and analytics capabilities helps to support decision-making processes optimally. Leading companies know that there can be no transparent decision-making without analyzing historical data, looking at current trends, and considering future goals and forecasts. To do this, companies need solid software support and integrated functionality for planning, reporting, analysis and dashboarding as well as financial consolidation. Having all these options in one common and integrated platform is a decisive factor for sustained success.

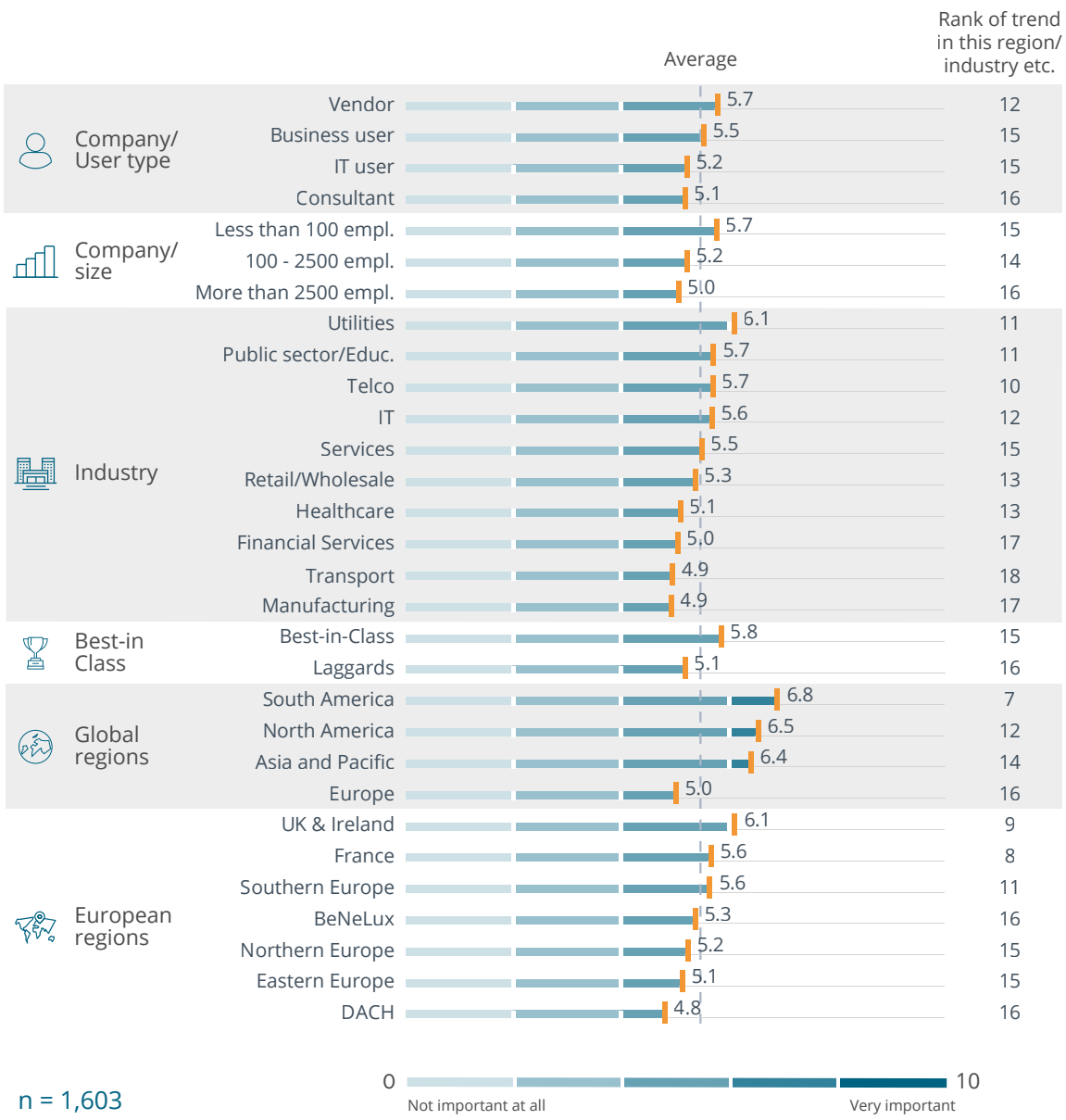
This integration has been one of the most stable and relevant trends in the market for years and vendors are equipping their software tools accordingly. The integration of planning and analytics functionality is particularly important for leveraging modern planning approaches such as predictive planning and forecasting based on statistical methods and machine learning.

Integrated platforms for performance management and analytics are equally relevant for all companies. Leading companies in particular have invested heavily in specialized software solutions to unify performance management and analytics processes. The benefits from this effort have been empirically proven. Supporting performance management and analytics on an integrated data platform with an integrated tool is a goal worth investing in.

Top 20 Trends in Detail

Real-Time Analytics & Streaming

Very popular in South America but its relevance is much lower in the DACH region



n = 1,603

Viewpoint

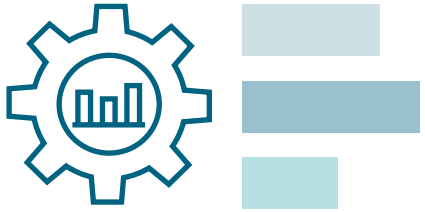
Faster reporting and analysis of data, not only in terms of query performance (which is still one of the biggest problems users experience with their BI and analytics tools), is a challenge in many companies. There is an increasing need to make data from transactional and other source systems available immediately to support faster and fact-based operational decision-making.

Analytics with real-time data refers to the near-immediate processing and provision of information about business operations in transactional systems (i.e., streaming). Real-time analytics is about catching events or other new data immediately after their occurrence and processing them for alerting (e.g., in an operational dashboard) or triggering pre-automated events (e.g., an algorithm detects certain problems during the manufacturing process of a given batch and recommends or automatically triggers counter-measures).

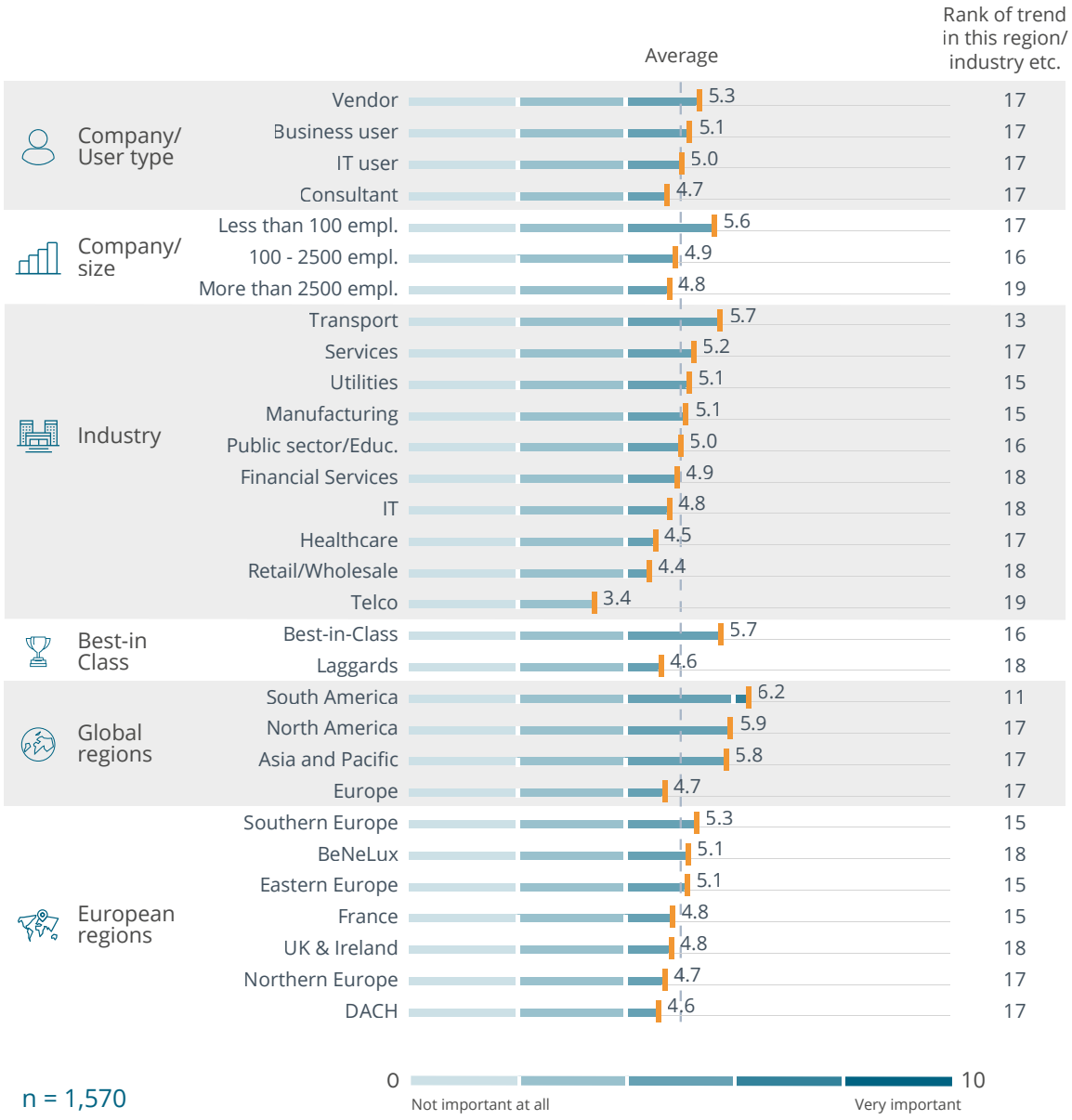
Similar to visual BI and predictive analytics, real-time analytics can enhance an organization's existing strategy by optimizing specific business processes. Since real-time analytics is closely tied to these processes, it is crucial to keep the full process in mind during adaptation or optimization.

Top 20 Trends in Detail

Embedded BI and Analytics



South America leads the way. This trend is much less important in the telecommunications industry and in retail



n = 1,570

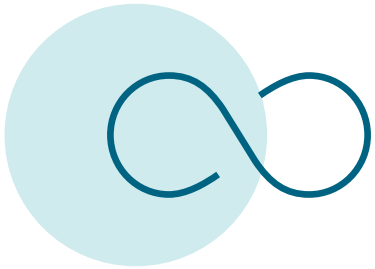
Viewpoint

Embedding intelligence into operational applications continues to gain traction, with 30 percent of companies already using embedded BI, and another 16 percent planning to adopt it within the next 12 months. From dashboards to predictive and optimization models, embedded BI and analytics enables users to derive actionable insights directly within their workflows, without needing to involve IT departments or power users. This approach not only democratizes access to data but also helps close the loop from information to action, empowering employees to make real-time, data-driven decisions.

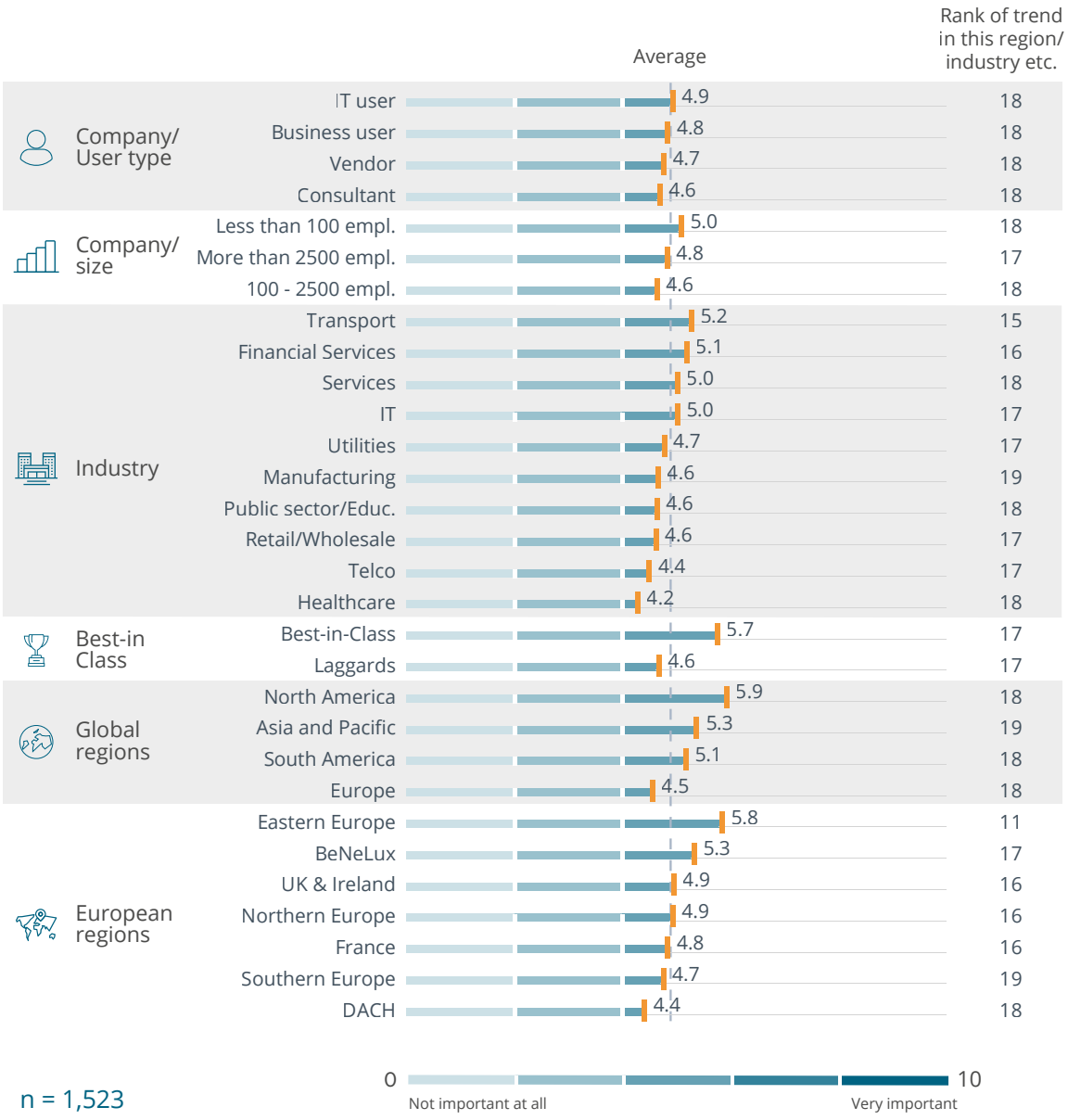
In 2025, embedded BI plays a crucial role in automating decision-making processes, enabling actions to be triggered by data-driven insights with or without requiring manual intervention. However, the operationalization of BI has important implications, including the need to integrate embedded BI with a broader data and analytics strategy and to clarify the roles of BI/analytics and application systems and teams. Businesses must also decide whether to develop embedded functions in-house or purchase pre-built solutions. As embedded models and rules become more widespread, companies face new opportunities and challenges in balancing automation with human oversight.

Top 20 Trends in Detail

DataOps & Observability



DataOps is most relevant in North America, but less important in the DACH region and in the healthcare sector



n = 1,523

Viewpoint

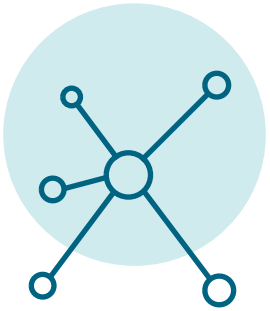
DataOps is a methodology that combines data engineering and operations to streamline and automate the entire data lifecycle, from data ingestion to analytics. It draws inspiration from DevOps practices, applying them to data-related processes. Key principles of DataOps include collaboration among cross-functional teams, automation of repetitive tasks to reduce manual errors and accelerate data delivery, and agility by allowing rapid changes and iterations based on version control for reproducibility and traceability.

On the other hand, data observability focuses on monitoring and understanding the health of data and data pipelines. It offers insights into data lineage, quality and anomalies, facilitating a transparent view of the lifecycle of data. Primary applications involve quickly diagnosing pipeline issues, tracing data origins and transformations, and ensuring data quality for analytics.

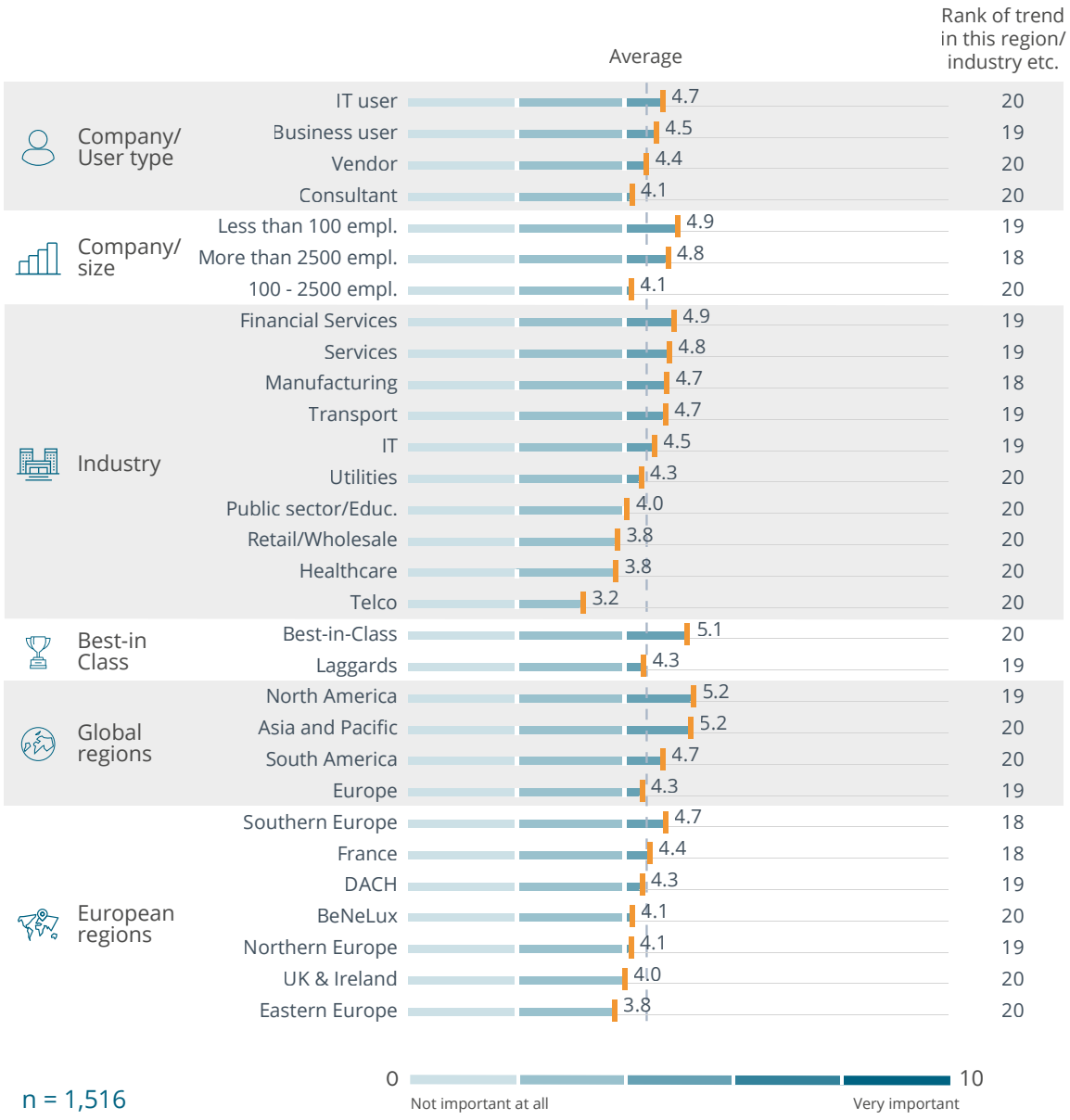
The significance of these concepts lies in their ability to bolster data-driven decisions. By adopting DataOps, organizations can streamline data processes for faster and reliable insights. With data observability, they gain comprehensive insights into data health, ensuring that decisions are grounded on accurate and timely information. Together, they minimize the business risks of faulty data-driven decisions.

Top 20 Trends in Detail

Data Mesh



Data mesh is a minor trend across all demographic groups, especially in the telecommunications sector



n = 1,516

Viewpoint

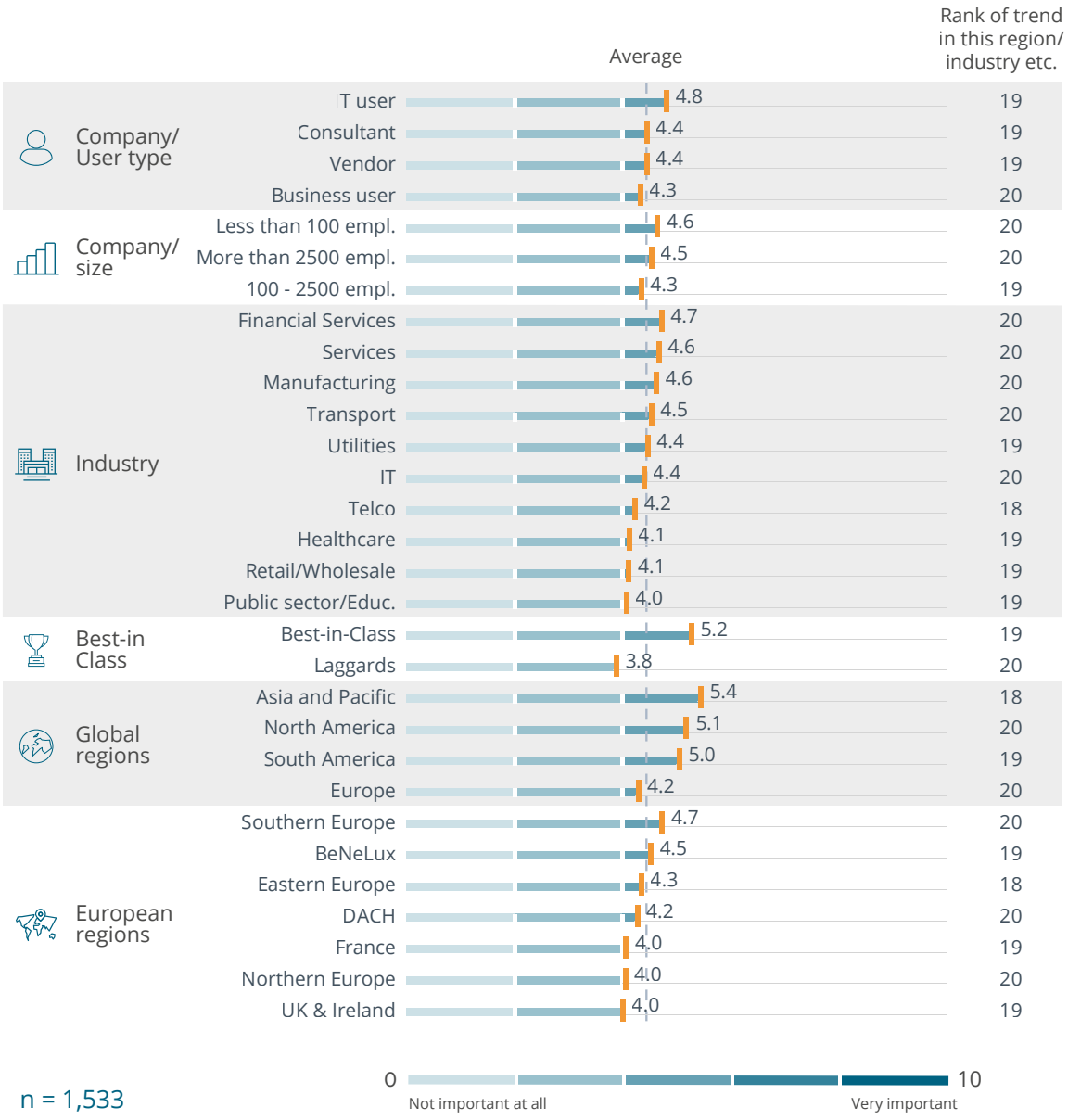
Data mesh is primarily an organizational and conceptual idea that revolves around four essential pillars. These pillars emphasize a focus on data products and the decentralized creation and ownership of data products within business domains. This structure is supported by a self-service data platform and federated data governance with a high level of automation. The approach aims to tackle two main challenges – scalability limitations and insufficient domain expertise – that often hinder predominantly centralized data and analytics teams.

Data as a product refers to treating data as a valuable offering, packaging and delivering it for specific uses, often with associated services, for internal or external data consumers. Domain-oriented data ownership assigns responsibility for data management to specific business domains or units, ensuring clear accountability and alignment with organizational goals and data needs. A self-serve data platform empowers business teams to create, access, manage and use their domain-specific data products independently, fostering data democratization and agility. Federated computational data governance is essential to empower domain-specific data teams while maintaining overall governance standards and ensuring data quality, security, compliance and interoperability within a decentralized data ecosystem.

Top 20 Trends in Detail

Data Lakehouse

Asia & Pacific sees data lakehouse as an important trend. Laggards, Northern Europe and UK & Ireland do not rate it so highly



n = 1,533

Viewpoint

A data lakehouse merges the attributes of data lakes and data warehouses, offering the storage flexibility of lakes and the structured querying capabilities of warehouses. This hybrid model aims to deliver a unified platform for both extensive analytics and machine learning. It facilitates analytics on a vast range of data sets, from raw to structured, without the need to relocate data. Core use cases include streamlined analytics across diverse data, machine learning with ample raw data, and business intelligence derived from aggregated data sources.

The significance of adopting the lakehouse approach lies in its ability to minimize the challenges associated with managing separate raw and processed data storage. It boosts cost-effectiveness and supports a leaner data infrastructure. By embracing the lakehouse model, users can attain real-time insights from various data types more efficiently.

Similar to data warehouses and data lakes, data lakehouses have limitations including data quality challenges, complexity, potential query performance issues, and the need for robust data governance and security measures. Their common centralized approach to data management is becoming less viable in an increasingly distributed data and application landscape with growing data volumes.

Recommendations

Recommendations

BI/analytics and data management have remained among the most important IT-related topics in the business world for a long time. The rising importance of many trends in this report supports this observation. With digitalization as a primary strategic initiative for many companies, analyzing and managing data has become even more vital. Data and analytics are at the core of digitizing processes and business models. Based on our survey findings, we present several key recommendations on how to embrace the trends described in this study:

1 Venture into trending topics

The focus on **decision intelligence** and **predictive planning** has grown, especially as companies are now scaling their use of **machine learning** to automate decision-making processes. We can confidently suggest starting pilot projects in these areas, which are delivering measurable benefits in operational decision-making, **embedded BI** and **AI-driven automation**. These initiatives, alongside efforts in **data culture**, **security** and **quality**, remain vital.

2 Enable your staff

With the growing importance of **data and AI literacy**, empowering employees across all roles to engage with **AI-driven tools** and **decision intelligence** is crucial for operational success. This ensures that not only specialized data professionals, but also employees at every level, can confidently interpret and use data to drive informed decisions. A lack of skills remains one of the most significant barriers to progress, not only in AI adoption but across the broader data and analytics landscape.

Recommendations

3 Pay attention to data governance

Data governance is becoming increasingly vital as businesses adopt decentralized data ownership and self-service analytics. With more users accessing and analyzing data, governance frameworks are needed to ensure integrity, consistency and security. As decision intelligence and AI play a larger role, high-quality, governed data is crucial for reliable automated decision-making. This shift is driving the rise of federated governance models, which balance flexible data access with robust oversight to maintain trust in data-driven decisions.

4 Modernize your information architecture

Review your existing information architecture to ensure it can handle the growing demand for cloud-based analytics, real-time data and AI-driven insights. The need for data warehouse modernization remains critical, as companies aim to integrate cloud-first strategies and support poly-structured data. Embedded BI is increasingly part of this architecture, enabling real-time decision-making within operational workflows. A modern, flexible architecture will support advanced analytics, enabling businesses to respond to the ever-growing complexity of data environments.

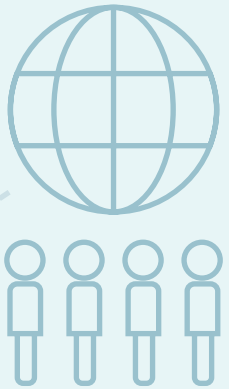
Recommendations

5 Playtime is over! Is it?

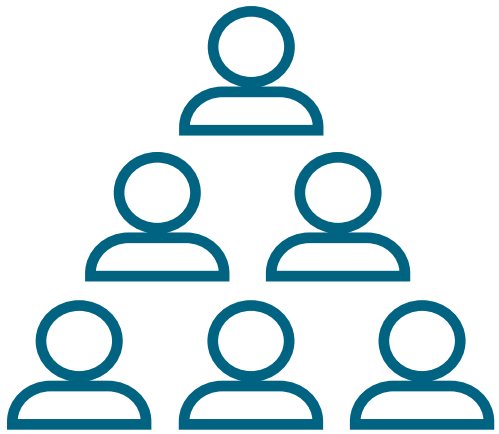
As companies move beyond prototypes, the focus is shifting toward **operationalizing AI**, particularly in areas like **decision intelligence** and **predictive planning**. Businesses are scaling AI implementations to automate operational processes in areas such as **fraud detection** and **dynamic pricing**, moving from experimentation to real-world applications. This emphasizes that AI solutions must deliver measurable value, not just knowledge gains.

6 Get ready for a data-driven culture

The foundational pillars from the **BARC Data Culture Framework** continue to be critical, with both **data literacy** and **AI literacy** becoming increasingly important in 2025. Companies must foster a culture that not only supports data-driven decision-making but also incorporates AI as part of everyday operations. Resistance to change can be a challenge, but a positive data culture is key to the success of any analytics initiative.

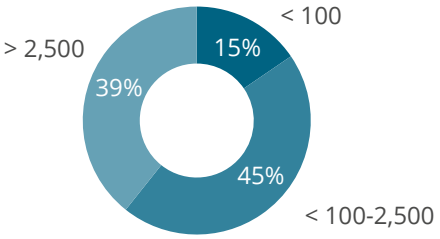


Methodology

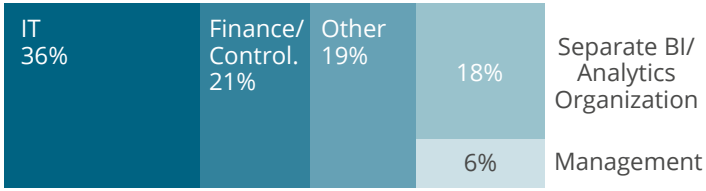


1,795 participants in total. Wide coverage of different industries, company sizes and regions

Number of employees

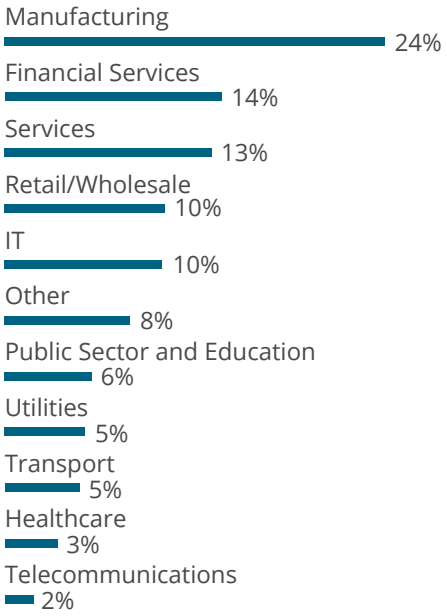


Department

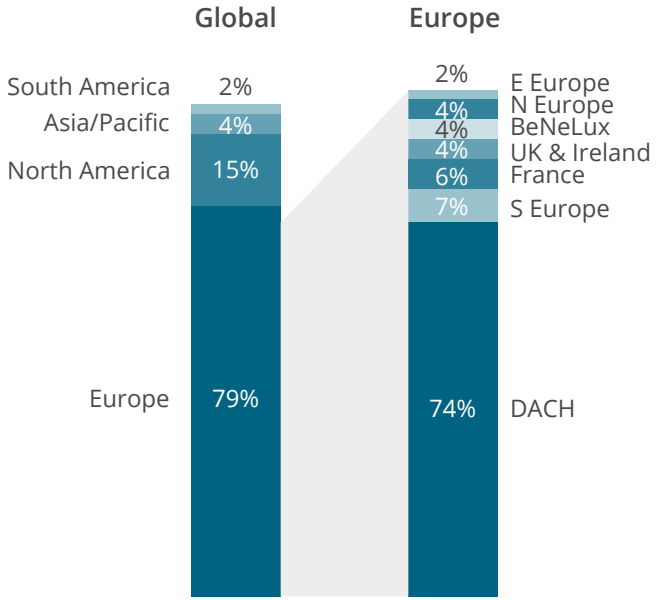


Company type

Industry



Region



Information on the Survey

The data used in the Data, BI and Analytics Trend Monitor 2025 was sourced from an online user survey conducted worldwide in the summer of 2024. BARC promoted this survey on websites, at events and in email newsletters. After data cleaning, a total of 1,795 survey responses remained. Respondents came from a wide range of industries, countries, professional backgrounds, company types and sizes.

Participants were asked to rate each trend on a scale from "very important" (10) to "not important at all" (0). We use a weighted scoring system (from 10 to 0) to derive a composite score for each of the trends based on their level of importance. It is a dimensionless number with an arbitrary value, but as long as the weighting system remains constant it can be used for comparisons between segments of the sample, such as the sample for industries or regions, to name just two.

Every data, BI or analytics project should set out to achieve defined business benefits and goals. We surveyed the extent to which a range of business benefits were achieved and measured the success of projects using the Business Benefits Index (BBI). Among others, the benefits measured included reduced costs, improved customer satisfaction, increased revenues and better decision-making.

This index was used to identify 'Best-in-Class' and 'Laggard' companies. 'Best-in-Class' companies comprise the top 10 percent of companies based on their achievement of business benefits, while 'Laggards' are defined as the 10 percent of companies achieving the lowest level of business benefits. This classification enables us to examine which data and analytics trends are more or less important for 'Best-in-Class' and 'Laggard' companies, and to identify which trends are considered the most important by the most successful organizations.

Glossary

Glossary

AI

In computer science, artificial intelligence aims to replicate intelligent behavior. Initially focused on programming complex rule-based expert systems, it has shifted toward systems autonomously deriving rules from data, predominantly through machine learning, now a central focus in AI research.

Advanced Analytics

Advanced analytics encompasses complex data analyses beyond basic calculations, involving mathematical, statistical processes, and algorithms generating new information out of an existing data set. Examples are pattern recognition, data mining, machine learning and predictive analytics. As a tool set, it is a key component of data science.

Cloud for Data & Analytics

Cloud for data & analytics refers to the usage of cloud computing technologies in this domain. Especially the usage of highly flexible, scalable and cost-effective cloud solutions (infrastructe, platform, software as a service) allow business users to make best use out of modern data and big data analytics.

Data Catalogs & Data Intelligence Platforms

A data catalog is an active catalog of data assets for describing and certifying managed data and supporting business use in various forms in the field of analytics. The construction and maintenance are carried out through interactive processes and machine learning.

A data intelligence platform is an integrated solution that combines various data management tools and technologies to enable organizations to unlock the full potential of their data. Such platforms typically include data integration capabilities, data governance, data quality management, advanced analytics and AI-driven insights. They are designed to provide a unified view of data across the organization, support collaboration and automate data-driven processes.

Data Culture

Data culture is part of the company culture and refers to the set of values, beliefs and behaviors within an organization that promotes the effective and ethical use of data for decision-making, process improvement and innovation.

Data Governance

Data governance encompasses roles, processes, technologies and policies to ensure that the organization's data is understandable, accurate, complete, trustworthy, secure and discoverable in order to effectively use, manage and protect the organization's data capital.

Data Lakehouse

A data lakehouse is an architectural concept that combines the scalable storage of a data lake with the data management and analytical capabilities of a data warehouse.

Raw data is stored permanently and cost-effectively in the data lake. Only structured data that is required for certain analyses is loaded into the data warehouse.

The data lakehouse concept is now recommended by all cloud hyperscalers, albeit under different names.

Data Literacy

Data literacy is the ability of a person or organization to find, evaluate, prepare, analyze and visualize data using suitable tools, as well as to communicate with data and interpret analysis results.

Data Mesh

Data mesh is an organizational approach to decentralized data management.

This involves forming cross-functional teams responsible for specific data domains and treating these domains as products. This allows for greater flexibility and scalability in data-driven organizations.

Glossary

Data Preparation

Data preparation refers to the creation of a specific data pipeline designed for processing variously structured (raw) data for advanced analytical purposes.

It is primarily an iterative and interactive process that varies from use case to use case. A sub-process of data preparation, specifically aimed at the application of advanced analytics, is called feature engineering.

Data Product

A data product is a combination of a curated, reusable data set designed to provide trusted data for downstream users and accompanying metadata that makes the data easier to find and use. It is the result of applying the "data as a product" philosophy to data that is designed for a specific purpose. Data products can be pure data products (including their data pipeline) or data-based analytics products and can be broadly categorized into six types:

- raw data ('source-oriented data product')
- aggregated data ('aggregated data product')
- derived data ('consumer-oriented data product')
- decision support tools, i.e., reports, dashboards, pivot tables, etc.
- algorithms
- automated decision-making

Data Quality Management

Data quality management (DQM) in the context of enterprise data management is a comprehensive process that ensures the accuracy, reliability and validity of data throughout its lifecycle. It includes both technical and organizational measures.

Data Security/Privacy

Data security refers to the measures and tools employed to protect sensitive digital information from unauthorized access, alteration or destruction.

Data privacy refers to the policies, practices and processes dedicated to managing the collection, use and dissemination of personal or sensitive data and information.

Data Warehouse Modernization

Data warehouse modernization refers to the process of evolving and adapting traditional data warehousing architectures and technologies to align with modern data management practices. This involves architectural restructuring, integration into a comprehensive data management strategy, and a deliberate choice of the deployment type. The goal is to sustain the value of data warehouses in the face of increasing data volume, data variety and high velocity data delivery while increasing the agility in serving business requirements.

DataOps & Observability

Data observability is a concept in which data is collected, measured, analyzed and visualized in real time to diagnose and resolve the causes of specific problems. It enables companies to quickly and efficiently identify and resolve problems within systems, to optimize performance and to reduce costs.

The five pillars of data observability are:

Measure: Capturing and measuring data in real time.
Visualize: Converting data into simple charts, graphs and maps.
Analyze: Understanding and analyzing data to identify specific problems and patterns.
Diagnose: Using data to identify the causes of problems.
Fix: Using data to fix problems and improve system performance.

DataOps (short for Data Operations) is an agile, process-oriented framework that aims to increase the quality and reliability, as well as accelerate the delivery of current data products. It is based on the idea that data and analytics processes, similar to processes in software development (DevOps), should be continuously improved and automated.

DataOps brings together people, processes and technology to enable a faster, automated and programmatic approach to data management.

Decision Intelligence

Decision intelligence (DI) is a multi-faceted approach to improving decision-making processes using advanced AI technologies and predictive analytics. It integrates data analysis methods and technology-based tools to optimize decisions across an organization's value chain and departments. Focused on achieving business objectives, DI ranges from assisting with complex decisions to automating routine ones, improving overall business performance through data-driven insights and systematic decision modeling.

Glossary

Embedded BI & Analytics

Embedded BI (business intelligence) and analytics refers to the integration of BI tools and capabilities directly into business applications. This approach enables real-time data analysis, reporting and dashboards within the native environment of the application, enhancing decision-making processes by providing immediate, actionable insights without the user needing to work with a separate analytics software.

Generative AI

Generative AI or generative artificial intelligence refers to AI systems that are capable of creating content on their own that did not previously exist, such as text, images, music, speech or other media.

These systems learn from large amounts of example data to create new outputs that match the learned patterns.

Integrated Platforms for Performance Management (PM) & Analytics

Integrated platforms for performance management refer to the consolidation of various performance management processes, such as planning, budgeting, forecasting and predictive analytics, into a single software platform. This integration is crucial for facilitating a closed-loop management cycle, enabling seamless transition from reporting and analyzing process results to prediction and planning, thereby enhancing the adaptation of operational processes.

Similarly, analytics platforms integrate various business intelligence and analytics tasks (e.g., dashboarding, reporting, ad-hoc analysis and advanced analytics).

Machine Learning

Machine learning, a major branch of artificial intelligence, automates rule derivation from large data sets. It includes supervised learning, where models train on known outcomes to predict new results, and unsupervised learning, which infers rules from data structures alone. In implementations often equated with data mining, machine learning's techniques are a subset of advanced analytics and the data scientist's skill set.

Real-Time Analytics & Streaming

Real-time analytics is the process of analyzing data as soon as it becomes available, allowing businesses to gain immediate insights and make decisions based on the most current information. This approach involves continuous data processing and analysis. Real-time analytics enables organizations to respond quickly to changing conditions, detect trends or issues as they happen, and capitalize on opportunities or mitigate risks in a timely manner.

A data stream is a continuously accumulating flow of data records of the same type in a fixed chronological order with a possibly varying data input rate.

Using data streaming, for example, sensor data can be stored long-term as a time series in a freely selectable resolution, enabling cross-sectional analyses based on synchronous time points and comparable events.

Self-Service Analytics & Data Discovery

Self-service analytics allows business users to independently answer questions about data. This includes access to data, but also the technical and organizational capability for analysis and visualization by business users.

Data discovery is a user-driven, iterative process of searching for patterns and anomalies in data. The discovery of new findings, the verification of hypotheses and the identification of promising use cases take center stage.

BARC Company Profile

About BARC

Data Decisions. Built on BARC.

BARC is a leading analyst firm for data & analytics and enterprise software with a reputation for unbiased and trusted advice. Our expert analysts deliver a wide range of research, events and advisory services for the data & analytics community. Our innovative research evaluates software and vendors rigorously and highlights market trends, delivering insights that enable our customers to innovate with data, analytics and AI. BARC's 25 years of experience with data strategy & culture, data architecture, organization and software selection help clients transform into truly data-driven organizations.

Research

BARC user surveys, software tests and analyst assessments in blogs and research notes give you the confidence to make the right decisions. Our independent research gets to the heart of market developments, evaluates software and providers thoroughly and gives you valuable ideas on how to turn data, analytics and AI into added value and successfully transform your business.

Consulting

The BARC Advisory practice is entirely focused on translating your company's requirements into future-proof decisions. The holistic advice we provide will help you successfully implement your data & analytics strategy and culture as well as your architecture and technology. Our goal is not to stay for the long haul. BARC's research and experience-founded expert input sets organizations on the road to the successful use of data & analytics, from strategy to optimized data-driven business processes.

Events

Leading minds and companies come together at our events. BARC conferences, seminars, roundtable meetups and online webinars provide more than 10,000 participants each year with information, inspiration and interactivity. By exchanging ideas with peers and learning about trends and market developments, you gain new impetus for your business.

Germany

BARC GmbH
Berliner Platz 7
D-97080 Würzburg

info@barc.de
+49 931 880 6510

Austria

BARC GmbH
Hirschstettner Straße 19 / I / IS314
A-1220 Wien

info@barc.at
+43 660 6366870

Switzerland

BARC Schweiz GmbH
Täfernstraße 22a
CH-5405 Baden-Dättwil

info@barc.ch
+41 56 470 94 34

USA

BARC US
13463 Falls Drive
Broomfield, CO 80020

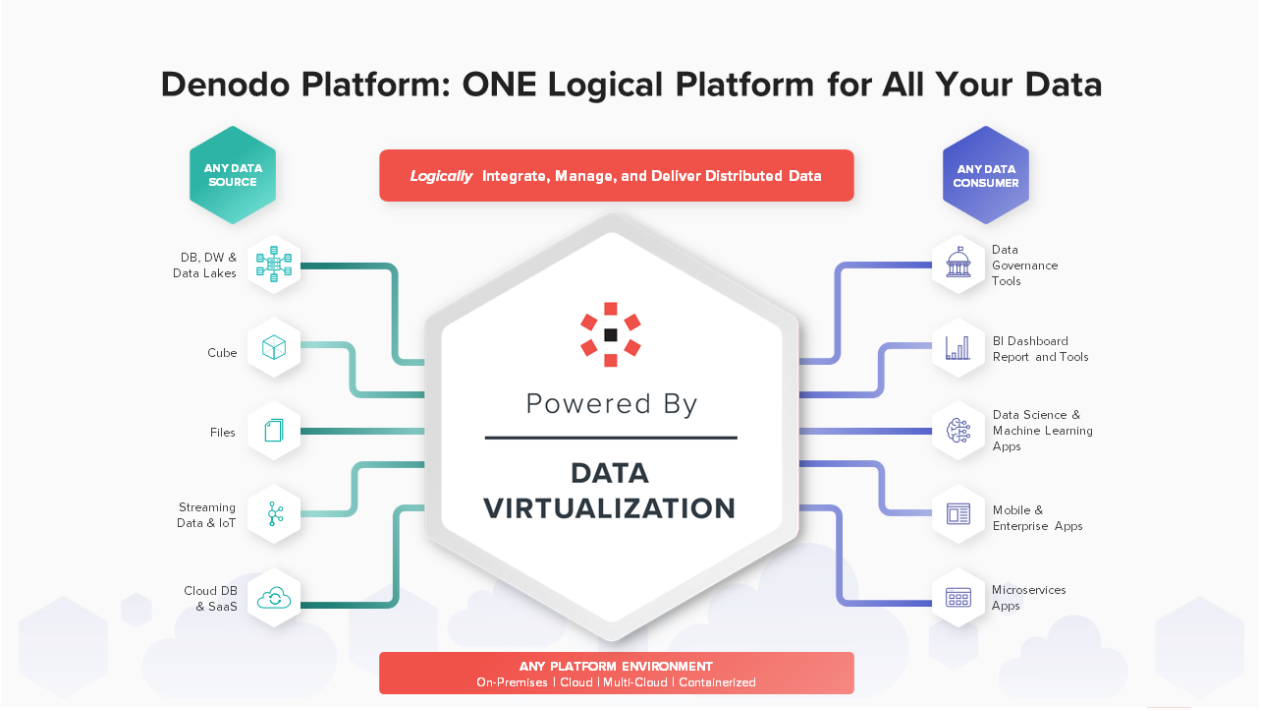
info@barc.com

www.barc.com

Sponsor Profiles

About Denodo

Denodo is a leader in data management. The award-winning Denodo Platform is the leading logical data management platform for delivering data in the language of business, at the speed of business, for all data-related initiatives across the organization. Realizing more than 400% ROI and millions of dollars in benefits, Denodo's customers across enterprises in 30+ industries all over the world have received pay-back in less than six months. For more information, visit https://www.denodo.com.



Office Germany

Denodo Technologies GmbH
Oberanger 28
80331 Munich
+49 89 599 904 50

info.emea@denodo.com

www.denodo.com

UK: +44 20 3196 4710

Spain: +34 912 77 58 55

France: +33 1 42 68 51 27

Italy: +39 2 72546395

About TARGIT

TARGIT helps businesses realize the full value of their data by offering innovative software, industry insights, and services focused on strong customer and partner relationships. The company supports a variety of business environments through multiple server, deployment, and hosting options.

TARGIT's all-in-one business intelligence (BI) and analytics platform, TARGIT Decision Suite, offers integrated self-service analysis, ad hoc reporting, and dashboards with capabilities for batch reporting, mobility, slideshows, and data mashups. Decision Suite integrates with any data source, allowing customers to consolidate data from multiple systems inside a single, user-friendly interface that generates actionable results.

TARGIT provides specialized BI solutions to customers in industries like heavy equipment, manufacturing, airports, automotive, convenience stores, and the public sector. The company also collaborates with Original Equipment Manufacturers (OEMs) and consulting partners in these industries to create solutions that integrate with the systems their customers already know and love. TARGIT's unwavering focus on customer success and value through the development of specialized BI tools enables them to provide customers with intuitive solutions that support users at every level of their organization.

TARGIT is a privately owned software provider founded in 1986 and backed by private equity investor GRO Capital. It is headquartered in Aalborg, Denmark, with European offices in Copenhagen and Mechelen, Belgium, as well as two U.S.-based offices. The company has over 8,000 customers, most of whom are located in Europe and North America.

Office Denmark

TARGIT
Gasværksvej 24, 2. sal
9000 Aalborg, Denmark
+45 96 23 19 00

www.targit.com

Main Office US

TARGIT
3030 N. Rocky Point Drive W.
Suite 350
Tampa, FL 33607
+1 813 933 4600

Office Belgium

TARGIT Automotive
Hendrik Consciencestraat 5 / 0402
B-2800 Mechelen, Belgium
+32 (15) 650 355

BARC