



Vontobel

Data Intelligence Index

The new frontier of value creation

Public

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Wealth Management

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Data Intelligence –Empowering the Future with Impactful Insights



Data Security

- Cybersecurity
- Blockchain
- Data Privacy
- Cryptography



Computing Power

- Cloud Computing
- Semiconductors
- Quantum Computing



Big Data and AI

- Database Software
- Artificial Intelligence
- Data Storage

→ A diverse thematic selection encompassing financially robust and reasonably valued securities allows investors to engage in the subject while reducing the risk of excessive investment in overheated stocks.

Data Security and the Cyber Problem

Cyber Crime Statistics

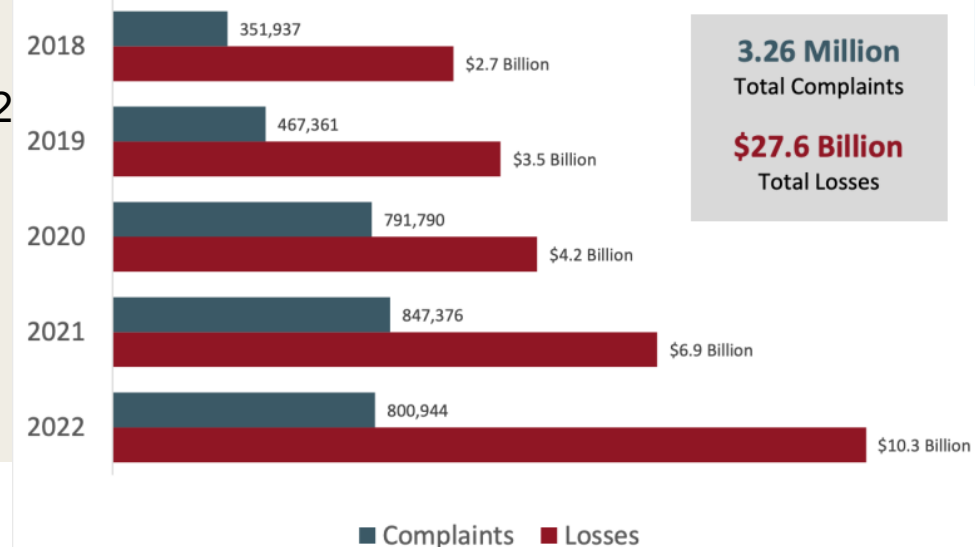
- Nearly 1 billion emails were exposed in a single year, affecting 1 in 5 internet users.
- Data breaches cost businesses an average of USD4.35 million in 2022.
- Around 236.1 million ransomware attacks occurred globally in the first half of 2022.
- 1 in 2 American internet users had their accounts breached in 2021.
- 39% of UK businesses reported suffering a cyber attack in 2022.
- Around 1 in 10 US organizations have no insurance against cyber attacks.
- 53.35 million US citizens were affected by cyber crime in the first half of 2022.
- Cyber crime cost UK businesses an average of GBP4,200 in 2022
- In 2020, malware attacks increased by 358% compared to 2019.
- The most common cyber threat facing businesses and individuals is phishing.

How Safe Is Your Password?

Time it would take a computer to crack a password with the following parameters

	Lowercase letters only	At least one uppercase letter	At least one uppercase letter + number	At least one uppercase letter + number + symbol
1	Instantly	Instantly	-	-
2	Instantly	Instantly	Instantly	-
3	Instantly	Instantly	Instantly	Instantly
4	Instantly	Instantly	Instantly	Instantly
5	Instantly	Instantly	Instantly	Instantly
6	Instantly	Instantly	Instantly	Instantly
7	Instantly	Instantly	1 min	6 min
8	Instantly	22 min	1 hrs	8 hrs
9	2 min	19 hrs	3 days	3 wks
10	1 hrs	1 mths	7 mths	5 yrs
11	1 day	5 yrs	41 yrs	400 yrs
12	3 wks	300 yrs	2,000 yrs	34,000 yrs

Complaints and Losses over the Last Five Years*



statista

Data Security and the Cyber Problem

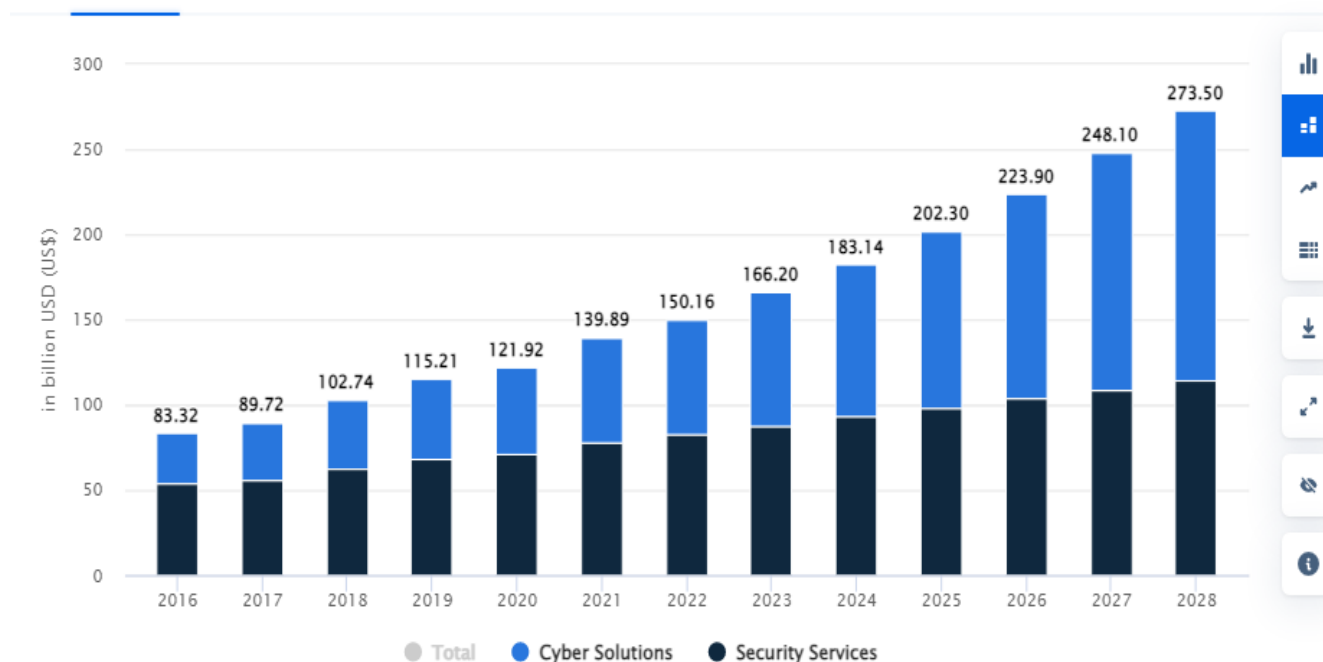


Cybersecurity has become indispensable to our digital lives. As technology advances and organizations increasingly rely on digital systems, protecting sensitive data, preserving customer trust and ensuring uninterrupted operations have become critical objectives.



Cybersecurity is a topic practically every company must tackle in the transformation of their operational activities (automated processes, cloud-based tools, or software support). The global cybersecurity market has witnessed robust growth over the last few years, with revenue increasing from USD 83.32 billion in 2016, to approximately USD 166 billion in 2023.

REVENUE BY SEGMENT



Notes: Data shown is using current exchange rates and reflects market impacts of the Russia-Ukraine war.

Most recent update: Sep 2023

Source: Statista Market Insights



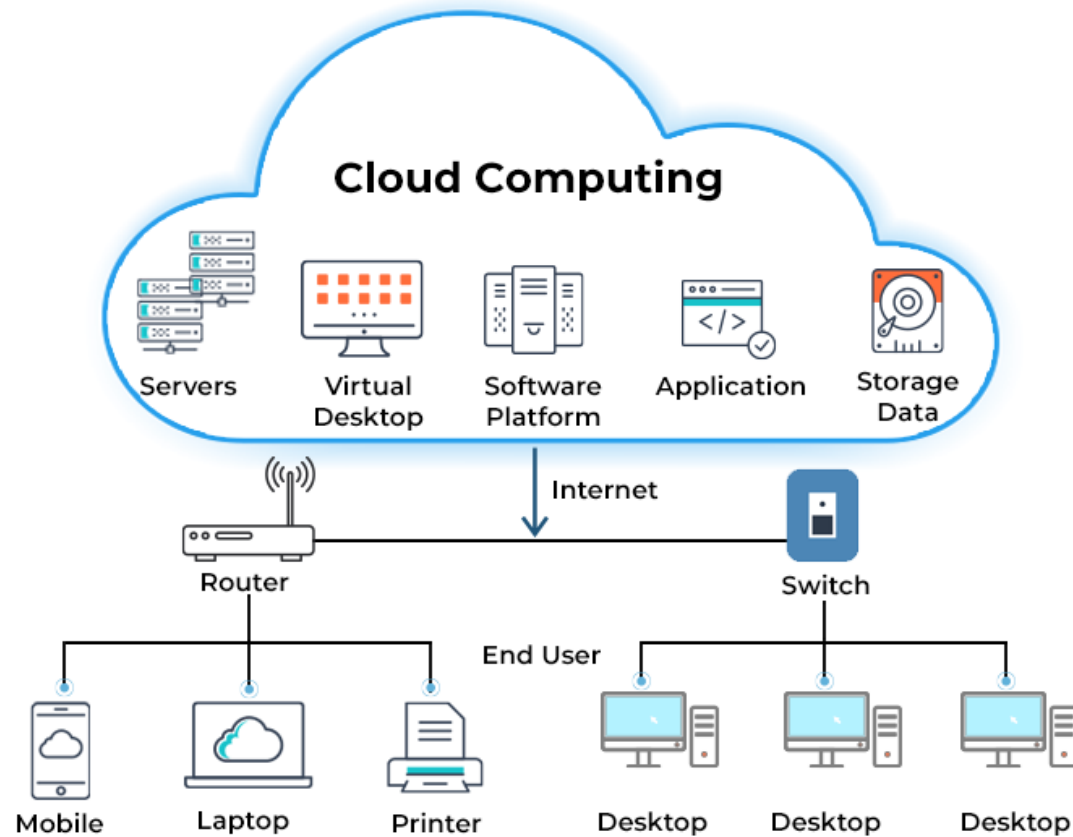
Cybersecurity is expected to grow with ever-increasing internet penetration. While it used to be commonplace to dismiss cybersecurity as a task for the IT department, it is now increasingly becoming the dominant part of top-level strategic planning.



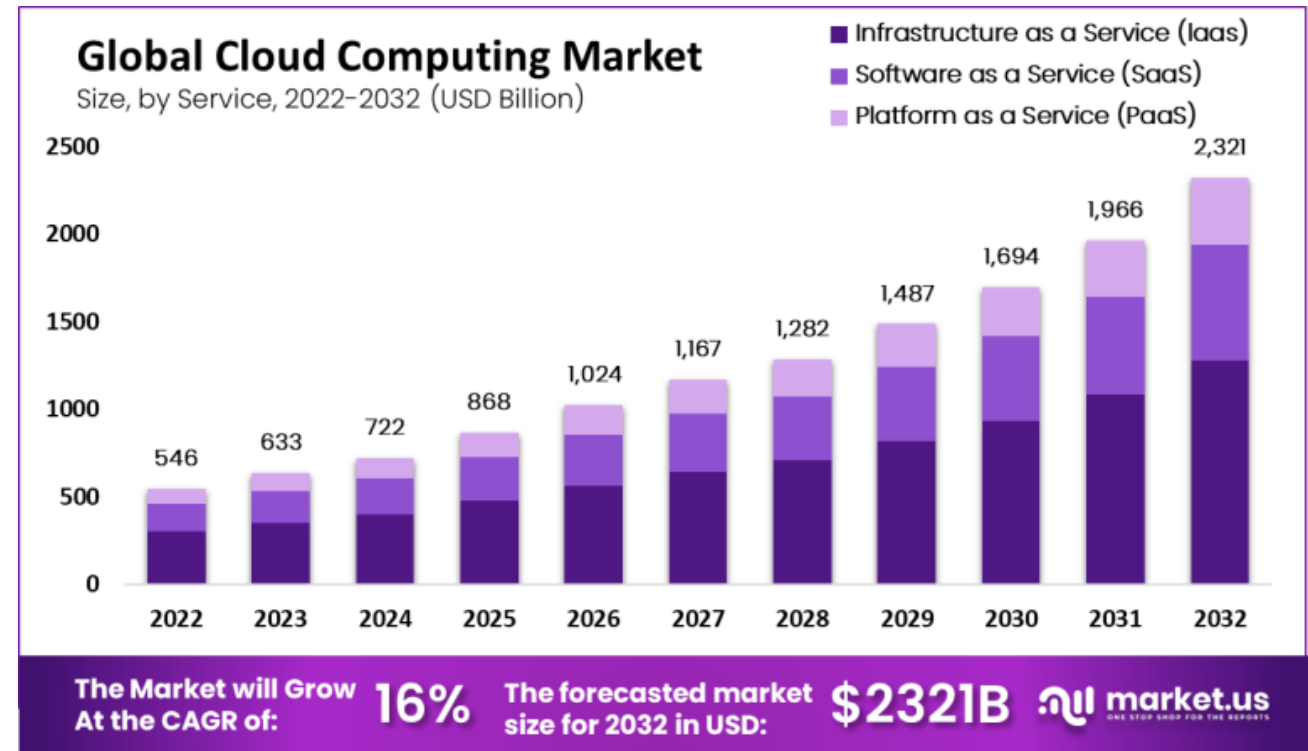
The COVID-19 crisis led to many organizations facing more cyberattacks due to the security vulnerability of remote working, as well as the shift to virtualized IT environments. The market is expected to continue showing strong growth, with Cloud Security as the fastest-developing market.

Computing Power – Cloud Computing at the Core of Transformative Growth for Businesses

CLOUD COMPUTING ARCHITECTURE



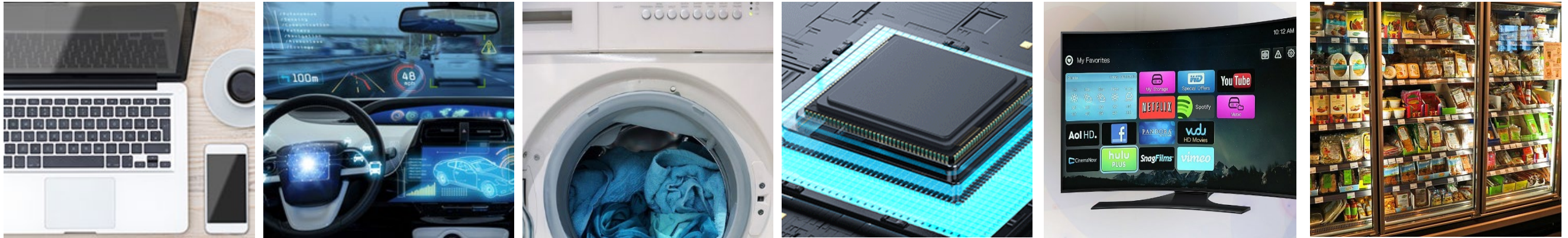
- The global cloud computing market was **valued at USD546.1 billion in 2022**.
- Spending on public cloud services worldwide is expected to **grow by 21.7% in 2023**, reaching USD597.3 billion.
- The global market share of the top cloud infrastructure service providers reached **USD63 billion in Q1 2023**.
- In 2022, **45% of company security breaches** happened in the cloud.



Source: <https://www.spiceworks.com/tech/cloud/articles/what-is-cloud-computing/>

Why Semiconductors are the Heart of Digitalization

Semiconductor chips can be found in nearly every electronic product ...



... and form the nerve center of emerging technologies

5G

**Artificial
intel-
ligence**

**Internet of
Things**

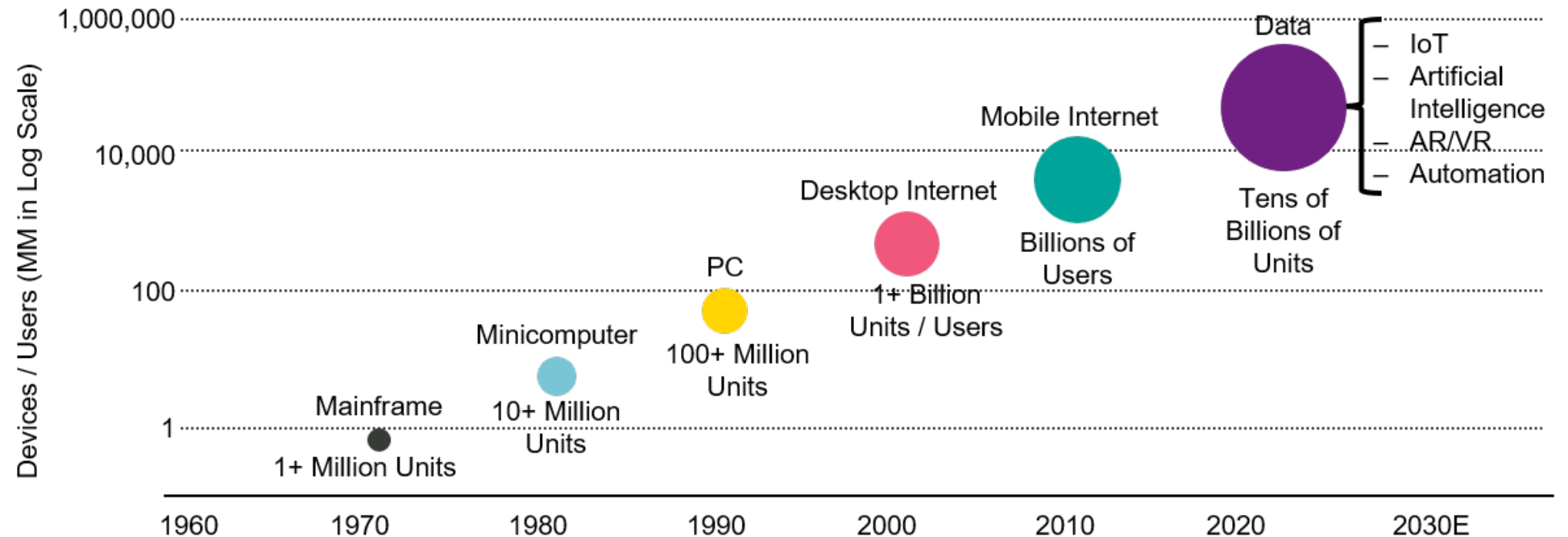
**Augmented
reality**

**Cloud
computing**

We are at the Beginning of a New Computing Age

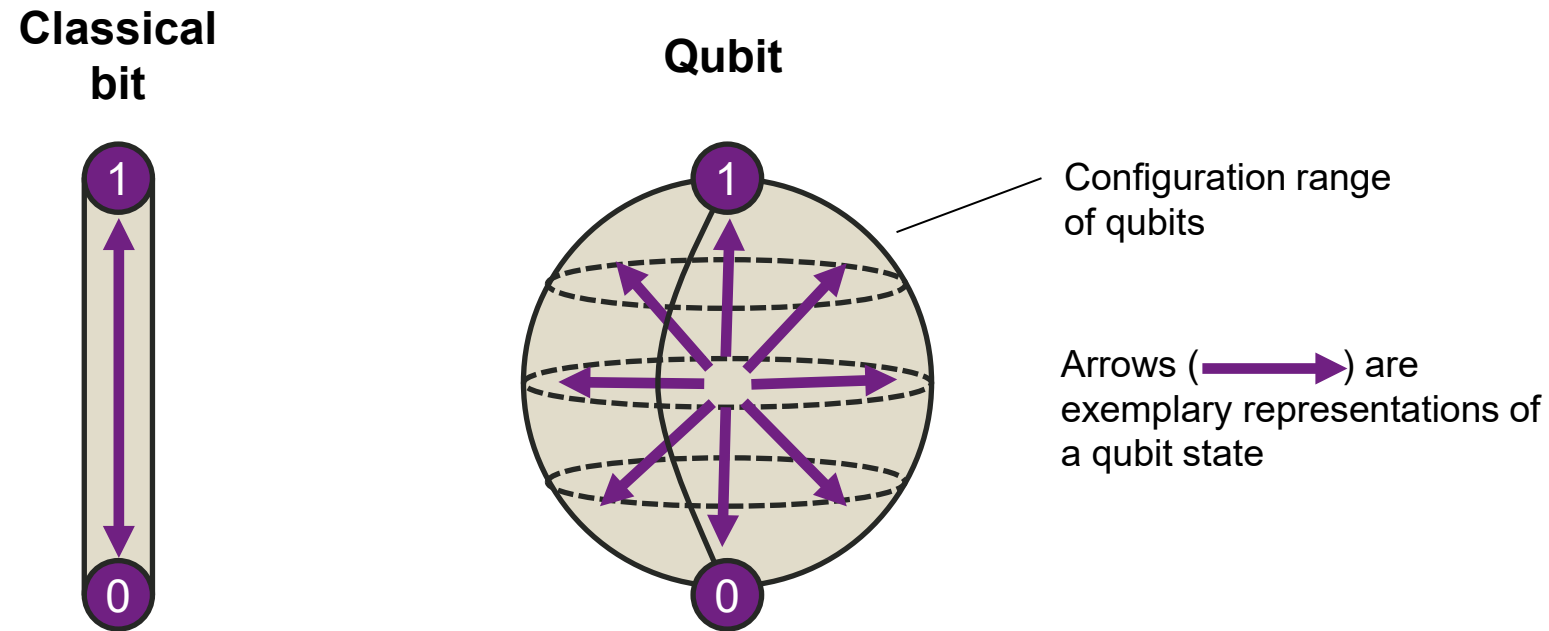
Semiconductor chips control **electrical currents** to process, store and transfer data. Alongside tech giants such as Apple, Google and Amazon, however, **semiconductor companies** are often overlooked as their work is more “backstage.” However, they are at least as important for the digital economy of the 21st century.

Growth drivers of computing power over time, 1960–2020E



Quantum Computers are much Faster than Super Computers

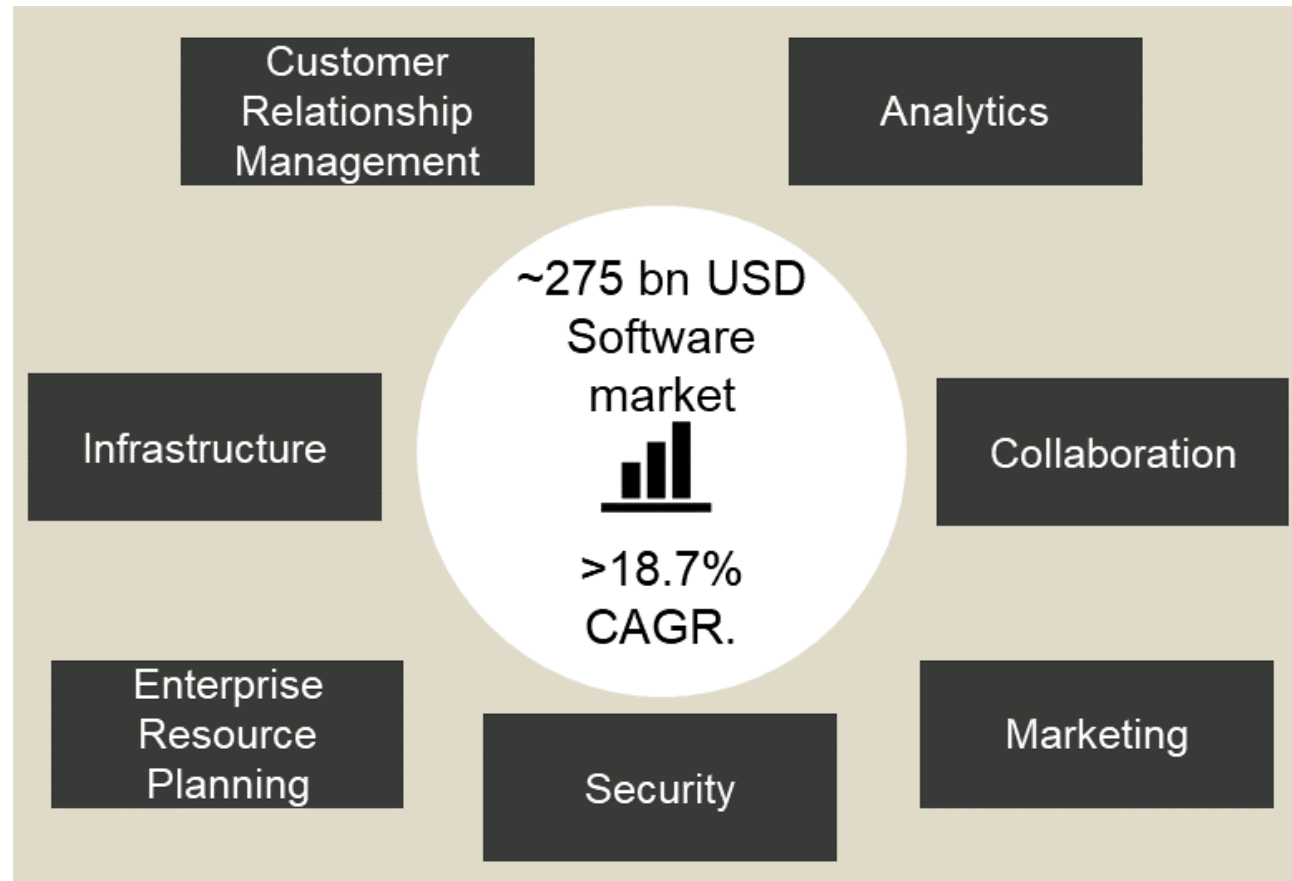
Quantum computers are based on quantum mechanics and use **qubits**. These are able not only to assume the values zero or one, but any combination of both by **superposition** of quantum states.



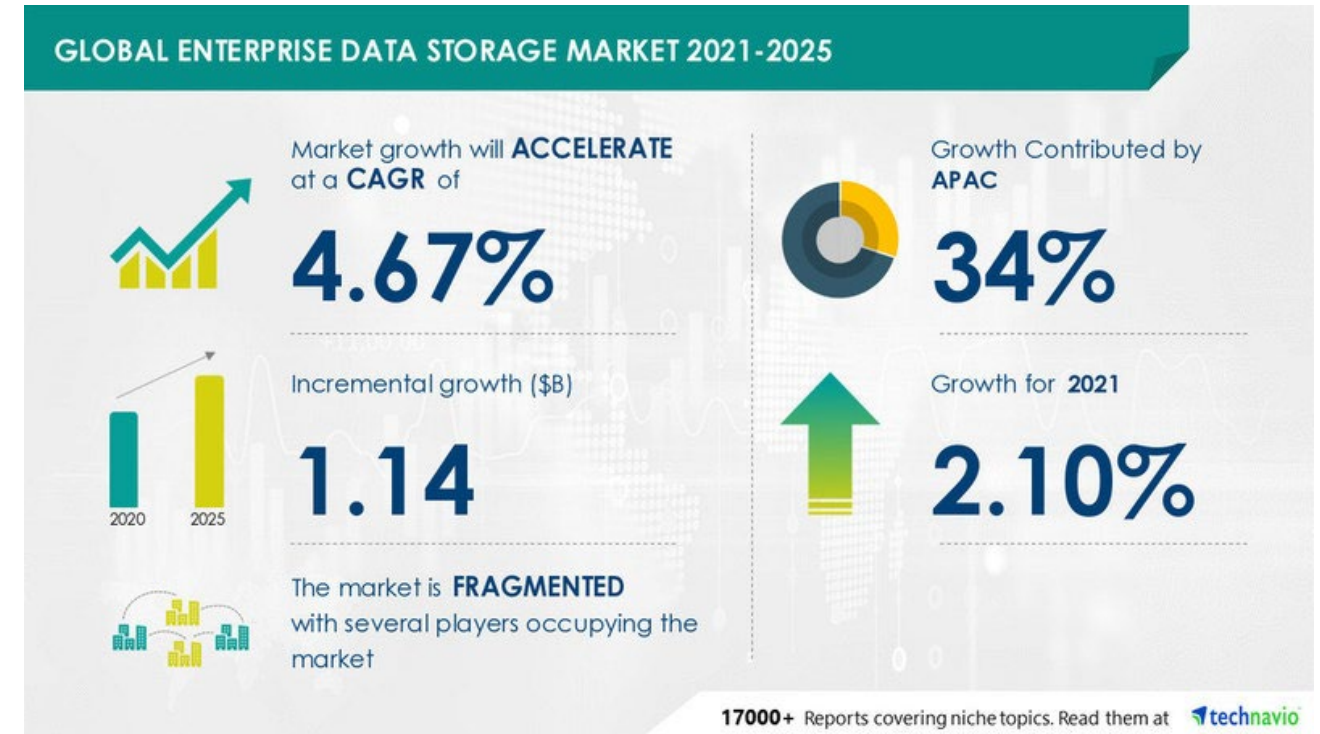
- Every additional qubit **doubles** the possible combinations.
- For 50 qubits, there are **two to the power of 50 combination possibilities**.
- This makes it possible to compute larger and more complex tasks **at the same time**.

Software is a Driver for Growth and Efficiency

- The Internet is powered by software - and software vendors are enjoying a renaissance thanks to the Cloud.
- Companies worldwide view SaaS as their highest spending priority. Software providers have higher barriers to entry and revenues are recurring, which makes the business models predictable and sticky.



Source: <https://www.fortunebusinessinsights.com/software-as-a-service-saas-market-102222>



- The global cloud storage market is expected to increase from USD83.41 billion in 2022 to USD376.37 billion by 2029. This is an annual growth rate of 24.0%. Demand for cloud storage rose on the back of the COVID-19 pandemic.

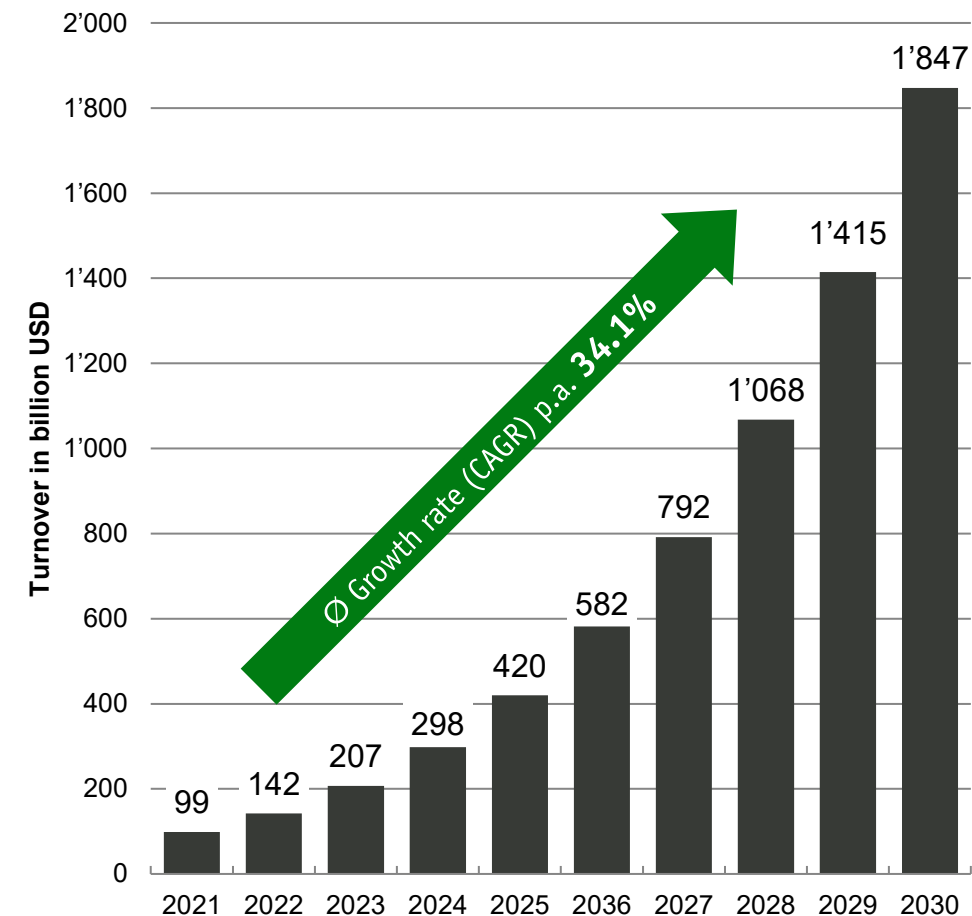
Source: <https://www.prnewswire.com/news-releases/enterprise-data-storage-market-size-to-grow-by-usd-1-14-bn--high-adoption-of-saas-applications-to-be-key-trend--technavio-301428606.html>

Artificial Intelligence will Change our Lives

“Artificial intelligence will change our lives”

- It is this steep curve (graphic on the right) upwards and the rapid development of the technology that could make the topic "AI" so exciting for investors.
- AI is not a niche. It offers far greater possibilities than, for example, robotics, because hundreds of billions of devices will be affected (in the “internet of things,” approximately 50 billion objects are connected to each other, continuously providing data for analysis).
- The consequences are much more disruptive and many more areas will be impacted than we experienced in the case of smartphones or PCs.
- AI is much more than just a few clever algorithms that can solve problems:
 - it is about a whole cosmos of technology and machines that work together.
- In the end, AI will change our lives.

Worldwide turnover forecast in AI company applications (in billion USD)



Source: Statista, May 2023

Index Concept and Allocations



Selection Process

Thematic Selection



The strategy aims to benefit from the fast development and potential value creation of Data Intelligence by selecting shares of companies that generate a significant portion of their sales through enabling further development or using Data Intelligence in their core business.

Shares of large- and mid-cap companies in developed markets as well as emerging markets are selected. The companies are expected to benefit from the global trend towards more powerful and broad application of Data Intelligence.

Fundamental Selection



Companies with sufficient exposure to data intelligence are assessed for their financial quality and valuation.

The remaining companies are split in the categories Data Security, Computing Power and Big Data, and Artificial Intelligence. For all three groups, the Index Sponsor evaluates a quality and a valuation score. The quality score considers reporting data such as profit margins, debt and leverage related indicators as well as cash flows to assess the financial quality of a company. The valuation score considers typical valuation metric such as earnings yield, dividend yield and cash flow yield to assess the valuation of a company.

Portfolio Construction



For each of the three groups the best 10-15 shares based on a composite score that reflects the valuation and the quality score are selected. In a third step, the selected shares are weighted proportional to the composite quality and valuation score.

A dynamic liquidity algorithm is applied that adjusts the weighting of an Index constituent to a level which liquidity supports and allocate the rest to the remaining shares. The Index will be adjusted at least once every quarter. The Index is monitored daily.

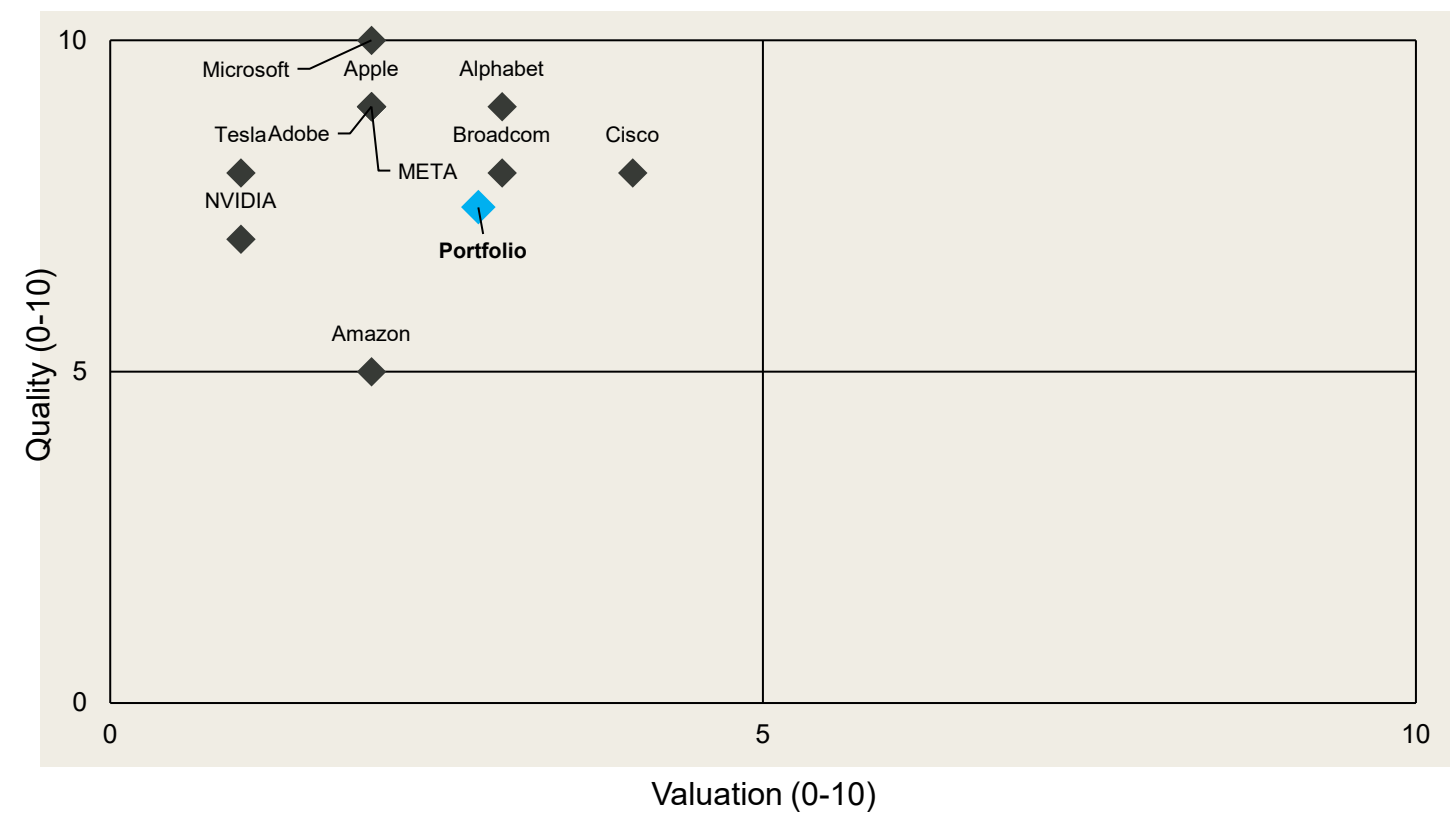
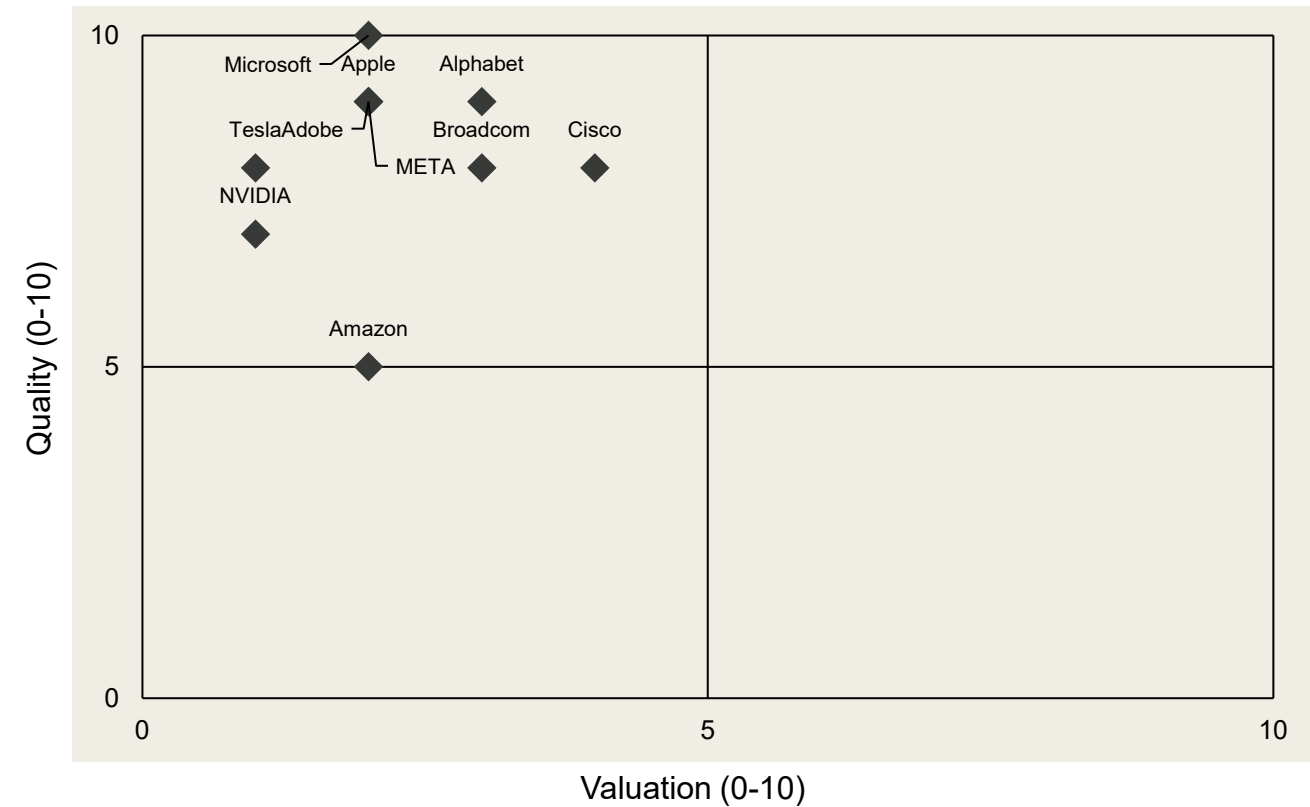
Vontobel Data Intelligence Index

The final index consists of companies that are strongly associated with data intelligence.



Are Valuations of Tech Stocks Reasonable?

Trade-Off: Quality vs. Valuation!



The portfolio takes into account the balance between Quality and Valuation factors and allocates weights to the stocks accordingly.

How Do We Measure Valuation in a Factor Approach?

We use 6 financial ratios to identify stocks with a attractive valuation

INDICATOR	CALCULATION
Earnings Yield	Net Income/MCAP
Sales Yield	Sales/MCAP
Book Yield	Book Value/MCAP
Dividend Yield	Dividend Cash Flow/MCAP
Cash Flow Yield	FCFE/MCAP
EBIT/Enterprise Value	-

Each score is standardized on a scale from 0 (worst score) to 10 (best score). The individual scores are aggregated with equal weighting to a total Quality Score for each title and rescaled from 0 (worst score) to 10 (best score).

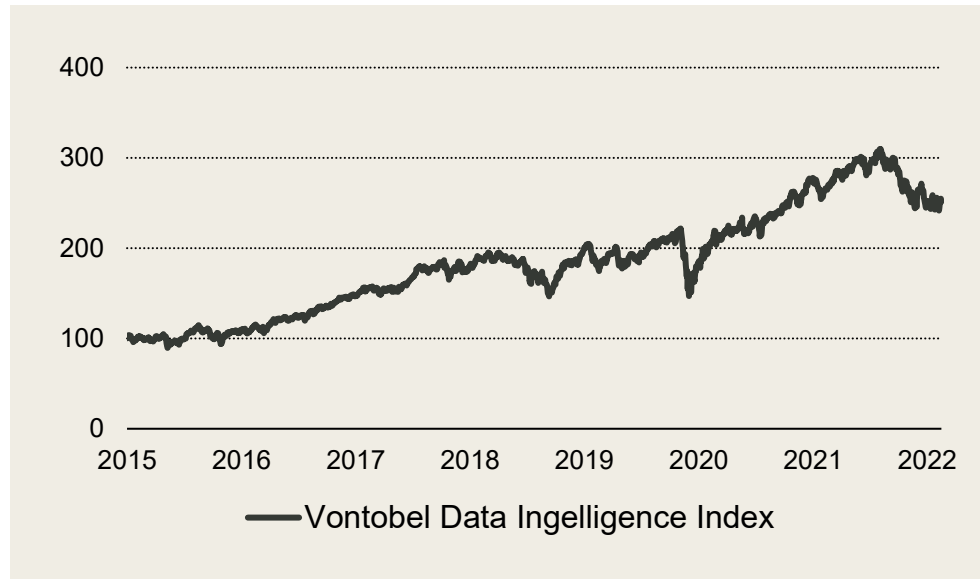
How Do We Measure Quality in a Factor Approach?

We use 10 financial ratios to identify stocks with a high Quality Score

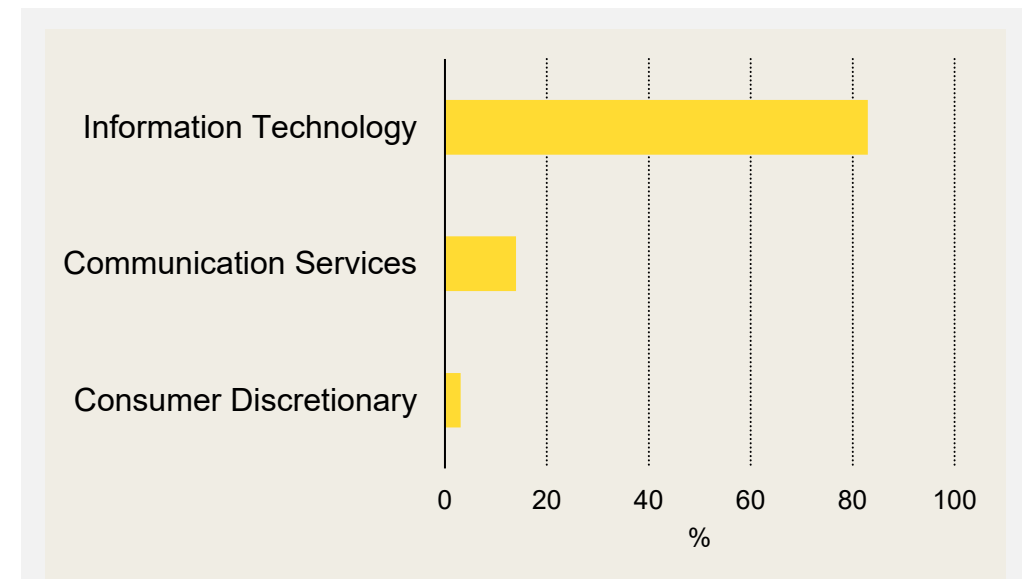
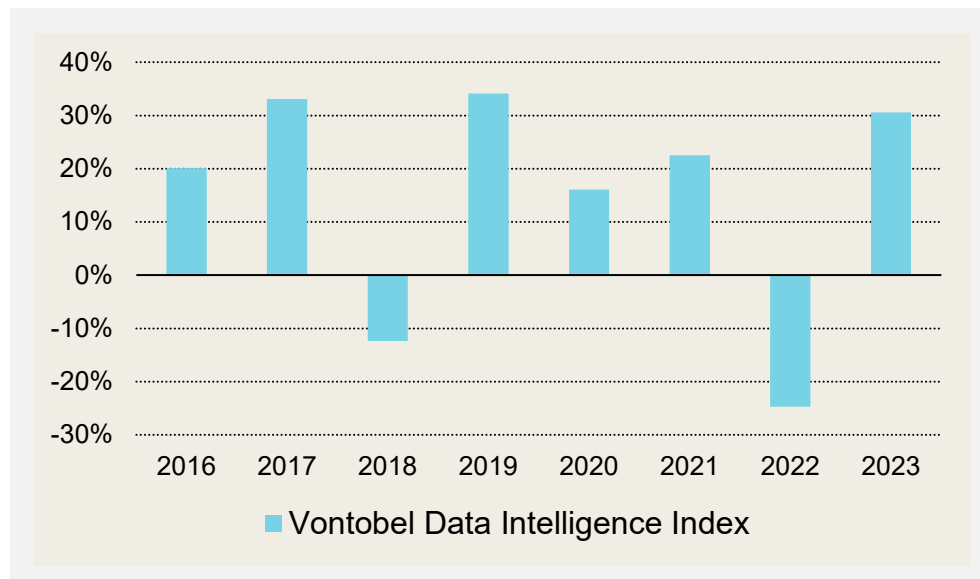
INDICATOR	CALCULATION
Gross Margin	$(\text{Sales} - \text{COGS}) / \text{Sales}$
Operating Margin	$\text{Operating Income} / \text{Sales}$
Net Income Margin	$\text{Net Income} / \text{Sales}$
Return on Equity	$\text{Net Income} / \text{Average Shareholder's Equity}$
Return on Assets	$\text{Net Income} / \text{Average Assets}$
Leverage	$\text{Total Debt} / \text{Equity}$
Leverage Growth	5-years Debt/Equity Growth
Interest Coverage	$\text{EBIT} / \text{Interest expense}$
ROIC	$\text{Net Income} / \text{Average invested capital}$
Earnings Quality	$\text{CFO} / \text{Net Income}$

Each score is standardized on a scale from 0 (worst score) to 10 (best score). The individual scores are aggregated with equal weighting to a total Quality Score for each title and rescaled from 0 (worst score) to 10 (best score).

Performance and Sector Breakdown



VONTOBEL DATA INTELLIGENCE INDEX	
Avg. Return (p.a.)	12.20%
Volatility Return (p.a.)	19.38%
Sharpe Ratio	0.62
Max. Drawdown Duration (days)	483
Max. Drawdown (since inception)	-33.77%
Max. Drawdown Duration 3 years (days)	483
Max. Drawdown (last 3 years)	-30.32%



Portfolio (1/2)

COMPANY	ISIN	CURRENCY	SECTOR	MCAP (MN USD)	WEIGHT (%)
STMicroelectronics NV	NL0000226223	EUR	Information Technology	45265.2161	4.3
Texas Instruments Incorporated	US8825081040	USD	Information Technology	163395.8551	4.11
Gen Digital Inc.	US6687711084	USD	Information Technology	11886.29463	3.81
Microsoft Corporation	US5949181045	USD	Information Technology	2532081.084	3.79
Cisco Systems, Inc.	US17275R1023	USD	Information Technology	210843.5009	3.77
Alphabet Inc. Class C	US02079K1079	USD	Information Technology	710577.78	3.65
Accenture Plc Class A	IE00B4BNMY34	USD	Information Technology	204993.3044	3.63
Meta Platforms Inc. Class A	US30303M1027	USD	Communication Services	634843.754	3.56
TIS Inc.	JP3104890003	JPY	Information Technology	6073.29363	3.56
Renesas Electronics Corp.	JP3164720009	JPY	Information Technology	36605.41671	3.52
ON Semiconductor Corp.	US6821891057	USD	Information Technology	40846.53226	3.52
REA Group Ltd	AU000000REA9	AUD	Communication Services	12578.60571	3.44
NXP Semiconductors NV	NL0009538784	USD	Information Technology	53164.11127	3.39
Check Point Software Technologies Ltd.	IL0010824113	USD	Information Technology	15170.11867	3.36

Portfolio (2/2)

COMPANY	ISIN	CURRENCY	SECTOR	MCAP (MN USD)	WEIGHT (%)
CyberAgent, Inc.	JP3311400000	JPY	Communication Services	3'669	3.32
NEC Corp.	JP3733000008	JPY	Information Technology	13'148	3.30
Skyworks Solutions, Inc.	US83088M1027	USD	Information Technology	17'617	3.21
Infineon Technologies AG	DE0006231004	EUR	Information Technology	53'835	3.20
Analog Devices, Inc.	US0326541051	USD	Information Technology	98'545	3.20
Fujitsu Limited	JP3818000006	JPY	Information Technology	26'632	3.17
Autodesk, Inc.	US0527691069	USD	Information Technology	43'731	3.14
Sage Group plc	GB00B8C3BL03	GBP	Information Technology	12'052	3.10
Tesla, Inc.	US88160R1014	USD	Consumer Discretionary	829'681	3.07
Akamai Technologies, Inc.	US00971T1016	USD	Information Technology	13'678	3.06
Int. Business Machines Corporation	US4592001014	USD	Information Technology	121'506	2.98
Dassault Systemes SA	FR0014003TT8	EUR	Information Technology	59'390	2.97
VMware, Inc. Class A	US9285634021	USD	Information Technology	61'838	2.79
Fortinet, Inc.	US34959E1091	USD	Information Technology	59'353	2.76

Initial composition of the index

Product details

Open-end Tracker Certificate on Vontobel Data Intelligence Index

Tracker Certificate

On the Vontobel Data Intelligence Index

PRODUCT DETAILS

SSPA	Tracker Certificate (1300)
Basiswert	Vontobel Data Intelligence Index
Initial fixing / Payment date	October 30, 2023 / November 06, 2023
Maturity	Open-end
Management fee	1.25 %
Issuer / Guarantor	Bank Vontobel AG, Zurich (Moody's: Aa3)

Currency	CHF	EUR	USD
ISIN / Symbol	CH1293291618 / PDATAAC	CH1293291626 / PDATEV	CH1293291600 / PDATCV
Issue price	CHF 100.00 <small>(incl. CHF 1.50 subscription fee)</small>	EUR 100.00 <small>(incl. USD 1.50 subscription fee)</small>	USD 100.00 <small>(incl. USD 1.50 subscription fee)</small>
Reference currency	USD	USD	USD

* All information is indicative and may be adjusted. Only the termsheets published on www.derinet.com together with the associated notifications and adjustments are legally binding.

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