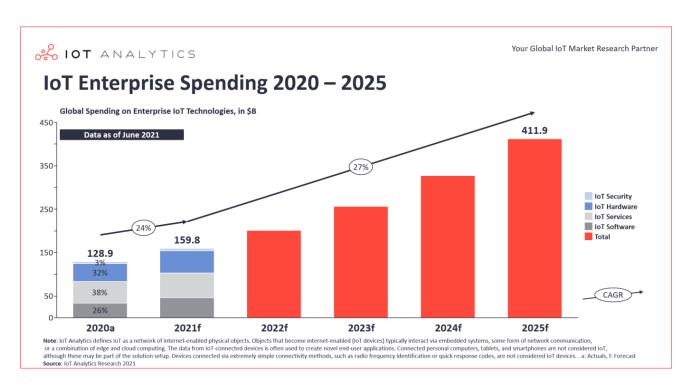
INSIGHTS RELEASE

Global IoT spending to grow 24% in 2021, led by investments in IoT software and IoT security



In short

- Overall enterprise Internet of Things (IoT) spending grew 12.1% in 2020 to \$128.9 billion.
- Asia-Pacific (APAC) saw the fastest growth (17.0%), followed by North America (14.9%) and Europe (9.7%).
- 2021 IoT spending for enterprises is expected to grow 24.0% in 2021.
- Beyond 2021, it is expected that IoT spending will grow at 26.7% annually.

Hamburg/Germany, June 16, 2021: IoT Analytics, a leading provider of market insights and competitive intelligence for the Internet of Things (IoT) and Industry 4.0, today released the IoT enterprise spending update June 2021, for the first time available in an interactive dashboard. The data shows that global IoT spending is expected to grow 24% in 2021, led by investments in IoT software and IoT security.

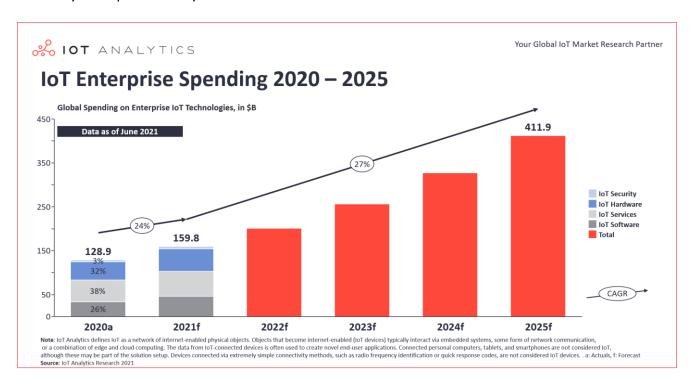
OVERVIEW

Spending on enterprise IoT solutions grew 12.1% in 2020 to \$128.9 billion, according to IoT Analytics' latest update on the overall enterprise IoT market. The COVID-19 pandemic had vastly different impacts on different segments of the IoT market. For example, spending on IoT hardware grew 5.4% in 2020, while spending on IoT cloud/infrastructure services grew 34.7% in the same timeframe. Many hardware installations were postponed as travel came to a standstill and capital expenditure budgets were frozen. At the same time, software tools, especially those that could serve as responses to the pandemic (e.g., IoT-based remote asset monitoring) and those allocated to operational expenditures, saw a smaller negative effect and in some rare cases even a pandemic-led boost.

China managed to limit pandemic effects by acting quickly and decisively. As a result, enterprise IoT spending grew by 23.5%, nearly twice the global average.

Despite the continuing negative impact of the pandemic on IoT budgets, IoT Analytics expects 2021 IoT spending to increase 24.0%, with the overall market reaching \$159.8 billion by the end of 2021.

The post-COVID-19 digitization push that many forecasted can already be felt, and it is the view of the IoT Analytics team that the increasing use of digital technologies will lead to a compound annual growth rate (CAGR) for IoT spending of 26.7% between 2022 and 2025. At the same time, the number of global IoT connections is expected to reach 31 billion, tenfold what it was a decade ago, as IoT Analytics reported last year.



SEGMENT VIEW

Due to low oil prices, IoT spending in the oil and gas industry was hard-hit in 2020, declining much more than the global average. On the other hand, driven by the boom in eCommerce and online

shopping, IoT spending in warehousing companies rose by 22.3% in 2020. In comparison, IoT spending in the automotive industry was very mixed. 2020 IoT spending for Chinese car manufacturers grew nearly 20%, while Europe and South America grew at below-average rates. The 2021 IoT spending outlook shows that the pharmaceuticals, metals, and energy segments are among the fastest growing segments.

REGIONAL VIEW

Spending on IoT enterprise solutions in Europe grew by 9.7% in 2020, compared to 14.9% in North America and 17% in APAC.

The regional differences can be explained by the evolution of the pandemic and related enterprise spending behavior. An immediate and strong reaction to the COVID-19 outbreak helped APAC bounce back quickly. The enterprise IoT market in China, for example, grew 23.5% in 2020.

2021 IoT spending outlook: In 2021, the lasting push for digitization is expected to lead to higher growth in all major world regions, with APAC leading, followed by North America and Europe.

TECHNOLOGY VIEW

Companies increased spending on IoT security in 2020 by 40.3%. The surge in high-profile security attacks led companies to increase spending in the areas of cyber- and IoT security. IoT cybersecurity incidents that were visible in the media, such as hacks of Amazon's Ring cameras in late 2019, led to increased awareness of the need for better protection of IoT devices.

Correspondingly, a recent survey by IoT Analytics found that an overwhelming 83% of information technology professionals implemented stronger cyber hygiene among employees during the pandemic and plan to continue prioritizing the subject after COVID-19.

Other areas that saw significant increases in spending include cloud infrastructure for IoT deployments and IoT software applications. Growth for IoT software applications is expected to pick up in the coming years. For example, in just a few years, predictive maintenance has moved from an uncertain, standalone niche application to a fast-growing, high return on investment (ROI) application that delivers measurable value to users. IoT Analytics expects that IoT applications with very strong ROI profiles will grow at rates above the market average in the coming years.

Spending on IoT hardware in 2020 grew slower than IoT software spending in 2020. In 2020, companies spent 5.4% more on computers, gateways, sensors, chipsets, and other hardware as part of their IoT solution. Spending on specific subsets of the market, e.g., cellular IoT modules, declined by 8% in the same timeframe.

One area to watch in 2021 is spending on IoT chipsets (part of IoT hardware). IoT Analytics is forecasting a strong growth in 2021; however, ongoing supply issues might mean that the demand will not be met, even by the end of the year.

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