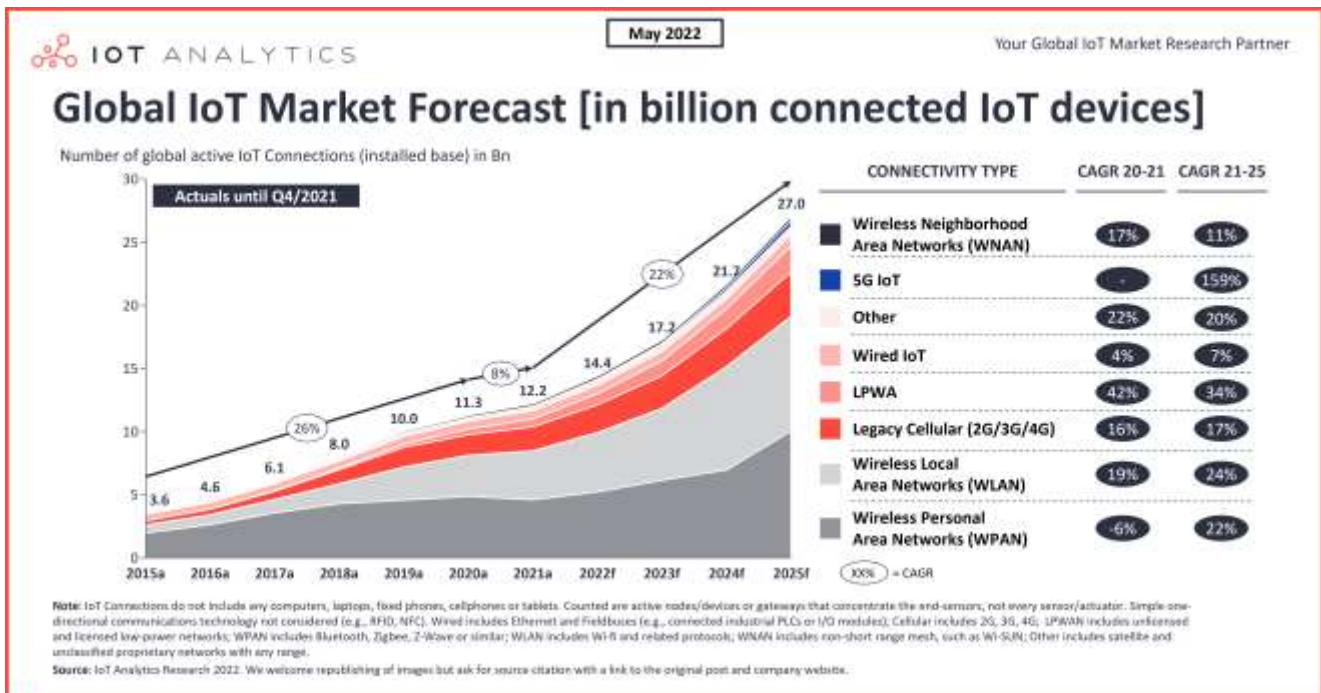


INSIGHTS RELEASE

State of IoT 2022: Number of connected IoT devices growing 18% to 14.4 billion globally



Hamburg/Germany, May 18, 2022: IoT Analytics, a leading global provider of market insights and strategic business intelligence for the Internet of Things (IoT), AI, Cloud, Edge, and Industry 4.0, this week published a 114-page report on the "State of the Internet of Things - Spring 2022 edition". The report provides an updated view of the current IoT market and forecast, important macroeconomic developments, a look at the 100 largest IoT-related funding rounds, and much more.

Knud Lasse Lueth, CEO at IoT Analytics says: "In 2022, the market for the Internet of Things is expected to grow 18% to 14.4 billion active connections. It is expected that by 2025, as supply constraints ease and growth further accelerates, there will be approximately 27 billion connected IoT devices."

Mohammad Hasan, Analyst at IoT Analytics adds: "The IoT segment is still experiencing a string of challenges – constrained supply chain, inflation, new strains of the virus, and geopolitical crisis. However, strong demand conditions continue to support the profitability of most players with IoT exposure."

IOT CONNECTIONS MARKET UPDATE—MAY 2022

The chip shortage continues to slow the Internet of Things (IoT) market recovery, according to our latest [State of IoT—Spring 2022](#) report, released in May 2022. The number of global IoT connections grew by 8% in 2021 to 12.2 billion active endpoints, representing significantly lower growth than in previous years.

Despite a booming demand for IoT solutions and positive sentiment in the IoT community as well as in most IoT end markets, IoT Analytics expects the chip shortage's impact to the number of connected IoT devices to last well beyond 2023. Other headwinds for IoT markets include the ongoing COVID-19 pandemic and general supply chain disruptions. In 2022, the market for the Internet of Things is expected to grow 18% to 14.4 billion active connections. It is expected that by 2025, as supply constraints ease and growth further accelerates, there will be approximately 27 billion connected IoT devices.

Both the 2021 actuals and the current 2025 forecast for IoT devices are lower than previously estimated. (The previous estimate for 2021 was 12.3 billion connected IoT devices; the previous forecast for 2025 was 27.1 billion connected IoT devices).

Here is what impacted IoT connections in 2021, where we stand in 2022, and where we may be headed beyond 2022:

IOT IN 2021: SELECTED IOT CONNECTION GROWTH HIGHLIGHTS

These are some key trends that impacted the growth of the number of connected IoT devices in 2021:

1. **LPWA networks expanded, especially those using NB-IoT technology.** NB-IoT adoption (finally) took off, with connections growing by 61% YoY, driven by a wide variety of implementations, most notably in the areas of water and gas metering.
2. **Users are moving away from legacy 2G/3G toward 4G/5G IoT.** 4G IoT connections grew by 24% due to higher adoption of LTE Cat 1-, Cat 4-, and Cat 6-based chipsets. For many implementations, LTE Cat 1 bis is becoming an alternative to the aforementioned LPWA technologies.
3. **The chip shortage continued to slow the market recovery** (see above).
4. **COVID-19 continued to impact products and supply chains.** In 2021, ongoing (local) COVID-19 restrictions resulted in many new and severe supply chain issues, such as a lack of vessels, trucks, and shipping containers and port congestion.

IOT IN 2022: CURRENT MARKET SENTIMENT

The current business sentiment for companies in digital and IoT remains predominantly positive although coming down from Q4 2021 highs. There is widespread acknowledgment that Covid-19 had an overall positive effect on the accelerated adoption of IoT technologies. This is confirmed by quotes from CEOs of IoT vendors and a sentiment analysis of earnings calls. The highest sentiments are

found in companies offering connectivity services (sentiment score of 117), general software (115), cybersecurity (113), and cloud (113).

"Robust demand was again widespread across our end markets [in Q1 2022]. [] Overall, we continue to forecast favorable demand conditions to hold throughout the second half of this calendar year."

Phil Gallagher, CEO at Avnet – April 27, 2022

"We are seeing continued momentum in key IoT markets, including industrial, enterprise, energy and first responder as more companies are collecting business-critical data from the edge of the network. The COVID-19 pandemic has accelerated Industry 4.0."

" Phil Brace, CEO at Sierra Wireless (May 12, 2022)

From a regional point of view, sentiment in North America is leading (116), with APAC (103) lagging, specifically China, where fresh COVID-19 lockdowns are seen as a key threat to business growth in the region.

IOT BEYOND 2022: KEY MACRO THEMES AFFECTING THE IOT DEVICE FORECAST GOING FORWARD

In our latest research, we highlight and discuss eight key macro themes to watch, many of which are interrelated. Here is a selection:

1. Inflation. Global growth forecasts are declining as inflation intensifies to >5% p.a. in most major economies of the world, raising expectations of increasing interest rates and a subsequent cooling down of the economy.
2. The ongoing war in Ukraine. The war in Ukraine is adding to supply disruptions and inflation concerns. The Minister of State for Electronics and Information Technology in India, Rajeev Chandrasekhar, for example, stated: "The Russia-Ukraine conflict has impacted supply chains in numerous sectors, including the semiconductor industry. The conflict may have particular impact on the supply of Neon and Hexafluorobutadiene gases, which are essential element[s] to manufacture semiconductor chips, as these are used in the lithography processes for chip production."
3. The war for digital talent. Many companies are facing a massive challenge finding skilled labor to move ahead full force with digital transformation, AI, IoT, and cloud projects. IoT Analytics tracks online job ads on an ongoing basis. The number of job ads that included "IoT" grew by +32% between July 2021 and April 2022. Job ads including "AI" (+48%), "Edge Computing" (+53%), and "5G" (+52%) were in even higher demand.

As a result of some of these macro factors, particularly inflation, companies are forced to focus more on operational efficiency to neutralize cost pressures and ensure supply to customers.

OTHER STATE OF IOT (SPRING 2022) RESEARCH HIGHLIGHTS

- Record levels of VC investments for IoT firms. Based on our research, Global VC funding for IoT-focused companies increased to a record of \$1.2 billion in Q1 2022 compared to just \$266 million in Q1 2021, with fewer deals in total but a number of very large funding rounds. Most recent investments centered around AI and analytics, cybersecurity, and IoT connectivity.
- Several large IoT-focused acquisitions. IoT firms specializing in AI and analytics, IoT software, and semiconductors/chips collectively accounted for approximately 45% of all major IoT-related acquisitions between Q3 2021 and Q1 2022. Many of these deals were driven by the acquirer's desire to create a more complete technology stack or product portfolio and reduce external dependency. Notable announcements include Panasonic's acquisition of Blue Yonder (\$8.5 billion) and Generac Power Systems' acquisition of Ecobee (\$770 million).

SUMMARY

Growth in the number of connected devices slowed in 2021 but is expected to re-accelerate in 2022 and beyond. While new headwinds, such as inflation and prolonged supply disruptions, have emerged for the IoT market, the overall sentiment continues to be relatively positive, with the number of connected IoT devices expected to reach 14.4 billion by the end of 2022.

MORE INFORMATION AND FURTHER READING

www.iot-analytics.com/research-blog

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