

2022 TECH TRENDS

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Enabling the digital economy

TECHNOLOGY SUPPORTS BUSINESS GROWTH

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5 Tech Trends for 2022

In this report, we explore five use cases for emerging technology that can improve on capabilities needed to compete in the digital economy. Use cases combine emerging technologies with new processes and strategic planning.

TREND 01 | Human Resources Management

HYBRID COLLABORATION

Provide a digital employee experience that is flexible, contextual, and free from the friction of hybrid operating models.



TREND 02 | Security Strategy

BATTLE AGAINST RANSOMWARE

Prevent ransomware infections and create a response plan for a worst-case scenario. Collaborate with relevant external partners to access resources and mitigate risks.



DIGITAL ECONOMY

TREND 03 | Business Process Controls and Internal Audit

CARBON METRICS IN ENERGY 4.0

Use internet of things (IoT) and auditable tracking to provide insight into business process implications for greenhouse gas emissions.



TREND 04 | Data Architecture

INTANGIBLE VALUE CREATION

Provide governance around digital marketplaces and manage implications of digital currency. Use blockchain technology to turn unique intellectual property into saleable digital products.



TREND 05 | Innovation

AUTOMATION AS A SERVICE

Automate business processes and access new sophisticated technology services through platform integration.



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Hybrid Collaboration

Trend 01 | Human Resources Management

Provide a digital employee experience that is flexible, contextual, and free from the friction of hybrid operating models.

Emerging technologies:

Intelligent conference rooms; intelligent workflows, platforms



Drivers

COVID-19

Vaccination rates around the world are rising and allowing more offices to welcome back workers because the risk of COVID-19 transmission is reduced and jurisdictions are lifting restrictions limiting gatherings.

WORKER SATISFACTION

Most workers don't want to go to the office full-time. In a Bloomberg poll (2021), almost half of millennial and Gen Z workers say they would quit their job if not given an option to work remotely.

IT SPENDING

Companies are investing more into IT budgets to find ways to support a mix of remote work and in-office resources to cope with work disruption. This extra spending is offset in some cases by companies saving money from having employees work from home some portion of the time.

(CIO Dive, 2021)

Battle Against Ransomware

Trend 02 | Security Strategy

Prevent ransomware infections and create a response plan for a worst-case scenario. Collaborate with relevant external partners to access resources and mitigate risks.

Emerging technologies:

Open source intelligence; AI-powered threat detection

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Drivers

NATIONAL SECURITY CONCERNS

Attacks on US infrastructure and government agencies have prompted the White House to treat ransomware as a matter of national security. The government stance is that Russia supports the attacks. The US is establishing new mechanisms to address the threat.

Plans include new funding to support ransomware response, a mandate for organizations to report incidents, and requirements for organizations to consider the alternatives before paying a ransom.

(Institute for Security and Technology, 2021)

ADVICE FROM CYBERSECURITY INSURANCE PROVIDERS

Increases in ransom payouts have caused cybersecurity insurance providers to raise premiums and put in place more security requirements for policyholders to try and prevent ransomware infection. However, when clients are hit with ransomware, insurance providers advise to pay the ransom as it's usually the cheapest option.

(ProPublica, 2019)

REPUTATIONAL DAMAGE

Ransomware attacks also often include a data breach event with hackers exfiltrating the data before encrypting it. Admitting a breach to customers can seriously damage an organization's reputation as trustworthy. Organizations may also be obligated to pay for credit protection of their customers.

(Interview with Frank Trovato, Research Director - Infrastructure, Info-Tech Research Group)

Carbon Metrics in Energy 4.0

Trend 03 | Business Process Controls and Internal Audit

Use Internet of Things (IoT) and auditable tracking to provide insight into business process implications for greenhouse gas emissions.

Emerging technologies:
IoT

Drivers

INVESTOR PRESSURE

The world's largest asset manager, at \$7 trillion in investments, says it will move away from investing in firms that are not aligned to the Paris Agreement.
(The New York Times, 2020)

INTERNATIONAL LAW

In 2021, six countries have net-zero emissions policies in law, six have proposed legislations, and 20 have policy documents.
(Energy & Climate Intelligence Unit, 2021)

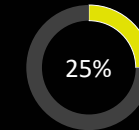
COMPLIANCE TIPPING POINT

International charity CDP has been collecting environmental disclosure from organizations since 2002. In 2020, more than 9,600 of the world's largest companies – representing over 50% of global market value – took part.
(CDP, 2021)

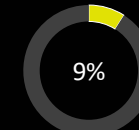
EMPLOYEE SATISFACTION

In 2019, thousands of workers walked out of offices of Amazon, Google, Twitter, and Microsoft to demand their employers do more to reduce carbon emissions.
(NBC News, 2021)

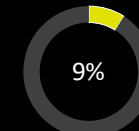
HIGH INFLUENCE FACTORS FOR CARBON REDUCTION



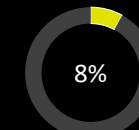
New government laws or policies



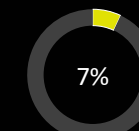
External social pressures



Pressure from investors



International climate compliance efforts



Employee satisfaction

**Info-Tech Tech Trends
2022 Survey**

Intangible Value Creation

Trend 04 | Data Architecture

Use blockchain technology to turn unique intellectual property into saleable digital products. Provide governance around marketplaces where sales are made.

Emerging technologies:

Blockchain, Distributed Ledger Technology, Virtual Environments

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Drivers

FINANCIAL AUTONOMY

Central banks view cryptocurrencies as “working against the public good” and want to maintain control over their financial system to maintain the integrity of payments and provide financial crime oversight and protections against money laundering.

(Board of Governors of the Federal Reserve System, 2021)

BITCOIN ENERGY REQUIREMENTS AND GREENHOUSE GAS EMISSIONS

Annual energy consumption of the Bitcoin blockchain in China is estimated to peak in 2024 at 297 TWh and generate 130.5 million metric tons of carbon emissions. That would exceed the annual GHG of the Czech Republic and Qatar and rank in the top 10 among 182 cities and 42 industrial sectors in China. This is motivating cryptocurrency developers and central banks to move away from the energy-intensive “Proof of Work” mining approach and towards the “Proof of Stake” approach.

(Nature Communications, 2021)

DIGITAL COMMUNITIES

During the pandemic, people spent more time exploring digital spaces and interacting in digital communities. Asset ownership within those communities is a way for individuals to show their own personal investment in the community and achieve a status that often comes with additional privileges. The digital assets can also be viewed as an investment vehicle or to gain access to exclusive experiences.

Automation as a Service

Trend 05 | Innovation

Automate business processes and access new sophisticated technology services through platform integration.

Emerging technologies:
Cloud platforms, APIs, Generative AI

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Drivers

COVID-19

The pandemic lockdowns pushed everyone into a remote-work scenario. With in-person interaction not an option, even more traditional businesses had to adapt to digital processes.

CUSTOMER EXPECTATIONS

The success of digital services in the consumer space is causing expectations to rise in other areas, such as professional services. Consumers now want their health records to be portable and they want to pay their lawyer through e-transfer, not by writing a cheque.

(Interview with Mik Lernout)

STANDARDIZATION

Technology laggard industries such as legal and healthcare are recognizing the pain of working with siloed systems. New standardization efforts are driving the adoption of open APIs at a rapid rate.

(Interview with Jennifer Jones, Research Director - Industry, Info-Tech Research Group)