Early Metrics' tech trend predictions for 2023

Early Metrics, a leading startup rating and research agency, has closely monitored the innovation ecosystem since 2014. Today it unveils its selection of tech trends to watch in Europe in 2023.

Temps de lecture : minute

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Since its creation in 2014, Early Metrics has rated more than 4,000 startups all over Europe. In collaboration with a scientific committee backed by the CNAM, Early Metrics has set up a startup rating methodology based on three main pillars: management, project and market. This extra financial approach combined with a financial analysis allows Early Metrics to deliver startup ratings that range from 0 to 100. By leveraging its robust methodology, Early Metrics is able to identify a startup's strengths and weaknesses, its growth potential and its resilience capacity.

Early Metrics often rates startups at an early stage or at a pre revenue stage, but this begs the question: how can they assess the accuracy of the ratings delivered? Are these ratings actually able to predict a startup's journey?

The answer is yes, as backtesting results show the relevancy of Early Metrics' ratings, and provides proof that Early Metrics can predict a startup's growth trajectory. Early Metrics has backtested more than 2,940 rated startups from 18 industries. These backtesting results help highlight the relevancy of its methodology in predicting a business' growth.

For example, on the one hand, backtesting results show that 77% of

startups ranked in the top 10% experienced a positive growth trajectory. These startups either experienced fast growth boosted by external funding, or, they validated their business model by reaching profitability. On the other hand, 80% of startups ranked in the bottom 10% went bankrupt or experienced difficulties.

36 months after the Early Metrics' rating, startups ranked in the top 20% experienced a 161% growth in revenue, 138% growth in team size, and raised 120% of their initial fundraising goal.

"We are proud of these results that demonstrate the relevance of an extra-financial approach to assess the startups' potential, all the more as the latest results highlight our ability to predict growth 3 years ahead, with algorithms that are specific to the companies' sector and maturity. I would like to thank the 2,900+ entrepreneurs who took part in our statistical studies, by giving access to private data, so that we can continuously improve our rating models." Edouard Thibaut, Managing Director Operation, Product and Data.

Below, _Early Metrics_' team of analysts share their predictions for the year ahead – spanning all sectors, from the metaverse and digital identities to VR and AI.

First real-life use cases for the metaverse emerge

In 2023, we're likely to see innovative retail players invest more resources in metaverse use cases. Namely, the metaverse is presenting itself as an opportunity to create another touchpoint in the customer journey, strengthen relationships with customers and improve brand awareness and image, while intersecting with existing and future clients. Retail companies are collaborating with gaming entities and startups to

create NFT assets and environments, with a strong focus on personalising the customer experience. Bulgari has debuted a new watch that comes with an NFT. This not only serves as a guarantee of authenticity and ownership but also creates a unique customer experience.

We've seen many startups emerge in this space with their own solutions for retailers. Rated startup Barney develops a platform to create, manage and store virtual products for luxury brands. Another rated startup Metav.rs, enables companies to create branded 3D NFTs that they can sell to customers in the metashop or offer to their employees. Clients can have live experiences in their miniverse, like virtual dressing rooms, dynamic virtual showrooms or WebAR and AR filters. This trend is now expected to expand to other industries, like banking and government, where the digital world will act as an extension of the physical world. The Seoul Metropolitan Government has released a beta version of its "virtual municipal world", Metaverse Seoul, with the goal of having a metaverse environment for all administrative services, including economy, education, culture, and tourism.

Digital identities evolve past borders

Until today, we have seen the strong growth of digital payment methods and biometric identification (mainly through the use of fingerprints for authentication on mobile payments). Today, digital identities are increasingly blurring boundaries between different use cases and entities. In 2023, governments will be exploring cross-border digital identities. The European Union already announced plans for a European Digital Identity Wallet, which they intend to pilot in 2023. Through this programme, European citizens and businesses will be able to authenticate themselves with secure digital credentials using a digital wallet stored on their phone. Similarly, Australia and Singapore are discussing how to integrate a cross-border ID that would be accepted in both countries, with an infrastructure supplied by Mastercard. The understanding of digital identity is also

evolving and broadening. Namely, the use of alternative data sources such as IP or online behaviour are becoming part of one's digital identity. This expands the means of authentication and creates more inclusive and secure identification for those who do not have traditional documentation like driving licences and passports.

Rated startup Blinking creates a digital identity management platform, designed to help companies identify, verify and certify their users remotely. The startup relies on multi-factor authentication (IP, mobile, signature, document validity checks), biometrics technologies to confirm the users' identity, and see if they are data compliant thanks to a private blockchain storage infrastructure.

AI for risk assessment and inclusivity in finance

Banks are already using AI and machine learning for their forecasting and segmentation capabilities to automate risk analysis and credit risk modelling. 2023 will see the use of these technologies for more creative profiling techniques and will help banks lend to people and businesses who lack financial track records, as is often the case in the agriculture sector. Non-traditional data like consumers' internet footprint, social media usage, psychometric test results and biometric digital trails, or businesses' digital footprints related to e-commerce, will be increasingly used to assess lending risk, improving financial accessibility for underserved communities.

Fintech company Nova Credit, using digital footprint and psychometric data to infer an individual's credit worthiness, has recently collaborated with HSBC to use cross border data to give credit access to immigrants. We can expect the use of a broader range of data in 2023, like startup Finscore that uses telco-based data for credit scoring.

VR's potential in therapy

In 2023 we can expect to see virtual reality continue to expand into a number of industries and use cases, mainly in industry 4.0, corporate collaboration, and training. For instance, JetBlue works with VR software maker Strivr to help train its technicians and Société Générale started working with Arthur, a virtual office space provider to create VR experiences for customers. However, today we are seeing the technology's potential intensify in the medical field. In 2022, the global VR in healthcare market was valued at $628M and it is growing at a CAGR of 39% until 2029. The technology is most promising for mental illness treatment and management. Some have already tested use cases for exposure therapy and PTSD for example, allowing patients to gradually revisit traumatic events under the guidance of their therapist. Investors, especially healthcare specialist funds, are observing this space closely.

Amelia Virtual Care, which offers VR technologies to psychologists and other mental health professionals, raised €7M in 2022 in a round led by biotech investor Asabys Partners. More applications are being investigated today and can be expected to make their way into the marketplace. For example, patients can learn to manage schizophrenia and paranoia with digital "avatars" of voices that can be controlled by professionals to empower patients to interact with them. US-based startup Oxford VR creates immersive VR environments to help patients deal with mental health conditions including agoraphobia, panic disorder, social anxiety, depression and schizophrenia.

VR can also be used before or during an intervention or treatment to relieve anxiety or pain. For example, a study showed burn patients who played a VR game experienced 35-50% less pain during treatment. Brain scans then confirmed there were reductions in pain-related brain activity. This use case can be applied to many medical scenarios, including childbirth.

New approaches to cybersecurity through automation and DevSecOps

The pandemic has increased cyber-attacks, with 47% of individuals falling victim to a phishing scam while working from home. In 2023, cybersecurity continues to be a major concern and priority for businesses. The approach, however, is shifting towards automated and integrated security. SOAR (security, orchestration, automation and response) platforms have recently emerged as an effective way to detect and respond to cybersecurity threats without human assistance. This is increasingly being combined with XDR (extended detection and response) technologies to eliminate traditional security silos to detect and respond to threats across all data sources.

In November, Alphabet acquired security information and event management platform Siemplify to complement their SOAR tool Chronicle. We are also seeing IT teams integrating security as a core component of the software development workflow, rather than retrofitting it later during the cycle ensures more compliant, secure, and faster product deliveries making it an integral part of product design from the start. Security teams will also be included earlier in the product development cycle.

E-mobility accelerating battery innovation

The increasing use of electric vehicles has aggravated the need for improved fast and wireless charging technologies and battery innovation. As a result, energy storage is seen as a major trend in 2023 across all industries and is expected to at least triple its market value by 2027 (from $10M to $37B).

Battery tech will continue to improve in terms of energy density,

temperature range, recharging cycles and life, technology and infrastructure, material supply stability, costs, lifecycle management, and recycling. Similarly, hydrogen production, storage, and transportation is also undergoing significant innovation to reduce associated costs and limitations and broaden the wide-scale usability of hydrogen powered vehicles.

Web3 applications arise for business management

Recently, we've seen web3 technologies extend to business management. One of the activities that will experience a shift through blockchain in 2023 is accounting. Blockchain can automate accounting processes, in compliance with the regulatory requirements, helping accountants gain clarity over the available resources and obligations of their organisations, and freeing up resources to concentrate on planning and valuation, rather than record keeping.

American startup Tactic offers a crypto accounting platform to help web3 companies manage their finances in a clean, compliant way. CRM systems will also benefit from blockchain innovations, particularly in highly regulated industries like healthcare, insurance, and government. The technology can be used for certification and integration sharing in a scalable way in a B2B context, or to serve as highly trusted repositories for transactions, digital rights, and sensitive data, such as identities and property records in B2C contexts.

Green coding emerges to reduce IT carbon footprint

As companies are assessing their carbon footprint, more focus is now being given to one's digital carbon footprint. The total energy

consumption for the 7.2M data centres worldwide amounts to around 1% of global electricity demand. Google has already set a target of running its whole data centre estate on carbon-free energy by 2030. Similarly, web3 entails compute-intensive transactions.

An average Ethereum transaction consumes 60% more energy than 100,000 credit card transactions, while an average Bitcoin transaction consumes 14 times more energy. Carbon footprint is becoming a key factor behind decision making in companies' selection of technologies and development languages.

In 2023, green coding will be prioritised and low environmental impact will be decisive for the blockchain. IT departments will increasingly focus on reducing systems' complexity so that they operate more efficiently and prioritise simple code. We are already seeing this be prioritised by innovative players, with examples like LVMH announcing low energy consumption and low transaction cost was key in the selection of blockchain for their Aura Blockchain Consortium.

Explainable AI will reduce the opacity and bias of models

AI and machine learning have long been "black box" models with limited visibility and understandability of calculations, leading to discriminatory models with transparency issues. Explainable AI (XAI), thanks to its potential to address existing challenges limiting AI, is seeing significant interest by players like banks. These tools shed light on a model's functioning, help understand relationships among variables, diagnose poor performance, or identify potential information leakages. XAI will see strong adoption in 2023, with banks investing in research to further their understanding of algorithms.

The Tepper School of Business at Carnegie Mellon University and PNC

Bank established the PNC Center for Financial Services Innovation with one of their key areas of research being interpretable and explainable machine learning models. Adoption will be further accelerated by regulators' pressure for banks to reasonably understand AI processes and outcomes.

Low coded/no code acceleration

A growing shortage of tech skills across the world is impacting businesses negatively and pushing them to look for alternative solutions. As such, no-code/low-code platforms have emerged thanks to their ability to speed and ease they provide in developing and maintaining applications. The low-code development technologies industry is expected to be valued at $13.8B in 2023, up 22.6% from 2021.

These solutions can democratise the use of technology within organisations, speed up innovation and enhance agility and productivity. In fact, Mendix finds that firms using low-code increased their revenue by 58% while reducing the development time by 56%. 2023 will see the growth of low code tools to allow all employees within organisations to build applications tailor-made to their needs and to automate workflows. Many startups have emerged with their own no-code/low-code solutions. For example, Pipefly allows business users to design and build applications to solve problems and increase productivity.

Early Metrics produces startup ratings and research to empower a changing economy. They have developed a scientific methodology to reliably evaluate startups and SMEs thanks to both qualitative and quantitative metrics.

Able to identify emerging tech trends across multiple industries they provide the right open innovation tools for decision-makers from funds and corporates to discover, qualify and engage with the best innovative

startups.

Since 2014 they have rated over 4000 European and international startups for over 300 clients including CAC40 and FTSE100 companies.

Article by Early Metrics