malt

Malt Tech Trends 2021

Emerging technologies,
major trends, IT jobs evolution.

Summary

Digital transformation challenges in the Covid-19 era

Growing digitalisation needs

The Covid-19 pandemic has impacted all European companies. **Accelerating their digital transformation has become more important**, in particular with regard to **infrastructure, the development of new applications, and security needs.** This has in turn **increased demand for tech jobs with specifically relevant expertise.**

Security regulation: efforts still to come

With accelerated digital transformation, and the broader application of collaborative communication tools, **new security and regulation needs are emerging, especially regarding the privacy of user data.**

Revamped organisations

Today, with the pandemic affecting workplace organisation, the very definition of work is being rethought. With remote work increasingly common, **companies are using tech tools to optimise collaboration and efficiency.**

1. Technological developments

There are two major developments this year: **the skills sought by companies are increasingly specialized, and the cloud ecosystem requires deeper expertise.**

As a result of both developments, companies are using increasingly specialized **external consultants at the cutting edge of emerging technologies:** our Freelancing in Europe 2021 study revealed that freelancers spend 5 to 6 hours a week on continuing education and training.

But these **highly-skilled consultants are increasingly rare in today's market.** For instance, the supply at Malt of Cloud Engineers and Data Analysts isn't increasing as quickly as demand.

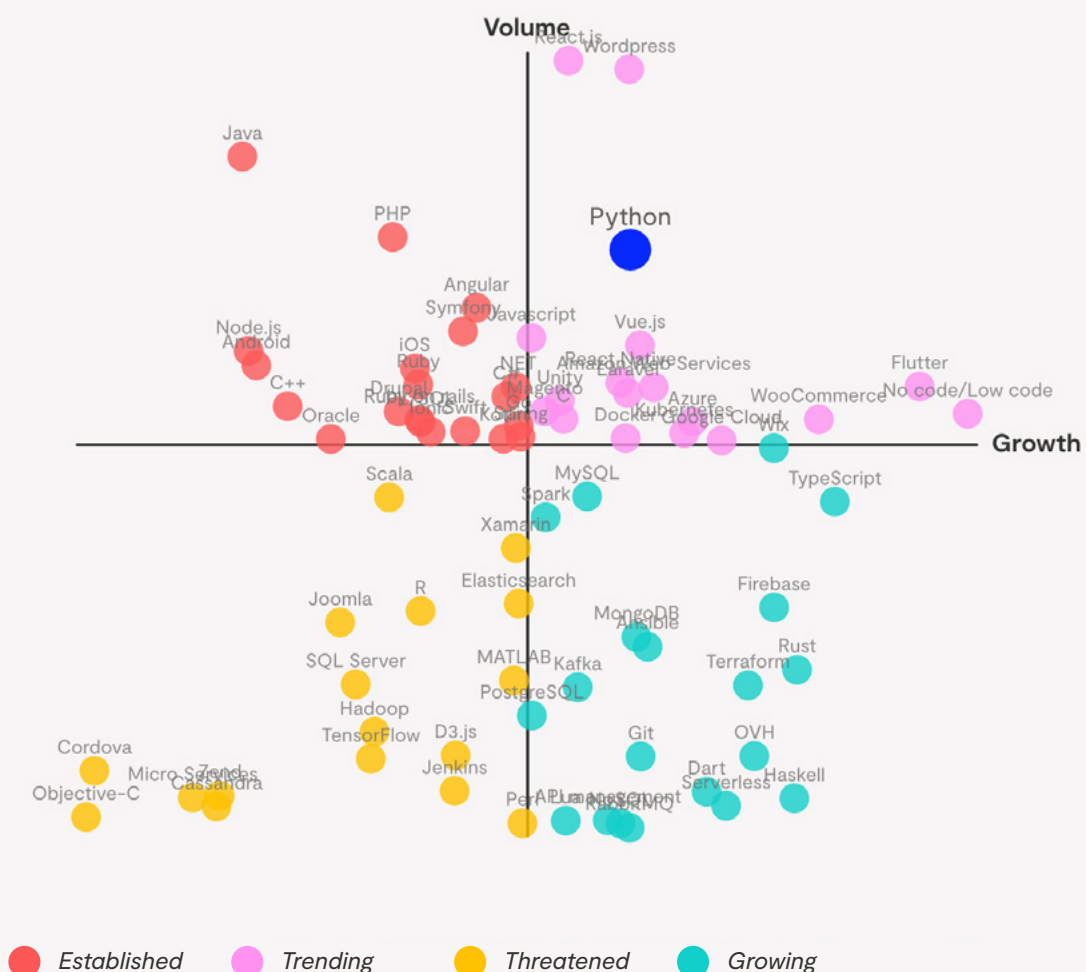**13%** of freelancers' working time is spent on individual training

Data Sciences ↗

Mobile ↗   Cloud ↗

Python: the big winner of programming languages

Python is pulling ahead after years of close competition with Java. This progression can be explained by the increased use of Python applications **in Data Sciences and Machine Learning,** complementing Python's traditional use for web development and back-end programming. **Its ease of programming and its productivity are the main reasons behind Python's widespread adoption.**

Malt Quadrant

Volume / Growth quadrant scatter plot

React.js, Wordpress, Java, PHP, Python, Angular, Symfony, Javascript, Vue.js, Node.js, Android, iOS, NET, React Native, AWS Services, Flutter, C++, Ruby, Drupal, Ruby on Rails, Swift, C# Unity, Laravel, Magento, Go, C, Azure, WooCommerce, No code/Low code, Oracle, Kotlin, Docker, Kubernetes, Google Cloud, Wix, Scala, MySQL, TypeScript, Spark, Xamarin, Elasticsearch, Firebase, Joomla, R, MongoDB, Ansible, SQL Server, MATLAB, Kafka, Terraform, Rust, PostgreSQL, Hadoop, TensorFlow, D3.js, Git, OVH, Cordova, Jenkins, Dart, Haskell, Micro Services, Zend, Objective-C, Cassandra, Perl, API management, RabbitMQ, Serverless

Legend:
- 🔴 Established
- 🟣 Trending
- 🟡 Threatened
- 🟢 Growing

TypeScript: attractive advantages

Launched by Microsoft in 2012, TypeScript has recently become **one of the top 10 programming languages.** It was already popular because of its flexibility and compatibility with previously existing languages, but its visibility among many front-end developers was boosted in 2016 when it was adopted by Google's hugely popular Angular framework. In addition, increasing interest in "strongly typed" languages is contributing to TypeScript's growth. Finally, the increasing popularity of Microsoft's TypeScript has been driven in part by the widespread use of Microsoft's Visual Studio Code, now the go-to source-code editor for many communities.

Malt Quadrant

Legend:
- 🔴 *Established*
- 🟣 *Trending*
- 🟡 *Threatened*
- 🟢 *Growing*
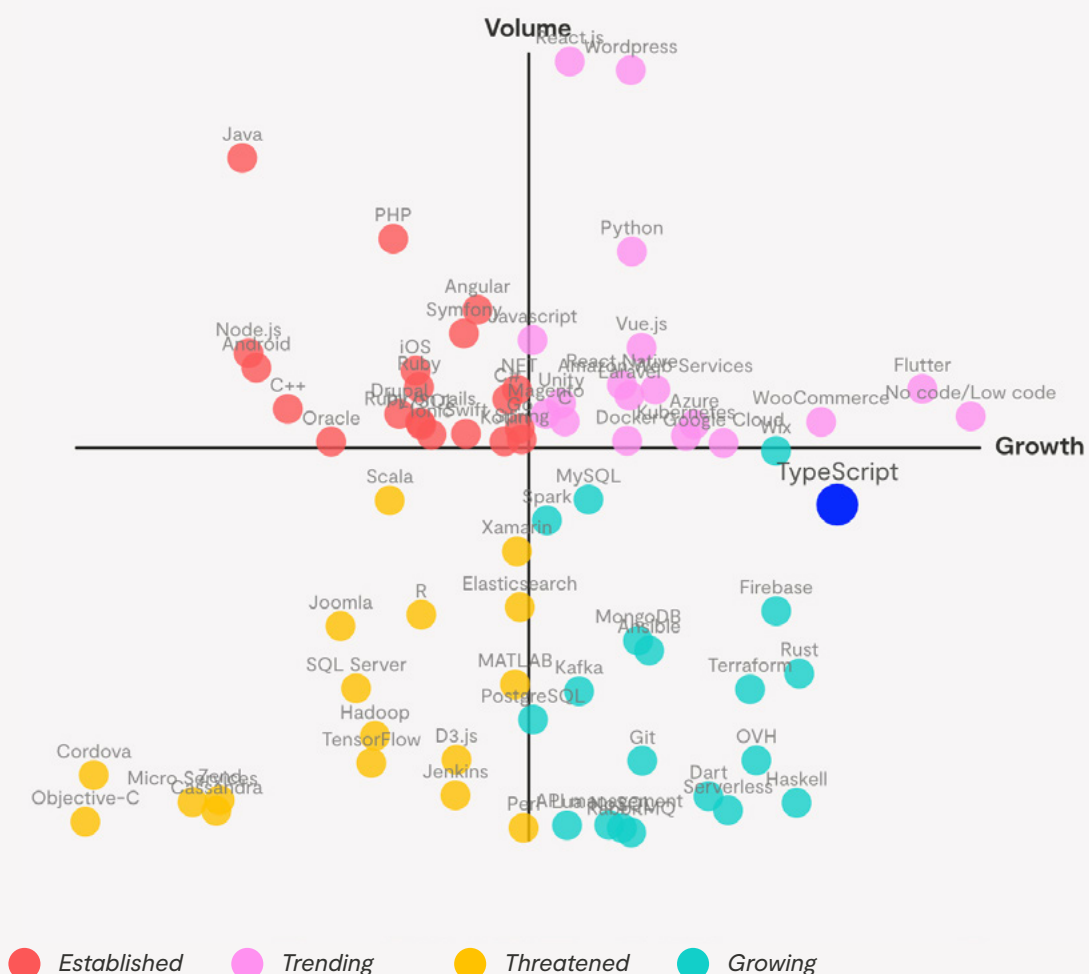
Scala collapses and falls below 5% use

Typesafe's Scala was widely used a few years ago, especially for Data Sciences, but use of **Scala has collapsed, not only by data scientists but also by back-end developers.**

Kotlin appears to be gradually emerging as the leader among functional languages that run on JVM (Java Virtual Machine). Kotlin's rising popularity is explained in part by the increasing importance of the mobile market.

Malt Quadrant
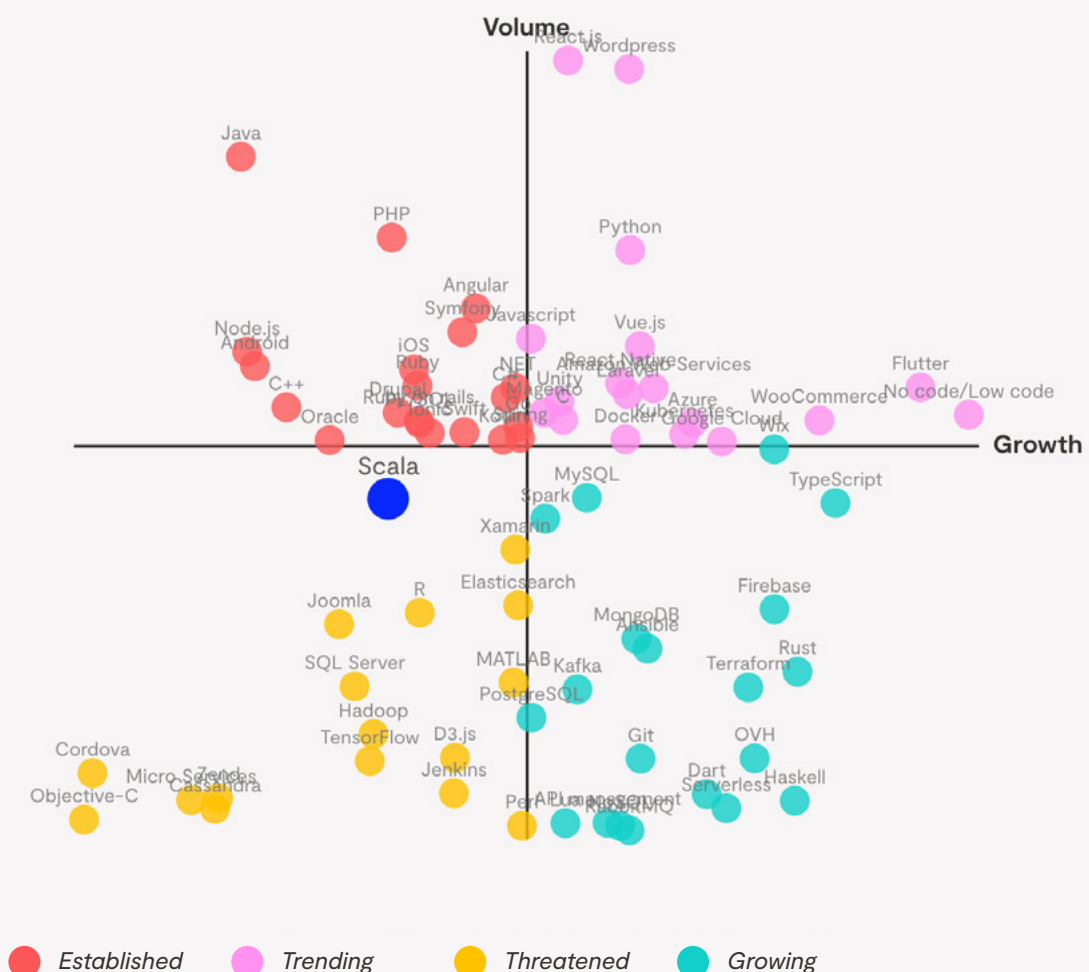
Objective-C: Apple's primary legacy language is being phased out

Objective-C, Apple's primary legacy language, is still in a downward trend. Swift, released to the public only in 2014, is rapidly replacing Objective-C, **becoming the reference language for developers of native iOS applications.**

Swift's popularity is largely driven by **its remarkable speed as it is 2.6 faster than Objective-C.** Furthermore, Swift is recognised as reliable and easy to learn (especially in contrast with the notoriously particular syntax of Objective-C, created in 1983).

Malt Quadrant

Legend: ● Established   ● Trending   ● Threatened   ● Growing
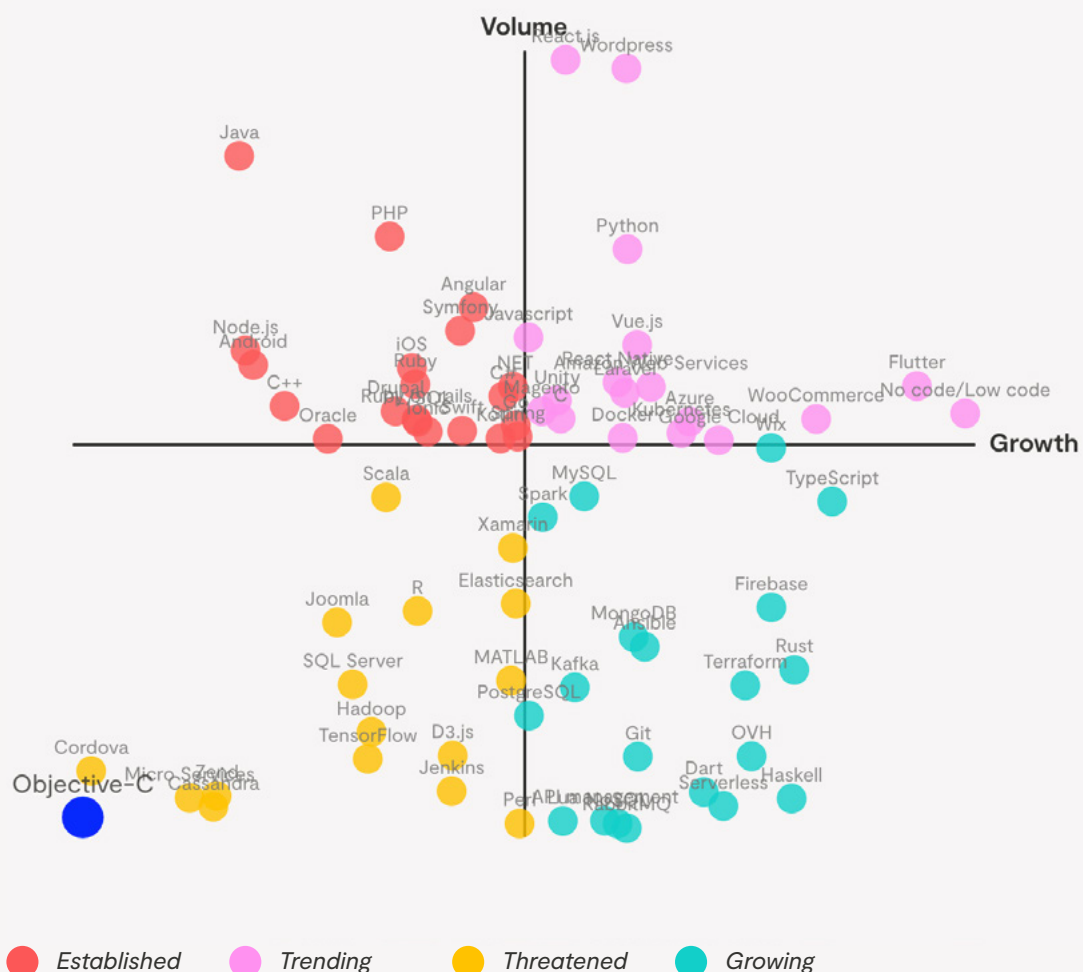
2. Notable major trends

The rise of **No-code/Low-code platforms** has simplified the creation of prototypes, allowing new products to be tested without the involvement of tech specialists.

We continue to see the rise of **Cloud and Data platforms,** pushing the demand for skilled professionals for those platforms above available supply.

Finally, with the rise of **microservices,** the development of native cloud applications is maturing.

No-code ↗   Low-code ↗

Microservices ↗

Cloud Infrastructures ↗

No-code/Low-code, a bright future

The No-code/Low-code trend isn't new, but the past few months have seen **a restructuring of the market with high quality platforms that appeal to VSEs and SMEs.** The advantages of No-code/Low-code platforms are numerous; but the root of their success is mainly the speed and ease of use, forcing the traditional entrepreneurial model to evolve.

No-code / Low-code
∨
VSE ✓   SME ✓
Startups ✓

1 / Prototype, test, and iterate your projects

With today's shortage of developers, which has worsened due to the Covid-19 crisis, No-code/Low-code platforms are **extremely useful alternatives that allow companies to quickly prototype, test, and iterate their projects.** The wide variety of No-code/Low-code products available on the market enables companies to develop websites, marketplaces, e-commerce sites, mobile apps, and so on with very little technical support.

2 / Increase your productivity

Among the No-code/Low-code platforms, automation tools are particularly popular. Such tools **enhance productivity, especially for Growth and Marketing teams,** when coupled with collaborative work tools like Slack or Zoom, or with customer service software like Zendesk and CMR systems like Hubspot.

3 / A market that extends to mobile apps and databases

The No-code/Low-code market is also gaining ground **in mobile app development and database generation.** We particularly note platforms such as Thunkable, which allows apps to be prototyped, and Airtable, a relational database platform.

The future of No-code/Low-code platforms is promising, but No-code doesn't mean "anti-code". **Companies aren't ready to stop hiring developers.**

Native applications are untouched by the current crisis

Cross-platform technologies based on web technologies are once again losing ground this year. The same goes for Xamarin, which continues to decline. These developments reinforce both **the stability of native applications and the strong growth of already well-established frameworks such as React Native.**

React Native 📈

Cross-platform Technologies 📉
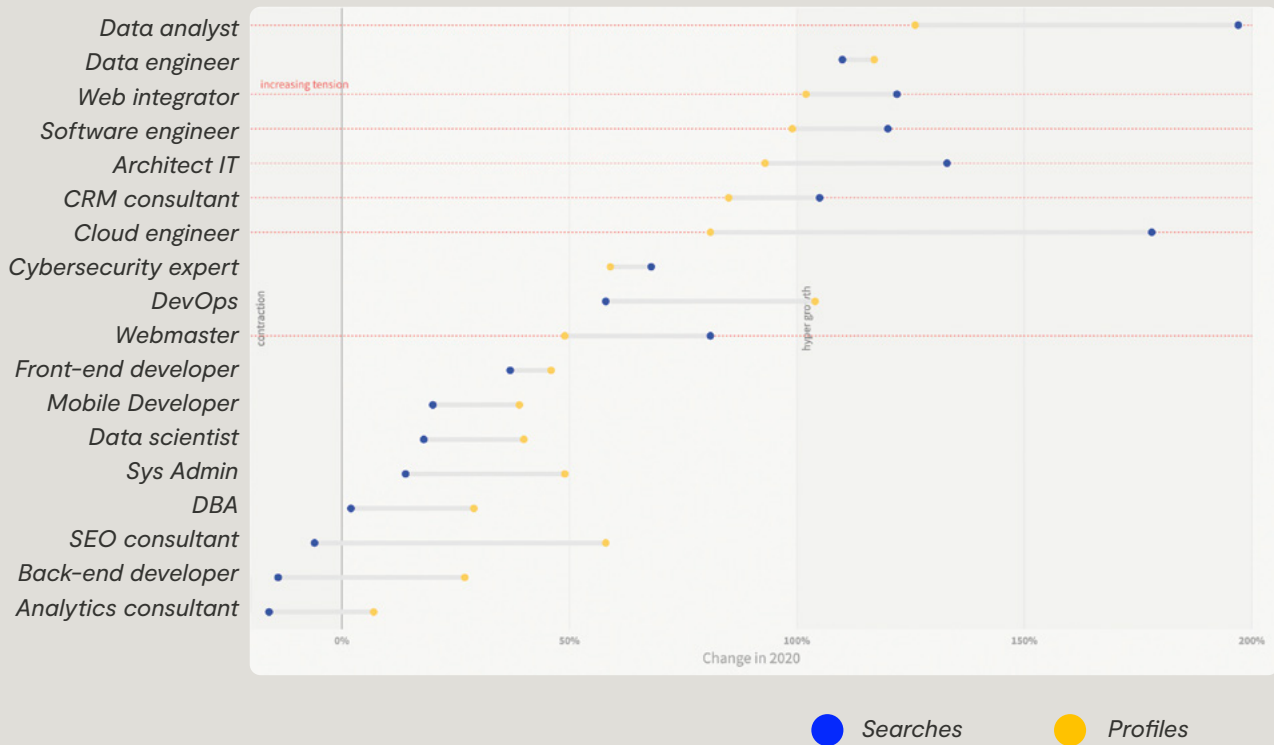
Xamarin 📉

Flutter: the rising framework

Over the past months, there has been a growing enthusiasm for the Flutter framework, an open source project developed by Google, which is based on the DART language and makes it possible to generate native applications with native performances. Flutter seems to be **well-liked by the mobile devs community, largely thanks to its fast learning curve and an extensive library of existing components.**

Flutter has already been adopted by giants Alibaba and Groupon as well as The New York Times, and looks to have a bright future. Despite this steady progression, **React Native remains the leader, adopted on a massive scale.**

Towards a consolidation of the cloud market

Market component

Chart: Change in 2020 — Searches (blue) vs Profiles (yellow) by role:
Data analyst, Data engineer, Web integrator, Software engineer, Architect IT, CRM consultant, Cloud engineer, Cybersecurity expert, DevOps, Webmaster, Front-end developer, Mobile Developer, Data scientist, Sys Admin, DBA, SEO consultant, Back-end developer, Analytics consultant

X-axis: 0%, 50%, 100%, 150%, 200% — Change in 2020

Legend: ● Searches ● Profiles

Annotations: increasing tension, contraction, hyper growth

Towards a consolidation of the cloud market

1 / A massive migration to the cloud

The migration to the cloud has been growing for several years, but the Covid-19 pandemic and remote working have accelerated this trend as more and more companies turn to the cloud. This can be seen in the past year's growth of cloud providers such as OVH, AWS, GCP, and Azure.

In addition to the cloud's increasing popularity, there's also **growing interest in fully-managed services such as Kubernetes and Serverless.** Correspondingly, there's reduced demand for Sysadmin and DBA system management professionals, but increased demand (outstripping supply) of Cloud Engineers.

2 / Infrastructure as code

Infrastructure as code has experienced a boom in recent years, largely due to the increasing use of both the cloud and containerisation mechanisms. The advantages? **Traceability, reproducibility, testability, and automation.**

The Quadrant shows a big increase for Terraform. And if Ansible seems less popular than in the past, it still remains widely used.

3 / Cyber security and privacy

The popularity of No-Code/Low-code, the increased use of managed services, the evolution of microservices, the 2020 RGPD updates, have increased **the need to adapt internal security policies regarding the protection of users' data.** More than ever, companies must adapt their information systems accordingly.

Microservices: coming of age

According to the Quadrant, the «microservices» keyword is not as widely used as in the past, but searches on Malt for **Quarkus, Api Management, DDD, and Kubernetes have greatly increased.**

Nonetheless, we're not observing the disappearance of microservices, but instead a noticeable maturing. In particular, **what's changed is how microservices are built:** the challenge is no longer to build a multitude of small services, but to correctly define the functional limits of a service (DDD and Bounded Context), how it runs (in the cloud with Kubernetes), and how it interacts with other services (via API management).

Quarkus

Api Management

DDD

Kubernetes
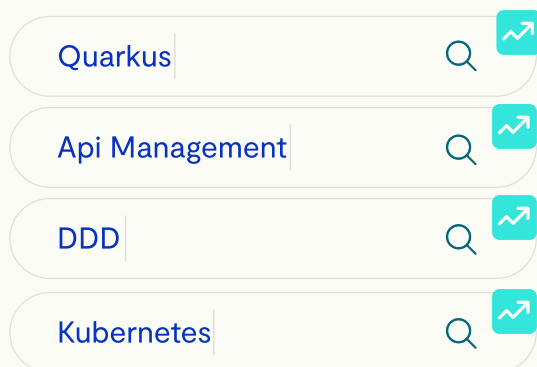
3. Tech talent and the Covid-19 pandemic

Impacts on freelance income

At the «height» of the pandemic in the 2nd and 3rd quarters of 2020, many companies decided to suspend pending IT projects run by large IT consulting firms. These consultancies suddenly found themselves with inactive consultants, and therefore had no choice but to offer their clients huge discounts in order to keep their workforce occupied. **Prices plummeted, and this had an impact on the entire market, including freelancers.**

2020

Jan. Feb. Mar.	Apr. May Jun.	Jul. Aug. Sep.	Oct. Nov. Dec.
700€/ day	~~700~~ 650€/ day		700€/ day
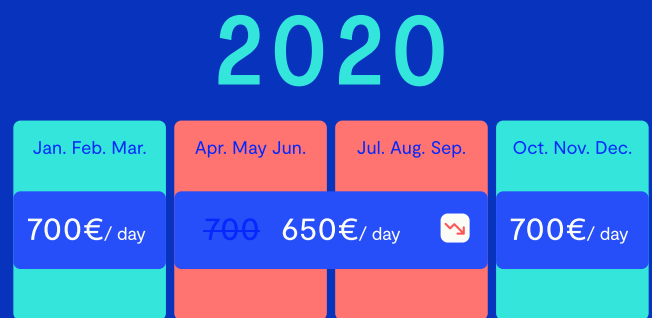
Some industries are doing well

Industries such as **e-commerce and pharmaceuticals have accelerated their digital transformation,** and have been calling on freelancers to help them. During this period, Malt has seen a growing demand for Tech experts, especially for jobs in infrastructure and security, content-related marketing, SEO management, crisis communication, design (UI and UX), and human resources.

Infrastructure and security

UI/UX Design

SEO Management

Human Resources

Freelancers are optimistic about the future

Freelancers remain confident and optimistic about their career choice: according to our Freelancing in Europe 2021 study, 84% of freelancers plan to remain independent. They're accustomed to working with different companies and teams, and to using different work methods. **Freelancers are resilient, and not at all afraid of the future.**

84%

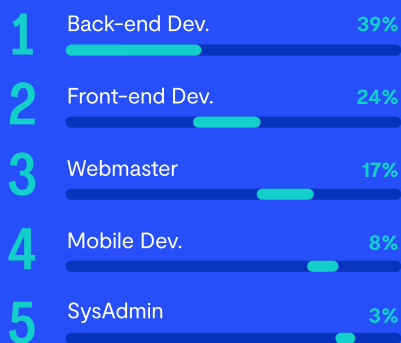of freelancers feel satisfied with the work they do as freelancers

Key figures

Small companies

Remote

93%

+6% ↗ in 2020

Top jobs

1. Back-end Dev. — 39%
2. Front-end Dev. — 24%
3. Webmaster — 17%
4. Mobile Dev. — 8%
5. SysAdmin — 3%

Mission duration

- 2 weeks to 1 month
- >1 month
- 1 to 2 weeks
- < 1 week

Mid-sized companies

Remote

80%

+12% ↗ in 2020

Top jobs

1. Back-end Dev. — 37%
2. Front-end Dev. — 29%
3. Mobile Dev. — 11%
4. Webmaster — 8%
5. SysAdmin — 4%

Mission duration

- >1 month
- 2 weeks to 1 month
- 1 to 2 weeks
- < 1 week

Large companies

Remote

54%

+9% ↗ in 2020

Top jobs

1. Back-end Dev. — 34%
2. Front-end Dev. — 27%
3. Mobile Dev. — 8%
4. Webmaster — 5%
5. SysAdmin — 5%

Mission duration

- >1 month
- 2 weeks to 1 month
- < 1 week
- 1 to 2 weeks
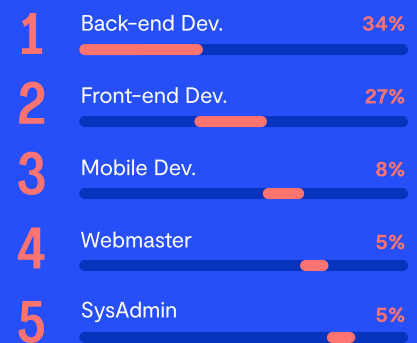
What challenges lie ahead?

Already-scarce IT talent is becoming even scarcer as the IT sector becomes more specialized, and as digital transformation accelerates even more than before. Companies will therefore find it increasingly **difficult to recruit qualified employees with the right IT expertise.**

Years of experience

France
5 years

Germany
9 years

Spain
6 years
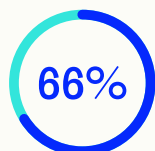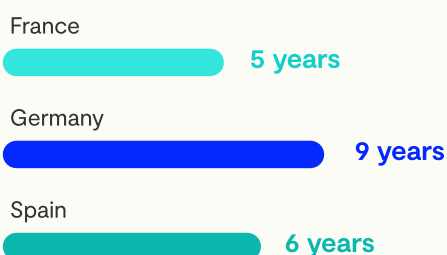
66% of freelancers use agile methods in their work (73% in France)

In this context, **independent consultants are an ideal solution.** Not only do freelancers provide much-needed technical skills, they also bring soft skills that can greatly benefit companies.

Freelancers are especially agile, able to quickly adapt to new environments. Their wealth of experience allows them to offer clients new working methods. Finally, they're at the cutting edge of innovation, devoting an average of more than half a day a week to training.

Don't wait any longer: 230,000 freelancers are already listed on Malt!

5 hours / week of self-training

75% books, videos,...

56% learning platforms

32% professional seminars

malt

malt.com

18

About Malt

Malt is the leading digitized marketplace where 30 000 companies and organizations find the best independent expertises to match their business' needs. With 200 employees and a community of 230 000 freelancers in France, Spain and Germany, Malt has created a unique tech solution that ensures a compliant and seamless workflow management from the sourcing of the freelancers to the project payment. Malt's mission is to give everyone, companies, organizations and freelancers, the power to choose who they want to work with.

malt.com

Methodology

Each annual edition of Malt Tech Trends identifies emerging technologies, reveals trends, and improves understanding of how IT jobs are evolving. The 2021 edition is based on data from 30,000 companies and 65,000 Tech and Data freelancers : Developers, DevOps, DBA, Sysadmins, Webmasters, Data, and IT Engineers in France, Spain, and Germany.

Our analysis of technology trends is based on more than 500,000 searches carried out by companies on the Malt marketplace in 2020, as well as trends reported in Quadrant. Our analysis of business skills is based on freelancer profiles on the Malt marketplace. Analysing company needs on the demand side and freelancer availability on the supply side allowed us to understand market tension.

Key figures relating to company size are based on data from more than 13,000 assignments carried out in 2020.

Choice. The new work order.