

# Malt Tech Trends 2019

Demands, professions  
and IT projects decoded



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# Introduction

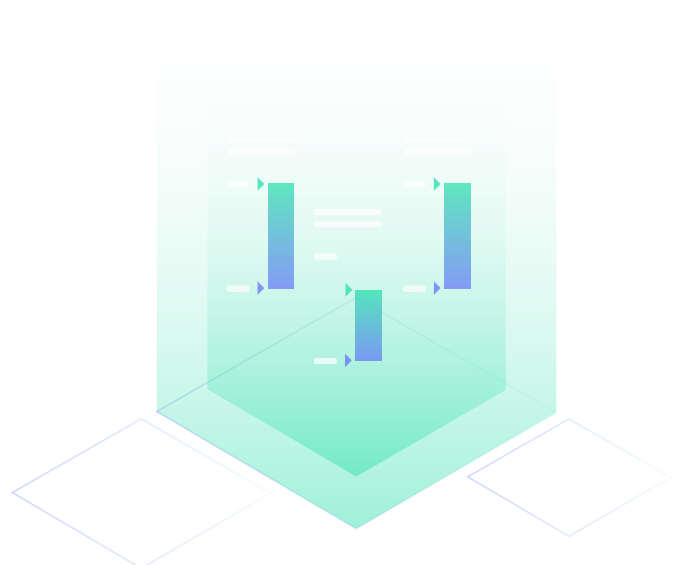
## The challenges of digital transformation

For companies as well as IT professionals, reactivity is becoming more and more important every day in order to stay competitive.

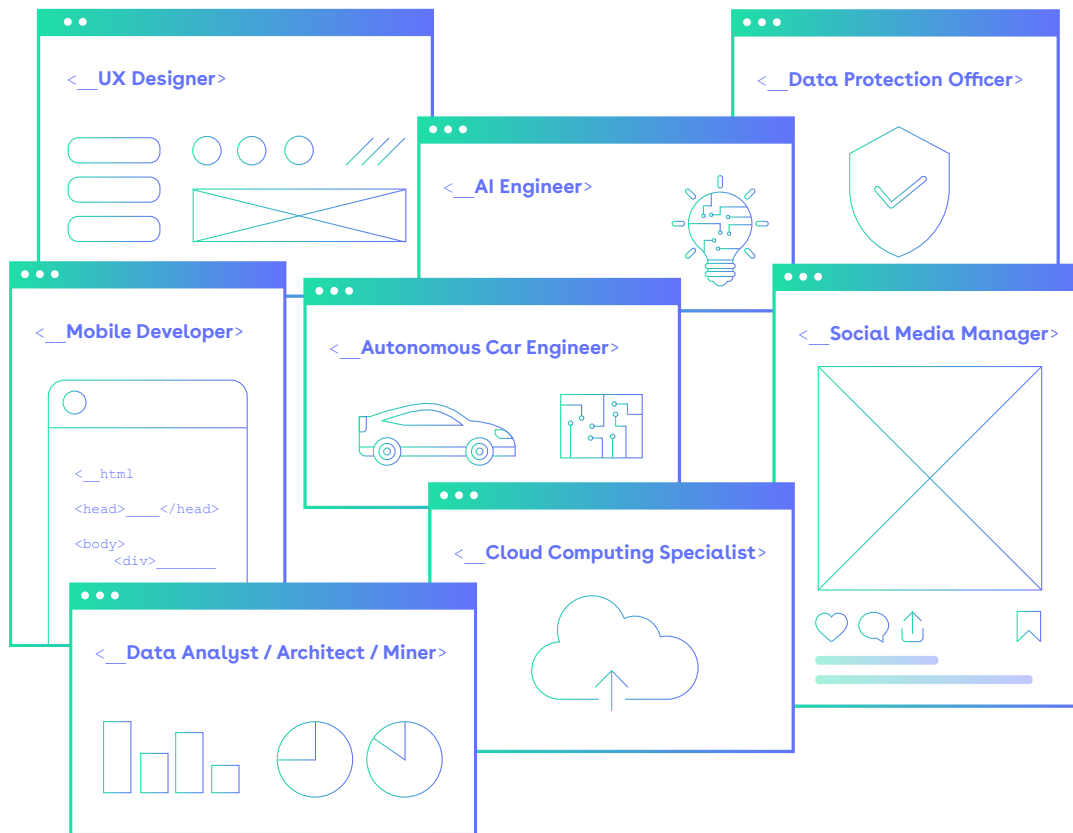
The 2019 edition of Tech Trends responds to this need. By exploring the activity of freelancers and companies working together through Malt, trends are identified that show **emerging technologies, provide an understanding of the evolution of IT professions and anticipate talent shortage**. The analysis addresses more specifically:

- + **The tech skills most sought after by companies**
- + **Emerging IT professions and their transformation**
- + **The job market and average daily freelancer rates in Germany**

The expansion of technical possibilities and their dissemination leads to products and services in constant renewal. Innovations are quickly incorporated by the competition and their adoption by users is swift. **Companies must reduce their time to market all while delivering excellence. This also means that IT experts must evolve at the same time as the technique in order to meet the market needs.**



# Professions that have appeared over the last 10 years



*6 professions out of 10 that will exist in 2030 that don't exist today*

Once the undisputed leader in video rental, the fall of the American giant Blockbuster is a textbook case. This example is striking because in 2000 the CEO of the company refused a partnership with the young Netflix. A failed technological paradigm shift put a behemoth into bankruptcy. More recently, Daimler acquired a 5% stake in Tesla, but did not buy them, when they were still cheap. Today they are struggling alongside other manufacturers to keep up with the pace of transformation required.

**New substantive changes are emerging** today and they are laid out in these Tech Trends. The cloud is finally taking off, Data Sciences are encountering uses in an increasingly wide field of application and the bridges between IT professions are omnipresent.

**Experts and companies must detect these changes** so that they can carry out tomorrow's projects together and not miss out on the next market upheaval. This is why we measured, analyzed and interpreted the vibrant activity that happens every day on Malt, which has made these Tech Trends possible.

# The activity of Malt's tech ecosystem today

**40 000**

tech freelances

**93 000**

companies

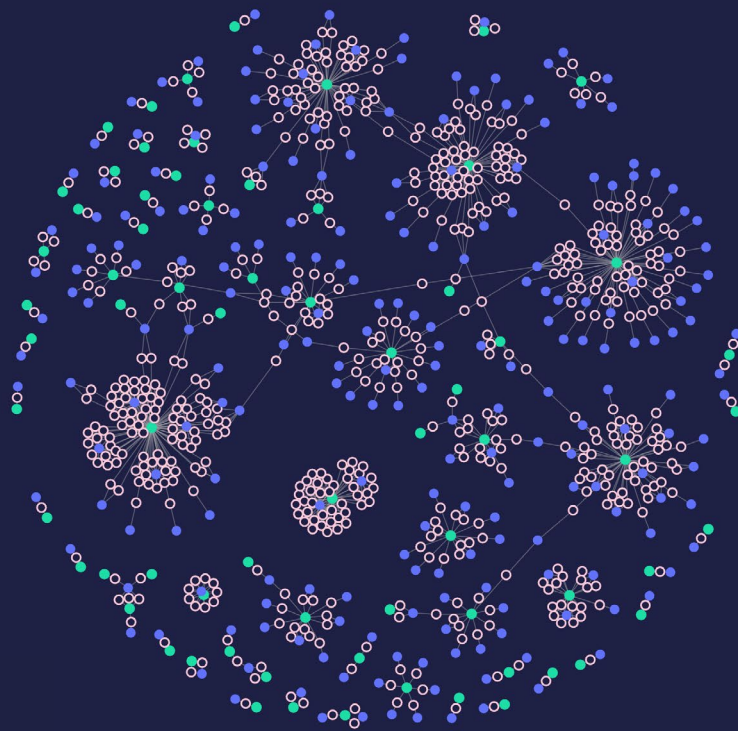
**303 000**

searches per month

**3000**

projects per month

- Client
- Mission
- Freelance



*The Tech Trends analyze the data of IT freelancers who are registered on Malt – one of the leading freelancer tech communities in Europe – and the needs of companies that propose projects to them.*

*This new edition analyzes the companies' searches, the registered freelance professions and the projects that were carried out in 2019 on Malt.*

# 01

## The IT needs of companies

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### Malt Search Trends 2019

By measuring the **303,000** monthly searches made **by companies** on Malt, let's **try and understand the technological landscape** and its evolutions.

#### 01.1

### The skills sought after

*The Index highlights **the state of the market** by ranking **the most requested technologies** and their notable developments.*

At the very top of the ranking we find the languages and frameworks most adopted by IT professionals and those used the most for Back-End development and Data Sciences such as **PHP**, **Python** and **Java**. Despite its rank, the latter is still seeing a decrease in demand. The increasing use of server-side JavaScript, the growing success of **Kotlin** and the reputation of Java's aging language explain this trend.

The continuous growth of **Vue.js** and **React.js** confirm the maturity of these frameworks, offering a stable and robust Front-End ecosystem today.

**Node.js** continues its ascent. The rise of the platform confirms the maturity of JavaScript, which is a credible alternative in Back-End development today.

# Index

RANKING S2	SKILLS	EVOLUTION VS S1 2018	DEVELOPMENT
1	Php	-	-6%
2	Java	-	-10%
3	Wordpress	-	-8%
4	React.js	-	+21%
5	Python	+1 ↗	+17%
6	Angular	-1 ↘	-10%
7	Node	+1 ↗	+19%
8	Javascript	-1 ↘	-6%
9	Android	-	-14%
10	IOS	+1 ↗	-12%
11	Ruby	-1 ↘	-21%
12	Vue	+3 ↗	+50%
13	C++	-1 ↘	+7%
14	C#	-	+1%
15	React native	+3 ↗	+19%

Further back in the ranking is a group of technologies that is growing rapidly.

**Flutter** is skyrocketing and supports the rise of cross-platform mobile development, and **Kotlin** confirms its trend from last semester.

**Scikit, MATLAB and Haskell**, used in Data Sciences, are on the rise.

The position of **Google Cloud, Terraform and Serverless** in the ranking shows the growing interest in cloud computing and the change of mindset concerning infrastructure management.

...			
81	Scikit	+23 ↗	+438%
39	Flutter	+25 ↗	+303%
46	Matlab	+24 ↗	+218%
58	Terraform	+17 ↗	+173%
34	Kotlin	+10 ↗	+122%
50	Google cloud	+9 ↗	+78%

## Save bandwidth with Node.js



By adopting Node.js, you **gain agility** by recruiting developers who are capable of working on both sides of the stack with the same language. This **adaptability** is particularly interesting **for small teams**.



*Our choice for **Node.js** was motivated by two main reasons. Node.js is adapted to our digital activity, which requires performance and stability. We also chose it **for its integration in the serverless** technologies of AWC and GCP.*

**Maxence Chevalet**

Back-End Dev Team Manager - Eurosport





## 01.2 Technological Trends

By analyzing the results of the Index in terms of volume and progression of searches we can identify **established, trendy, rising and threatened technologies**.

The **established technologies** logically correspond to the skills that are the most common to the different professions. They have an important volume of searches with declining progression. **Trendy technologies** include the most short-lived skills of the moment, in which the talent shortage will certainly increase. They have an important volume of searches with rising progression. **Rising technologies** provide a glimpse of likely future trends. They present a limited volume of searches with rising progression. We can see niche solutions in **threatened technologies** that are clearly losing ground. They present a limited volume of searches with declining progression.

### Established Technologies

Important volume of searches, declining progression

### Trendy Technologies

Important volume of searches, rising progression

### Rising Technologies

Limited volume of searches, rising progression

### Threatened Technologies

Limited volume of searches, declining progression

1 PHP

1 React

1 Scikit

1 Sass

2 Java

2 Python

2 MATLAB

2 MongoDB

3 WordPress

3 Node

3 Terraform

3 Backbone

4 Angular

4 Vue

4 Haskell

4 Meteor

5 JavaScript

5 C++

5 MariaDB

5 Hadoop

6 Android

6 React Native

6 Serverless

6 Ember.js

7 iOS

7 AWS

7 Google Cloud

7 Play

8 Ruby

8 Linux

8 D3.js

8 Zend

9 C#

9 Swift

9 TypeScript

9 Ajax

10 Drupal

10 GoLang

10 Dart

10 PostgreSQL

The established category brings together, unsurprisingly, well-established languages and platforms. It is on the **frameworks side** that we observe the **trendiest results**. Many cloud-related technologies are represented in the trendy and rising categories, such as **Google Cloud** and **AWS, Terraform or Kubernetes**. There are also key Data Science technologies such as **Python, Scikit, Spark and Tensorflow**.

The presence of PostgreSQL in the threatened category may come as a surprise. In regards to the upward trend in the Google Trends results this information should be nuanced. However, our data indicates a decrease in demand in the first half of this year.

*Overall, the analysis of the Index confirms the trend of companies **searching for increasingly targeted skills**.*

#### BUSINESS TIP

### Looking for a Java expert for the web? Check out Spring!



For many years Spring has been the dominant framework for making websites with Java. Yet Spring ranks 31st in the ranking, while we can observe the dominance of Java in search requests from companies. When your project is web-based look for Spring, rather than Java, to ensure that you find an expert who has good practices.

## 01.3

### Let's decipher the data

#### *Evolution of tools and methods*

*Behind the results measured are changes that are impacting the entire technical chain from **infrastructure management** to the use of **languages** and **frameworks**. Comparative observation of the results reveal **current and future trends**.*

#### 1 The battle to control cloud computing

Regarding cloud providers, **a change in leadership is possible but not in the short term**. **Amazon Web Services (AWS)** is still the most sought after. But **Google Cloud Platform (GCP)** continues its ascent from the 59th position to the 50th, followed closely behind **Microsoft Azure**.

The cloud computing market is still segmented into 3 categories:

- + *IaaS (Infrastructure as a service)*
- + *PaaS (Platform as a service)*
- + *FaaS (Functions as a service)*

On the **PaaS** side, the use of **container-based platforms** has become **a standard for the entire industry**. All historical providers (Heroku, Amazon Elastic Beansstalk ...) support their use in addition to their original offer, and Kubernetes has become a standard and de-facto solution for orchestrating these platforms.

**The adoption rate of Kubernetes continues to grow** in companies (+ 22% in 2018).

There are no longer any cloud providers who haven't yet at least announced a **managed Kubernetes platform offer**:

- + **On the major cloud side**, we no longer present GKE on GCP, AKS on Azure and EKS on AWS (note that AWS did not announce its Kubernetes «EKS» offer until very late (Q3 2018) to the detriment of its historic ECS offer.)

- + **Other providers** to note: RedHat OpenShift, Pivotal PKS, IBM Cloud, Kubernetes, Oracle Container services, DigitalOcean Kubernetes; and on the German cloud side, SAP is also part of it.

To note on the **FaaS** side, serverless technologies (AWS Lambda, IBM Cloud functions, GCP cloud functions, Azure functions, Zeit, etc.) are experiencing a similar boom, but delayed compared to containers (**Docker** and **Kubernetes** are **22 times more represented** in freelance skills than **Serverless, Functions and Lambda**). Their democratization should skyrocket in the years to come once these technologies are more mature similar to what we have observed in the last 5 years with containers.



To develop task automation and speed up our time to market, we decided to **switch to the cloud** in 2017 from a monolithic platform to a micro-services and DevOps approach. Today our teams can focus on higher value-added tasks, and the availability of the platform used by customers is assured.

**Christophe Fietta**  
CIO & CTO of Netseenergy



## 2 JVM is unbeatable, but Java might not be

The **Java Virtual Machine** is a pillar of development, but Java isn't the only one to exploit it. While the unavoidable language of **Oracle** meets increasing competition, **Kotlin is gaining ground** and this trend could continue given the alignment of the planets:

+ After two years of getting closer to Android, Google declared in 2019 that Kotlin would now be **the official language of OS**.

+ On the Back-End side, the **Spring** framework, the dominant framework for the Web, is now developing its **compatibility with Kotlin** through corrections and documentation updates.

+ **Kotlin increases productivity via its simplicity**. This is all the more true since migration from Java is fairly intuitive for developers.

+ Other languages compete for JVM such as **Scala** and **Clojure**, adding even more competition for Java.

## 3 The rise of front networks

**A downward trend in Angular** appears to have started. The remarkable arrival of Vue.js has contributed to this: its fast learning curve and its simplicity have enabled its massive adoption, adding to the already solid competition from **React.js**.

If the trend continues, the framework could become the leader in this area. All it needs to do is conquer the companies. Note that

the release of **Vue 3** raises fears of potential backward compatibility problems with Vue 2. This redesign divides and could give rise to an "Angular gate" slowing down its adoption.

## Surf the Vue.js wave



**JavaScript frameworks are more and more sought after;** don't miss out on having another string to your bow. The intuitive learning and growing popularity of Vue.js are two reasons to take the plunge. Gain this skill so you can appeal to companies and work on complete projects that are more diverse.



*I switched to **Vue.js** for the clarity and maintainability obtained thanks to the single file components. **Within a few weeks, I found my feet on the framework** and I saw how quickly I can create and deliver my clients' projects. It's all the more interesting that **there are more and more projects on this technology.***

**Nada Rifki**  
Vue.js Developer



## 4 The mobile app issue

**The joint decline** in the search for **Android** and **iOS** terms can still be seen, continuing the trend observed last year.

This phenomenon should be observed in conjunction with the rise of cross-platform mobile solutions, such as **Flutter** and **React Native**. **Dart** – the language designed by Google and pushed by **Flutter** – has increased by + 70%.

## FREELANCE TIP



**Xamarin, Cordova and Ionic** are searched for less and less. If you are doing **cross-platform mobile development** on these solutions, **consider transitioning towards Flutter and React Native**.



While it is true that React Native opened up mobile development to React developers, the reality of cross-platform sometimes involves **knowing some of the fundamentals of the different platforms** (e.g. guidelines, navigation logic and basic components, management of permissions, etc.).

## BUSINESS TIP

### Cross-platform is less expensive... under certain conditions



Cross-platform development is now mature, offering virtually all the possibilities of native. However, if you want to use functions specific to OS targets, or customize the framework's components, the exercise can sometimes be longer and more expensive.

The choice of cross-platform is motivated by budgetary issues, but the reality of this approach must be accepted. In order to keep a financial advantage **the extensive customization of each OS must be renounced**.

Furthermore, the Holy Grail of cross-platform is to develop once and then run on several native versions. In reality, this never happens. It will **always be necessary to make specific adaptations according to each OS during development**.

## → THE AIRBNB CASE

For years, Airbnb developed its applications through React Native. This choice was justified at the time because the Front technology of their website was based on React, so their teams were naturally more familiar with the tool.

The company finally **gave up cross-platform**, whose intrinsic limits turned out to be more expensive compared to their needs. They realized very quickly that they had to constantly adapt the framework and that they were forced to write functionalities in native code so much so that they devoted more time to this exercise than to developing their product.

## WHAT ABOUT PROGRESSIVE WEB APPS?

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PWA, website and non-application, doesn't allow for part of the hardware to be exploited. The approach has caused a stir and still holds great promise, but it will have to mature and be standardized in order for mobile browsers to line up.

When needs are limited and a PWA is sufficient, its use is a good way to overcome the constraints of app stores. It also means giving up the showcase offered by Apple and Google; **arbitration should be done according to your challenges**, such as performance needs or access to hardware (e.g. Bluetooth, NFC, fingerprints, etc.).

## 5 Ruby's declining popularity

Ruby continues its decline. **Its historic competitor, Python, is more diverse**. The **rise of Node.js** is also responsible for this, having given JavaScript the possibility of being used in Back and Front. Node.js, which had already climbed 20.13% last semester, continues the trend with a further increase of 19%.

Note that Ruby has never fully broken through in Europe where its adoption is less important than in the United States.

# 02

## Tech experts' skills

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### Jobs Landscape 2019

Development principles, system architectures and team functioning all evolve with technologies.

**A rise in expertise is emerging.** If versatility is an asset, sharp and targeted skills are increasingly in demand.

At the same time, porosity between professions is stronger than ever, and careers will experience many changes. A look at the professions and their associated skills helps to **understand these changes.**

### 02.1

#### Top skills by profession

##### The 6 most common skills

1. PHP	4. Git
2. MySQL	5. HTML
3. Javascript	6. Python

*The analysis of freelance profiles registered on Malt makes it possible to reveal the skills most represented across different professions.*

**PHP and MySQL are the two skills that appear most often in the top 12 of the tech and data professions.** The **language / database duo** is effective and it has proven itself over time. The other most shared skills are **JavaScript, Git, HTML and Python.**

We thus find, without surprise, a fairly complete spectrum for programming, database management and versioning, fulfilling all the essential needs for the development of web applications.

On the business side, to their credit, **Back-End developers** have **the widest range of technologies.** There is also a strong overlap of Back-Ends and Front-Ends, with different degrees of use.



## 02.2

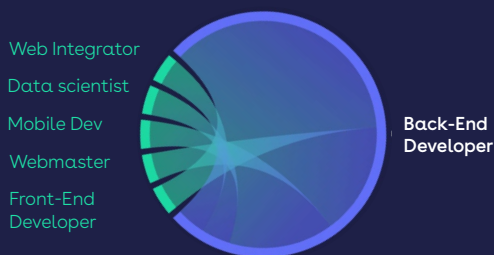
### The bridges between professions

The distribution of skills observed above illustrates the overlaps between the different professions. To complete this information, the Chord diagram represents **the 5 secondary categories most declared by freelancers** on their Malt profile.

In general, these crossings faithfully represent how **certain professions meet in terms of the infrastructural issues and languages used**. A clear vision of the evolution of methods, roles and needs emerges.

#### Back-End Developer

+ Front-End Developer	48.71 %
+ Webmaster	20.9 %
+ Mobile Developer	19.49 %
+ Data Scientist	5.46 %
+ Web Integrator	5.44 %



**Almost half of Back-End developers say that they are Front-End developers too.** It will be interesting to observe the evolution of this proportion over time. This number reflects an old paradigm where “the Front was done in the Back”.

#### Front-End Developer

+ Webmaster	33.48 %
+ Web Designer	22.81 %
+ Graphic Designer	16.44 %
+ Mobile Developer	13.77 %
+ UX Designer	13.5 %



The evolution of browser APIs and the emergence of Front frameworks have led to an explosion in the complexity of sites and user interactions; **the Front-End profession has become more complex and requires its own expertise today.**

Front-Ends mainly declare **design and site-related** professions, revealing a **merger with Integrators**.

## Sysadmin

+ DevOps	23.81 %
+ Cybersecurity Engineer	21.21 %
+ Cloud Engineer	19.91 %
+ Virtualization Engineer	19.05 %
+ DBA	16.02 %



In the **Sysadmins** category, there are multiple professions: DBA, Cloud Engineers, Virtualization and Cybersecurity Engineers. In all of these areas, there is increasing automation. We often associate this more “infrastructure as code” vision with the **DevOps** spirit. And this is undoubtedly the reason why we find DevOps in the top 5 of their second categories.

## Mobile Developer

+ Front-End Developer	29.06 %
+ Back-End Developer	27.56 %
+ Software Engineer	16.24 %
+ Webmaster	15.38 %
+ Project Manager	11.75 %



In 29% of cases, **mobile developers** are also Front-End developers as a result of the emergence of frameworks such as React Native, and in 27% of cases they are Back-End, the logical consequence of the exploitation of Back-End languages for mobile development such as Java, Kotlin and Objective-C.

## DevOps

+ Cloud Engineer	36.04 %
+ Back-End Developer	21.62 %
+ Reliability Engineer	16.22 %
+ Front-End Developer	15.32 %
+ Sysadmin	10.81 %



The freelancers who put “**DevOps**” as the main category are divided into a majority of Cloud Engineers (36%) and Back-End developers (21%).

## DBA

+ Sysadmin	86.36 %
+ Cybersecurity Engineer	13.64 %



**DBAs** are the only group where there are just two secondary job categories, mostly Sysadmin and the rest in Cybersecurity. This demonstrates the specificity of these less transversal business skills.

## 02.3

### Let's decipher the data

#### *The growing fluidity of technical careers*

The rise of the **cloud**, its impact on **infrastructure** and the popularization of new working methods (the **DevOps** movement for example) have changed the nature of professions and the **organization of teams**.

Beyond their immediate impact on productivity or collaboration, these changes bring about new drivers of **innovation**.

#### 1 The transformation of Sysadmins

With the advent of the cloud, there has been a **shift from system administration to virtual infrastructures**. The shared skills previously observed and the rise of cloud providers or solutions such as Terraform, confirm a transformation of Sysadmin's business. The profession is moving towards increased automation – new tools and practices from the development world. We will talk about *infrastructure as code* and more.

#### BUSINESS TIP

##### From DevOps to DevSecOps



The DevOps approach allows you to increase reliability and reduce time to market. But do not forget about the security of your IS. Thanks to DevSecOps, the logical continuation of DevOps, **you will be able to protect yourself at best from attacks and various digital threats** by integrating security aspects as soon as possible. Like DevOps, DevSecOps is a philosophy that must be integrated **at each stage of a project's life cycle**. Many tools exist that enable the **automation of security tests** so that speed isn't lost.

## 2 Back and Front: closer and further away

The complexity of Front-End development has greatly increased. A different expertise is now necessary, which is segmenting Back-End and Front-End businesses while bringing them together.

On the Front-End side, we now use **working and industrialization methods that were only previously used on the Back-End side** (e.g. automatic tests, more complex build mechanics, client server programming logic, design patterns, etc.).

In this sense, the methods are closer but now require more in-depth knowledge of a larger number of tools, which has, on the contrary, widened the gap with Back-End developers.

## 3 Bringing together Front-Ends and Integrators

**Human behaviour and UX are becoming more and more muddled.** Expertise will always be required for each of these areas, but the boundaries between Front-Ends and Integrators are becoming blurred. We can presume that the professions will be redefined in years to come.

### FREELANCE TIP

#### Front-Ends and Integrators, give yourself versatility!

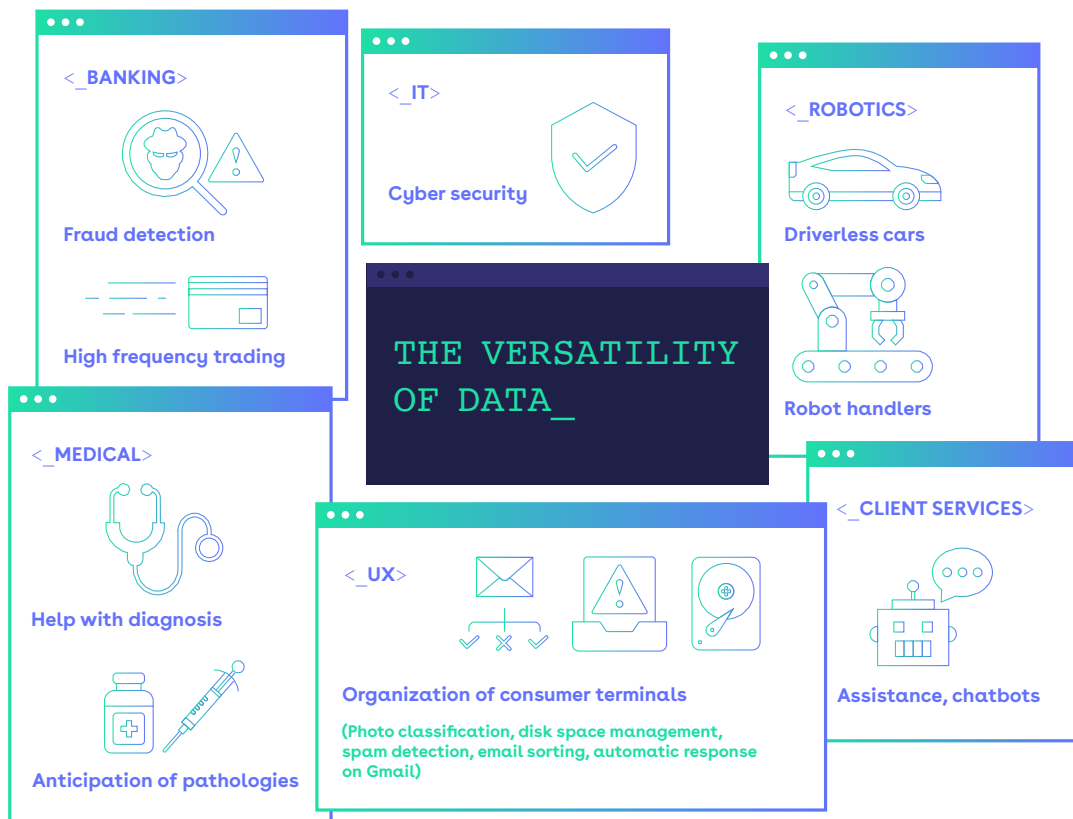


If you're an integrator, develop your JavaScript skills and framework to widen your scope of action and your professional opportunities. On the Front-End developer side, develop your CSS and pre-processor skills. Implementing a business logic won't work without thinking of UX at the same time.

## 4 The future of Data Sciences

We can observe a rise in several technologies related to Data Sciences. **Python** is a general language but its growth, combined with that of **Scikit-Learn and MATLAB**, is indicative of this trend. The growth of TensorFlow also reflects an evolution from Data Sciences to more complex **deep learning techniques**.

The increase in data processing power and the democratization of machine learning methods have made it possible to **revolutionize fields** as varied as they are numerous. Of course, this phenomenon is all the more noticeable in sectors where data is plentiful and at the heart of business, such as **e-commerce, marketing or finance**. In these fields, the advances made by Data Sciences are spectacular specifically **techniques in the prediction of customer behaviour, loyalty systems or even high frequency trading**. These advances are spreading to all areas driven by digital products that continuously collect information from users.



## → A TERRITORY TO EXPLORE: THE CRITEO EXAMPLE

Beyond the known promises of data, there are **innovations and economic models yet to be discovered**. The Criteo team originally worked on a movie suggestion engine. Unable to monetize it, they decided to make a change, trusting their recommendation system. This is how their product went from suggesting films to suggesting advertising with success.

# 03 IT projects

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## 2019 Projects Overview

Here is an overview of the proposed projects, completed projects and freelance profiles to understand **market prices, working methods** and everyone's expectations.

### 03.1 What are the market prices?

In the graph below we can see the distribution of prices per profession in Germany.

<b>Back-End Developer</b>	<b>Data Scientist</b>	<b>DBA</b>
MDA (Median Daily Rate) <b>680 €/day</b>	MDA (Median Daily Rate) <b>740€/day</b>	MDA (Median Daily Rate) <b>760 €/day</b>
Standard Deviation <b>213.3 €</b>	Standard Deviation <b>254.6 €</b>	Standard Deviation <b>207,5 €</b>
<b>Front-End Developer</b>	<b>Mobile Developer</b>	<b>Sysadmin</b>
MDA (Median Daily Rate) <b>660 €/day</b>	MDA (Median Daily Rate) <b>650 €/day</b>	MDA (Median Daily Rate) <b>650 €/day</b>
Standard Deviation <b>196 €</b>	Standard Deviation <b>171,4 €</b>	Standard Deviation <b>269,7 €</b>

The three categories with **the greatest disparity** in Median Daily Rate are **Data Scientists, Sysadmins and Back-End Developers**.

## The economy behind the cost: what expertise really enables

A McKinsey study showed the **difference in productivity** between an expert profile and a beginner profile according to the projects' complexity. In a very complex project, **the productivity of "high performers" exceeds that of conventional profiles by 800%**.

Expertise comes at a price, but it's an investment rather than a cost. **If an expert, who is paid double, works four times faster** you win in the end. This is particularly true for the development professions addressed in this study for which the amount of information that needs to be processed is high and the ramifications for each action numerous. In situations of great technical complexity, where major logical challenges can limit productivity, an expert collaborator, who can solve complex problems, is a precious asset to avoid projects from being slowed down.



*Beyond the time saved by technical expertise, a growing part of my added value lies in my ability to **advise the client upstream** on the project, on its relevance (build vs. buy) and its technical feasibility, of course, but also on certain cross-cutting aspects such as GDPR compliance or UX. The bridge thus built between IT and other departments has already enabled my clients to either reframe projects that began badly or to rework the specifications of projects under study **thus limiting the technical and financial risk**.*

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**Olivier Croisier**  
Full-Stack Architect



## 03.2

### Typical projects, by company

Companies and employees do not always have the same expectations on projects. Understanding these issues allows the former to attract the best profiles and the latter to seize the best offers.

#### Key Figures

##### Small companies < 49 employees

REMOTE	ONSITE
<b>88%</b>	<b>12%</b>

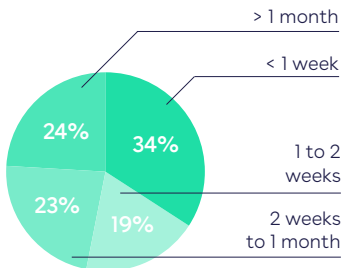
AVERAGE QUOTE FOR A PROJECT

-

SKILLS REQUESTED

1. Back-End Dev. 63,98%
2. Front-End Dev. 24,95%
3. Mobile Dev. 5,31%

DURATION OF THE PROJECT



**51%** of small businesses carry out at least **2 projects on Malt**

##### Medium size companies 50 - 999 employees

REMOTE	ONSITE
<b>77%</b>	<b>23%</b>

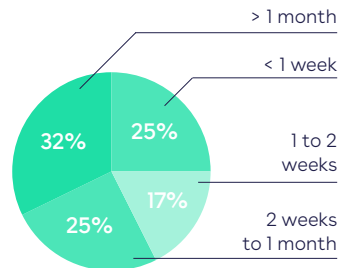
AVERAGE QUOTE FOR A PROJECT

**2,31 x** small companies

SKILLS REQUESTED

1. Back-End Dev. 60,98%
2. Front-End Dev. 22,81%
3. Mobile Dev. 10,34%

DURATION OF THE PROJECT



**61%** of medium size companies carry out at least **2 projects on Malt**

##### Large groups > 1000 employees

REMOTE	ONSITE
<b>50%</b>	<b>50%</b>

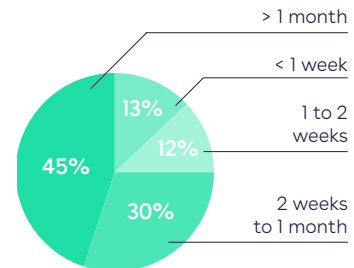
AVERAGE QUOTE FOR A PROJECT

**6,45 x** small companies

SKILLS REQUESTED

1. Back-End Dev. 60,47%
2. Front-End Dev. 26,15%
3. Mobile Dev. 11,92%

DURATION OF THE PROJECT



**66%** of large groups carry out at least **2 projects on Malt**

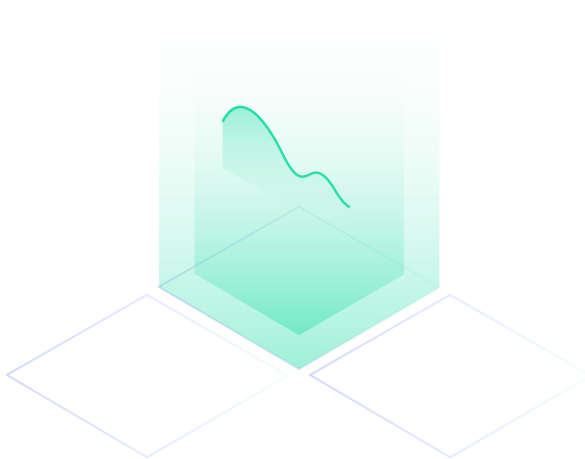


## BUSINESS TIP

### Make room for freelancers in your office space



A majority of companies offer projects that are carried out remotely. However, **70% of freelancers prefer to work at least partially on-site** contrary to popular belief. Take advantage of this valuable opportunity to bring new knowledge to your teams by hosting your collaborators during their mission.



## Six months to hire a developer? Find one today on Malt.

*Recruit the best tech freelancers fast and simple.*



With Malt you can easily find the top tech freelancers you need to accelerate your IT projects. **Save time** by taking advantage of advanced matching technologies and personal sourcing support to find the right talent for you.

Make your life easy with a user-friendly management tool to handle all your freelance projects.

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# 04

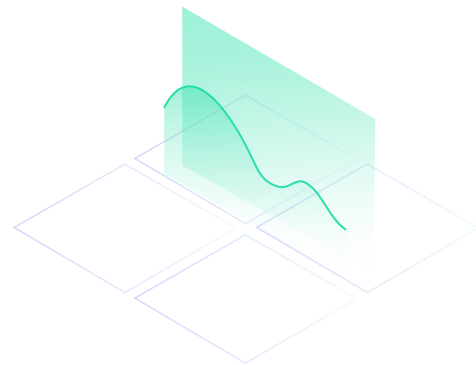
## Adapting to change

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### Headed in the direction of progress

Adapting your methods isn't just a question of productivity, it's a question of innovation; making a distinction between reacting to the market and constructing it.

Whether you're a business or a professional, the trends identified in the 2019 Tech Trends entail getting ready now.



## Make your talent visible to everyone

*90,000 companies find their  
freelancers on Malt*



Join the freelance tech community on Malt and choose the projects that you want.

Make your life easier with a simple and safe administration process for all your projects.

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## Now's the time for expertise

The Back-End and Front-End expert does not exist nor does the Back / Front / Ops expert. **Nevertheless, a Full-Stack profile has two interests.** 1.) In the early days of a business, with small teams, when you need versatile developers. 2.) Then when the teams grow, **the Full-Stacks are elements with an overall vision** (the Back-Ends and Front-Ends have a vision too). From an organizational point of view, due to their versatility, they are good adjustment forces for the collective execution of tasks.

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## Organize your talent pipeline

In recruitment, as in many fields, urgency is never good. If you are looking for an indispensable profile as soon as possible, you are already late and sometimes you have to compromise on certain criteria. **Once your needs are anticipated, build yourself a talent pool. Recruitment can be compared to customer acquisition, so think inbound recruiting: define and understand your candidate personae, organize a conversion tunnel, offer them content with high added value and thus build your network of qualified candidates.**

This approach will allow you to reduce acquisition costs while developing your employer brand.

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## Information is the greatest value

Fifteen years ago, 4 of the 5 largest companies in the world exploited oil. Today, the 5 largest exploit information. These companies had a "default" competitive advantage because their activity already required them to structure their data. **Don't miss out on Data Sciences**, which other sectors are opening up to today. Don't let valuable information escape you; organize the pick-up, storage and valorisation of your data.

### **Be up to date for GDPR**

- + If you're collecting data, you're going to need a DPO. Be prepared though because the newness of the function foreshadows a shortage of this profile.
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## Virtualization and cloudification

If the cloud was a buzzword a few years ago, it is now mature and is becoming increasingly present in businesses. The reasons for using cloud computing solutions or SaaS today are numerous. As time goes by, this change will become more and more necessary whether you are in a growth phase, looking to improve your development cycles or be more reactive while launching new projects.



## Expertise and versatility

Understanding the entire stack will always be an advantage, both for finding projects and for the quality of how you work with the teams. Being Full-Stack is less and less possible since expertise is needed as the technical possibilities expand. **The T-profile is ideal:** broad general skills combined with targeted expert skills.

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## Stay up to date!

In order to work on the most innovative projects, keep an eye on the direction of change. To remain abreast of current practices, **organize your monitoring**.

+ **Conferences:** to follow the big trends

Germany: WeAreDevelopers, JS Kongress 2020, Qt World Summit Berlin, Chaos Communication Congress, Angular Days Munich (e.g. Berlin and Munich)

Worldwide: At Spring One, the quintessential Spring conference, you'll find all the best of the Java world. Oracle Code One, which always has "nice" news. Google.IO, Apple WWDC...

+ **Meetups:** to follow the best practices, be concrete, create a culture and a network

The Java User Group and Google Developers Groups are two examples that shouldn't be ignored. However, there are as many meetups as there are techies, so organize your monitoring in relation to your field.

+ **Influencers:** take the pulse of influencers daily

There are hundreds of relevant influencers. However, you have to step back. We are entering into the realm of opinions and adverse thinking. Following renowned Twitter accounts remains an important exercise in gaining information in real time and understanding the political dimension of the technology market.

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## The future will be DevOps

With the rise of cloud computing or SaaS, the Sysadmin profession is changing but won't disappear. By caricaturing just a bit, be careful **to follow** developments if you don't want to keep manually managing an aging stock or applications on cycles of six-monthly updates. Responsiveness, automation, reproducibility, reconciliation with development practices via the **code infrastructure:** all this has changed the Ops profession and a constant technological monitoring is necessary.

If it isn't already the case, developers or Sysadmins, should take an interest in Docker, **Kubernetes or Terraform** for example.

# Conclusion

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## Talent wars and multiple careers

With digital transformation comes the general shortage of tech talent. Companies are calling on specialists in order to make a successful transition, and technical developments make their knowledge less permanent.

It is important to be surrounded by cutting edge professionals. Companies must **anticipate their needs** and understand what profiles they're going to fight over with their competitors.

In this context, IT careers are becoming more and more fluid and it is already quite common to **change the scope of application several times**. At a time of great technical specialization, the management path is no longer the only possible evolution. Developers can specialize in security, go to the system administration side, position themselves on cloud technologies, become a mobile developer, etc.

A new vocabulary is sweeping through organizations with the appearance of "CIOs", "CTOs", "VP of Engineering", "Head of Engineering", "Engineering Manager" or "Staff Manager". These professions respond to the **need to acquire better technological solutions to maintain an advantage** and to find the best professionals to accomplish it.

This study was carried out with this approach in mind in order to understand who the people will be and the tools they will use to create the innovations of tomorrow.

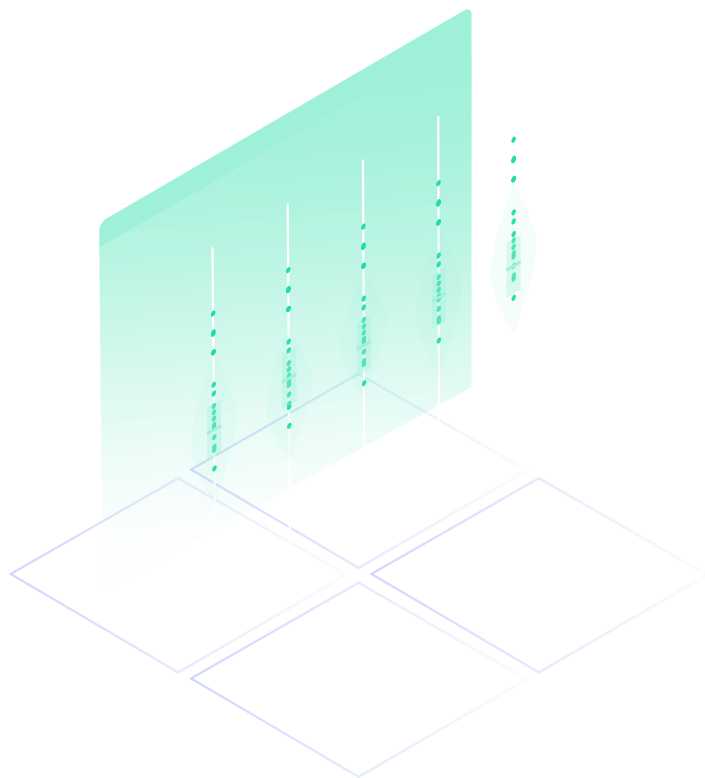
# Methodology

*These Malt Tech Trends analyse IT needs, professions and projects. They are based on data from 80,000 companies and 33,822 tech freelancers registered on Malt on 07/01/2019 who are referenced in the Developers, Data Scientists, DevOps, DBA and Sysadmins categories. The market price numbers of section 3.1 address purely Malt German daily rates across 2019.*

The variations in technological trends, shown in the Index, are based on the analysis of 300,000 monthly searches carried out by companies from 01/01/2019 to 30/06/2019.

The analysis relating to business skills is based on the freelance profiles registered on the platform.

We will open up the analysis to design and web marketing professions in future editions of this report.



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The observation and interpretation of the data was made possible thanks to the cross-disciplinary expertise of the IT teams working at Malt.

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