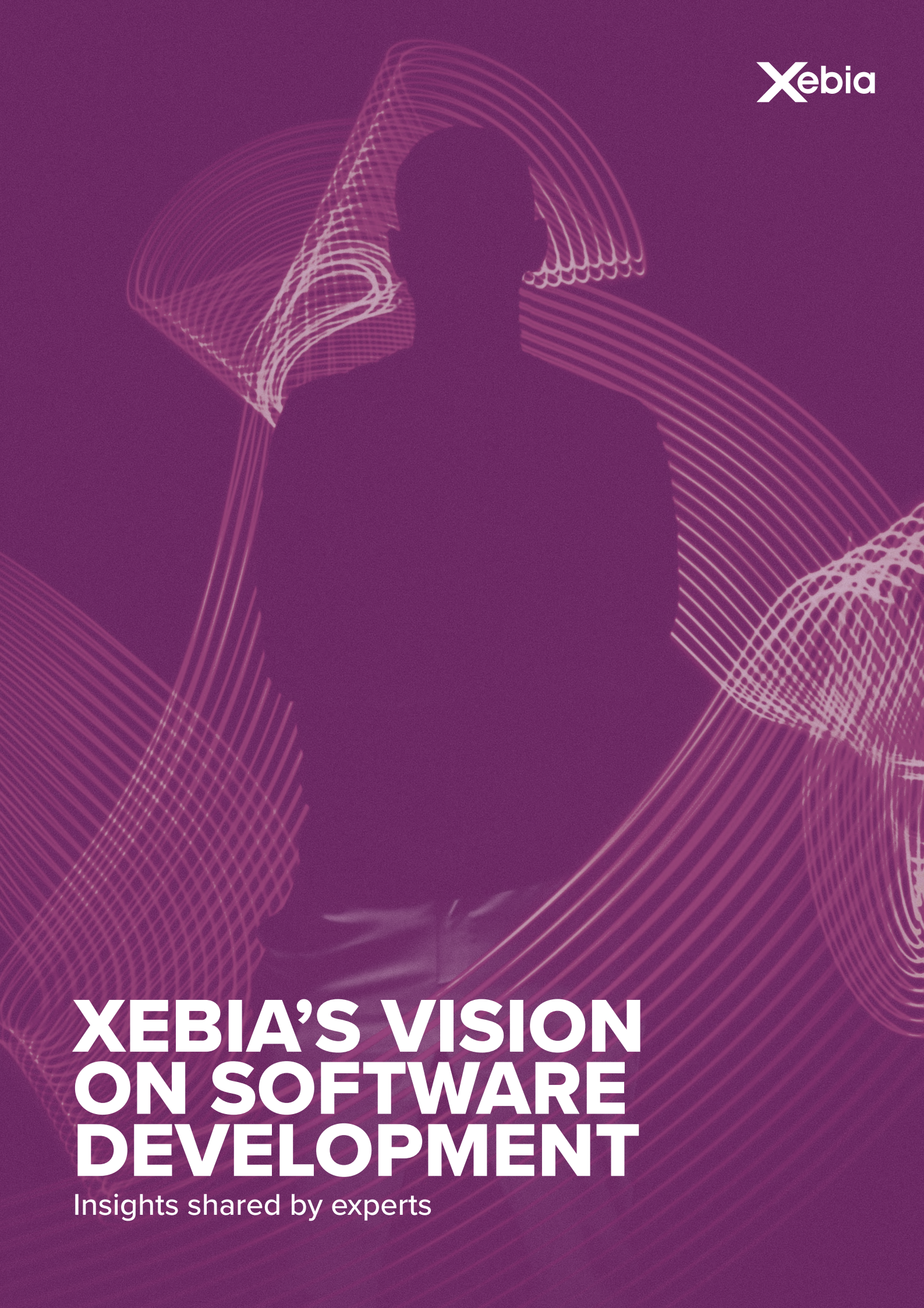


XEBIA'S VISION ON SOFTWARE DEVELOPMENT

Insights shared by experts

OUR EXPERTS

Albert Brand
Senior Consultant who has extensive experience with full stack technologies.

Frank van Wijk
Full Stack JavaScript developer and consultant with a focus on quality and testing. Notorious for finding spelling errors in your code comments.

Léon Rodenburg
Software development consultant with a specific interest in cloud technology and cloud-native development. He is the first Alibaba Cloud MVP in the Benelux and specialises in Chinese cloud providers.

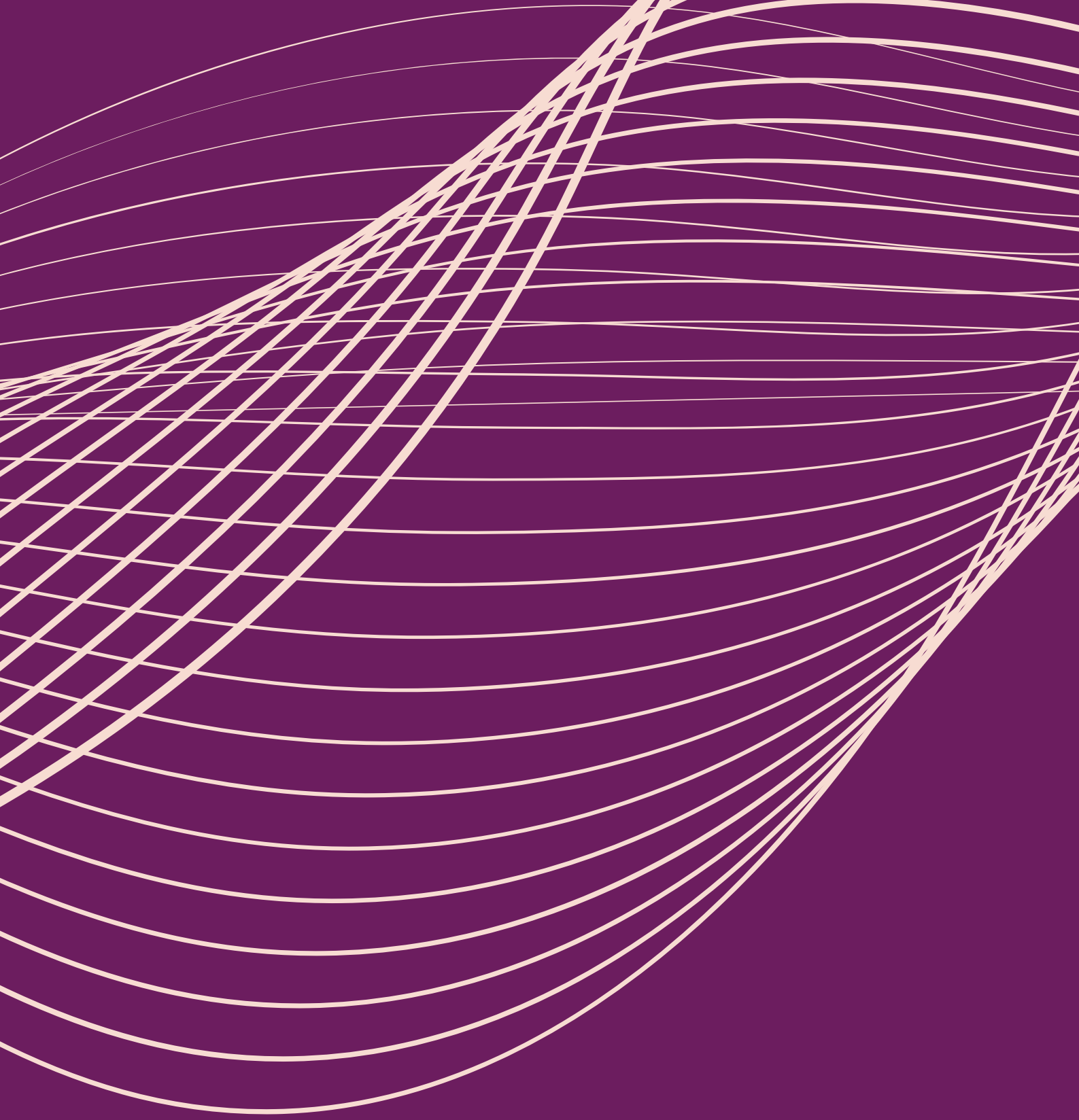
Urs Peter
Seasoned engineer who possesses a great variety of hard and soft skills to realize production software end-users will love. With his hands-on no-nonsense attitude he combines his broad technical toolset with creativity and experience to design and implement systems that rock. As a technical leader he guides the process of choosing solutions and technologies that best fit the problem space. As trainer and coach he helps teams to get the best out of them from a technological as collaborative point to of view to achieve results that make a difference.

Marc Grol
Allround IT-professional who gets things done. Keywords: Agile, simplicity, focus and cost-benefit.

Roy Bos
Specialized in building full stack solutions. His expertise is in the field of big data, highly scalable, high performance, realtime distributed systems, preferable built with lightweight open source technologies. He has excellent skills in the full spectrum of software engineering like architecting, provisioning, deployment, development and testing. His rule: quality without compromise!

Ruben Oostinga
Software development consultant at Xebia. He focuses on application architecture and sharing knowledge to deliver high quality software predictably. He has experience with both frontend and backend development at many customers. This also means he has learned from developing on different (microservice) architectures. He shares knowledge in the form of coaching, (conference) presentations and trainings. When he finds the time he works on open source projects like swagger-to-graphql and graphql-transform-federation.

The autonomy and influence enjoyed by developers today are illustrative of the changing role of developers in enterprise IT in an era of rapidly intensifying digital transformation. Developers are increasingly regarded as visionaries and architects of digital transformation as opposed to executors of a pre-defined plan delivered by centralized IT leadership.



Part 1

The World of Software Development Is Changing

> *We build software that needs a platform. We need to create a better understanding of each other's world. DevOps is a trend, but it needs to be more. We are not there yet. Infrastructure and software development are still too far apart.*

WHY CLOUD IS MAKING DEVOPS ESSENTIAL FOR DEVELOPMENT AND DEPLOYMENT

Software development is fast-moving. Yet, when we talk about trends in the industry, we are inclined to think in shifts of months or years. Innovations with a significant impact are the ones that change the way we work, for good. Over the past years, Cloud has become common. The ease with which our clients utilize Microsoft Azure, AWS, Google Cloud, and the benefits they experience make it evident that Cloud is here to stay. It goes without saying that this movement impacts software development.

DevOps is about working together as a team, having full end-to-end responsibility, and covering everything from building to deploying. A DevOps way of working isn't adopted overnight. However, we are finding ways to shift in that direction by working with 'platform teams.' These teams provide developers with deployment guidelines to boost consistency, but still, it's not ideal. In practice, the platform team will hold a large part of the responsibility, and developers will merely bring their application to that platform without truly understanding it. To maximize customer value (by responding to issues swiftly), the launch of new software should be a joint responsibility.

"Cloud offers benefits developers are currently overlooking. More than just hosting, Cloud provides tools that are relevant to building and deploying software."

What is needed to make DevOps more successful?

A large number of businesses have adopted DevOps practices in some way. We believe DevOps has still not come to full fruition in our industry due to a lack of knowledge. DevOps is a methodology that both business and IT need to familiarize themselves with - and the first step is education! Additionally, analyzing bottlenecks and exploring what 'DevOps done well' can do for your business will feed the increasing sense of urgency for greater collaboration in our industry.

MANAGED SERVICES ENABLE CONTINUOUS DEVELOPMENT

"The global managed services market size was USD 200.29 billion in 2019 and is projected to reach USD 492.15 billion by 2027." - Fortune Business Insights.

Managed services are on the rise. Technology is becoming increasingly critical and business recognize the value of experts managing their software, troubleshooting when there's an issue, and guaranteeing uptime (through an SLA). Additionally, organizations struggle to recruit the IT professionals needed to build, deploy, and maintain the technology their business depends on.

Keeping a system up and running is critical. Building software has become easier but maintaining it is costly and time-consuming. Creating real value means simplifying the latter - and you will only know if you succeeded after a few years. Developers who understand this and build easy-to-maintain systems are the ones adding value to a client's business."

Offering a managed service is more than just offering a product; it's taking care of business flow and supporting continuous development. Companies are increasingly looking for a knowledgeable IT partner. As change is the only constant in today's world and challenges succeed each other quickly, journeys pivot on a dime. Working with a trusted advisor who remains involved and grows alongside your business is a significant trend.

SOFTWARE IS LEADING THE CHANGE

In his book 'The World is Flat,' T.L. Friedman states that technology is the main reason for the world flattening out today. In the third wave of globalization (3.0), software is leading the change, not horsepower or hardware. IT advancements are opening up the possibility of both global collaboration and competition.

Digital Transformation is a trend that has skyrocketed over the past few years - helping businesses either survive or thrive in challenging times. Companies invest in their digital strategy to accelerate and automate processes and remain relevant in a highly competitive landscape. As business shifts to the digital domain, and more interactions occur online, what does this mean for the way we work?

Globalization 3.0

Knowledge sharing

Online communities are thriving! Education is moving from a commodity to the community. The digital domain provides a means for people to connect and share expertise globally. Of course, high-quality training is still valued, but expert knowledge is becoming more accessible to a larger group of people, accelerating both professional development and business innovations.

Sourcing talent

Besides sourcing knowledge across the globe, sourcing talent across borders is becoming standard practice. Good news for companies, as expertise is hard to find. However, this also means that the market is becoming highly competitive, and investing in your knowledge as a software professional is more important than ever.

Remote Working

The pandemic forced people worldwide to work remotely - a long-anticipated trend expedited by circumstances. Before 2020, some companies were already successfully outsourcing or offshoring (both became a trend in the early 2000s). Others encountered language barriers, time zone challenges, or a lack of personal engagement when working with a 'black box' software development team. The pandemic has taught (or forced) us to ramp up our online communication skills, which offshoring and outsourcing will benefit from significantly.

**Insights from Xebia: "Outsourcing and offshoring are waterfall ways of working with teams outside of your company. Remote working and insourcing are Agile ways to collaborate."*

As we are experiencing a new way of working, the pros and cons are becoming more apparent. It's not to say that they are here to stay, but it's essential to identify why teams struggle and how to overcome hurdles.

For instance, you might be less aware of what is happening beyond your scope, as connecting with people outside your team is more difficult when working remotely. On the other hand, the threshold to call an executive, for example, is lower. It's pressing the same button you use to contact your peers, but daring to take the first step must be part of your character. When we think of DevOps' growing importance, finding a way to enable communication could pose a challenge due to online divisions. Ideally, in the future, we will combine coming to the office and working from home in a well-considered way.

"With people working from home, trust and measuring employee output are becoming increasingly important. Whether companies can build a trust-based culture focused on value-delivery will define their future success. On that note, trust is an essential part of the collaboration between Xebia and its clients. The only way to gain that trust is to be consistent and deliver quality. Always."

Part 2

Our Take On Software Development

IS KOTLIN THE NEW KID ON THE BLOCK?

Ask any software developer. There are several preferred programming languages* and the reasons to choose one over the other differ. Python is great for Data Science and Machine Learning. JavaScript is the web's standard. The open-source TypeScript is known to make life easier, Rust is appreciated for its speed and safety, and Go offers simplicity and productivity. But what can we expect to happen in this space?

A trend captured by IDC in 2019 is still in full swing today: the landscape of languages and frameworks is largely fragmented. Whether a language is likely to be popular among developers depends on how it supports various use cases and deployment environments or differentiates itself from other languages.

Following this research, it's easy to see why Kotlin is gaining traction. It currently belongs to the top 5 languages loved by developers, and more than 10% want to learn how to use it (2020, Stack Overflow). Kotlin offers the best of both worlds. It's less complicated than Scala and offers more advantages than Java. As a modern language, it benefits from the shortcomings of older languages. Plus, if you can work with Java, learning how to work with Kotlin is a minor step.

*The top 5 most loved languages according to the 2020 Developer's Survey carried out by Stack Overflow are Rust, TypeScript, Python, Kotlin, and Go.

https://insights.stackoverflow.com/survey/2020#technology-programming-scripting-and-markup-languages-all-respondents

How can innovative technology support your business?

Working with the latest technology holds many promises, like reducing time-to-market or accelerating growth. But, there's another reason why opting for innovative tools can help your business move forward: it will attract the most skilled talent. Imagine you are an ambitious software developer or engineer. Which technology would you want to use? Now is the time to show potential new employees that you are a pioneer in the industry.

Before you jump into the deep-end, take into consideration that knowledge is scarce. The struggle to attract and retain tech talent is real. Before adding the most innovative tools to your portfolio, ask yourself if you can find the experts to maintain and develop your IT.

"Available expertise is increasingly defining the tech choices companies make. On a positive note, remote working's growing popularity opens up an entirely new market for companies on the lookout for talent."

Software developers need to educate themselves continuously. Make sure your assignments are varied enough. Additionally, the projects you do on-the-side will help. Our industry knows easily accessible and knowledgeable communities that contribute to (mainly open-source) initiatives and hold the potential to make new technology mainstream within weeks.

"The trend is shifting to more simple languages. When the language you use offers fewer challenges, there's more time to focus on what matters most: your client's challenge."

INNOVATION BUDGET: FIND THE RIGHT MIX

Taking a technology platform to the next level requires making well-considered choices. Innovators will take higher risks. Early adopters are better informed and capable of making decisions that will yield pioneering yet reliable software. Take the 'innovation budget' into account when you develop new software; what is the right combination of proven and innovative elements to spread the risk?

When building a client's solution, the most important thing is to consider is if the innovative technology you want to use is around to stay. Experience in the field will take you a long way. We recommend checking how many people contributed to the code, how active users are, and if any other significant companies are using the product.

Bringing software into production is not the last step to take. After your product is in use, you need to keep monitoring and evaluating. If, at any point, an element you selected turns out to be a wrong decision, you need to be able to replace it. Whenever you go left, keep the option to go right open.

"The more competition there is in any industry, the more flexible a solution needs to be. Instead of purchasing one ready-to-go tool, use a collection of services to create a customized product. By taking this 'lego block' approach, replacing a part of the solution will have less impact."

Lagging Because Of Legacy

No matter what innovative solutions are part of your front-end, you will always be less flexible if you're working with an outdated back-end. Legacy software is a thorn in many software developers' eyes but still of worth to many businesses. How do you replace legacy solutions without losing value? Introducing new technology to an IT environment is not a sprint but a marathon. You need to understand every part of it to replace the outdated product cleverly.

"If something goes wrong, it's usually the people who are to blame, not the technology."

COLLABORATION WITH YOUR CLIENT

Software development is a high-velocity industry. New technologies spring like mushrooms, and even for developers and engineers, keeping up is a challenge. Just imagine the struggles that established businesses encounter. Still, many companies only reach out when there is an issue or a lack of in-house skill. Companies increasingly know what they want but cannot do it themselves.

“There's a clear divide between tech and non-tech companies. The ones who have built their business around tech work with innovative software and ask for hands-on support. The ones who use tech as a business enabler ask for expert advice."

Currently, support is often requested last-minute; when an organization realizes it needs expertise. In our opinion, businesses can save time and money by consulting agencies earlier in the process. Still, any question is a conversation starter. It gives you the opportunity to discover the question behind the question and solve the problem - instead of continuously treating symptoms.

Is being a pioneer always a good thing?
Developing software takes you to the forefront of innovation, which isn't always where businesses feel comfortable. Understandably, managers want to feel in control, and tempting them to step out of their comfort zone can be challenging. We have found that sharing knowledge is the key to success. Clients we have a longstanding relationship with ask us to think along. That partnership is built on trust. New clients often have a clearly defined question, but there's always more. Our extensive knowledge of the industry and years of experience help us dig deeper, back-up our opinions, and guide the client to make better decisions instead of providing an extra set of hands.

"When you think of software developers, you think of people who build solutions. The image of our industry needs to shift towards being seen as technical advisors. As IT is becoming more business critical, the impact we make is also increasing. Technology is not just an enabler. It's the thread that runs through every part of your business."

FOCUS ON THE FUTURE

The future of software development is exciting. Our industry is highly dynamic, with new technology entering the arena at a high-pace and IT becoming a larger part of any industry, from retail to healthcare. Our take on technology is the following:

"We believe that Cloud will become a larger part of Software Development. We work together with Cloud experts, but it's essential to gain this knowledge ourselves. This development is comparable to our previous approach to testing. We outsourced it until we embraced it.

Secondly, we are convinced that speed is a differentiator. To make a difference, you need to act quickly. There's no time to waste, and easy-to-use tools will replace technology with a steep learning curve.

Last but not least, keep your eye on new technologies like GraphQL, explore DevOps, discover the benefits of Cloud, and make collaboration a priority; our playing field is expanding at high speed, and it's impossible to be an expert in every topic."


Our Place in
a New World

A NOTE BY XEBIA SOFTWARE DEVELOPMENT

Our mission is to enable your success. For us, making an impact means allowing you to make an impact. We are not just an extra set of hands. We are a trusted advisor and quality-infected pioneer in the domain of Digital Transformation, and especially, software development. We are builders, but we don't stop at tools. We build partnerships and sustainable businesses. We shape the future, together with leading companies in the Netherlands and across the borders.

What we offer you is simple: a collective of people who understand technology, never stop challenging its potential and are eager to share their expertise with you.

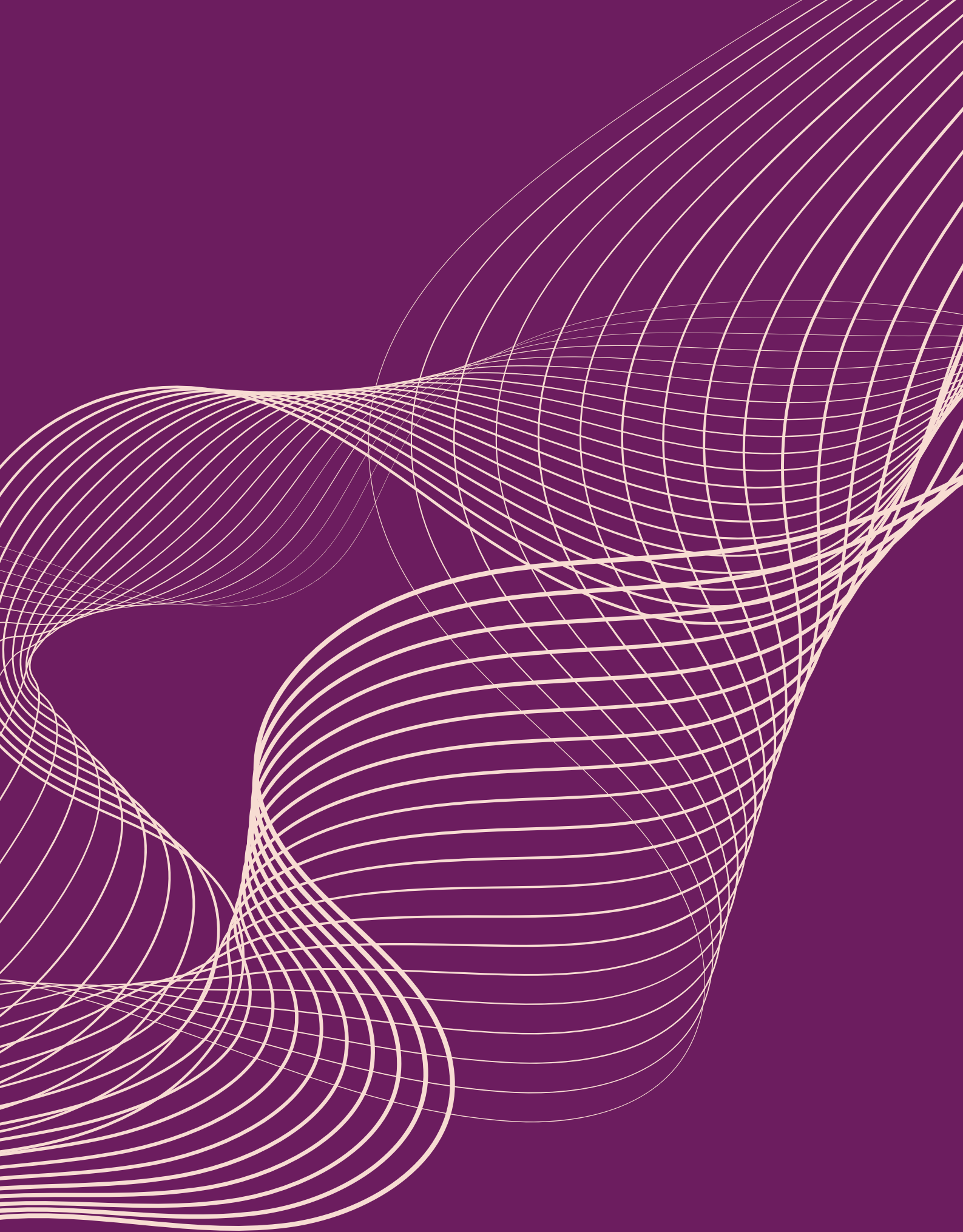
At the end of the day, we want you to feel comfortable using the solutions we build. Moreover, we need you to amplify their value - every single day. That's why we lead by example. We show you how it's done, transfer our knowledge to your teams through training (on-the-job), and then we leave. But, we stay involved, from managing services to providing strategic advice. Our longstanding relationship with many clients isn't defined by the days we spend on the floor but by our interactions - quality without compromise.

Xebia Software Development offers:

- *Software Consultancy: optimizing outdated solutions, creating new business models, and providing (strategic) advice to shorten time-to-market, accelerate growth or remain competitive.*
- *Core Development: building and integrating software, platforms, and mobile- and web applications.*
- *Managed Services: taking care of your software and teaching you to build, maintain, and innovate.*
- *Multi-Cloud: our consultants know multiple Cloud platforms like the back of their hand, from Microsoft Azure to AWS and Google Cloud.*
- *Tech Software Training: in-company and classroom training to build software capabilities. Courses cover Scala, Kotlin, Go, React, Domain-Driven-Design, GraphQL, Vue.js, and more.*

We aim for the continuous development of both platforms and people. Where are you now? What are your ambitions for the future? And, how do you plan to stay ahead of the game?

"At Xebia Software Development, we are shifting from advising companies on how to do the thing right to teaching them how to do the right thing."



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