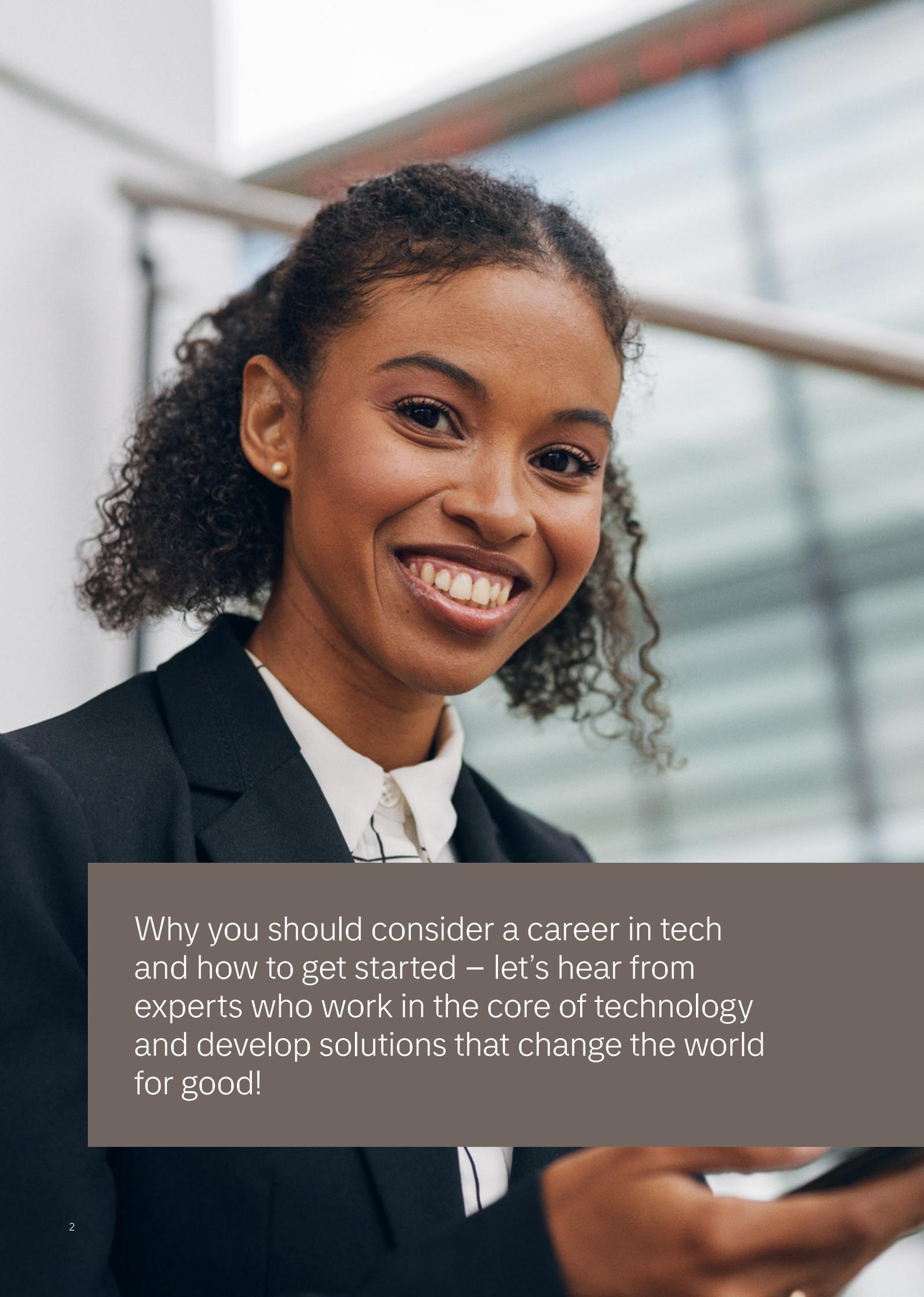




Being an IT-girl

How girls change the world through
careers in technology



Why you should consider a career in tech and how to get started – let's hear from experts who work in the core of technology and develop solutions that change the world for good!

Intro

Welcome to the world of technology

In today's society, technology has a role in nearly everything – from our day-to-day lives to building a better, more sustainable, and equal world for us all. That's why it is important to have diverse voices and ideas influence the services, applications, products, and tools we build through technology – we need to be able to ensure they serve and cater to multiple different people and users.

We believe that diversity and inclusion are crucial in creating an inspirational workplace and enabling innovation for years to come. And we do not see equality as something that can be achieved once, only to be forgotten later on. Tietoevry actively works with partners and wider communities to foster equality in both the workplace and society at large.

That's why we carried out [a study...with alarming results](#) – only 15 percent of female students from the age of 15 to 25 in Norway and Finland consider education or a career in tech. Half of the girls consider a career in tech to be boring or complicated.

We created this guidebook in an attempt to clear up misconceptions regarding the technology industry and to portray the diverse and fascinating career opportunities it offers. Solving climate change, building health tech, or launching the next TikTok are far from boring – and they all need more women and girls to get involved. On the following pages, you can find five career stories by our experts at Tietoevry, where we develop technology that changes the world for good.



Table of contents

Introduction	03
Technology touches our everyday lives, yet the developers do not represent the population	05
Career story: From archaeology student to designer – there are many roads to tech	06
Working in tech – what’s in it for me?	08
Career story: Instead of drawing buildings, enterprise architects outline Strategies and Roadmaps	10
What the day-to-day looks like in a tech company	11
Career story: Solution consultant Kristin knows tech work is teamwork	13
How to get started? Education, exchange studies, and internships	14
Career story: Meimona protects Norwegians’ online banking data	16
Career story: From business school graduate to system specialist	17

Technology touches our everyday lives, yet the developers do not represent the population

Our society relies heavily on technology. We use applications, platforms, devices, and all sorts of digital tools in our daily lives. We interact on social media, keep in touch with our friends, seek information online, and write our school papers with computers. Furthermore, running services like grocery stores, hospitals, or public transportation also requires some form of technology.

And of course, we have some major challenges that require solving. Global warming, maintaining biodiversity, and enabling social equality are all aspects that we can improve with the means technology provides us – regardless of the industry.

In the Nordics, we already have a shortage of tech experts, and the demand is only going to grow in the coming years. And it is not only about programming

and developer roles. We also need less technical people: user experience and interface designers, recruiters, sales and marketing professionals, and project and product managers.

Another issue to solve is the state of diversity among people who create digital services, tools, and applications for wide audiences. Understanding the needs of different users and use cases equals better products and design, but a team of like-minded people is more prone to overlook viewpoints outside of their own. Therefore, it is crucial to ensure different people from a multitude of backgrounds are working in technology.



Did you know: Artificial intelligence learns its biases from us

In her book "Invisible Women", Caroline Criado Perez describes multiple situations where products and services were designed without paying attention to different users.

For example, a digital voice assistant was 70% more likely to recognize a male voice over female. This is caused by voice samples used in the training of the artificial intelligence behind voice-based assistants being heavily male-dominant – as are the development teams.

A diverse developer team with different ethnicities, genders, and backgrounds would more likely pay closer attention to the training of the AI, feeding it more varied source material to learn from. This, in turn, would lead to a voice assistant better equipped to cater to different users, and their tones and dialects.



From archaeology student to designer – there are many roads to tech

When it comes to digital platforms, services, or products, the user experience is one of the most crucial aspects to pay attention to. After all, you don't just design a user interface for someone to see their bank account details. Instead, you solve the problem of how to access sensitive information safely and securely, but without making the solution too complex and hard to use.

"Right now, the tech industry lacks diversity and does not reflect the population. When we are designing these digital tools, systems, and applications, we need to be able to consider all sorts of different user needs," explains Tieto's experienced UI and UX designer Linnéa Källgård.

Linnéa has also noticed this in practice throughout her work – multiple times. Designing a mobile app for people with cognitive disabilities was a long process, and finding the right solution took a considerable amount of research and iteration. But as a result, the

users now have access to information on their own terms instead of relying on old systems that do not consider different needs and ways to seek information.

"At its core, digital solutions are super inclusive. You can use them whenever, instead of relying on specific locations. You can interact with anyone from the comfort of your own home. We just need to ensure that what we design is inclusive as well," Linnéa points out.

One cup of coffee changed Linnéa's entire career path.

Linnéa talks with such confidence and excitement that it is easy to imagine her as someone with vast experience in technology. In fact, she almost did not enter the industry at all.

"My background is in the advertising industry, and I have studied classical archaeology at Uppsala University and new media design in Hyper Island. I never thought I would fit into the tech industry, being a woman interested in creativity rather than highly technical things," she says.

A friend thought otherwise and convinced Linnéa to have a chat with the Tietoevry representative to hear

more about the projects they are working on. That afternoon coffee 11 years ago turned out to be life-altering for Linnéa.

"I was hesitant as I didn't know much about the industry. But once I heard more about the company, I realized that they are doing so many projects I always wanted to do too. I took the plunge and felt at home from day one. Now I get to solve problems for real people and use my creativity every day," Linnéa says

What it takes to work as a user experience designer.

No day is the same for Linnéa, who works with multiple different people within Tietoevry as well as with its clients. It all depends on the project at hand, but most often, she co-operates with front and backend developers, data analysts, project managers, and sometimes other designers. Understanding technology helps, but no programming skills are needed.

"Typically, I work on a couple of projects in different phases at the same time. There's a lot of planning, workshopping, and co-operation. I utilize Adobe design tools and collaboration platforms such as Figma and Miro a lot," she says.

As Linnéa proves, there are many routes to working in tech. Some may not be obvious at first, but in the end, every bit of education helps.

"University was more traditional and academic, and I learned to do proper research and use data. Hyper Island was the complete opposite. We did a lot of project-based learning, and I got to hone my problem-solving skills. Both were great experiences, and I am so happy I had them," Linnéa says.





Working in tech – what’s in it for me?

Are you familiar with the benefits of working in tech? Today, many people choose a career in the technology industry because of its flexibility, secure employment, and great career development opportunities. What’s best, by working in tech you get to undertake meaningful tasks and contribute to society and its well-being.

By learning the right technical and soft skills, you will end up working in a high-demand field. This means that finding a job is usually easy and you will likely be able to choose a position that is truly interesting to you.

Because tech professionals are highly sought-after, they are also relatively well paid. What’s more, the technology field offers many assets that keep employees motivated throughout their careers. One of these perks includes flexibility allowing employees to maintain a good work-life balance. A flexible work environment makes it possible for the employee to decide when, where and how the work gets done.

In many organizations, a hybrid work model is common. This enables employees to blend working at the office, from the comfort of their home or even on

the go. Although hybrid work is the most common work model, some people manage to work fully remotely. These people are often referred to as digital nomads since they travel around the world on a regular basis.

The technology industry is also fitting for those internationally minded people who want to relocate themselves to a new country but still enjoy a stable workplace community. English is a common work language in many organizations and most of the skills needed in the tech industry are universal. What’s best, by working with other techies you’ll get to meet all sorts of people and enjoy problem solving and creativity together.

Life-long learning and meaningful work draw the curious-minded to the field

What all tech employees have in common is curiosity. In a fast-moving field, learning new skills and technologies is a crucial part of work life. In the technology industry, no one assumes that graduates would already have all the right knowledge and skills. Instead, employees are encouraged to undertake continuous training throughout their careers. A safe work environment where everyone is allowed to fail and learn is beneficial for both employees and the company culture. If learning is your thing, a career in tech ensures that you'll truly get to enjoy life-long learning.

For many, the opportunity to do something meaningful is what makes their work so enjoyable. In the tech industry, you'll surely meet people who love all things technical and enjoy technology for technology's sake –

and that's great! However, many people are fascinated by technology because of what it makes possible. With technology, you're able to solve both mundane, everyday problems as well as the world's biggest challenges.

If you like, you can take a moment to think about a challenge you often face in your everyday life. How could technology help with solving the challenge? You can even think about a societal issue you would like to change and give thought to how technology could help with it.

When you observe the world around you, it's easy to see how technology is becoming more and more intertwined with all aspects of our lives. Therefore, understanding technology allows you to have an impact on the things that you truly care about.



Did you know: many organizations offer great employee perks

Tech companies struggle to find enough employees – the demand is always higher than available talent. To make their company as attractive as possible, most tech employers do their best in ensuring employees are happy and healthy.

Exercise benefits can include vouchers for any activity from yoga to climbing or skiing. Private gyms at the office are common too. Extensive healthcare ensures quick access to doctors and

nurses, and free snacks, drinks, and lunch keep you refreshed throughout the day. Fun activities such as playing pool at the office help you to relax and enjoy the company of your co-workers, while constant learning opportunities and conference trips support professional growth.



Instead of drawing buildings, enterprise architects outline strategies and roadmaps

A traditional architect's job is to draw and design buildings or landscapes. An enterprise architect does the same, but instead of houses, they focus on outlining the company strategy or roadmap to make sure every aspect of their business is visible. Virve Linnanoja specializes in data and analytics but does not consider herself a technical person – even if she has an extensive career in tech.

Virve was lucky enough to have a high school diploma so good she could enroll directly at Helsinki University of Technology – known today as Aalto University.

“I did not really know which direction to take after high school, so I figured I could try construction engineering, which was familiar to me through my father. However, I realized quite soon that mathematics is not my strong suit. I was curious about geotechnics and geology, drawing, and building technology,” Virve says.

A career in tech since 1998

She had set her eyes on Nokia but always thought her studies were unsuitable for working in the global tech company. In 1998, after four years of studying at the university, Virve successfully applied for a job.

“I got sucked right in and ended up working at Nokia for 11 years, mostly on international projects as a service and project manager. I even spent 2.5 years working in Singapore as an expatriate, so language skills are useful. From Nokia, I landed a role at Wärtsilä and eventually started working as an enterprise architect.

Before joining Tietoevry, I also had the pleasure of utilizing my previous studies while working with the construction company YIT,” Virve recalls.

As someone with such a long and diverse career in tech, Virve knows that different career paths and backgrounds are crucial. More than anything, technology is an enabler for other industries to prosper and develop. For example, healthcare and education cannot progress without technology

Many of today’s skills are not education-specific

Virve’s background proves that you don’t need to be a techie to enter the industry, nor does the industry need certain types of people over anything else.

“The core skills needed in my role, for example, are the ability to grasp the big picture and the initiative to seek information and solve problems. Specializing in robotics or algorithms can be useful but not always necessary,” Virve explains.

Virve herself works as a consultant, meaning that she designs and draws the architecture of client

companies and focuses on data and analytics especially. In her daily work, she interacts with multiple roles in each organization.

“I ensure all rules and regulations regarding data use are considered and that any selected solutions and software fit into the company’s existing ecosystem. I work with analysts, who make calculations and work with algorithms,” she explains.



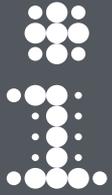
What the day-to-day looks like in a tech company

Tech has a reputation for complex algorithms and mathematical equations, but it is very much about creativity, problem-solving, and teamwork. In fact, you don’t need to know how to code, for example. An understanding of technology and the way it functions in your company context is more than enough for many roles. In many cases, it is often beneficial

to look at things from different perspectives – after all, most of the people who use different devices, applications, and digital tools do not know how to code either.

There can be many types of technology companies, from games and software to hardware, and from in-house to consulting. Tietoevry, for example, operates in

a consulting business and provides software and ICT services to its clients to improve their businesses with technology. The roles and day-to-day work are similar between companies regardless of whether you work with clients as a consultant or for your company alone as an in-house expert.



Get to know these common tech roles

Project manager ensures the team meets its deadlines and has enough resources at hand. Their role is also to make sure the deliverables include everything the client or a colleague has asked for, so organization skills do come handy.

Product manager is the person in charge of a specific product, such as applications or services, from a big picture vision to business objectives and concrete product features. Product managers work together with a variety of people in sales, marketing, and development to cater to the client's or customer's needs.

Software developers are the ones building applications and software, so having analytical and mathematics skills are as essential as a solid grasp of the needed programming languages.

Frontend, backend, and full stack developers are a funky bunch working on web applications. A frontend developer oversees everything visible on a website, for example, whereas backend developers design how the site works, and which servers it needs. Full stack developers are people who fluently function in both roles.

UI/UX designers design User Interfaces for applications and software to ensure they are easy and meaningful to use. User Experience focuses on, well, the experience a user has with the service or product. Depending on the company, this can be a role for one or two people.

Software and system architects are high-level designers who oversee selected solutions, tools, and software to ensure that they sit well with the existing system maps and fulfil necessary qualifications. Regardless of the technical sounding name, curiosity and the ability to grasp big pictures are the key attributes needed.

Data analysts identify, find, and analyze suitable data to solve a problem or draw conclusions, so strong mathematical and pattern-spotting skills are preferred. They can work with a variety of different areas from software development to marketing, sales or even recruitment.





Solution consultant Kristin knows tech work is teamwork

There is a widely held stereotype that working in technology is lonely. Solution Consultant Kristin Ottesen Steinskog proves the idea wrong and explains the importance of teamwork.

“Our clients need different kinds of solutions that we deliver as a team. All of us must work together to find the best solution. No one sits alone developing things by themselves.”

On an average day, Kristin works with front-end and back-end developers. Their job is to make sure that web pages and applications are user-friendly and that everything works well behind the scenes, where a user doesn't have visibility.

What Kristin finds especially valuable in teamwork is that there's always someone to ask help from.

“Many people might think that it's scary to start in a big company and that they don't know that much. But soon they will realize they know more than they understood. There's always something they can help with and someone to ask help from,” she says.

Kristin graduated recently after studying electronic systems design

and innovation at The Norwegian University of Science and Technology. Although new to the field, she has learned a lot about working in technology.

“I now see that there are multiple different roles in technology and that it's not only about developing applications and websites. When it comes to technical skills, I've learned more about programming and different programming languages. So far, I've worked with Java, Python React, and C++”.

Problem-solving and communication skills are needed in the field

Kristin's workday usually starts with a project meeting where the team members explain what they have done and what they are planning to do that day. After that, she spends the rest of the day learning how to solve different kinds of problems.

“You have to be interested in learning new stuff. When you get a project, you don't necessarily

know what to do. That's why you need to be able to learn new technologies.”

In addition to problem-solving skills, soft skills are much needed in the field. According to Kristin, collaboration and communication skills are important, as reaching the best possible outcome is always a group effort.

Having fun with the team is also an essential part of Kristin's workday.

“It's nice to take coffee breaks, go for lunch or compete in a quiz. Socializing with different people from different departments is extremely important.”



How to get started? Education, exchange studies, and internships

People that work in technology often have diverse backgrounds and skills. Having a diverse team is a great asset, as the best ideas are often created when great minds that don't think alike work together.

As technology is a fast-moving field, no one really knows what the exact technical skills needed in the future will be. That's why having the right soft skills is important. No matter the education, the five 5Cs – communication, collaboration, critical thinking, creativity and computational learning – will take you far. Logical thinking and being curious and able to implement the knowledge you've learnt will be big helps, too.

Vocational schools, universities and practice-oriented university colleges – also known as universities of applied sciences – all offer programs that can lead to a career in technology. It is

worth visiting the websites of different educational institutions and familiarizing yourself with the programs that they provide.

You should also note that many seemingly unconventional study paths are actually very beneficial in the tech industry. For example, many human or social sciences such as psychology, social psychology or sociology help us to understand the interaction between technology and people. Hobbies can also help with your career and some people, for example, like to learn coding in their spare time.

When deciding on a study path, it is worth thinking about whether you prefer theory or practice – or a mixture of both. In vocational school, the focus is on learning the necessary skills needed in work life. In university, students dive deeper into the theory of

technology, whereas universities of applied sciences can be seen as a mixture of these two. This, of course, is a rough simplification and the best way to find the right education for yourself is to carefully read the program descriptions.

Internships and education exchange programs are popular among students. During an internship, students work in an organization, familiarize themselves with work life and learn useful skills. Usually, internships can also be undertaken abroad. No matter the country, doing an internship is a great way to learn soft skills such as communication and collaboration that are crucial in work life. During an internship, students also get the chance to apply what they've learned at school or university to work life.



“

During my time at Nokia, I even spent 2.5 years working in Singapore as an expatriate, so language skills are useful.

Virve Linnanoja, Enterprise Architect

Exchange studies are especially common in universities and practice-oriented university colleges or universities of applied sciences. During an exchange period, students study abroad for varying time periods – usually from a few months up to a whole school year.

Studying abroad is a great way to learn about new cultures, develop language skills, and make new friends and international connections. If you have considered moving abroad, an exchange period is a great way to try out living in a new country.



Meimona protects Norwegians' online data



As a child, Meimona Hakim saw her father dismantle their home computer. Seeing the technology behind the computer sparked Meimona's interest in computers and technology. Today, she is a software developer who solves problems that are invisible to many and protects the privacy of online bank users. One of her future dreams is to become an ethical hacker.

"Technology is a stable future career because technology is the future. Especially women are very wanted in this industry," she says, explaining why she decided to pursue a career in tech.

"I do programming, which means that I work with web applications for users. I program what happens behind the scenes on a website, for example in an online bank, and I make sure the right people have the right access to the right places. What is interesting about it is that I get to work with confidential data and protect citizens' information."

Meimona's curiosity about technology has been beneficial in many ways. In her spare time, she volunteered in an organization that helps orphan children. To support their work, she is planning to create an app where people can donate money and get information about the organization.

For Meimona, one of the charms of technology is its ability to solve real-world problems.

"Recently some therapists have started to offer therapy in virtual reality. The patient wears VR goggles and gets treatment for their phobia that they are not ready to confront in real life," Meimona says.

A career in tech allows you to explore the world

Before starting her studies in the university, Meimona didn't have any prior knowledge in programming. Her curiosity and interest in problem solving were enough to convince her to apply for a degree in informatics. During her studies, she decided to specialize in language technology to explore how computers use human language.

"I typically studied practical subjects where we coded and made different kinds of programs. You can be very theoretical in the tech industry, but I like to do practical work. However, if you like theory, you can choose to specialize in less technical aspects within technology instead of working with programming. One example is that you can study design which focuses on how to create solutions that fit user's wants and needs."

During her studies, Meimona spent a semester as an exchange student in Singapore.

Exploring the world doesn't have to stop when you graduate. Meimona tells that in her current job,

employees can work from home, the office or wherever they want – as long as the job gets done.

One of her teammates is working from Poland, while the others are located in Norway. She prefers working from home and visiting the office every now and then.

"Every day we have a daily check-up, and then we work with our own tasks. What I really like about the tech field is the chill and comfortable work environment. You don't necessarily have to be an extrovert, as all kinds of people are accepted."

The technology industry offers great career development opportunities for everyone. In the future, Meimona wants to work as an ethical hacker.

"Although I didn't study cyber security, I'm really interested in it. I would like to work as an ethical hacker that companies could hire to hack their sites. This way they can tell if their sites are secure enough," Meimona explains.

From business school graduate to a technology leader



Joining the tech industry was not the plan that system specialist Giselda Autio had in mind when she started her studies at Aalto University's Mikkeli campus for a Bachelor of International Business. On the contrary, she wanted an education that would be beneficial in many different industries.

"I did not know what I wanted to do for a living. I enjoyed psychology at college, but after completing my bachelor's degree, I worked in logistics for a couple of years until I started to work on my master's," she tells us.

Giselda did her thesis on employer branding, again something entirely different than her previous job or studies. She was also working as an analyst in logistics at the time and was pondering on her next move.

"I read about consulting and found that extremely fascinating. And then I learned about SAP academy, a training programme for consultants using the enterprise resource planning tool called SAP, and decided to enroll," Giselda recalls.

She did not know it then, but that single decision would take her on a journey in tech for more than 15 years.

Growing from junior analyst to a leader – Giselda found her professional home with SAP

Before joining Tietoevry, Giselda worked her way from junior analyst to consultant and manager over the course of ten years in large scale

transformation programs. Today, she works as a leading consultant at Tietoevry.

"I love working at Tietoevry. We have a strong presence at leading retail companies so I can utilize my deep industry expertise and keep expanding it. And I like our inclusive, supportive, and flat hierarchy. Nordic values of equality and sustainability are present in everything we do," Giselda says.

The international work environment and the possibility to expand to different career paths were also crucial to Giselda. Instead of working her way up the corporate ladder, she is keen to constantly

for working as a system specialist, but any education teaches you problem-solving and essential teamwork skills," Giselda reminds us.

Her daily work consists of planning, meetings internally and with the clients, and 1-1 sparring with her subordinates to ensure objectives are clear and to enable personal and professional growth. Working as a specialist and a leader means Giselda's days are never the same.

"I work as a leader at the SAP technology Consulting unit that focuses on four of our biggest clients. So, I do a lot of planning on how we can find the best

“

We work with large, complex matters, and it is crucial to possess high-level and detail-oriented thinking skills – from big picture goals to single solutions.

learn new things horizontally.

"The most important trait is the desire to learn and implement the knowledge you gather. Anyone can learn the substance needed

possible solutions for the client on their core system modernization journey, and ensure all client needs and demands are taken into consideration," she says.



We hope this guidebook provided you some insight and inspiration around the technology industry. To find out more about future opportunities, check these useful links:

Careers at TietoEVRY:

<https://www.tietoevry.com/en/careers/>

Aalto University:

<https://www.aalto.fi/fi/opiskelu-aallossa/opiskele-tekniikkaa-aalto-yliopistossa>

University of Helsinki:

<https://www.helsinki.fi/fi/koulutusohjelmat/tietojenkasittelytieteen-kandiohjelma>

Haaga-Helia University of Applied Sciences:

<https://www.haaga-helia.fi/fi/tietojenkasittely-ja-digitaaliset-palvelut>

LUT University:

<https://www.lut.fi/fi/opiskelu/tekniikan-ala>

University of Oulu:

<https://www.oulu.fi/fi/hae/ict>

Royal institute of Technology
(Kungliga Tekniska Högskolan), KTH:

<https://www.kth.se/en>

Chalmers University of Technology
(Chalmers Tekniska Högskola):

<https://www.chalmers.se/en/Pages/default.aspx>

Luleå University of Technology
(Luleå Tekniska Universitet):

<https://www.ltu.se/?l=en>

Lund University:

<https://www.lunduniversity.lu.se/>

Uppsala University:

<https://www.uu.se/en/?languageId=1>

Linköping University:

<https://liu.se/en>

University of Oslo:

<https://www.uio.no/english/>

University of Bergen:

<https://www.uib.no/en>

Norwegian University of Science and Technology:

<https://www.ntnu.edu/>

University of Stavanger:

<https://www.uis.no/en>

University of Agder:

<https://www.uia.no/en>

OsloMet:

<https://www.oslomet.no/en>

Western Norway University of Applied Sciences:

<https://www.hvl.no/en/>

Kristiania University College:

<https://www.kristiania.no/en/>

Norwegian University of Life Sciences:

<https://www.nmbu.no/en>



Tietoevry creates purposeful technology that reinvents the world for good. We are a leading technology company with a strong Nordic heritage and global capabilities. Based on our core values of openness, trust and diversity, we work with our customers to develop digital futures where businesses, societies, and humanity thrive.

Our 24,000 experts globally specialize in cloud, data, and software, serving thousands of enterprise and public-sector customers in more than 90 countries. Tietoevry's annual turnover is approximately EUR 3 billion and the company's shares are listed on the NASDAQ exchange in Helsinki and Stockholm, as well as on Oslo Børs.

www.Tietoevry.com

