CompTIA®

Be part of the future

The amazing places a career in IT can take you

Produced by CompTIA, the Global IT Trade Association

What is IT?

IT is everywhere. It flies our planes, broadcasts our football matches, and records and edits our music. You need it to book gig tickets, read the news as it happens, and communicate with your friends. IT systems monitor the effects of global warming, help educate children in the third world, and ensure hospitals function effectively.

IT changes faster that we can keep up. Facebook was only launched in 2004, Twitter in 2006 and Spotify in 2008. The iPhone came out in 2007, the iPad in 2010. These innovations have made billions of pounds and changed how millions of people communicate. IT is no longer about sitting in a basement working alone, the IT people behind these inventions, from the creators to the designers to the sales people, have all played their part in changing the world.

The most amazing thing about technology is that we have no idea what revolutionary things it will enable us to do over the next few years. What we do know is that all of these innovations - present and future—will need thousands of people who understand how technology works if they are to be successful.

A career in IT is your chance to be a part of this.

IT offers:

- **Above average wage**
- **A career for life – the world will always need IT**
- **Work with the latest technology**
- **Opportunities right across the world**
- **A career which is integral to the future**

Technology trends

It's hard to know what the future of technology will bring, but many experts think the following areas are about to lead to big changes. Those starting a career in IT today may be a defining part of how these affect our lives:

- **Location technology** - advances in GPS could mean self-driving cars, marketing that responds to your mood, and remote warfare, all of which need to be carefully managed.
- **Data explosion** - billions of gigabytes of data are now online. What do we do with all this information? How do we store it? And more importantly how do we use it to make better decisions about the world we live in?
- **Cyber attacks** - comes from just a single computer. Damage can be caused around the world, making security one of the hottest topics nationally and internationally.
- **Bigger, better, faster networking** - the ability to transfer vast amounts of data around the world almost immediately will mean a dramatic change in the way people live. How they watch TV, how they play video games, how they work from home, how they listen to music, and how they interact with other people. All of these come with challenges and opportunities for the next generation of IT professionals.

Working in IT

Whether it is entertainment, medicine, finance, education, or defence, every profession relies on IT. Here are just a few of the ways you could change the world by becoming qualified to work in this sector.

Building a new world

We need IT systems to make the world work. Companies and governments are always wanting to do things better. IT systems professionals use technology to help them do that.

IT in Sport

Formula 1 relies heavily on IT, from designing the fastest car to supporting the team during the race. Formula 1 IT teams collect huge amounts of data during races, from tyre pressures to the position of every cog in the gearbox. Data is sent home from anywhere in the world, analysed and sent back to the track, providing real time information to improve lap times. Certified IT professionals ensure the systems keep working as the team moves from country to country, whether they race in pouring rain or arid deserts.

IT in Medicine

IT is revolutionising modern medicine. Sensors monitor patients on life support to check for changes in breathing or pulse rate. ID tags wirelessly track the movement of at-risk patients. Personal records are held electronically so doctors can prescribe treatments quickly and correctly. Improved communications allow for remote diagnosis and advice, and we are not far away from performing surgery using robots controlled from the other side of the world. All of this relies on carefully designed IT networks where security and reliability is critical.

Bill Peters
Head of IT at Team Lotus
(As told to Computer Weekly)

"On race day, we're entirely reliant on our trackside IT. Quite simply,if it fails, we can't race."

Job titles

Systems Architect • Systems Engineer
Software Developer • Systems Analyst
Research & Development Engineer

Skills needed

Hardware and software skills
Security Networking • Wireless communications
Problem solving • Troubleshooting
Communication skills • Planning

Designing the future

The future is online. Shopping, banking, communicating, reading, watching TV, listening to music ... everything is done through the internet now. From designing visually stunning company websites to creating the next Facebook, IT design professionals will shape the way we think, act and work over for the coming years.

IT in the Media

Only a few years ago, films had to be watched through a TV, music was listened to through a CD player, radio relied on analogue tuners. Now, thanks to websites like YouTube and iPlayer, iTunes and Spotify, we can watch and listen to almost anything, anytime, anywhere. For these sites to exist, web designers had to create easy to use interfaces and attractive designs to draw people in. They had to regularly add new features like message boards and mobile compatibility to keep them up to date. They had to work with other qualified IT professionals to create the networks, storage and communications infrastructure that allows vast amounts of information to be transferred at the click of a button.

This takes a big team of technical and creative people, but the end results are stunning, and world changing. The next big things could be 3D TV without glasses and interactive television. The next generation of IT professionals will make this happen.

IT in Marketing

It's on your phone, your computer and your TV. Technology experts are even designing billboards which advertise to you personally by connecting to information stored on your phone. In a world full of adverts, well-designed digital marketing that utilises the latest technology really stands out. Systems which text people to tell them their favourite band are playing a gig nearby, or mobile games that people can't put down are changing the way marketing works. The people behind this next generation of marketing will combine creativity and an interest in how people think, with IT skills. Those who get it right could change the fortunes of a company.

Job titles

Web Designer

Digital Marketer • Games Developer

Digital Consultant

Skills needed

Programming • Networking

Wireless communications

Creativity • Design

SEE THE AMAZING PLACES IT CAN TAKE YOU

Defending your country

Crime is moving more and more online. Theft of passwords, email addresses and bank details by anonymous hackers costs the UK £27bn per year.

Governments of the world are using the web to access rivals military secrets and business ideas and to disrupt critical IT systems. A new breed of cyber security professionals are needed to defend us against these threats.

IT in Defence

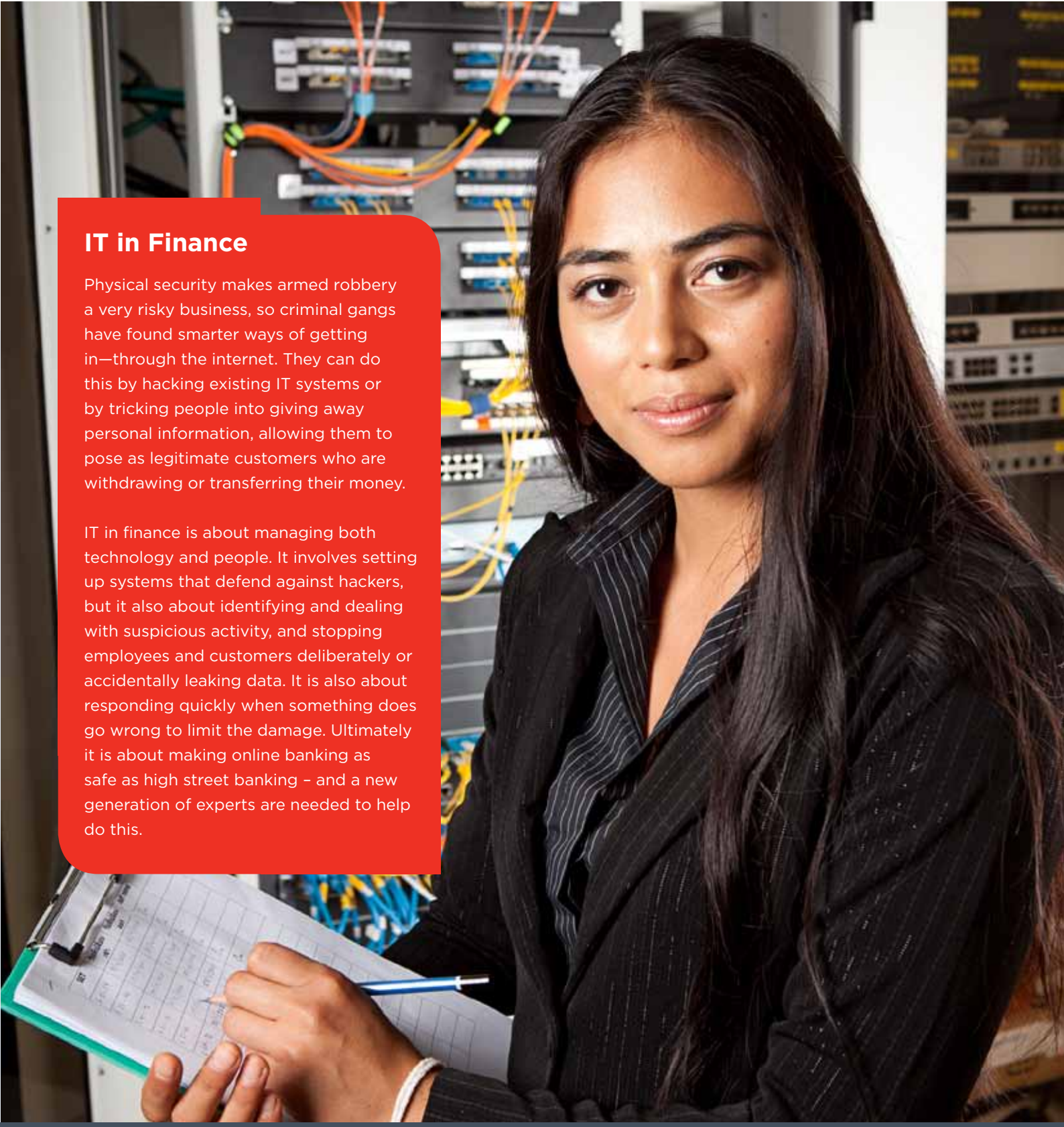
The internet presents a new frontier for attack. Terrorists and rogue states want to use it to steal national secrets and disrupt essential IT systems. An attack on London traffic lights could bring the city to a halt. Sabotaging a power station will cost many lives.

We need more qualified professionals to help safeguard our information and critical national infrastructure which has become reliant on cyberspace. The cyber security experts of the future will help design safe systems, identify attacks, spot patterns of illegal behaviour and track down international criminals and terrorists. This is the new face of international crime and it needs new people to defend against it.

IT in Finance

Physical security makes armed robbery a very risky business, so criminal gangs have found smarter ways of getting in—through the internet. They can do this by hacking existing IT systems or by tricking people into giving away personal information, allowing them to pose as legitimate customers who are withdrawing or transferring their money.

IT in finance is about managing both technology and people. It involves setting up systems that defend against hackers, but it also about identifying and dealing with suspicious activity, and stopping employees and customers deliberately or accidentally leaking data. It is also about responding quickly when something does go wrong to limit the damage. Ultimately it is about making online banking as safe as high street banking—and a new generation of experts are needed to help do this.



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Job titles

IT Forensics

Risk Manager • Security Architect

Security Officer

Skills needed

Hardware and software knowledge

Security • Networking • Analytical skills

Written and verbal communication

Decision making skills • A love of change

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How do I get there?

You don't need to be a computer expert already to work in IT—technical skills can be learned. Curiosity, an analytical mind, an interest in problem solving and an enthusiasm for new technology are more important, as are good communication skills.

Where do I get qualified?

An IT degree is useful for coding or programming jobs, but most entry-level IT jobs need basic IT knowledge combined with enthusiasm. Most young people have grown up with the technology they will be using—it's one of the few careers where being young is an advantage.

Some IT knowledge is needed, of course. CompTIA and other IT organisations develop certifications specifically designed for people starting out in IT, so they can demonstrate to companies that they have this knowledge.

These IT certifications can be gained through:

- Colleges whose IT courses include industry-recognised certifications, such as Edexcel's BTEC National in IT
- Organisations such as Zenos, which run paid IT apprenticeships including certifications and work experience
- Courses run by local and national IT training providers, some of which are funded by IT companies or the government
- Online training providers like QA, Computeach and Firebrand Training, which offer flexible learning, ideal for those who want to work and study
- The government apprenticeship scheme, which provides paid apprenticeships in ICT
- Self study, which can be validated at testing centres run by Pearson VUE

Tony Hay, Learning and Technical Development Manager at Ricoh UK, which takes on 50 IT apprentices a year.

"When recruiting, we look for people with accredited IT skills, particularly those with CompTIA and Microsoft certifications. Ifthey have these we know they havethe basics and the aptitude and we can back train them onto our specific products."

What certifications do I need?

A common route into IT for school leavers is to get a foundation-level certification such as CompTIA A+ that will offer a stepping stone to more specific qualifications designed to train people in particular technologies.

CompTIA A+ certification is an introductory technology certification that covers hardware and operating systems, security and environmental issues. It is developed in collaboration with major IT organisations to ensure it assesses the skills the IT industry is looking for.

CompTIA A+ is usually followed by a technology-specific certification in your area of interest. Most major technology and software producers offer certifications to assess different levels of expertise in their products. The major entry level certifications are Microsoft MCITP, Oracle OCA, Novell CNA, Cisco CCENT or CompTIA Network+, CompTIA Security+ or one of the specialist CompTIA certifications in Green IT, Cloud and IT for Sales.

Many IT courses and apprenticeships are based around gaining CompTIA A+ and a technology-specific certification. This can reasonably be completed within a few months, though some courses such as BTEC's cover additional skills and so run for longer.

For those completely new to IT, CompTIA also offers an introductory certification, CompTIA Strata IT Fundamentals, to provide a springboard to CompTIA A+ certification.

CompTIA A+ CompTIA Network+ CompTIA Security+

CompTIA Strata IT FUNDAMENTALS CompTIA IT for Sales

SEE THE AMAZING PLACES IT CAN TAKE YOU

FAQs

What will I earn?

"Starting salaries for trainee or entry level roles are typically £16,000 to £23,000 per year depending on skills, certifications and motivation.

Most people who are prepared to work hard see their salaries rise quickly. IT and telecoms professionals between 16-29 earn a third more than the national average. Chief Information Officers can earn well over £100,000 per year."

Do I have to spend three years at university and £27,000 to get a degree before I can get a job?

"The UK needs more than 110,000 new entrants each year into IT & Telecoms jobs to close the current skills gap. IT's role in everyday life becomes more important every year, and it needs more people to fill these jobs.

With the IT market booming, huge demand for new talent, and a growing number of roles, IT is one of the safest careers today."

A lot of jobs are disappearing, is IT a safe career option?

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Can I travel with IT?

"IT skills are in demand globally. Countries such as Australia, New Zealand and Singapore all actively encourage qualified IT professionals to work in their country. Many IT companies have American offices and offer employees opportunities to spend time there.

With internationally recognised certifications, such as CompTIA or Microsoft, and a couple of years' experience, you could be in high demand the world over."

How do I find a job?

"The best way to find your first job is through your college or training provider. Most have arrangements with IT organisations, who recruit through them.

If you are not working with a training provider, develop a CV which highlights your certifications, as well as your skills, knowledge and personal interest in the job. Remember that soft skills are also an important part of an IT professional's role, so include your experience in customer facing roles or social activities."

How do I get my dream job?

"Like anything, you can't jump straight in at the top. Your first job in IT is likely to be working in an IT department or tech support desk. This will give you the chance to experience the broad range of work available in IT and identify the areas that most interest you before you start to specialise.

But that doesn't mean accepting any job that comes along just to get the experience. Young IT professionals are in demand, so find a job in the industry that inspires you, whether its media, marketing, finance or defence, and make it your goal to work there."

Useful resources

CompTIA certifications

http://certification.comptia.org

Further careers information

Big Ambition - all about IT careers
www.bigambition.co.uk

Apprenticeships

The government's apprenticeship scheme
www.apprenticeships.org.uk

IT certification testing centres

Pearson Vue
www.pearsonvue.co.uk

About CompTIA

CompTIA is the Global IT trade association and the voice of the world's IT industry. It works closely with IT organisations to develop certifications which assess the skills needed by the evolving industry.

Thousands of companies depend on CompTIA standards to provide a reliable predictor of employee success. Many companies with their own certification programmes rely on our exams to provide independent validation of foundation-level skills.

CompTIA®

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