

## What is Visual Effects (VFX)?

VFX uses digital technology to combine Computer Generated Imagery (CGI) with moving images from a camera. This is a creative industry, founded on digital technology, that produces some of the spectacular effects you'll see on the big screen.

## Why choose a career in VFX?

The UK, and London in particular, is the centre for internationally renowned VFX work in film, television and the advertising industry. Films that are shot in the UK, or even in Hollywood, are serviced by clusters of London post-production and VFX companies.

But VFX is not all about monsters and spaceships – it's also used to repair or improve images in ways that are invisible – changing colours or erasing mistakes within the image.

## Your VFX career guide

This leaflet provides an introduction to VFX and a guide to the industry's structure, career routes and progression.

The map on the reverse of this leaflet describes career progression paths to and within the VFX industry. It illustrates the job roles and describes possible educational entry points to get you employment in VFX.

## Getting in: Choosing the right course

Historically, entry to the VFX industry has been informal: usually through the runner route (see below for more details), which is variable in length and doesn't guarantee entry, through showreels rather than qualifications; or by knocking on doors and being in the right place at the right time rather than via recruitment ads. There are, as yet, no standard career paths. Recruitment levels also fluctuate, depending on what blockbuster films and TV shows are being made in the UK.

The industry is changing though, with the majority of new industry entrants now coming via courses provided by private vocational training providers or university degree courses in VFX, animation, related subjects or STEM. However, some still join VFX companies as runners and receive in-house training straight from A-level, BTEC or foundation degree.

All VFX roles rely on a crucial blend of technology and art knowledge, but any training or learning from a visual arts course needs to lead to an individual showreel of work which is the vital passport to first VFX industry jobs. Students should ensure that any study they undertake with a view to a career in VFX, provides them with assistance, advice and support in the development of an entry level 'industry ready' showreel. Those pursuing Computer Science or 'code based' VFX routes won't usually have to develop a showreel but will need to evidence relevant coding skills.

No matter what the route, qualifications alone will not get you your first industry job. Applicants need to demonstrate their artistic and technical abilities with their showreel.



Image courtesy of VFX Artists

Whichever course you choose, it's important it is industry relevant. Creative Skillset's **Pick the Tick** lists accredited university courses where tutors have a background in the industry or are in constant contact with employers: [www.creativeskillset.org/courses](http://www.creativeskillset.org/courses)

## Getting in: Developing the right skills

It's a good idea to try a series of roles in VFX to find out what you are good at. The best university or FE courses will allow you to do this and to specialise as you go along.

Some people have a strong affinity for the programming and maths side, while others see themselves as artistic and ideas-led. If you're really keen to develop one of these routes, follow your passion. There are many people in the VFX industry who developed their expertise on maths or art courses rather than directly studying VFX.

Hear how VFX professionals career's started and what their jobs are like: [www.dneg.com/career\\_profiles/](http://www.dneg.com/career_profiles/)

## Foundations for a career in VFX

A trained eye and an appreciation of light and colour are vital to be able to make images appear real. Art and art history, the ability to draw and an understanding of photography can help with this. The study of biology and physics can be helpful to interpret anatomy, mass, mechanics and movement. However, advanced study in these disciplines is only important for some VFX roles. The careers map on the reverse of this leaflet shows those VFX roles that require a strong foundation in certain subjects.

Awareness of contemporary culture can also be important to be able to visualise others' ideas. For instance, we all have notions of what vampires or robots look like that we have referenced from popular culture. Films, graphic novels and computer games can provide a good background for anyone interested in pursuing a career in VFX.

## Getting in: Starting in the industry

In bigger companies, new entrants to the industry can benefit from the opportunities to see and experience different VFX roles by being employed as a Runner. By servicing all the departments with refreshments and assisting with operational tasks you can pick up a really good sense of what everyone does. Your line manager will spot your enthusiasm and talent for a particular area and when a vacancy for an entry role comes around, you may find yourself being considered. You can then start to hone the skills that will allow you to become a specialist.

In the same way, Runners become junior VFX professionals who then learn informally from more experienced artists or technical staff. They may also receive more formal 'on the job' tuition to allow them to develop and refine their techniques as they go.

Instead of becoming a Runner, more skilled graduates may join as Roto Artist trainees (short for rotoscope, which involves digitally tracing around objects through a moving clip) or Match Move trainees (who take measurements and movement information from previously shot material). Both are always needed on big productions.

There is a third VFX career route, that of a Producer. People who are good at planning and organising and keen to pursue a career in VFX should consider becoming a Production Coordinator. There is a shortage of people with production management/business skills to enable growth in the smaller companies outside of London.

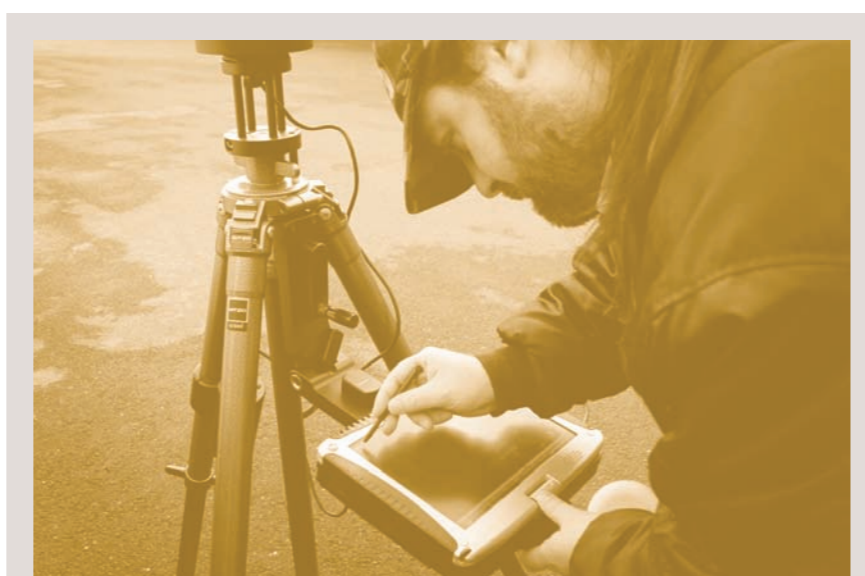


Image courtesy of VFX Artists

## Getting on: The VFX skills spectrum

You can think of VFX skills as being on a spectrum, with art skills at one end and computer science, physics and maths skills at the other end.

As the nature of VFX has changed over the years, there are now many more jobs that involve STEM disciplines and computer science in order to create both new software tools and processes to make better VFX, but also to create many 'natural' looking effects like explosions, fire, water or even crowds and characters. People are often surprised that a good degree in computer science or maths can lead to a career in VFX.

Wherever you are on the VFX role spectrum, you'll also need to be good at working in teams, be able to communicate with colleagues in different specialisms and know enough about their roles to be able to successfully interact with them through the VFX pipeline process.

What VFX professionals all have in common is that they are talented, driven, able to work procedurally, solve problems in creative ways and have strong attention to detail.

## VFX employment make-up

More than 5,000 people work in VFX in the UK. More than half of these are employed as Artists/TDs. The rest of the industry employs, in almost equal numbers, programmers, producers, production co-ordinators, editorial, management and support staff.

Source: Creative Skillset Employment Census 2012

## Career progression

Progression upwards in the VFX industry is based on the time and experience you've amassed in a certain role. It is craft based and as such, the vast majority of employees start in junior roles and never stop learning as they progress to mid and senior levels. Exceptions do exist of people entering at mid-level, when individuals have become specialists via other production departments or even other industries, or people who have studied a doctorate or are exceptionally talented. However, these instances are rare and are more likely to occur in those specialist roles represented on the art and tech backdrops of the VFX careers map.

People will usually work as a junior artist from between one to three years, mid level artist from three to seven years and senior artist upwards of seven years. Senior artists go on to train junior artists, quality assure work and lead teams. Some seniors will go on to work on set and supervise the acquisition of the raw ingredients for the VFX work.

Junior, mid and senior job demarcations vary by company in terms of the skills you are able to evidence usually through an appraisal and pay review process.

## Pay in VFX

Companies employ artists on a contract basis. Contracts are usually project based and can last from between six months to a year. Contracts often roll back to back and it's possible to be employed on this basis at the same company for several years. Sometimes it is necessary to move from company to company to ensure consistent employment.

Someone starting their career as a Matchmover or Roto Artist can expect to be paid an annual salary of between £18k to £20k. Junior level artists earn between £20k to £30k per year. Mid level roles earn between £30k to £50k per year and senior level artists can command an annual salary of £50k upwards.

London is home to thousands of the most talented creators of CGI in the world and its' VFX industry needs to recruit talented, enthusiastic people with the right blend of skills to ensure its future and growth.

VFX provides the opportunity for a rewarding, hands-on and creative career. Many people move from project to project, some travelling the world with their skills. VFX professionals can take their skills to other production centres, such as New Zealand, Canada and even Singapore and India.

The UK VFX industry experiences skills shortages, particularly in the more technical specialist roles that rely on strong educational foundations in STEM (Science, Technology, Engineering and Maths) subjects. Studying or having an interest in these core subjects can help students gain the opportunity to be involved in creating the startling VFX of the future.

In addition, creative and artistic jobs exist which rely on good foundations in art, photography and design complemented by use of current graphics software.

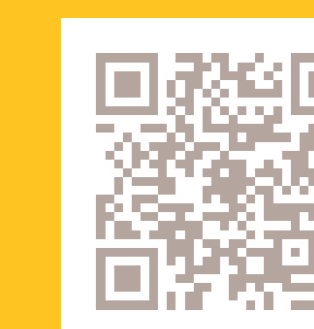
Although the VFX feature film industry in the UK is based almost entirely in London, there are opportunities to work elsewhere in the country on VFX for television or to use your skills to move into related industries such as computer games and animation.

## Further VFX careers research

You'll find all information you need, to look further into a career in VFX here: [www.filmworkshop.com/fusion-careers](http://www.filmworkshop.com/fusion-careers)

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## Getting on: Specialists vs Generalists

Specialisation is essential in the London-based VFX feature film industry, but you can also pursue a career as a VFX generalist in smaller production houses where roles are more varied in scope. Smaller animation and post production companies are also starting to do VFX work for tv, commercials and games, often in cities outside of London, such as Manchester, Bristol, Cardiff, Glasgow and Belfast.

There are a number of specialist areas where the UK film industry particularly excels and in which hundreds of highly-skilled jobs exist. The career's map overleaf outlines the foundations for particular roles and career routes.

**Runner**  
You'll help the studio to run smoothly and learn the tools of VFX at the same time. Thousands of people in the film industry learnt their craft while making tea! The job of a Runner is not glamorous but it can be a job with prospects.

You will learn how teams and workflows operate while getting to work on training shots, match moving or roto. In advertising VFX the biggest part of the job is still to serve drinks and refreshments for company clients and keep the kitchens stocked. In film VFX, expect to run errands, manage deliveries, cover reception and keep the place tidy. To progress you will need to be enthusiastic and prepared to work on training shots during quiet times and in the evenings.

**Roto Artist**  
Imagine getting to know every detail of a famous actor by cutting around him or her! Roto Artists carefully cut out moving characters and objects from one moving picture so they can be inserted into another (or CGI can be inserted behind them) by compositors. You need to have a keen eye, patience and think like an animator – because you are one!

**Paint/Prep Artist**  
Help create the illusion that a person can fly by 'cleaning' or erasing unwanted items from live action images such as wires, harnesses, or film equipment. Paint/Prep artists also remove things that betray the story, for example, removing a jet or a pylon from the scene of an Edwardian period drama.

**Compositing Artist**  
Consider the pride you'll have in knowing you matched the computer generated creature or object to make it appear as part of the frame. As a Compositing Artist you work at the end of the VFX process to combine CGI and digital matte paintings with live action and make it all look seamless.

**Match Mover (sometimes called Camera Tracker)**  
You'll be the person that everyone relies on to extract movement and spatial information from previously shot material so that objects and people can be dropped into the shot realistically – without anyone knowing. You are making a virtual 3D copy of a flat image so that others can create new elements to make them appear realistic.

**Modelling Artist**  
Imagine being able to make anything digitally. As a Modelling Artist you'll create a whole range of 3D objects using digital modelling and sculpture software. You could be asked to make anything on the computer, from the fantastic to the mundane. You create the 'building blocks' for VFX that need to be built before they can be placed coloured, lit and animated.

**Texturing Artist**  
As a Texture Artist you will create 'skin', surface detail and colour through a combination of photographs and painting in three dimensions. Texture Artists enjoy dirtying things up, making rusty, tarnished edges and surface imperfections to give computer models the messy sophistication of the real world.

**Lighting Artist**  
Just as our physical world has many different light sources which contribute to how objects and scenes look, so does VFX. A computer generated object needs to be lit too. Lighting Artists use computer software lighting and work with images photographed on set to illuminate 3D objects so they match live action backgrounds. These are then enhanced and accented to help tell the story.

**Environment Artist**  
Imagine going on a film set and taking the photos that allow you to digitally recreate the scene that all the other VFX artists will use. Environment Artists are 3D generalists that use modelling, texturing and photo manipulation to re-create the environments that the action takes place in.

**Concept Artist**  
All great ideas on paper or in the head of the creator need to be turned into images that communicate a look or a shared vision. Concept Artists use digital and traditional drawing and painting to visualise concepts for the film maker so that other VFX artists have something to work from. Concept Artists might also work in the film's art department, costume department or work in the computer games industry.

**Matte Painter/Artist**  
Imagine taking photographs and cutting/pasting and digitally painting visual elements to make entirely new environments or images, which might be used in the background or to illustrate a landscape or wide-angle cityscape for instance. As a Matte Painter you might use your own stock of images to cut up, flip and manipulate to create new digital worlds.

**Animator**  
Your work breathes life into a creature so they move realistically and display a personality, becoming part of the cast. Animating vehicles or machinery is also part of the job. No matter how good the CGI, if it's movement isn't realistic the audience won't believe in it!

**Look Development Artist**  
What does the skin of a fantasy character such as an alien actually look like? When the concept for the computer generated creature has been designed you will work with other film production departments, Lighting and Texture Artists and Shader Development TDs to establish how the alien will look in different VFX shots.

**Creature/Rigging TD**  
Fancy solving the puzzle of the mechanics of how a creature moves? Creature TDs create skeletal and muscle systems, adding well placed handles and controls for animators to use to create realistic creature movements. This is a role that combines computer interface and digital tool design with anatomy and science.

**Effects TD**  
Imagine creating fire, ice, rain and explosions (digitally!) Effects TDs create things that seem to move under the rules of physics, for example developing spectacular simulations of floods and destruction or just the bit of sand that is blown up when the computer generated helicopter lands.

**Pipeline TD**  
You are the Mr or Ms fix it, writing or modifying computer code to solve problems related to art or productivity as they arise on a project by project basis.

**R&D (Research and Development) Programmer**  
You'll be the inventor of the software that every other VFX artist relies on. In R&D, you'll use computer programming to modify and originate bespoke code to provide artists with new creative tools and enable the efficient passing of assets from one VFX process to the next.

**Shader Development TD**  
Milk, marble, iron, skin and snow, all have complex surface structures that dictate how they look in different lighting conditions. You are the computer programmer that writes code to describe the 'material' surface quality of things modelled and generated inside the CGI world.

**Assistant TD**  
You'll be a technical assistant to effects and pipeline TDs and R&D programmers, learning and refining your coding craft, cleaning up effects simulation data, backing up and moving digital files from one location to another.

**Production Co-ordinator**  
As a 'Junior Producer', your job is to input and collate data relating to schedules, tasks and client/VFX supervisor feedback notes. This is the project information that the producer will rely on to track progress against the planned schedule.

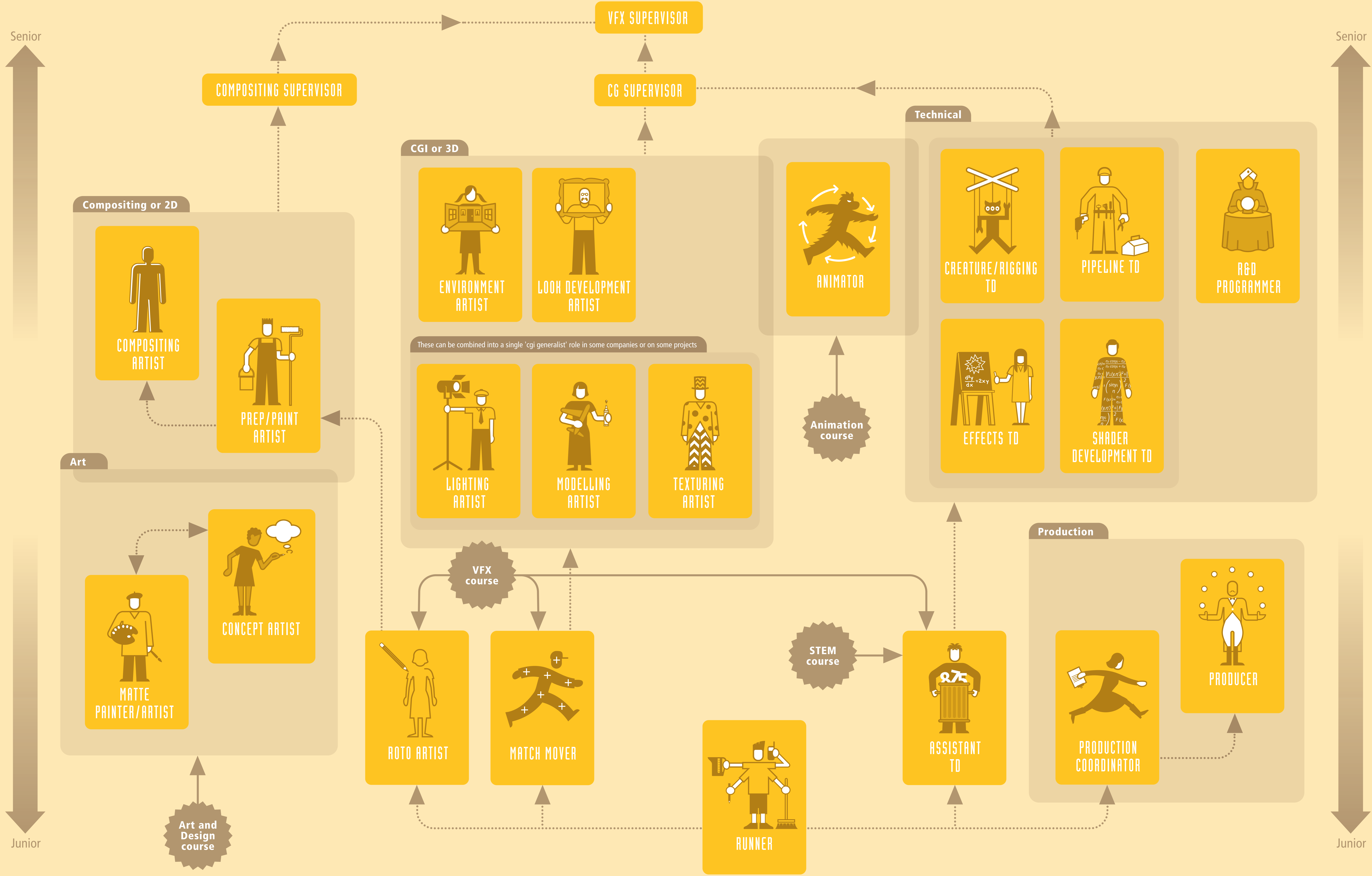
**Producer**  
By working closely with the VFX supervisor, you will project manage the VFX process, from writing the client bid, through to setting and managing schedules and budgets. You will recruit, or advise on the recruitment, of artists and technical staff for projects and will liaise with both crew and clients throughout production. You'll need to have a strong personality, be highly organised and good with people.

**Technical Director (TD) is a job title you will come across often when researching jobs within VFX. Any role you see appended with 'TD', you should assume requires a high level of STEM skills, in particular computer science and coding, but some also require a solid foundation in physics and maths. Technical Director roles can range from junior to senior.**

# CAREERS IN VISUAL EFFECTS (VFX)

Where art and technology collide





# VISUAL EFFECTS (VFX) CAREER MAP

