WHAT IS A SPACE JOB?

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Why work in the space sector?

- Because you can tell your friends you’re a rocket scientist (sort of!)
- International work environment
- Global projects
- Enormous variety of job types and companies.
The space industry

Upstream
- Build satellites
- Develop Control Systems
- ESA, AirbusDS

Downstream
- Operators
- Equipment Suppliers
- Avanti, Inmarsat

Space Enabled
- Anyone using space data, space assets
- Met Office, Airlines, etc

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Significant Employers - ESA

- European Space Agency (ESA)
  - Sites across Europe, including new centre at ECSAT
  - 3 types of employee
    - Staff member: full time employee of ESA
    - Contractor: full time employee of another company, based at ESA site
    - YGT: Young Graduate Trainee: new graduate role, employed by ESA for fixed term of approx. 1 year.
  - Jobs across all disciplines, technical and not technical, UK focus on application of space data and technology into other sectors.
  - Pros: Wide range of projects and prestige at working for ESA
  - Cons: ESA generally supervise Industry doing work, thus the roles can be administrative

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Significant Employers – Big Primes

- Europe has 3 Primes
  - AirbusDS: UK sites in Portsmouth and Stevenage. Multiple roles focused on the design, development and testing of spacecraft and ground segments.
  - TAS: Italian company with offices around Europe, including small office in the UK, again primary focus on building spacecraft.
  - OHB: Based in Germany, started as small satellite company now develops full size spacecraft, regularly partners with SSTL.

- All offer graduate schemes
- Pros: Work tends to be more hands on in the design and development activity.
- Cons: Typically very structured early on in your career, limited research opportunities

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The new Breed - SMEs

- Companies making the most of funding and the space enabled economy
- Focus is on using space data and technology to create innovative products
- Ideal jobs for people with software skills or understanding of space imagery
- Pros: Biggest technical challenges, chance for creativity, great if you love space but aren’t studying a typical “space subject”
- Cons: small companies, less structure
Where can I go?

- The Netherlands
  - ESTEC
- Germany
  - ESOC, EUMETSAT, EAC
  - AIRBUS, OHB, DLR
- Italy
  - ESRIN, TAS
- France
  - CNES, AIRBUS
- Spain
  - ESAC

Exotic locations!
Noordwijk - ESTEC

- ESA’s main centre and therefore very large population of space experts
- Entry level positions tend to be YGTs
- Smaller space companies like SSBV, as well as startups in ESA BIC
- Tends to be the ultimate career aspiration of many space engineers
- Areas to live, Leiden, The Hague, Noordwijk
Darmstadt

- Home of Spacecraft Operations – EUMETSAT & ESOC
  - Large expat community – popular starting point for new graduates
  - Excellent transportation links, easy to travel the world
  - Wide variety of jobs on many missions.
The UK – Harwell & South East

- Harwell is centre of emerging space cluster
  - Growing international community
  - Live in Oxford, Abingdon, Didcot, London
  - ESA centre, RALSpace and many smaller companies

- South East of England also offers
  - Airbus (Portsmouth & Stevenage)
  - Scisys Bristol
  - SSTL, Guilford
  - Inmarsat & Avanti – London

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YOUR FIRST JOB
Typical Jobs (1): Spacecraft Controller

- 24/7 monitoring of spacecraft
- Excellent grounding in spacecraft operations and system engineering
- Skills:
  - Space system understanding
  - Organised and methodical
  - Able to think on your feet
  - Works well under pressure

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Typical Jobs (2) – AIT Engineer

- Opportunity to work in the cleanrooms
- Develop understanding of how satellites are built
- Skills:
  - Understanding of spacecraft architecture
  - RF Engineering
  - EMC Testing
Typical Jobs (3): Software Systems Engineer

- Development and testing of the systems that control spacecraft
- Wide variety of roles
- Includes development of spacecraft simulators
- Skills
  - Software development & programming
  - Software testing
  - Understanding of spacecraft data handling
Typical Jobs (4): Applications Engineer

- New area in the space sector
- Use of space data to create new products and services
- Skills:
  - Image processing
  - Software skills (GIS, SQL, Jscript)
  - Knowledge of Big Data environments
  - Innovative, can you think of new applications?
Where to find Entry Level Jobs

- ESA YGT scheme, applications in November
- All big primes run Graduate Schemes, excellent way to get a start in the industry, typically advertised on company websites rather than aggregator sites
- Consider SMEs, lots of opportunity to broaden your experience, fast paced and innovative. Again you need to know the company's
- Check directory of space companies on ukspace.gov
- Look at Satellite Applications Catapult and ESA BIC to find out about startups
GETTING THE INTERVIEW
Make yourself stand out

- Know what you want: “I’ll do anything I just want a space job”
- Get some experience, any technical work will be useful
  - SEPNET
  - ESA Studentships
- Consider what your CV really says
  - Emphasis on skills rather than jobs
  - Demonstrate how you acquired a skill
CV formats for early career candidates

Europass: Common but not great for early career candidates.

Chronological Typical format. Employers like it but not great if you have limited/no work experience

Skills Based Emphasises skills gathered from a wide variety of sources
CVs – Dos & Don’ts

- **Do**: Use a modern template, MS Word or online provide excellent formats to give you a professional layout
- **Do**: Focus on your skills, what did **YOU** do.
- **Do**: Use lots of verbs, google “CV words” for ideas
- **Do**: Keyword match to the job spec, ideally in the first half of page 1

- **Don’t**: Lead with your education, awards, scholarships
- **Don’t**: Send more than 2 pages
- **Don’t**: Send the same CV for every job
Networking

Used to mean this

But now also includes this:
Using Social Media

- LinkedIn: have a profile, make sure it matches your CV

- Twitter: Consider an account for use at conferences and events, get involved, get people to know your name, use a sensible photo!

- Join careers groups, HE Space has a facebook page.
Interview Technique

- **Tell us about yourself?**
  - Don’t just talk jobs and education, tell them something memorable about yourself.

- **Why do you want the job?**
  - Show you’ve done your research, is there a new project you’re interested in?

- **Be honest, the interview is a two way conversation, you want a job you will enjoy, not just any job**
THANK YOU!

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