



# GRADUATE PACK



ENGINEERING  
EXCELLENCE  
UNDERWATER

# ABOUT SMD

As the subsea division of CRRC Times Electric, SMD will be the most advanced supplier of subsea remotely operated and autonomous power and control solutions, worldwide.

Soil Machine Dynamics Ltd (SMD) is a world leading manufacturer of remote intervention equipment operating in hazardous environments around the globe. With a strong and unique heritage in subsea engineering, we have pioneered the design of specialist trenching equipment such as ploughs, tractors and jetting machines and have grown to be the world's largest independent designer and manufacturer of work class and specialist subsea Remotely Operated Vehicles (ROVs). This includes bespoke projects such as the world's first three deep sea mining machines delivered in 2016.

## FAST FACTS

- Subsea group of CRRC Times Electric
- Winner of five Queen's awards
- Over 45 years of experience in subsea engineering
- Pioneered the first subsea plough
- Delivered 5 world first projects
- Largest range of work class rovs on the market
- Accredited by Investors in People

Our customers come up against an increasing range of challenges within the frontier, ocean, underwater and hazardous environments in which they operate. Using clever engineering to take technology from concept to maturity, we offer customers the solution they need to succeed.



DESIRE TO  
ACHIEVE,  
PASSION FOR  
ENGINEERING,  
STRIVE FOR  
EXCELLENCE



#### WHAT'S IN IT FOR YOU?

- Competitive starting salary
- Opportunity to be involved in world-first engineering
- Dedicated mentor and support to achieve Incorporated/Chartered Engineer status
- Rotational programme offering training in a range of areas
- Flexible working hours and potential overseas rotations
- Opportunity to travel and partner with other stakeholders globally
- Free onsite catering facilities, Bupa private healthcare, contributory pension
- scheme and flexible benefits scheme.

# WHY CHOOSE A CAREER WITH SMD?

If you share our values, our ambition and our energy, then SMD is a great place to work. As a worldleading manufacturer of subsea remotely operated vehicles and marine surface equipment, we can promise you a career at the cutting-edge of some of the biggest and most innovative markets in the global economy. And our offer is about so much more than a competitive salary and excellent benefits package. If you join SMD, you'll enter a hard-working environment where you will be part of an outstanding team. You'll have the opportunity to progress and thrive. We enjoy what we do... and we think you will too.

SMD's Graduate Engineer Development Scheme is focused on developing engineers that wish to be involved in manufacturing the heart of our vehicles. We are looking for graduates with an analytical mind that can think outside of the box.

The duration of the scheme is 2 years after which permanent employment may be offered in a variety of engineering disciplines, at any of our North East England facilities.

Graduates joining the business will experience a scheme enriched with an understanding of complete product life cycle, from bespoke design for a client through to manufacture, commissioning and thereafter customer support.

In addition to spending time in Engineering and Design departments, Graduates will be given an opportunity to add value through rotation in one or more of the following areas:

- Quality/Health and Safety
- Supply Chain Management
- Customer Support and Training
- Commercial/Contract Management
- Sales/Business Development
- Planning/Operations Management
- Project Management and Project Engineering

In addition to on-the-job training delivered by qualified, experienced engineers, you will be assigned a mentor and supported to achieve Incorporated (IEng) or Chartered (CEng) status with the Institution of Engineering & Technology (IET) through our accredited MPDS scheme.

SMD is looking for graduates who wish to grow their talent and realise their potential, with a passion for engineering excellence to become SMD's next generation of innovative engineers and contribute to the company's continued success.

If you think this is you, please submit your CV to [jobs@smd.co.uk](mailto:jobs@smd.co.uk)

The application deadline is in January. Please check our website for more information on the closing date.

# WHAT TO EXPECT AS AN ELECTRICAL ENGINEER

As an Electrical / Electronics engineer you will work on:

- Communication systems including audio and radio links through to GB Ethernet, high speed RS232/485 and bespoke serial protocols (CANOpen, MODBus etc.).
- Electric motors and drive systems for hydraulics, propulsion and winch drives.
- Safety systems for interlocks, E-Stop protection and circuit overloading.
- Video display and distribution technology alongside digital storage.
- Interfacing to subsea equipment such as cameras, lamps, scientific sensors, survey sonars and instrumentation.
- Learn to understand schematics, line drawings, bills of materials and how to put these together using CAD software (2D/3D) into real products.

To be a part of the electrical engineering team, you will be tested from the minute you start. You will be asked to design anything from 5V TTL electronics on a PCB to 6.6kV 3 phase power delivery on one of our dynamic business and we need competent, passionate engineers to help us to move forward and to keep delivering state-of-the-art, one-of-a-kind systems to meet increasingly challenging demands from our customers.

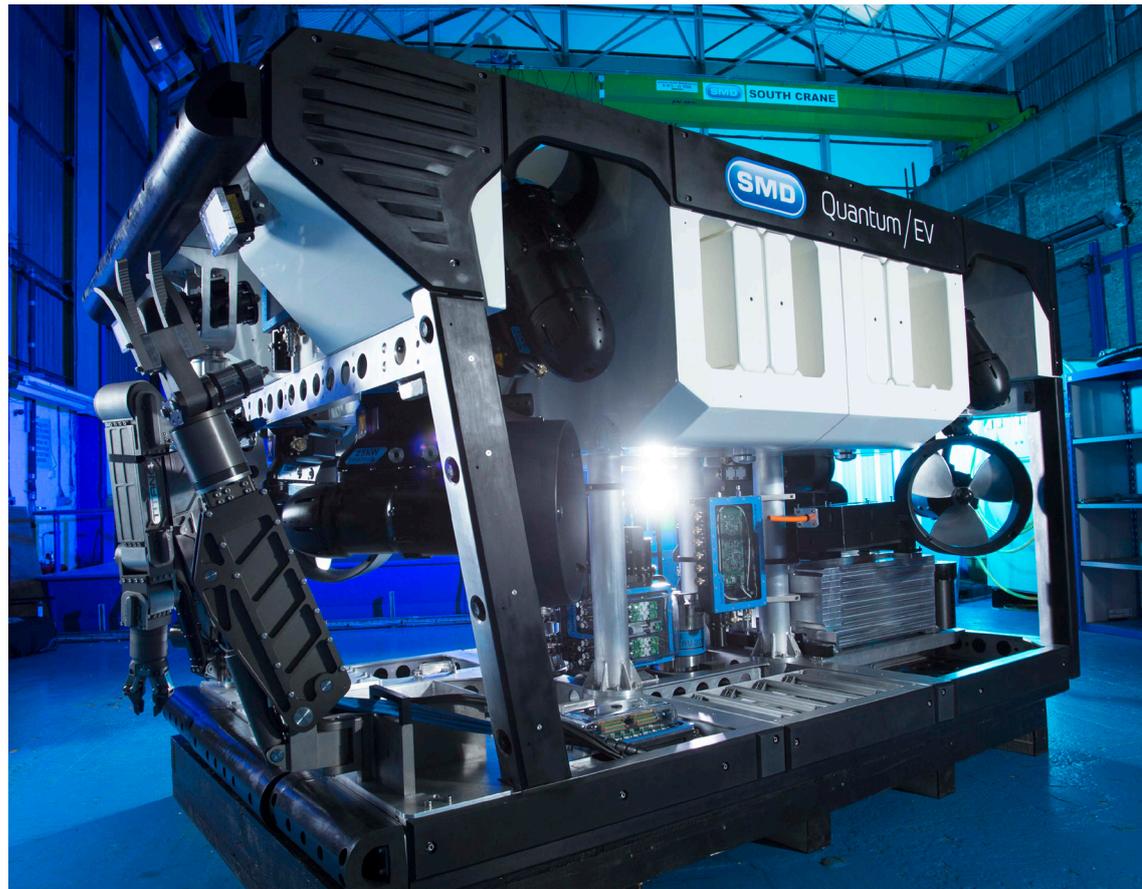
If you think you have what it takes, join our team and come on an exciting journey with us, you won't regret it.



# WHAT TO EXPECT AS A MECHANICAL ENGINEER

As a Mechanical Engineer you will work on:

- Vehicles from a small car sized ROV up to a 300 tonne subsea tractor.
- High strength steel structures for subsea plough frames and ship deck launch and recovery systems. Lightweight aluminium chassis for subsea swimming vehicles.
- Thruster propulsion systems.
- Hydraulic motor drive and actuator systems.
- Water power systems for sea bed trenching.



# WHAT TO EXPECT AS A SOFTWARE ENGINEER

As a Mechanical Engineer you will work on:

- Software protocol driver (NMEA, TCP/IP, CAN, MODBUS).
- Control theory.
- User experience design (UX).
- Interface graphics.
- Database storage and analysis.
- 3D Virtualisation

→ To be part of the software team you must have an enthusiasm for technology and best practice. Our software team create the backbone to our complex and diverse systems, you will be tested on your creativity, your ability to integrate complex pieces of equipment and your problem solving skills as technology continues to change. As we strive forward and continue to grow to stay at the forefront of technology, you must be able to adapt and evolve to face new challenges in this ever changing market. Join SMD and make a difference, help develop new and exciting subsea technology.



## GRADUATE TESTIMONIAL

### DOMINIC KENT GRADUATE MECHANICAL ENGINEER



We know it's always nice to hear from someone who's "been there and done that" so meet Dominic, one of our recent graduates. Here's what he has to say...

I graduated from Northumbria University in 2015 with a degree in mechanical engineering and decided I wanted to get a job in engineering straight away which led me to apply for SMD's graduate scheme.

I chose SMD because of the opportunities that were available to me and also because I would be able to rotate around the different areas of the business. Each area of the business offers opportunities to learn about different products, functions and processes which helps you develop as a well-rounded Engineer. As a company, SMD have been supportive and eager to help me develop.

When I started at SMD I had little practical experience in the engineering world, so for me one of the best things about SMD was the friendly and welcoming staff. Not only this, everyone I have worked with has been happy to share all of their experience and knowledge with me whenever I've had any questions or have been unsure about anything. This would be one of my key bits of advice for any graduate entering full time employment - ask as many questions as you can and learn from the experts around you. No one expects you to know everything and it accelerates with your development!

One of the highlights of my career so far at SMD has been working on their research and development projects. It is exciting to be involved in new product development because you get to see an idea develop from a concept to reality and to know you have been part of that process is really exciting, not to mention that it gives you really good experience!

The best piece of advice I could give to a new graduate who wants to work at SMD is to do your research. Be aware of what the company does and the type of direction the company could take you in. Plus, to make the most out of your career, you have to be passionate about what you do so don't be afraid to let that come across in interviews.

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