



# Ionix Advanced Technologies Ltd.

## Research & Development

<b>Role</b>	Development Engineer
<b>Commitment</b>	Full-time role
<b>Salary</b>	Competitive and dependent on experience, plus company benefits including Pension
<b>Employer</b>	Ionix Advanced Technologies Ltd.
<b>Reports to</b>	Development Director
<b>Location</b>	Ionix's development and manufacturing activities are based in Huddersfield, West Yorkshire. UK.

### Summary:

Ionix Advanced Technologies specialises in high performance, extreme environment piezoelectric devices and materials, offering a range of sensors, actuators and transducer devices based on its novel piezoelectric materials, with applications in areas such as non-destructive testing/evaluation (NDT/E) condition monitoring and flow measurement in demanding environments.

Piezoelectric materials are used in a vast and rapidly expanding range of actuators and sensors. They are the irreplaceable heart of systems such as medical ultrasound imaging, non-destructive testing (NDT), energy harvesting and SONAR comprising a \$15bn annual market. Ionix has developed novel range of high temperature piezoelectric materials, which can operate in extreme environments in excess of 500 °C and with which opens the opportunity to a whole host of new high temperature sensing technologies.

Ionix is currently looking for an Ultrasonic Device Development Engineer who will be a key contributor to a developing design and production team, responsible for devising and implementing new extreme environment piezoelectric transducers. You will work closely with Materials and Electro-mechanical Engineers and Technical / Operational Directors to drive the development of client demands in to prototypes that will see service in Aerospace, Automotive, Nuclear, Manufacturing, Plant, Process Control and Oil & Gas sectors.

Able to demonstrate relevant experience in research/design, assembly, testing, production or manufacturing, you should have an ability to work to deadlines with a flexible approach to the varied tasks required of the role.

Applicants must have the right to live and work in the UK.

To apply for this role, please send your CV and covering letter to [careers@ionix.at](mailto:careers@ionix.at) with the reference "DE042019"



## The Role:

- Design, apply and test ultrasonic devices (sensors, transducers, arrays) and concepts for demanding environment applications, with a thorough understanding of and experience in ultrasonic transducer physics, assembly - including electronic matching networks - interconnects and packaging.
- Ability to contribute to modelling and simulating acoustic/piezoelectric devices, for example, using Matlab, beam tracing tools, and/or FEA.
- Contribute to an electronic tools strategy.
- Deploy knowledge of manufacturing techniques, assembly, and applicability to designs.
- Contribute to guiding a developing team in construction of ultrasonic tools.
- Project management of client facing and internal projects
- Communicate with suppliers to resolve issues and ensure product requirements are met.
- Responsible and accountable for carrying out the requirements and contributing to the development and maintenance of the company's quality assurance and health and safety requirements.
- Contribute to schedules for hardware and software activities.
- Work closely with the technical and business team, to achieve the collective commercial goals of the company.

## The Candidate

### Essential

- At least a Master's degree in Science or Engineering, or at least 3 years equivalent experience in research, design, production or manufacturing.
- Expertise in ultrasound physics, signal processing, transducer design, modelling, assembly and testing. Including experience in any of the following fields;
  - Materials selection – backing, wear plate, coupling, etc.
  - Electrical matching and interconnects, packaging.
  - CAD design and beam tracing and/or FEA - particularly in ultrasound / NDT.
  - Hands-on experience of transducer / array construction.
  - Experience in transducer testing, processing and interpretation of data.
- Demonstrable capability to achieve goals with a collaborative and partnership-oriented approach.
- Ability to manage own time and meet deadline.
- Track record in managing and delivering client and internal projects.
- Potential to contribute to new device ideas through proven analytical thinking.
- Sufficient technical expertise to fully grasp, and articulate clearly to others, the technical advantages of the Ionix components and materials.
- Flexible, and able to work in a small team as well as independently, in a dynamic small-company environment with minimal direction.
- Proven knowledge of electric and electronic devices, circuits and theory.
- Skilled at one or more programming language (C++, Matlab, LabVIEW etc).
- Proven skills in data management and presentation.
- Demonstrable desire to contribute to hands-on approach to device assembly, test and evaluation.
- Ability to perform independent product-focussed research and create succinct report findings.



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*Desirable*

- 5 + years relevant industry experience or PhD in an ultrasonics discipline.
- Experience in SME technical teams.
- Track record of development of leading-edge products and/or publications and patents.
- Strong analytical skills.
- Experience in product development from conception to release.
- Experience in signal processing, software engineering.
- Experience in high temperature / high pressure devices.
- Experience of device design to intrinsic safety or flameproofing standards.
- Experience in working within an ISO 9001 accredited or other regulated industry environment or equivalent.
- UT PCN Level qualifications I through III or equivalent UT inspection experience.