



<b>Job title</b>	Senior Application Engineers in Industrialisation of Electrical Machines	<b>Job family and level</b>	Administrative, Professional and Managerial Level 6
<b>School/ Department</b>	Faculty of Engineering	<b>Location</b>	Jubilee Campus

## Purpose of role

The purpose of this role will be to lead and manage delivery of individual and collaborative programmes in the area of electrical machines and drive systems, their manufacturing, industrialisation and test and validation and make a contribution to the direction of technology roadmaps, development and industrialisation programmes in the Driving the Electric Revolution – Nottingham Drives Specialist Services.

The role will be responsible for generating new intellectual understanding/knowledge through the application of knowledge and for developing ideas for application of research and development outcomes.

The post holder will sustain and pursue a research plan in the areas of manufacturing or testing and validation or industrialisation of electrical machines, power electronics and drive systems. Where appropriate, they will develop and win support for innovative research development proposals and funding bids.

	<b>Main responsibilities</b> (Primary accountabilities and responsibilities expected to fulfil the role)	<b>% time per year</b>
1	To take the lead on, plan, develop and conduct individual and/or collaborative development/manufacturing/test and validation projects and proposals either as an individual or as part of a broader programme.	20%
2	To acquire, analyse, interpret and evaluate findings/data using approaches, techniques, models and methods selected or developed for the purpose.	20%
3	To generate income by liaising with customers and funding bodies, develop proposals and winning support for innovative funding bids.	15%
4	Manage the demand and expectation of customers by setting priorities and service levels, pre-empting customer needs/requests, identifying opportunities and facilitating change management for NDSS. Where appropriate investigate and devise new methods and approaches.	10%
5	To communicate complex and conceptual ideas to those with limited knowledge and understanding as well as to peers, using high-level skills and a range of media.	10%

6	To build relationship and collaborate actively with the senior level internal and external contacts, nationally and in particular with the Aerospace and Automotive industry.	10%
7	Interpret recommendations and make decisions about significant items of expenditure on physical resources for function/project(s)	5%
8	Represent and promote NDSS work activities on internal and external platforms.	5%
9	Be responsible for the safe conduct of work within work area ensuring that the School's arrangements for compliance with the University Safety Policy are implemented.	5%

## Person specification

	Essential	Desirable
<b>Skills</b>	<ul style="list-style-type: none"> <li>▪ A broad and deep knowledge of test methods for rotating machines and electrical drive systems.</li> <li>▪ Excellent oral and written communication skills, including the ability to communicate with clarity on complex and conceptual ideas to those with limited knowledge and understanding as well as to peers, using high-level skills and a range of media.</li> <li>▪ Self-motivated and a natural problem solver.</li> <li>▪ A broad knowledge of electromagnetic or manufacturing or mechanical and thermal or power electronics design applied to electrical machines and drives.</li> <li>▪ High-level analytical capability to facilitate conceptual thinking, innovation and creativity. Including the ability to devise, advise on and manage complex programmes.</li> <li>▪ Ability to build relationships and collaborate with others, internally and externally in particular with industrial organisations.</li> <li>▪ Ability to collaborate with multidisciplinary research teams and projects including in the planning, tasking, resource management, liaison with partners and dissemination of researcher results.</li> <li>▪ Ability to be a team leader.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Board experience in the use of CAE software including finite element software for stress and dynamics analysis, power electronic simulation tools such as PLECS or computer aided design software, such as Creo.</li> <li>▪ Excellent analytical reasoning and problem-solving skills with ability to apply it to unusual or difficult problems.</li> <li>▪ Ability to be very organized, able to work well with a diverse cross-functional team.</li> </ul>
<b>Knowledge and experience</b>	<ul style="list-style-type: none"> <li>▪ A proven track record of developing, applying and delivering experimental and modelling research methodologies and techniques.</li> <li>▪ Experience in a similar position.</li> <li>▪ Significant experience in testing and validation of rotating machinery and expertise in electrical, manufacturing or mechanical design.</li> <li>▪ A consistent track record of published research in peer reviewed journals.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Experience ideally within Electronic/Mechanical/Mechatronic Engineering.</li> <li>▪ Experience of supervising junior colleagues.</li> <li>▪ Experience in Aerospace or Automotive sectors.</li> <li>▪ Knowledge of electrical drives, thermal management, rotor-dynamics, sensors, reliability engineering and familiarity with test standards are desirable.</li> </ul>

<p><b>Qualifications, certification and training (relevant to role)</b></p>	<ul style="list-style-type: none"> <li>▪ PhD in Electrical or Mechanical Engineering, or demonstrable equivalent experience.</li> </ul>	<ul style="list-style-type: none"> <li>▪ PhD related to Electrical Machines or Drives or Test and Validation.</li> </ul>
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## Expectations and behaviours

The University has developed a clear set of core expectations and behaviours that our people should be demonstrating in their work, and as ambassadors of the University's strategy, vision and values. The following are essential to the role:

- Valuing people** Understands that it is essential to provide a structure that people can thrive in. Knows how to communicate with people to create a healthy working environment and get the best out of people.
- Taking ownership** Communicates vision clearly, providing direction and focus. Knows how to create a productive environment where people are inspired and can work cross-departmentally in partnership.
- Forward thinking** Has the ambition to be a pioneer in own area, anticipating the future change, needs and challenges. Knows how to innovate within their work context and champions others to be inspired to be part of this ambition
- Professional pride** Keeps up to date on latest thinking, trends and work practices. Supports team to be thought leaders; willing to challenge if obstacles get in the way.
- Always inclusive** Establishes far reaching partnerships, well beyond own area across a broad range of networks. Understand role to pay due regard to the needs of the whole community.

## Key relationships with others



