

The Institution of
Engineering and Technology

All about the
IET Power Academy
2023

theiet.org/poweracademy

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1. Aims of this report

This report is designed to give the reader a feel of the IET Power Academy. Who is involved and why? What do partner companies think of the Power Academy and why have they joined? What makes students apply for scholarships and what do they hope to get out of them? Is it just the money or is it a stepping stone to a career?

We asked some partner companies for their opinions and some current and ex scholars for their views.



**Sophie
Gribben**

I am a Graduate Electrical Engineer at the UK Atomic Energy Authority (UKAEA), after completing my MEng in Electrical and Mechanical Engineering at the University of Strathclyde.

During my studies I was sponsored by UKAEA through the Power Academy scheme. I completed four summer placements in a range of roles and projects across the business, including modelling, practical work and technical studies of plant. I have had a chance to work both individually and as a group on projects, and build a network of peers both in my company and across the Power Academy during the summer seminars.

I now work in the Power Distribution section of the Integrated Engineering Division. My work includes a mixture of design and operations and focuses on the two substations that feed the experimental fusion reactors JET and MAST-U. I really enjoy the variety of equipment and tasks that I get to work on, and the novel application of power engineering that we do on site.

I would not have chosen to go into power engineering if not for the IET Power Academy – so I am grateful for the scheme showing me how rewarding a career in the sector can be.



2. What is the IET Power Academy?

It's a scholarship scheme for engineering students, providing them with financial support for their studies and work experience placements to prepare them for a career in the power and electrification industry sectors.

The Academy is made up of top companies and universities with expertise in power engineering. These companies are dedicated to addressing the skills shortage and helping graduates enter the industry. Managed by the Institution of Engineering and Technology (IET), the Academy has awarded over 600 scholarships to date.

Preparing students for the power and electrification industries

A Power Academy scholarship is a brilliant opportunity for students to discover what they are interested in, develop work-based skills and even secure a position in the power industry, all while receiving financial support that allows them to focus on their studies.

Giving graduates the edge

Our university partners offer Power Academy scholarships as a way of supporting students with their studies, developing their professional skills and getting them into meaningful employment.

Accessing the talent pool

Industry partners get access to high calibre graduates through the Power Academy. Scholars have the drive, and develop the expertise, to build careers in the power industry.



3. Equality, Diversity and Inclusion

The IET Power Academy partners are committed to equality, diversity, and inclusion (EDI). A working group of companies and universities supported by the IET and a consultant are looking at how the scholarships and placements offered by partners can be more welcoming and attractive to much wider diverse population groups of students in the partner universities.

During 2022 The IET Power Academy Executive and Council noted:

- the overall number of applications received from partner universities by company partners has increased over both those of 2021/22 and 2020/21
- the number of male applicants, although increased, has not returned to 2020/21 numbers
- female applicants, following a slight increase in 2021/22, have shown a significant increase in 2022/23
- the number of applications from 'the rest of the world' have increased giving a wider pool to choose from. The interview to offer ratio is very similar to UK nationals.

The Executive agreed that the following should be implemented as part of 2023/24 recruitment and selection process:

- adapt The IET Equal Opportunities and Diversity Monitoring form to include only information useful to the partners when they monitor EDI progress and ensure this form becomes an integral part of the application process
- collect, record and produce anonymized EDI information through IET systems, for applicants from both University Partners and Associate Universities from the applicant pool, through application, interview and appointment processes
- select 2 universities per year and undertake the survey previously developed and used by Loughborough University in 2020 and by Manchester in 2021 to understand reasons why eligible students chose not to apply for scholarship opportunities.

4. Our Partners

The companies, universities and institutional bodies that make up the IET Power Academy are as follows:

Companies	Universities	Associated Universities
Atkins Global	Bath	Birmingham
BAE Systems	Cardiff	Brunel University London
Integrum Power	Imperial	Edinburgh
National Grid Electricity Distribution	Loughborough	Heriot-Watt
National Grid Electricity Transmission	Manchester	Liverpool
National Grid System Operator	Newcastle	Liverpool John Moores
Network Rail	Queen's Belfast	Institutions
NIE Networks	Southampton	
Northern Powergrid	Strathclyde	
Omexom		
Rolls-Royce		
RWE Generation		Energy & Utility Skills
SSE		National Skills Academy for Power
SP Energy Networks		The IET
UKAEA		



A manager's view

Mohammed Daemi

Since joining National Grid Electricity Distribution as an Undergraduate Scholar and then as a Graduate Engineer, Mohammad has shown an outstanding willingness and appetite to push way beyond the minimum in every task he is given or undertakes. He has a remarkable hunger to expand his technical knowledge, to get involved and ask the right questions. His engineering passion is clear in his motivation as he takes ownership of his own continued development and the care he takes driving forward the schemes in his care.

In particular Mohammad has introduced his PSD team manager and the rest of the team to the progressive principles he applies to his work - "Kaizen" (the Japanese word for "improvement"). The founding elements of this process are to empower all levels of employees to make incremental improvements to team/company processes to improve overall productivity and quality of outputs. Mohammad's application of these principles has been particularly clear through the improvements he has proactively identified and addressed alongside his day-to-day responsibilities; including PSD training materials to support other trainees following in his footsteps, and in proposing revised processes and documents to increase productivity and reduce redundancy in the PSD team. Despite this, Mohammad remains humble and keen to learn and help.

He promises to be a real asset to National Grid.

5. Scholarship Statistics

New scholars taken on each year from 2014-2022 by company.

Company	Type										Total
		2014	2015	2016	2017	2018	2019	2020	2021	2022	
Atkins	Power industry consultancy	2	3	2	2	2	2	2	3	2	20
BAE Systems	Maritime submarines	1	3	4	0	4	3	3	3	4	25
UKAEA	National fusion research laboratory	1	1	2	3	2	4	2	4	5	24
Costain	Power construction consultancy	2	0	0	n/a	n/a	n/a	n/a	n/a	n/a	2
London Underground	Rail transportation	2	2	0	0	0	n/a	n/a	n/a	n/a	4
Mitsubishi Electric	Power equipment manufacturer	0	1	1	0	0	0	0	n/a	n/a	2
Mott MacDonald	Power consultancy	n/a	n/a	2	1	0	n/a	n/a	n/a	n/a	3
National Grid	Transmission system owner and operator	9	9	3	5	6	4	6	4	10	56
Network Rail	Rail transportation	2	4	4	2	3	1	3	4	3	26
NIE Networks	Transmission and distribution system owner	2	2	0	n/a	n/a	1	1	1	0	7
Northern Powergrid	Distribution network operator	0	0	2	0	0	0	3	n/a	TBC	5
Omexom	Generation, transmission and distribution	n/a	n/a	n/a	n/a	n/a	5	5	4	9	23
Rolls-Royce	Power equipment manufacturer	4	4	3	4	3	0	0	2	0	20
RWE Generation	Generator	3	2	2	3	2	2	0	0	0	14
SSE Transmission	Transmission and distribution system owner	3	6	0	0	0	n/a	n/a	n/a	10	19
SP Energy Networks	Transmission and distribution system owner	5	5	3	13	12	12	11	12	15	88
Siemens	Power equipment manufacturer	0	5	4	5	0	0	n/a	n/a	n/a	14
NGED	Distribution network operator	11	9	8	9	9	8	8	8	13	83
Total		47	56	40	47	43	42	44	45	71	435



**Mark
Goudie**

"I was an Atkins Power Academy Scholar during my studies at the University of Strathclyde. For me, applying to the Power Academy was a no brainer. It offered experience, financial support and the opportunity for eventual graduate employment. The bursaries helped during term time, allowing me to focus on my studies rather than more part time work while the industrial experience complemented my academic learning.

After graduation, I spent five years with Atkins, starting as a graduate engineer and finishing as their first Head of Future Networks. I now work for SP Energy Networks, preparing the electrical system for our Net Zero future.

Since graduation, I've also stayed involved with the IET. This ranged from continuing to support the Power Academy through the Council and Executive but also other committees, such as my position as Chair of the IET Horizons Bursary scheme. All this work supported my election in 2020 as one of the youngest engineering Fellows in UK history."

6. University Statistics

New scholarships offered each year from 2014-2022 by university.

University	2014	2015	2016	2017	2018	2019	2020	2021	2022	Total
University of Birmingham	n/a	n/a	n/a	n/a	n/a	n/a	n/a	2	0	2
Brunel	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	0	0
Cardiff University	7	9	1	5	6	6	5	3	13	55
Heriot-Watt	n/a	n/a	n/a	4	2	2	1	n/a	2	11
Imperial College, London	1	1	4	4	2	0	4	6	4	26
Loughborough University	3	6	3	1	3	1	0	n/a	2	19
Queen's University, Belfast	2	3	0	1	0	1	1	2	2	12
University of Bath	3	1	5	5	1	1	1	3	0	20
University of Liverpool	n/a	n/a	n/a	3	0	2	3	n/a	4	12
Liverpool John Moores	n/a	n/a	n/a	2	1	1	0	3	0	7
The University of Manchester	1	4	4	2	4	1	1	3	10	30
Newcastle University	n/a	n/a	n/a	2	0	0	2	n/a	0	4
University of Southampton	9	7	6	5	5	6	3	4	4	49
University of Strathclyde	21	25	17	13	19	21	23	19	30	188
	47	56	40	47	43	42	44	45	71	435



Robin Preece

"I was sponsored through my BEng in Electrical and Electronic Engineering at The University of Manchester from 2005-09. I was sponsored by EDF Energy Networks who were the distribution network operator for London, East Anglia and the South East of England. Now I'm a Senior Lecturer in Future Power Systems (still at The University of Manchester) and I encourage the new students to become part of the Power Academy. I work with different companies, like National Grid Electricity Transmission and Northern Powergrid, to help identify solutions to problems that the power system is going to face in the future – trying to find the fix before the problem has even happened. The Power Academy gave me a much better understanding of the real power system – putting everything into context compared to the lectures I had at university. It's definitely the reason I'm still working on power systems now."

7. IET Power Academy Summer Seminars

The main themes of the 2023 Power Academy July seminar were Health, Wellbeing and Safety and included keynote speeches from Craig Dyke, Head of National Control at National Grid Electricity Systems Operator; Prof Keith Bell, University of Strathclyde and Andrew Reeve from AMR Consulting. Mark Kirk, a current scholar with SP Energy Networks introduced the seminar to a lively and successful icebreaker session.

The seminar also looked at the journey to net zero and the role scholars would have and a presentation on Tyseley Energy Park by Tommy Allsopp.

Ex scholars Sophie Gribben UKAEA, Tom Herbert, Northern Powergrid and Mohammad Daemi, National Grid Electricity Distribution added their career experience since graduating.

Mark Goudie, Whole System Manager SP Energy Networks and an ex Power Academy scholar with Atkins Global gave a stimulating after dinner speech also touching on the route to net zero.



Power Academy scholars at IET Birmingham, Austin Court.

8. The IET Power Academy Executive

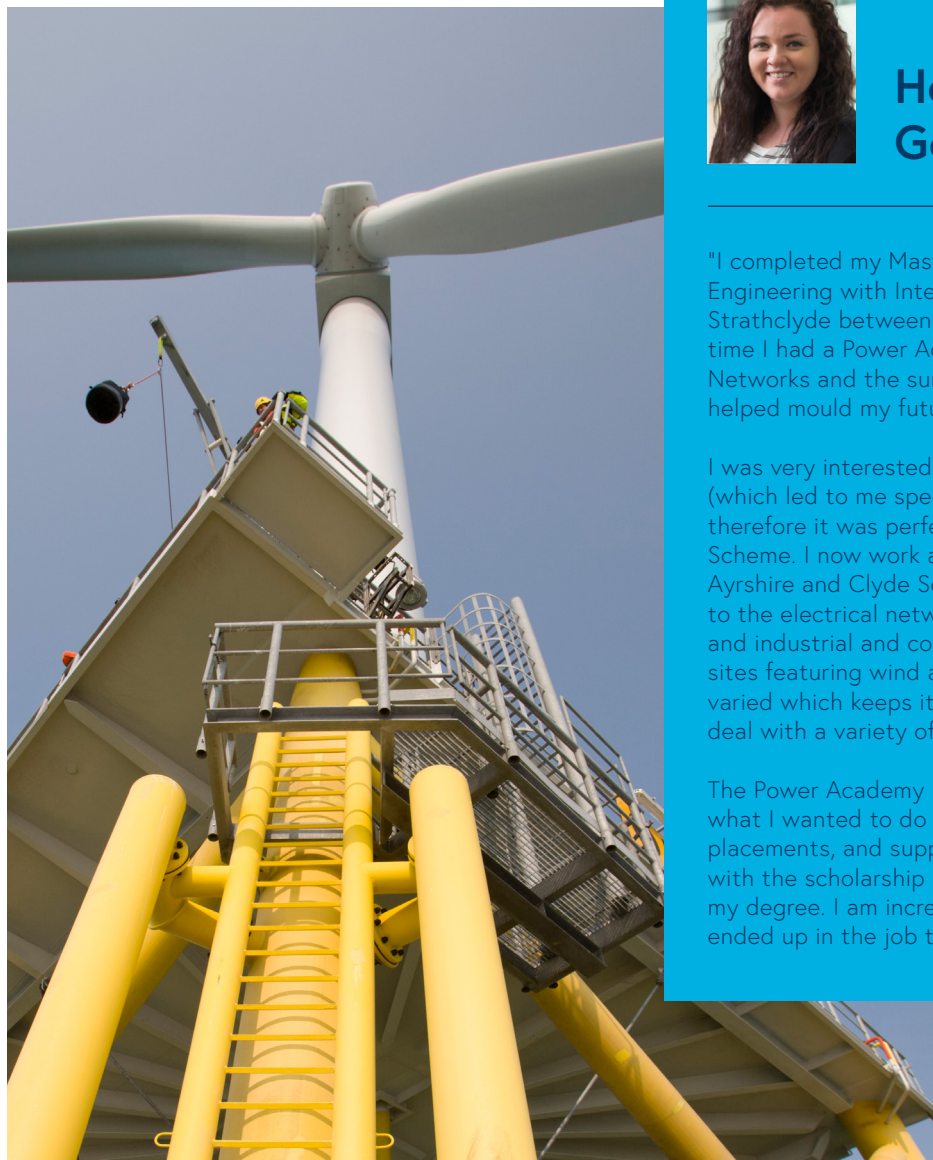
Our Power Academy is governed by an Executive Committee which is chaired by Craig Dyke of National Grid ESO. The Vice Chair is Graham Campbell of Scottish Power Energy Networks.

The Executive's Terms of Reference are:

- to agree the overall strategic direction of the Power Academy
- to approve the criteria and selection process of new partners to the Power Academy
- to provide strategic guidance to the IET in respect of all policy issues referred to it either by the Power Academy Council or the IET
- to monitor the overall effectiveness of the management and administration of the Power Academy
- to agree any changes to the scholarship package.



Craig Dyke,
Chair of IET Power
Academy Executive



Holly Goodwin

"I completed my Masters in Electrical and Mechanical Engineering with International study at the University of Strathclyde between 2010 and 2015. Throughout that time I had a Power Academy Scholarship with SP Energy Networks and the summer placements with them really helped mould my future career in Engineering.

I was very interested in their work in the Energy sector (which led to me specialising in renewable energy) therefore it was perfect for me to join their Graduate Scheme. I now work as a Project Design Engineer in the Ayrshire and Clyde South District, designing connections to the electrical network of new housing developments and industrial and commercial sites, as well as generation sites featuring wind and solar energy. My job is very varied which keeps it interesting, especially as we get to deal with a variety of different customers.

The Power Academy programme really helped me discover what I wanted to do as an engineer through the summer placements, and supported me throughout university with the scholarship so I could give my full attention to my degree. I am incredibly grateful for that as it is how I ended up in the job that I really enjoy today."

9. The IET Power Academy Council

All partners have a place on the IET Power Academy Council which plans and monitors the day-to-day operation of the Academy. It normally meets twice a year in April and September.

The current Chair is Carl Ketley-Lowe from National Grid Electricity Distribution.

Key activities of the Council are:

- to agree the selection process
- to recommend the IET Power Academy management fee to the Executive
- to oversee the organisation of the summer seminar
- to provide advice to the Executive on progress of the scheme.



Carl Ketley-Lowe

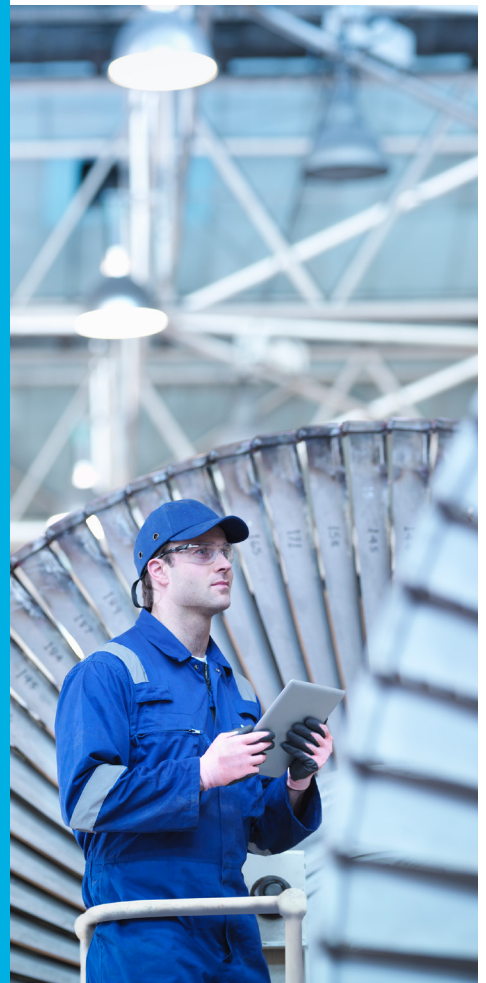
Engineering Policy Manager, NGED

"Western Power Distribution (WPD) has been a partner of the Power Academy for over 10 years. During that time, we've supported between 8 and 10 new scholars each year, many of whom have gone on to the company's Graduate Programme and then taken permanent roles in various engineering teams in the business.

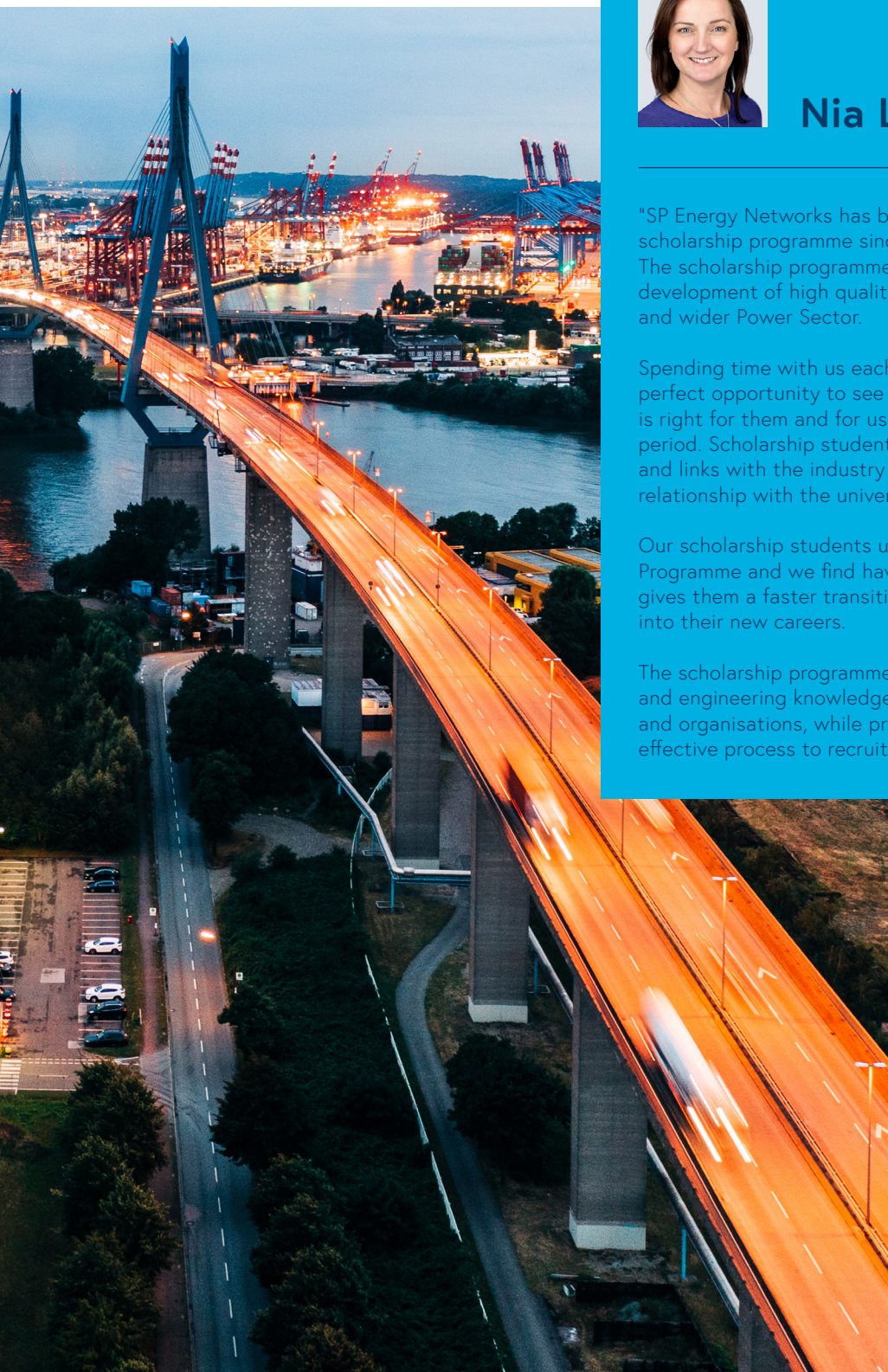
The Power Academy provides access to high calibre undergraduates that are excited by Electrical Engineering and aspire to work in our sector. The Power Academy provides us with a talent pool in some of the top UK universities with an electrical engineering pedigree. With our business moving to an increased system operator focus, we're dependent on being able to grow a strong capability in electrical engineering – through the Power Academy we're able to identify potential undergraduate candidates that we can work to develop.

Giving the scholars a Summer Internship each year is a fantastic opportunity both for us to assess the scholars that we take on, but also for them to see whether our company fits their needs. It's like an extended two-way interview, meaning that once the scholars graduate, they're very quickly aligned to the needs of the business and to develop their career potential.

From my perspective the programme offers good value for money in our pursuit of world class electrical engineering talent, both for the future needs of our business and the customers that we support."







Nia Lowe

"SP Energy Networks has been part of the Power Academy scholarship programme since it was first established in 2004. The scholarship programme forms the core of our recruitment and development of high quality graduate engineers into the business and wider Power Sector.

Spending time with us each summer gives the scholars the perfect opportunity to see if SP Energy Networks and our industry is right for them and for us to assess them over an extended period. Scholarship students gain invaluable work experience and links with the industry and it forms part of our ongoing relationship with the universities in our communities.

Our scholarship students usually move straight into our Graduate Programme and we find having done work placements with us gives them a faster transition from the university environment into their new careers.

The scholarship programme supports the sharing of best practice and engineering knowledge across a diverse range of companies and organisations, while providing a time proven, reliable and cost effective process to recruit our stars of tomorrow."





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