

Engineering Services: An Introduction for Local Skills Improvement Plans (LSIPs)

Purpose

The aim of this briefing document is to provide a basic, high level introduction to the engineering services sector, its size, scope and strategic significance, and the potential value of engaging with sector organisations and their members in forming and rolling out economic development and/or skills improvement plans for a region, county or other local area.

Who are engineering services businesses and workers?

Engineering services businesses design, install and maintain the plumbing, mechanical and electrical systems on which buildings and other critical infrastructure depend. There are currently around 100,000 engineering services businesses, operating in every corner and neighbourhood of the UK. Although firms range from sole traders and microbusinesses to multinationals, the vast majority (99%) are SMEs.

The engineering services workforce consists of over 400,000 individuals. These include engineering technicians and professionals, as well as skilled trades, such as electricians, plumbers and specialist heating, fire, security and lift/ escalator installers.

What do engineering services cover?

The diversity of engineering services systems and their importance to people's everyday lives – not to mention to wider economy and society – cannot be overstated. Examples include:

- Air Conditioning & Refrigeration Systems
- Building Controls
- Chimneys & Flues
- Data Cabling
- Ductwork & Pipework
- Electrical Systems
- Energy Storage
- Fire Alarm & Detection Systems
- Heat Pumps
- Heating Systems
- Lifts & Escalators
- Lighting
- Renewable Energy
- Security Systems
- Vehicle Charging Systems
- Ventilation Systems
- Wireless Systems

Well designed, installed and maintained engineering services are key to buildings' overall cost effectiveness and environmental performance – typically representing **40% of CapEx** and **80% of OpEx**.

What is engineering services' relevance for regional/ local economic and skills priorities?

Engineering services firms offer secure, highly skilled and well-paid local jobs. They are also major investors in education and training – accounting for well over 40% of all the construction apprentices recruited each year, for example.

Engineering services are crucial to the achievement of policy objectives and targets in connection with infrastructure, housing and digital transformation. Engineering services businesses and workers are also key to the transition to net zero – possessing the knowledge, skills and experience necessary for the safe and efficient design, installation, integration and maintenance of low carbon technologies, including heat-pumps, onshore wind, solar PV, energy storage systems and electric vehicle charging points.

How can regional and local bodies engage most effectively with the engineering services sector?

The engineering services sector enjoys good, collaborative relationships with other stakeholders involved in construction and the built environment, but **sits outside (and independent from) the CITB's levy and grants regime**. Being mostly **SMEs**, engineering services businesses can be challenging for others to engage with directly, especially if there is a desire for sustained dialogue over an extended period.

Engineering services trade organisations offer a gateway to engaging with their member firms based locally. Trade organisations are also familiar with engineering services skills and employment requirements and often work closely with public authorities, awarding bodies and training providers to develop fit for purpose, sector-specific skills solutions – including apprenticeships, T-levels, technical qualifications, upskilling training and longer-term career progression routes.

Further details and contact information for both the engineering services umbrella body, Actuate UK, and its constituent trade organisations are provided overleaf.

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Actuate UK is the umbrella body for UK engineering services.

It brings together the leading trade, technology and professional bodies within the multi-billion-pound sector:

The Building Engineering Services Association (BESA)

The Building Services Research and Information Association (BSRIA)

The Chartered Institution of Building Services Engineers (CIBSE)

ECA - Electrical and Engineering Services & the Fire and Security Association

The Federation of Environmental Trade Associations (FETA)

The Lift and Escalator Industry Association (LEIA).

We speak with a single, shared and authoritative voice to affect positive change in the built environment.

The following Actuate UK members can currently provide expertise and support to the skills improvement plans.



The Building Engineering Services Association (BESA) is the UK's leading trade organisation for building engineering services contractors – representing the interests in firms active in the design, installation, commissioning, maintenance, control and management of engineering systems and services in buildings.

BESA Academy is the training arm of BESA, providing regulatory and upskilling courses (both online and in training centres across the UK) and free accredited CPD to building engineering services engineers - to enhance their career and ensure they remain competent and compliant.

BESA Academy also provide a free Skills Advisory Service, offering BESA members and the wider industry with information, advice and guidance on skills, training and apprenticeships within building engineering services.

- [Online courses](#)
- [Free online accredited CPD](#)
- [Courses delivered by BESA approved training centres](#)
- [Skills Advisory Service](#)

Find out more about BESA Academy at: www.thebesa.com/academy



The Chartered Institution of Building Services Engineers (CIBSE) is the professional body that exists to advance and promote the art, science and practice of building services engineering, to invest in education and research, and to support our community of built environment professionals in their pursuit of excellence.

CIBSE resources include:

Careers in Building Services

- What is building services? <https://www.cibse.org/training/careers-in-building-services/what-is-building-services>
- Why choose building services engineering? <https://www.cibse.org/training/careers-in-building-services/why-building-services-engineering>
- How to get into building services engineering <https://www.cibse.org/training/careers-in-building-services/how-to-get-into-building-services-engineering>
- CIBSE Careers Guides (parents, students (year 7-9), AS and A Level, GCSE) <https://www.cibse.org/training/careers-in-building-services/careers-guides-for-building-services>

Training, Education and/or accreditation: <https://www.cibse.org/training>

- Courses - <https://www.cibse.org/training/search-courses>
- CIBSE Directory of CPD course providers - <https://www.cibse.org/training/cpd-directory>
- List of accredited programmes which meet education requirements for CEng, IEng, EngTech registration with the Engineering Council - <https://www.cibse.org/training/accreditation-approvals/academic-programmes/list-of-accredited-programmes>

Apprenticeships

- CIBSE is an end point assessor (FAQs and resources for employers and apprentices) - <https://www.cibse.org/training/end-point-assessment>
- CIBSE Apprentice of the Year - <https://www.cibse.org/what-s-on/cibse-young-engineers-awards/cibse-apprentice-of-year>



ECA is a membership organisation for **electrotechnical and engineering services businesses** and has been a driving force in the electrical contracting industry since its formation in 1901. At present, there are 2600 ECA member firms, with a combined turnover in excess of £6 billion annually. Upon joining ECA, a firm selects one of [12 ECA regions](#) across England, Wales and Northern Ireland, based on its location and where it does business. Each ECA region incorporates a number of local branches.

Electrical contracting businesses have a strong interest in training – recruiting between 7,000 and 8,000 apprentices every year. With other sector organisations, ECA is a leading member of [the Electrotechnical Skills Partnership \(TESP\)](#), which runs the [Electrical Careers website](#), promotes recognised [training routes](#) for school-leavers, adults and experienced workers, and encourages [closer engagement](#) between employers, schools and colleges.

ECA itself maintains strong relationships with a wide range of colleges and independent training providers through its [Educational Associates](#) scheme.

ECA's training and technical experts are actively involved in maintaining and improving competence standards in the industry. This crucial work includes **direct input into the content and delivery of apprenticeships, diplomas and T levels** covering installation, maintenance and domestic electrical work, as well as **collaboration with awarding organisations in the development of upskilling training for qualified electricians** – for example, in electrical testing and inspection, electric vehicle charging points, solar PV and battery storage. With our sister organisation, the [Fire and Security Association \(FSA\)](#), ECA also supports specialist apprenticeships and upskilling training in active fire, emergency and security systems.

ECA is co-owner of the [Certsure/ NICEIC](#) certification body, co-founder and represented on trustee boards of the [JTL](#), [NET](#) and [JIB](#) industry training charities, and closely involved in the operation of the [Electrotechnical Certification Scheme](#).



[The Lift and Escalator Industry Association \(LEIA\)](#) is the trade association and advisory body for the lift and escalator industry, formed in 1997 by the merging of two long-standing associations with a history dating back to 1932. With a membership covering some 85% of the lift and escalator industry, LEIA represents a single voice for the sector.

LEIA members supply passenger and goods/service lifts, stairlifts, homelifts, lifting platforms, escalators, passenger conveyors and a range of component parts for such products. LEIA members also undertake the maintenance of over 300,000 products falling within the scope of the Association.

LEIA resources include:

[LEIA Distance Learning Course](#)

[National Vocational Qualifications](#)

[Apprenticeships](#)

[LEIA Assessment](#)