

Accredited Company Training Schemes (ACTS)

A comprehensive guide for the accreditation of
in-company graduate training



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Document control

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Contents

Introduction	4	3.3 Quality assurance of trainee performance	15	Appendix A: ACTS Assessors	21
1. About ACTS	5	3.4 Recognition and certification	15	Appendix B: Suggested programmes for ACTS accreditation visits	24
1.1 The benefit of Accredited Company Training Schemes	5	4. Principal stages of the accreditation process	16	B1. In-person accreditation visit	24
1.2 Expected deliverable	5	4.1 Research by the company	16	B2. Virtual accreditation visit	25
1.3 The Chartered Member application process	6	4.2 Support from IChemE	17	Appendix C: ACTS assessors good practice comments	27
1.4 Who can register as a trainee	7	4.3 Preparation and submission of documentation	17	Appendix D: Fees	30
2. Organisation and operation	8	4.4 Appointment of assessors	17	Appendix E: Additional notes for Scheme Managers	31
2.1 Scheme organisation	8	4.5 Preparation and visit by the panel of assessors	18	Appendix F: Additional notes for mentors	33
2.2 Responsibilities of participants	9	4.6 Report by the assessors to IChemE and decision by the IChemE Election Panel	18	Appendix G: Glossary	34
2.3 Roles within ACTS	9	4.7 Implementation of follow-up actions by the company	18		
2.4 Scope of training and Initial Professional Development (IPD)	10	4.8 Trainee(s) application for Chartered Chemical Engineer status	18		
2.5 Monitoring progress	12	5. The ACTS framework Competence and Commitment Report	19		
2.6 Duration of training and IPD	13				
2.7 Trainees with less than four years or mixed experience	13				
2.8 Trainee and mentor registration	13				
2.9 Fees	14				
2.10 Multi-site ACTS	14				
3. Quality assurance processes	15				
3.1 Quality assurance of company procedures	15				
3.2 Company certification	15				

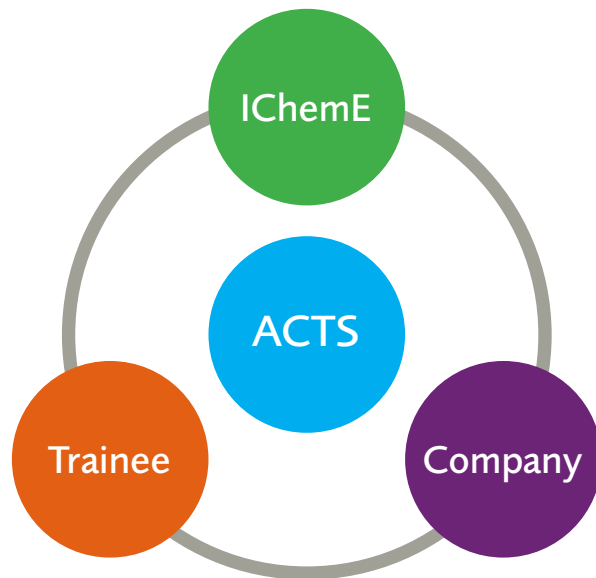
Introduction

Accredited Company Training Schemes (ACTS) are globally recognised, peer reviewed, initial professional development programmes. They provide assurance that the training delivered by an organisation equips a graduate trainee with the skills and competence required to become a Chartered Chemical Engineer.

An ACTS reflects a flexible partnership between the company, the trainee chemical engineer and IChemE. It is designed to assure delivery of tangible, high quality, and relevant experience to trainees. It provides recognisable professional outcomes and provides clearly defined benefits.

IChemE can formally accredit your training scheme. This guide will provide all the tools and information necessary for your company to set up or adapt their current training to meet IChemE requirements.

If you have any further queries please contact acts@icheme.org



1. About ACTS

1.1 The benefits of Accredited Company Training Schemes

Formal training courses and on-the-job training, supported by sufficient relevant practical experience, are key elements for the successful development of an engineer. In addition, engineer training is a vital component for the success of any employing organisation and many companies have recognised the need for, and provided, excellent graduate training programmes.

IChemE has established a process of reviewing and advising companies to facilitate the integration of formal accreditation into their overall training schemes. Accreditation provides a benchmark guarantee of the quality of early career training that graduate chemical engineers can receive and encourages professional development within chemical engineering. Accreditation is of value to all practicing engineers and to the companies for which they work.

The ACTS accreditation process provides the company with an opportunity to benchmark its graduate training against world class standards and demonstrate the quality of their training. The company can use this to attract and retain good quality recruits as well as demonstrating commitment to developing the professional competence of its staff.

The process also provides a quality framework to ensure that the trainee effectively satisfies the training and initial professional practice requirements of both the employer and IChemE. This maximises the opportunity for trainees to swiftly achieve Chartered status and gain a valuable professional qualification.

An Accredited Company Training Scheme provides the trainee with the assurance that upon successful completion they should, in principle, have automatically satisfied the IChemE requirement for their Initial Professional Development (IPD). This effectively streamlines their application for Chartered membership.

1.2 Expected deliverable

The expected 'outcome' from an ACTS is that trainees have received all the training and experience required for Chartered membership. This will help them to emerge as competent chemical engineers who are committed to the profession and to their own professional development.

The accreditation of the scheme acknowledges that it is capable of providing this training and experience if followed correctly. A trainee is therefore exempt from Stage 2 - Initial Professional Development of the IChemE Chartered Member application process providing they have an ACTS completion form countersigned by their mentor and Scheme Manager.

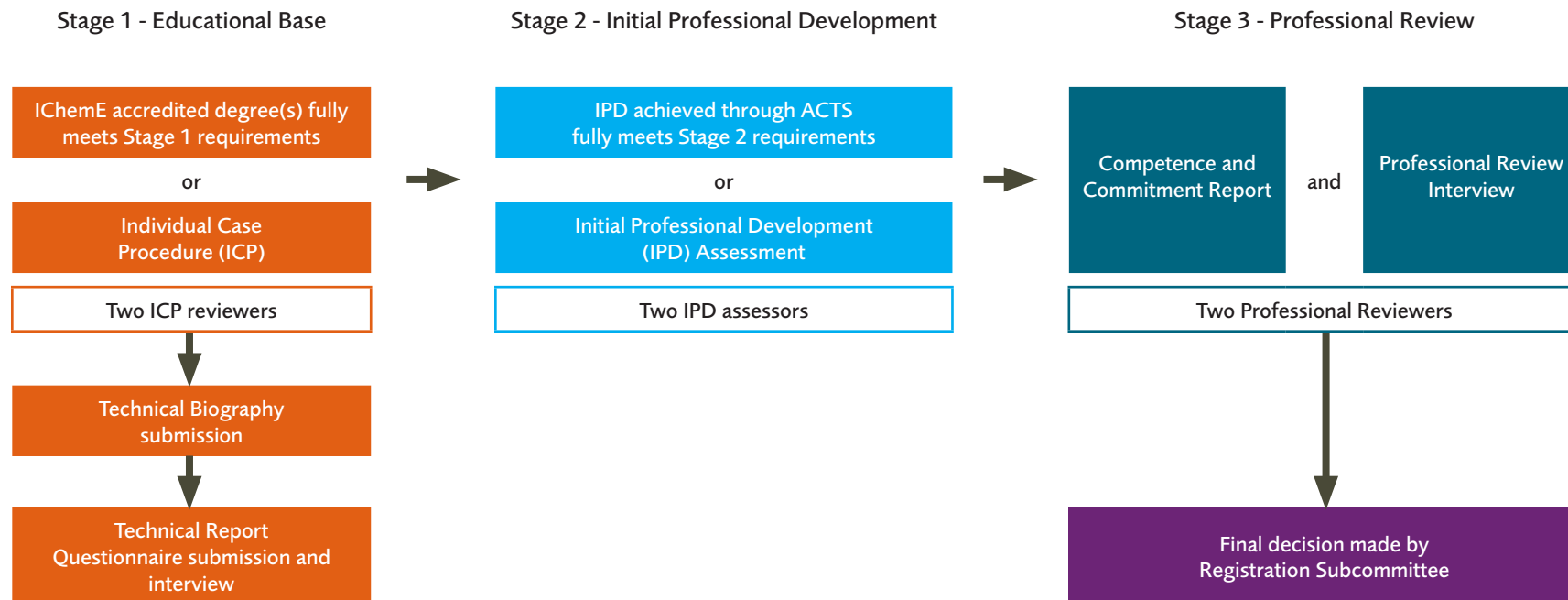
'Graduating' trainees, if they also hold an IChemE-accredited degree at M-Standard (master's level or equivalent) or alternatively have successfully completed the Individual Case Procedure, meet the requirements for Stage 1 - Educational Base of our three stage application process and can proceed directly to Stage 3 - Professional Review. This will include substantiated evidence that the desired outcome from their training and experience has been achieved in practice, through a complete, mentor approved Competence and Commitment (C&C) Report followed by a Professional Review Interview.

Further information about the three stage application process for Chartered membership can be found at www.icheme.org/chartered

1.3 The Chartered Member application process

Applicant qualifications

If the applicant holds exemplifying degree (IChemE accredited degree at M-Standard, or accredited degree at B-Standard plus an accredited degree at F-Standard) they fully meet the requirements for Stage 1 and proceed directly to Stage 2. Otherwise, the the applicant must go through the Individual Case Procedure (ICP).



1.4 Who can register as a trainee

IChemE strongly encourages any graduate chemical engineer to participate fully on an accredited scheme, if it is available through their employer. We expect that the prospective trainee is an IChemE member (either Associate or Affiliate Member) at the time of registration onto the scheme, and that they maintain their membership throughout the duration of their training.

Stage 1 of the three-stage IChemE Chartered Member process is assessment of the trainee's Educational Base. While some trainees will hold a degree which is accredited by IChemE to M-Standard (a master's level degree in chemical engineering or equivalent) and gives exemption from Stage 1, IChemE is equally supportive of trainees entering schemes who hold non-accredited qualifications either in chemical engineering or in related cognate disciplines (eg chemistry, materials science or other engineering disciplines).

A further benefit of ACTS is to ensure that prospective trainees will automatically have their academic qualifications assessed by IChemE when registered on the scheme. This beneficial review, which will be conducted within three months of trainee registration, is essential to determine, upfront, whether or not the trainee holds academic qualifications that automatically meet the Stage 1 - Educational Base requirements for registration as a Chartered Chemical Engineer. Those who do not, will need to go through the Individual Case Procedure (ICP) where they will be asked to provide additional technical evidence to demonstrate they meet the academic formation requirements. The nature of the evidence will depend on the exact qualifications that an applicant has. Where additional study or experience is required, this can be done in parallel with the ACTS training period. Please refer to our website for more details about [Individual Case Procedure](#).

IChemE will also process applications into Associate or Affiliate membership based upon this review of the trainee's background. As a prospective member of IChemE, the trainee will, through their membership, sign up to a Code of Conduct and Continuing Professional Development commitment to the maintenance of a high standard of professional conduct in all aspects of the practice of chemical engineering.

2. Organisation and operation

2.1 Scheme organisation

A successful training scheme will require strong, clear organisation and structure if it is to successfully deliver the intended outcomes.

Each ACTS will require a Scheme Manager to lead and operate the training programme. The Scheme Manager will provide the planning, implementation and methods for recording the progress of trainees as well as providing the key link with IChemE.

Each scheme will require a Scheme Manual which will:

- set out the training, organisation and structure within the company;
- define the roles and responsibilities of all the parties concerned in execution of the scheme;
- map how the specific training and work assignments offered within the company will deliver the target outcomes required by IChemE (refer to [section 5](#)).

The Scheme Manual is the key reference document in the implementation and operation of the training scheme. It will be required for the initial accreditation process and will provide an ongoing reference document for both the company and the trainee engineer. The Scheme Manual is a living document and it will require periodic review to ensure that it reflects accurately the current requirements of IChemE and the actual training practice within the company (significant changes must be formally reported to IChemE to maintain accreditation status).

All training is specific to the company and individual for the trainee. Such flexibility is recognised and encouraged by IChemE.

Our experience of reviewing company training is broad based. Schemes we accredit usually have the following characteristics:

A demonstration of clear planning

The principles and objectives of the training scheme will be set out in the Scheme Manual. The intention is to highlight the structure and operation of the scheme while allowing due flexibility to accommodate the needs of the company and the aspirations of

the trainee.

At the individual level, training issues are best resolved at the early stages by discussion between the trainee and the mentor or Scheme Manager. This will result in an overall, rolling training programme covering and clearly identifying the main areas of training to be undertaken and experience to be gained. Once established, this programme will provide a structure for monitoring and measuring trainee progress (by the mentor or Scheme Manager) throughout the period of training.

Objective based learning programmes

- a detailed programme of objective driven activity which, when combined with assignment planning, provides a number of opportunities with sufficient variety for trainee engineers to gain a broad base of professional competency;
- active involvement of professional chemical engineers in objective setting for the design, development and operation of the graduate training scheme;
- to provide opportunities to demonstrate how and where they can apply their chemical engineering knowledge.

Involvement in commitment management

- strong senior management support for the initial training of chemical engineers within the company;
- strong commitment from line management to the training scheme.

Supportive structures

- adequate staff and resources to support the training scheme, including sufficient mentors (see below).

Clear methods for monitoring trainee progress

- an active mentoring system in which trainees are guided, supported and assessed by responsible senior engineers (ideally Chartered Chemical Engineers) who are familiar with the requirements of IChemE's three stage membership application process;
- systemised methods for tracking the progress of trainees against scheme objectives. These could include, for example, formal training records, competency/training-based e-records, development plans, project reports, details of assignments held, CPD etc. The trainee should also be required to keep a training diary or suitable equivalent. It is useful if evidence of acquired competency is recorded in a format that is consistent with the Competence and Commitment Report. This will help generate a consistent reference document to facilitate conduct of the Professional Review. IChemE has developed the [Framework for Effective Mentoring](#), which trainees and companies could use for this purpose. The intent is that the trainee retains adequate information to prepare and submit regular reports (at least quarterly) on progress to their mentor;
- progress will be independently evaluated, and an individual's additional training and experience needs identified. This review should be carried out periodically and can be part of the trainee's annual appraisal over the period of training and experience.

Mechanisms to efficiently and regularly review the operation of the scheme

Once a scheme is accredited, it will be necessary to continue to monitor the scheme's ongoing quality and performance, on a carefully considered and agreed basis between the company and IChemE. See [section 3](#) for more details.

2.2 Responsibilities of participants

Corporate responsibility

In establishing an ACTS the company is committing itself to conduct a programme of chemical engineering training and work based experience that both recognises the

development needs of the trainee and helps secure the future wellbeing of the company and its customers.

This commitment will include the provision of adequate resources to both implement and operate the programme on a long-term basis. In practice, success will only be achieved by the active participation of the organisation at all levels.

Trainee responsibility

The trainee chemical engineer has a personal responsibility for their own training. The trainee should participate actively in the scheme, engage actively with their mentor, proactively monitor and record their progress in the various elements of the training and submit any evidence-based reports, as agreed between the employer and IChemE (and based upon current experience of the scheme operation against quality assurance principles).

IChemE responsibility

IChemE is responsible for assuring that standards of professional competence are maintained for Chartered Chemical Engineers.

We reserve the right to withdraw accreditation status should it establish that any schemes are failing to deliver expected outcomes.

2.3 Roles within ACTS

Senior management

All senior management should be fully supportive of the scheme. They must be committed to investing in the company's process engineering function and improving professional standards through appropriate training.

Scheme Manager

The person responsible for managing and maintaining the scheme should preferably be from the process discipline. They vouch for the competence of all those who are involved

in the scheme and assure adequate allocation of mentors, preferably from within the chemical engineering function. Ideally, mentors should not have line management responsibility for their mentees. The Scheme Manager may take an overview of the career progress of all trainees to ensure that their needs and the company's are being met. They will also need to confirm that trainees have completed the scheme and have gained the required Initial Professional Development or they must delegate this role to another senior chemical engineer in the scheme.

Scheme administrator

The person with responsibility for ensuring that scheme documentation is up-to-date and submitted to IChemE via the Scheme Manager in a timely manner. This role may be undertaken by the Scheme Manager or by another designated individual performing a central competence development function. The company's scheme administrator is not to be confused with IChemE's ACTS Administrator.

Line manager (mentor and line manager are mutually exclusive)

The manager to whom the trainee reports. Line managers, together with the mentors, are responsible for setting goals and regularly reviewing progress of the trainees against their personal development plan. They may revise the development plan if required and are responsible for assigning mentors. Line managers should be sensitive to the trainee's professional development needs.

Mentor(s)

An experienced senior engineer from outside the trainee's immediate team. Mentors should assist the trainee with career and professional development advice, and monitor the trainee's development progress. Mentors should preferably be Chartered Chemical Engineers and have strong links with the senior management team. This ensures trainees receive sufficient depth and breadth of experience drawn from around the business. Mentors should have undertaken an appropriate mentor training course, which we provide free of charge. This training is available on our website, or it can be delivered as an in-company workshop. Mentors, together with the Scheme Manager, will need to confirm that the trainees have completed the scheme and have gained the required Initial

Professional Development.

Trainee(s)

Typically, graduate engineers or developing engineers aiming to become Chartered Chemical Engineers. They are responsible for their own career development set against defined competencies. Trainees should record achievements and plans for progression against a personal development plan. Companies should require trainees to maintain evidence-based reports written in a style which demonstrates their chemical engineering competency. This ongoing capture of evidence of their experience is good practice and facilitates the training development plan for the trainee. It is recommended that evidence of acquired competency is recorded in a format consistent with the IChemE Competence and Commitment Report, such as the [Framework for Effective Mentoring](#). It is good practice for engineers to record, reflect upon and plan their Continuing Professional Development (CPD).

2.4 Scope of training and Initial Professional Development (IPD)

In order to satisfy IChemE's requirements for Chartered Chemical Engineer, graduates must obtain a breadth of chemical engineering experience in combination with a significant depth of experience in some of the aspects encountered.

The mix of breadth, depth and extent of formal training, on-the-job training and relevant experience of professional practice will naturally vary by company, dependent upon the capabilities and nature of the business.

We simply require that at the point when the programme of the IPD is complete, the trainee engineer will have reached the standards of competence and commitment to the profession that can reasonably be expected, for someone with three to four years of broad and good quality experience using chemical engineering principles routinely in their day-to-day work.

Examples of chemical engineering principles include, but are not limited to:

- laws of conservation;
- mathematical modelling;
- understanding of process technologies;
- systematic approach to safety and sustainability;
- chemical thermodynamics;
- economic evaluation;
- understanding of underlying chemistry;
- systematic approach to the analysis of systems.

In our experience there are many opportunities for sufficient training and early professional practice across a wide range of roles in industry and in academia. Chartered Chemical Engineers are to be found in many fields and industrial sectors.

To maintain this flexibility we do not overtly prescribe content of ACTS. The intention, instead, is to award accreditation on the basis of an auditable translation by the company of the overall need for a robust demonstration by a trainee of chemical engineering competence and commitment delivered in context of its business operation (for example: knowledge and abilities with respect to items such as flowsheeting, control, mass/energy balancing, P&ID's).

There are, of course, a wide variety of technical areas in which trainees can gain high quality training and exposure to chemical engineering practice. It would be expected that trainees would gain exposure and competence to operate within a range of such areas.

Such technical areas include, but are not necessarily limited to:

- **health, safety, risk, sustainability and environmental aspects of practice;**
- **construction materials and methods;**
- **technical and economic evaluation of process and plant;**
- **process plant operation;**
- **teaching, training;**

- **development of process plant;**
- **chemical engineering research;**
- **design of process, plant and equipment;**
- **computer applications;**
- **chemical based product design;**
- **instrumentation and control;**
- **project management and administration;**
- **economics, cost estimation;**
- **legislation, regulation;**
- **development of products and services;**
- **quality assurance;**
- **technical sales, marketing, contract negotiation**
- **research and development.**

Some companies may have other significant areas of chemical engineering activity that they would feel are highly relevant to their field of business (for example biochemical engineering in the pharmaceutical sector, well design and operation in the oil and gas sector).

Whatever the technical and functional knowledge developed within the training scheme, it is essential that trainees on the scheme will have completed their 'formation' as a practising engineer such that they are able to operate at the level expected of a Chartered Chemical Engineer.

All ACTS must therefore also provide trainees with the opportunity to gain, integrate and demonstrate competency in the following areas:

A. Ability to apply your knowledge and understanding to practical situations	
A1	Applying appropriate theoretical and practical methods to identify or define a problem, opportunity or project
A2	Combining ideas and contributions from different people and disciplines to arrive at appropriate engineering, technical or scientific solutions
A3	Displaying creativity and innovation - developing your own ideas to produce new engineering, technical or scientific solution, new designs and new technical approaches
A4	Undertaking scientific or technical evaluation and optimisation against the requirements you identified, or the brief you were given
A5	Planning and executing projects: organising or performing technical work to implement or validate solutions, designs etc
B. Ability to handle the wider implications of your work as an engineer	
B1	Handling of health, hazard and safety aspects, apply appropriate principles, good practice, meet legislative requirements etc
B2	Handling of sustainability aspects: these could include environmental, public concerns, risk etc
B3	Handling of commercial and economic aspects
C. Interpersonal, leadership and communication skills	
C1	Managing interpersonal communications and relationships including demonstrating an awareness of diversity and inclusion
C2	Demonstrating leadership in a professional role
C3	Communicating ideas and plans by report writing and oral presentation
D. Evidence to show that you are committed to high standards of professional and ethical conduct	
D1	Professional conduct
D2	Ethical decision making

Whatever the field(s) of training and work, trainees should capture, and record evidence of their experience gained in a way that is consistent with chemical engineering best practice and the IChemE framework for competence and commitment-based outcomes.

2.5 Monitoring progress

Mentors will need to assess at what level the trainee is at in their development. A key role of the mentor is to review the continuous development of the trainee's competency, assessing the level of achievement obtained and counselling how to achieve the required level of achievement across the breadth of training areas identified as being offered within the scheme, including the five integrating IChemE competency areas.

Companies may use their own metric, though a proven successful process to assess the trainee's competence in each of the competence areas is the following rating system:

Level 4 (Ability/Skill)	Evidence of competence demonstrated adequate coverage and meets the standard required for a Chartered Chemical Engineer. Performs the activity in a range of contexts; supervision only required in more complex circumstances; some individual responsibility or autonomy
Level 3 (Experience)	Evidence of competence demonstrated good coverage, but the trainee needs either a little more experience or training, or the opportunity to operate at the required level. (The required experience, training or opportunities should be described on the form). Little or no individual responsibility.
Level 2 (Knowledge)	There has been some training undertaken or experience gained in this area, but more is required. Performs only routine and predictable tasks.
Level 1 (Awareness)	A topic has only been touched on by the trainee. Does not perform the activity.

It is very unlikely that within the first year the trainee will have reached level 4 for any area. Depending on whether the training and experience is focused in one or two areas or built up over the whole range, they may have reached level 4 in one category after two years. Once level 4 has been reached there is no need for further development as part of the ACTS, though the trainee should obviously keep up to date with new developments and may wish to record any examples further illustrating evidence of competence.

A company may operate a different assessment scale, but this must ultimately align with evidence of competence demonstrated in a trainee's final Competence and Commitment Report and meets the standard expected of a practising Chartered Chemical Engineer.

2.6 Duration of training and IPD

In our experience, it normally takes at least three to four years for a trainee to acquire the range of training and experience that will allow them to build up the breadth and depth of initial professional practice skills to operate as a chemical engineer of the standard required. Some trainees may need to arrange additional training in order to fulfil some aspects of their IPD, but the expected duration of ACTS training shouldn't (normally) be more than six years. If the trainee needs to continue beyond the sixth calendar year because of specific circumstances, such as a career break, secondment or maternity/paternity leave, a formal written exemption should be obtained by the Scheme Manager sending a written request to IChemE.

ACTS therefore not only accommodate formal training needs but must also involve assignment planning to allow trainees to build up sufficient breadth and depth of chemical engineering practice. It is only through this exposure that they will gain sufficient competency to qualify as a Chartered Chemical Engineer.

The responsibility for managing the IPD rests ultimately with the trainee. Although it is up to them to decide when they feel ready to submit their application for Chartered status, the expectation is that all ACTS trainees should as a minimum complete and submit their ACTS completion form by the end of the sixth year and before leaving the scheme. When a trainee remains in the scheme for six years, their progress should be reviewed at the start of their sixth year and a plan should be made to complete their IPD before the end of the sixth year.

ACTS graduates who are applying for Chartered status can get exemption from the IPD Assessment (stage 2) if they were registered on the scheme for at least two years.

Retrospective applications will be allowed from trainees who were employed in an organisation running an ACTS but were not aware of the scheme or were unsure of their eligibility. A maximum of two years retrospective experience is allowed.

2.7 Trainees with less than four years or mixed experience

A minimum of three–four years ACTS experience is expected for a trainee to be able to develop all competencies to the required level. We therefore advise all trainees to wait until they have spent a minimum of three years on the ACTS before submitting an application for Stage 2 - Initial Professional Development. If a trainee applies with less than three years ACTS experience, further evidence may be requested, or the trainee may be asked to make an IPD Self-managed application (application fee payable). IChemE Professional Reviewers have noted that C&C report submissions for Chartered applicants with less than four years' total experience are often not of the same standard as reports from applicants with more experience, so it may benefit trainees to wait until at least four years' experience has been gained before applying for Chartered membership. We understand that trainees may join an ACTS with prior non-ACTS experience. Applicants with mixed ACTS/non-ACTS experience should contact applications@icheme.org for advice in the first instance.

2.8 Trainee and mentor registration

Companies should ensure trainees are registered within two months of joining the company. Newly accredited schemes may register trainees who have been with the company for up to four years previously. All registered trainees must be in IChemE membership and have met or be working towards the academic requirements of Chartered membership.

For trainee and mentor registration, the Scheme Manager should submit a registration form to IChemE's ACTS administrator who will register new trainees and mentors on the scheme's record. An assessment of the trainee's academic credentials against the requirements necessary for Chartered membership will be made and each trainee will be sent email confirmation of their ACTS registration and pathway to Chartered status. This information will also be confirmed with the Scheme Manager.

2.9 Fees

IChemE endeavours to keep all costs associated with ACTS as minimal as possible. There is a fee in place for each application for accreditation. Interim visits are free of charge, however, any assessor expenses will be required to be paid by the company. Annual online discussions ([section 3.1](#)) are also free of charge. There is no fee for trainee registration, but all trainees are required to be in current membership. Companies should pay trainee application and subscription fees.

Details of fees can be seen in [Appendix D](#) or obtained from the ACTS administrator.

2.10 Multi-site ACTS

The key requirement for schemes which have sites in a variety of locations is that there is a single well recognised robust scheme with a single Scheme Manager and the ability for the assessment process to be able to verify that the scheme is consistent across locations. Assessors play an important role in validating that there is consistency of method and content across all the sites to be accredited.

If the scheme is to be defined as a global scheme covering multiple sites and/or different sectors within the company, it needs to be clearly defined as a single scheme, ie a single generic training programme for all trainees plus additional elements which are job specific, incorporated in one set of scheme documentation which includes mapping evidence for competence and commitment. The scheme must be managed by one Scheme Manager even if different coordinators are utilised at various locations.

Principles for review of multi-location/site accreditations

- all locations/sites and offices having a training scheme that the company wishes IChemE to (re)accredit must be listed within the formal ACTS application;
- normally, no additional location/site or office can be added to the multi-location/site accreditation within a two–four year reaccreditation cycle, unless formally requested by the company and separately assessed by IChemE (this will incur an additional cost for the company);
- a company requesting multi location/site accreditation from the start must have a detailed assessment conducted by IChemE that includes visits to the majority of key locations/sites and offices that represent the breadth of chemical engineering activity that it pursues;
- all sites and offices (re)accredited on a multi-location/site basis must be managed by a single Scheme Manager and governed under a single, common set of documentation;
- in the case of company mergers, accredited schemes will continue to be assessed individually until such time as they are managed by a single Scheme Manager and governed under a single, common set of documentation;
- a company that holds multi location/site accreditation must, in order to support re-accreditation, show that the same standards of training are provided at all locations. IChemE will ensure that assessors' visits are scheduled to the key sites on a rolling basis, which will include meetings with trainees and mentors from all locations over a period of time;
 - for schemes with up to three sites, trainees and mentors from all sites should be represented at the visit, either in person (preferable if in the same country) or by telephone/conference link;
 - for schemes with four or more sites, there will normally be an interim visit at another key site after two years, at which IChemE will arrange for one assessor to meet trainees and mentors from other sites;
 - future visits will be arranged on a rotational basis at key sites in the scheme as agreed between the company and IChemE.
- to achieve and maintain accreditation, IChemE and its assessors must remain satisfied that there is a commitment to IChemE membership and professional qualification by trainees and senior engineers in each site. A significant majority of the chemical engineers employed by the company should be registered with IChemE;
- to maintain accreditation the scheme's annual report to IChemE must cover all sites and identify at which 'home' site trainees and mentors are located.

3. Quality assurance processes

3.1 Quality assurance of company procedures

Company training schemes will be audited by IChemE before being accredited.

A full audit assessment will be made after the initial request for scheme accreditation from the company. This will include a one-day visit which will involve a thorough review of the training and experience opportunities available and the (formalised) capabilities within the applicant organisation to successfully manage the scheme.

Once a scheme is accredited it will be necessary to continue to monitor the scheme's ongoing quality and performance, on a carefully considered and agreed basis between the company and IChemE. Primarily this will be based upon feedback following experience gained through the Professional Review of 'graduated' trainees making application for Chartered membership. The [Annual Report](#) is also helpful in this process.

Annual report

The ACTS Scheme Manager or Administrator is required to submit an annual review report to IChemE. This spreadsheet contains information on scheme management, trainees and mentors, including comments on trainee progress and any C&C reports submitted. When new trainees and mentors are added to the spreadsheet, they should also be registered in the scheme by using the appropriate registration forms. This can be done at any time during the year. The initial annual report will be provided by IChemE and the Scheme Manager will need to add the comments.

It is recommended the annual report submission is aligned with the companies' reaccreditation dates, therefore an up-to-date annual report will be available when an organisation is due for reaccreditation.

We expect to visit companies regularly to review performance and any issues arising. We would expect visits to occur two years after the initial accreditation of a scheme and every four years thereafter for well-established and well performing schemes. We reserve the right to impose conditions on the company should a scheme be found to be lacking in any areas, though every attempt will be made to work in partnership to resolve issues should they arise.

Guidance and help from IChemE will be available throughout, which means that a brief annual virtual discussion between an IChemE representative (assessor, Professional Development Subcommittee member, member of Regions Team) and the Scheme

Manager could be very useful. This meeting could take place shortly after the annual report submission.

3.2 Company certification

Following a successful audit assessment for accreditation of a scheme, IChemE will issue an ACTS Accreditation Certificate to the company. This, at our discretion, will be valid for up to four years after which a re-accreditation visit will be required.

3.3 Quality assurance of trainee performance

On successful completion of an ACTS programme, the trainee will submit their completed ACTS completion form (signed off by their mentor and company Scheme Manager) to IChemE. If they have also met the Stage 1 - Educational Base requirements, they can move directly to Stage 3 - Professional Review. We will therefore be able to monitor, on a continuous basis, the quality of training outcomes delivered by the scheme and be able to feedback any pertinent findings to the Scheme Manager. This feedback will be based on the outcome of the Chartered applications.

It is an expected deliverable of an ACTS that all trainees will have submitted their ACTS completion form by the end of their sixth year on the scheme, or the Scheme Manager will have submitted a written request for additional time, with supporting reasons. Compliance with this will be a metric for evaluation of the scheme's performance.

3.4 Recognition and certification

The achievement of Chartered Chemical Engineer status is a milestone in an engineer's professional career. The qualification has high value and carries international recognition of competence and ability. It is therefore of value to both individual and to employer alike.

ACTS provide a vehicle to help engineers rapidly acquire the levels of competency required to achieve Chartered status. We believe that it is important to recognise the achievement of an engineer in reaching Chartered status and that companies participating in ACTS should publicly recognise the skills and qualifications of its trainees.

4. Principal stages of the accreditation process

The process to accredit in-company training schemes follows these principal stages:

- 1. Research by the company.**
Visit our [website](#), download the information or contact our ACTS administrator (acts@icheme.org). Get your team together and start making a plan.
- 2. Support from IChemE in developing your application.**
Schedule an in-house virtual meeting or discussion with our team.
- 3. Preparation by the company and submission to IChemE.**
Using the guidelines, compile your scheme documentation. It is strongly advised that the documentation is put into practice.
- 4. Appointment of assessors by IChemE.**
- 5. Preparation and visit by the panel of assessors.**
Once your application has been submitted and reviewed by our assessors, our ACTS administrator will be in touch to arrange a date convenient for you to welcome our assessors to carry out a full day visit.
- 6. Report by the assessors to IChemE and decision by our Professional Development Subcommittee.**
Your company will receive feedback from assessors and the subcommittee may award full accreditation, provisional accreditation or conditional accreditation with recommendations.
- 7. Implementation of follow-up actions by the company.**
- 8. Trainee(s) application for Chartered status.**
Once your trainee(s) have satisfied the requirements for Stage 1 - Educational Base (via IChemE accredited qualifications or completing the Individual Case Procedure), and Stage 2 - Initial Professional Development (by submitting an ACTS completion form), they can make a start on Stage 3 - Professional Review by reading the guidance documentation at www.icheme.org/chartered-stage3 and making an application via our online portal (application.icheme.org).

4.1 Research by the company

This section is about initialising your scheme and assigning roles to key people involved.

Get in touch with our ACTS administrator (acts@icheme.org) to register your interest in accrediting your training scheme, providing the following information:

- company name;
- contact details;
- Scheme Manager name and job title;
- your initial training scheme manual (if your organisation has one) no matter how detailed.

We suggest you organise an informal meeting with those who will be involved and carry out a discussion session. You will need:

- Scheme Manager;
- trainee(s);
- mentor(s);
- line manager(s); and
- scheme manual.

See [section 2.3](#) for more details about the different roles and responsibilities.

Some key points to discuss at your brainstorming session are:

- who is going to fulfil the above roles?
- have you got training in place that could be adapted or are you starting from scratch?
- what are the training needs from the trainee(s) point of view?
- how are you going to get senior management involved and committed?
- what experience can be gained for graduates at your organisation that aligns with the requirements for Chartered Chemical Engineer?
- are there any gaps that need to be considered?

4.2 Support from IChemE

After you have successfully researched ideas, and compiled an initial training scheme with allocated roles, our ACTS administrator will put you in touch with our Regions Team to arrange a meeting.

What you should expect from us is a brief presentation detailing what you need to set up and run a scheme, pricing confirmation and one-to-one discussion clarifying your queries and feedback on your initial training scheme. You will then be assigned a representative from our Regions Team who will help support you with putting your application paperwork together and will be on hand for any questions that arise during this process.

4.3 Preparation and submission of documentation

Each scheme will require a documented scheme manual or electronic equivalent with the purpose of setting the standards aligned with the Competence and Commitment (C&C) Report which each trainee will have to complete at the point of applying for Chartered status. The scheme manual is required for the initial accreditation process and will require periodic review. Please notify us of any significant changes made to the scheme manual after accreditation.

Below are guidelines for compiling an effective scheme manual:

- document which sets out the training organisation and structure within the company;
- state duration of the training;
- detail in-house and external courses to be used;
- define roles and responsibilities of all parties concerned in delivery of the scheme;
- map how the specific training and work assignments offered within the company will deliver the target outcomes set out by IChemE (see guidelines at [section 5](#));
- detail how engineers are supported if they move away from their 'home' site for a period of time either temporarily or transfer permanently to a different part of the company organisation or to another organisation;

A successful training scheme needs to have all the characteristics described at [section 2.1](#).

Additional documentation required for the accreditation visit

- details of training programme and duration;
- any in-house and external short training courses used;
- how the scheme aligns with the requirements for achieving Chartered Chemical Engineer status;
- copies of any scheme material as provided to new trainee engineers;
- a list of staff actively involved with operation of the scheme (ie mentors, Scheme Manager, senior staff sponsor);
- the annual report (for re-accreditation visits).

4.4 Appointment of assessors

A panel of two trained assessors will be selected by IChemE.

All IChemE assessors are approved by processes set by the Accreditation Panel using the following criteria:

- all assessors have received IChemE training;
- no more than one assessor should be without previous accreditation experience.

Companies do not have the right to approve the membership of the assessor panel. Should there be exceptional circumstances that concerns the company (for example perceived conflict of interest with an assessor) then these concerns should be communicated in writing at the earliest opportunity to the senior IChemE staff member responsible for the accreditation process and the Chair of the Accreditation Panel.

Assessors act in a voluntary capacity on behalf of IChemE. They are required to work within IChemE's code of conduct for volunteer members on IChemE activities.

See [Appendix A](#) for more details about the assessors and their role.

4.5 Preparation and visit by the panel of assessors

Suggested programmes for ACTS accreditation visits can be found in [Appendix B](#). You can also see more details about the role of the assessors in [Appendix A](#).

4.6 Report by the assessors to IChemE and decision by the Professional Development Subcommittee

The assessors' report will be submitted to the ACTS administrator for final approval by the membership committee. The actual process has the following steps:

1. The accreditation visit report and the assessor's recommendation to the Professional Development Subcommittee will be submitted to IChemE within three weeks of the visit.
2. IChemE will forward the accreditation visit report to the company, to check for factual accuracy. The company may wish to add comments.
3. The accreditation visit report (with company comments, if any) and the assessor's recommendation will be reviewed by the Professional Development Subcommittee who will make the final decision at their next available meeting.
4. IChemE will notify the decision to the company, within one week of the Professional Development Subcommittee meeting.

The possible outcomes are as follows:

- a new accreditation submitted for the first time can be accredited for a maximum of two years before a review by the assessors is required;
- conditional accreditation can be given subject to a further visit or report submission to check actions or outcomes recommended by the assessors have been achieved;
- accreditation may be withheld until some recommended modifications to the scheme are made;
- re-accreditation of an existing scheme can be awarded for up to four years.

4.7 Implementation of follow-up actions by the company

IChemE may make accreditation subject to conditions. These are binding on the company and must be resolved within the indicated timeframe for accreditation to be maintained and be valid.

Fulfilling the conditions is the responsibility of the company. Reports of fulfilment must be made formally in writing for the Accreditation Panel consideration and accreditation decision.

In many cases we seek to make recommendations to the companies. These are not mandatory. However, they are offered in the spirit of providing and sharing good practice. Adoption by the company of these recommendations is encouraged and generally expected.

4.8 Trainee(s) application for Chartered Chemical Engineer status

Once the trainees complete their training scheme and feel confident in their competencies, they should complete the certification of their Initial Professional Development. When they are able to demonstrate professional responsibility, they should apply for Chartered status and when successful their membership will be upgraded to Chartered Member.

Applying for Chartered status means that the trainee:

- meets the requirements for Stage 1 - Educational Base (we will assess their qualifications as they enter the scheme);
- has gained the required training and experience expected for a Chartered Chemical Engineer, satisfying Stage 2 - Initial Professional Development via the ACTS completion form;
- demonstrates competencies based on IChemE's training and experience requirements by completing the C&C report and attending an interview (Stage 3 - Professional Review);
- demonstrates commitment to their professional development;
- works in a responsible position in chemical engineering.

5. The ACTS framework Competence and Commitment Report

Competence and Commitment requirements	How C&C outcome will be achieved through training	How C&C outcome will be achieved through work assignments	Trainee evidence of C&C	Mentor's rating (IChemE Levels 1-4 or agreed company equivalent)	Mentor's comments	Agreed trainee follow up actions (if not at Level 4)
<p>Evidence of applying your knowledge and understanding to practical situations</p> <ul style="list-style-type: none"> ■ applying appropriate theoretical and practical methods to identify or define a problem, opportunity or project; ■ combining ideas and contributions from different people and disciplines to arrive at appropriate engineering, technical or scientific solutions; ■ displaying creativity and innovation: developing your own ideas to produce new engineering, technical or scientific solutions, new designs, and new technological approaches; ■ undertaking scientific or technical evaluation and optimisation (of product, process, equipment, method, project etc) against the requirements you identified, or the brief you were given; ■ planning and execution of projects: organising or performing technical work to implement or validate solutions, designs etc. 	<p>Specific plan of company training courses that will be attended and list learning objectives.</p> <p>(eg technical areas of chemical engineering relevance.)</p>	<p>Specific company assignment planning for trainee.</p> <p>(Work programme to develop a breadth and depth of chemical engineering experience.)</p>	<p>Developed and recorded by trainee throughout time on ACTS</p>			
<p>Evidence that you are able to handle the wider implications of your work as an engineer</p> <ul style="list-style-type: none"> ■ ability to handle health, hazard and safety aspects: to apply appropriate principles, good practice, meet legislative requirements etc; 						

The ACTS framework Competence and Commitment Report continued:

Competence and Commitment requirements	How C&C outcome will be achieved through training	How C&C outcome will be achieved through work assignments	Trainee evidence of C&C	Mentor's rating (IChemE levels 1-4 or agreed company equivalent)	Mentor's comments	Agreed trainee follow up actions (if not at Level 4)
<ul style="list-style-type: none"> ■ ability to handle sustainability aspects. These could include environmental, public concern, societal issues, recognition of risks etc; ■ ability to handle commercial, economic aspects. 	<p>Specific plan of company training courses that will be attended and list learning objectives.</p> <p>(eg technical areas of chemical engineering relevance.)</p>	<p>Specific company assignment planning for trainee.</p> <p>(Work programme to develop a breadth and depth of chemical engineering experience.)</p>	<p>Developed and recorded by trainee throughout time on ACTS</p>			
<p>Evidence of interpersonal, leadership, communication skills</p> <ul style="list-style-type: none"> ■ managing interpersonal communications and relationships including demonstrating an awareness of diversity and inclusion; ■ demonstrating leadership in a professional role; ■ communicating ideas and plans by report writing and oral presentation. 						
<p>Evidence to show commitment to high standards of professional and ethical conduct</p> <ul style="list-style-type: none"> ■ professional conduct; ■ ethical decision making. 						
<p>Evidence of commitment to CPD</p> <ul style="list-style-type: none"> ■ report of recent CPD already undertaken (eg within last two years); ■ future CPD plan. 						

Appendix A - ACTS Assessors

1. The assessors

The assessors are experienced Chartered Chemical Engineers who have been trained in the process of accreditation.

The assessor's role is to review a company's new or existing graduate training scheme and ensure it guarantees provision of sufficient training and experience opportunities for individuals to meet the professional practice requirement for Chartered membership. Assessors are experienced Chartered Chemical Engineers who have been trained in the process of and requirements for accreditation. It is standard practice for a visit to be conducted by a team of two assessors. A third assessor may accompany the team to gain experience as a new assessor. Each assessor is carefully selected to avoid conflicts of interest.

2. Assessment criteria

IChemE's experience of reviewing company training is broad based. The following criteria is considered:

Leadership

- evidence of leadership, sustained commitment and involvement in the scheme by senior management;
- evidence that those involved with the scheme¹ are aware of current IChemE requirements and the registration process for Chartered Chemical Engineer;
- evidence of sustained contribution to the IChemE ACTS Assessor pool.

Management

- clear scheme ownership within organisation;
- clear expression of roles for all those involved in scheme operation (see [section 2.3](#));
- effective process in place to enrol new trainees on scheme;

- effective process in place to assign a mentor to each trainee;
- effective process in place to monitor trainee progression;
- evidence of commitment to scheme design, operation and continual improvement demonstrated by regular meetings of mentors, technical coaches, line managers etc.

Resources

- evidence of sufficient staffing² and resources to actively and effectively conduct the scheme.

Scheme documentation

- clear and comprehensive documentation package³ communicated to trainees, coaches, mentors and senior management;
- evidence of an effective formal management process used for handling scheme documentation including ownership of this, review and revision;
- evidence of formalised documentation/intranet resources to provide means of tracking and coaching trainees against competencies eg personal or individual competence development plan;
- an adequate mapping to translate the technical and corporate personal competencies to IChemE requirements;
- a statement of academic thresholds for entry to scheme.

Competence development system or framework

- should normally cover the duration of the trainee's development up to the point of competent 'standalone' responsibility within the discipline (ie at a level of Chartered Chemical Engineer - per the intended design outcome of the scheme);
- clear description of competence development framework tailored to meet the needs of the business, applied with common understanding of competencies to be acquired, including proficiency requirements;

¹Scheme Manager, Scheme Administrator, technical coaches, line managers, trainees, mentors.

²No more than three trainees per mentor, at least two professional engineers directly involved per six trainees, or which one must be a Chartered Chemical Engineer.

³Historically, a 'manual' but can be, for example, a series of online documents and resources.

- competence list should include the specific process discipline technical competencies as well as those personal/business competencies relevant to the formative professional development of the trainees (the 'soft skills component');
- explicit evidence of mandatory process safety competency development;
- clear – and consistently interpreted – grading⁴ structure that is understood and effectively deployed, for assessment of competency levels;
- evidence of a process in place and effectively used for trainees to capture evidence of competency development, ideally outcomes based rather than task based;
- tools⁵ in place to help trainees easily capture their own evidence of competency development (ideally outcomes based rather than task based).

On-the-job training

- strong and uniform application of structured on-the-job training across the organisation;
- evidence of embedded and effective processes for review of trainee competency development;
- evidence of embedded use of formalised personal competency development planning to support development;
- evidence of active management of trainee development including recording and tracking progress;
- evidence of forward IPD/CPD planning captured by trainees.

Assignment planning

- evidence of strong commitment to assignment planning and of its effective application to support competence development of trainees (assignments, rotations, secondments).

Formal training

- evidence of access to and use of core/mandatory training courses (internal

and/external) relevant to process engineering competencies;

- evidence of access to and use of a variety of means of learning (ideally blended), eg intranet based learning support materials;
- evidence of tracking of training attended.

Recognition

- evidence of recognition given to trainees graduating from and or achieving milestones within scheme.

3. The assessment process

The assessment process is in two parts: the application and the accreditation visit.

The first stage requires the company to complete and submit an **ACTS application and self-assessment form**, which includes details of the proposed or existing training scheme, together with the supportive training material. All locations/sites and offices that the company wishes IChemE to (re)accredit must be listed within the formal ACTS application (see **2.10 Multi-site ACTS**).

The application

For a new scheme, an experienced assessor will be asked to undertake an initial review of the application. Assessors are not required to make a final recommendation on this evidence; their role is to advise IChemE's ACTS administrator on whether to proceed with an accreditation visit and to provide feedback for the company if required. If, for example, a scheme does not utilise mentors or lacks scope for a graduate to receive the required experience and training, the assessor may suggest further discussions take place with the company beforehand.

Any minor omissions or areas of concern should be noted in the response to IChemE so that these can be communicated to the company and followed up during the visit. To promote continuity, it is likely the assessor will be invited to join the assessor team of a company they have previously reviewed.

The second stage is for a minimum of two IChemE assessors to visit the company.

⁴Commonly defined on a three, four, or five point scale from awareness through to mastery (See example at **2.5 Monitoring progress**).

⁵eg diary, online capture.

The accreditation visit

Arrangements for the visit will be made by IChemE's ACTS administrator who will arrange for two assessors to be appointed and set up a mutually convenient date for the visit.

Prior to the visit, the ACTS administrator will send the assessors a copy of the completed ACTS application and self-assessment form together with the supporting training scheme documentation⁷ which they will carefully read in preparation. We encourage assessors to consider the methodologies applied and focus on whether the expected outputs meet our requirements.

All companies are required to sign a GDPR agreement and provide, in confidence, a range of materials and records relevant to the training and work experiences of a cross section of trainees on their scheme. These materials will be used to assess the quality and sufficiency of the training and experience being made available to trainees. The materials include the scheme manual/online documentation, annual report and examples of evidence capture by a minimum of three trainees across the scheme. Confidentiality must be completely respected and all materials will be deleted, following the GDPR guidance.

Find information on suggested programmes for ACTS accreditation visits (in-person or virtual) at www.icheme.org/acts-guidance-and-forms

The assessors report

Following the visit, assessors are asked to complete an ACTS accreditation visit report which will include their recommendations to the IChemE Professional Development Subcommittee. As well as confirming the information contained within the application form is current, judgements about particular aspects of the scheme are required. Judgements are backed up by examples or evidence which have been observed or heard.

Once the report is agreed by all assessors, a copy is sent to the company for comment on factual accuracy. The company response will be sent to the assessors to confirm if any updates to the report are required. The final report will be presented to the Professional Development Subcommittee. The contents of the report and information gathered on the visit are confidential and will not be divulged or used for any other purposes. After

⁶A condition is defined as work that the company must implement if accreditation status is to be maintained.

⁷A time frame for implementation of any conditions will be proposed.

the visit, copies of the application documentation will either be securely destroyed or permanently deleted.

The assessors' recommendations

There are a variety of options that can be given as recommendations:

- a new scheme can be accredited for up to a period of two years; however, a three-year accreditation period can be granted in exceptional cases;
- conditional⁶ accreditation can be recommended subject to a further visit or report at a specified time⁷ to check identified actions have been met or outcomes achieved;
- existing schemes can be re-accredited for up to four years;
- a recommendation can be made that accreditation be withheld until modifications are made to the scheme. In this case it will be made clear whether a further visit is necessary or whether the evidence can be submitted in writing for a desktop review.

Note: For new schemes, the Professional Development Subcommittee will normally recommend an interim visit after one year. This is carried out by one of the assessors in order to review progress of the scheme and to provide the opportunity for any further advice or help.

Confirmation of accreditation

Following successful accreditation of the training scheme review process, a letter confirming the outcome of the Professional Development Subcommittee meeting is sent to the company, together with a certificate of company accreditation and a copy of the assessors' report.

Appendix B - Suggested programmes for ACTS accreditation visits

B1. In-person accreditation visit:

Time	Description	Additional notes (see page 26)
10:00–10:10	Arrival of IChemE assessors	
10:10–10:30	Private meeting IChemE assessors	1
10:30–10:45	Welcome and introductions IChemE assessors and hosts	
10:45–11:00	Company vision and policies on ACTS Company senior executives	2
11:00–11:30	Presentation of company ACTS Company Senior Manager/Scheme Manager/Scheme Administrator	3
11:30–11:45	Discussion question and answer session IChemE assessors, company Senior Manager/Scheme Manager/Scheme Administrator	
11:45–12:30	Private meeting with ACTS trainees IChemE assessors and a selection of ACTS trainees	4
12:30–13:00	Visit to workplace of trainees or training project presentations	5
13:00–13:45	Lunch	6
13:45–14:30	Private meeting with ACTS mentors IChemE assessors, company mentors	7
14:30–15:00	Review of any additional materials/facilities IChemE assessors, company Senior Manager/Scheme Manager/Scheme Administrator	8
15:00–15:30	Private meeting IChemE assessors	9
15:30–16:00	Summary, feedback and discussion IChemE assessors and hosts	10
16:00	Departure IChemE assessors	

B2. Virtual accreditation visit:

Time	Description	Additional notes (see page 26)
09:10–09:30	Private meeting IChemE assessors	1
09:30–09:40	Welcome and introductions IChemE assessors and hosts	
09:40–10:10	Presentation of company ACTS (20 minute presentation with 10 minutes included for questions during presentation) Company Senior Manager/Scheme Manager/Scheme Administrator	3
10:00–10:50	Discussion question and answer session IChemE assessors, company Senior Manager/Scheme Manager/Scheme Administrator	
10:50–11:15	Break/interim private review	
11:15–12:15	Private meeting with ACTS trainees IChemE assessors and a selection of ACTS trainees (maximum of five in this time frame)	4
12:15–13:00	Lunch break/interim private review	
13:00–13:30	Private meeting with ACTS mentors IChemE assessors, company mentors (maximum of five in this time frame)	7
13:30–14:00	Private meeting IChemE assessors	9
14:00–14:30	Summary, feedback and discussion IChemE assessors and hosts	10
14:30	Close IChemE assessors	

Additional notes

1. The assessors will discuss the application and agree the format for the day.
2. This presentation should be given by the scheme sponsor or a senior executive, with responsibility for professional technical staff within the company. The objective is to give a brief overview of the company and demonstrate its commitment to the scheme and the professional development of its staff. Please keep this under 15 minutes to avoid impacting on the schedule for the rest of the day.
3. During this session please describe how the scheme operates, including the following:
 - what is the structure and pattern of the scheme?
 - how does the scheme enable acts trainees to gain the required training for their IPD and acquire the necessary competencies for Chartered membership?
 - what is the company management system for monitoring the content and quality of the scheme?
 - what is the company management system for tracking and assessing trainees' progress and development?
 - any other pertinent issues of the scheme.
4. It is strongly recommended for the ACTS trainees to bring their training and competencies logs to this session. If possible, we would like to see a selection of trainees at different stages of their development and if applicable, from more than one site (this can also be done virtually). This will be an open discussion, including the following:
 - project opportunities available and the achievement of IChemE competencies;
 - how IChemE competencies are assessed and recorded;
 - frequency and content of mentor/mentee meetings;
 - other development opportunities such as buddying, IChemE/STEM activities, further education etc.
5. An optional brief visit to the workplace, preferably conducted by scheme trainees to show and discuss with the assessors how they are learning and developing from their work and experiences will be of equal benefit.
6. This offers good networking opportunities and additional time for discussion in an informal setting. It is preferred that scheme trainees and mentors are invited to the lunch session.
7. This will be an open discussion with a representative selection of mentors, for the assessors to understand the following:
 - responsibility of mentors;
 - frequency and content of mentor/mentee meetings;
 - mentor's own training, development, support and networking opportunities;
 - mentor's understanding of the three stage Chartered application process and its requirements.
8. Opportunity to review any additional materials or facilities that were not discussed or seen earlier.
9. Assessors to consolidate and discuss observations and evidence gathered.
10. IChemE assessors to provide summary of the visit, evidence-based feedback and answers to any further queries. They will not be discussing the outcome of the accreditation visit. IChemE assessors will also explain the rest of the application process, whereby:
 - the Accreditation Visit Report and the Assessor's Recommendation will be submitted to IChemE with three weeks following the visit;
 - IChemE will forward the Accreditation Visit Report only to the company to check for factual accuracies. Company may wish to add any comments;
 - the Accreditation Visit Report (with any company comments) and the Assessor's Recommendation will be reviewed by the Professional Development Subcommittee who will make the final decision at their next available meeting.
 - IChemE will notify the company of the decision within one week of the Professional Development Subcommittee meeting.

Additional information

- an additional meeting room will be required for joint institution visits so IChemE assessors can speak separately with the chemical engineering trainees and mentors;
- a list of the people attending on the day with their job titles and postnominals (if applicable) should be submitted to IChemE before the visit;
- some of the timings and events may be varied by the company following discussion with IChemE.

Appendix C - ACTS assessors' good practice comments

The lists below contain real assessor feedback comments from reaccreditation reports that highlight good practice for ACTS schemes.

Trainee support

- young professionals' group as an informal networking scheme for graduate engineers with up to seven years postgraduate experience providing an effective team-building tool;
- trainees that are assigned to other centres continue their training using the local organisation and, except for travel and subsistence, training costs are borne centrally;
- availability of a 'buddy' system for trainees;
- new graduates invited to meet each other, mentors and supervisors after selection and well before starting work. This shows commitment from the company and provides a support network of useful contacts for them;
- a two day introductory event encouraging networking amongst trainees of all disciplines before they were assigned to their jobs with various line managers;
- budget for additional external training provided for trainee to manage;
- 'Lunch & Learn' programme to deliver additional and cross-discipline awareness and training. Graduates invited to deliver appropriate sessions as their skills develop;
- training elements have core management knowledge appropriate to all disciplines;
- trainees develop own forum for inter-discipline and/or inter-site experience and skills development;
- local/regional IChemE members group supported by company to provide high quality venues, speakers and seminars trainee support;
- corporate training handbook/website to map or identify C&C or UKSPEC competencies against training and development aims for graduate performance planning and reporting;
- senior executives meet graduate groups regularly to share information, air

issues and define corporate values;

- regular forum of trainees, mentors, HR, Scheme Manager and corporate sponsors to share experience, concerns etc;
- trainees present training plan and achievements to senior panel for review and comment;
- CPD logging system with gap-analysis function available to trainees;
- provision of 'mock interviews' to simulate conditions and requirements encountered at membership application level;
- specific training provided for report writing;
- trainees produce/revise company design notes to capture best practice tips and lessons learned;
- Assignments Fair to help trainees select the best assignments to meet development needs;
- training 'project' run during induction period to walk trainees through a project life-cycle to indicate areas of engineering involvement and relevant standards and documentation;
- trainees review and suggest areas of improvement to scheme manual;
- a specific registration and information day linking trainees to their appropriate institutes for the membership process

Mentoring

- a formal coaching system is promoted and used within the company; this encourages trainee development, best practice and technical excellence;
- trainee mentor plan to develop new mentors. Use trainees to mentor interns and placement students;
- provision for appointing delegate mentors when trainees have extended assignments away from base;
- beneficial to rate mentees training and experience achieved on 1–4 ranking (as guidelines) to provide easy status awareness;

- mentors involved in objective-setting process;
- meetings between mentors to discuss common issues and ensure consistency in rating development of trainees;
- provision of a 'business mentor' (senior manager) to provide periodic general career advice and a wider perspective of company activities;
- involvement of mentors from other engineering disciplines;
- mentoring guidebook specifically oriented to process engineering activities.

Assignments

- development of placements for trainees within client companies, typically site-based work, by agreeing an exchange of graduates;
- inclusion of short duration assignments or 'boot camps' to give intensive experience of maintenance skills and procedures plus 'hard hat' safety awareness;
- employment of one year out 'sandwich' students from university with placement on the scheme and mentoring. Good recruitment concept;
- trainees' needs are captured and fed into weekly resource planning meetings. This means that trainees can be aligned with the assignments from which they would derive the appropriate breadth and depth. Mentors regularly review trainees' progress against C&C requirements and these are flagged up to these meetings;
- trainees involvement in 'milk-round' recruitment activity;
- trainees involvement in engineering awareness activity with schools and colleges and as links for projects/challenges with the latter (SATRO, STEM, Science Ambassador, EES and similar concepts);
- provision for an 'Assignment Fair' to assist trainees in selection of development activities;
- trainee involvement in local, company-sponsored, community activities or national schemes such as 'Converge Challenge Business Plan' to develop project management, financing and associated skills;

- trainees act as mentors for interns and placement students;
- trainees give promotional lecture to appropriate university undergraduates;
- trainees are given a 'mock' interview just prior to Chartered membership application to permit appropriate changes to their C&C report and create an awareness of interview needs;
- attendance at a special 'boot camp' to highlight operational safety requirements, PPE etc;
- one day per quarter year set aside for trainees to work in a radically different role or area to generate a wider and more holistic understanding of engineering project scopes.

Scheme administration

- individual training budgets controlled by the graduates;
- alignment of goals and yearly objectives with C&C requirements. This is a powerful way of aligning the engineers' development with the obligations of line supervisors;
- provision of a separate, parallel programme to develop PhD holder trainees in membership needs whilst reflecting potential more advanced acquired skills;
- provision of a large number of soft skills courses for all engineers (and other company staff);
- application of an internal audit process perceived to assist in maintaining a continuing improvement of the scheme;
- training managers in supervisory and directional needs of trainees as related to the scheme;
- incorporate appropriate training and mentoring for later entry trainees who lack Chartered membership;
- use of external funding from the Engineering Construction Industry Training Board (ECITB) to supplement the company's investment in training;
- AIM system used to support learning and development of trainees.

Documentation

- personal commitment from the Managing Director/CEO evident in scheme documentation;
- the shift from paper-based HR/Training systems to web-based systems is allowing greater integration of practices to demonstrate/facilitate the requirements of accrediting bodies such as IChemE;
- the listing of the competencies that can be achieved in each assignment and the mapping of these to the Competence and Commitment Report;
- computer based learning and e-storage of training records is to be commended;
- the scheme develops a technical training matrix which lists training modules planned with dates and locations. This is a useful tool to assist trainees in planning and is exemplary of good practice.

Reward and recognition of value for Chartered status/membership

- award of Chartered status is announced at monthly team meetings. The announcement is typically accompanied by a small gift of vouchers for an evening meal as an example;
- one-off financial payment on membership award;
- requirement of membership for promotion to more senior company roles;
- reward of certificates or personal letter from senior executive on membership;
- salary increase on achievement of membership;
- membership fees paid throughout employment;
- recognition in corporate news media;
- programme for longer term development to generate the seniority, experience, professional skills and attributes for IChemE Fellow.

Appendix D - Fees

IChemE endeavours to maintain costs associated with ACTS as low as possible. However, there are still costs to be met and so it is necessary to charge a fee for the first and subsequent re-accreditations.

Fee structure

- new accreditation (up to two years duration) = £6000
- reaccreditation (up to four years duration) = £4000

Special cases

1. Merging of two existing schemes within the same company

- the new scheme will be assessed within a year after the merger in order to make sure that the merger was successful;
- merged scheme won't be treated as a new scheme.

2. Merging of two existing schemes post-merger/acquisition

- same as above.

3. Scheme split between two companies

- the scheme that was split from the main scheme needs to be reaccredited within a year. The reaccreditation of the main scheme will be seen case by case depending when it was last reaccredited;
- both schemes won't be treated as new schemes.

4. Introduction of new site into existing scheme

- representatives from this site (trainees, mentors) need to be present during the next accreditation visit on the main site;
- an interim visit will be required if the next accreditation visit is not due for the next two years.

5. No new graduates taken on since last visit or loss of all the graduates on the scheme

- schemes will have the option to hold their ACTS accreditation in dormant status for 12 months. During this time the company logo and information will be retained on the IChemE ACTS webpage;
- after this additional year, if accreditation visit does not take place within two months the scheme accreditation will be withdrawn, and it will be removed from our lists;
- if the scheme becomes active within two years, reaccreditation visit will be arranged, the scheme will be treated as an old scheme;
- if the scheme will become active after two years, it will be treated as a new scheme;
- future visits will be arranged on a rotational basis as agreed between the company and IChemE at key sites of the scheme.

Appendix E - Additional notes for Scheme Managers

1. The purpose of the scheme

Achieving Chartered status is the professional qualification for chemical engineers in the UK and increasingly around the world. By gaining accredited status for your training programme you can ensure that your graduates reach this key point in their professional development as effectively and quickly as possible, thus realising their potential and maximising their value to the company.

The requirements for IChemE Chartered membership, which entitles the individual to call themselves a Chartered Chemical Engineer, have been developed to ensure that the person achieving this status has the knowledge, understanding and experience expected from a professional working in this field. As chemical engineering changes so does this expectation. IChemE monitors this continually and will from time to time alter its requirements accordingly. If there are any changes, we will provide information and guidance to the Scheme Manager. The current requirements are set out in IChemE's [Chartered Member guidance](#).

2. Operating the scheme

As Scheme Manager you are normally the first point of contact between the company and IChemE. You should be conversant with our guidelines and your company practice. For successful operation of the scheme you are required to:

- amend and review the scheme to ensure it is up to date with current IChemE requirements;
- inform IChemE of any changes that may impact on the scheme;
- register graduate trainees;
- appoint mentors and register them with IChemE. Ensure they have received the online mentoring training or request an in-company training session;
- submit an ACTS annual report, listing contacts and scheme progression (please add a reminder to your diary);
- have an annual feedback meeting with one of your ACTS assessors, normally online;
- administer and forward communications to participating individuals;

- arrange visit meetings with IChemE for the purpose of scheme re-accreditation;
- confirm that a trainee has completed the scheme and ensure that they receive the ACTS completion form signed off by you and the trainees' mentor.

3. Support

If you experience any problems in operating your scheme or with the feedback given by assessors, please notify the ACTS administrator as soon as possible.

In the unlikely circumstance that you are not satisfied with the response, please put your concerns, in writing, to the IChemE Director Qualifications. If your concern relates to an assessment decision this should be sent within 60 days of its receipt.

IChemE provides the opportunity for Scheme Managers to receive regular annual support through a meeting with one of your assessors soon after your Annual Report has been submitted, normally online or by telephone, to discuss scheme progress and for you to ask any questions.

4. Scheme Manager checklist

"What do I do to get the scheme accredited?"

For accreditation/reaccreditation, share electronic copies of the documents listed on the next page with IChemE's ACTS administrator.

- ACTS application and self-assessment form
- your company's scheme manual/training documentation
- clear mapping of the training and experience that the scheme provides in relation to IChemE's competence and commitment requirements
- selection of interim trainee reports (two to five examples of draft C&C reports and/or competency mapping logs)
- list of trainees currently on the scheme (latest annual report)
- list of mentors currently supporting the scheme (latest annual report)
- location map of your site/offices
- registration form for all NEW trainees and mentors on the scheme
- Purchase Order for re/accreditation fee and assessor expenses - check the current fees with IChemE's ACTS Administrator
- details of any changes the scheme and/or company have undergone since the last accreditation visit
- visit agenda - to include names and job titles of those attending meetings on the day

Once your scheme has received accreditation you will be responsible for ensuring the scheme runs smoothly and maintaining contact with IChemE.

As scheme administrator we suggest you review the following on a continuous basis:

Annually	Last reviewed date
Review scheme manual/documentation annually ensuring any changes do not impact on accreditation status	
Ensure information in relation to the scheme is up to date on the ACTS companies page of the IChemE website	
Submit annual review form to IChemE (add reminder to diary)	
Have a follow-up support meeting with one of the ACTS assessors	
Arrange Get Chartered/mentoring session - contact your Regional Support Executive to arrange a date (regions@icheme.org)	

Regularly	Last reviewed date
Register NEW chemical engineering trainees by completing the Company registration form or Annual Report and send to IChemE's ACTS Administrator	
Register NEW mentors by completing the Company registration form or Annual Report (including mentor's membership number) and send to IChemE's ACTS Administrator	
Track submission of internal trainee reports to mentors	
Maintain records of trainees and mentors on the scheme and their progress	
Receive communications from IChemE and circulate to all concerned parties	
Remain updated with IChemE guidelines and requirements	
Sign off the trainees who have completed the scheme by providing an ACTS completion form for each trainee.	

Appendix F - Additional notes for mentors

1. Requirements

A mentor should be an experienced Chartered Chemical Engineer (MIChemE or FIChemE). If this is not possible an experienced chemical engineer can be used but IChemE should be informed.

2. Registration

As a new mentor you need to be registered in the scheme. The Scheme Manager will submit a [mentor registration form](#) to IChemE.

3. Role

A mentor's role is to counsel the trainee on technical, professional and personal matters in relation to the acquisition of sufficient training and experience to become a Chartered Member of IChemE.

You will need to fully understand the company training scheme, how the trainee can build and collect evidence of skilled competence and commitment to the profession through planned professional development, and the IChemE requirements and procedures for Chartered membership application.

Note the following:

- ownership and responsibility for learning remains with the trainee;
- clear, short term training goals should be agreed for the mentoring period;
- you should have regular meetings with the trainee to assess progress, at least annually but preferably two–four times a year;
- the line manager's role should be supported, not undermined;
- preparation is required for meetings with the trainee.

It is important that a good rapport is built up between yourself and the trainee. An initial meeting should be held to get to know each other, exploring how to work together and to discuss how the relationship will be managed. In the rare case that a suitable rapport cannot be developed an alternative mentor should be found by the Scheme Manager.

4. Support

It is required all the mentors to watch the online IChemE mentoring training in order to make sure that they are up to date with the IChemE application process and requirements.

Your company may run a mentor training course or even host a mentor forum.

IChemE have a range of resources and offer mentoring introduction sessions to ACTS companies. IChemE also provides the [Framework for Effective Mentoring](#) which can be used in order to review and monitor the progress of the trainees.

Appendix G - Glossary

ACTS

Accredited Company Training Scheme. An in-company graduate training scheme accredited by IChemE.

C&C

Competence and Commitment Report. Documentation completed by applicant for Stage 3 of the Chartered Member application process (see also Stage 3 below).

CPD

Continuing Professional Development

IChemE

Institution of Chemical Engineers

ICP

Individual Case Procedure is the Stage 1 application route for those without exemplifying qualifications (see also Stage 1 below).

IPD

Initial Professional Development (see also Stage 2 below)

Professional Development Subcommittee

The panel of IChemE Fellows who make the final decision on ACTS accreditation, and oversee IPD and CPD.

Stage 1

Stage 1 - Educational Base is the first of three stages in our Chartered Member application process. Applicants who do not qualify for exemption (relevant IChemE accredited degree course/s) can submit an application via Individual Case Procedure (see above).

Stage 2

Stage 2 - Initial Professional Development is the second of three stages in our Chartered Member application process and involves a review of your initial training as a chemical

engineer. Those who have completed their IPD via an ACTS are exempt from Stage 2 (after submitting an ACTS completion form).

Stage 3

The third and final stage of the Chartered Member application process involves two parts - the submission and review of the applicant's C&C report, and a Professional Review Interview.

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