

# The Institution of Primary Engineers® (IPrimEng) and the Institution of Secondary Engineers® (ISecEng)

**Outline:** Primary Engineer are proposing a method to encourage pupils to take ownership of their learning and the type of engineering projects they engage with. Many schools create pupil led committees to choose enterprise and environmental projects. There is an identified need to create a children’s member Institution around engineering for Primary and Secondary pupils. IPrimEng and ISecEng would lead both schools and individuals towards a greater understanding of how to engage with engineering, the role of Professional Engineering Institutions and career paths, whilst nurturing an ever growing interest in engineering itself. It is vital that children and teachers recognise the role of the Professional Engineering Institutions (PEIs); their methods of professionally developing their members, the supportive and informative structure they offer and the opportunity to later join them.



### Founding Sponsors to date:

The Institution of Mechanical Engineers, The Royal Commission for the exhibition of 1851 and the University of Strathclyde.

### Institutions aims are:

1. To give all children the opportunity with which to engage with engineering, working through a series of competences to record their engagement and development. Work is on-going with educationalists and SEMTA to design the competences that would address workplace readiness and pupil progress. Certificates are issued to members which the right to use IPrimEng or ISecEng after their name.
2. Each school would form a committee comprising of at least one engineer, teacher and pupils. The committee would produce an annual Primary Engineering Engagement Plan to be reviewed at the end of each year. The aim is to embed engineering into the life of both primary and secondary schools via curriculum projects, teacher training and a broad range of STEM activities.
3. Via the Primary Engineer Virtual Learning Environment (VLE) resources, blogs and teacher/engineer communities would provide a structure and resources.
4. To maintain the link to careers and local engineering company’s pupils would be expected to complete the Leaders Award annually interviewing engineers about their careers.
5. To provide a path towards PEIs affiliate membership and an understanding of the value the ‘family’ of engineering can provide.



### Institution objectives:

1. To provide guidance to promote engineering activities for the whole school and individual pupils.
2. Through the Engineering Engagement Plan offer guidance to structure engagement and opportunities to extend activities. This would include planning for curriculum and extra-curricular activities, local industry visits where possible, visits and talks from engineers, engineering clubs, trips to local engineering heritage sites and Museums.
3. To track named pupils through both Institutions identifying able children through Fellowship nominations, eventually linking to local industry as part of a mentoring programme.
4. Widening community participation by surveying parents to identify engineers to support the programme.
5. Ongoing individual career awareness through the Leaders Award.
6. Pupils will have access to resources provided via the VLE to track and record their own engagement. They would be encouraged to join at least one PEI and become a STEM Ambassador when old enough.

### Institution Membership for the school:

- ▶ Initially schools would be required to become a member of IPrimEng or ISecEng thereafter enabling teachers and pupils to access resources. The submission of the Engineering plan for the year and its subsequent review would enable the membership to be maintained.
- ▶ School membership could develop regionally mimicking the regional structure of the PEIs with Presidents, Regional Chairs, and Fellows all potentially forming part of the structure as membership increases.
- ▶ The content and structure of the Institutions would be comprehensively mapped to compliment school and pupil needs within curricular, personal and social development and recording requirements.
- ▶ Badges, designed to be collectable and sponsored by companies, celebrate annual themes such as Aerospace. These are offered as incentives for members to investigate the board scope of engineering.
- ▶ School membership to IPrimEng and ISecEng would carry a nominal annual charge with no restriction on numbers of pupils. A financial involvement from the school will demonstrate a commitment to and provide the basis of a sustainable long term programme.



**Supporting Organisations to date:** These PEIs and organisations have agreed to circulate information about the IPrimEng to all their members detailing how to support schools and pupils.

Institution of Mechanical Engineers, University of Strathclyde, The Royal Commission for the Exhibition of 1851, The Royal Academy of Engineering, The Institution of Engineers and Shipbuilders in Scotland, Spirit Aerosystems, Babcock International, Institution of Chemical Engineers, Scottish Engineering, EEF Manufacturing Organisation, East Ayrshire Council, South Ayrshire, North Ayrshire Council, Glasgow Council, SEMTA, Royal Institution of Naval Architects, Institution of Lighting Professionals, Education Scotland, Institution of Structural Engineers, Institution of Engineering and Technology, Institution of Civil Engineers.