Consulting Engineers operating as Member Firms of the Association of Consulting Engineers of Ireland (ACEI) make a profound contribution to the Economic and Social Development of Ireland through their role in the development of the nation’s infrastructure, buildings and facilities. Comprising a wide range of disciplines from Civil, Structural, Mechanical, Electrical, Environmental and Chemical Engineers, these professional organisations have been at the heart of the economic and social advances achieved over the last 30-40 years.

This contribution of Engineering in Ireland can be traced historically from the development of the canal and railway systems throughout Ireland in the early/mid-nineteenth century through the development of the first great Public Health (water supply and sanitation schemes) in the late nineteenth and early twentieth centuries which made such an enormous contribution to health and quality of life. This tradition has been continued in modern times where Ireland can take its place as a first world country on the back of the great Engineering developments in energy (gas, electricity), telecommunications, industry, commercial and institutional buildings, facilities and environmental projects.

Notwithstanding these achievements, sustainable economic growth in Ireland will critically depend on continued development in infrastructure (transport, water, waste, energy and communications).

The importance of a healthy, vibrant and technically advanced Consulting Engineering industry in Ireland is underlined by the role which these companies have played in delivering the National Development Plan 2000-2006 to date whereby:

• The largest group of Engineering professionals ever engaged in public works in Ireland were assembled through the development of native skills, recruitment of professional engineers from Britain, Europe, Australia, South Africa and throughout the world;

• Mobilisation of additional skills and resources through liaison and contractual arrangements with international companies, operating through the leadership of their Irish partners;

• Enhanced capacity through procurement of facilities such as buildings, computer and technological facilities, up-skilling and diversification in order to meet the challenge of the Plan.

At various times during the last 30 years, Governments and their agencies have correctly identified infrastructural deficit as a primary constraint on development in Ireland.
Notwithstanding the advances achieved, this continues to be the case due to the chronic level of past under funding in infrastructure generally. Over recent years, and subject to budgetary constraints, this country demonstrated through the leadership of Consulting Engineers that it has the capacity to overcome this deficit and facilitate continued economic development and growth in Ireland through:

• Development of transportation infrastructure, including National Roads, Railways, Urban Transport systems, Traffic Management and Transportation Planning. This development is now at a critical stage where the investment decisions must be made to deliver the agreed
strategies;

• The development of water services to meet society’s needs for potable water and disposal of wastewater while protecting surface, ground and coastal water resources, is well advanced using innovative technological and procurement systems;

• Waste Management Infrastructure is among the most critical constraints on development in Ireland going forward. It requires the development of integrated Waste Management Planning based on the principles of sustainability with priorities to minimisation, recycling, re-use and energy recovery and ultimately disposal of final residues in a safe manner in approved landfills;

• Energy and telecommunications systems are critical to supporting the economic life of the country. Consulting Engineers continue to lead the development of the National Gas Industry, the development of power and telecommunications systems and the development of alternative energy sources (wind, biomass, etc);

• A wide range of buildings and facilities is required to meet the needs of industrial development, storage and distribution of goods, the provision of health, education and welfare facilities, private and public buildings in which Consulting Engineers play a major role;

• Environmental management sees Consulting Engineers at the heart of sustainable development, facilitating water resources management through the EU Water Framework Directive, efficiency in energy utilisation, air quality monitoring and treatment, pollution control and conservation in all aspects of the environment.

Consulting Engineers recognise that sustainable development requires the integration of environmental, along with technical and economic criteria in the development of major projects. We deliver environmental appraisal and assessment at strategic and project level to incorporate these principles. In this way, Irish Consulting Engineers combine economic, environmental and technical criteria to guide and determine future development strategies and projects.

The continued economic and social development of Ireland, therefore, will present ongoing challenges to the Consulting Engineering industry in terms of the availability of skilled professional staff, increasing diversity of skills and disciplines and the ability to lead multi-disciplinary teams, where required, by large complex projects.

ACEI members are obliged to maintain fully qualified, professional staff at management and operational level, competent in their respective disciplines. This commitment to quality, innovation and pursuit of excellence represents an invaluable resource in continuing as a socio-economic development of the country.

Going forward, Ireland critically depends on its Consulting Engineering professionals to deliver the needs of society, for example:

• In industrial and commercial development, to satisfy building, mechanical, electrical and
electronic systems and facilities for future needs;

• In residential and institutional development, to provide high quality, safe and environmentally friendly schemes to enhance service delivery and quality of life;

• In infrastructure, to provide first class road, rail, public transport and urban development schemes;

• In water resources management, to continue to improve water and wastewater services to meet human and environmental needs and manage resources to protect and enhance the environment for future generations;

• In waste management, to deliver sustainable solutions promoting minimisation, recycling, re-use and safe treatment/disposal systems;

• In energy and telecommunications, to meet the needs of society, promoting efficiency and renewable energy sources and world class communications to support economic development.