A career development programme could help make Ireland a world centre of engineering excellence, writes Dick Ahlstrom, Science Editor

Ireland could become a world centre of excellence for all types of engineering, and would put engineering at the heart of the country’s knowledge economy, according to an analysis of economic and policy trends. The report, commissioned by Engineers Ireland and published in the Irish Times, provides a roadmap for Ireland to become a world leader in engineering.

The report, titled “Building the Future: Ireland’s Engineering Future”, highlights the critical role that engineering plays in driving economic growth and innovation. It outlines the challenges and opportunities facing the engineering profession in Ireland, and makes recommendations for actions that can be taken to position Ireland as a world leader in engineering.

The report notes that Ireland has a strong tradition of engineering education, with a high proportion of students choosing to study engineering at university. However, it also highlights a shortage of engineers in many areas, particularly in the civil and environmental sectors.

To address this, the report calls for increased investment in engineering education, greater collaboration between industry and academia, and the development of new and innovative teaching methods.

The report also recommends that Ireland should focus on emerging areas of engineering, such as renewable energy, to ensure that the country is well-placed to take advantage of future opportunities.

Overall, the report argues that engineering is a key driver of economic growth and innovation, and that Ireland has the potential to become a world leader in the field.

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Engineers Ireland is an all-Ireland professional body with 23,000 registered engineers and the mission to promote excellence in engineering for the benefit of the public.

The STEPS programme is a national initiative that aims to increase interest in engineering as a career choice. It involves a number of partners, including Engineers Ireland, the Department of Education and Skills, and DSE (Discover Science & Engineering). The programme includes a range of activities, such as school visits, talks, and engineering competitions.
Ireland’s construction industry has borne the brunt of the economic collapse, but the foundations of the future need to be laid now, writes Frank Dillon.

The housing market provides further evidence of the decline. In 2006, we build 59,000 houses and apartments. In 2010, this figure is represented by just 7,000 homes. It’s the same scenario for commercial real estate. In 2008, Ireland’s construction industry alone contributed €8 billion to the GDP. In 2010, the contribution was just €1 billion.

Two years ago, Croke Park completed its redevelopment. The project was €500 million over budget and behind schedule. The lessons from the Croke Park project, including project management, were not learned. The housing market provides further evidence of this. In 2006, we build 59,000 houses and apartments. In 2010, this figure is represented by just 7,000 homes. It’s the same scenario for commercial real estate. In 2008, Ireland’s construction industry alone contributed €8 billion to the GDP. In 2010, the contribution was just €1 billion.

Another huge problem is the quality in the building sector. The CIOF recently undertook a survey of capital spending allocation, and that employment has declined while that figure was huge and unsustainable the drop off in activity was worth more than "£38 billion. While those firms heavily represented about 23 per cent of construction companies, the general decline in construction activity was worth more than £35 billion. While those firms heavily represented about 23 per cent of construction companies, the general decline in construction activity was worth more than £35 billion.

Lessons from the boom

There are some signs that the residential property market is starting to turn. More than 60 engineers and technicians worked on the project, which was completed in 2005. The project was funded by the Irish government, which invested €320 million in the project. The project was completed in 2005.

"I am delighted with the response from our clients," says Frank Dillon. "It was an all-the-more challenging due to the fact that it was a brownfield site."
Renewal of State energy

Renewable energy offers Ireland many opportunities. The energy “triffima” is not just about a new agenda but rather adequate planning, writes Dick Alström.

Ireland has embarked on an ambitious programme to develop indigenous sources of renewable energy. For example, the national electricity company, EirGrid, has introduced several of its own projects around the country. The challenge is to be able to deliver these alternative renewable energy sources at a cost that can compete with conventional sources of electricity. These include wind power, solar energy, and geothermal energy. Renewable energy is a key component of the Irish government’s energy policy.

The government has set a target of 40% of the country’s energy needs coming from renewable sources by 2020. This is part of the broader European Union’s (EU) ambition to achieve a 20% reduction in greenhouse gas emissions by 2020 compared to 1990 levels. Ireland has a particularly large potential for wind energy due to its coastal location. The government has also identified Europe’s best locations for offshore wind farms, with a particular focus on the Irish Sea and the Celtic Sea.

Many companies are interested in different ways of administering drugs. ”Many companies are interested in different ways of administering drugs,” said Dr. Michael Walsh, president of the Irish Society for Biomedical Engineering, which has a special interest in the area of drug delivery systems.

Walsh said that the Janisys drug delivery technology enables painless, controlled release of drugs below the surface of the skin. It can be used to deliver medication for long-term conditions such as diabetes or chronic pain, or for shorter-term treatments such as wound healing or skin cancer.

The technology fires a little of a drug from a single patch applied to the skin. The patch is designed to be worn for up to 72 hours. The drug is then released through the skin over a period of time, allowing for controlled and sustained delivery.

Walsh said that the technology is particularly useful for patients who have difficulty with injectable drug delivery systems, such as those with limited mobility or impaired vision. It is also useful for patients who have difficulty with needle injections, such as children or individuals with a fear of needles.

Walsh said that the technology has been tested in several clinical trials and has shown promise in delivering medication for a variety of conditions. It is currently in the pre-clinical stage of development and is expected to be available on the market within the next few years.

Walsh said that the technology offers several advantages over traditional drug delivery systems. It is painless, controlled, and allows for sustained release of medication.

Walsh said that the technology has the potential to revolutionize drug delivery and has the support of the Irish government, which has identified it as a key part of its renewable energy strategy.

Walsh said that the technology has the potential to save money for patients and the healthcare system by reducing the need for frequent injections and the cost of medication.

Walsh said that the technology has the potential to make a significant impact on the health of patients and is expected to become widely available in the near future.

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’It brought back life to the city centre’

As Dublin City Engineer since 1998, Michael Phillips has overseen dramatic improvements in the city capital, writes Ronan McGreavy

The controversies over the Corrib gas field fed the hauteur of the politicians, who are the only private-sector engineers ever attempted in Ireland. The bringing of a bribe to a final of more than 802,000 tonnes out of the Atlantic, is a large-scale project, it is about 80 kilometres from where the gas is landed at the Ballylongford project, is the mainstay of the city's development.

The laying of pipes under the Atlantic began in 2003 and was postponed because the gas-laying project is considered to be a multi-billion-euro deal. The laying of pipes under the Atlantic began in 2003 and was postponed because the gas-laying project is considered to be a multi-billion-euro deal. The laying of pipes under the Atlantic began in 2003 and was postponed because the gas-laying project is considered to be a multi-billion-euro deal.
Environment is in the balance

Environmental issues are increasingly to the fore in the planning of engineering and construction projects, writes Frank Dillon.

Engineering and construction projects, by their nature, have always impacted on the environment. However, it is becoming increasingly clear that environmental issues are now front and centre of the planning process, especially in the public sector.

There is a growing recognition that an increasing number of projects must now meet stringent criteria in order to satisfy environmental regulations. This is particularly true for projects that involve the construction of new infrastructure or the renovation of existing buildings.

As a result, engineers are being called upon to design projects that not only meet the technical specifications but also minimize their impact on the environment. This includes considering the lifecycle of a project, from its initial design stage through to its construction and operation.

This has led to a greater focus on sustainable construction practices, such as the use of recycled materials and energy-efficient designs. It also means that engineers must work closely with other stakeholders, including planners, architects, and environmental experts, to ensure that all aspects of a project are considered.

In order to meet these challenges, engineers must have a strong understanding of environmental issues and the regulations that govern them. This knowledge is essential in order to design projects that are not only economically viable but also environmentally sustainable.

The work of the Future Buildings Research Centre, which aims to develop new building technologies and practices, is an example of this. By working closely with industry partners, the Centre is able to develop innovative solutions that can be applied to real-world projects.

In conclusion, the role of the engineer is evolving to include a greater focus on environmental sustainability. This requires a deep understanding of environmental issues and the ability to work collaboratively with other stakeholders to design projects that meet both technical and environmental criteria.

Frank Dillon

The future of engineering is now.
Clustering and new expertise

The skills learned in establishing the hubs of Irish industry have had an impact beyond Ireland, writes Suzanne Lynch

ET YOUR FIRST Published in 2012, the report Engineering Ireland 2012 highlighted the significant role that Irish engineering companies play on a global scale, through international partnerships.

The report notes that third level institutions and the biopharmaceutical industry in Ireland have been characteristic of the businesses landscape in Ireland. For example, in Galway, the city has become known for specific and sophisticated companies, as well as in the capital, Dublin, where biopharmaceutical companies have been long established.

In terms of engineering expertise, Ireland has been a key player in the biopharmaceutical industry since the 1980s. This has been due to the investment in research and development by companies such as Abbott, and the establishment of the biopharmaceutical industry in Ireland.

Ireland has become a key location for the sector

The report notes that Ireland has become a key location for the sector, with a concentration of high-quality education and research institutions, as well as a strong talent pool.

PM Group

PM Group is one of Ireland’s leading engineering companies. Founded in 1977 by John Walsh and Brian Kearney, it collaborates 42 years in business with partners in over 40 countries.

According to PM Group, the company’s FDI presence in Ireland has been crucial to its success.

Aidan Harney, director of Continuing Professional Development at PM Group, notes that the company’s experience in delivering projects of all sizes and scales has given it a unique perspective.

PM Group is involved in engineering projects of all sizes and scales, and has a strong international presence.

He points out that Ireland’s profile as an FDI location is crucial for engineering companies, as well as fostering indigenous talent.

The company is particularly proud of its involvement in the development of the Dublin airport, which is a world-renowned site.

John Noone, Dublin Airport Authority

John Noone is the CEO of Dublin Airport Authority. The company provides a wide range of services to passengers and airlines, as well as promoting the development of the airport.

The company has recently embarked on a major expansion project, which will include the construction of a new terminal.

During the construction of Terminal 2, the company encountered a number of challenges, including the need to construct a large-scale project in a short period of time.

The company worked closely with the local community and government to ensure that the project was completed on time and to the highest standard.

Noone notes that the experience gained from the project will be valuable for future projects.

The company is looking forward to the continued growth of the airport, and the development of new services and facilities.

‘We had a trial of over 4,000 people, it was still a construction site’

John Noone

Dublin Airport Authority

Terminal 2 opened at Dublin Airport in May 2004, and has been praised for its design and facilities.

The terminal has a capacity of 25 million passengers per year, and is one of the largest airports in the world.

The terminal was designed to be a world-class facility, and includes a wide range of facilities, such as state-of-the-art security systems, and world-class shops and restaurants.

The terminal has won numerous awards for its design and facilities, and has been described as a “world-class” airport.

Noone notes that the company is looking forward to the continued growth of the airport, and the development of new services and facilities.


### Designing courses for flexible careers

Irish engineering education fits the brief that travel and are flexible enough to adapt, writes Louise Holden.

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**Irish engineering education**

Recent years have seen a surge in the number of Irish students choosing to study engineering. This reflects a broader trend in education towards flexible degree and the quality of engineering programmes in Ireland is awarded by the Washington

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**Engineering standards for industry**

Companies that integrate standards into their strategy can develop a competitive advantage and increase the profitability of their products and services, says Maurice Judge, chief executive of the National Standards Authority of Ireland (NSAI).

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The Engineers Ireland Excellence Awards highlight the varied work of Irish engineers and engineering writers, Barry McCary

The Engineers Ireland Excellence Awards recognize the achievements of engineers and engineering companies in Ireland. They celebrate the ingenuity, skills and make a significant contribution to the engineering body of knowledge in Ireland in the past year. The awards, which take place on Friday, November 9th, in the Engineering Project of the Year, aim to raise public awareness of the contribution engineering makes to society. The award is decided by an independent panel and we ask the panelists to nominate outstanding candidates of the Young Engineers Society, who have presented a paper at conferences, the Volunteer Group of the Year, which has been shortlisted for the Young Engineers Society, or as engineering education that demonstrates an impact on students. The overall winner will be awarded to an organisation that has demonstrated excellence in the field of engineering education.

The Environmental Infrastructure of the Year is just one of the categories, including Civil Engineering, Energy, Construction, Transportation, and Environmental Technology. The overall Engineering Project of the Year is awarded to an organisation that has demonstrated excellence in technology. It aims to highlight innovation in technology in Ireland that clearly demonstrates real impact on society. Engineering education that demonstrates an impact on students. The overall winner will be awarded to an organisation that has demonstrated excellence in technology.

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Excellence Awards - The shortlist

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