

SONI

# PREPARING FOR A RENEWABLE FUTURE



**SONi**  
System Operator for Northern Ireland

[www.soni.ltd.uk](http://www.soni.ltd.uk)





# PREPARING FOR A RENEWABLE FUTURE

SONI (System Operation Northern Ireland Ltd) is set to pioneer the island of Ireland into world leader status with plans for wind energy integration

Written by Darrel Moore

& Produced by Craig Daniels

**SONI IS THE** independent transmission system operator for Northern Ireland and has provided system operator and market operator functions to facilitate the Single Electricity Market implemented on the island of Ireland since November 2007.

Recently sold by Northern Ireland Electricity and bought by EirGrid plc – who is the independent transmission systems operator in Ireland – SONI has been a key player in delivering the significant changes made within the energy sector.

"We've been working in conjunction with EirGrid to operate on an all-island basis," explains General Manager of SONI, Robin McCormick. "We're now established under our new parent company. One of the things we're doing is looking at how best we can integrate into that new group of companies."

Based in Belfast, SONI

ensures the safe, secure, reliable and economic operation of the transmission grid in Northern Ireland and in cooperation with EirGrid colleagues is also responsible for running the all-island wholesale market for electricity.

"As a regulated business in Northern Ireland we're currently preparing our five year business plan to submit to the Northern Ireland Utility Regulator for approval," says McCormick. "We're proposing quite significant changes to allow us to meet the challenges that we believe face us over the next five years."



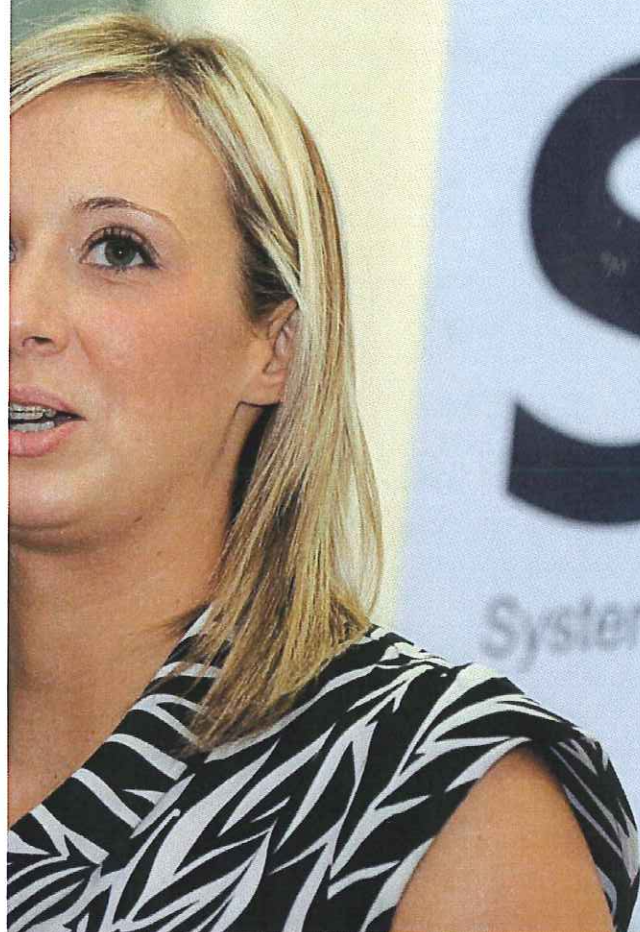
**Robin McCormick,**  
General Manager

## Pioneering wind energy

SONI faces the potential for the increase of renewable generation which could mean that by 2020 we could be operating with around 1,500 MW (megawatt) of installed wind farm generation. EirGrid and in the Republic of Ireland the figure







Emma Connelly, a 'new' member of staff who made a significant contribution to the EMS project, explaining her project role to the guests.

could reach 4,500MW. That's a total of 6,000MW on a small island system with a peak demand of ~8,000MW. This is what is required to meet a target of 40 percent for consumption from renewable sources on the island.

"What that means is the island of Ireland will be a world leader in managing the integration of high penetration levels of wind onto an island system," McCormick says.

"The potential increase in renewables, particularly wind generation on the island of Ireland, is probably one of the most significant challenges we face and is the one which will

"What [a 40% target in NI & Ireland] means is the island of Ireland will be a world leader in managing the integration of high penetration levels of wind onto an island system"

Robin McCormick,  
General Manager of SONI

have the greatest impact right across all aspects of the company."

Wind farm locations are usually quite remote, and on the island of Ireland they tend to be located along the west coast and the north coast – the Atlantic facing coastline – which is



# Cable&Wireless Worldwide

## SPECIALIST IN COMMUNICATIONS

**We are one of the world's leading international communications companies** specialising in providing critical communication network and services to companies large and small in the UK and globally.

We own the UK's biggest fibre network dedicated to business users of telecommunications and an international cable network that provides connectivity to 153 countries. Our next-generation network improves the quality and performance of telecommunications services through our use of advanced optical and IP transmission.

At Cable&Wireless Worldwide, we've put customer service at the heart of our strategy. We work to establish close relationships with our customers and a detailed understanding of their business challenges.

We offer teams of sector, service and technical specialist for our customers to ensure we have the capability to deliver an enhanced level of service.

For more information please visit **[www.cw.com](http://www.cw.com)**.

**CONNECT  
WITH US**

Liberty House  
76 Hammersmith Road  
Hammersmith  
London  
W14 8UD

+44 20 7111 0047  
[cwsalesenquiries@cw.com](mailto:cwsalesenquiries@cw.com)







↑ SONI Head office - Castlereagh House: Offices of the system operator since 1972.

“The potential increase in renewables, particularly wind generation on the island of Ireland, is probably one of the most significant challenges we face”

recognised as one of the best areas in the world for harvesting the potential of wind generation.

“If you took a map of the island of Ireland and compared it with the transmission grid, you’d be able to see where we can expect to see the highest levels of wind generation the grid deficiency which needs to be addressed,” explains McCormick.

SONI therefore faces a double challenge; to operate the system while there is a significant infrastructure build to accommodate the new wind generation and the second is “to find ways to ensure that there is the maximum utilisation of wind power. We are studying the technical limitations, and are assessing the mitigation actions that we can take to resolve those issues,” says McCormick.



## SUPPLIER PROFILE:

### CABLE&WIRELESS WORLDWIDE



Cable&Wireless Worldwide (LSE: CW.) aims to be the first-choice provider of mission critical communications for large users of telecoms. Cable&Wireless Worldwide is one of the world's leading critical communication companies, providing a range of high-quality managed voice, data and IP-based services and applications to large corporates, multinationals, governments, carrier customers and resellers across Ireland, the UK, Asia Pacific, India, Middle East & Africa, Continental Europe and North America. Cable&Wireless Worldwide is the only company to offer access to a Next Generation Network (NGN) in either Northern Ireland or the Republic of Ireland. The NGN, stretching to over 500,000km, allows customers access to Cable&Wireless Worldwide's Multi-Service Platform (MSP), providing highly resilient, secure, super fast and extremely efficient network telecoms services to over 153 countries across the world. The company's Multi-Service Platform, an IP-based next-generation platform that operates across the NGN, also offers a single environment on which voice and data applications can be converged to drive business efficiencies. Customers can therefore interact on the MSP across the world without having to leave the Cable&Wireless Worldwide network. The combination of state-of-the-art network services that can drive real business efficiencies, along with highly resilient and client focused services, provides clients such as SONI, NHS, and enterprise clients such as Irish Ferries, Ryanair and Tesco with great comfort that their communication needs are being met at all times. This helps Cable&Wireless Worldwide to stand out from the crowd when dealing with customers' highly complex and mission critical services.

[www.cw.com](http://www.cw.com)

**£4.5M**  
COST OF THE  
NEW ENERGY  
MANAGEMENT  
SYSTEM



L-R, back row; Richard Sterling, EirGrid Board (new member). Dr Joan Smyth, EirGrid Board (new member). Emer Daly - EirGrid Board. Jane Williams - EirGrid Board. Cormac MacDonnchadha - EirGrid Board. William Egerton - EirGrid Board. L-R, front row; Dermot Byrne - Chief Executive, EirGrid. Bernie Gray - Chairperson, EirGrid Board. Robin McCormick - General Manager, SONI.



“Given the remoteness of the [wind farm] sites it is often difficult to utilise hardwired communication or even the use of mobile phone technology”





### Techno upgrading

The remote locations of the wind farms also pose problems on the communications side of things. One of our proposals is to utilise satellite communication. "We're developing a proposal to use satellite communications for wind farm locations," explains McCormick. "Given the remoteness of the sites it is often difficult to utilise hardwired communication or even the use of mobile phone technology, so we're assessing the viability of satellite communications to provide these important links."

In preparation for the increase in the number of wind farms and the more complex

nature of system operation in the future SONI recently procured a £4.5 million energy management system from Areva and also sourced remote terminal units, which are located in each of the generation and transmission substations, from Siemens.

"We refurbished our control room and we successfully commissioned our energy management system around September last year," says McCormick. "We had a formal opening ceremony of the control room which the Minister of Enterprise, Trade and Investment in Northern Ireland, Arlene Foster, officiated – we're very pleased with it."



## Take a minute to consider this:

It takes outstanding skills to deliver outstanding projects. RES has developed over 4.7GW of wind farms over the last 25 years.

Innovation. Reliability. Expertise. This is what we build the business on, and that's what makes us a leader in the sector.

Our people can deliver high quality projects, on time and on budget. Our flawless track record proves it.

Consider it done.

[www.res-group.com](http://www.res-group.com)

St. Seine Wind Farm,  
50MW, Burgundy, France  
Development and Construction: RES Group

© Vestas



**res**  
power for good

Project Development - Engineering - Construction - O&M - IPP



**syseca**

**POWER LOGISTICS**  
**Smart Software - Smart Energy**

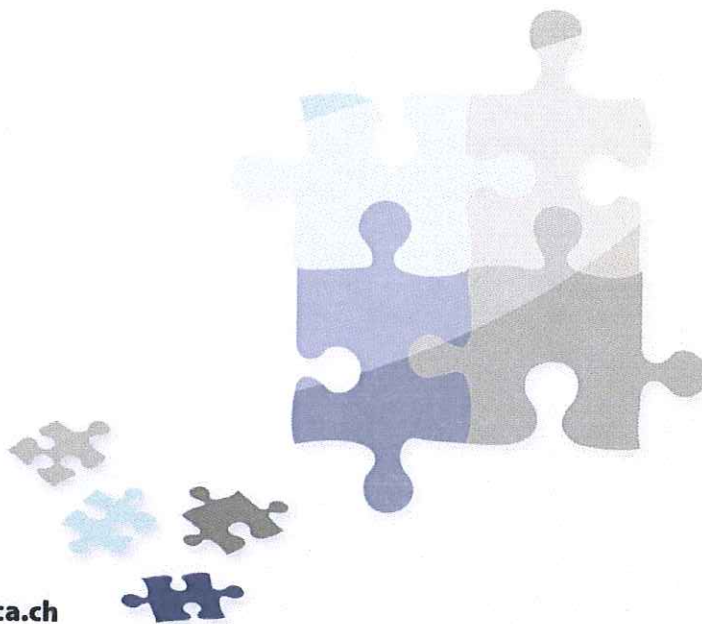
Pan-European Scheduling System **EDIS**  
(Automated notification life-cycle)

Central Generation Dispatch System **EDIL**

Physical Energy Trading / Spot Trading  
Deal Capture & Completion  
Cross Border Capacity Management  
Balance & Position Management  
Physical Settlement  
Deal Confirmation & Matching

B2B Data Interchange (ebIX, ebXML,...)  
Business Process Automation

For more information please visit [www.syseca.ch](http://www.syseca.ch)



+41 41 728 72 42

| [sales@syseca.ch](mailto:sales@syseca.ch)

| [www.syseca.ch](http://www.syseca.ch)

ch

swiss made  
software



**SUPPLIER PROFILE:****RES**

RES has developed and/or built over 90 wind farms globally, including over half of all wind farms currently operating in Northern Ireland. Its unique combination of in-house expertise in all aspects of wind farm development, design, construction and operation allows it to recognise and overcome new challenges. Northern Ireland leads the world in finding ways to accommodate ever larger volumes of renewable-sourced electricity. RES has worked with SONI and the grid owner to develop new tools, techniques and standards that have allowed the connection of new wind farms at a level that would have been considered unachievable only a few years ago.

[www.res-group.com](http://www.res-group.com)



⬆ L-R; Brendan Wood - Operations Manager Neartime & EMS Project Manager, Robin McCormick - General Manager, Arlene Foster - Minister for Enterprise, Trade & Investment, Alex Baird, Manager - Operations Manager Realtime.

**SUPPLIER PROFILE:****SYSECA**

syseca is a Swiss software engineering and consultancy company specialising in energy trading, energy scheduling, power system dispatch (SONI), energy logistics and real time data management. Project risk and cost are minimised by creating solutions from a mixture of existing products and customer specific development. This approach has been particularly successful for B2B information exchange where syseca's EDIS product has been deployed and customised for several energy traders to submit energy schedules to System Operators across Europe. Since 1994, syseca has built an outstanding blue chip customer base that bears testament to the quality and effectiveness of its solutions.

[www.syseca.com](http://www.syseca.com)

### Expanding into future generations

Due to the specialist nature of their work and the need to plan for the future, SONI is working closely with the local universities, Queen's University Belfast and the University of Ulster, in order to raise the profile of the company and create awareness of the job opportunities that exist for graduates both at undergraduate and postgraduate level.

"We've recognised over the past couple of years that it is difficult to recruit from the job market, individuals with the qualifications and in particular the experience of systems operation, which tends to be a specialised area of expertise," says McCormick.

"We have successfully used student placements and graduate engineers and are developing the ability to train in-house. To enable us to make this happen we've developed links with the local universities."





## European market

SONI is participating in ENTSO (the European Network of Transmission System Operators for Electricity) which is committed to developing greater cooperation across the European transmission networks, greater regionalisation of markets and also to find common solutions to some of the issues that will arise as the renewable sources in Europe increase.

"The 10-Year Network Development Plan is a European initiative which we support," explains McCormick. This is to ensure that there is coordinated approach to ensuring that development plans for each TSO collectively support the achievement of European targets.

"For example, in 2012 there will be a HVDC interconnector, commissioned by EirGrid, which will link the Dublin area in Ireland to North Wales in Great Britain. This will impact on the operation

of the all-island transmission system, the Single Electricity Market and there will be a need to find a means of interfacing efficiently the market on the island with the market in Great Britain.

"So there are a lot of common areas of challenge and we believe that working together with our parent company EirGrid in Dublin we have the expertise to develop the solutions."

In five years time SONI says it will need to be in a position where it has found solutions to the operational and technical issues that they have identified in recent studies into the impact of greater penetrations of wind.

"Given the transition we're going through, one of our primary objectives for the next five years will be to maintain organisational capability," says McCormick.

"We need to have staff trained and tools developed to optimise the operation of the



**£4.5M**  
THE PRICE PAID  
FOR THE ENERGY  
MANAGEMENT  
SYSTEM FROM  
AREVA

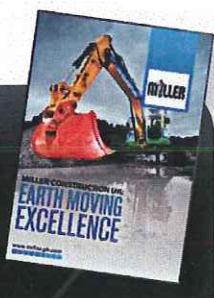


L-R: Bernie Gray,  
EirGrid Board,  
Chairperson  
Richard Sterling,  
EirGrid Board  
Robin McCormick,  
General Manager  
Arlene Foster, Minister  
for Enterprise, Trade  
& Investment. Dr Joan  
Smyth, EirGrid Board.  
'...Richard Sterling  
and Dr Joan Smith,  
the new EirGrid Board  
members from NI,  
meet Minister Foster'.

transmission system and to develop the market arrangements to cater for the increase in interconnection and high levels of wind generation."

SONI, with EirGrid, is set to pioneer integrating high levels of renewable wind energy into an island system, and the eyes of all Europe will no doubt be looking on, wondering whether to make the same economically conscious leap. ■

**THERE ARE 1200+  
COMPANY REPORTS  
AVAILABLE TO READ**  
> Visit Website



For feedback and comments please get in touch.  
> [feedback@whitedm.com](mailto:feedback@whitedm.com)



## STATISTICS

Name: **SONI (System Operation Northern Ireland Ltd)**

Country: **Northern Ireland**

Est: **2000**

Employees: **83**

Industry: **Electricity utility sector**

Premiere Service: **Electricity transmission system & market operation**

Revenue: **€50 million**

URL: **[www.soni.ltd.uk](http://www.soni.ltd.uk)**

## MANAGEMENT

General Manager: **Robin McCormick**

Commercial Manager: **Nick Fullerton**

Financial Controller: **Caroline Greer**

Man., Grid Ops Realtime: **Alex Baird**

Man., Grid Ops Planning: **Dick Lewis**

Man., Grid Ops Neartime: **Brenden Woods**



**System Operation Northern Ireland Ltd**

Castlereagh House, 12 Manse Rd,  
Belfast, BT6 9RT

**T:** 028 90794336

**F:** 028 90707560

**E:** [enquiries@soni.ltd.uk](mailto:enquiries@soni.ltd.uk)

**POWERED BY:**

**BUSINESS REVIEW**  
EUROPE

**AND**

**EnergyDigital**



**[www.soni.ltd.uk](http://www.soni.ltd.uk)**

