

Archive Trinity House News: 2013

UK switches on GPS backup in the English Channel

The General Lighthouse Authorities of the UK and Ireland (GLA) have announced that ships in the Port of Dover, its approaches and part of the Dover Strait can now use eLoran radio navigation technology as a backup to satnav systems like GPS and Galileo. The ground based eLoran system provides alternative position and timing signals for improved navigational safety. The Dover area, the world's busiest shipping lane, is the first in the world to achieve this initial operational capability (IOC) for shipping companies operating both passenger and cargo services.

Today's announcement represents the first of up to seven eLoran installations to be implemented along the East Coast of the United Kingdom. The Thames Estuary and approaches up to Tilbury, the Humber Estuary and approaches, and the ports of Middlesbrough, Grangemouth and Aberdeen will all benefit from new installations, and the prototype service at Harwich and Felixstowe will be upgraded.

Although primarily intended as a maritime aid to navigation, eLoran could become a cost effective backup for a wide range of applications that are becoming increasingly reliant on the position and timing information provided by satellite systems.

"Our primary concern at the GLA is for the safety of mariners," says Ian McNaught, Chief Executive of Trinity House, "But signals from eLoran transmitters could also provide essential backup to telecommunications, smart grid and high frequency trading systems vulnerable to jamming by natural or deliberate means. We encourage ship owners and mariners to assess eLoran in this region and provide feedback to the GLA on its performance."

P&O Ferries has installed an eLoran receiver on its new vessel 'Spirit of Britain'. She will be based at Dover and is one of the largest passenger ships the busy Dover/Calais route has ever seen.

Captain Simon Richardson, Head of Safety Management at P&O Ferries says "Accurate real-time positional information is essential for the safe navigation of ships with modern electronic charts. Satellite navigation systems are vulnerable to degradation of signal strength and our ships have also experienced occasional loss of signal. We welcome the development of a robust alternative to provide redundancy in real-time positional information and we see eLoran as the most effective solution to countering the problem."

Commenting on the announcement Stephen Hammond, Minister for Shipping said "I congratulate the General Lighthouse Authorities on this initiative which seeks to improve navigational safety in what is the busiest shipping channel in the world, through the development and deployment of technology. I look forward to receiving reports of its effectiveness."

-Ends-

More information is available from www.gla-rnav.org or by emailing enquiries@gla-rnav.org.

08/01/2013

Notes To Editors

The General Lighthouse Authorities

The General Lighthouse Authorities (GLAs) of the United Kingdom and Ireland are Trinity House, the Northern Lighthouse Board and the Commissioners of Irish Lights. Together, they have the statutory responsibility for the provision of marine aids to navigation (AtoN) around the British Isles. The GLAs' joint mission is the delivery of a reliable, efficient and cost effective AtoN service for the benefit and safety of all mariners.

More information about the General Lighthouse Authorities of UK and Ireland's Research and Radionavigation Department can be found at <http://www.gla-rnav.org/>

1. IOC Dover Installation

The IOC Dover installation provided by the GLA is a differential-Loran (DLoran) Reference Station in the Dover area. This is a cost-effective unmanned installation, easily accommodated within existing infrastructure and monitored remotely along with the GLA routine 24/7 monitoring of Aids-to-Navigation. The DLoran reference station determines local navigation corrections and monitors local service integrity for eLoran. The corrections and integrity status are made available on the eLoran Data Channel as an integral part of the eLoran broadcast signal. These can be used by the ship's receiving equipment to improve the accuracy of positioning and to alert the mariner in the unlikely event that the position cannot be trusted for navigation. The IOC service at Dover covers the region shown in Figure 1, and is marked out by the waypoints shown in Table 1.



Figure 1 – Region of coverage of eLoran implementation in Port of Dover Approaches and Dover Strait Traffic Separation Scheme.

Line from...	to...
Port of Dover	CS4 Buoy
CS4 Buoy	51° 12'N, 1°41'E
51° 12'N, 1°41'E	Sandettie LV
Sandettie LV	51°09'N, 1° 46'E
51°09'N, 1° 46'E	51°07.5'N, 1°49.5'E
51°07.5'N, 1°49.5'E	50°53.5'N, 1°30'E
50°53.5'N, 1°30'E	50°47'N, 1°27.5'E
50°47'N, 1°27.5'E	Colbart SW Buoy
Colbart SW Buoy	50°55'N, 1°08'E
50°55'N, 1°08'E	51°02.5'N, 1°22'E
51°02.5'N, 1°22'E	Port of Dover

Table 1 – Waypoints enclosing area of Dover ASF map.

2. Using the service

In order to use the new service, Additional Secondary Factor (ASF) data should be obtained from the GLAs and stored within the user's eLoran receiver. ASF data is available for the above region for the Loran transmitters Lessay (6731M, 7499X), Soustons (6731X), Anthorn (6731Y) and Sylt (6731Z, 7499M). The ASF data was measured in March this year aboard the Trinity House Vessel 'Alert'.

The GLAs have installed a differential-Loran (DLoran) Reference Station in the Dover area with the assistance of Port of Dover, which is kindly hosting the Reference Station. Differential corrections from this Reference Station are broadcast using the Eurofix Loran Data Channel, message Type 10. The Dover DLoran Reference Station has been assigned ID number 101 in that message format. In order to obtain positioning accuracy at the 10m level both ASFs and differential-Loran should be used.

3. Obtaining receiver equipment

Receiver equipment may be purchased from a number of vendors including:

<http://www.skydec.nl/main/products/military-navigation/frigates/extenders/eloran>

<http://www.roke.co.uk/sensing/milor.html>

www.reelektronika.nl

<http://www.ursanav.com/>

ACCSEAS research highlights safety concerns over reducing navigational space in North Sea Region

New research by ACCSEAS highlights growing safety concerns for North Sea shipping traffic

EU-part-funded project suggests e-Navigation technologies and services will be crucial for offshore wind turbines, oil/gas platforms, and shipping traffic to co-exist safely in the North Sea Region

ACCSEAS (Accessibility for Shipping, Efficiency Advantages and Sustainability) has today detailed new research predicting significant safety concerns over excessive demands on the North Sea's marine areas, which currently hosts some of the busiest shipping lanes in the world.

Based on expectations about the impact of areas of open sea being allocated for energy extraction (such as wind farms), ACCSEAS' research, which is part-funded by the European Union, suggests that the North Sea Region's navigable space will be reduced. The research indicates that navigable space allocated to wind farms could increase by up to 5,240% within just a few years, from the current c.440km² up to c.23,500km². This would constitute c.5.5% of all navigable space in the region, with a further 860km² (0.1%) taken up by exclusion zones around oil and gas platforms. Crucially, the precise location of many planned and proposed wind farm sites means that they could have a significant impact on key shipping lanes in the North Sea Region.

According to ACCSEAS, the size and location of such sites, coupled with projected increases in shipping traffic and vessel size, poses serious safety and efficiency concerns.

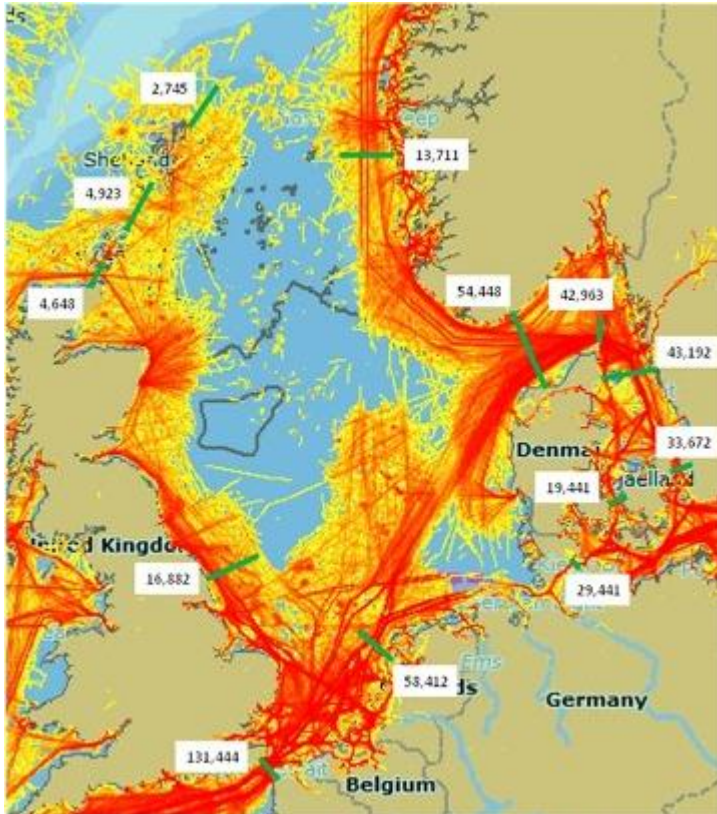
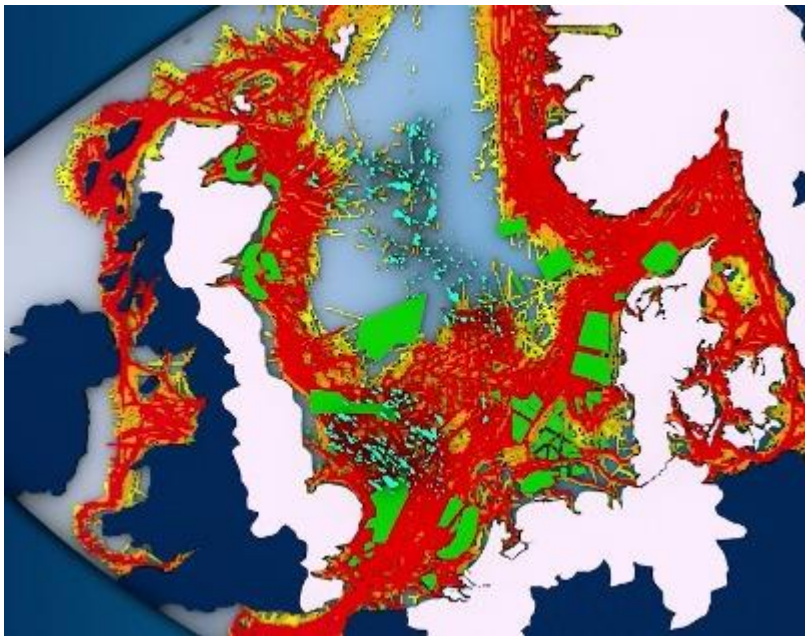


Image shows the density of shipping in the North Sea Region



How wind farm locations may impact on shipping lanes

ACCSEAS is an EU part-funded project involving 11 partners from across the North Sea Region. Its aim is to research the extent of these issues and to develop and demonstrate e-Navigation technology solutions and potential service provisions that will be crucial to ensuring future maritime

safety and accessibility in the North Sea. It uses a Geographic Information System to assess maritime traffic trends and the issues that obstruct available safe access.

E-Navigation is an initiative mandated by the International Maritime Organisation (IMO) to harmonise and enhance navigation systems by electronic means. These e-Navigation technologies are being developed to facilitate the collection, integration, exchange, presentation and analysis of maritime information onboard and ashore, for safety and security at sea and the protection of the marine environment.

Alwyn Williams, ACCSEAS Project Manager, commented, “Renewable energy deployments such as the wind farms proposed in the North Sea Region will play a crucial role in reducing carbon emissions and decreasing the dependency on nuclear energy, but they could also pose a significant threat to maritime safety as shipping traffic continues to grow. The shipping community wholeheartedly supports the renewable energy agenda, and we believe that e-Navigation technologies have the potential to reduce these risks through safer, more accurate navigation in order for turbines, other offshore obstacles, and ships to co-exist safely in the North Sea Region.”

This latest research will set the agenda at the forthcoming ACCSEAS Annual Conference at the Flensburg University of Applied Sciences in Germany, March 5-7th, which includes transnational stakeholders from the UK and Ireland, the Netherlands, Denmark, Sweden, Germany and Norway. It is hoped that the event, which includes a series of collaborative workshops, will produce tangible outcomes for identifying and developing solutions to address the concerns of all stakeholders. Participation in the ACCSEAS Annual Conference is open and free of charge.

Dr. Thomas Porathe, Marine Human Factors Researcher at Chalmers University of Technology said, “One of the biggest problems is that there is no formal consultation programme with the transnational shipping community when projects such as offshore wind farms are planned. There needs to be much stronger collaboration and co-operation between industry organisations and governmental administrations in order to achieve solutions that reflect the interests of all parties.”

David Balston, Director of Safety and Environment at the UK Chamber of Shipping, added, “We share the support expressed by ACCSEAS for the offshore renewable energy agenda and also support their initiative to explore the potential benefits of e-Navigation and its associated technologies.

“Greater navigational accuracy from e-Navigation technologies will help lead to safer seas but this alone can not remove all risks associated with navigating in the vicinity of offshore wind-farms. Responsible planning that avoids co-locating turbines in areas of high shipping density is of paramount importance if the risks are to be minimised.”

ACCSEAS will be demonstrating of a prototype resilient PNT system, integrated into the bridge of a vessel for the first time in trials running from 26th February – 1st March at Harwich, UK. The purpose of this demonstration is to highlight GPS vulnerability and show the benefit of having a resilient PNT solution in mitigating against GPS service denial.

26/02/2013

Notes To Editors

More information is available from www.accseas.eu or this video: <http://www.youtube.com/watch?v=Go0qyTDG4CM>

About ACCSEAS

ACCSEAS (Accessibility for Shipping Efficiency Advantages and Sustainability) is a European Union part-funded project involving 11 partners from across the North Sea Region. Its aim is to improve safety, security and environmental protection in the North Sea Region by developing and implementing a practical e-Navigation test bed to harmonise the exchange of electronic maritime information onboard and ashore.

ACCSEAS Partners: General Lighthouse Authorities (UK); Chalmers University of Technology (Sweden); Danish Maritime Authority; Federal Waterways & Shipping Administration (Germany); Rijkswaterstaat, Ministerie Infrastructuur en Milieu (Netherlands); Swedish Maritime Administration; Norwegian Coastal Administration; SSPA Sweden AB; Flensburg University of Applied Science (Germany); NHL Hogeschool, Leeuwarden, Maritiem Instituut Willem Barentsz (Netherlands); World Maritime University (Sweden).

www.accseas.eu

About ACCSEAS First Annual Conference

Pioneering safe regional access with e-Navigation

5th-7th March 2013

Flensburg University of Applied Sciences (Flensburg, Schleswig-Holstein, Germany)

For further information contact: events@accseas.eu

TH Events launches River Rhapsody

Trinity House will be initiating 'The Trinity House River Rhapsody' in the spring hosted by the event management team for invited clients and guests and supervised by Deputy Events Manager, Zoe Richards.

Currently scheduled to be staged from April on Tuesday evenings, when the crew of the cutter Trinity Tide (pictured below) typically get together to fine-tune their rowing technique, up to four guests will be collected from various embarkations points along the Thames (as convenient) to skim over the river and generally enjoy the scenery. While not expected to row themselves, participants will be encouraged to exhort the crew to faster speeds and generally provide enthusiastic support. Light refreshments will be served.

No date for the first venture has been set as yet but is likely to be when the weather is more conducive in the spring, and will be staged on a weekly basis throughout the summer and early autumn. For more information and to request a place, please contact Zoe Richards: zoe.richards@thls.org



05/03/2013

Notes To Editors

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Behind the building's imposing neo-classical façade, designed by Samuel Wyatt in 1794, are five graceful banqueting rooms (some inter-connecting) – The Library, The Court Room, The Pepys Room, Luncheon Room and Reading Room - catering for corporate events ranging in capacity from 10 - 130 places (seated) and up to 180 for a reception. The House's particularly beautiful Reception Hall, with its sweeping, twin-curved staircase, houses remarkable maritime artefacts that bear testament to the prominent role played by Trinity House in the nation's maritime history and as the current home of the General Lighthouse Authority.

In its 200 year history, the building has welcomed royalty, prime ministers and Lords of the Admiralty and is today managed by Deputy Master, Captain Ian McNaught. Reflecting the on-going patronage of the Crown, the current Master of the Company is HRH The Princess Royal, filling a role held in former centuries by, amongst others, the diarist Samuel Pepys, the Duke of Wellington, William Pitt and, more recently, The Duke of Edinburgh.

HRH The Princess Royal visits Trinity House in Harwich

HRH The Princess Royal visits Trinity House in Harwich

HRH The Princess Royal, Master of Trinity House, visited Trinity House in Harwich today (12 March 2013) to meet staff and see firsthand the operations of the General Lighthouse Authority (GLA) of England and Wales. This is her first visit to Harwich since becoming Master of the Corporation of Trinity House in May 2011.

During her two hour visit Her Royal Highness met many representatives from each department in the main office building. She also visited the 24/7 Operations and Planning Centre from which all Trinity House's aids to navigation are monitored, and the aids to navigation of its sister GLAs are monitored out of hours.

Her Royal Highness then visited the buoy yard, which also houses the Research and Radionavigation department labs, where she saw light demonstrations. She also met members of the Field Operations team who carry out maintenance at lighthouses before seeing the various stages involved in buoy maintenance.

Speaking about the visit, the Executive Chairman of Trinity House, Captain Ian McNaught, said: "We are very fortunate to have been able to welcome Her Royal Highness to our offices today for this private visit. Like her father, The Princess Royal is very interested in the work of Trinity House and has a clear of understanding of our day-to-day operations as well as where we are going in the future. This was apparent in the questions she asked throughout today's visit."

The last visit by the Master of Trinity House to the Harwich offices was in July 2005 when her father HRH The Duke of Edinburgh, the then Master of Trinity House, visited to officially open the building. HRH The Duke of Edinburgh resigned as Master of Trinity House when he reached his 90th birthday. He was the longest serving Master of the Corporation in the organisation's 500 year history. He served 42 years.

Since becoming an Elder Brother in 2004 the Princess Royal has taken a very keen interest in the activities of Trinity House, attending many events including presiding over the opening of the Lizard Lighthouse Heritage Centre, Cornwall, in 2009. She is also Patron of the Northern Lighthouse Board.

12/03/2013

Notes To Editors

1) Trinity House

Trinity House is the General Lighthouse Authority (GLA) for England and Wales, with responsibility for nearly 600 Aids to Navigation, from traditional aids such as lighthouses, buoys and beacons to the latest satellite navigation technology. In addition it inspects over 10,000 local Aids to Navigation provided by port and harbour authorities, and those positioned on offshore structures.

Incorporated by Royal Charter in 1514, the Corporation is also a major maritime charity, wholly funded by its endowments. The Corporation spends around £4m each year on its charitable activities including welfare of mariners, education and training, and the promotion of safety at sea. It is also a Deep Sea Pilotage Authority.

2) Research and Radionavigation Department (R&RNAV)

The Research and Radionavigation Directorate (R&RNAV) undertakes research and development of physical and radio marine aids to navigation (AtoNs), support systems and their integration to support the GLAs' mission "to deliver a reliable, efficient and cost-effective Aids to Navigation service for the benefit and safety of all mariners".

<http://www.gla-rnav.org/>

3) The General Lighthouse Authorities of the UK & Ireland

The General Lighthouse Authorities (GLAs) of the United Kingdom and Ireland are *Trinity House*, the *Northern Lighthouse Board* and the *Commissioners of Irish Lights*. Together, they have the statutory responsibility for the provision of marine aids to navigation (AtoNs) around the British Isles. The GLAs operate in a user pays cost-recovery environment based on Light Dues charged on various classes of shipping calling at ports in the UK and Ireland. The UK Secretary of State for Transport sets the level of light dues to be charged. The GLAs' joint mission is the delivery of a reliable, efficient and cost effective AtoN service for the benefit and safety of all mariners.

4) Trinity House in Harwich

Trinity House employs 135 people in Harwich, and an additional 92 personnel on its three vessels.

Trinity House has had a presence in Harwich for over 200 years.

World's first automatic back up for GPS successfully demonstrated in jamming trial

Technology to automatically counter the threat of GPS jamming has been successfully demonstrated for the first time, it was announced today.

On several excursions aboard the THV Galatea out of Harwich, UK, ACCSEAS (Accessibility for Shipping, Efficiency Advantages and Sustainability) has successfully demonstrated a prototype resilient PNT (positioning, navigation and timing) system. The system used an alternative technology to automatically and seamlessly step in to transmit mission-critical data in the event of GPS loss or failure. The trials were successfully completed between 28th February and 1st March.

Today, many devices and applications rely on GPS-based information and it plays a fundamental role in delivering the PNT data that ships rely on to ensure safe navigation. GPS signals are vulnerable to interference from space weather, however, accidental jamming and deliberate threats have recently been highlighted as serious concerns because of the wide availability of inexpensive GPS jammers online. Even the cheapest jammers are capable of causing complete outages across all receivers currently on the market.

Building on two previous trials conducted by the General Lighthouse Authorities (GLA) in 2008 and 2010 which investigated the impact of GPS service denial, this latest demonstration is the first time that an automatic and seamless solution has been demonstrated in a real-world scenario. The prototype system was integrated into the bridge of the vessel and monitored the performance of independent PNT sources in order to provide the 'best' available. As such, when GPS was deliberately jammed, the system switched automatically to provide eLoran derived PNT information to the connected bridge systems, allowing them to maintain operation and enabling the mariner to continue to navigate safely and efficiently.

Martin Bransby, Research & Radionavigation Manager at GLA, which carried out the trial on behalf of ACCSEAS, commented, "The more dependent we become on electronic systems, the more resilient they must be. Otherwise, we face a scenario where technology is actually reducing safety rather than enhancing it. Demands on marine navigation are only getting tighter, yet electronic systems at sea are primitive compared to those used in air travel. This needs to change."

27/03/2013

Notes To Editors

About ACCSEAS

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safety, security and environmental protection in the North Sea Region by developing and implementing a practical e-Navigation test bed to harmonise the exchange of electronic maritime information onboard and ashore.

ACCSEAS Partners: General Lighthouse Authorities (UK); Chalmers University of Technology (Sweden); Danish Maritime Authority; Federal Waterways & Shipping Administration (Germany); Rijkswaterstaat, Ministry of Infrastructure and the Environment (The Netherlands); Swedish Maritime Administration; Norwegian Coastal Administration; SSPA Sweden AB; Flensburg University of Applied Science (Germany); NHL Hogeschool, Leeuwarden, Maritiem Instituut Willem Barentsz (The Netherlands); World Maritime University (Sweden).

www.accseas.eu

RoSPA Level 5 Diamond Award retained

The highest safety accolade has been awarded to Trinity House for the third consecutive time. The RoSPA Quality Safety Award Level 5 Diamond Award is only given to organisations who consistently achieve high levels of health and safety management. The award was presented to Trinity House last night (15 May) by the Royal Society for the Prevention of Accidents' President, Lord Jordan of Bourneville CBE.

Pictured (left to right) are RoSPA Deputy Chief Executive Mr Errol Taylor, Trinity House's Legal and Risk Manager Mr Jon Price and Lord Jordan of Bourneville.



16/05/2013

Notes To Editors

More information about RoSPA can be found here: <http://www.rospa.com/>

Online voting to decide overall winner of the Trinity House quinqucentenary calendar

To mark the countdown to its Quinqucentenary date Trinity House has today, its 499th birthday, launched an online voting scheme to decide the winner of its 2014 calendar photography competition. The overall winner, decided by the public, will win a stay at one of Trinity House's former lighthouse keepers' cottages.

Voting to decide the overall winner of the photography competition, which provides the images for the calendar, will close on 31 August. The winner will be announced at a private ceremony at Tower Hill in September.

"This is the first time members of the public have been able to influence the overall result of the popular lighthouse images calendar, and it is perhaps particularly nice that this has been introduced for the calendar that will adorn walls throughout our quinqucentenary year," said Captain Ian McNaught, Executive Chairman of Trinity House. Previously the competition winner has been decided privately by a celebrity judge.

To vote for the winning entry please visit http://www.trinityhouse.co.uk/photo_competition.

The competition to find images for the 2015 calendar also opens today, and closes on 28 February 2014. For more information about how to enter please also visit http://www.trinityhouse.co.uk/photo_competition.

There are 26 former lighthouse keepers' cottages available to rent year round through Rural Retreats, and a further six through Cornish Cottages. More information about the cottages and locations can be found at www.ruralretreats.co.uk and www.cornishcottagesonline.com.

The calendar, produced in conjunction with Salmon Calendars, will be available to buy online at www.trinityhouse.co.uk from September.

20/05/2013

Notes To Editors

Trinity House

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Incorporated by Royal Charter in 1514, the Corporation is also a major maritime charity, wholly funded by its endowments. The Corporation spends around £4m each year on its charitable activities

including welfare of mariners, education and training, and the promotion of safety at sea. It is also a Deep Sea Pilotage Authority.

Lighthouse Keepers Cottages

A number of our former Lighthouse Keepers cottages have been transformed into prestige holiday lets for the discerning holiday-maker. You can now stay in the very cottages formerly occupied by lighthouse keepers and their families.

Each cottage has been fully refurbished and modernised with every modern convenience. Set amongst some of our most beautiful coastal scenery with stunning views, the cottages provide the perfect opportunity to rest and re-charge your batteries.

Holiday bookings are handled by Rural Retreats and Cornish Cottages (Lizard Lighthouse bookings).

Cottages are currently available at Anvil Point (Dorset), Bull Point (North Devon), Cromer (Norfolk), Lizard (Cornwall), Nash Point (South Glamorgan), North Foreland (Kent), Pendeen (Cornwall), St Anthony (Cornwall), St Catherine's (Isle of Wight), Start Point (South Devon) and Whitby (North Yorkshire).

'River Rhapsody' on the Thames for newlyweds

Trinity House, located on Tower Hill overlooking the historic Tower of London, has launched a special 'Trinity House River Rhapsody' promotion in conjunction with the crew of its cutter 'Trinity Tide' for the summer and early autumn months. The experience is available to newlyweds of Trinity House and is supervised by its Deputy Events Manager, Zoë Richards.

The four-man crew of 'Trinity Tide' stand ready to receive their two special guests on board and provide a unique experience on the river Thames for a few hours the day after their special event. The couple can be collected from various designated embarkation points along the Thames to skim over the river and enjoy a unique perspective of London. This is offered to all newlyweds for a fee of £200 (per couple) and includes the following:

- approximately two hours on the water from start to finish,
- bottle of champagne while on the water,
- photography using camera/s provided by the couple and taken by River Rhapsody, and
- a host/hostess.

Optional extras (all price on request) include:

- bagpipes to pipe the couple on board,
- violinist on board to serenade the couple,
- selection of canapés/strawberries and cream.

For more information and to request a place, please contact Zoë Richards: zoe.richards@thls.org

Cancellation policy: If weather is not conducive to the River Rhapsody Experience, there will be no cancellation fee - otherwise a 48-hour notification of cancellation is required for a full refund. Fees to be paid in full two weeks in advance.

21/05/2013

Notes To Editors

About Trinity House - the venue:

Trinity House offers delightful views across Trinity Gardens to the Thames and is one of London's most distinguished event venues. The elegant and spacious interiors of the House have the ambience of a grand private residence and are an impressive setting for memorable corporate occasions. Behind the building's imposing neo-classical façade, designed by Samuel Wyatt in 1794, are five graceful banqueting rooms (some inter-connecting) – The Library, The Court Room, The Pepys Room, Luncheon Room and Reading Room, catering for corporate events ranging in capacity from 10 - 130 places (seated) and up to 180 for a reception. The House's particularly beautiful

Reception Hall, with its sweeping, twin-curved staircase, houses remarkable maritime artefacts that bear testament to the prominent role played by Trinity House in the nation's maritime history and as the current home of the General Lighthouse Authority.

In its 200 year history, the building has welcomed royalty, prime ministers and Lords of the Admiralty and is today managed by Deputy Master, Captain Ian McNaught. Reflecting the on-going patronage of the Crown, the current Master of the Company is HRH The Princess Royal, filling a role held in former centuries by, amongst others, the diarist Samuel Pepys, the Duke of Wellington, William Pitt and, more recently, The Duke of Edinburgh.

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Media Enquiries and Images:

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KP Communications

Tel: 07813 833724

Email: kp@KPcommunications.co.uk

Stylish corporate Christmas packages revealed

*** [PLEASE NOTE THAT THIS OFFER IS NOW DEFUNCT] ***

Trinity House, located on Tower Hill overlooking the historic Tower of London, has joined forces with stylish caterers Food Show Ltd to present three attractive Corporate Christmas packages over the festive period, as below.....

Christmas lunch or dinner with a twist:

- Jerusalem artichoke velouté with sautéed wild mushroom and warm gougère, chicken liver parfait or trio of heritage beetroot salad with goat cheese mousse and ficelle wafers, followed with glazed duck, roast chicken breast or butternut squash and sage tortellini, to conclude hot chocolate fondant, bread and butter pudding or apple and blackberry crumble.....followed by coffee or selection of teas and homemade minced pies
- A glass pomegranate bucks fizz on arrival
- Unlimited red/white wine/beer/soft drinks
- Festive table decorations and crackers
- Dance floor with DJ entertainment

£150.00 per person not including VAT based on a minimum of 120 people and including full venue hire and use of two rooms (The Court Room and The Library)...for smaller numbers, the price may be



increased.

Canapé and bowl food

- Christmas canapés and bowl food; (five canapés, three main and two dessert) steak and fries, prawns in filo pastry; caramelised shallots tarts, mini turkey and cranberry pies, daube of beef, Giggly Pig organic pork sausages with silky mash, plum pudding, pear and almond tarts, Eton mess, X'mas pudding ice-cream, Boston brownies, almond macaroons.....
- Christmas Cocktail on arrival, cash, voucher or unlimited drinks bar option available
- The Court Room for reception and The Library for dancing
- Dance floor, festive lighting and DJ entertainment

£120.00 per person not including VAT for a minimum of 120 people....for smaller numbers, the price may be increased.

Bowl food reception

- Selection of Christmas bowl food (three mains, two desserts); daube of beef, Giggly Pig organic pork sausages with silky mash or pumpkin sage and hazelnut risotto, plum puddings with rum, pear and almond tarts, Eton mess, Boston brownies, almond macaroons....
- A Christmas Cocktail on arrival, cash, voucher or unlimited bar option available
- The Library for informal reception with taped festive music

£100.00 per person (not including VAT) for a minimum of 120 guests and based on selection of three food bowls and two desserts per person....for smaller numbers, the price may be increased.

All event options ***include exclusive use of Trinity House***, atmospheric festive decorations throughout, catering staff offering exemplary service, and full event organisation and assistance. To make a booking, call Deputy Events Manager Zoë Richards on 020 7482 6927 or email zoe.richards@trinityhouse.co.uk



07/06/2013

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About Trinity House, the organisation:

Trinity House is the General Lighthouse Authority (GLA) for England and Wales, with responsibility for nearly 600 Aids to Navigation, from traditional aids such as lighthouses, buoys and beacons to the latest satellite navigation technology. In addition it inspects over 10,000 local Aids to Navigation provided by port and harbour authorities, and those positioned on offshore structures. Please visit www.trinityhouse.co.uk

Incorporated by Royal Charter in 1514, the Corporation is also a major maritime charity, wholly funded by its endowments. The Corporation spends around £4m each year on its charitable activities including welfare of mariners, education and training, and the promotion of safety at sea. It is also a Deep Sea Pilotage Authority.

About Food Show Ltd:

Food Show Ltd. has over 23 years of experience in creating spectacular food and inspired events. Co-founded by CEO Andrew Gosling in 1987, under his direction, our food philosophy is simple, to source high-quality, fresh seasonal produce, tracing its journey from farm to plate. The company recently announced its partnership with the Michelin starred Chef Jason Atherton, the creative mind behind the Global Pollen Street Social Brand, Food Show has just finalised its

rebranded and launched its new website. For more information on food show please visit www.foodshowltd.com or Tyrone Shrives for more details on our

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UK speeds ahead with rollout of eLoran stations to backup vulnerable GPS

Department for Transport approves implementation of seven differential eLoran stations along the UK coastline

The UK's pursuit of technology to counter the threat of GPS jamming has achieved a significant milestone, and is setting the benchmark across the globe.

It was announced today that seven differential eLoran stations will be installed along the South and East coast of the UK, following approval by the Department for Transport. The stations will provide alternative position, navigation and timing (PNT) information to ensure that ships equipped with eLoran receivers can navigate safely in the event of GPS failure in one of the busiest shipping regions in the world.

The UK is the first in the world to deploy this technology for shipping companies operating both passenger and cargo services. The rollout, led by the General Lighthouse Authorities (GLAs) of the UK and Ireland, will replace the equipment in two prototype stations at Dover and Harwich, and five new stations will be deployed in the Medway, Humber, Middlesbrough, Firth of Forth, and Aberdeen. The GLAs have contracted UrsaNav Inc. for the deployment to deliver initial operational capability by Summer 2014.

Several nations around the world are consulting with the GLAs to benefit from its knowledge and experience of eLoran and other resilient PNT technologies. South Korea, for example, has expressed that it wants to establish an eLoran alliance with the UK while it pursues its own rollout of differential eLoran stations, due for completion in 2015. Last year, South Korea was the victim of a 16-day GPS jamming attack by North Korea.

Today, many devices and applications rely on GPS-based information, including telecommunications, smart grids, and high frequency trading, and it plays a fundamental role in delivering the PNT data that ships rely on to ensure safe navigation. GPS signals are vulnerable to both deliberate and accidental jamming, which is causing increasing concern because of the wide availability of GPS jammers online for as little as £30 capable of causing complete outages across all receivers currently on the market.

Martin Bransby, Research & Radionavigation Manager at the GLAs, commented, "Demands on marine navigation continue to increase and awareness of the vulnerability of GPS is growing, yet electronic systems at sea have not evolved at a sufficient pace to meet these challenges. Today's announcement is a significant step towards improving safety at sea, but few vessels currently have receivers to take advantage of the new stations. We hope that the maritime industry will respond proactively to the new stations rollout by installing eLoran receivers on more vessels."

Commenting on the announcement, Stephen Hammond, Minister for Shipping, said: "The deployment of seven eLoran stations follows the successful demonstration of eLoran as a resilient PNT technology and puts the UK at the forefront of developments to improve navigational safety. I applaud

the General Lighthouse Authorities on this initiative and am keen to see how it benefits mariners when in use up and down the country.”

Charles Schue, President and CEO of UrsaNav, commented, “We are very proud to be working with the General Lighthouse Authorities on this project, which is the most advanced of its kind in the world. The number of enquiries we receive about eLoran and other resilient PNT technology continues to increase and we are now approached for further information on a daily basis. Much of this is testament to the example being set in the UK, raising awareness of the need for a robust backup to GPS.”

ELoran technology is based on longwave radio signals and is independent and complementary to GPS. The General Lighthouse Authorities carried out the world’s first successful demonstration of a prototype automatic resilient PNT (positioning, navigation and timing) system using eLoran, in trials completed aboard the THV Galatea out of Harwich on several excursions between 28th February and 1st March this year.

Full operational capability covering all major ports is expected by 2019.

17/07/2013

Notes To Editors

About the General Lighthouse Authorities

The General Lighthouse Authorities (GLAs) of the United Kingdom and Ireland are Trinity House, the Northern Lighthouse Board and the Commissioners of Irish Lights. Together, they have the statutory responsibility for the provision of marine aids to navigation (AtoN) around the British Isles. The GLAs’ joint mission is the delivery of a reliable, efficient and cost effective AtoN service for the benefit and safety of all mariners.

More information about the General Lighthouse Authorities of UK and Ireland's Research and Radio navigation Department can be found at <http://www.gla-rrnav.org/>.

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