

Latest

LS telcom recommends the move of all EU countries to the use of the DVB-T2 standard

LS telcom together with its partner VVA has completed a study for the European Commission (EC) on repurposing the 700 MHz spectrum.

The analysis provided in the study is informing work by the EC on developing a proposal for a decision of the European Parliament and of the Council on the use of the 470-790 MHz frequency band across the European Union.

The study examined various policy options for the future use of the UHF television band including the so-called 700 MHz band (694-790 MHz) which was identified for IMT usage at the recent ITU World Radiocommunication Conference.

LS telcom and VVA examined different technical options for continuing DTT services without the 700 MHz band and concluded that without detailed multilateral negotiations between neighbouring EU countries, there was virtually no likelihood that existing services could be accommodated in the remaining UHF spectrum. Instead, the LS telcom and VVA study team proposed a move of all EU countries to the use of the DVB-T2 standard using either MPEG-4 or HEVC video encoding and calculated the associated costs.

From a consumer perspective, the

move to a new standard requires the replacement of any non-compliant set-top boxes. Some countries are already using DVB-T2/MPEG-4 and many television receivers being sold already have this capability. Therefore, the costs of replacing the remaining non-compliant receivers are heavily dependent upon the timing of any change over.

Notwithstanding the above, the social and economic impact on the broadcasting industry was also considered. The implementation of a policy, which provides security of tenure for broadcasting services in the UHF band, has definite benefits for the industry and would continue to encourage innovation.

The option that spectrum could be used in a flexible way, either for broadcasting or wireless broadband services, if carefully defined (e.g. through a CEPT

report) may offer broadcasters further benefits in being able to integrate broadcasting and broadband services into the same spectrum.

Andreas Geiss, head of the Commission's spectrum policy unit said, "We chose the LS telcom and VVA consulting team for this project as we could see that they had the necessary experience to complete the project in the necessary time-scales. We were very confident that LS telcom together with VVA would deliver the quality and quantity of data we needed to inform our decisions for new regulations on the use of the 470-790 MHz frequency band in the EU." ←

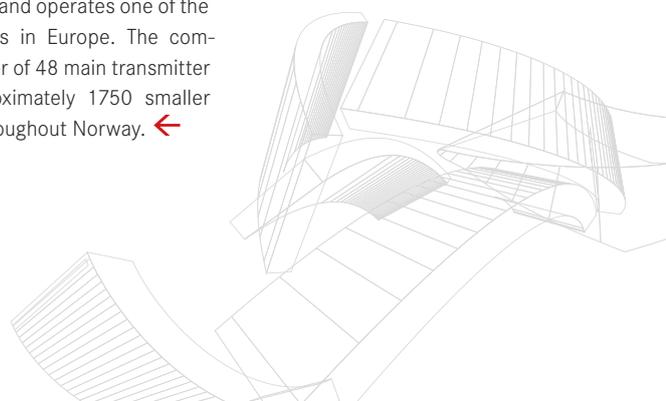
The report by LS telcom and VVA: http://ec.europa.eu/newsroom/dae/document.cfm?doc_id=14175

Winner of benchmark of broadcast network planning software: CHIRplus_BC by LS telcom

Telenor Broadcast Norkring AS, Norway, a long-standing customer of LS telcom using CHIRplus_BC for many years, has carried out an extensive technical and commercial benchmark of standard broadcast network planning software.

After the benchmark Norkring extends its trust to the winner of the benchmark, LS telcom, and continues to use CHIRplus_BC for the planning of its nationwide DTT, DAB and FM services in Norway as well as various other countries Norkring is operating in. Telenor Norkring engineers join training courses on broadcast network technology and software at the LS Training Academy on a regular basis. The new con-

tract signed by Norkring extends over several years and includes the software, a licence server, upgraded propagation models as well as on-site support and commissioning. Norkring is the leading provider of terrestrial broadcasting services in Norway and operates one of the largest networks in Europe. The company is the owner of 48 main transmitter sites and approximately 1750 smaller sites spread throughout Norway. ←



BNetzA shows keen interest in measurements via remotely piloted aircraft during workshop

LS telcom's subsidiary Colibrex gave a workshop to about 25 broadcast experts from the German regulatory authority BNetzA.

The workshop attracted participants from BNetzA's regional offices from all over Germany and was held in BNetzA's offices in Göttingen. The event started with a demonstration of live measurements via remotely piloted aircraft, which were carried out at the broadcast tower of Norddeutscher Rundfunk in Göttingen-Hetjershausen. Afterwards, the measurement methods and results were presented and explained, as well as advantages of this method compared to traditional measurements. Helpful hints and a question and answer session were also part of the agenda in addition to a discussion about other areas of applications, which may be of interest to a regulatory body such as BNetzA. ←

SRG SSR extends trust in airborne measurements via RPA

SRG SSR, the Swiss Broadcasting Corporation, has placed a third order within three years with LS telcom's Colibrex for various antenna radiation pattern measurements via remotely piloted aircraft (RPA).

The site measurements were carried out in various regions of Switzerland and included two impressive mountainous sites, the Säntis site at 2500 m of altitude on the edge of a mountain and Grindelwald/Männlichen at 3000 m of altitude.

Luc Haeberlé, Managing Director of Colibrex, said "SRG SSR recognises the value of our solution. Compared to measurements via conventional helicopter, the RPA solution represents various advantages, such as flexible deployment, higher accuracy, lower costs and less disturbance to the

environment and the operated service. Above all, the results help SRG SSR to guarantee the quality and license conditions of their broadcast operations in close cooperation with their infrastructure providers." ←



Picture: The remotely piloted aircraft

Are you sure, your antennas are installed correctly?

LS telcom has a longstanding experience in antenna radiation pattern measurements via remotely piloted aircraft.

LS telcom has measured over 500 antennas in Europe, Africa, and South America and has built up a comprehensive database of typical antenna installation errors. Operators often do not realise that their network coverage does not correspond to the

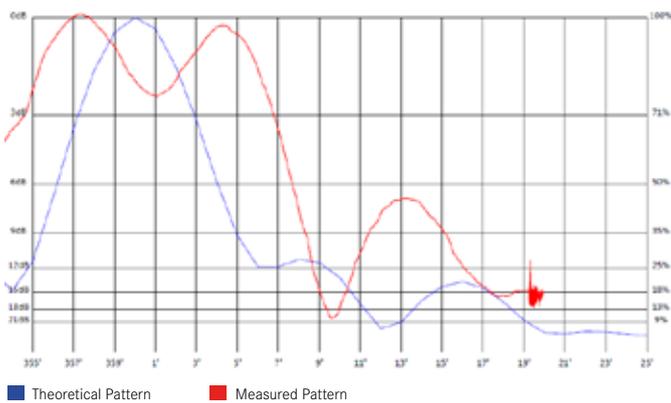
planned network. So far, it has been very difficult to actually verify the real antenna pattern. The cost for measurements via a manned helicopter is often prohibitive and ground measurements are not ideal due to ground reflection and their disturbance to service. The LS telcom measurement service via remotely piloted aircraft system is a revolutionary, quick, and cost effective way to achieve the target coverage and optimise the network without any intrusion to service.

There are a number of typical installation errors that LS telcom has encountered during the RPA measurement campaigns:

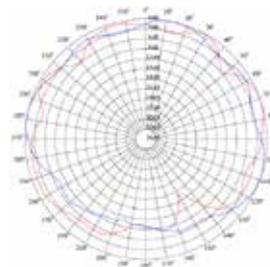
- Mechanical offset brackets omitted (mechanical phasing error) – poor vertical power distribution/low max ERP (phasing of signal from transmitter to the panels composing an antenna is very important and depends on the length of the way travelled by the signal. A modification of this distance creates disturbance in the resulting antenna diagram.)
- Phasing problem – poor vertical power distribution. The consequences are similar to the previous problem but arise from a different source. In this

case the distribution of the power between the different elements of the antenna creates phase errors.

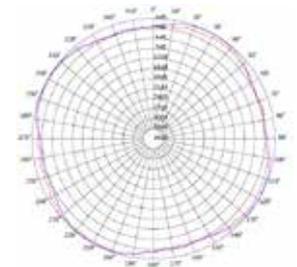
- Severe unwanted mechanical tilt problem – confirmed at various azimuth points due to installation error (a fairly common problem).
- Orientation fault due to installation error (common problem).
- Dual feeder cable phasing error: due to a mistake of antenna manufacturer or installation.
- Swopped cables on faces (note null in main beam): the antenna is composed of several elements in different azimuths. It is easy to make a mistake with the cabling of these different elements. ←



Picture: mechanical offset brackets omitted (mechanical phasing error) – poor vertical power distribution/low max ERP



Picture: Orientation fault

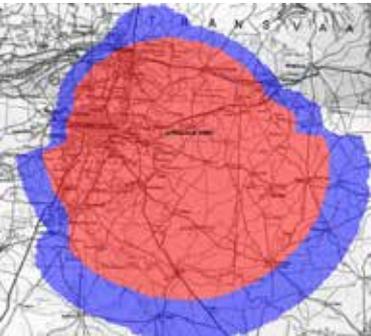


Picture: Example of a well performing antenna



Turnkey medium wave broadcast site build for LM Radio

LS of South Africa Radio Communication Services was appointed by LM Radio to design, supply, install and commission a 50 kW AM/DRM-compatible medium wave broadcast transmission facility.



Picture: Coverage Prediction of the new LM Radio site at Welgedacht

LM Radio broadcasts in Mozambique and Lesotho, and now has been granted a licence for Gauteng, South Africa.

The Welgedacht site is located on the outskirts of Johannesburg. The site has been in disuse for several years and a component of the project is to dismantle an existing 90 m freestanding tower, originally installed in 1936. LS will supply and install a Nautel NX50 transmitter, redundant air-conditioning systems, along with a 160 kVA standby diesel generating set to provide standby power into the existing buildings, which are to be renovated. For the antenna ground plane, LS elected to use buried PVC-coated galvanised wire as opposed to copper wire to mitigate the risk of theft. The antenna will have 120 radials, each 126 m in length.

A suitable copper earthing- and lightning protection system will also be installed. The 126 m grounded monopole antenna system forms an integral part of the "skirt-fed" antenna which addresses the necessary bandwidth and matching requirements for the two 50 kW solid-state transmitters.

Other activities include all civil works as well as the supply, installation and commissioning of the feeder cable infrastructure, program input equipment (PIE) system, site telemetry system, and the antenna duplexing hardware for two 50 kW AM/DRM-compatible services. LM Radio is scheduled to go 'on-air' with analogue AM programming on 702 kHz in November 2016. An additional service broadcasting at 540 kHz will be added at a later stage. ←

For further information check out this link: https://youtu.be/ga0-XqK_bNo



Picture: The existing mast, which is going to be decommissioned

CHIRplus_BC now supports ATSC 3.0 standard

The broadcast network planning tool CHIRplus_BC now includes the Advanced Television Systems Committee (ATSC) 3.0 standard.

ATSC provides comprehensive capabilities for planning OFDM based broadcast networks including coverage propagation analysis, interference mitigation, best server determination, and Single Frequency Network (SFN) planning. A critical step in the evolu-

tion to the next generation TV digital broadcast technology, the deployment of ATSC 3.0 delivers broadband throughput enabling the delivery of custom content, improved streaming capabilities and support for a wide array of on-demand options.

The ATSC standard is used in the USA, Canada, Dominican Republic, El Salvador, Guatemala, Honduras, Mexico, and South Korea. ←

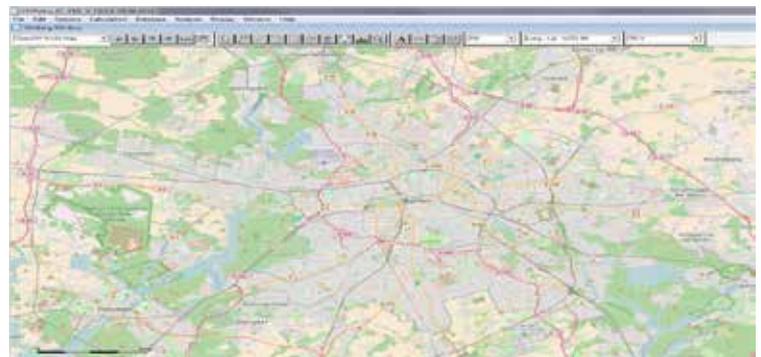
Record participation at the 21st Annual Spectrum Summit and CHIRplus_BC USERgroup in Lichtenau/Baden, Germany

A record of 200 participants from 34 countries attended the 21st Annual Spectrum Summit organized by LS telcom together with PolicyTracker.

The annual USERgroup which precedes the Spectrum Summit every year unites the organizations that use LS telcom's applications and services. The group allows users to express their priorities and requirements for new software capabilities and developments for the future. This year 33 users from 19 organisations and countries attended the CHIRplus_BC USERgroup to exchange their views on the software and to share best practices with other users. On the agenda of the CHIRplus_BC USERgroup were new functionalities of the latest release, automatic channel assignment, interference calculation of LTE

and DTTV as well as aeronautical and field strength calculations. The new release version includes amongst many other new functionality, a more

project-oriented approach, an interface to OpenStreetMap, it supports new ITU/EBU DVB-T2 planning parameters and ATSC. ←



Picture: CHIRplus_BC / Interface to OpenStreetMap



Visit us at
our Booth...

**SET Expo, São Paulo/
Brazil**
30th Aug - 1st September 2016

**IBC, Amsterdam/
Netherlands**
9th - 13th September 2016

**ITU Telecom World,
Bangkok/Thailand**
14th - 17th November 2016

**ABU Digital Broad-
casting Symposium,
Kuala Lumpur/Malaysia**
6th - 9th March 2017

Save the date for the

22nd Annual
**Spectrum
summit**
Lichtenau, Germany
5th July 2017



LS telcom AG

Amtsgericht Mannheim,
HRB 211164

Board: Dr. Manfred Leberherz,
Dr. Georg Schöne,
Dipl.-Ing. Roland Götz
VAT ID Number: DE211251018

CHIRplus_BC training in Canada

LS telcom provided basic training on their software CHIRplus_BC to the Canadian Radio-television and Telecommunications Commission (CRTC). The CRTC is now able to understand the advance simulation techniques that CHIRplus_BC provides for the Canadian broadcasting and telecommunications studies.

The training was held in March 2016 at the CRTC's premises in Gatineau, Quebec nearby Ottawa. ←



Picture: The participant included (from left to right): François Gauthier (LS telcom), Jennifer Wharram (Manager, CRTC), Gabrielle Larouche (CRTC) and Yannick Lacharité (CRTC).

Provision of equipment shelters and DVB-T2 Broadcast equipment installations in Lesotho and Swaziland

LS of South Africa Radio Communication Services was commissioned by Rohde & Schwarz South Africa to assist in the national DVB-T2 network rollouts in Lesotho and Swaziland for the Lesotho National Broadcasting Services, and Swaziland Television Authority, respectively.

Where most of the sites were completely inaccessible by road LS was faced with the challenge of designing a secure, robust flat pack equipment shelter which could be transported to sites on remote mountain tops by hand or mule. The shelters, designed for two complete transmission systems and system expansion, are then assembled on site. They are also specifically designed to withstand the harsh environmental con-

ditions on site where wind speeds of up to 160 km/h occur from time to time and where heavy snow is general. In addition, LS designed and provided a heavy duty palisade fencing solution that can withstand the harsh conditions and be deployed on uneven and rocky terrain.

The rollout in Swaziland consisted of the deployment of 13 sites, which included the supply and assembly of shelters and installation of palisade fencing. The rollout in Lesotho, similar to the Swaziland project, consisted of 19 sites and additionally included the installation of all mechanical-, electrical- and RF equipment on ground level as well as the commissioning of all broadcast transmission systems.

Installations were done in extremely harsh weather conditions, with temperatures dropping as low as -7 degrees Celsius and with deep snow on site. Certain sites required a 2.5 hour climb every day. High wind and driving snow on narrow mountain tracks also had to be contended with during these installations. ←



Picture: Equipment Shelter

LS telcom at Broadcast Asia 2016

LS telcom was present with an exhibition stand at Broadcast Asia in Singapore from 31st May until 3rd of June 2016. In his presentation during the conference, Milos Pavlovic shared his experience about chal-

lenges in radio broadcasting after the WRC-15. ←



Picture: Milos Pavlovic

For further information, please visit our
website www.LStelcom.com or contact us:

LS telcom AG
Im Gewerbegebiet 31-33
77839 Lichtenau
Germany

+49 7227 9535 600
+49 7227 9535 605

Info@LStelcom.com
www.LStelcom.com



Subsidiaries

LS telcom Limited
1145 Hunt Club Road, Suite 100
Ottawa, ON, K1V 0Y3
Canada

LS telcom UK Limited
Riverside House - Mezzanine Floor,
2a Southwark Bridge Road
London SE1 9HA, United Kingdom

LS telcom Inc.
5021 Howerton Way, Suite E
Bowie, Maryland 20715
USA

**LS of South Africa Radio
Communications (Pty) Ltd.**
131 Gelding Ave, Ruimsig,
Roodepoort, 1724 Johannesburg
South Africa

LS telcom SAS
4 av Morane-Saulnier
78140 Vélizy
France

Colibrex GmbH
Victoria Boulevard B109
77836 Rheinmünster
Germany

RadioSoft Inc.
194 Professional Park
Clarksville, Georgia 30523
USA

LST Middle East FZ-LLC
Office 101, Building EIB 01
Dubai Internet City, Dubai
United Arab Emirates