

Dear Readers,

At the beginning of the New Year we would like to take the opportunity to thank you for your confidence and the successful cooperation within the last year.

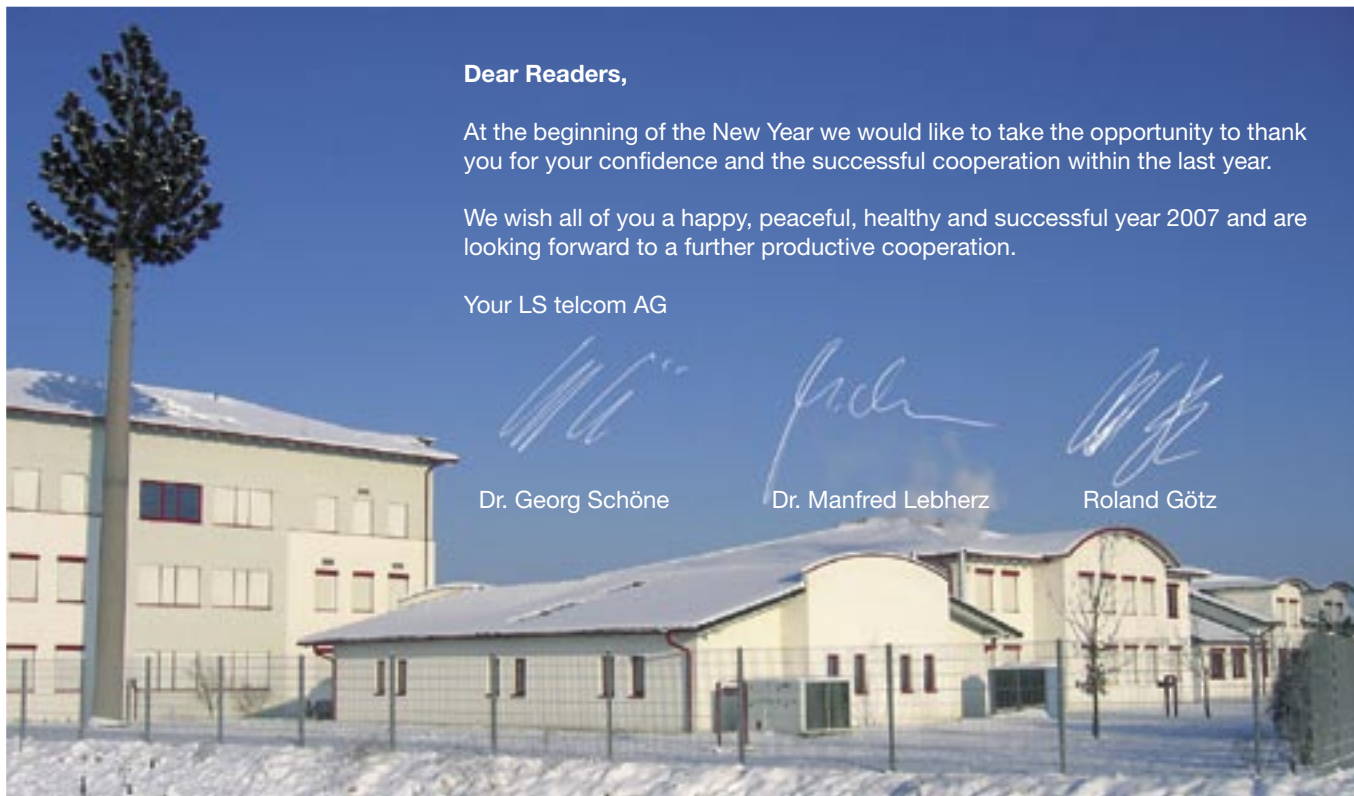
We wish all of you a happy, peaceful, healthy and successful year 2007 and are looking forward to a further productive cooperation.

Your LS telcom AG

Dr. Georg Schöne

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## LS telcom provides high level consulting for Mobile TV

Mobile TV will allow a wide range of new broadband multi-media and attractive mobile-broadcast services. Beyond technical aspects, issues like spectrum availability, existing infrastructure, business models, economic and regulatory aspects may influence future Mobile TV services, as well as the structure of such networks. In this particular field of interest LS telcom has recently conducted high level consulting projects where LS telcom experts gave support to our customers covering:

- Economical Aspects (marketing figures, business models, services and content, fee structures)
- Regulatory Aspects (regulatory framework, goals and practices of regulation, licensing procedure)
- Technical Aspects (available technologies, network concepts, planning methods)

Among others the following tasks could be addressed:

- Study of current legislative framework and identification of improvements needed to accommodate the new regulations.
- Study of the current regulatory framework for other services and determination of the regulatory goals and types of regulation needed for the new service.
- Completion of necessary consultations or public dissemination.
- Determination of competitive framework for the service, number of licences to be issued, fee structure, licensing procedures (monopoly, auction, beauty contest, etc...)

Based on the satisfaction and increasing interest of our customers on these matters of Mobile TV, LS telcom is offering such consultancy now as an additional product from our C&E business unit.

## Subjects of this issue

- LS telcom provides high level consulting for Mobile TV
- SPECTRA system for CITC, Kingdom of Saudi Arabia
- Web extension and payment gateway for POSTEL's (Indonesia) Spectrum Management System
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- Integrated Spectrum Management and Monitoring System for CONATEL, Paraguay
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## SPECTRA system for CITC, Kingdom of Saudi Arabia

The Communications and Information Technology Commission CITC is a government entity authorized to regulate the communications and information technology sector in the Kingdom of Saudi Arabia.

In order to cope with several ten thousands frequency assignments in the Kingdom and the increasing future demands on the radio frequency spectrum the advanced SPECTRA system has been acquired from LS telcom to replace an outdated radio frequency management solution which was established in 1990.

As for most regulators, the administrative and billing modules correspond to the most vital core functions of the automated spectrum management system. Due to their rich functionality and flexibility the SPECTRAplus\_admin and SPECTRAplus\_bill modules meet CITC's requirements. Configuration and customization has been carried out for implementation of print outs, fee calculations, billing and license procedures. Special attention was put on the migration of data from the previous system to the new central database because of the large number of the records and their security classification.

New SPECTRAplan functions have been implemented to allow quick checks of frequency assignment requests to be compatible with the national frequency plan before detailed data are entered into the system for technical analysis.

In order to fully support the Kingdom's specific frequency assignment procedure (Kingdom wide, Region wide and City wide frequency assignment), the vector functions of the system have been enhanced significantly. ORACLE spatial technology was applied for the central database and vector based frequency assignment calculations have been extended in SPECTRAemc.

The SPECTRAemc wizard technology was successfully applied to provide even complex technical calculations in a very user-friendly and efficient way in order to make repetitive part of the daily work as convenient as possible.

Probably the most significant enhancements for this and future projects have been achieved by new SPECTRAplus-SPECTRAemc interface functions which connect SPECTRAplus workflows with SPECTRAemc wizards. This allows to integrate in very flexible way administrative and basic technical procedures for all radio services.

## Web-Extensions and payment gateway for POSTEL's (Indonesia) Spectrum Management System

After 10 month of successful operation of POSTEL's spectrum management system SIMF (as the SPECTRAplus system is called by POSTEL) LS telcom and its local partner implemented a web interface for the regional POSTEL offices. It allows POSTEL's regional offices to make online use of the spectrum management system, adapted to their needs. With this web interface new applications can be entered to the system. A sophisticated query function allows creating reports and visualizing data in tabular view or directly on maps. Invoices and licenses can directly be printed at the regional offices, which reduce response times for POSTEL's clients. Security measures were integrated to restrict the access to

the database to those data only, which are assigned to a regional office.



To simplify payment of invoices created by SIMF, an online payment gateway was developed by LS telcom and SIGMA. It is fully compliant to the international banking standard ISO8583 with all security measures. Payments can now be directly transferred from the bank to SIMF. This sophisticated approach reduces administrative overhead significantly. With this extension SPECTRAplus is now able to interface to online payment systems, which support ISO8583.

## Upgrades for ANACOM, Portugal

Recently additional upgrades for the mobile network planning tool XG-Planner and MONITORplus including trainings have been ordered by ANACOM, the Portuguese regulating authority in Lisbon.



LS telcom delivered already several years ago successfully CHIRplus\_BC, MULTIlink, CHIRplus\_LM, CHIRplus\_M, SPECTRAplan as well as MONITORplus for integration with the existing frequency management and national monitoring system. Due to the ongoing long term maintenance agreement between ANACOM and LS telcom, all LS modules have been updated at least once a year to keep their functionality up to date.

## LS telcom SAS, France, moves to new office

After having acquired the spectrum business unit from Cril Telecom Software (CTS), LS telcom meanwhile has founded a new subsidiary named LS telcom SAS in the vicinity of Paris. Our French colleagues will among others be caring about our customers in French speaking countries. Mid of January 2007, LS telcom SAS moved into their new office space.

LS telcom SAS can now be reached at

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## Training Center News

**New Training calendar will be released soon**

LS telcom's new Training Calendar 2007/2008 comprising many new and revised seminars will be issued soon. During the last 6 years more than 1400 trainees participated in seminars and workshop held by LS telcom's Training Center.



## User Group Forum now ready for use

With effect from December 2006, LS telcom offers further extended support to its software customers by the User Group Forum, now available on the the LS telcom homepage [www.lstelcom.com](http://www.lstelcom.com) under menu item „Usergroup“.

This new User Forum is another vehicle supporting the very direct communication between Users of LS telcom products as well as between LS telcom and its valued customers.

We are convinced that this new User Forum will be beneficial, facilitating the exchange of mutual experiences, ex-

change of data and versatile discussions, where required even with the appropriate experts of LS telcom.



## Version 5.0 of CHIRplus\_BC arrived

CHIRplus\_BC has experienced a major update just these days. The update has been shipped to more than 50 customers worldwide. Version 5.0 contains a lot of major enhancements and provides now complete support of the GE06 planning and coordination process.

The more “relational” approach that was designed in the course of the RRC, with allotment contours being entities distinct from allotment data, now fully reflected in the CHIRplus\_BC databases. All new notice types of circular letter CR/262 are supported for import and export: GT1, GT2, GS2, GA1, G02 and GB1.

“Coordination distance” calculation and “conformity check” according to GE06 are implemented for both, assignments and allotments. The angular resolution can be switched between 1 degree and 10 degrees.

In addition, the GE 06 protection ratios and minimum required field strengths are available as defaults and are user-editable as well. This includes the RRC-typical “reference planning configurations” (RPCs) and reception modes. Other defaults reflect changes in the latest DVB-T Recommendation BT.1368-6 of the ITU.

Besides the multitude of features that are software implementations of resolutions from the RRC-06, the following section describes just a few of several new features of version 5.0:

A great progress in productivity when calculating coverage of large networks is achieved with an enhanced handling of “C/I files”, a feature that avoids frequent re-calculating of field strength files. Such

a handling of C/I files had been enabled in CHIRplus\_BC before, but now the advantage in productivity is even larger.

Moreover, DVB-H functionality is now available (4K mode, terminal categories and reception classes according to ETSI TR.102 377).

There is now the possibility to export the raster results and transmitter symbol to “Google Earth”™. We know that this is a very attractive feature to many customers as the web has become part of their daily “toolbox”. Our tests show an accuracy that was unexpected.

A new path profile calculation window offers many features. Morphology (clutter) can be displayed on top and there are field strengths along the path calculated for three standard propagation models by default. Reflection points for a “Deygout” or “Bullington” type geometry are visualized along the path.

An editable clutter table now available for more propagation models, improved versions of the IRT 2D and 3D propagation model and the optional available “CRC Predict” model complete the range of coverage prediction improvements.

An extended measurement import format has been added, which enables the user to transfer more parameters to the measurement database.

Due to very close contact with our customers during the RRC-06 and supporting them with pre-releases, with the version 5.0 release of CHIRplus\_BC, LS telcom sets again a new milestone for broadcast planning and coordination.

## Spot on

### Major System Upgrade for MCMC Malaysia

MCMC, the Malaysian Communications and Multimedia Commission signed an agreement for the upgrading of MCMC’s spectrum management system. Within the scope of the upgrade, MCMC will extend the technical and administrative functionalities of their current system, among others, also adding online application processing capability of SPEC-TRAweb.

### RFD Vietnam enters into maintenance agreement

The Vietnamese administration has entered into a maintenance agreement with LS telcom. Under this maintenance and support agreement, RFD will obtain latest software updates of their installed spectrum management system as well as delivered a comprehensive training program.

### Cyprus’ Ministry of Communications and Works to be jointly served by Thales and LS telcom

As a result of an international tender, the Ministry’s Department of Electronic Communications elected a spectrum management solution of LS telcom as their preferred software option. The system will be delivered by LS telcom France as subcontractor to Thales Electronic Systems within the scope of a fully integrated spectrum monitoring and frequency management solution.

### LS telcom selected for PMR consultancy

The Ministry of Interior of the Nordrhein-Westfalen and the Ministry of Interior of Baden-Württemberg selected LS telcom’s consultancy unit to support them regarding the evaluation and realisation of administrative, technical and economical tasks in view of the introduction of the German Public Safety Network.

### LS telcom reinforce broadcast planning team

The Radio Communication Agency of the Agentschap Telecom (The Netherlands), take advantage of LS telcom’s experienced broadcast team to reinforce their planning team. Agentschap Telecom allowed FM broadcasting radio stations to extend their demographic domains, so a great number of received modification requests have to be evaluated in a short period of time.

## Integrated Spectrum Management and Monitoring System for CONATEL, Paraguay

LS telcom Canada (Spectrocan) was awarded a contract for the provision of an integrated Spectrum Management and Monitoring System for the Paraguayan regulator CONATEL. Deliverables include technical modules for the planning and administration of the radio spectrum, EMC analysis, and a seamless interface to the monitoring equipment.

They also include administrative modules for the licensing of spectrum users with an integrated billing module. German manufacturer Rohde & Schwarz provides

the spectrum monitoring equipment. The implementation of the spectrum management system, is supported by the delivery of a complete training program.



## Visit us at our booth...

### IDEX in Abu Dhabi

IDEX 2007 will take place at the new Abu Dhabi National Exhibition Centre from 18<sup>th</sup> - 22<sup>nd</sup> February 2007 and provide exhibitors with excellent facilities for the display and marketing of defence products. Among official delegations representing more than 50 nations, LS telcom will present its product range at booth # A79.

For further information, please visit [www.idexuae.com](http://www.idexuae.com).

### CommunicAsia Singapore

CommunicAsia Singapore will take place from 19<sup>th</sup> to 22<sup>nd</sup> June 2007 and will once again cover the whole spectrum of the ICT industry, creating a vibrant marketplace where sellers and buyers congregate at Asia's most comprehensive info-communications event. LS telcom will be present at booth # 5D2-03 at the German Pavilion.

For further information, please visit [www.communicasia.com](http://www.communicasia.com).

## Spectrum Field Audit in the Caribbean

The Caribbean Telecommunications Union has recently awarded a contract to LS telcom Canada (Spectrocan). The Project is currently underway and it is planned that seven island state administrations will have their current spectrum management practices surveyed. The project includes a review of relevant radio regulations and appropriate spectrum policies, as well as frequency selection and spectrum authorization practices.

The survey and analysis will be performed by LS telcom experts, who possess extensive experience with the Canadian regulator Industry Canada. Their final recommendations will be based on current practices as well as those required to meet actual ITU requirements and the goal of the CTU to harmonize spectrum usage in the region and to enhance spectrum management and cost recovery principles in the Caribbean and West Indies.

## Spot on

### O2 prolongs Frame Contract with LS telcom

German mobile network operator O2 prolonged the frame contract regarding parameter-planning for their backbone network. The prolongation of the contract reflects the long-standing, excellent cooperation between O2 and LS telcom.

### Mobile TV Information Session held in Abu Dhabi

The Telecommunication Regulatory Authority of the United Arab Emirates (TRA) selected LS telcom to hold a Mobile TV Information Session covering new trends and technologies, convergence of mobile and broadcast networks, as well as regulatory practices and economical aspects for this promising new service.

## Usergroup and LS Summit 2007

We are happy to announce the 2007 dates for our well-known LS Summit and Usergroup Conference.



From 18<sup>th</sup> to 19<sup>th</sup> June 2007 LS Usergroup will meet to exchange their experiences with software products of LS telcom.

On 20<sup>th</sup> June 2007 LS telcom will organize already for the 12<sup>th</sup> time the LS Summit where every year experts in the field of telecommunications and frequency management from all over the world meet.

## Impressum

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