

- PRESS RELEASE -

**CST and MAGUS Present
Improved Parametric Approach to Planar Arrays**

Darmstadt, Germany and Stellenbosch, South Africa, October 3, 2013, CST - Computer Simulation Technology AG (CST) and MAGUS (Pty) Ltd (MAGUS) are developing new tools for linear antenna arrays including feed networks, to launch with the newest version of Magus' flagship product Antenna Magus. These features will be previewed at European Microwave Week (EuMW) 2013, booth #103.

Engineers involved with planar arrays often estimate the performance of the array from single elements, using array synthesis methods to determine the number of elements required, their spacing and the relative excitations. Although this approach provides a good starting point, it does not include a number of practical effects, such as mutual coupling, or the influence of the feed network – and indeed, the actual layout of the feed network.

Antenna Magus, the antenna design tool from MAGUS, already includes tools for selecting suitable topologies from a design database, adjusting these topologies to fit the design requirement, and for constructing arrays of elements with the correct excitation. The upcoming update introduces a new feature: parametric models which include physical feed-network layouts.

The tool allows a feed network to be synthesized either as part of a patch array design (the *N-by-1 microstrip patch array with corporate feed*), or in isolation to be used with arbitrary antenna elements. The feed network uses practical microstrip lines, and the network topology is automatically adjusted according to the number of elements. The feed network models can be exported into the 3D EM simulation tool CST MICROWAVE STUDIO® (CST MWS) and their behavior simulated and optimized as necessary using the full-wave solvers available in CST MWS. With this new feature, CST and MAGUS hope to allow feed effects to be considered earlier in the design flow, and streamline the antenna simulation workflow. It is envisaged that further planar array models will be included in later Antenna Magus releases.

These new features will be among those presented at EuMW, at booth #103. Each day of the exhibition will include a live demonstration of the antenna design workflow in Antenna Magus, and the two-way link

between Antenna Magus and CST MWS for optimizing and combining antenna topologies. For the full schedule of booth presentations, please see <<http://www.cst.com/EuMW>>

Schedule

Antenna Magus presentations will be held at 14:30 on October 8 (Tuesday), at 15:30 on October 9 (Wednesday), and 12:00 on October 10 (Thursday) on the CST booth #103.

About CST

CST develops and markets high performance software for the simulation of electromagnetic fields in all frequency bands. Its success is based on the implementation of leading edge technology in a user-friendly interface. CST's customers are market leaders in industries as diverse as Telecommunications, Defense, Automotive, Electronics, and Medical Equipment. Today CST employs 210 sales, development, and support personnel, and enjoys a leading position in the high frequency 3D EM simulation market.

CST STUDIO SUITE is the culmination of many years of research and development into the most accurate and efficient computational solutions for electromagnetic designs. From static to optical, and from the nanoscale to the electrically large, CST STUDIO SUITE includes tools for the design, simulation and optimization of a wide range of devices. Analysis is not limited to pure EM, but can also include thermal and mechanical effects and circuit simulation. CST STUDIO SUITE can offer considerable product to market advantages such as shorter development cycles, virtual prototyping before physical trials, and optimization instead of experimentation.

Further information about CST is available on the web at www.cst.com.

About Magus

MAGUS (Pty) Ltd develops antenna design and information management software. Antennas designed using its software can be used in a wide variety of applications at various frequency bands, including, but not limited to, telecommunications, mobile devices, aerospace, satellite, automotive, radio astronomy and defense.

Antenna Magus aims to simplify the antenna design process using three basic steps – *Explore. Design. Deliver.* The database, currently consisting of 225 antennas, may be explored to find the optimal topology. This may then be designed to meet the system criteria, and subsequently exported as fully-parametric, ready-to-run CST MICROWAVE STUDIO models that seamlessly integrate with the design workflow.

For further information please visit www.antennamagus.com.

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“The new *N-by-1 microstrip patch array with corporate feed* template combines the design of the individual patch elements with the design of the corporate feed network, and the array can then be exported as a full 3D CST MWS model.”