**E-System Design, Inc.** started operations in Feb 2009 and is an independent EDA software provider focused on developing and licensing industry leading Signal and Power Integrity solutions for the Electronics Industry.

E-System Design has exclusively licensed unique patents leveraging the research work from Georgia Institute of Technology and our founder and CTO Madhavan Swaminathan. Our patent portfolio is concentrated on Signal/Power and Thermal Integrity analyses that can be applied to PCB, Package and Integrated Circuit components.   These are critical as the industry continues to push integration densities. E-System Design is staffed by a world-wide, experienced EDA technical team.

Two books discuss the unique underlying technologies our products are based upon. **Power Integrity Modeling and Design for Semiconductor and Systems** (2008 Prentice Hall) which discusses the technology incorporated into our Sphinx for Signoff and Sphinx DC products. **Design and Modeling for 3D ICs and Interposers** (2014 World Scientific) which discusses the technology incorporated into our Sphinx 3D Path Finder product.
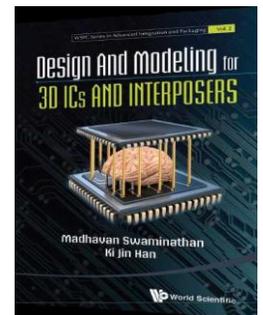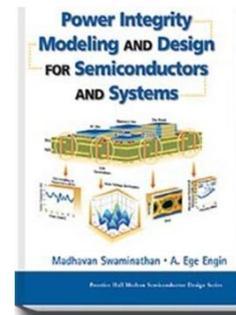
E-System Design currently has three products released to production:

Sphinx 3D Path Finder*: 3D Path Finder ("3DPF") is a "front end" design planning and path finding tool for packaged ICs using 2D, 2.5D, 3D Interposer, and other evolving product packaging technologies.   3DPF is an analysis platform that enables the analysis of interconnect structures in the presence of dielectric and semiconducting materials. Included in the electromagnetic analysis are redistribution layers (RDL), dielectric vias, through silicon vias (TSV), via tapers, non-uniform metal and many more where signal responses, signal-to-ground ratios, crosstalk, return path discontinuities (RPDs), temperature and other effects can be evaluated. 3DPF can also analyze the connection of chips to interposer through wire bonds, solder bumps or micro bumps and package to package connections through solder balls or pillars. This allows analysis of a standalone glass, silicon or other substrates for chip to chip performance or stack packages to evaluate its overall response where the performance metric can either be insertion loss, return loss or cross talk. Recently, a Power Distribution Network engine has been added allowing PDN analysis across chip, package and PCB. This is useful for comparing impedance parameters with target impedance, assessing the impact of resonances in the PDN and re-evaluating design modifications to reduce PDN impedance. Other analysis engines are planned to expand 3DPF's Path Finding capabilities.

*In 2014, Sphinx 3D Path Finder V3.0 was awarded the **3D Incites' Award for Best Design Tool for 2.5D/3D Design**.

Sphinx for Signoff V5.0: SI/PI Co-Simulator for IC Packaging & PCB. Sphinx for Signoff (SfS) is a Frequency Domain analysis tool that was designed to follow all Return Path Discontinuities (RPD's) and analyze all layer coupling effects to account for phenomena not accounted for in existing EM tools today. Our unique patented methodology provides superior accuracy while also improving efficiency and faster simulation turnaround times.

Sphinx DC V5.0: Fast DC Solver for IC Packaging & PCB. Sphinx DC utilizes the same GUI as SfS and allows users to expand their analysis down to DC and quickly look for hot spots or problem areas in their designs prior to running full simulations via Sphinx for Signoff.   By providing two analysis engines under the same GUI, users can very easily use the SfS platform to increase their analysis capability.

Additional information can be found at: www.e-systemdesign.com
Videos are located at: www.youtube.com/user/esystemdesign

For product evaluation, please contact: **sales@e-systemdesign.com**