Silvaco

Type	Private Company
Industry	Software & Programming
Founded	1984
Founder	Ivan Pesic
Headquarters	Santa Clara, California
Key people	Iliya Pesic, Chairman Babak Taheri, CEO
Website	silvaco.com

Silvaco Inc. develops and markets electronic design automation (EDA) and technology CAD (TCAD) software and semiconductor design IP (SIP). The company is headquartered in Santa Clara, California, and has a global presence with offices located in North America, Europe, and throughout Asia. Since its founding in 1984, Silvaco has grown to become a large privately held EDA company. The company has been known by at least two other names: Silvaco International,[1] and Silvaco Data Systems.[2]

Contents

History

Founded by Dr. Ivan Pesic (September 13, 1951, Resnik, Montenegro — October 20, 2012, Japan)[3][4] in 1984, the company is privately held and internally funded. It is headquartered in Santa Clara, California, with fourteen offices worldwide.

In 2003 Silvaco acquired Simucad Inc., a privately held company providing logic simulation EDA software.[5] Silvaco re-launched the brand by spinning out its EDA product line in 2006 under the Simucad name.[6][7] As of February 17, 2010, Simucad Design Automation and Silvaco Data Systems were merged back together forming Silvaco, Inc.[8]

In 2006,[9] Silvaco sued Intel for misappropriation of trade secrets in the case of *Silvaco Data Systems v. Intel Corp.*, however ultimately the judgment of the Court was in favor of Intel.

In 2012, David Halliday was appointed CEO after the death of the company founder Ivan Pesic.[3]

In 2015, Silvaco appointed a new CEO, David Dutton.[10] The company also acquired Invarian, Inc., a privately held company providing power integrity analysis software,[11] and acquired Infiniscale SA, a privately held company in France providing variability analysis software.[12]

In 2016, Silvaco added semiconductor design IP (SIP) to its portfolio with the acquisition of the privately held company IPextreme, Inc.[13] Silvaco also entered into another new market segment with the acquisition of the privately held company edXact in France.[14] The tools from edXact are used for analysis, reduction, and comparison of extracted parasitic netlists.

In 2017, Silvaco acquired SoC Solutions, a privately held company providing semiconductor IP.[15]

In 2018, Silvaco acquired NanGate, a privately held company providing tools and services for creation, optimization, characterization, and validation of physical library IP.[16] The company also announced a partnership with Purdue University and the Purdue Research Foundation for the commercialization of the NEMO tool suite, an atomistic nanoelectronics modeling and simulation tool.[17]

In 2019, Silvaco appointed Dr. Babak Taheri as new Chief Executive Officer.[18]

Products

Silvaco delivers EDA and semiconductor TCAD software products and semiconductor design IP with support and engineering services. Worldwide customers include leading foundries, fabless semiconductor companies, OEMs, integrated semiconductor manufacturers, and universities.

TCAD Products

Process Simulation

- Victory Process - 2D/3D process simulator

Device Simulation

- Victory Device 2D/3D device simulator

Other tools

- Virtual Wafer Fab (VWF) - Emulation of wafer manufacturing to perform design-of-experiments and optimization.

EDA Products

The company supplies integrated EDA software in the areas of analog/mixed-signal/RF circuit simulation, custom IC CAD, interconnect modeling, and standard cell library development and characterization.

SPICE modeling and analog & mixed-signal simulation

- Utmost IV - Device characterization and SPICE modeling
- SmartSpice - Analog circuit simulator
- SmartSpice RF - Frequency and time domain RF circuit simulator
- SmartView - Simulation waveform viewer

Custom IC CAD

- Gateway - Schematic editor
- Expert - Layout editor
- Guardian - DRC/LVS/Net physical verification
- Hipex - Full-chip parasitic extraction
- Jivaro - Parasitic reduction and analysis
- VarMan - High-sigma variability analysis

Interconnect Modeling

- Clever - Parasitic extractor for realistic 3D structures

Library Platform

- Cello - Standard cell library creation, migration and optimization
- Viola - Standard cell library and I/O cell characterization
- Liberty Analyzer - Analysis and validation of timing, power, noise, and area data from characterization

SIP Products

The company markets a wide variety of design IP under its SIPware brand.[19] In May 2019, the company announced that the semiconductor design IP of Samsung Foundry (SF) is now marketed, licensed, and supported through Silvaco.[20] The initial offering of hard design IP from

SF is for the 14 nm process node. The company also develops and markets standard cell library foundation IP for process nodes from 180 nm to below 14 nm. Categories of SIPware IP include:

- Interface PHYs
- Interface controllers
- Automotive controllers
- AMBA IP cores and subsystems
- Security cores
- Analog cores
- Embedded processors
- Analog front-ends and codecs
- Foundation IP