



The annual Si2 Power of Partnerships award is presented to members of the Si2 working group or committee with the most significant contributions to the success of the electronic design automation industry.

Process

With guidance from Coalition Chairs, Si2 senior staff nominates three volunteer teams, one from each coalition. Nominations state the contributing members, their achievements, and their impact on the industry. Nominations are presented to the Si2 board of directors and voting is done via this [on-line ballot](#).

Winners are recognized at the Si2 Annual Members Meeting. Winning team members receive celebratory, etched glass trophies.

2023 Timeline

- June 6 – Nominations sent to the board for review
- June 15 – Board votes due
- July 10 – Presentation of awards at Si2 Annual Member Meeting
- July 18 – Press Release

Si2 Power of Partnerships Nomination 2023

Compact Model Coalition

Committee/Working Group Silicon Carbide Standard Device Model

Chair Colin Shaw, Silvaco

Contributing Members Colin Shaw, Silvaco
Breandan OhAnnaidh, Analog Devices
Jushan Xie, Cadence
Rudolf Elpelt, Infineon
Klaus-Willi Pieper, Infineon
Paul Sochor, Infineon
Marek Mierzwinski, Keysight
Takeshi Naito, Kioxia
Ahmed Ramadan, Mentor
Kaimen Chan, TI
Geoffrey Coram, Analog Devices
Ken He, Onsemi
James Victory, Onsemi
Lixin Ge, Qualcomm
Lin Dong, Synopsys
Joddy Wang, Synopsys

Industry Impact Pure silicon-based devices are giving way to superior multi-compound devices for certain cutting-edge applications. Featuring higher power efficiencies and temperature stability, these devices are becoming the mainstay of all modern system supplies. In fact, the Silicon Carbide Semiconductor Market was valued at USD \$460 Million in 2019 and will reach USD \$1.47 Billion by 2027, a compound growth rate of 16.9%.

This working group is developing a standard model for the electronics industries to efficiently move forward into these new areas of power delivery. Once developed and supported by CMC, this model will enable supplies that can deliver power more reliably and efficiently, saving space and energy over previous solutions.

Accomplishments The CMC formed the SiC working group in March 2021, recruiting existing CMC members' expertise and enrolling a new member (Onsemi) with a focus on and experience in SiC devices.

After developing a set of model requirements, the working group identified and selected three model candidate developers with published models for consideration: Professor Sourabh Khandelwal from Macquarie University, Australia; Professor Arman Rashid from the University of Arkansas; and Professor Yogesh Chauhan, India Institute of Technology Kanpur.

Currently in the second of four phases of the model standardization process, the team is developing a timetable for completion of model selection and starting evaluation trials. Working group input to the model developers is expanding innovative technology feature support in new model versions.

Power of Partnerships Nomination 2023

OpenStandards Coalition and Special Interest Groups

Committee/Working Group	Technology Trajectory Advisory Council (TITAN)
Chair	Kerim Kalafala, IBM, Chair
Contributing Members	Rob Christy, Arm, TITAN Co-Chair and Co-Chair, Multi-Die HI Akhilesh Kumar, Ansys, Chair SPEED API Rich Taggart, IBM, Co-Chair SPEED API Natesan Venkateswaran, IBM, Chair, Data Management Chris Mueth, Keysight, Co-Chair, Data Management Rob Aitken, Synopsys, Co-Chair, Multi_Die HI
Industry Impact	<p>The Technology Interoperability Trajectory Advisory Council (TITAN) was started in the Fall of 2021 as a technical advisory board to the Si2 board of directors. Vic Kulkarni, Si2 Chief Strategy Officer, launched the program with the cooperation of leaders from 15 member companies. Member ownership and participation in this new Si2 Special Interest Group have been critical for setting the direction of the three initial areas for exploration defined by the Si2 BoD: SPEED API, Data Management and Workflows, and Multi-Die HI. Led by Kerim Kalafala, IBM, TITAN Chair and Rob Christy, Arm, TITAN Co-Chair, the leadership of these three groups present at Si2-sponsored roundtable discussions on key challenges in these areas.</p>
Contributions	<p>During bi-weekly discussions, the leaders advocate for greater Si2 member and industry-wide cooperation to define and address interoperability benefitting IDMs, EDA vendors, and foundries.</p> <p>The leaders drive weekly member meetings with defined deliverables appropriate to the maturity of the projects and welcome additional participation.</p> <ul style="list-style-type: none">• SPEED API: Successfully proposed a working group, and is developing a prototype API• Data Management: Completed a survey with a white paper in progress• Multi-Die HI: Leadership and potential members investigating this wide area for gaps that can be explored by Si2

Power of Partnerships Nomination 2023

OpenAccess Coalition

Committee/Working Group	MPT -- Coloring Working Group
Chair	Benjamin Hoefler, Intel
Contributing Members	Rajiv Subramanian, Author, Synopsys Ben Bowers, Advisory Role, Microsoft James Masters, Advisory Role, Intel Ed Gernert, Advisory Role, Frontier Design
Industry Impact	<p>In February 2022, the OpenAccess Coalition identified the lack of multi-pattern technology (“Coloring”) support as an impediment to interoperability. Proprietary processes and member patents made it difficult to implement a solution. The OpenAccess Coalition Extension Steering Group, under the leadership of James Masters (Intel), found a way to deliver support to the membership.</p> <p>In 2012, as coloring applications were beginning, Cadence contributed an example and a description of how coloring might be implemented in OpenAccess. This example became widely utilized. Each member implemented its own proprietary detail using the example as a framework.</p>
Accomplishments	<p>The MPT Coloring Work Group utilized the Cadence contribution as a framework to develop a managed extension to the OpenAccess API. The new extension, oaxColor, provides the developer with the tools to create their own proprietary application, tailored to their proprietary coloring process.</p> <p>The oaxColor extension moved forward the member support without encroaching on the proprietary portion of the problem. The extension is incorporated with the OpenAccess API at the database level according to the OpenAccess API requirements.</p> <p>Under the leadership of Ben Hoefler, Intel, the working group developed the extension initially in C++ to “bolt onto” the OpenAccess Reference Implementation. The C++ was wrapped in Python and Ruby to support the oaScript extension APIs. So, this extension is compatible with all of our versions of the OpenAccess API. This process is a model for the development of extensions and will be utilized in future extensions.</p>