

# Welcome & Introducing the SU2 Foundation

Thomas D. Economon  
4<sup>th</sup> Annual SU2 Developers Meeting  
Villa Monastero, Varenna, Italy  
May 9, 2019

SU2

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# Welcome to the 4<sup>th</sup> Annual SU2 Developers Meeting

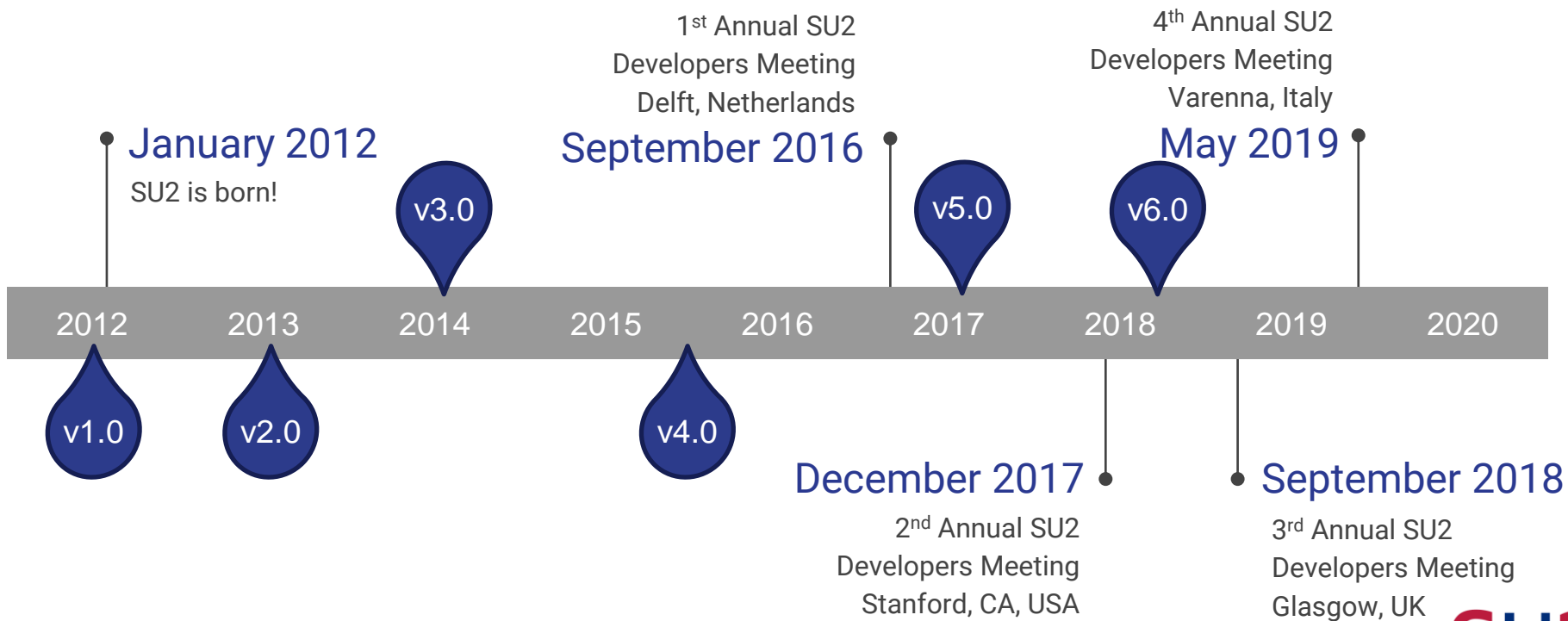
# Original Motivation

*“Computational analysis tools have revolutionized the way we design engineering systems, but most established codes are proprietary, unavailable, or prohibitively expensive for many users. The SU2 team is changing this, making multiphysics analysis and design optimization freely available as open-source software and involving everyone in its creation and development.”*

SU2 website circa Oct 2012



# Key Milestones



# SU2 Community Impact Over the Years

**1000s of users, 100s of developers, dozens of institutions**

*generating*

**1000s of commits, 100s of pull requests, dozens of releases**

*attracting*

**1000s of repository visits, 100s of repository clones every two weeks**

*outputting*

**1000s of hours of training, 100s of research papers, dozens of theses**

*for educational and research purposes.*

The SU2 source code alone  
is worth an estimated\*:

18M USD

- + access to source code
- + network of top researchers
- + win-wins & network effects

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# How do we sustain and scale up?

Well-established  
Capabilities: FVM,  
adjoints, etc.

Shiny New  
Research

Critical Infrastructure:  
IO, MPI, Class Design

New Interfaces  
and Coupling for  
Multiphysics





SU2 FOUNDATION  
1225 4<sup>th</sup> ST #333  
SAN FRANCISCO, CA 94158

A Not-for-Profit, Nonstock  
Delaware Corporation (USA)

Pursuing 501(c)(3) Status

SU2



# Our Mission:

(a) promote global software development and education to increase the pace of innovation in the engineering sciences for the public benefit of all society;

(b) provide a neutral forum for community collaboration by offering efficient infrastructure and technical governance;



Thomas D.  
Economon

Executive Director



Tim Albring

Developer Director



Ruben  
Sanchez

User Director



Juan J.  
Alonso

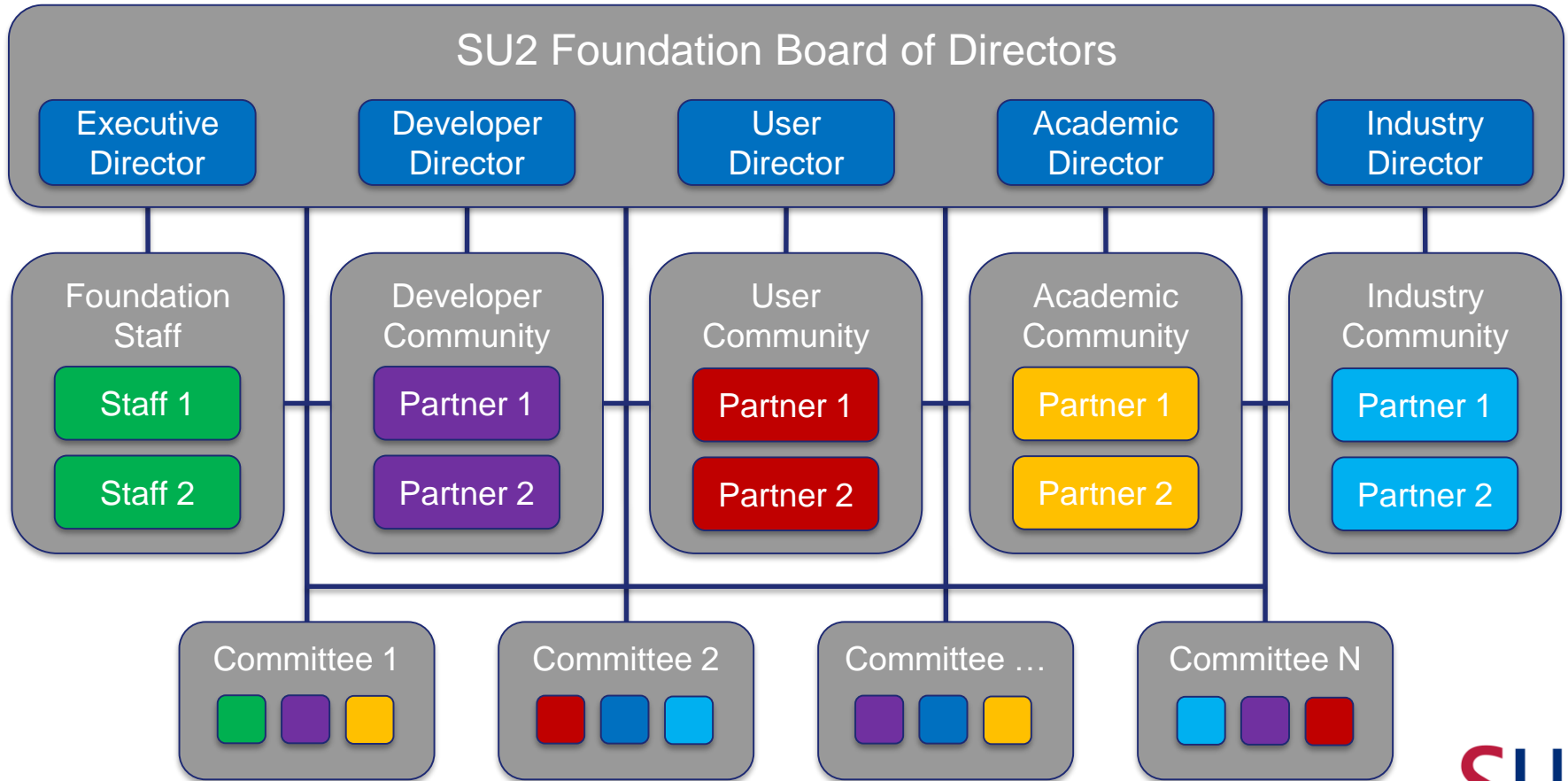
Academic Director



Eran Arad

Industry Directory

# SU2 Foundation Board of Directors



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Developer Perspective

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Industry Perspective

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User Perspective

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Academic Perspective

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**We have  
already started.**

**SU2**



PROJECTS ▾

ACTIVITIES ▾

ABOUT US ▾

# Promoting open innovation in engineering software

At the intersection of education, research, and open software development, we're driving innovation in the engineering sciences for the benefit of all society from our headquarters in Silicon Valley. Sign up today to be the first to hear our plans.

First Name

Last Name

Institution

Email address (required)

I consider myself as part of the following communities

- ☐ User
- ☐ Developer
- ☐ Industry
- ☐ Academia

su2foundation.org  
info@su2foundation.org

# 4th Annual Developers Meeting - Presentation Session Agenda

Time	Title	Authors
0800 - 0830	<b>Welcome &amp; Introducing the SU2 Foundation</b>	<a href="#">Thomas D. Economon</a> (Robert Bosch LLC/SU2 Foundation)
0830 - 0850	<b>Vision and perspective of SU2 development center at National Institute of Aerospace (NIA) (Invited Talk)</b>	<a href="#">Boris Diskin</a> (National Institute of Aerospace)
0850 - 0910	<b>Turbomachinery Capabilities in SU2: Status of Current Developments and Future Perspectives</b>	<a href="#">Nitish Anand</a> , <a href="#">Matteo Pini</a> , Piero Colonna (TU Delft)
0910 - 0930	<b>Aerodynamics of hinged rotorcraft in SU2, with applications to ice accretion and noise</b>	<a href="#">Myles Morelli</a> , Alberto Guardone (PoliMi)
0930 - 0950	<b>Recent Developments of Hybrid RANS/LES in SU2</b>	<a href="#">Eduardo S. Molina</a> , Juan J. Alonso (Stanford), Beckett Y. Zhou, Nicolas R. Gauger (TU Kaiserslautern)
1000 - 1030	<b>Coffee Break</b>	-
1030 - 1050	<b>Multi-Physics Analysis and External Code Compatibility</b>	<a href="#">Heather Kline</a> (National Institute of Aerospace)
1050 - 1110	<b>Shape and Topology Optimization of Fluid-Structure-Interaction Problems</b>	<a href="#">Pedro Gomes</a> , Rafael Palacios (Imperial College London)
1110 - 1130	<b>Towards fully automated aerodynamics shape optimization of nonplanar wings with SU2</b>	<a href="#">Rauno Cavallaro</a> (Universidad Carlos III Madrid)
1130 - 1150	<b>Boundary and Surface Shape Newton Schemes and Their Automatic Generation</b>	<a href="#">Stephan Schmidt</a> (Universität Würzburg)
1200 - 1330	<b>Lunch</b>	-
1330 - 1350	<b>Pressure-robustness - a new criterion for the accuracy of incompressible Navier-Stokes solvers at high Reynolds number and beyond</b>	<a href="#">Alexander Linke</a> (Weierstraß Institut Berlin)
1350 - 1410	<b>Implementation of a pressure based incompressible solver in SU2</b>	<a href="#">Akshay K.R.</a> , Huseyin Ozdemir (TNO), Edwin van der Weide (University of Twente)
1410 - 1430	<b>Streamwise periodic flow simulations</b>	<a href="#">Tobias Kattmann</a> (Robert Bosch GmbH/TU Kaiserslautern)
1440 - 1450	<b>Accuracy verification by means of exact and manufactured solutions</b>	<a href="#">Edwin van der Weide</a> (University of Twente), Thomas D. Economon (Robert Bosch LLC)
1500 - 1530	<b>Coffee Break</b>	-
1530 - 1550	<b>SU2-NEMO: NonEquilibrium MOdels for Hypersonic Flows Using Mutation++</b>	<a href="#">Catarina Garbacz</a> , Marco Fossati (University of Strathclyde), <a href="#">Walter T. Maier</a> , Juan J. Alonso (Stanford University), James B. Scoggins (École Polytechnique), Thomas D. Economon (Robert Bosch LLC), Thierry Magin (Von Karman Institute)
1550 - 1610	<b>Shock capturing in SU2 DG-FEM solver</b>	<a href="#">Jae hwan Choi</a> , Juan J. Alonso (Stanford University), Edwin van der Weide (University of Twente)