SystemC Evolution Day

Theme 2022: Evolution and Ecosystem

Martin Barnasconi

Accellera Technical Committee Chair

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SYSTEMC™ EVOLUTION DAY
DEC 8, 2022 | MUNICH | GERMANY

In Memoriam

Andres Takach passed away in 2022

- Chair of the SystemC Synthesis Working Group, since the Open SystemC Initiative (OSCI)
- Recognized for his contributions to the SystemC Synthesizable Subset standard
- Driving High Level Synthesis (HLS) methodology and technology developments
- Key contributor to the Algorithmic C (AC) Datatypes

Andres Takach

Outline

- Welcome
- History
- Agenda
- Theme: Evolution and Ecosystem

Welcome

- Welcome to the **7th** SystemC Evolution Day!
- Main theme today: **Evolution and Ecosystem**
  - Evolution: Discuss developments, standardization and common practices around SystemC
  - Ecosystem: Exploring and understanding *the bigger ecosystem*, and the role (if any) of SystemC in such ecosystem
- Format: *interactive event*
  - We encourage **YOU** to ask questions, give recommendations or make proposals how to evolve SystemC
  - We reserved some 'extra time' (Q&A slots) for open discussions

Organizing team

- Ola Dahl, Ericsson (chair)
- Mark Burton, Qualcomm
- Martin Barnasconi, NXP
- Christian Sauer, Cadence
- Peter de Jager, Intel
- Jerome Cornet, STMicroelectronics
- Lynn Garibaldi, Accellera
- Laura LeBlanc, Conference Catalysts

Special thanks to
Panelists
Mark Burton, Qualcomm Inc.
François-Frédéric Ozog, Shokubai
Manfred Thanner, NXP
Bart Vanthournout, Synopsys
Moderator
Jakob Engblom, Intel

Special thanks to the SystemC Evolution Day event sponsors:

cadence®

SIEMENS

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History

European SystemC User Group

2013

2014

DVCon Europe

2015 SystemC BoF

2016

2017

SystemC Evolution Day

2021 SystemC Fika

Today

fika

(n.) a social coffee break with one's colleagues, friends, date or family, usually accompanied with sweet, baked goods

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Agenda

09:30 - 10:15	Welcome & Introduction	Martin Barnasconi, Accellera Technical Committee Chair
10:15 - 10:30	Coffee break	
10:30 - 11:30	IEEE 1666-202x SystemC Sneak Peek	Jerome Cornet, IEEE P1666 Working Group Chair
11:30 - 12:00	Q&A	
12:00 - 13:30	Lunch	
13:30 – 14:00	Accellera + SystemC Working Group update	Martin Barnasconi, Accellera Technical Committee Chair
14:00 - 14:30	Virtualization and Emulation with QEMU and SystemC	François-Frédéric Ozog, Shokubai
14:30 - 15:00	Q&A	
15:00 - 15:15	Coffee break	
15:15 - 15:45	Distributed simulation and SystemC	Mark Burton, Qualcomm Inc.
15:45 - 16:45	Panel: SystemC and Federated Simulation – Where do we go from here?	
16:45 - 17:15	SystemC Evolution Outlook	Martin Barnasconi, Accellera Technical Committee Chair
17:15 - 17:30	Wrap-up & closure	All

Evolution and Ecosystem

Smart Cities

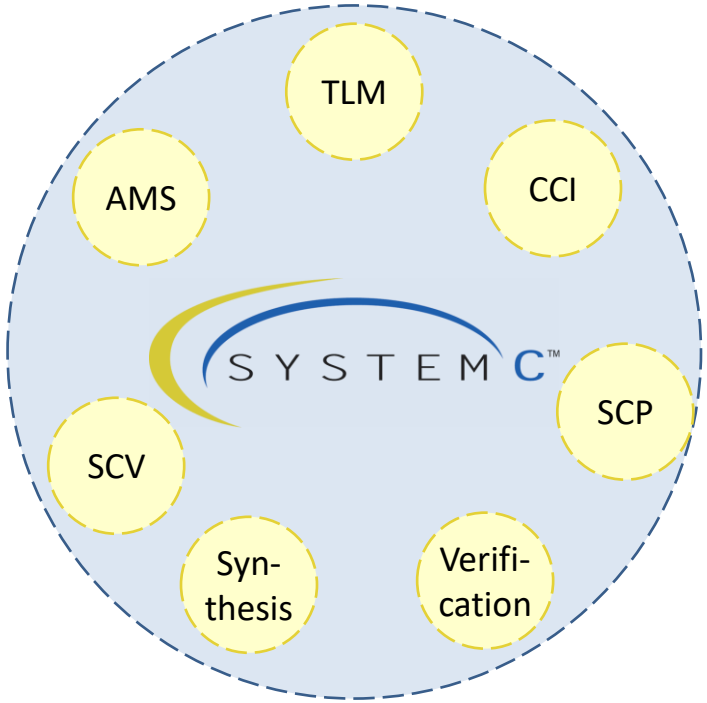
Smart Industries / Factories

Smart Mobility

Smart Energy / Grid

Smart Mobility

…



Model Based Systems Engineering (MBSE)

Digital Twin / Digital Thread

Federated Simulations of Systems of Systems

Software-defined *Everything*

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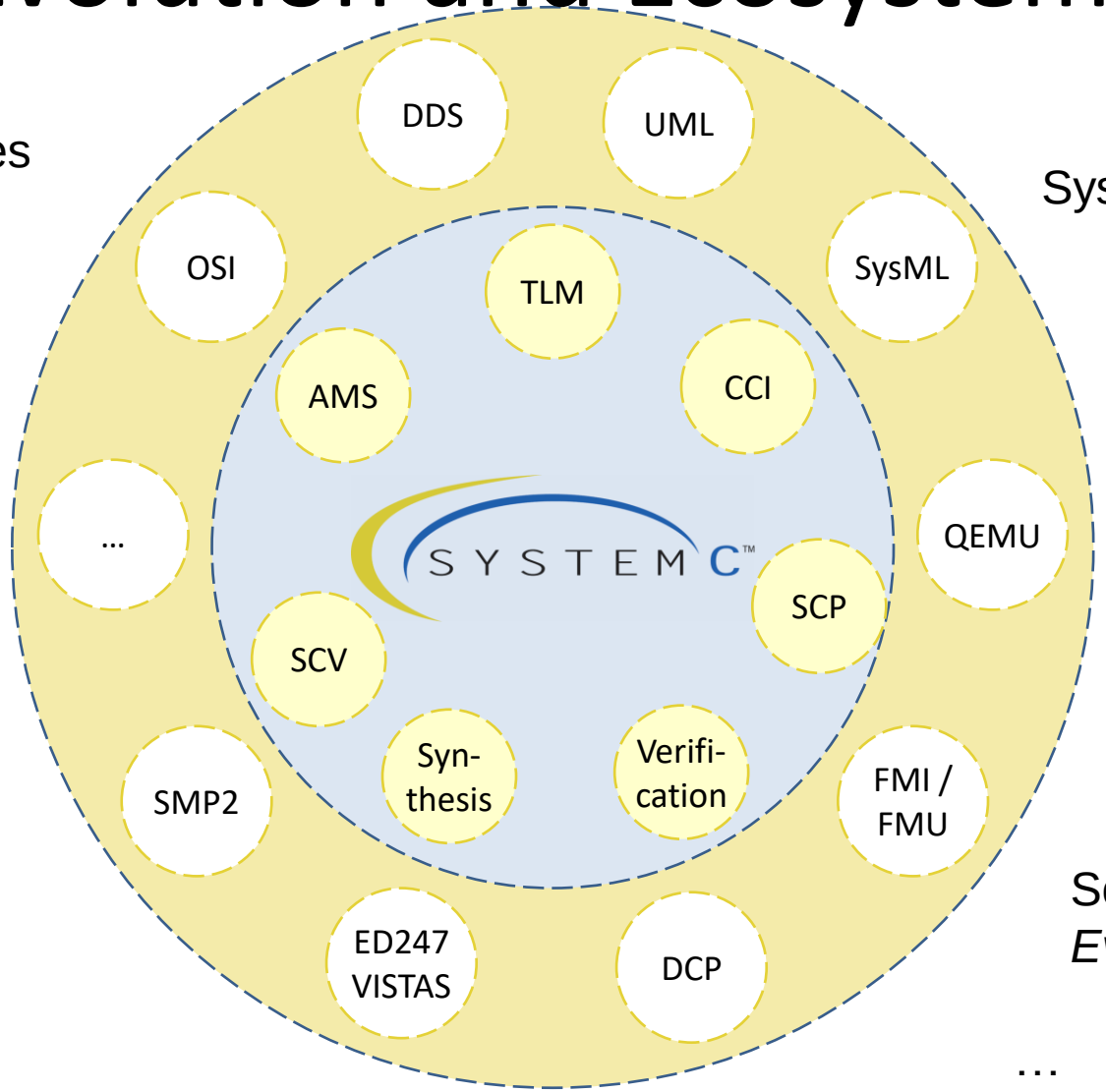
Evolution and Ecosystem



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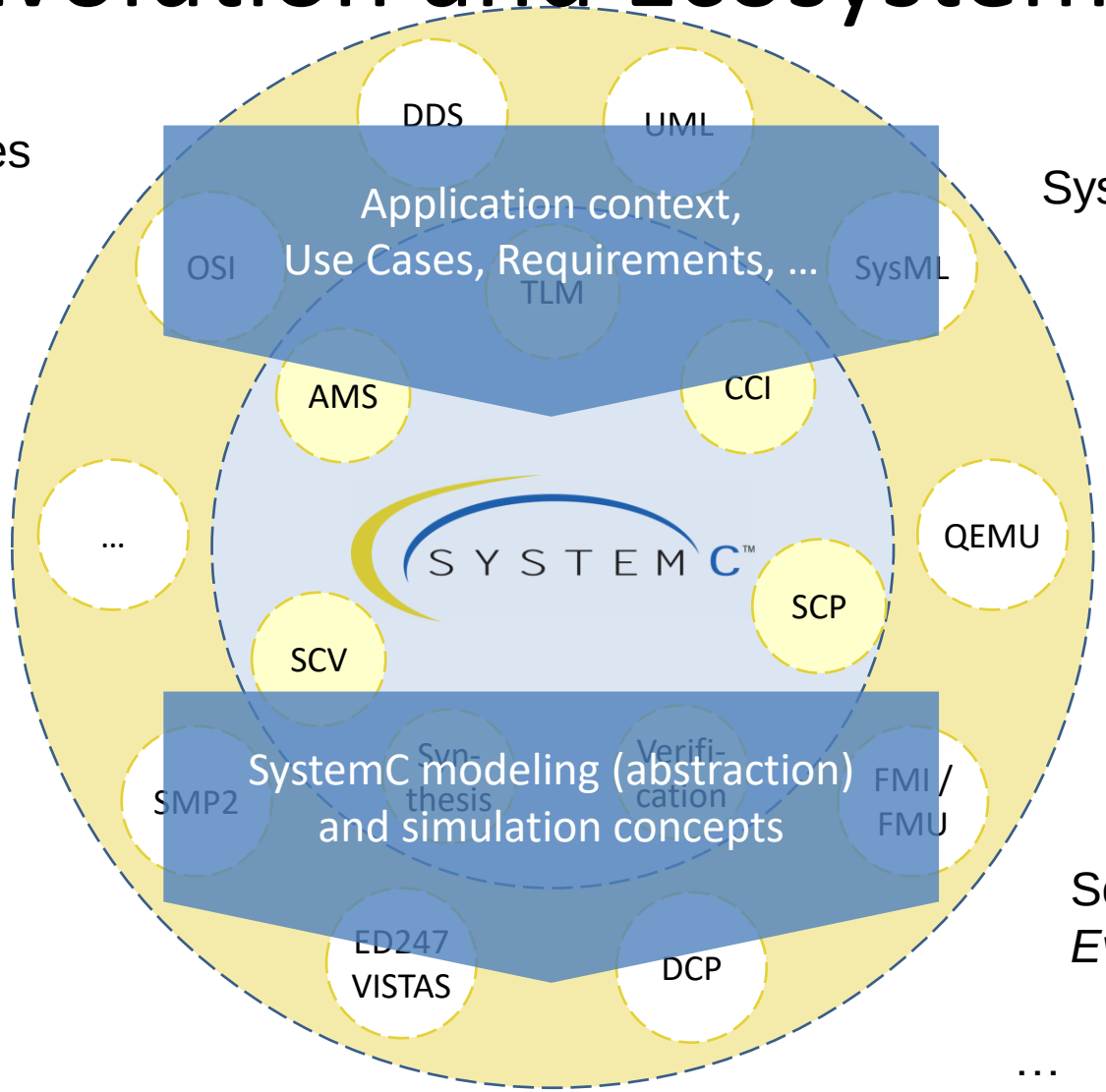

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Some SystemC evolution themes and questions…

- What will the (new) SystemC standard bring? … and what is still open?
- What should be added to SystemC to improve its usage and adoption for the next 10+ years?
- How do we increase the turnaround time of updates or fixes in the SystemC reference implementation or its associated libraries?

Some of these questions will be answered today…

Some ecosystem themes and questions…

- How to establish a tighter integration between SystemC and the SW development ecosystem (incl HW and OS Virtualization)?
- What is the role of SystemC in a Federated Simulation environment?
- How does SystemC fit in a modern product creation process following a Product Lifecycle Management (PLM) and/or Model Based Systems Engineering (MBSE) approach?
- Could / should SystemC be used in the creation of Digital Twins?

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Panel

- Theme: SystemC and Federated Simulation – Where do we go from here?
- Panelists
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- Moderator
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Logistics – Coffee and Lunch

- SystemC Event in **Forum 8**
- Coffee and Lunch served in **Foyer Forum 8** (in front of this room)