



SUPERAID

7

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 688101.

ICT Project No 688101

**SUPERAID7**

Stability Under Process Variability for Advanced Interconnects and Devices Beyond 7 nm Node

**D6.4: Final Version of SUPERAID7  
WWW including Restricted Section  
and including Material from the  
SUPERAID7 Workshop**

	Name	Organisation	Date
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## Abstract

The structure and contents of the SUPERAID7 WWW are described. The SUPERAID7 WWW aims at informing the public as well as at providing a means for exchange of information on different levels of confidentiality. Particular emphasis has been put on providing technical material to the public such as the presentation slides from the SUPERAID7 workshop held in September 2018.

## 1. Introduction

The address of the homepage of the SUPERAID7 WWW is [www.superaid7.eu](http://www.superaid7.eu). The webpage has been released in March 2016 and has been updated continuously. It will also be maintained after the end of the project and updates, such as for SUPERAID7 papers released after the end of the project, will be carried out.

The website contains a public section, a section for the partners, a section for the EC and the reviewers, and a section for the Industrial and Scientific Advisory Board (ISAB). Except for the public area, the sections are protected by accounts granting access to the respective authorized parties.

The technical implementation of the website is realized by a CQ5 content management system hosted by the central Fraunhofer IT services. This system provides state-of-the-art design and allows straightforward extensions or adaptations which might be needed with changing content.

## 2. Structure of SUPERAID7 WWW

The current sitemap of the SUPERAID7 WWW is shown in **Figure 1**.

### 2.1 Public Section

A screenshot of the homepage which is the entry point for the public sections is shown in **Figure 2**.

The public section is intended to display the goals and results of the project to the public. This is achieved for instance by providing the list of SUPERAID7 publications including the download links for them. Furthermore, the public deliverables are part of the public section. A further section is devoted to the partners' software tools being used in the SUPERAID7 software framework. The section "Events" informs about related events, for instance conferences with major involvement of one or more SUPERAID7 partners. Appealing teaser boxes on the homepage provide links to material displaying the goals and results of the project:

- Project flyer
- Presentation slides from the public workshop of SUPERAID7 held in September 2018 (see **Figure 3**)
- Paper from an invited presentation at the ECS spring meeting 2018
- Invited presentations at IEDM and SISPAD
- Link to the workshops at SISPAD 2016 which have been co-organized by SUPERAID7

## 2.2 Partners' Section

In the partners' section, material is provided which is intended for internal use within the consortium, such as presentations from partner meetings, information on papers in submission procedure, presentation or report templates, contact details of the project team members, etc.

## 2.3 Section for EC and Reviewers

This section contains the contractual documents (such as deliverables) and further official information to be shared between the consortium and the European Commission and reviewers.

## 2.4 Section for Industrial and Scientific Advisory Board (ISAB)

SUPERAID7 allowed selected companies and research institutes/universities to join the ISAB. Material from the project or the members of the ISAB is available in this section, such as deliverables for which the consortium agreed on releasing them to the ISAB.

<a href="#">HOME</a>
<a href="#">PROJECT INFORMATION</a> <span>^</span>
Work Packages
Partners
Publications
Software
<a href="#">EVENTS</a>
<a href="#">CONTACT</a>
<a href="#">PROTECTED SECTIONS</a> <span>^</span>
Partners Section <span>^</span>
Team
Meetings
Documents
EC Section <span>^</span>
DoA, Deliverables, Periodic Reports
Review Meetings
ISAB Section <span>^</span>
Contact Data
DoA, Deliverables, Periodic Reports

Figure 1: Sitemap of the SUPERAID7 WWW.

SUPERAID
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Stability Under Process Variability for Advanced Interconnects and Devices Beyond 7 nm Node

[→Fraunhofer-Gesellschaft](#)

[SITEMAP](#)

HOME
PROJECT INFORMATION ▾
EVENTS
CONTACT
PROTECTED SECTIONS ▾

## SUPERAID7 - Stability Under Process Variability for Advanced Interconnects and Devices Beyond 7 nm Node

Process variability is getting ever more critical for aggressively scale More Moore devices in nanoelectronics. Effects from various sources of variations influence each other and lead to variations of the electrical, thermal and mechanical behavior of devices, interconnects and circuits.

Modelling and simulation (TCAD) allows us to investigate the impact of process variations and trace their effects on subsequent process steps and on devices and circuits.

Within SUPERAID7 we therefore

- establish a software system for the simulation of the impact of systematic and statistical process variations on advanced More Moore devices and circuits, down to the 7 nm node and below, including interconnects,
- improve physical models and extend compact models,
- study advanced device architectures such as TriGate/ $\Omega$ Gate FETs or stacked nanowires, including alternative channel materials.

SUPERAID7 Flyer

[FLYER](#)

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[HORIZON 2020](#)

### Material from SUPERAID7 Workshop

Workshop "Process Variations from Equipment Effects to Circuit and Design Impacts" held in conjunction with ESSDERC 2018

We provide the presentations for download which allow you to get a good insight into the project results.

[PRESENTATIONS](#)

### Invited Presentation at ECS Spring Meeting 2018

J. Lorenz et al., Process Variability for Devices at and beyond the 7 nm Node

[MORE INFO](#)

### Presentation at IEDM 2017

S. Barraud et al., Performance and Design Considerations for Gate-All-around Stacked-NanoWires FETs

[MORE INFO](#)

### Plenary talk at SISPAD 2017

J.-C. Barbé et al., Stacked Nanowires/Nanosheets Gate-All-Around MOSFET from Technology to Design Enablement

[MORE INFO](#)

### Workshops at SISPAD 2016

The workshops "Simulation of Advanced Interconnects" and "Variability-Aware Design Technology Co-Optimization" were organized in cooperation with SUPERAID7.

[MORE INFO](#)

Figure 2: Screenshot of the SUPERAID7 homepage, status as of January 7, 2019.

The screenshot shows the SUPERAID7 website interface. At the top left, there is a logo for SUPERAID 7 and a brief description: "Stability Under Process Variability for Advanced Interconnects and Devices Beyond 7 nm Node". To the right of the logo is a search icon and a link to "Fraunhofer-Gesellschaft". Below the logo is a navigation menu with items: HOME, PROJECT INFORMATION, EVENTS, CONTACT, and PROTECTED SECTIONS. A "SITEMAP" link is also visible in the top right corner.

The main content area features a breadcrumb trail: "Homepage > Events > Workshop at ESSDERC 2018". Below this is a large heading: "Workshop at ESSDERC 2018".

The central part of the page contains a list of workshop presentations, each with a title, date, and a download link:

- SUPERAID7 Workshop: "Process Variations from Equipment Effects to Circuit and Design Impacts"**  
Dresden, September 3, 2018  
[Welcome and orientation](#)  
J. Lorenz, Fraunhofer IISB
- [Process variability and the SUPERAID7 approach](#)  
J. Lorenz, Fraunhofer IISB
- [Statistical variability analysis in 28 nm UTBB FDSOI devices](#)  
A. Juge, STMicroelectronics
- [Variability-aware topography simulation](#)  
E. Bär, Fraunhofer IISB
- [Physical models for nanowire device simulation](#)  
V. Georgiev, University of Glasgow
- [Simulation of nanoscale interconnects](#)  
L. Filipovic, TU Wien
- [Variability-aware simulation of nanoscale devices](#)  
A. Asenov, V. Georgiev, University of Glasgow
- [LETI-NSP: advanced compact models for nanowire devices](#)  
O. Rozeau, CEA/Leti
- [Simulation tools for DTCO of advanced technology nodes](#)  
C. Millar, Synopsys
- [3D devices: experiments and simulation](#)  
S. Barraud, CEA/Leti
- [Summary](#)  
J. Lorenz, Fraunhofer IISB

Figure 3: Screenshot of page with download links for the presentation slides of the public SUPERAID7 workshop on September 3, 2018.