



The SERENA project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 779305.



SERENA H2020 PROJECT:

Coordinator

Technikon Forschungs- und Planungsgesellschaft mbH

coordination@serena-h2020.eu

gan-on-Silicon Efficient mm-wave euROpean systEm iNtegration plAtform

General Project Information

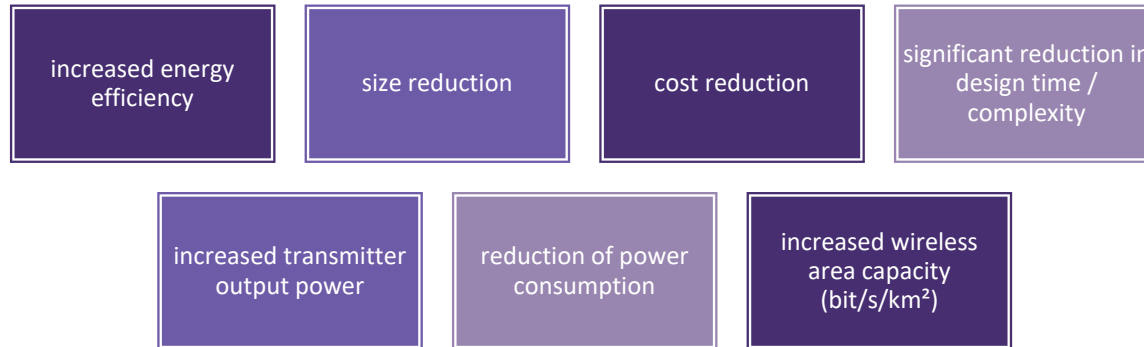
- Project reference: **779305**
- Project start: **1st January 2018**
- Duration: **3 years**
- Total costs/EC contribution: **EUR 3.910.185,00**
- **9 partners** from **5 different European countries**
 - ◆ 3 SMEs, 2 research organizations, 2 industrial partners, 2 universities
- Website: www.serena-2020.eu

Mission

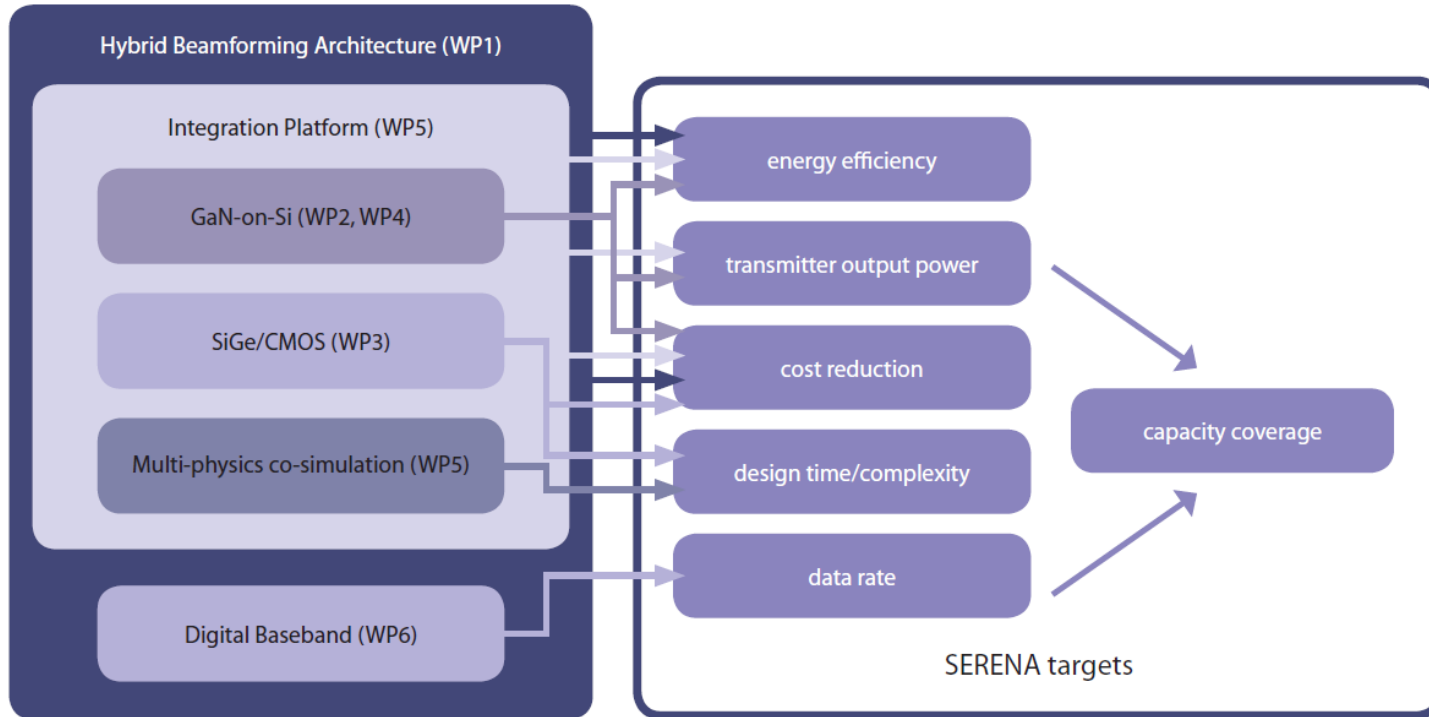
- Extend the limits of mainstream semiconductor technologies by developing a **low-cost and high-performance (high-power and high-efficiency)** hybrid **integration platform** for mm-wave systems
- Develop a GaN-on-Silicon **cost-and power efficient** mm-wave **beam-steering system** as a **proof-of-concept** for future key markets (**mm-wave 5G communication systems** and **radars for autonomous vehicles**)

Project Goals

- **High-power and high-efficiency** is enabled by advanced **GaN-on-Si** technology offering unprecedented efficiency and output power 10 times more than SiGe/CMOS.
- Compared with the state-of-the-art the **SERENA architecture and platform** will bring the following system level advancements:



WP interaction



Impact

To reach SERENA's goals:

- ◆ a system architecture and technology platform by using an **integrated approach** will be developed,
- ◆ advancements in **hybrid analogue/digital mm-wave-beam steering system architectures** with a completely **European based semiconductor supply chain** will be combined, and
- ◆ the project team will foster an **inter-disciplinary design approach** with a strong emphasis on **multi-physics simulations** and predictive co-design to show the unique capabilities of the project.

Project Partners



TECHNIKON

TEC - Technikon Forschungs- und Planungsgesellschaft mbH (Villach, Austria)



ERICSSON

EAB – Ericsson AB (Göteborg, Sweden)



infineon

IFAT – Infineon Technologies Austria AG (Villach, Austria)



EPIGAN

EPIGAN – EpiGaN nv (Hasselt, Belgium)



OMMIC
innovating with III-V'S

OMMIC – Ommic SAS (Limeil-Brévannes, France)



FOI

FOI – Totalförsvarets Forskningsinstitut (Linköping, Sweden)



Fraunhofer
IZM

FHG – Fraunhofer Gesellschaft zur Förderung der Angewandten Forschung e.V. (Berlin, Germany)



CHALMERS

CHALMERS – Chalmers Tekniska Högskola AB (Göteborg, Sweden)



Technische
Universität
Berlin

TUB – Technische Universität Berlin (Berlin, Germany)

Contacts

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