

DECEMBER 29, 2023

SHIFT Newsletter No.2

News on Sustainable Technologies Enabling Future Telecom Applications



DESCRIPTION OF SHIFT PROJECT'S CONTEXT AND OBJECTIVES

By SHIFT Consortium

The emergence of Beyond-5G/6G mobile networks shows the growing need for faster devices that combine greater transmission power with greater energy efficiency. Satellite telecommunications and Earth observation networks follow the same trend. To address this, the introduction and development of such devices require technologies capable of supporting them.

The EU-funded SHIFT project plans to introduce new semiconductor technologies that will help develop the devices required by Beyond 5G/6G telecommunication standards. To this end, the project aims to develop and industrialize next-generation semiconductor technologies (Silicon germanium (SiGe) Bipolar and CMOS transistors (BiCMOS) for STMicroelectronics, radio frequency (RF) Gallium Nitride (GaN) for United Monolithic Semiconductors – UMS) and the associated integrated circuit design and characterisation environments. The partners of the project design innovative analog and digital RF integrated circuits using the technologies developed and integrate them as Front-End Modules (FEM) of innovative telecommunications system demonstrators. The project also explores new assembly techniques that can solve radio frequency signal integrity and heat dissipation issues, or simplify RF systems. [continued in page 2]

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NEWSLETTER NO.2



Newsletter Highlights

Description of SHIFT Project's Context and Objectives

SHIFT's 1st General Assembly Hosted by SIAE MICROELETTRONICA

SHIFT's Project Booth at Chips JU Launch Event

SHIFT and ESSENCE-6G Clustering Activities



Co-funded by the European Union



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DESCRIPTION OF SHIFT PROJECT'S CONTEXT AND OBJECTIVES (CONTINUED)

By SHIFT Consortium



**SUSTAINABLE TECHNOLOGIES
ENABLING FUTURE TELECOM
APPLICATIONS**

Demonstrators of innovative telecommunications systems will be developed (9 demonstrators by NOKIA, STMicroelectronics, SAFRAN, SIAE Microelettronica, and other partners) to validate new semiconductor and assembly technologies on use cases envisaged for wireless Beyond-5G/6G networks (more particularly for network access and network trunks), very high-speed optical networks, Earth observation, and satellite telecommunications.

The SHIFT consortium brings together 43 partners covering the entire value chain of these telecommunications applications, from laboratories to manufacturers, thus guaranteeing the highest scientific level and the possibility of validating the work carried out on suitable demonstrators. Activities include environmental and economic impact assessments.

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SHIFT COMMUNICATION NEWS

SHIFT'S FIRST GENERAL ASSEMBLY IN ITALY

The first General Assembly Meeting of the SHIFT project took place in Cologno Monese, Italy, hosted by SIAE Microelettronica. Project's Coordinator Pierre-Jerome Goirand, representing ST Microelectronics, led discussions on the project's overall status.

The meeting featured insightful presentations from Work Package Leaders, who shared their respective insights and progress within their designated domains. These presentations not only showcased the diverse expertise within the project but also fostered a collaborative environment conducive to innovation.

In a parallel arrangement, working groups engaged in dedicated sessions, delving into specific aspects of the project. These parallel sessions allowed for a more nuanced exploration of key themes and facilitate targeted discussions among participants. The collective expertise brought to these sessions promises to catalyze advancements in specific areas, contributing to the overall success of the SHIFT project.



SHIFT COMMUNICATION NEWS



SHIFT PROJECT BOOTH AT THE WALK OF FAME EXHIBITION CHIPS JU LAUNCH EVENT

On the 30th of November and the 1st of December 2023, over 800 experts, opinion leaders, decision-makers, and innovators gathered in Brussels for the Chips JU Launch Event titled "Chips for Europe". During this pivotal event, the SHIFT project was presented to all attendees with a project booth at the Walk of Fame Exhibition.

Leaders in the electronic components and systems sector, MEPs, CEOs, CTOs, SME representatives, RTOs, and high-level public authority figures visited the SHIFT booth and learned about its key ambitions. The SHIFT video was displayed alongside SHIFT's poster, leaflets, and even SHIFT brand chocolates.

Photo by Simon Pugh Photography



COLLABORATIVE EFFORTS BOOST EUROPEAN INFLUENCE IN 6G D-BAND TECHNOLOGY

CLUSTERING ACTIVITIES OF SHIFT AND ESSENCE-6G

In a bid to amplify the influence of emerging technologies, the SHIFT team has embarked on a comprehensive dialogue and collaborative initiatives with the ESSENCE-6GM, a German national-funded project addressing similar technical and physical challenges in the realm of developing technologies.

The two consortia have outlined plans for a series of outreach and clustering actions, ecosystem-building activities, and information exchange sessions. The primary objective is to facilitate a mutual learning experience, exploit synergies, and broaden their impact on the technological landscape.

This collaborative effort, suitably named as a clustering activity, is well-positioned to enhance coordination and support European influence in the areas of 6G D-Band communication and sensing. With their combined expertise and shared vision, these two teams are paving the way for a more impactful technological future.

Collaborative Efforts Boost European Influence in 6G D-Band Technology

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ChipsJU

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