

NEDO's R & D on Advanced Chiplet-Based SoC passed Stage Gate Examination

Advanced SoC Research for Automotive/ASRA, which conducts research on high-performance digital semiconductors (System on a Chip/SoC)^{*1} for in-vehicle applications, is pleased to announce that its “R & D on Advanced Chiplet-Based SoC”^{*2} in “the Post 5G Information and Communications System Infrastructure Enhancement Research and Development Project / Advanced Semiconductor Manufacturing Technology Development (commissioned)” of the New Energy and Industrial Technology Development Organization (Hereinafter, NEDO) has passed Stage Gate Examination.

The “R & D on Advanced Chiplet-Based SoC” was adopted as NEDO's Next Generation Semiconductor Design Technology Development in March 24 to conduct R & D on in-vehicle Chiplet-Based SoC technologies with the aim of realizing high-performance in-vehicle computers that support the further advancement of intelligence and electrification in automobiles. As a result, the requirements for a Chiplet-Based SoC have been defined based on the specifications required for future in-vehicle applications, and the technical issues to be addressed and the development plan have been derived. As a result of NEDO's Stage Gate examination, the feasibility of the plan has been evaluated, and a budget increase of up to 41 billion yen has been approved for the next stage.

In the future, based on the established specifications, ASRA will aim to conduct prototypes to verify the structure of an in-vehicle Chiplet-Based SoC and die-to-die communications, as well as international standardization of in-vehicle chiplet communications specifications.

ASRA will work on R & D to establish the elemental technologies necessary for the in-vehicle application of chiplet technologies by working on international standardization through technical cooperation with related companies in Japan and overseas, based on a joint research system connecting automotive manufacturers, Tier1 suppliers, and SoC/EDA^{*3} vendors in the semiconductor industry. The participating companies will make further efforts to lead to mass production of automotive Advanced Chiplet-Based SoC.

^{*1} A semiconductor that integrates multiple functions, such as computation, processing, and storage, required to execute a system.

^{*2} Technology used in advanced SoCs. Compared to conventional technology that integrates multiple functions on a single chip, combining small chips divided by function into a single SoC chip increases the expandability of functions.

^{*3} EDA: Electronic Design Automation, software or hardware for automating semiconductor design

Outline of Selected Projects : the Ministry of Economy, Trade and Industry website
https://www.meti.go.jp/policy/mono_info_service/joho/post5g/20250225.html

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