

Mixed-Signal Automation

Automated Analog Design

Modern business models in the world of integrated circuit (IC) design offer excellent scalability with a high degree of automation and reusability, as impressively demonstrated in the area of digital design. Analog design, by contrast, still suffers from a very low level of automation, resulting in long development times and relatively low reusability, coupled with high design risk and development costs. Such challenges are increasingly aggravated by growing system complexity and ever-smaller technology nodes.

Fraunhofer IIS/EAS therefore supports you with solutions to enable greater automation in analog design. Among other things, we've developed an approach using Intelligent IP (IIP) that automates typical analog basic circuits in a user-friendly manner, thereby speeding up the design process. We also automate design steps on an individual basis in line with customer requests.

Our Services

- Advisory service on design and automation tools in analog and mixed analog/digital IC design
- Evaluations and feasibility analyses of automation solutions, including rapid prototype development
- Licensing and development of PDK-agnostic generators for automated circuit and layout generation
- Provision of our Intelligent IP methodology for your in-house generator development
- Integration of customer-specific automation tools into your design environment

Added Value for you

- Increased design efficiency
- Minimization of design risks
- Overarching design flows and advice on everything from specification to layout
- IIP as a tried-and-tested automation solution
 - User-friendly and flow-compatible approach
 - Automation of typical analog basic circuits and customer-specific tasks
 - Reuse of circuits across different PDKs and projects
 - Automation of hierarchical circuits

More Information



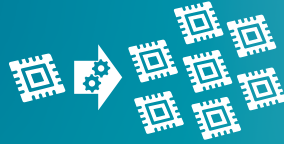
Part of

Standardized Automation

For Common Building Blocks

**Reusable Analog IP**

By Our Reuse Flow

**Custom Analog Automation**

According to Your Specification



Your Challenge is Automated by Us
or
 You Automate Yourself by Using Our
 Technology

IIP Framework and Flow Integration as Basis

(With Support for CAD and PDK Setups)

Our analog automation offerings that reduce your development risks and help save time and money.

What we offer you

Our portfolio of services for automated analog design includes the development of software and scripts for recurring and/or error-prone design steps, in particular for the Cadence Virtuoso® design environment. In addition, we develop application-oriented and automated design flows, from schematic entry to simulation and layout automation. Our services are applicable to technologies ranging from 350 nm to 22 nm, as well as FinFET technologies from various foundries. We also offer cross-project automation, design porting, and design migration. When it comes to selecting suitable automation methods and design tools, our focus is on cost, benefit, and usability for our customers.

The IIP Approach

Intelligent IP provides a completely flow-compatible approach to analog automation. This method speeds up the design process, boosts design safety, and facilitates the reuse of circuits across projects and technologies. It can even be used to automate entire hierarchical circuits if this proves to be economically viable – e.g., in test structures or frequently used circuit components from product families.

IP Reuse with Intelligent IP

Intelligent IP allows you to reuse IP. Create your own PDK-agnostic generators from your circuits at the touch of a button and use them in other projects for other dimensioning variants, PDK flavors, or target technologies.

You can do so using IIP generators right from the schematic entry stage – and will receive your parameterized circuit automatically. Our layout methods also result in an initial LVS-clean layout for rapid initial inspection.

At the same time, our approach is fully compatible with the customary design flow – and you can adapt or expand the resulting design data as usual without having to prepare any program code, although you can also do so if you wish. Intelligent IP allows you to boost design efficiency at the push of a button thanks to user-friendly and technology-independent automation.

Contact

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