# A means against the "loss" of proprietary process nodes? Evaluation of OpenPDKs and OpenSource Design Tools

# Not quite a WP1 proposal (yet?)

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# OpenSource? OpenPDKs?

Issue:

▸ We use "large" and somewhat exotic process nodes that are constantly in danger of becoming unavailable (change of ownership, foundry oversubscribed or going bankrupt)

▸ Due to proprietary processes and PDKs, we cannot just transfer our designs to alternative processes/foundries

Solution/Proposal:

▸ Use OpenSource!

  ▸ If the PDK (and ideally the process) is OpenSource, other foundries could step in and offer to process our ASICs

  ▸ The usage of OpenSource chip design tools would save cost and allow for commercial spin-offs without Cadence license fees

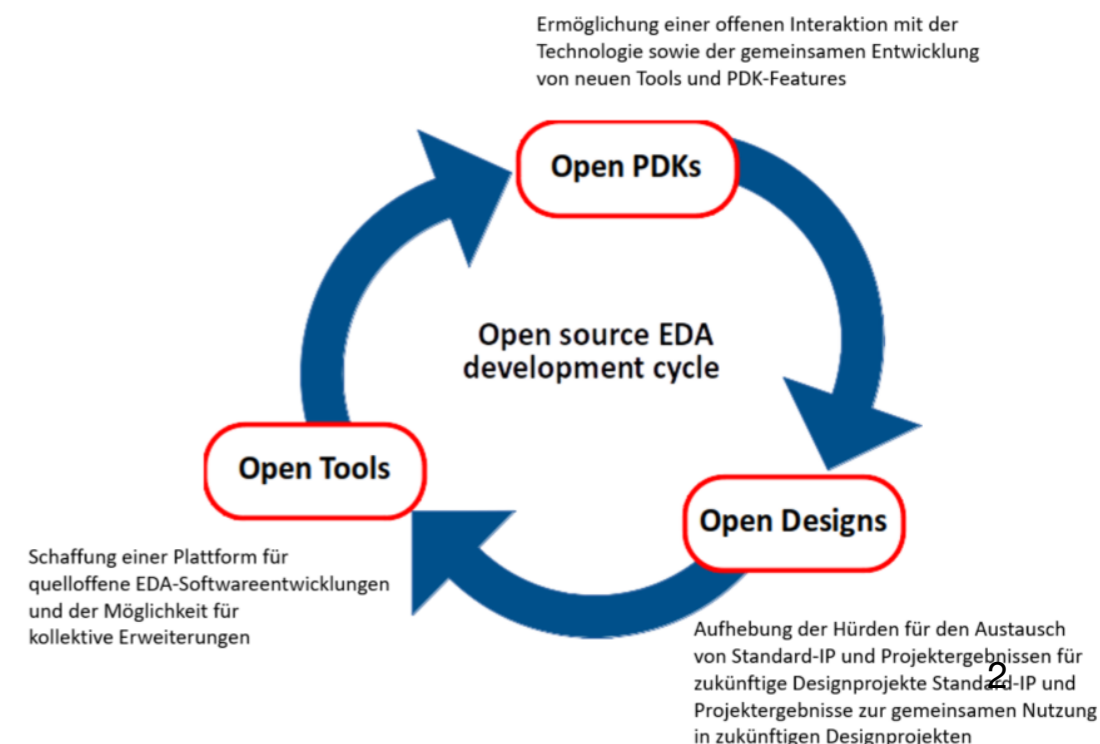**Disclaimer**: This activity doesn't really fit into the scheme of proposals we've heard today

Google
+ skywater TECHNOLOGY

**FOSS 130nm Production PDK**
github.com/google/skywater-pdk

IHP-GmbH/**IHP-Open-PDK**
ihp

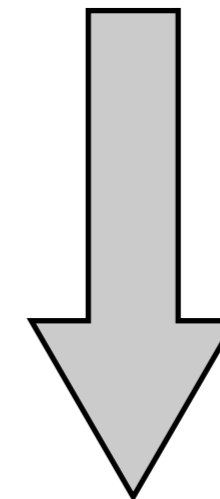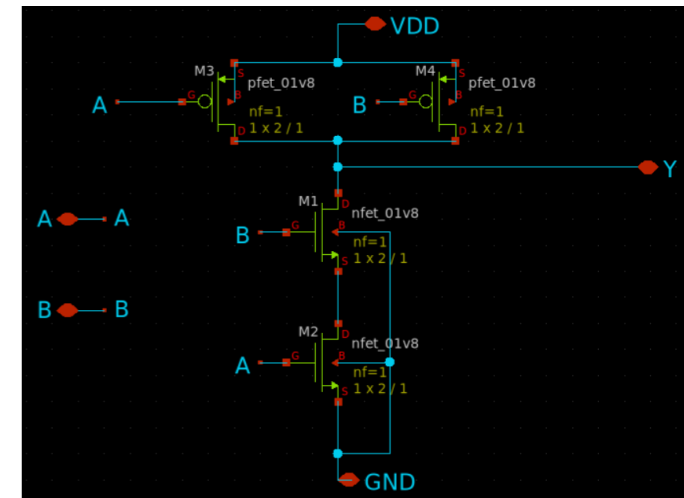130nm BiCMOS Open Source PDK, dedicated for Analog, Mixed Signal and RF Design

| 👥 12 | ⊙ 23 | 💬 4 | ☆ 317 | ⑂ 43 | |
| Contributors | Issues | Discussions | Stars | Forks | |

Ermöglichung einer offenen Interaktion mit der Technologie sowie der gemeinsamen Entwicklung von neuen Tools und PDK-Features

**Open PDKs**

Open source EDA development cycle

**Open Tools**

**Open Designs**

Schaffung einer Plattform für quelloffene EDA-Softwareentwicklungen und der Möglichkeit für kollektive Erweiterungen

Aufhebung der Hürden für den Austausch von Standard-IP und Projektergebnissen für zukünftige Designprojekte Standard-IP und Projektergebnisse zur gemeinsamen Nutzung in zukünftigen Designprojekten

# OpenSource!
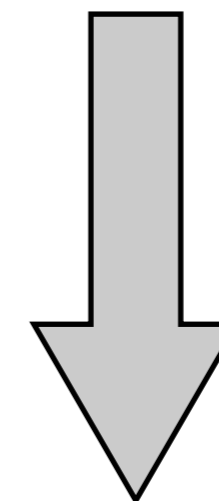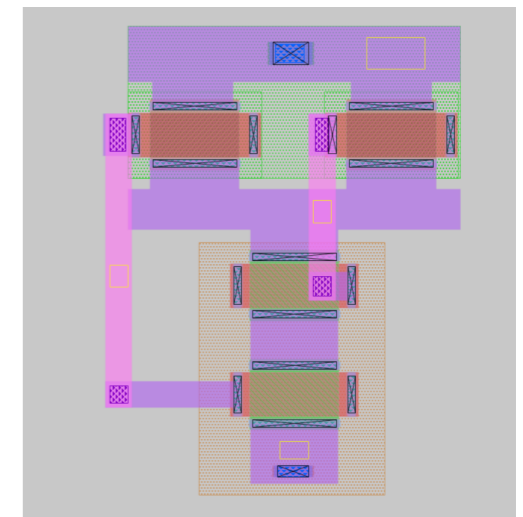
How to start?

▸ Evaluate OpenPDKs: Are the OpenPDKs (and the underlying processes) actually equal to their proprietary counterparts?

  ▸ SkyWater 130nm

  ▸ IHP 130nm SiGe

  ▸ …

▸ Evaluate Open-Source-EDA Tools

  ▸ How to replace Cadence for Mixed Signal chips? Is this desireable?

▸ First steps:

  ▸ Design a simple analogue test chip, submit it via MPW/Tinytapeout, see whether it works

  ▸ Re-submit a known chip with the OpenPDK and see whether it works

Schematic



Layout



Tapeout



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