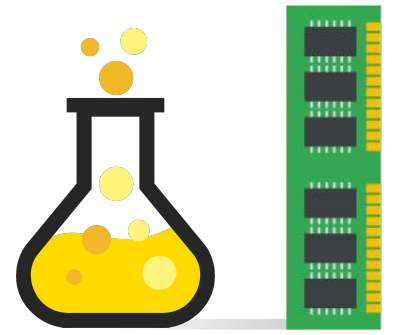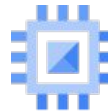**Google** Cloud

Accelerate Silicon Research

Instantly make your researchers more productive by scaling experiments in Google Cloud. Tune your design with ML-driven exploration.

Research is an extremely important part of maintaining your competitive advantage in the silicon space.

RAD Lab module for Silicon design is a cloud native research, development, and prototyping platform providing you with **secure and collaborative environments** to **optimize all the layers of silicon research:** ranging from basic physics for new materials, to high level architecture designs.

Converge toward the **best design**	
Post layout simulation	**Electromagnetics simulation**
ASIC flow	**Photonics flow**
Standard cell optimizations	**Mode solvers**
Mixed signal, analog and digital designs	**Procedural design generators**

Start from a wide area of **experiment templates**

Hyperparameter tuning with Vertex AI Vizier

Using RAD Lab module for Silicon Design, we ran **thousands of concurrent experiments** to explore the area and density parameter space **for a RISC-V core design**.

Between each batch of experiments we reported the estimated total power consumption, allowing **Vertex AI Vizier** to suggest new parameters that **quickly converge toward the best power metrics** for this design.
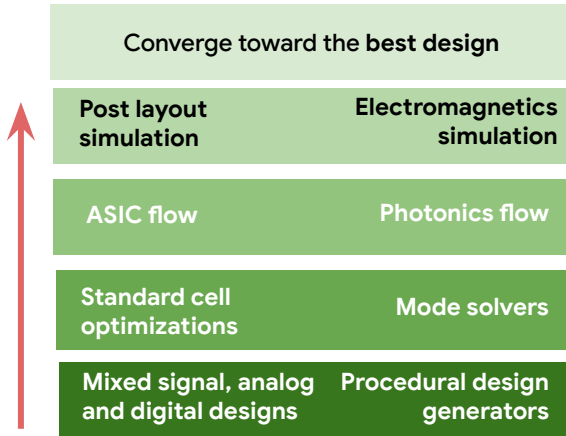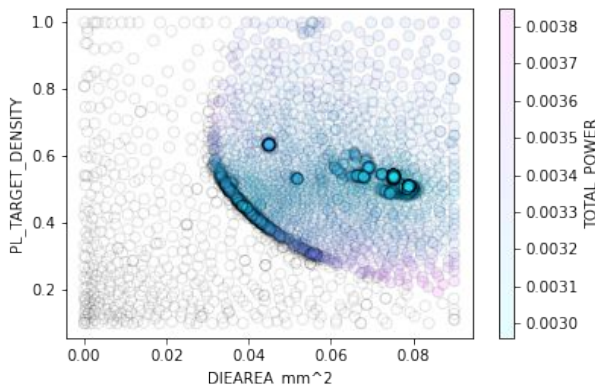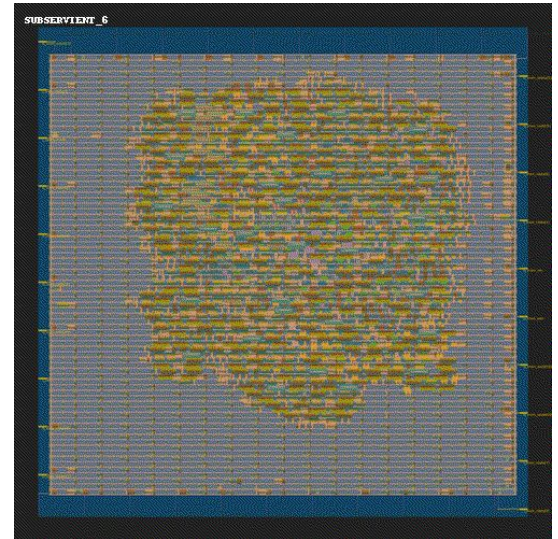
RAD Lab module for Silicon design comes **pre-provisioned** with open source EDA tools and PDKs **optimized for Google Cloud.**

Store your experiments on **Google Cloud Storage** to **develop**, version and share **a catalog of reusable design blocks**.

Automatically tune your experiments parameters with **Vertex AI Vizier** to optimize the **performance, power and area** metrics of your design

✅ Innovate in **Perf, Power, Area** optimization

✅ Accelerate **Time-to-Market**

✅ Optimize **Cost** while scaling on demand

✅ Share **Reproducible Research** results