

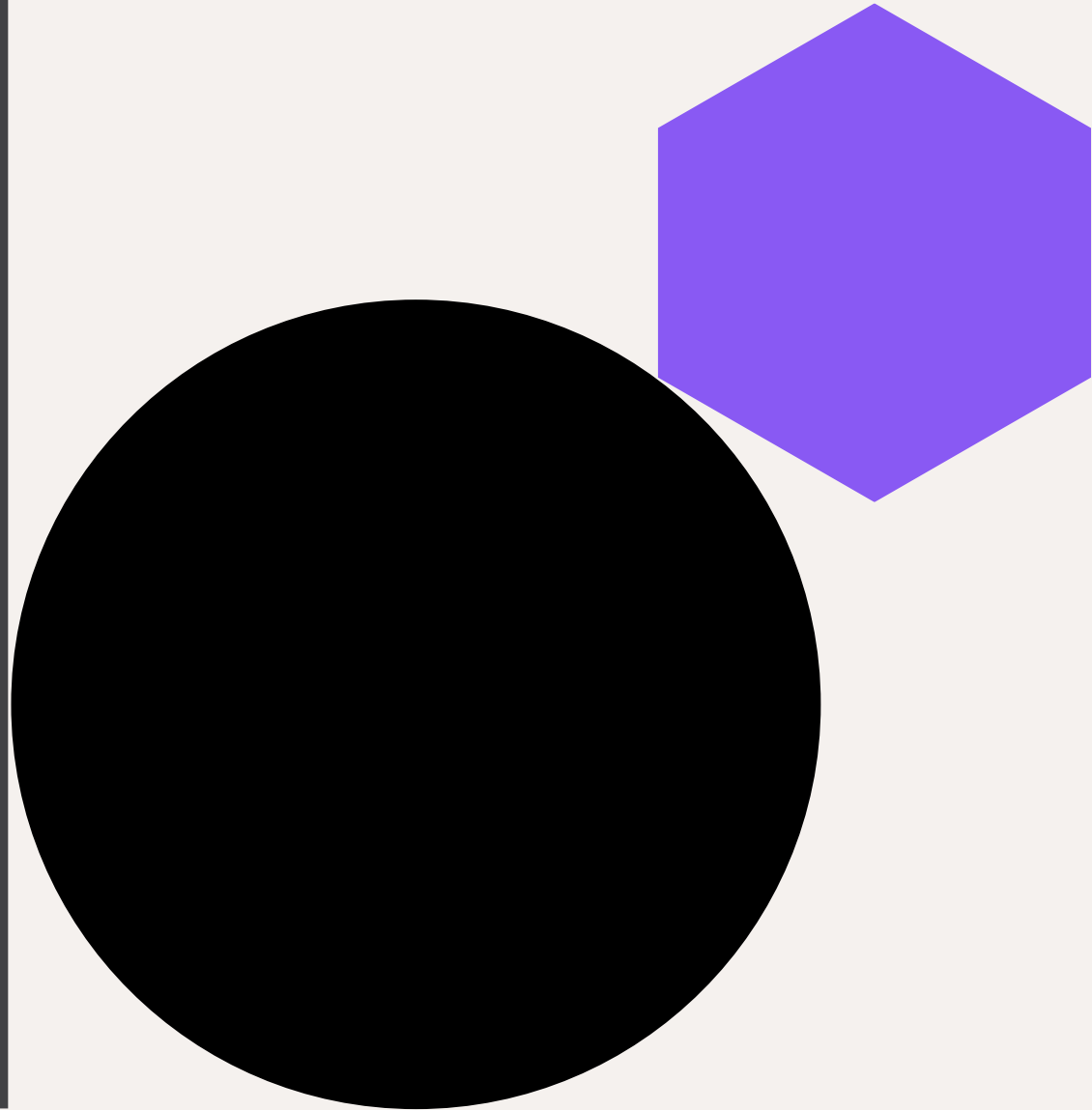


Solving the RISC-V puzzle

Optimal performance with zero risk

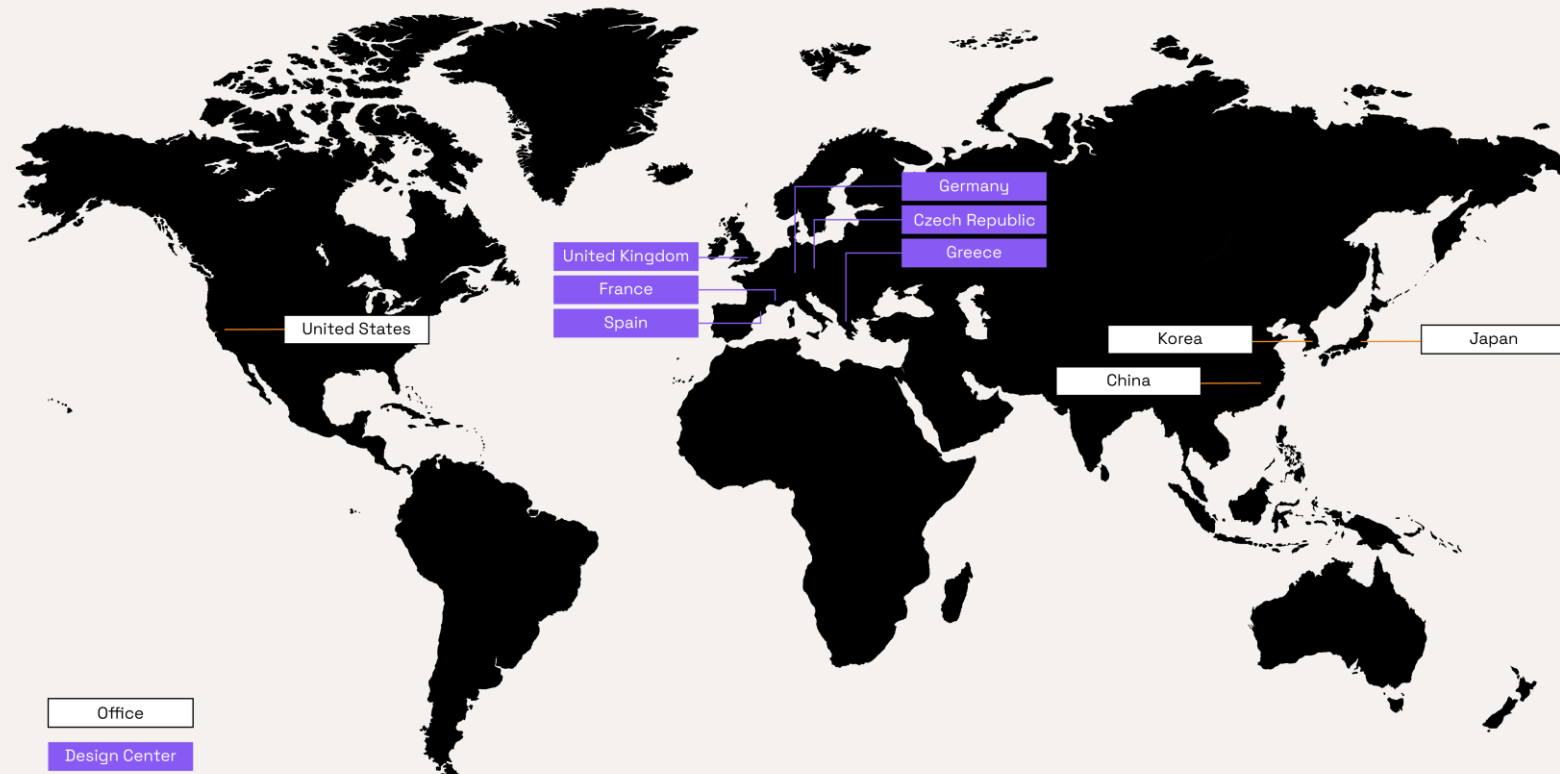
Ron Black

RISC-V Summit Europe 2024 keynote



→ This is Codasip

- Founded in 2014
- HQ in Munich
- ~250 employees
- All design teams in Europe
-  founding member
- Enabling Custom Compute



→ What's new?

Codasip Studio Fusion introduces unique processor design and verification features for unparalleled productivity

- Improved software development tools
- Adds levels of customization



**Codasip
Studio**

Codasip L110 delivers best-in-class performance for small-area and low-power applications

- 50% higher performance per watt *
- 20% smaller code size*
- Easy and quick to customize and verify



**Codasip
RISC-V Processors**

*compared to similar cores on the market

Codasip's "tools first" business model has proven to have legs, and, arguably, the company is more attractive today than other RISC-V IP rivals(...)

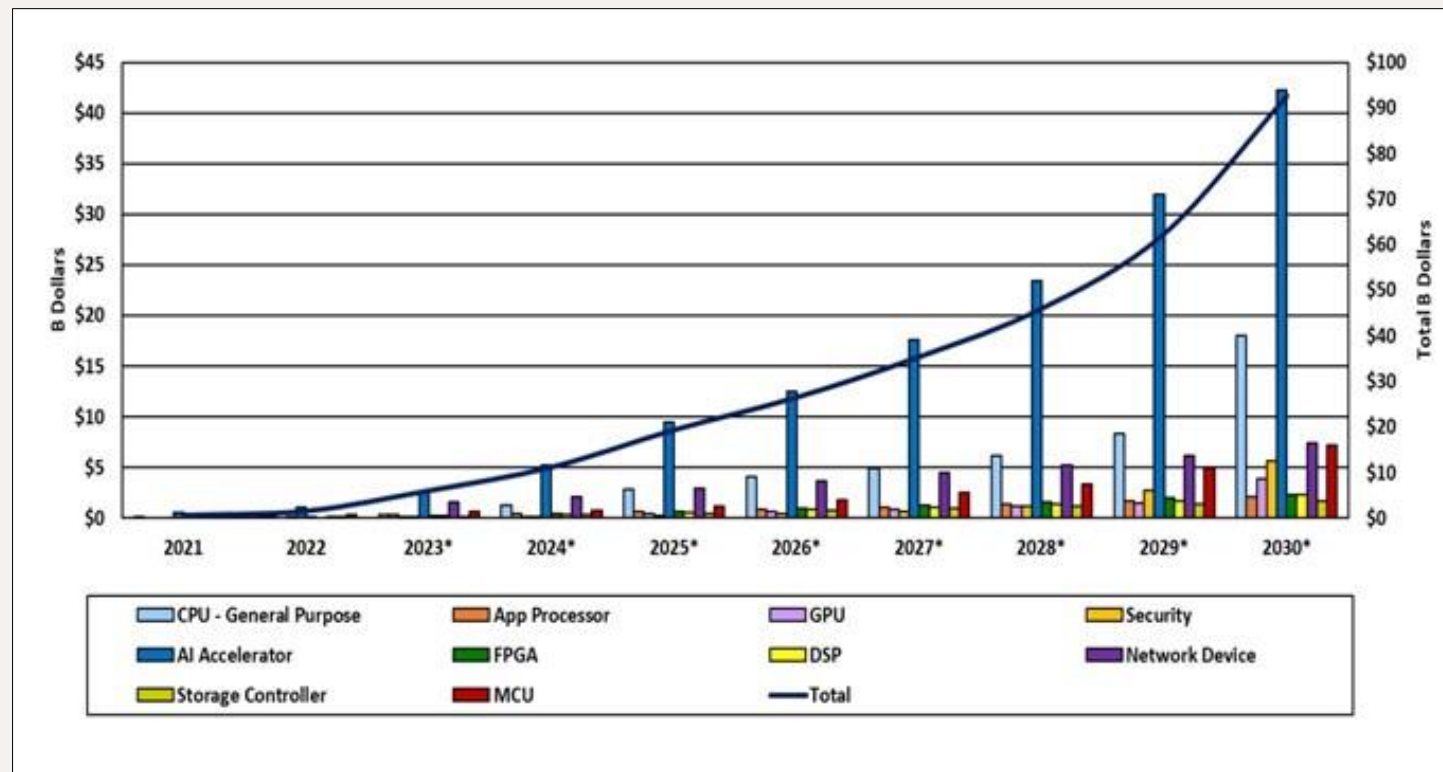
The ability to customize within boundaries should both de-risk and speed up core development.

Jon Peddie Research, June 2024

→ The power of RISC-V

Omdia May 2024:

- 17 billion RISC-V processors shipped in 2030
- RISC-V processors in automotive applications to increase in volume by 66% annually



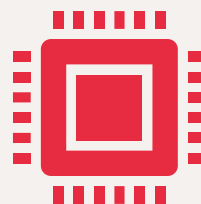
SDH Group: 2024 RISC-V Market Analysis Report

→ RISC-V weak points ...up until now



Performance

HW/SW co-optimization raises the bar for application-specific performance



Number of designs

Custom Compute makes up for the gap through rapid creation of application-specific designs

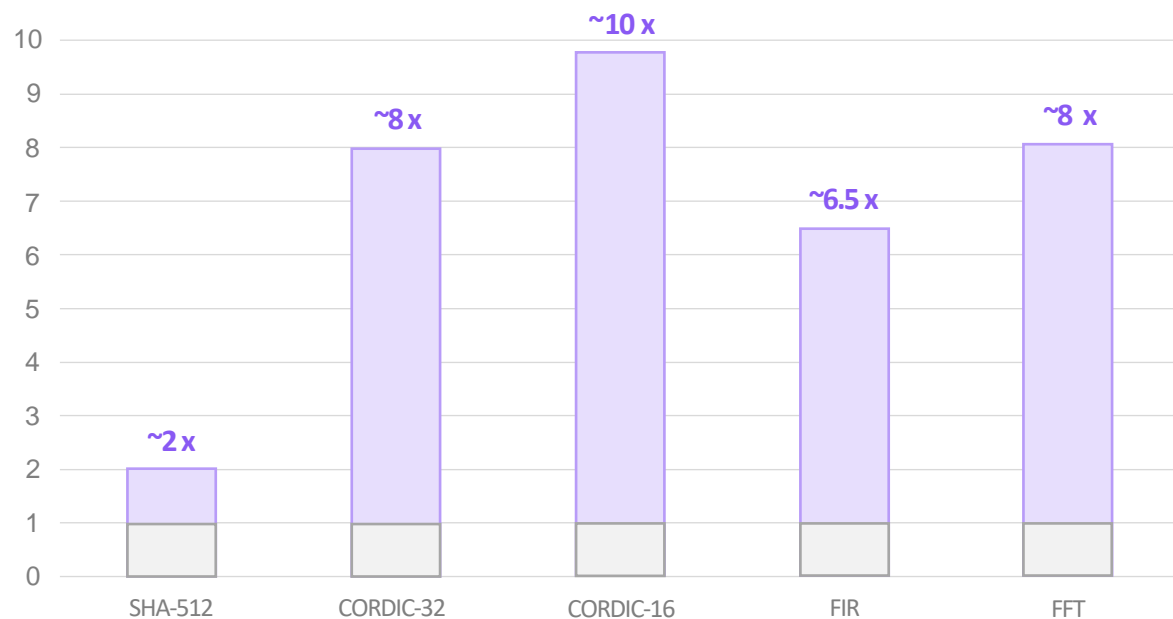


Quality

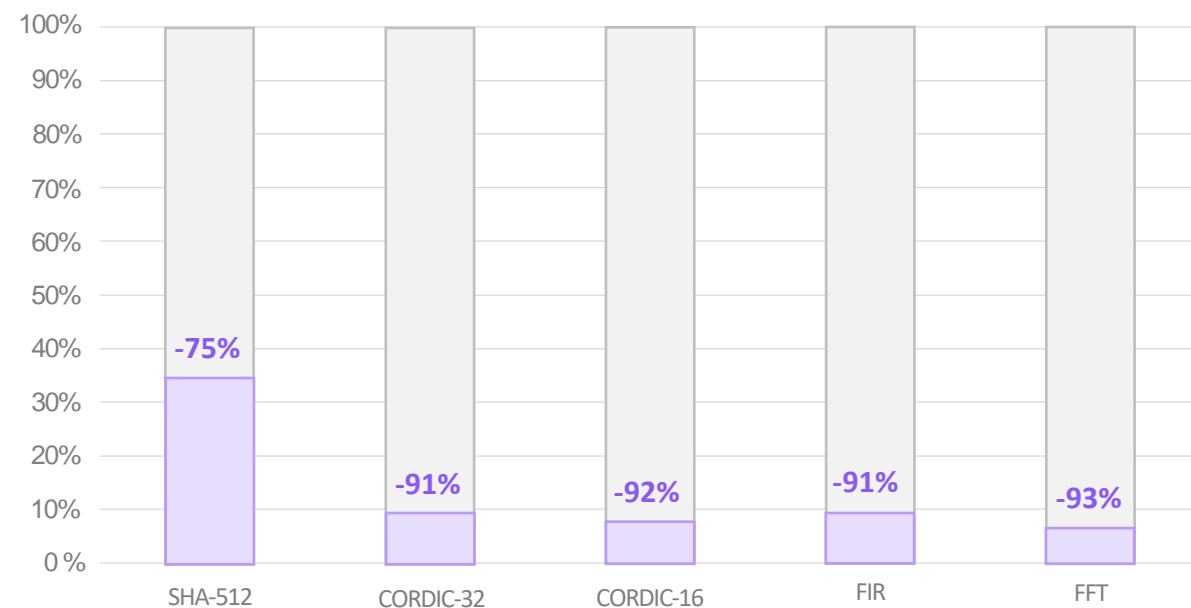
Bounded Customization shortens time-to-market for fully verified custom cores

→ Custom Compute brings unmatched benefits

Performance Density Increase



Energy Consumption Reduction

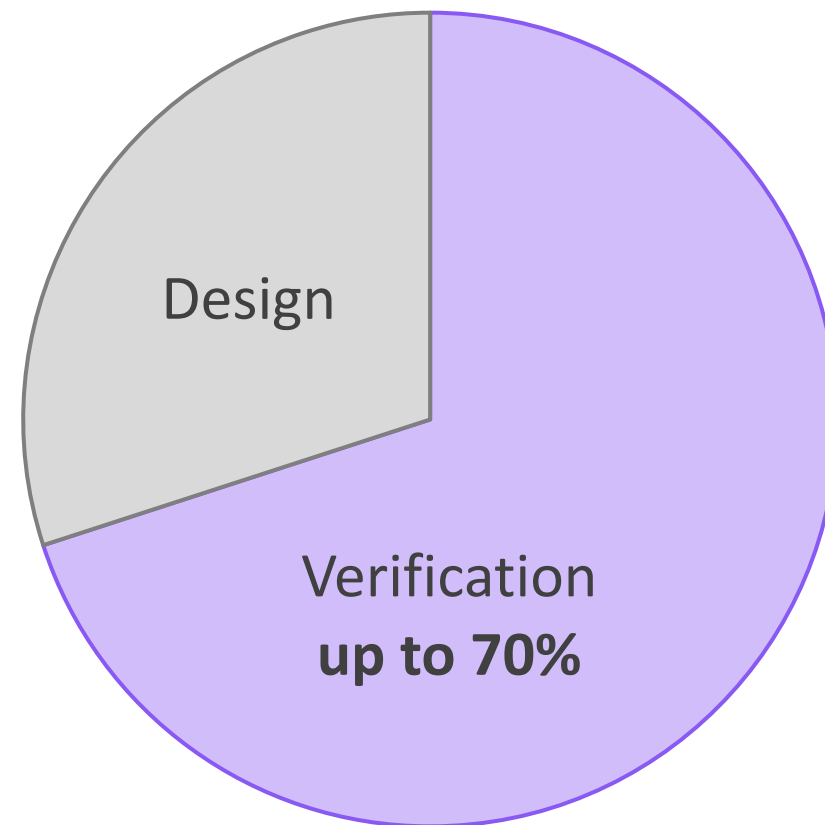
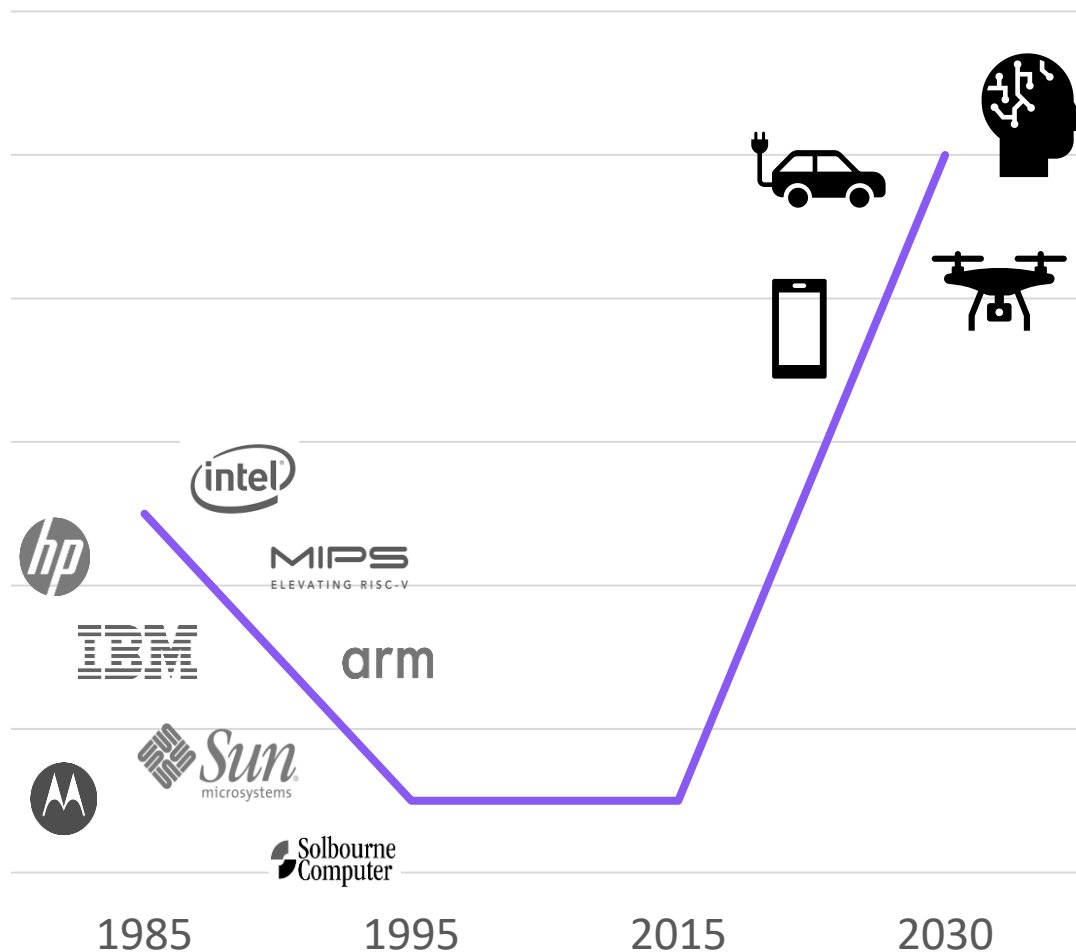


Baseline RISC-V processor

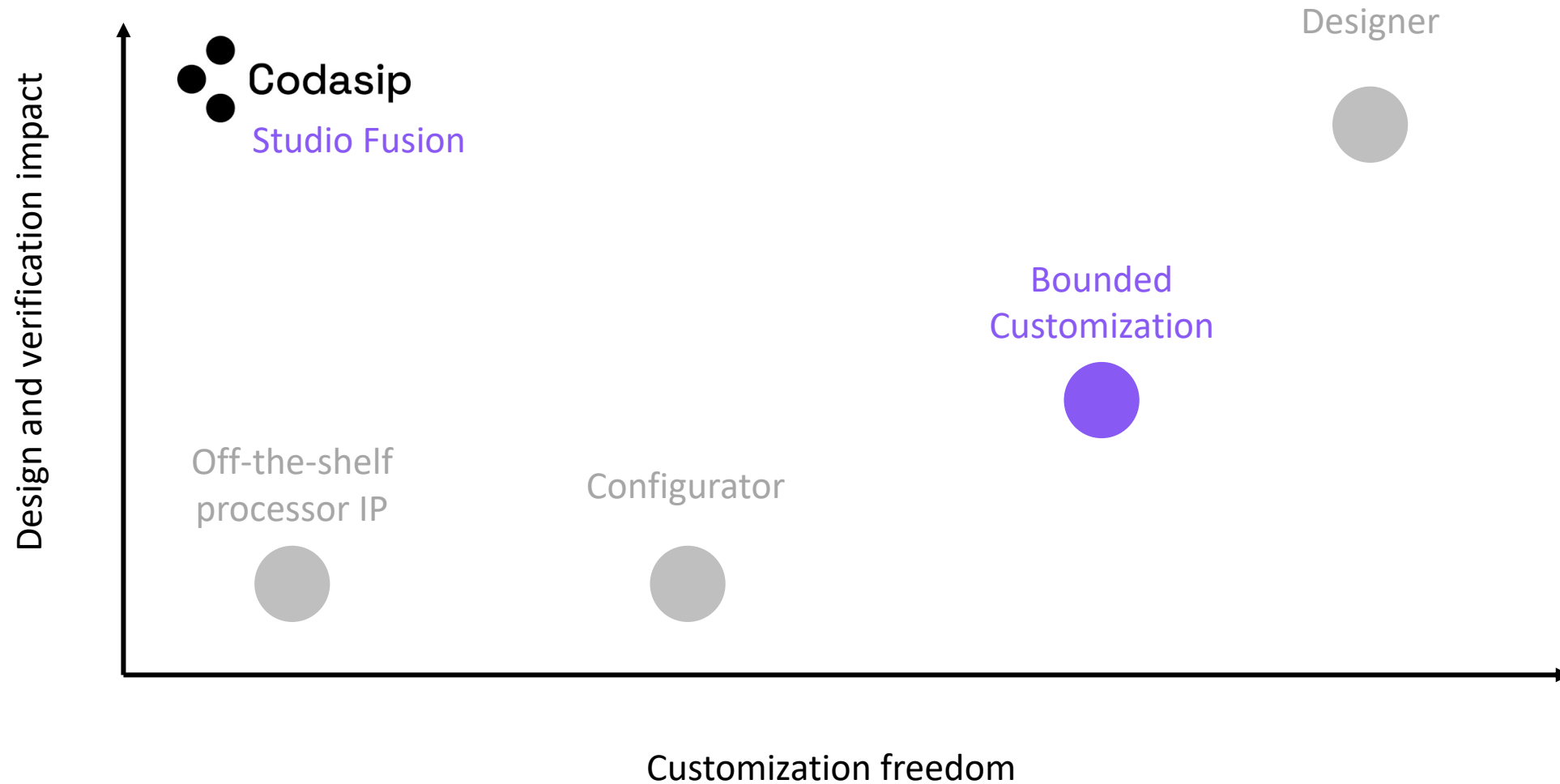
Customized RISC-V processor

→ Processor talent is rare

Which is why automation (edA) is so important

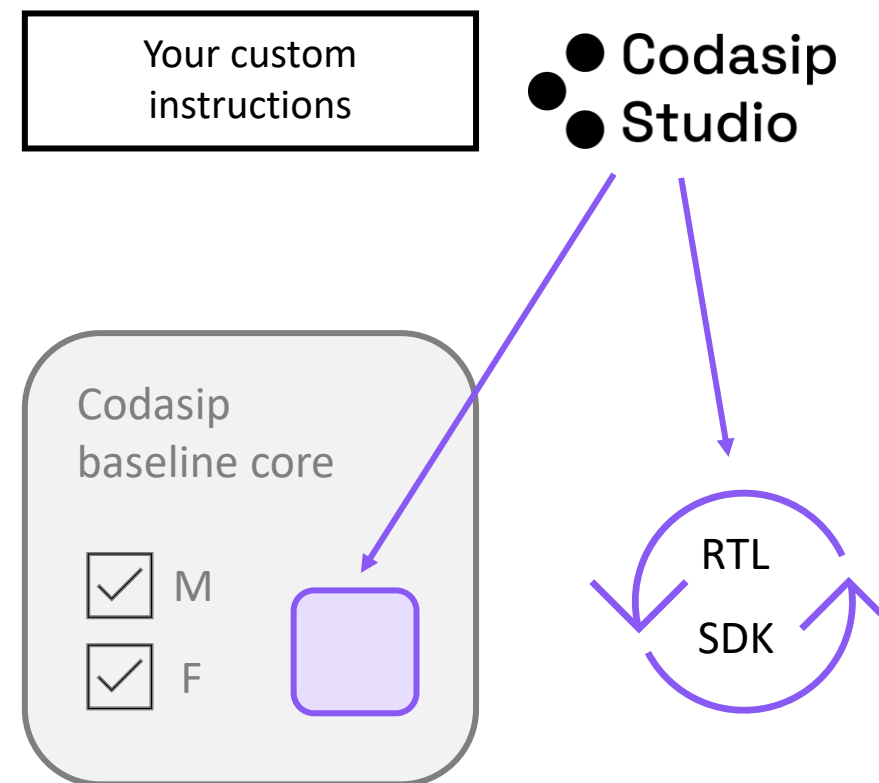


→ Introducing bounded customization



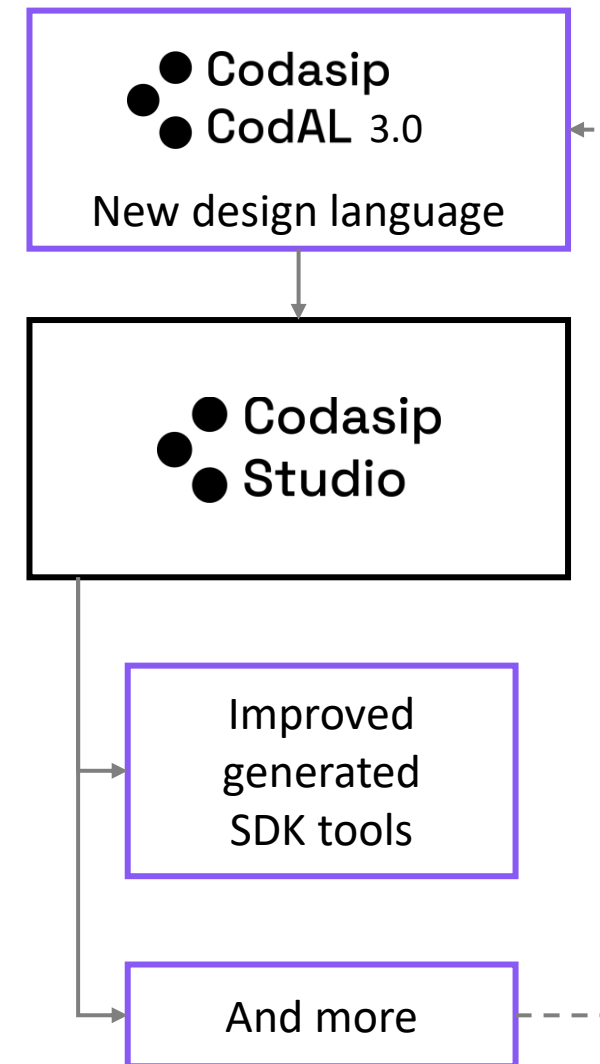
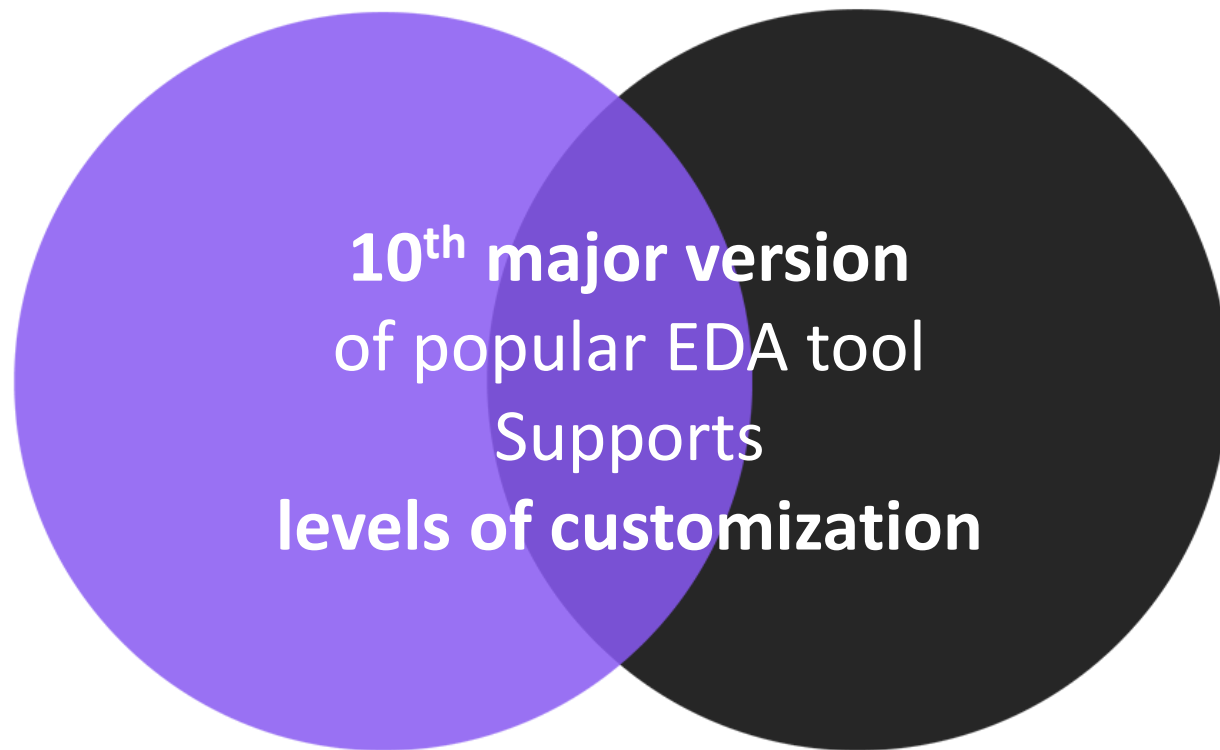
→ Verification and Custom Bounded Instructions

- Custom instructions on top of the core configuration space
- Instruction within bounds cannot harm the baseline core – no re-verification!
- Easy-to-use verification framework to verify custom instructions



→ New generation - Codasip Studio Fusion

So elegantly simple even software developers can create a Custom Bounded Instruction core with Fusion.



We have solved the puzzle

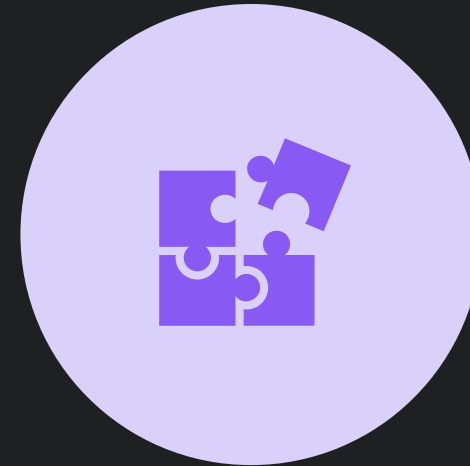


Flexible

High performance

High quality

Safe and secure



Completeness that will not cost
you an arm and a leg



Thank you!