

PAST: CHIP

Design

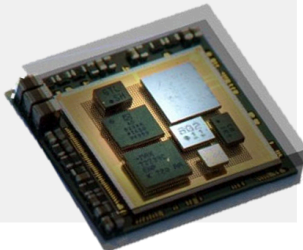
- Architecture exploration
- Early analysis

Code

- Early firmware development
- Fast deployment

Make

- Strategic foundry / OSAT partnership
- Chiplet Store (1k+ chiplets)



PRESENT: EDA

Design

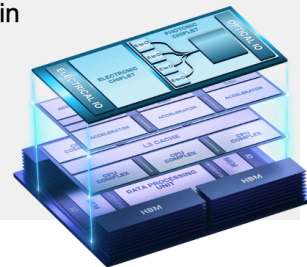
- Exploration & co-optimization of technologies, architectures, and algorithms
- Variation, imperfection, reliability, resilience
- Analytics-driven full-lifecycle management

Verification

- Domain-specific accelerators & sensors
- Interconnects, design partitions, configurability, & black boxes
- Mixed-signal multi-material systems

Security

- New attack opportunities through interconnects
- Compromised “common” chiplets
- Hardware trojans & counterfeits via untrusted supply chain



FUTURE: (ECO)SYSTEM

Simplification

- Design methodology with a focus on innovation instead of perfection
 - ▶ Easier, faster, & more design starts

Standardization

- Manufacturing options & interfaces
 - ▶ Faster and cheaper implementation with fewer surprises

Systems

- System thinking for architecture exploration, sw/hw co-design, multi-physics / multi-domain analysis, lifecycle management
 - ▶ Better products



Design



•.....EDA.....•



Manufacturing