



Applications Driving Architectures

Valeria Bertacco - Center Director



JUMP

adacenter.org



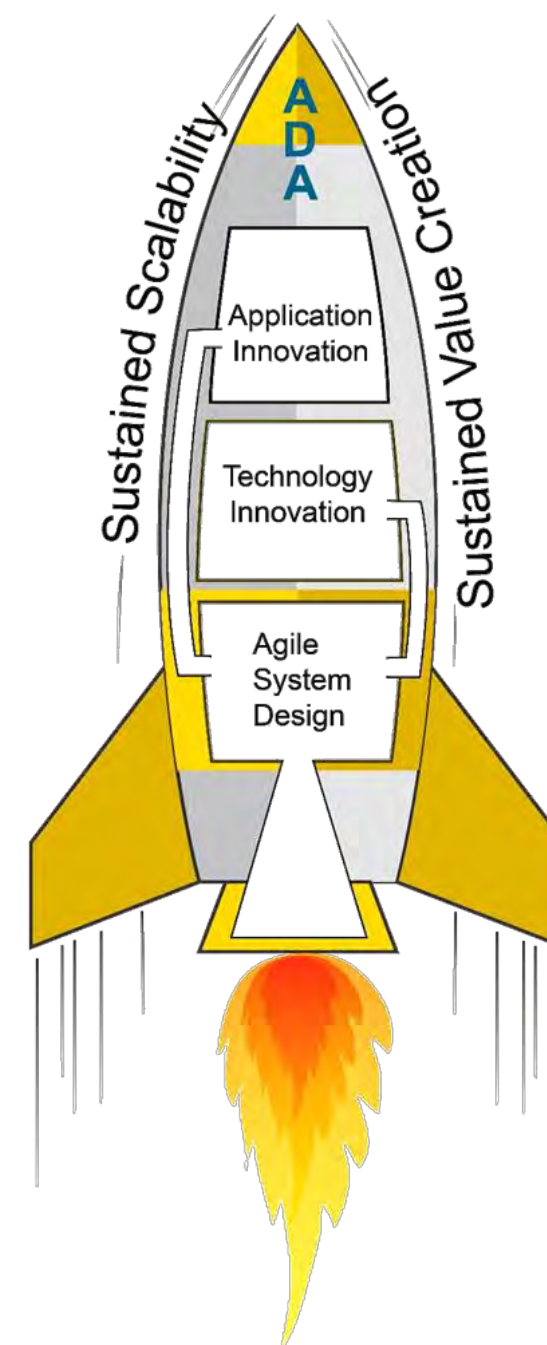
@ADA_Center



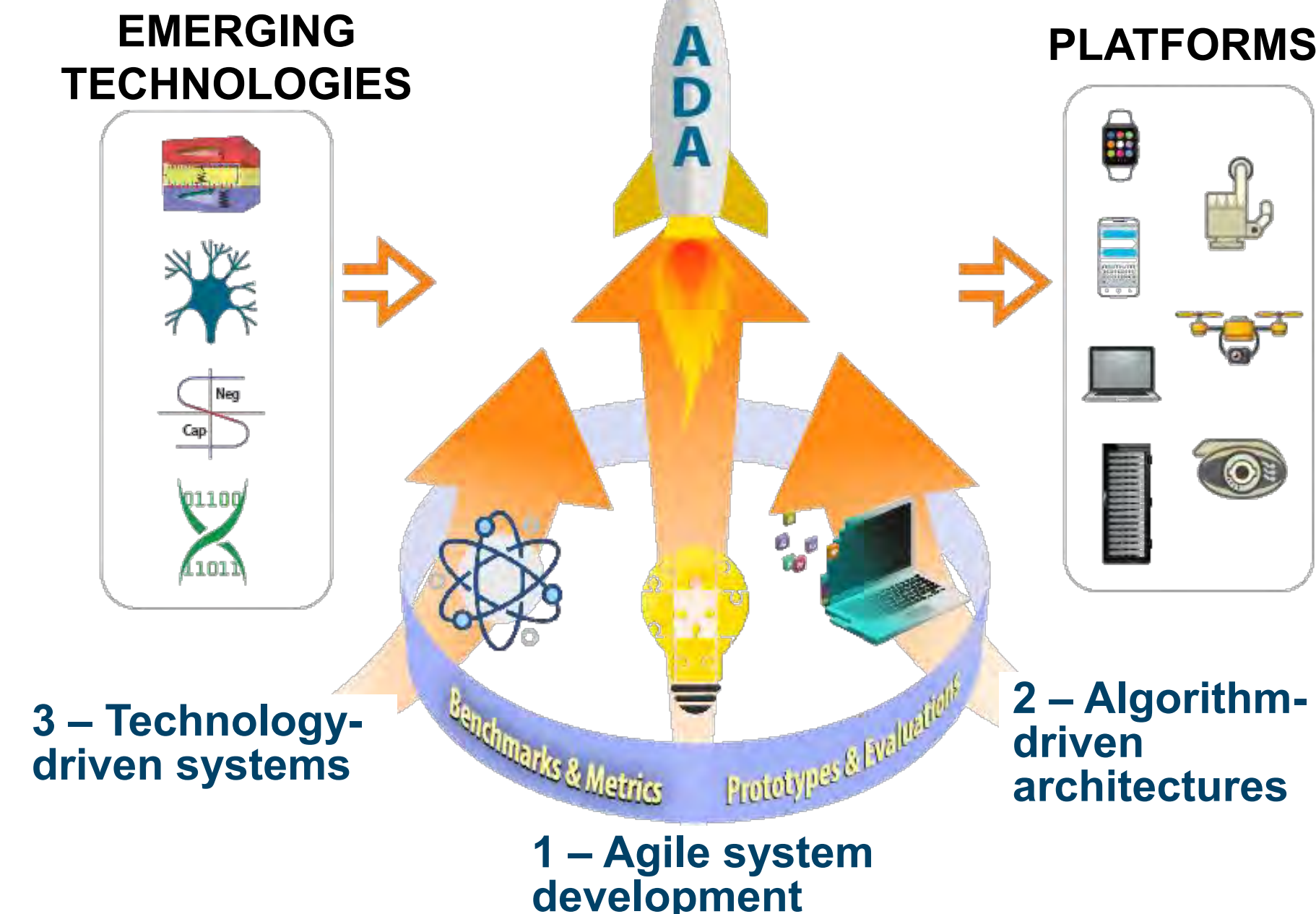
Applications Driving Architectures

Reigniting system design innovation by:

- 1) Identifying new sources of application and technology innovation
- 2) Accelerating the adoption of these new solutions with uniquely agile system development frameworks.

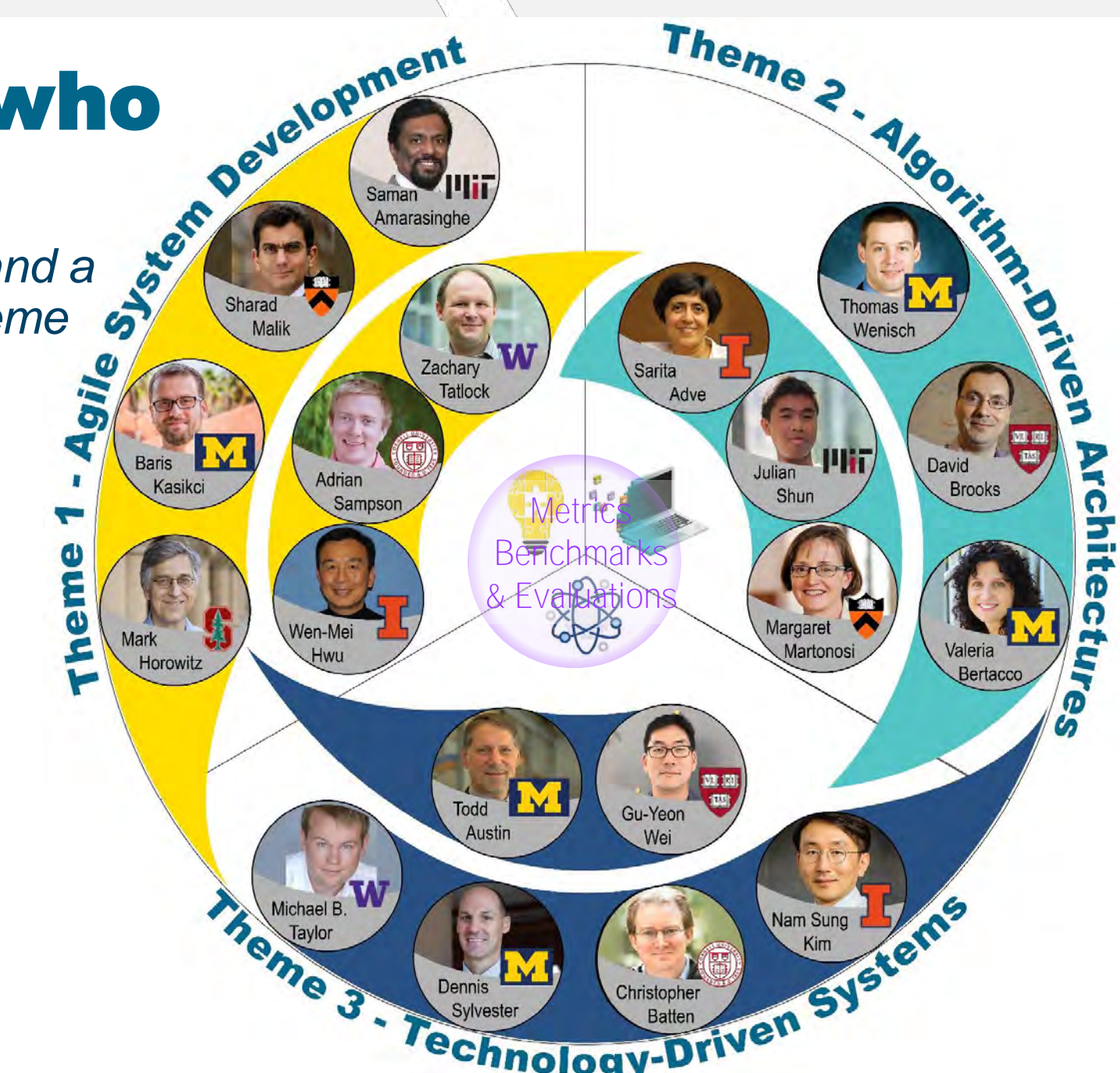


Center structure

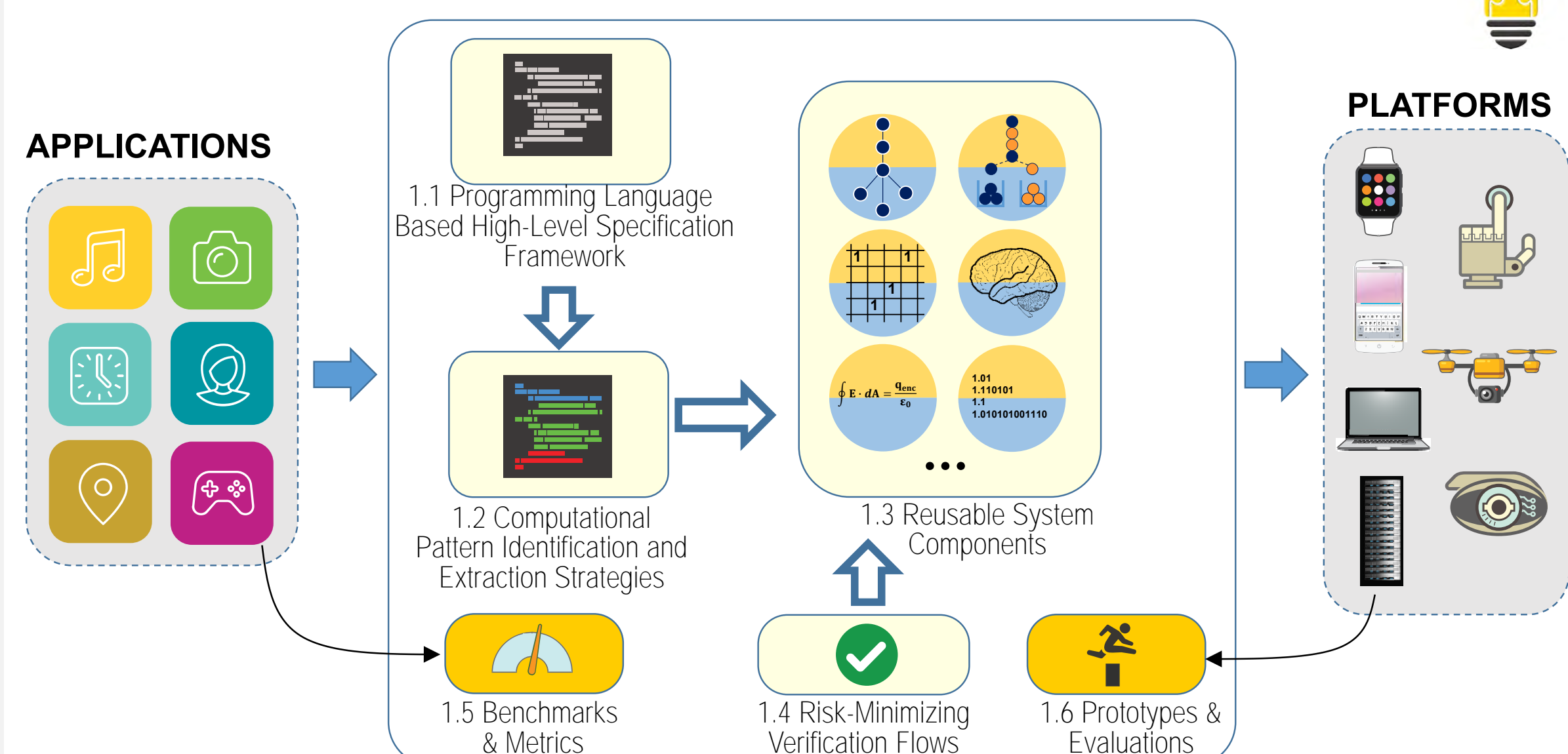


Who's who

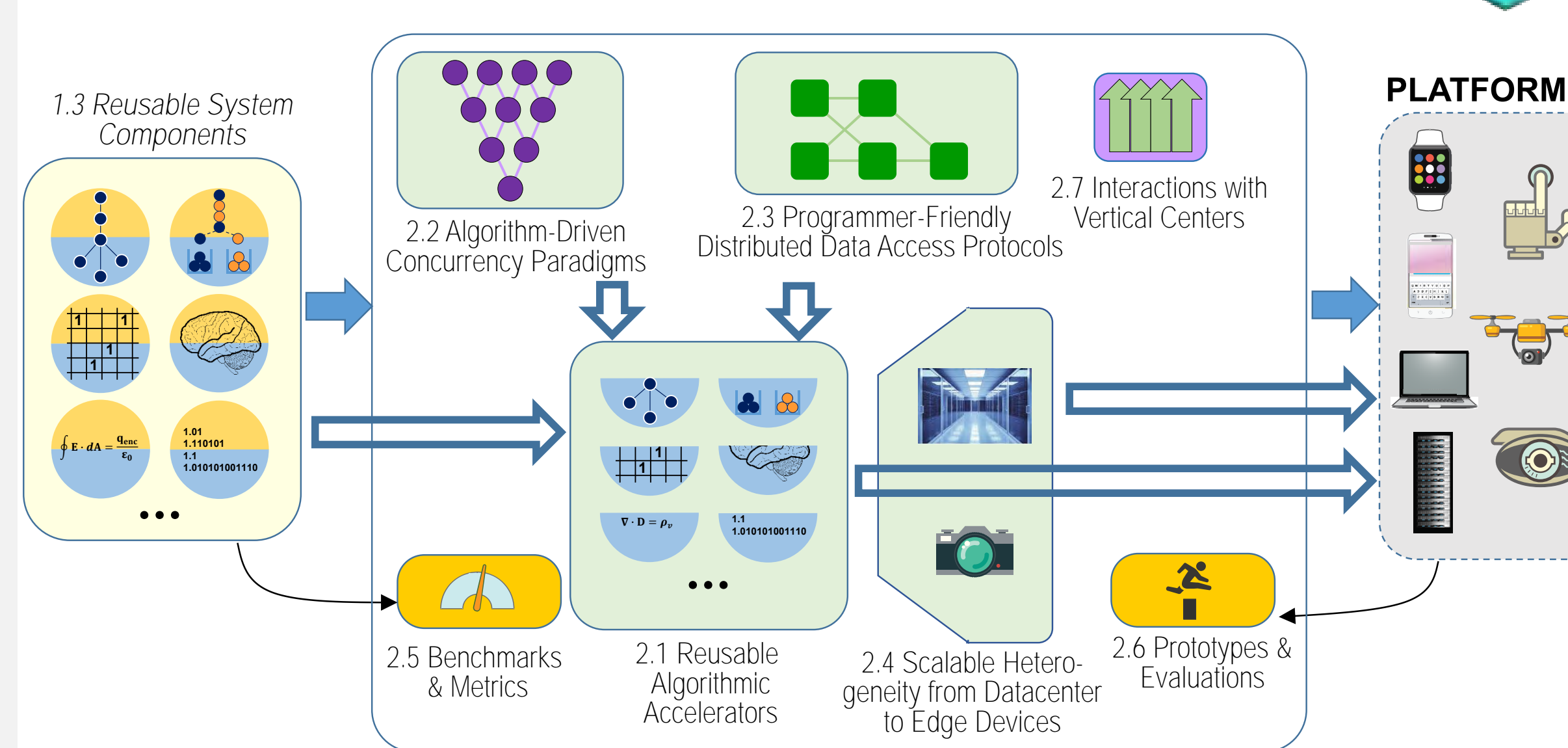
Each PI has a MAIN theme and a STRETCH theme



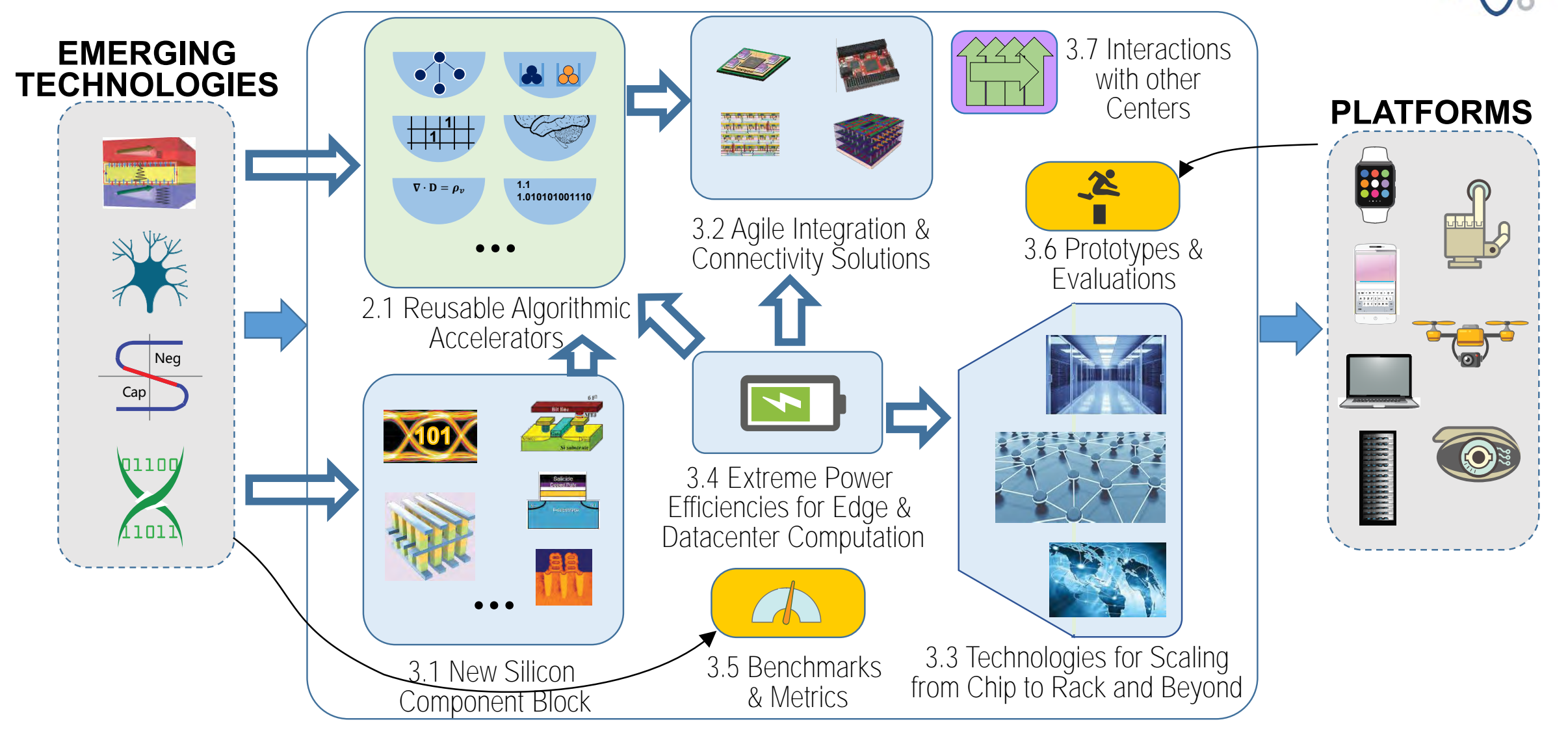
1 - Agile system development



2 - Algorithm-driven architectures



3 - Technology-driven systems



Benchmarks & metrics

Driving applications:

- Natural language processing
- Visual computing (AR, VR, visual analytics, computational imaging, etc.)

- growing apps, strong impact potential
- fit from edge to cloud
- high computational demands

Initial metrics:

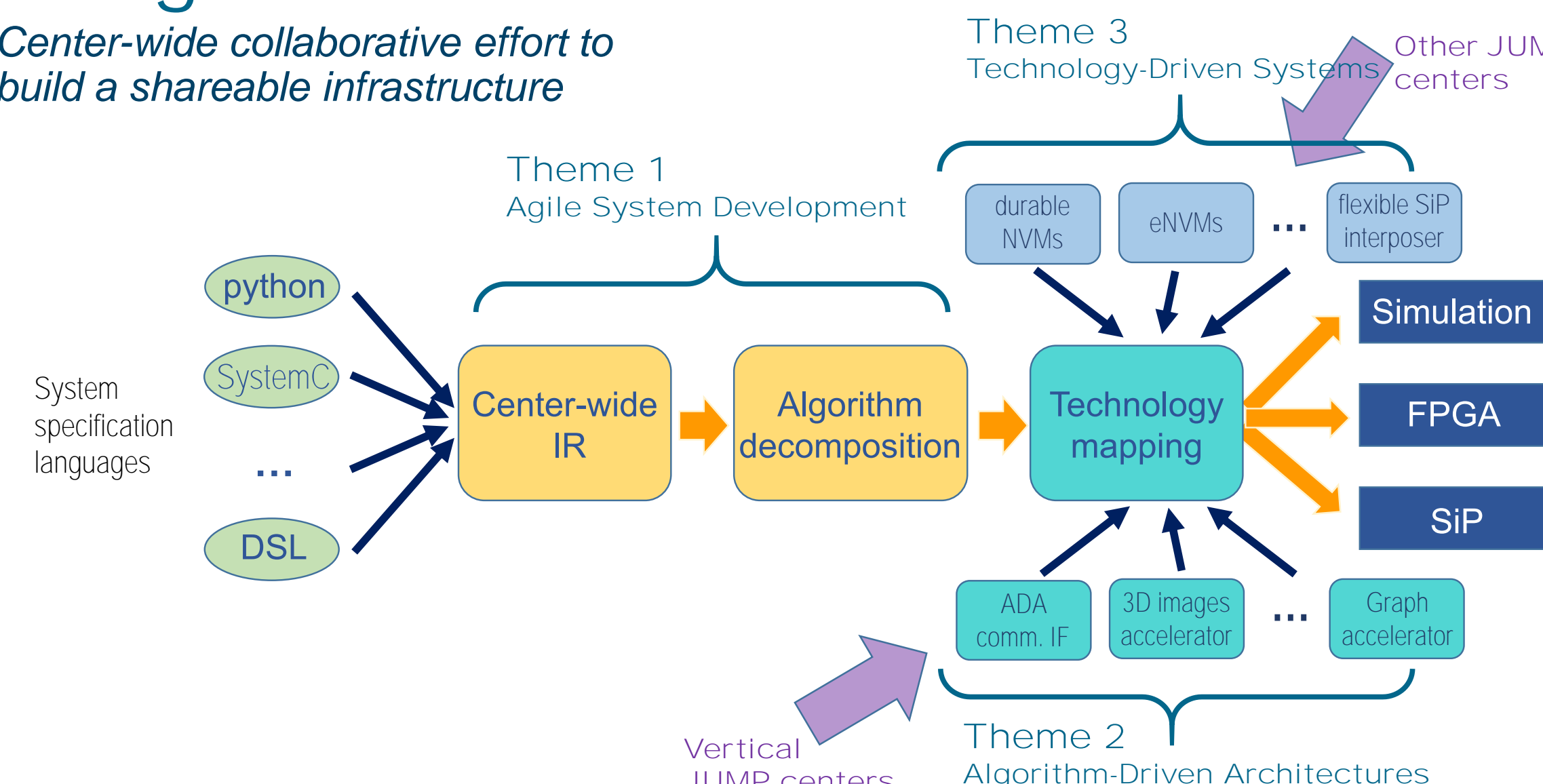
- **Design:** design-effort, % reuse, LOCs
- **Architectures:** P/P/A - sub 5W for 100mm² (edge devices) sub 160W for 700mm² (cloud)
- **Technologies:** P/P/A and design-effort in integration

Metrics goals:

1. Identify key design evaluation criteria
2. Pareto-compare across solutions
3. Guide selection in design flow framework

Design flow framework

Center-wide collaborative effort to build a shareable infrastructure



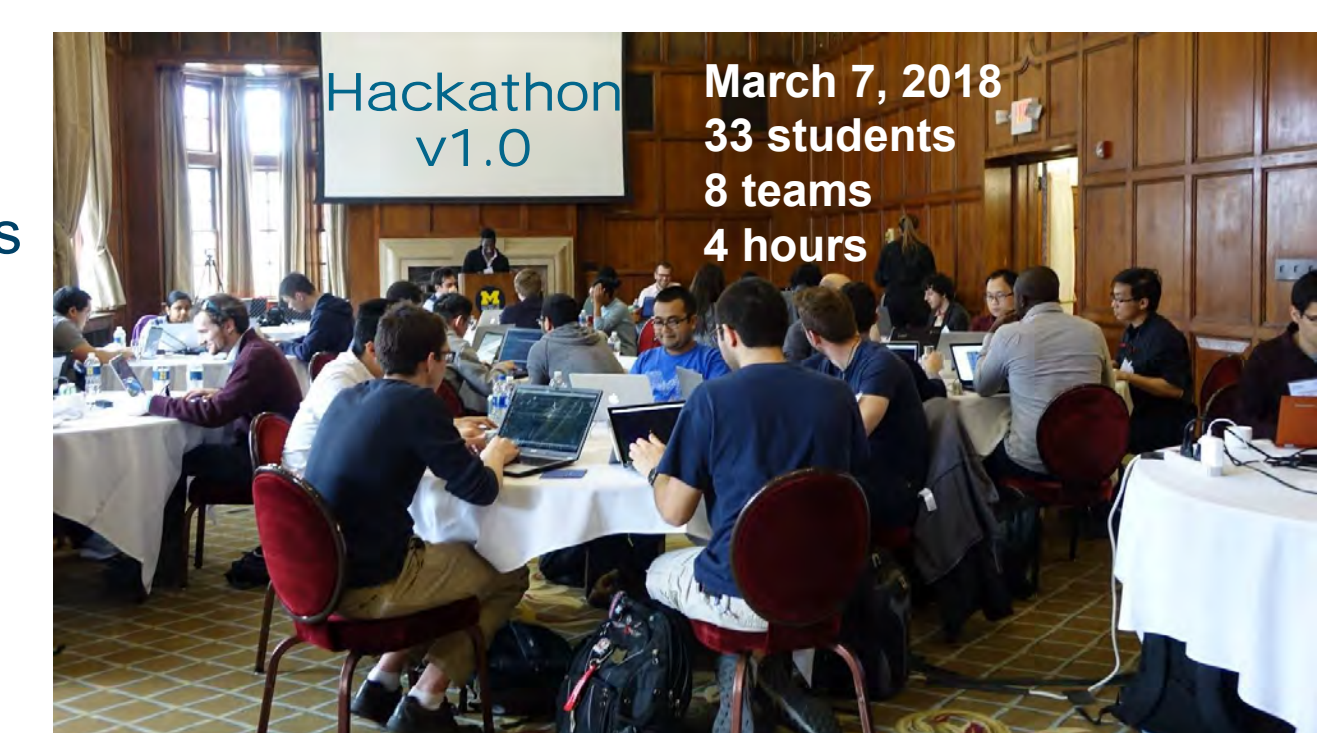
ADA as a research CENTER

Collaborative efforts:

- Improve cohesive research progress + innovative breakthroughs
- **Pilot-** Collaborative cold-boot

A center for graduate students:

- Brainstorming opportunities with sponsors and other PIs (at-table discussions)
- Demonstration projects (future ADA Symposia)
- Engagements with sponsors: internships and long-term employment
- **Pilot-** Leverage hackathons to evaluate the productivity of our solutions
- **Pilot-** Academic internships



NEXT MEETING: October 2-3, 2018 – Ann Arbor

