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The Agile Primer

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Hopes and Concerns

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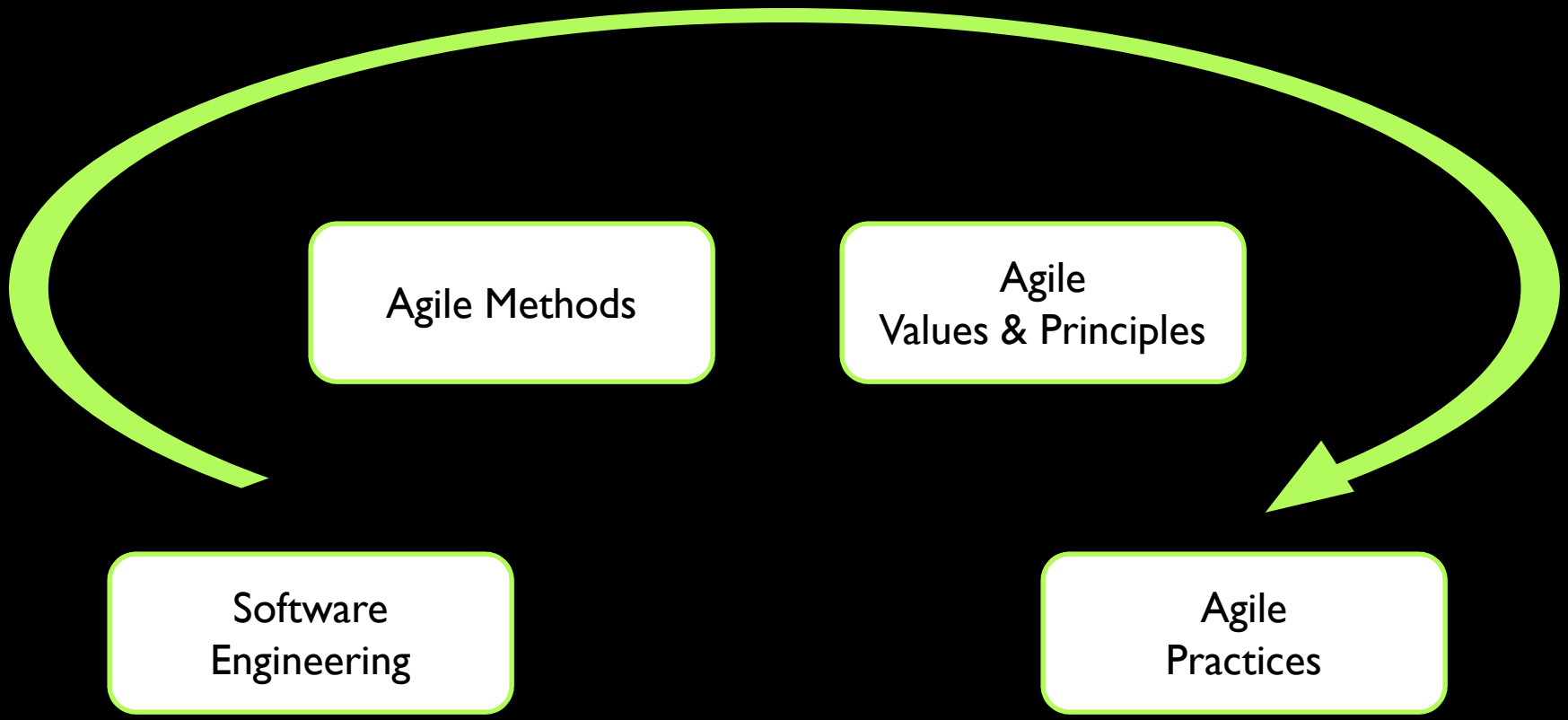
Our Roadmap



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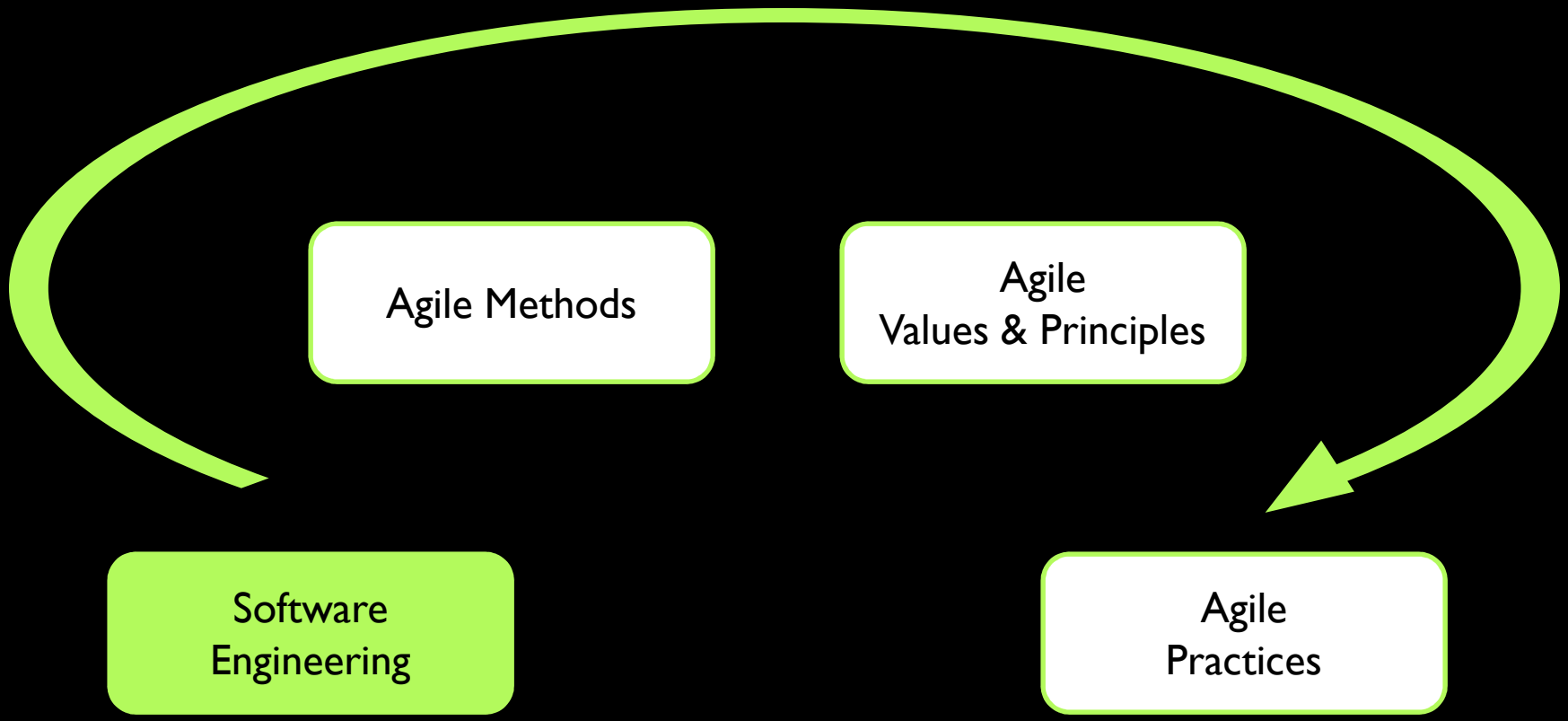
Our Roadmap



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The Start

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We started with Software Engineering

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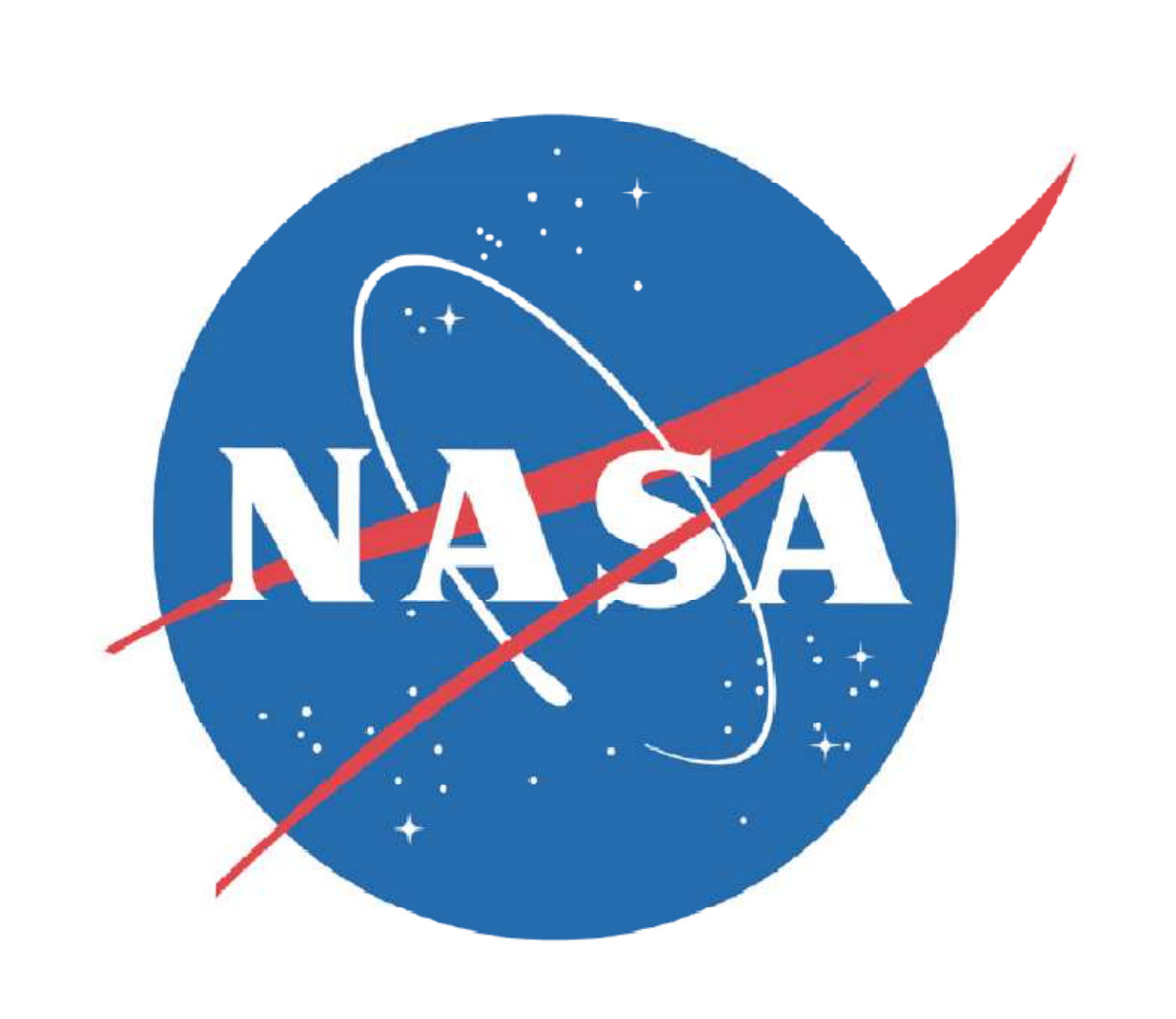

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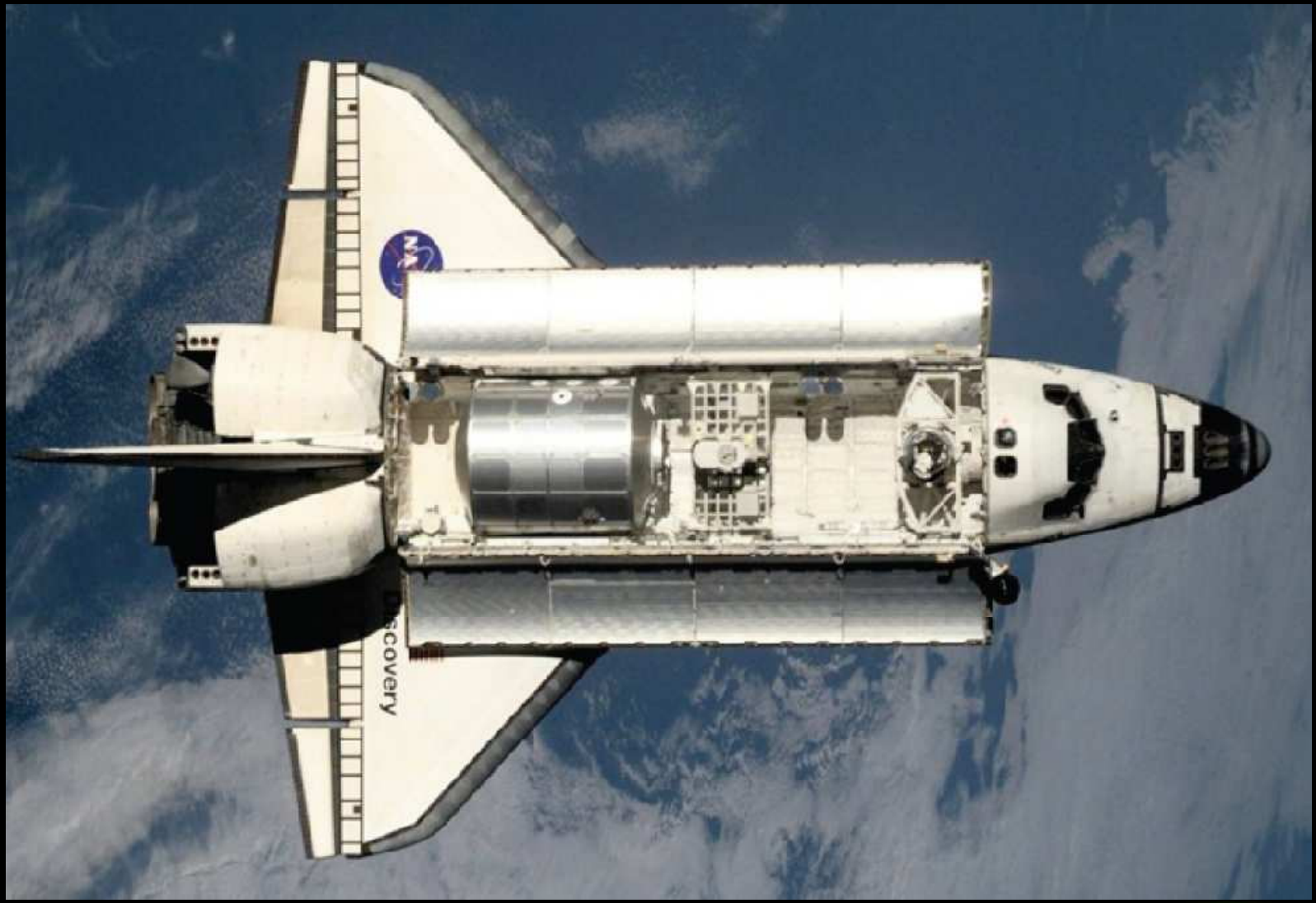
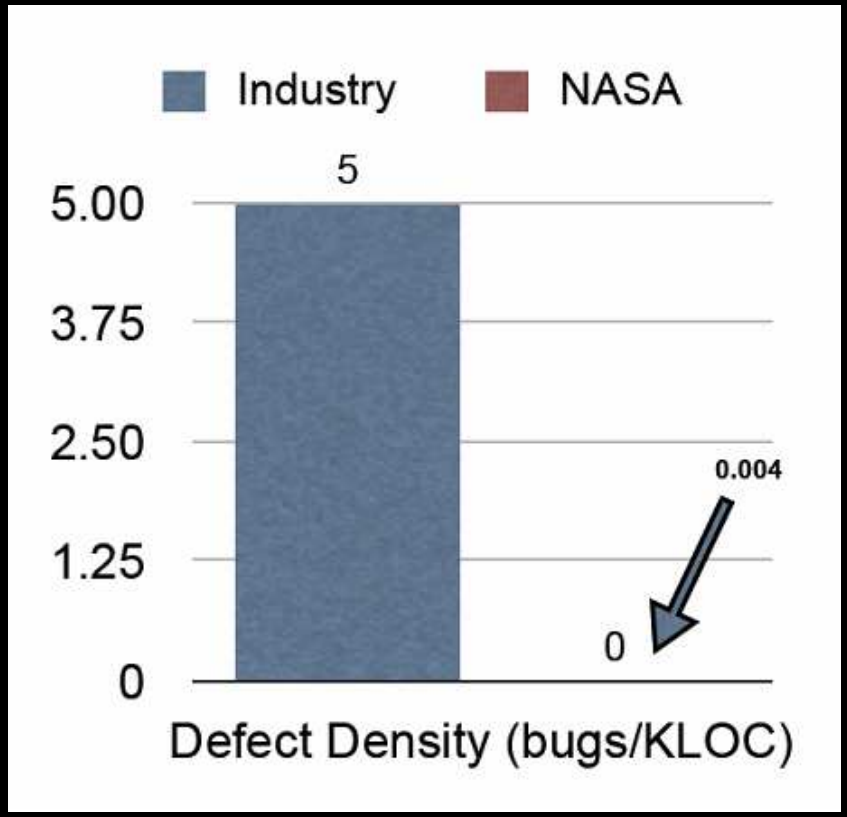
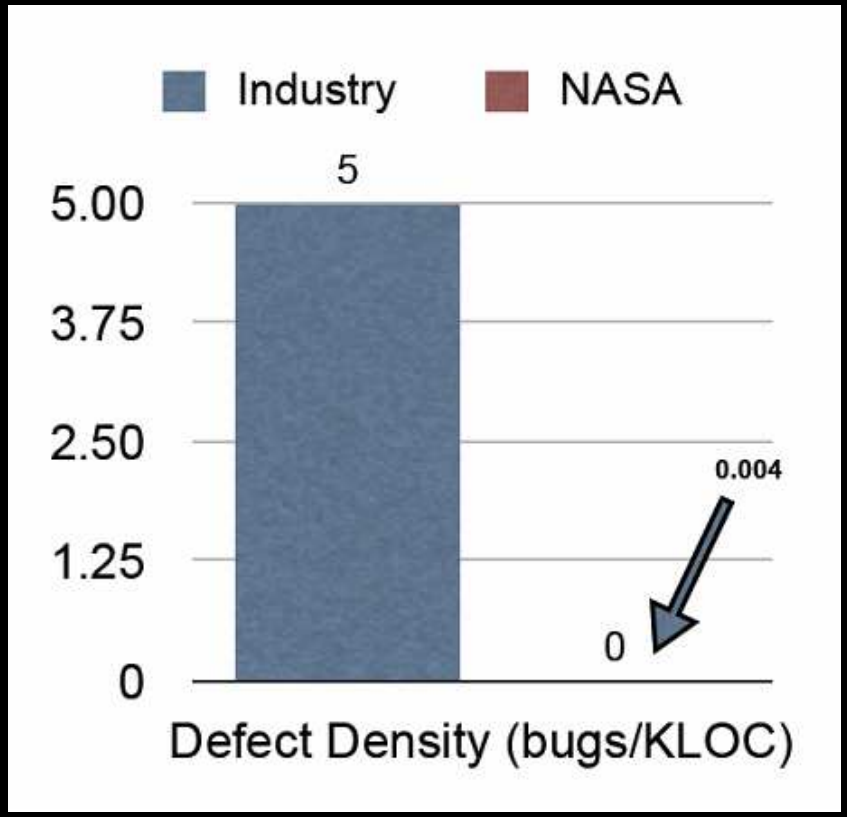


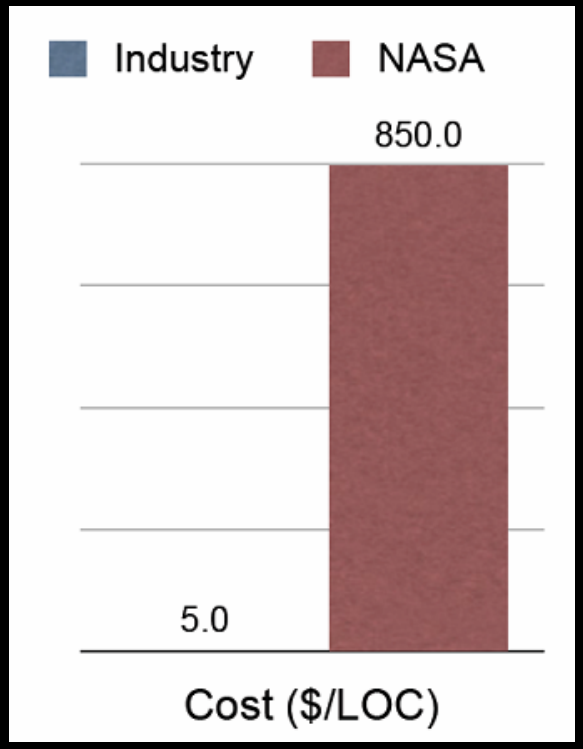
NASA's Defect Density



Pretty good, right?

NASA's Defect Density (another data point)





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Other Heavy Weight Methodologies

- Waterfall
- SEI/IEEE Project Standards and Definitions
- Requirements Engineering
- Project Management Body of Knowledge (PMBOK)

Sometimes, heavy weight methodologies work, but there are **extensive costs,** and the **risk** in using them in **dynamic environments** is **high**.

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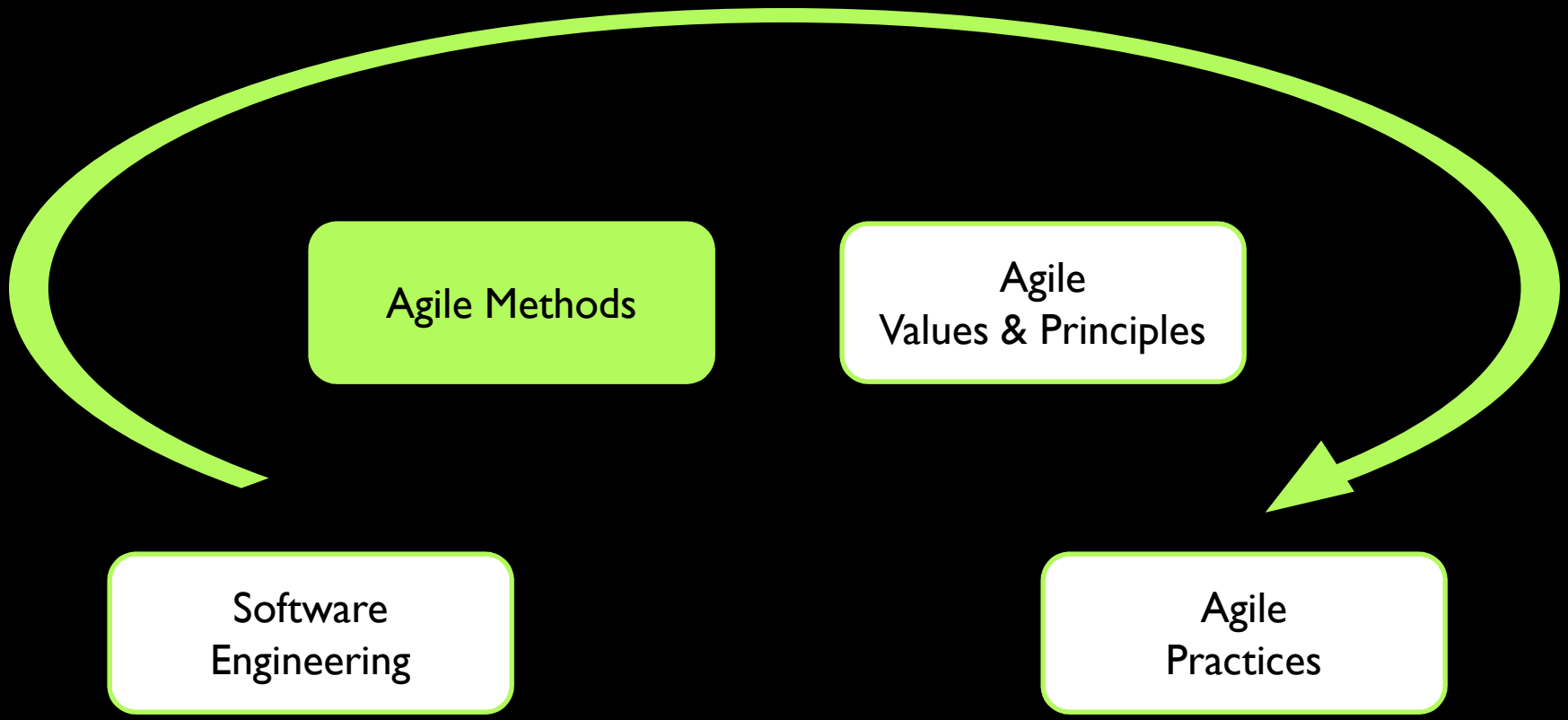
Our Roadmap



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Agile

- Lean Software Development
- RUP
- XP
- Crystal Family
- FDD
- Mercury Space Program (Iterative) (1957)
- DSDM
- ASD
- Scrum
- 2 Pass Development (1970)
- Iterative and Incremental Development (1930)
- CMMI

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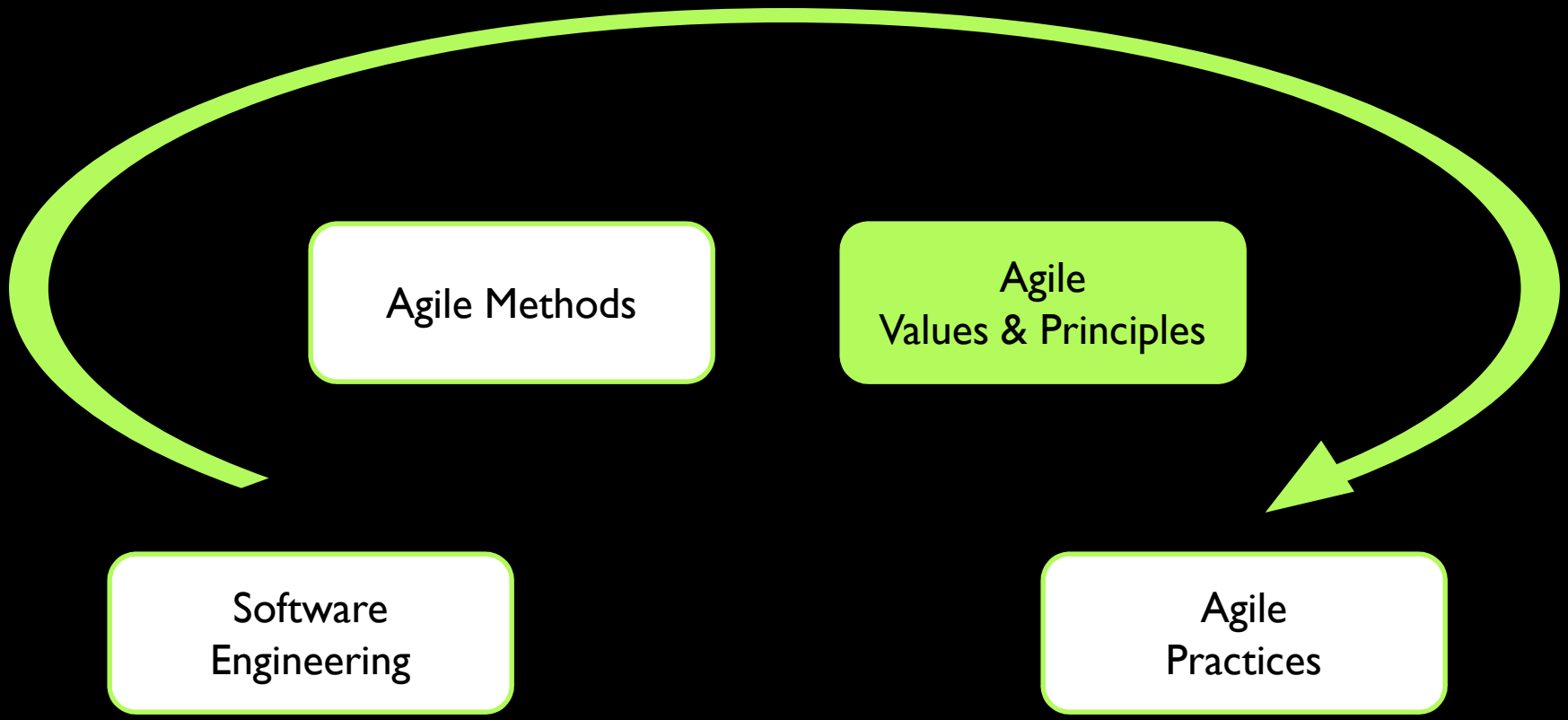
Our Roadmap



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Agile Manifesto

We are uncovering better ways of developing software by doing it and helping others do it. Through this work we have come to value:

Individuals and Interactions	OVER	Processes and Tools
Working Software	OVER	Comprehensive Documentation
Customer Collaboration	OVER	Contract Negotiation
Responding to Change	OVER	Following a Plan

That is, while there is value on the right, we value the items on the left more.

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12 Principles

Our highest priority is to satisfy the customer through early and continuous delivery of valuable software.

Welcome changing requirements, even late in development. Agile processes harness change for the customer's competitive advantage.

Deliver working software frequently, from a couple of weeks to a couple of months, with a preference to the shorter timescale.

Business people and developers must work together daily throughout the project.

Build projects around motivated individuals. Give them the environment and support they need, and trust them to get the job done.

The most efficient and effective method of conveying information to and within a development team is face-to-face conversation.

Working software is the primary measure of progress.

Agile processes promote sustainable development. The sponsors, developers, and users should be able to maintain a constant pace indefinitely.

Continuous attention to technical excellence and good design enhances agility.

Simplicity--the art of maximizing the amount of work not done--is essential.

The best architectures, requirements, and designs emerge from self-organizing teams.

At regular intervals, the team reflects on how to become more effective, then tunes and adjusts its behavior accordingly.

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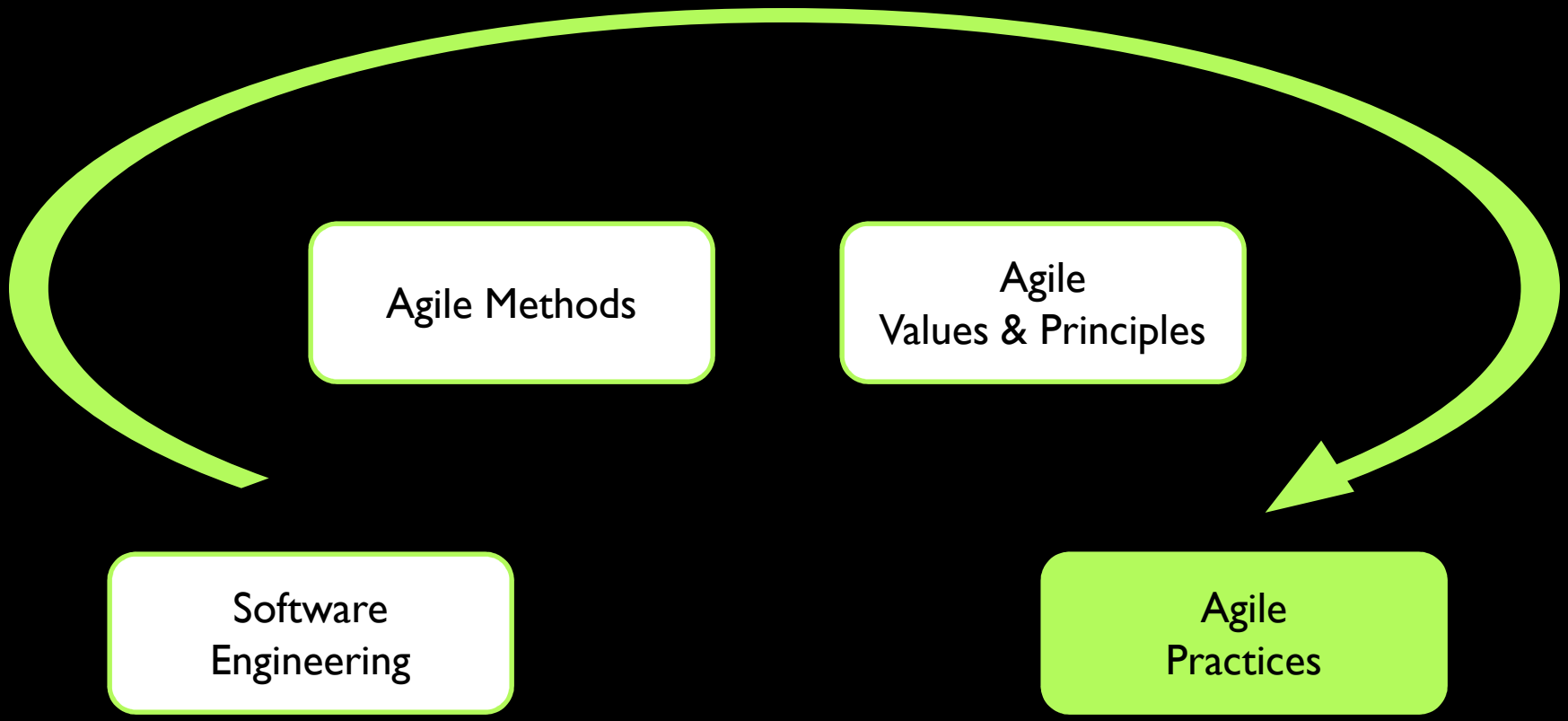
Our Roadmap



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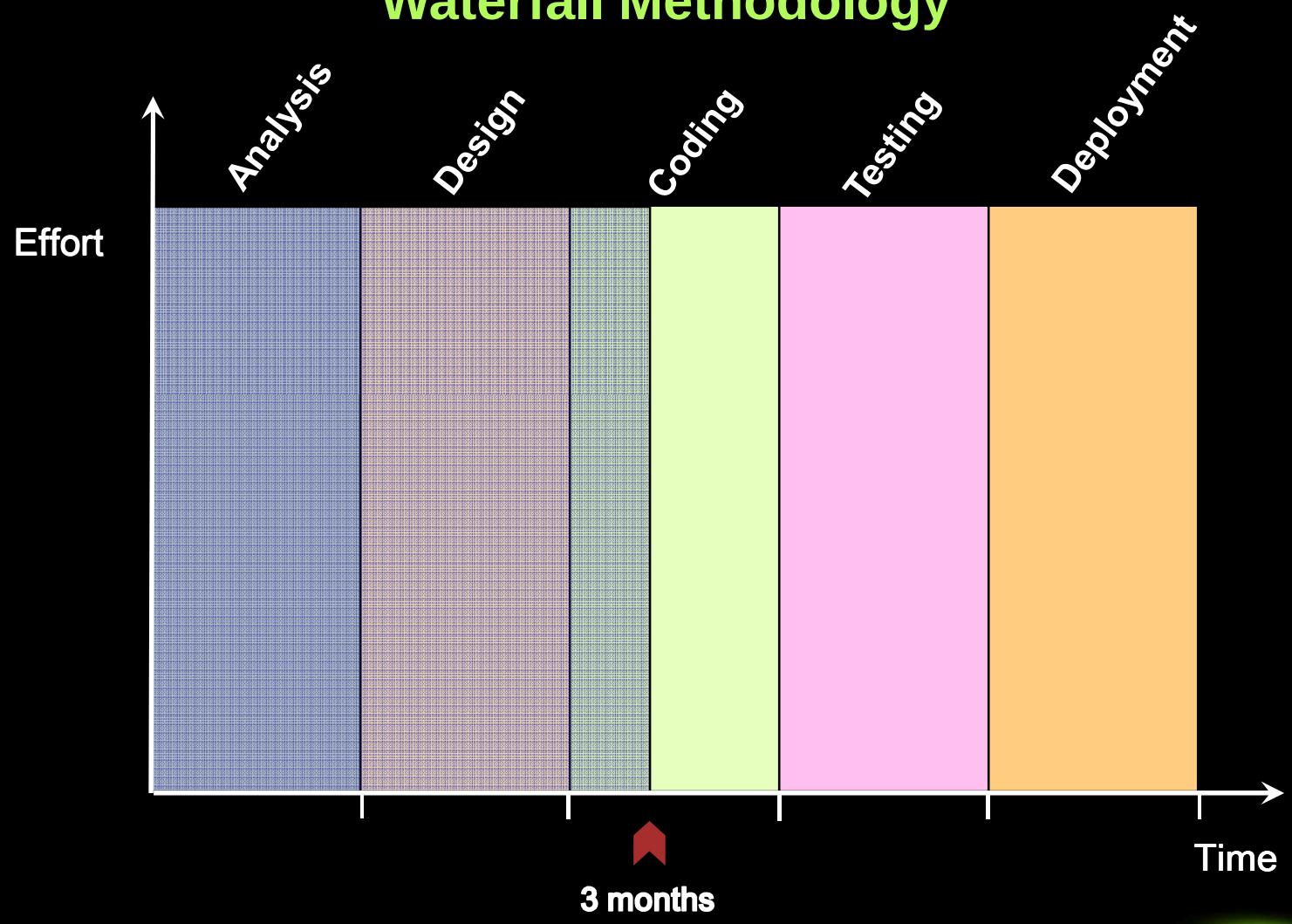
Waterfall Methodology



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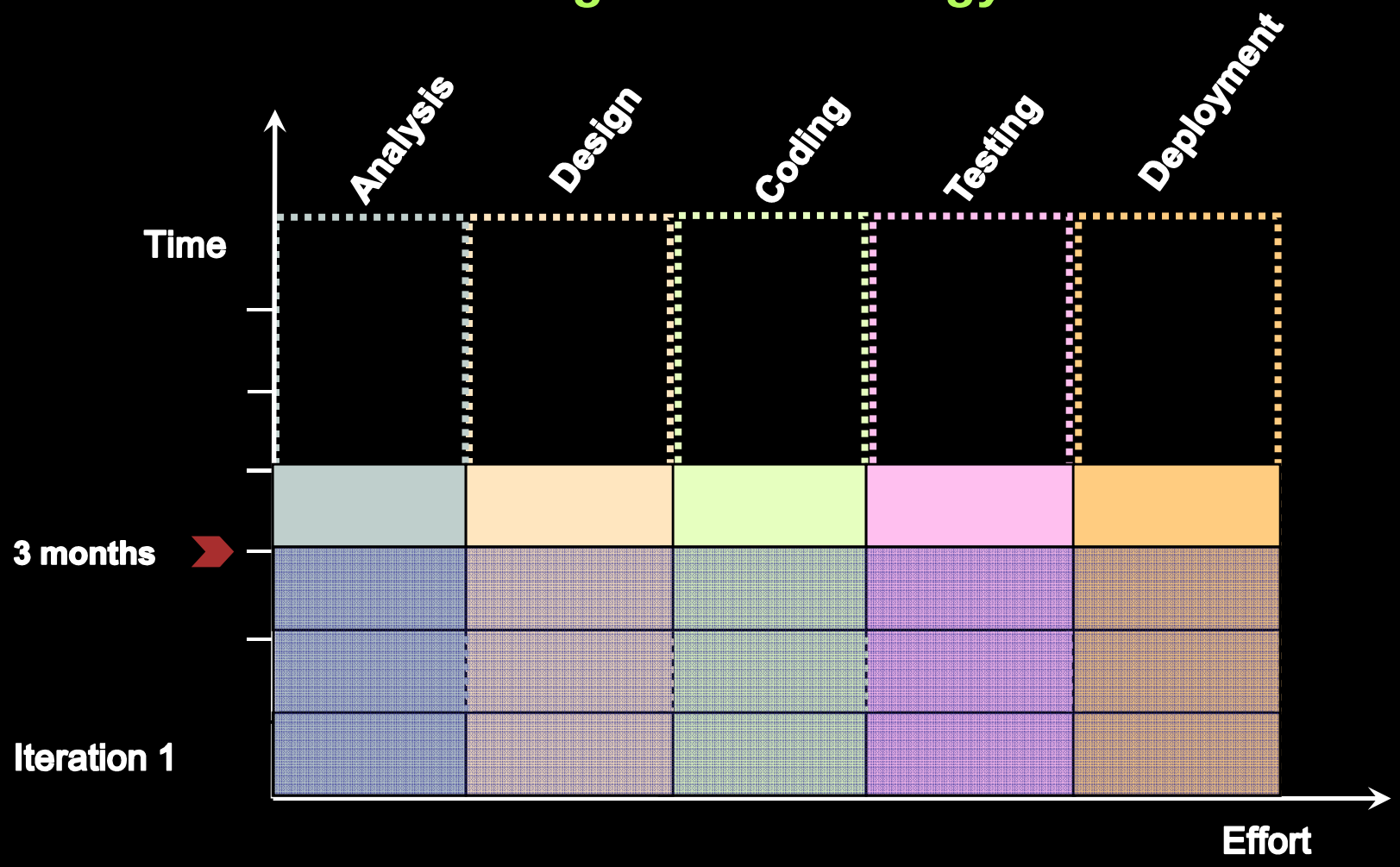
Agile Methodology



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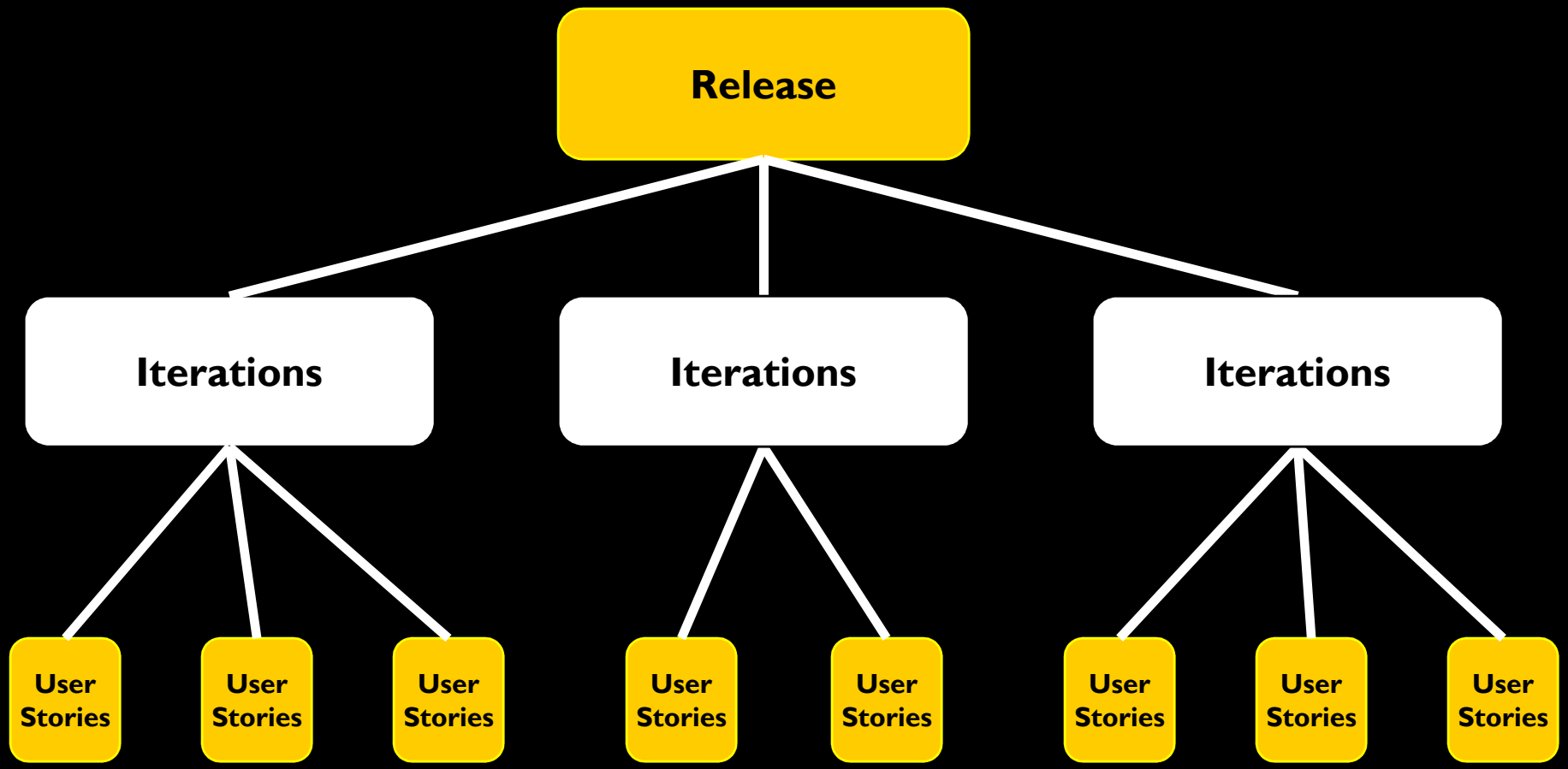
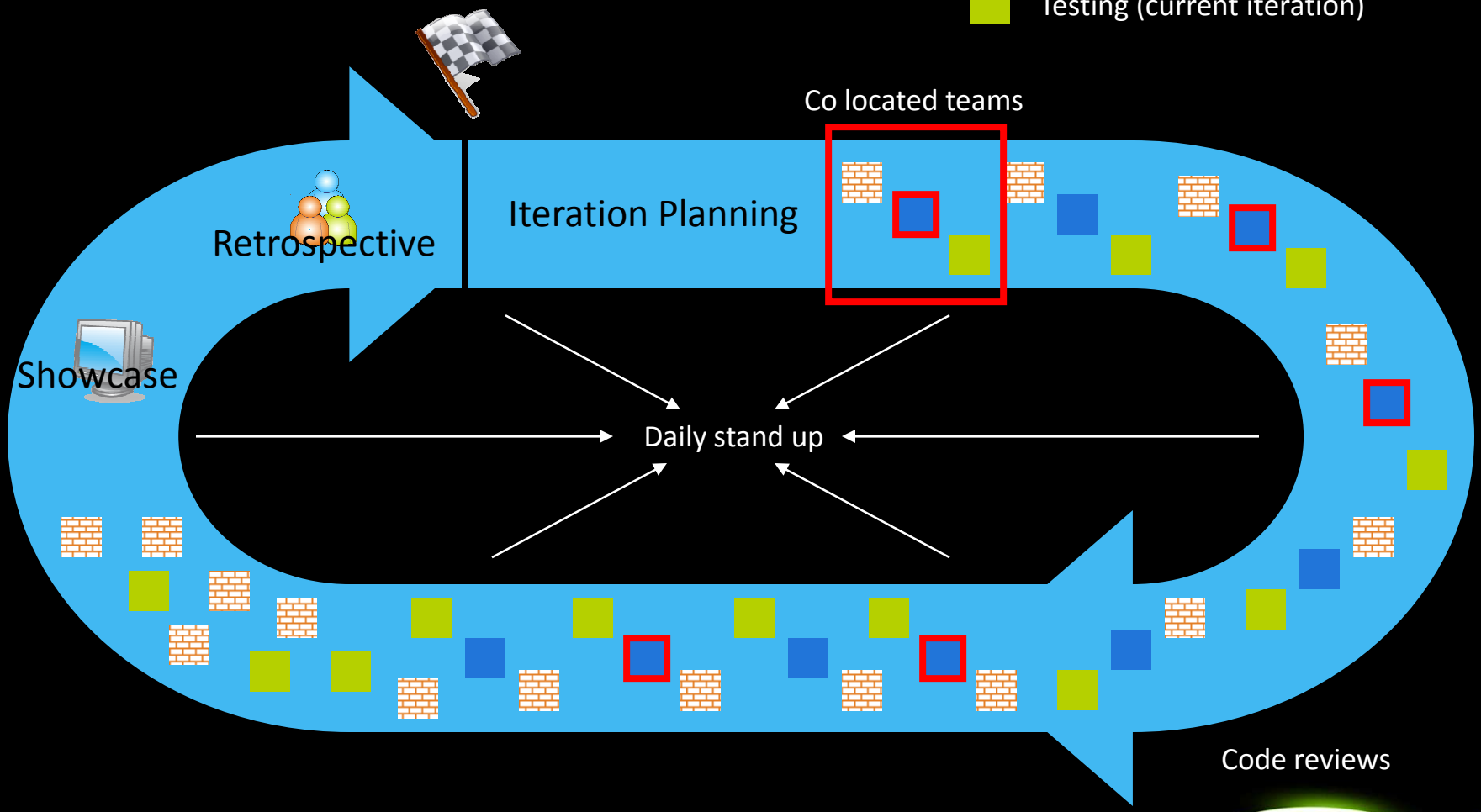
Common Agile Practices



What an iteration <u>might</u> look like



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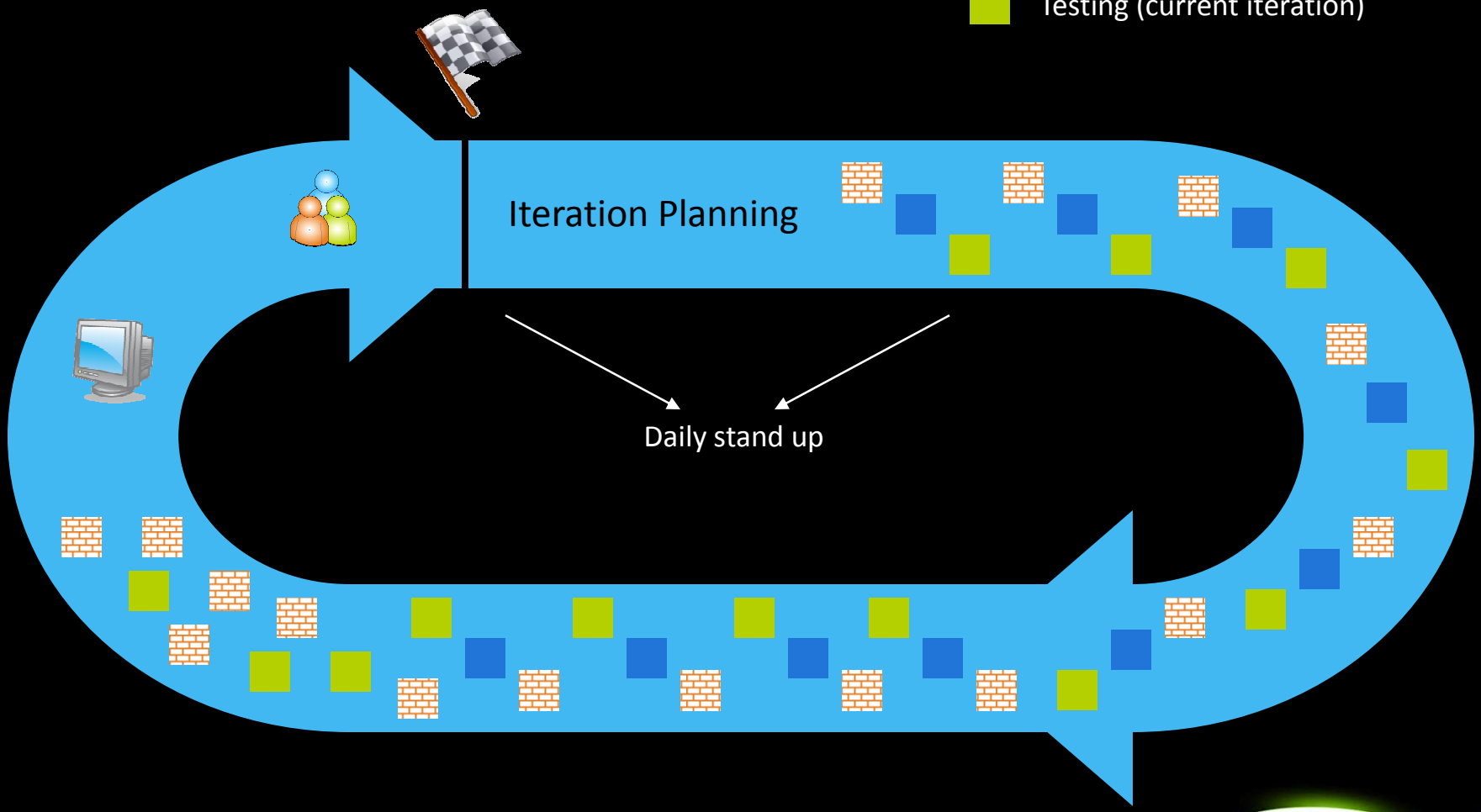
A specific practice…



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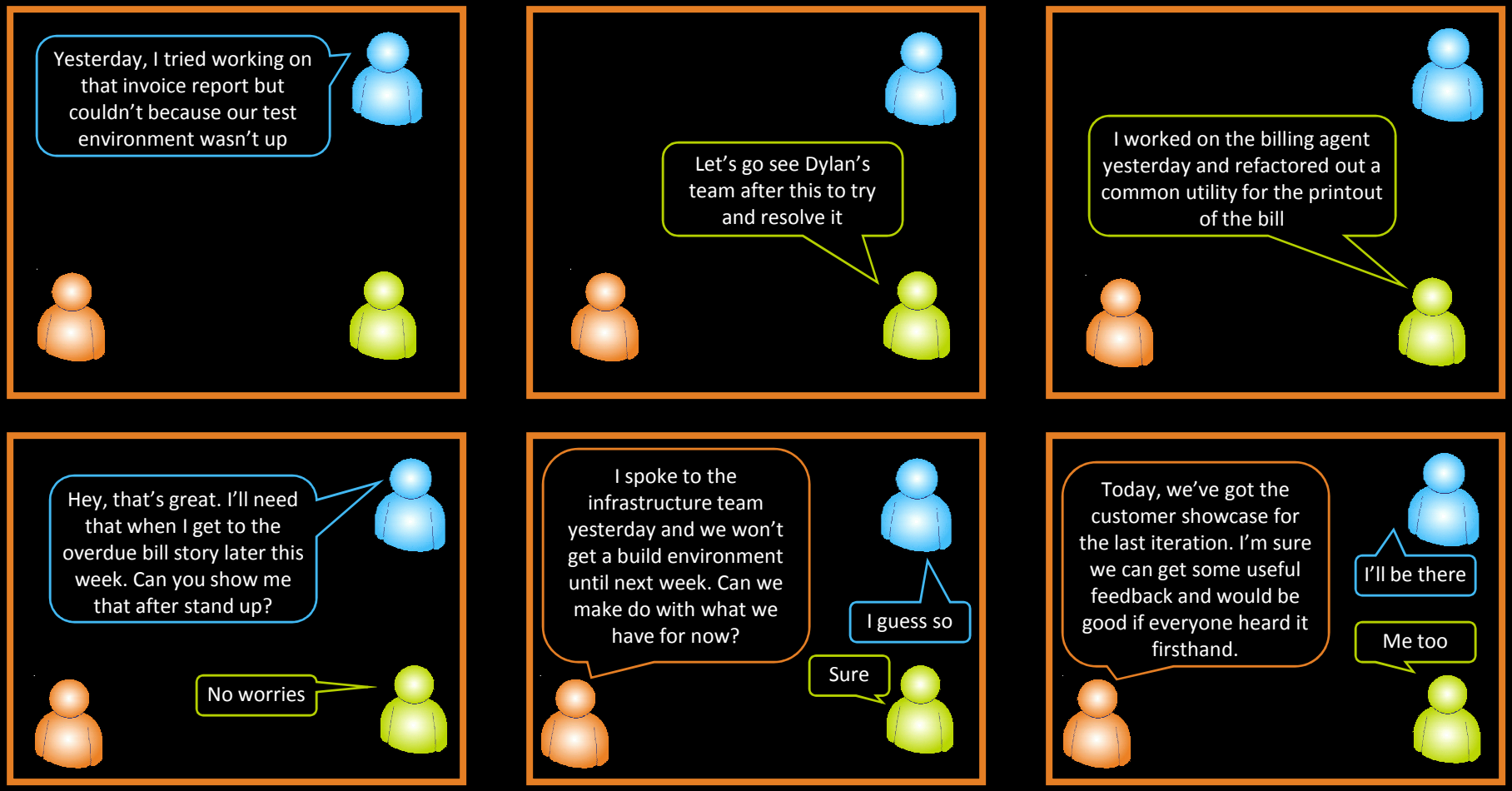
The daily stand up…



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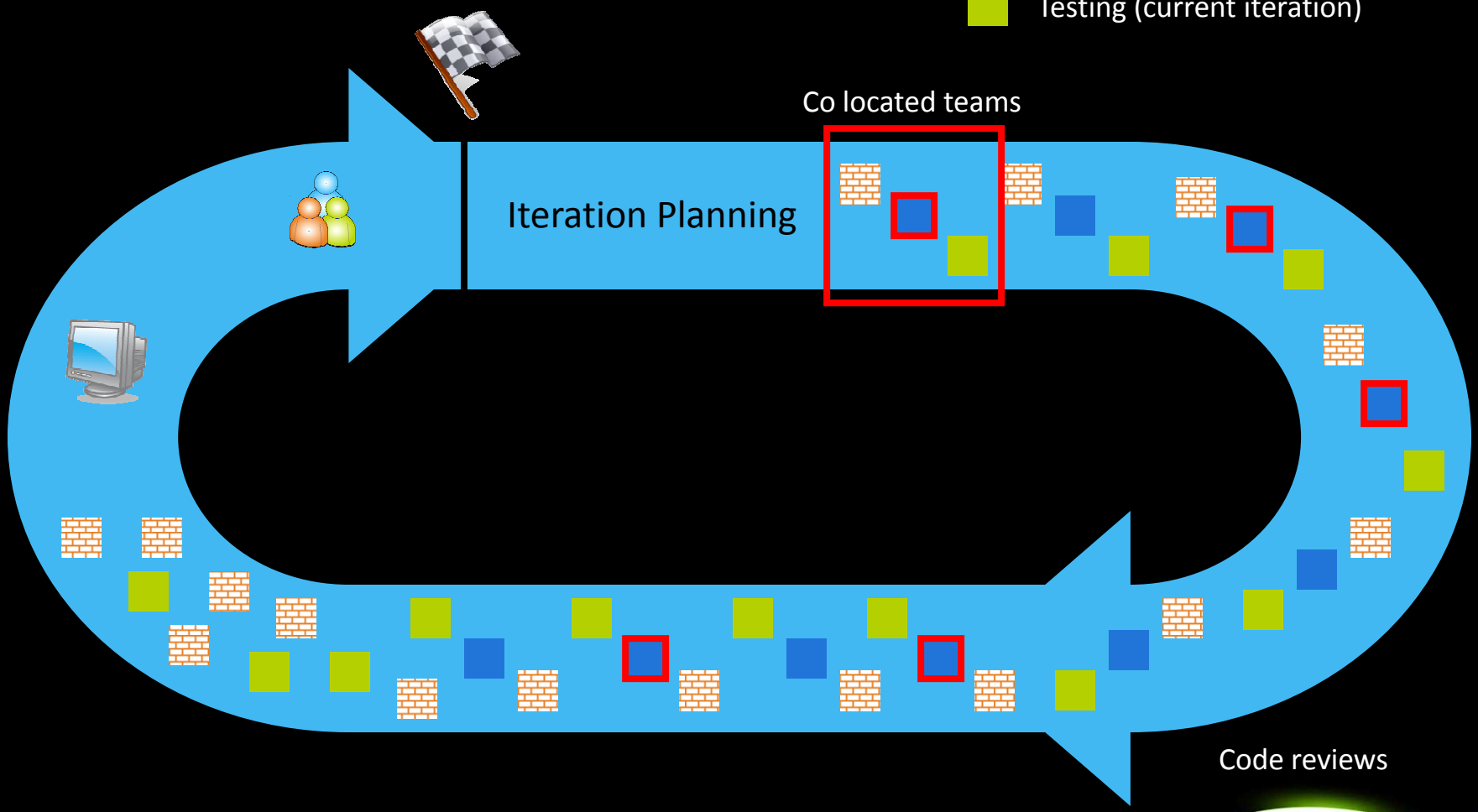

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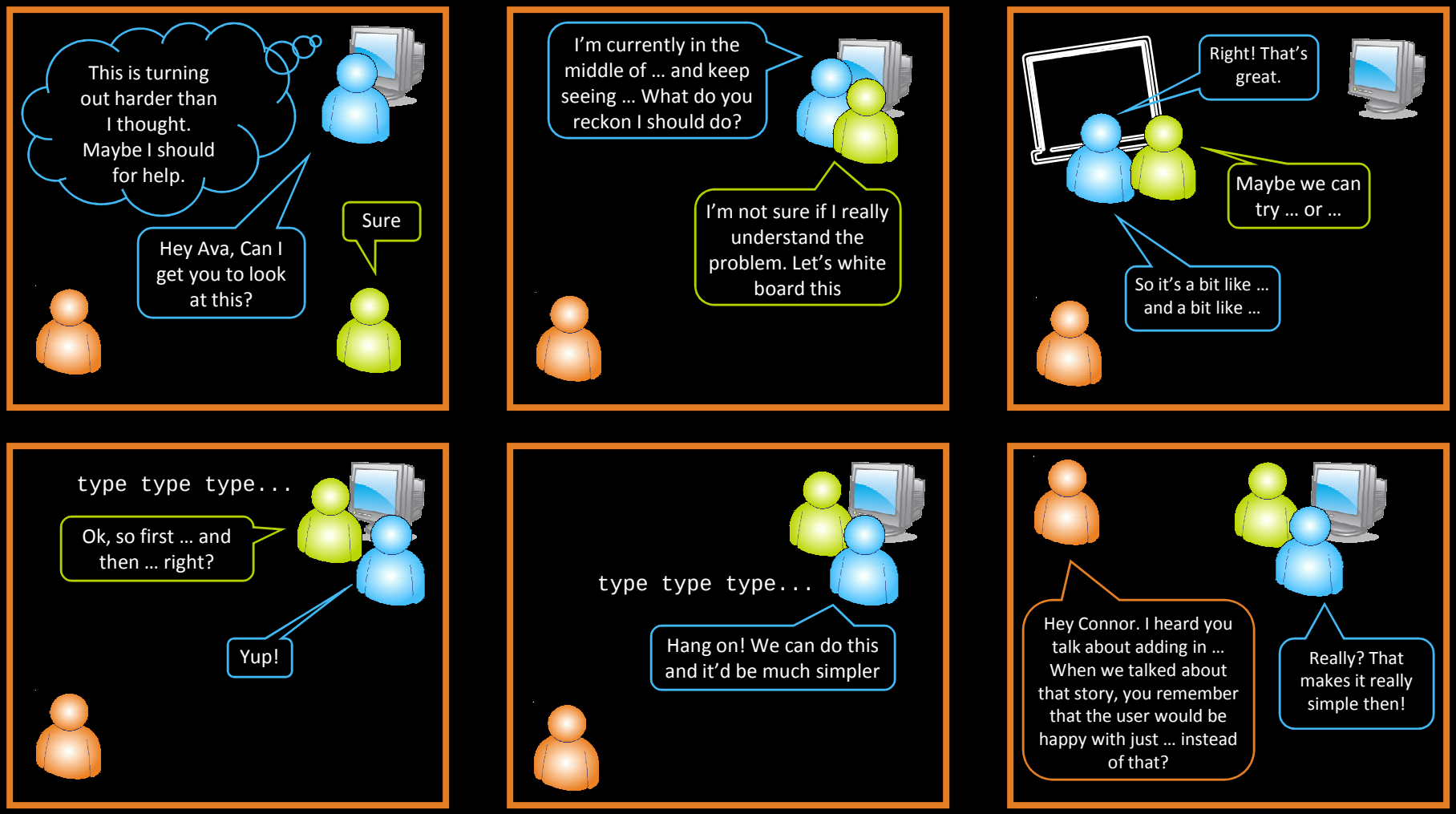
Co-located team + Code reviews



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Back to…

Hopes and Concerns

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Questions?