

Micro-V-cycle:

An Agile Framework for System Projects

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Outline

System projects running agile vs Software Projects

What is micro-V-cycle framework, and why it should work

Example

Effect on the project, team and business

Classic V-cycle

PM



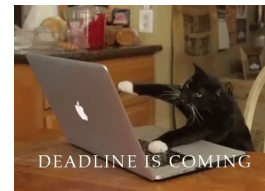
SW



HW

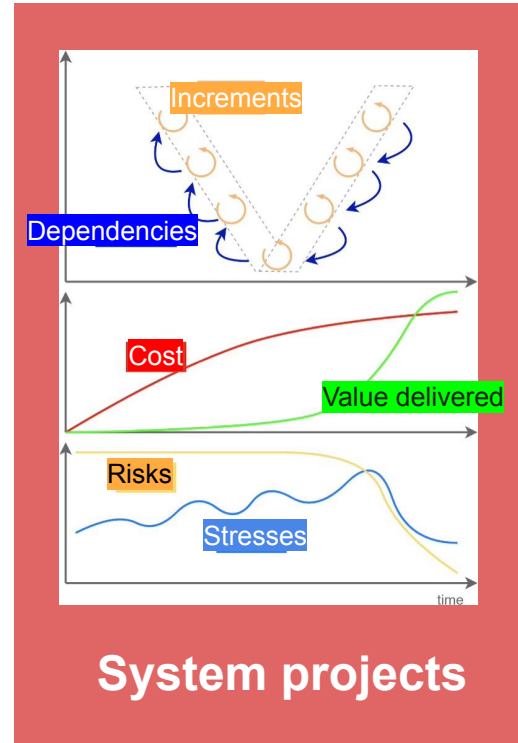
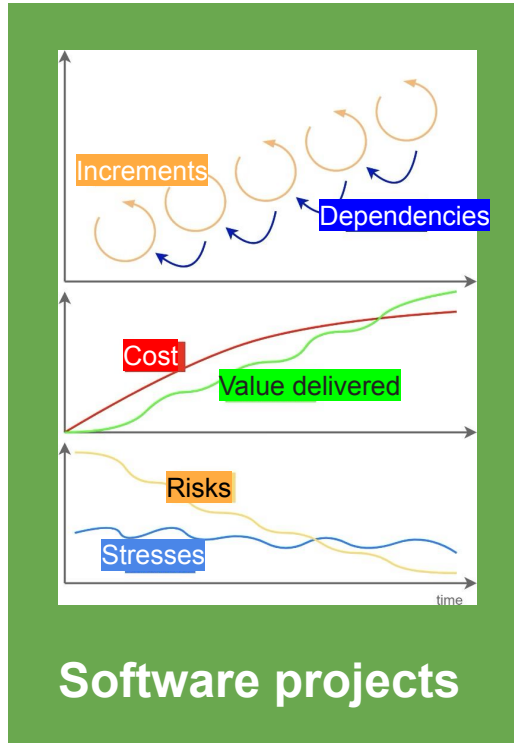


Integration
& Test



Project progress

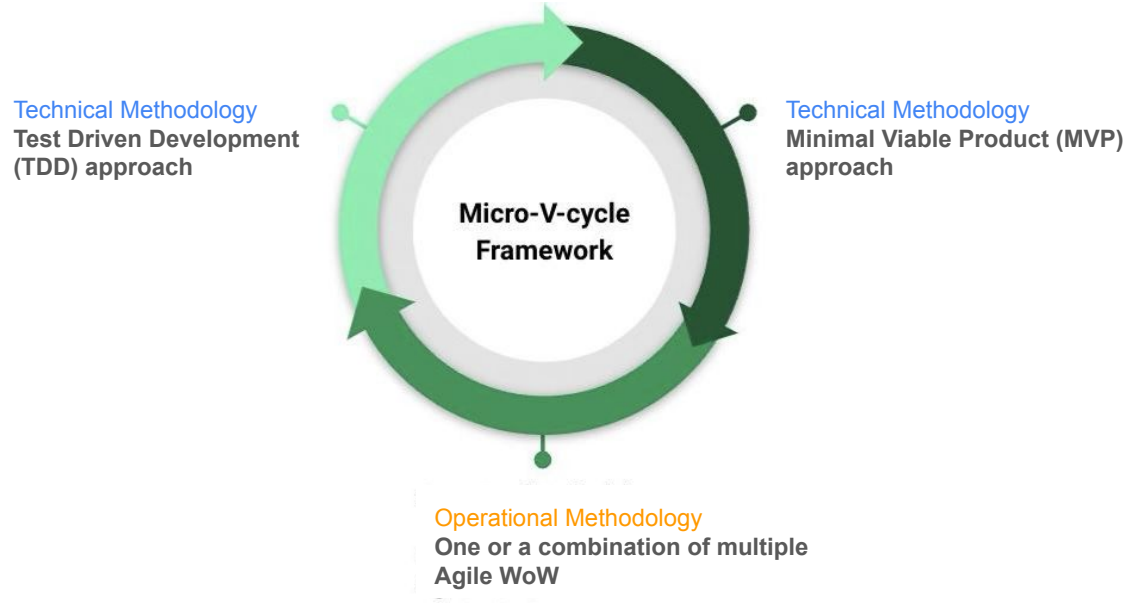
Software Project in Agile vs System Project in “Agile”



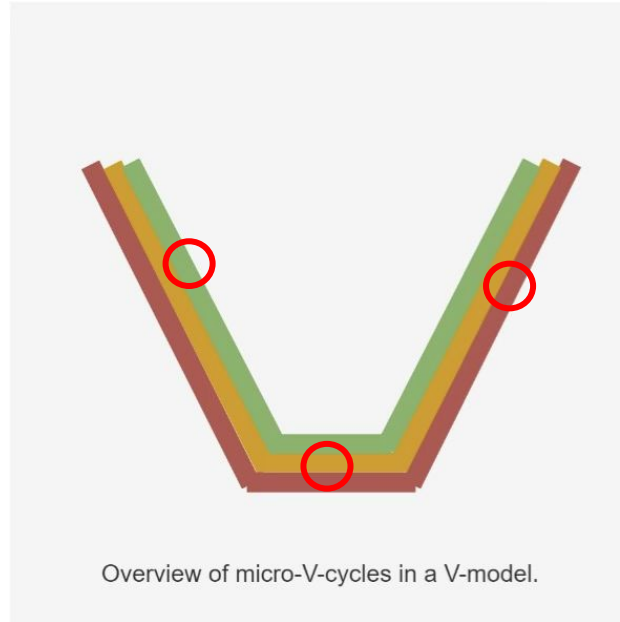
Challenges in System Projects with V-cycle

Feature / Capability	Agile Software Project	V-cycle System Project (Waterfall, Scrumfall)
Requesting certainty at the beginning of the project	✓ Low - middle.	⚠ Very high
Adaptability to Change	✓ Highly adaptive to changes	⊖ Resistant to change
Risk Exposure Timing	✓ Very early	⊖ Very late
Cross-disciplinary Collaboration	✓ Low dependency on other disciplinary.	⊖ Prone to information silos

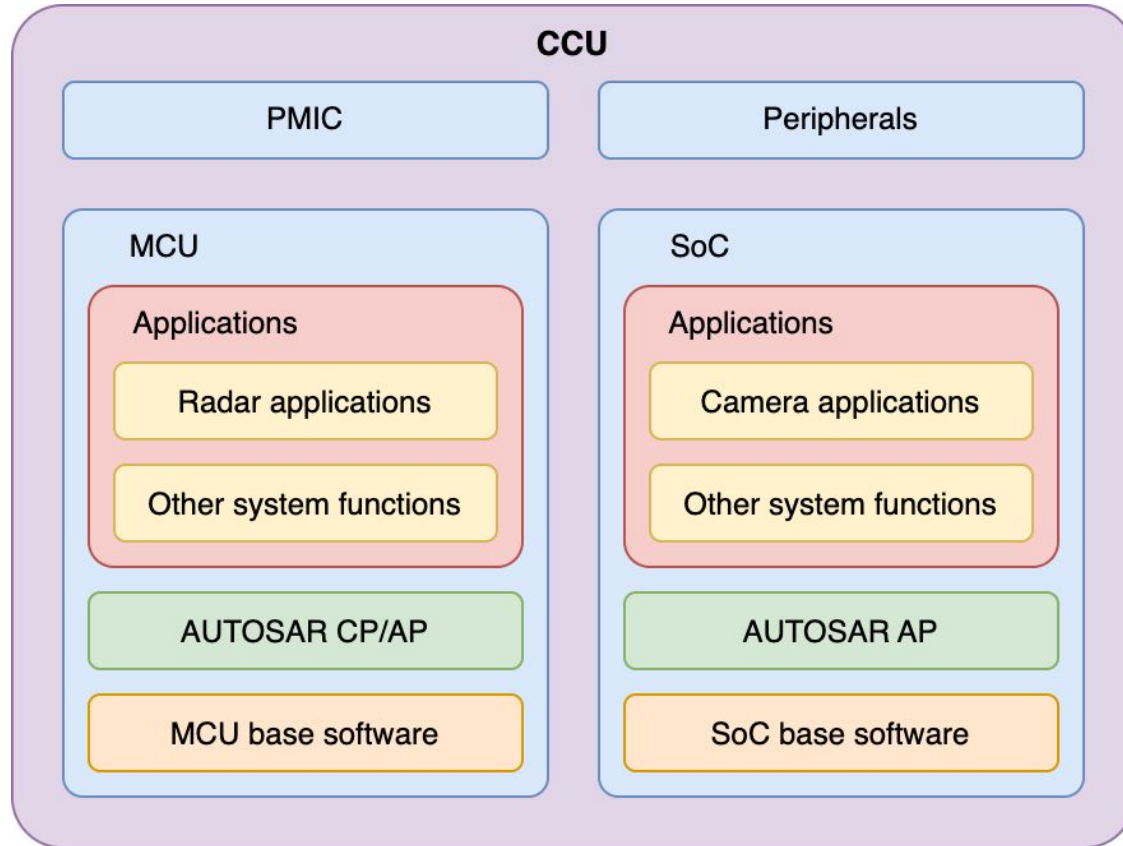
What is micro-V-cycle framework



Streamline micro-V-cycles



Example: an ADAS ECU for vehicle

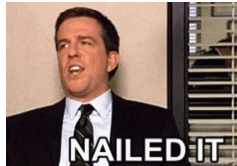
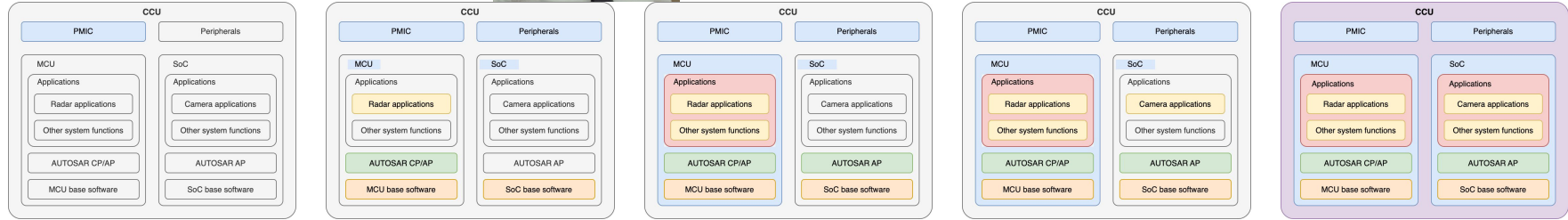


Background info for non-technical audience:

- CCU is the “brain” for smart vehicle. Like a PC.
- MCU is more robust. SoC is more powerful.
- MCU works as a backup for the system when Soc fails.

Micro-V-cycle: System architecture runway | value delivery

Customer



Orchestrated
Teams



Project progress

Benefits of system project with Micro-V-cycle framework

Feature / Capability	Agile Software Project	V-cycle System Project (Waterfall, Scrumfall)	System Project with micro-V-cycle
Requesting certainty at the beginning of the project	✓ Low - middle.	⚠ Very high	✓ Can handle certainty from low to high.
Adaptability to Change	✓ Highly adaptive to changes	⊖ Resistant to change	✓ Moderate – supports mid-course adjustments
Risk Exposure Timing	✓ Very early	⊖ Very late	✓ Early to mid-stage exposure of critical risks
Cross-disciplinary Collaboration	✓ Low dependency on other disciplinary.	⊖ Prone to information silos	✓ Built-in frequent synchronization

Why micro-V-cycle framework should work?

Why is the **V-cycle** framework widely used in system projects?

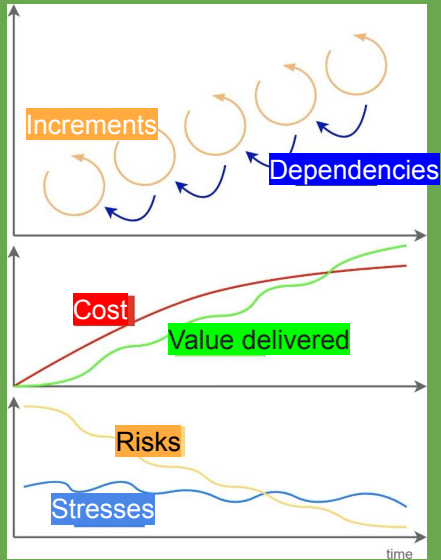
- The certainty.
- The right-branch validates the left branch. It's a loop.

Why is the **Agile WoW** widely used in software projects?

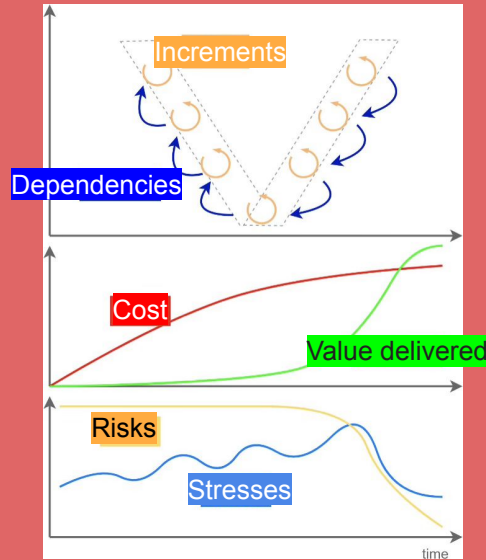
- Value-driven approaches.
- The key mechanism is, the loop is closed as soon as possible.

The micro-V-cycle framework fuses **the certainty** from V-cycle and the **agility** of agile WoW.

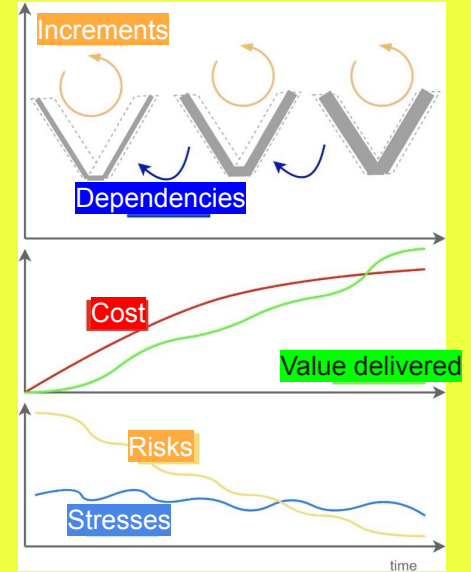
System Project goes agile with micro-V-cycle framework



Software projects



System projects



System projects

Secrets for applying micro-V-cycle effectively

Good **understanding the business model** to support prioritization.

Good **domain knowledge** for ensure engineering feasibility.

Good **agile knowledge** to execute agile WoW effectively.



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Welcome to contact us for more information!

Thank you!