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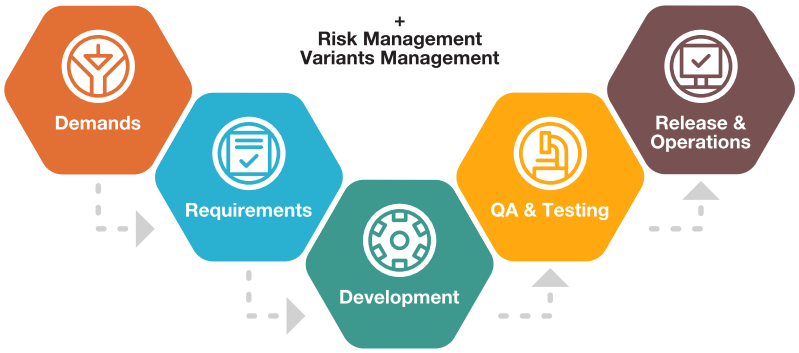
DIGITAL TRANSFORMS PHYSICAL

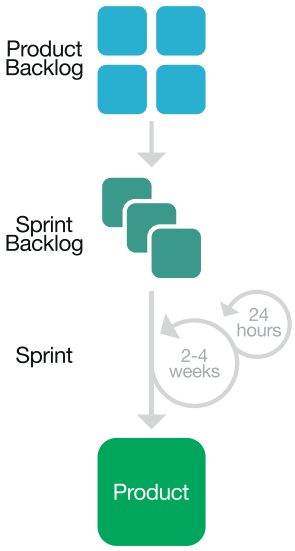
Agile-Waterfall Hybrid Template

codebeamer™

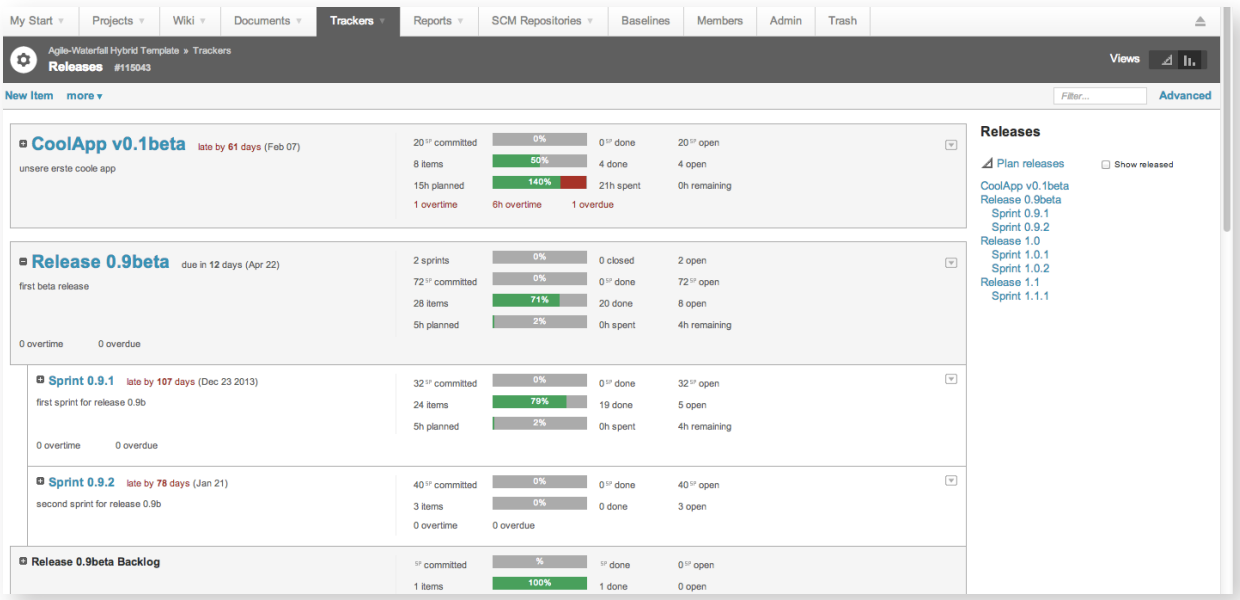
Agile-Waterfall Hybrid Template

Agile (and Scrum), and the Waterfall/V-model seem to be fundamentally different methods. They may, however, be complementary in complex, n-tier architecture development. In the case of system of systems development for the Internet of Things, for example, (scaled) Agile/Scrum, Waterfall/V-model and Hybrid release streams may be combined during the development of hardware, software, and service components.



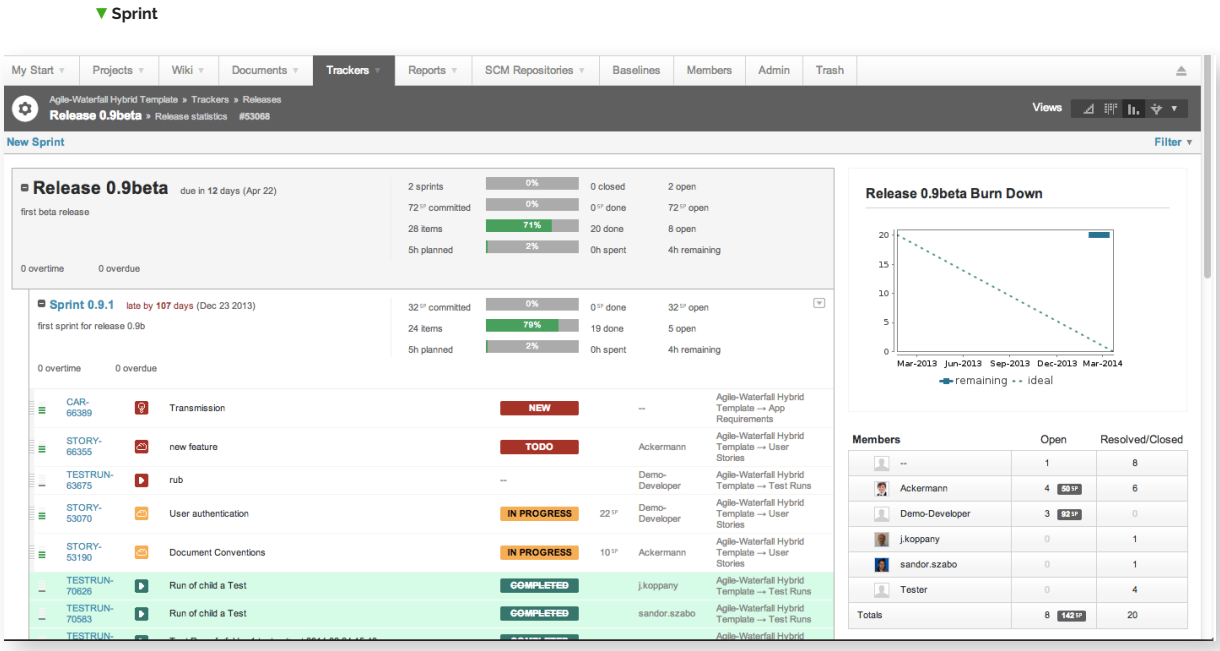


▼ Release



The main elements of Codebeamer's Agile-Waterfall Hybrid Template

- **Software user stories** are used in Agile/Scrum to define the basic unit of work for the Agile development team. **Tasks** generated from user stories can be attached to sprints, and assigned to team members.
- **System requirements** (requirements of hardware & architecture, as well as software requirements) describe the basic system architecture and design, both hardware and software.
- **Change Request** and **Bugs** are requests coming from Product Owners or Users to fix bugs or change certain features. A user-friendly Service Desk option is available to help users conveniently submit issues.
- **Test Management** features cover requirements-based testing (traceability from requirements to test cases) and parametrized testing on multiple hardware and software configurations. **Test cases** may be saved and re-used, executed manually or automatically, and their results as well as the test coverage of all requirements analyzed.
- **Release and Sprint planning** is supported by the Agile Planning Board with release statistics and Gantt charts. The planner offers a convenient drag & drop feature to create and manage release hierarchies and to edit releases using the Gantt chart.



Typical use cases for Agile-Waterfall Hybrid development

1. Product (system of systems) development for the Internet of Things = Hardware + Software + Service development lifecycles.

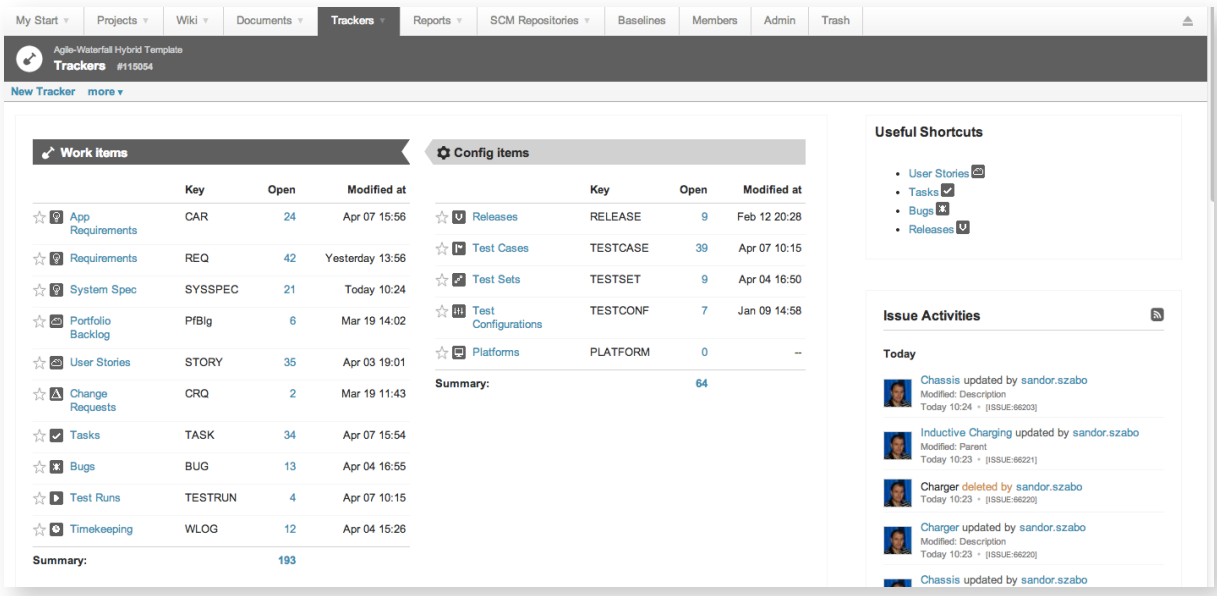
2. N-tier application development with legacy processes: software development is gradually modernized by adopting Agile, while collaboration with hardware teams (still using a Waterfall process) is important.

The benefits of using an Agile-Waterfall Hybrid approach in development

- Development units may keep using their tried and tested development methods while collaborating on a single product with other units that are adopting Agile.

- Easier adaptation to changes, with a focus on delivering quality products on time and on budget. The Waterfall/V-model component supports sticking to the predefined plan regarding the basic system architecture. The Agile component improves collaboration and enables teams to flexibly and efficiently adapt to changing requirements.

- Using the Hybrid methodology is greatly supported by our platform's Product Line Engineering functionality. This helps re-use and adapt software code to further variants of the same product, saving time and resources when dealing with a series of largely similar products.



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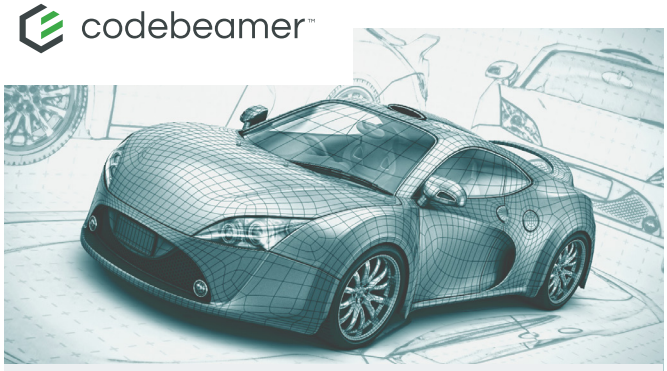

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