

# Herausforderungen bei agiler Entwicklung und agilem Testen

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Was ist agile Entwicklung?

Wie unterstützt HP QC die agile Entwicklung?

Agil mit HP QC: Herausforderungen & Lösungen

# Was ist agile Entwicklung?

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## Was ist agile Entwicklung?

Herangehensweise

Wertesystem

Methodenfamilie

Prinzipien & Praktiken

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# Herangehensweise

Iterativ & inkrementell

Kollaboration, Interaktion & Kommunikation (*KIK*)

- Im Software-Team (z.B. Planung)
- Software-Team & Kunde (z.B. Requirements)

Lauffähige Software

# Wertesystem

**Agile Manifesto** (2001)

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 in the items on the right, we value the items on the left more.

# Methodenfamilie

## SCRUM

Extreme Programming (XP)

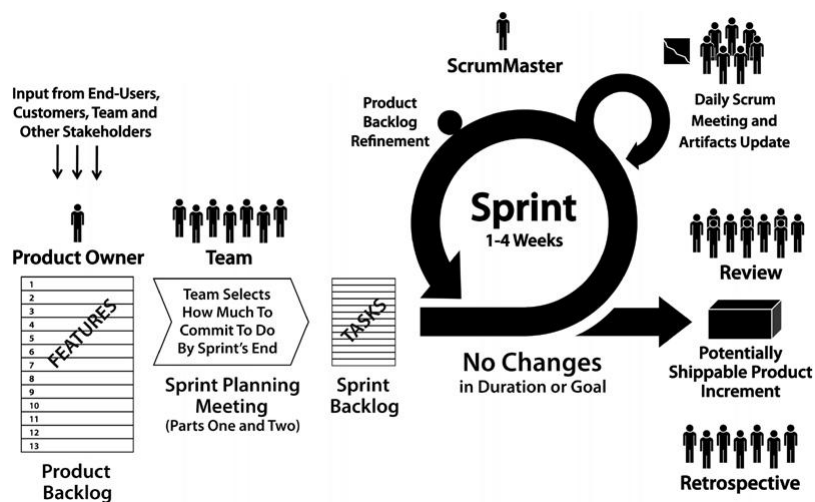
Lean Development

Kanban

u.v.a.m.

Anmerkung: In der Praxis findet man immer Mischformen und Anpassungen

# SCRUM



# Prinzipien

- Satisfy the customer through early and continuous delivery of valuable software
- Welcome changing requirements, even late in development
- Deliver working software frequently
- Establish daily collaboration between business people and developers throughout the project
- Provide motivated individuals with the environment and support they need, trust them to get the job done
- Apply face-to-face conversation for conveying information to and within a development team
- Use working software as the primary measure of progress
- Promote sustainable development through agile processes
- Pay continuous attention to technical excellence and good design
- Focus on simplicity—the art of maximizing the amount of work not done
- Be aware that the best architectures, requirements, and designs emerge from self-organizing teams
- Let the team reflect at regular intervals on how to become more effective, then let it tune and adjust its behavior accordingly

C. Larman, B. Vodde. Scaling Lean and Agile Development. Pearson Education, 2009.

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# Praktiken

## Projektmanagement

- Iterativ-inkrementell
- Ein Product-Owner
- On-site customer
- Priorisierter Produkt-Backlog (Arbeitsliste)
- Planning Game (Planning Poker)
- Aufwandsgeschätzter Sprint-Backlog
- Projektgeschwindigkeit (Velocity)
- Burndowncharts
- Tägliche Gesamtteammeetings

## Qualität

- Kontinuierliche Integration
- Testgetriebene Entwicklung
- Anforderungen sind User Stories
- Akzeptanztests durch den Endbenutzer

## Qualität (Forts.)

- Sprint Review Meeting
- Retrospektiven
- Paarweise-Programmierung
- Refactoring
- Standards
- System-Metapher

## Entwicklung

- Kontinuierliche Integration
- Paarweise-Programmierung
- Einfaches Design
- Refactoring
- Standards
- Kollektives Eigentum des Codes

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# Agile Entwicklung aus Test-Sicht

Typischerweise von Entwicklung getrieben

Testen gestärkt durch Unit-Testen, Abnahmetest und testgetriebene Entwicklung

Fokus auf Testautomatisierung

Systemtest-Ebene stark vernachlässigt

Komplexe Umgebungen erfordern wesentliche Anpassungen

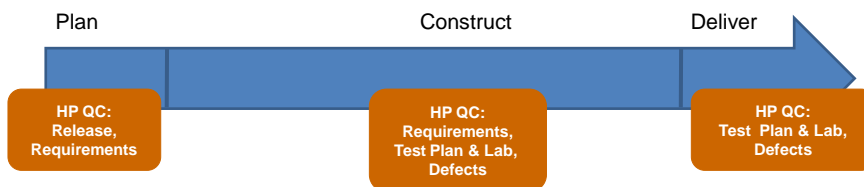
# Wie unterstützt HP QC die agile Entwicklung?

# Two Types of HP QC Application

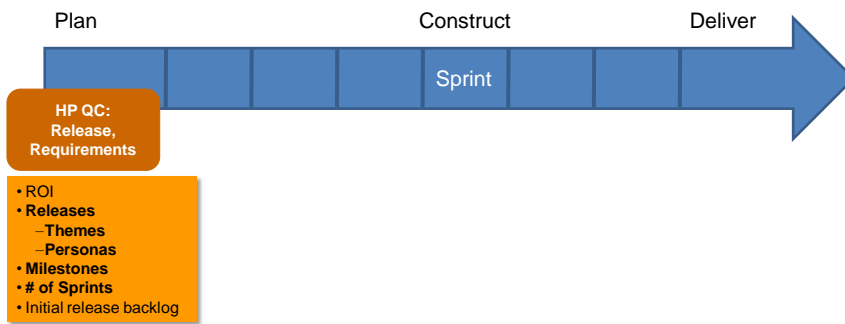
HP QC as agile ALM tool

HP QC as agile testing tool

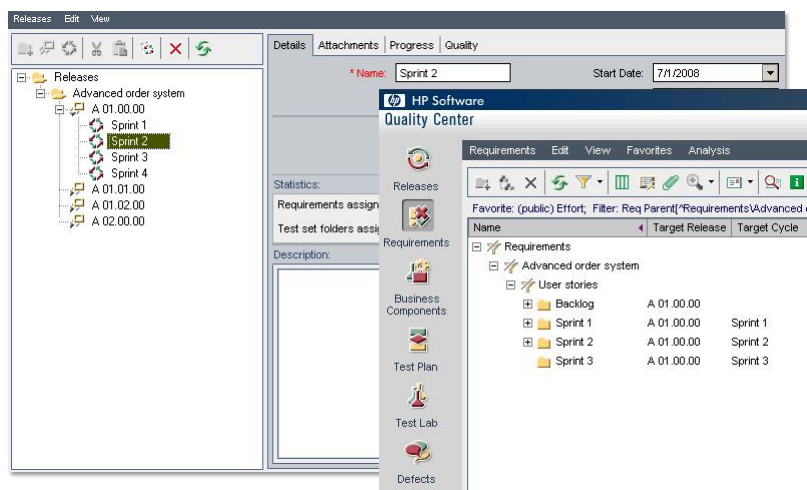
# Agile Development: From Idea to Release



# Release and Sprint Planning

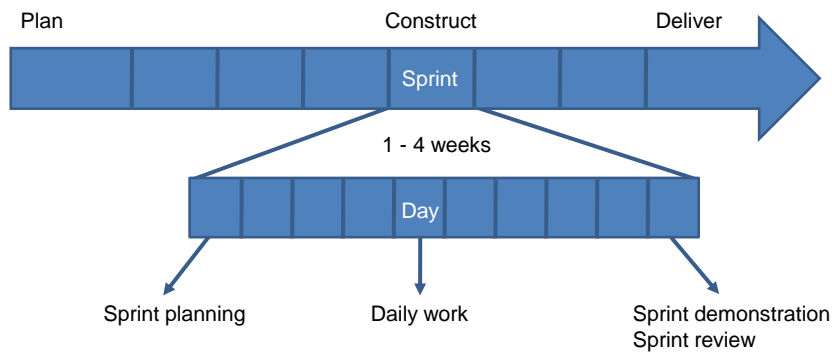


# QC Sprint Planning





# Daily Activities & Support by HP QC

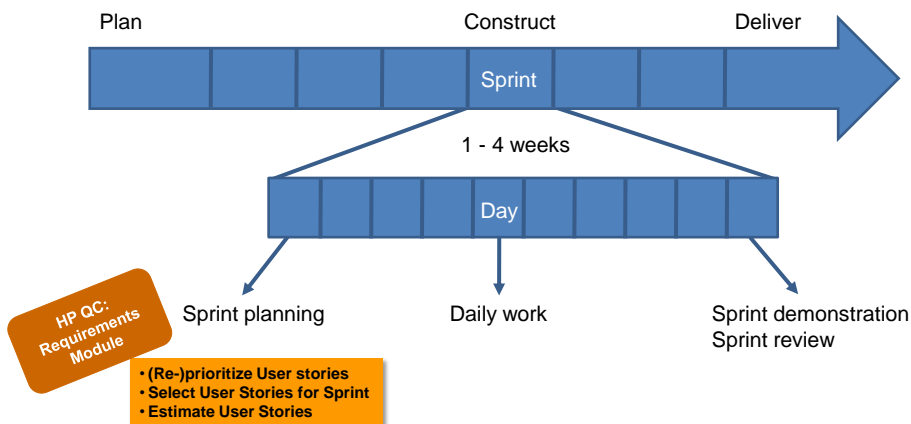


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# Daily Activities & Support by HP QC

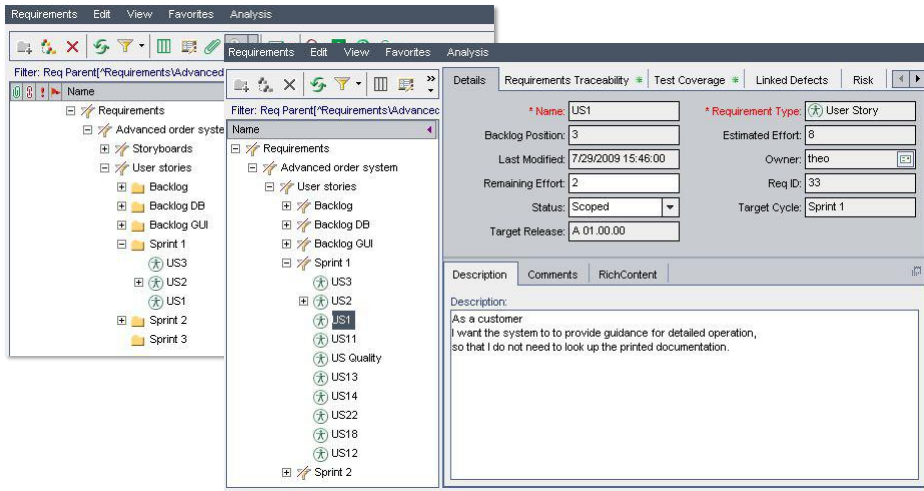


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# User Stories im Requirements Module

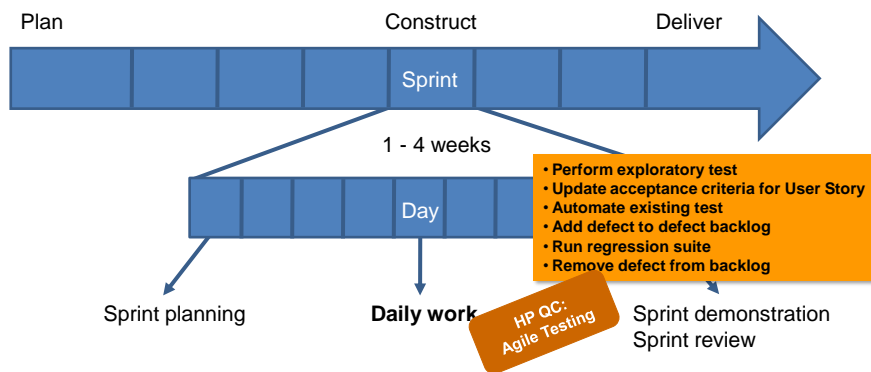


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# HP QC and as Agile Testing Solution

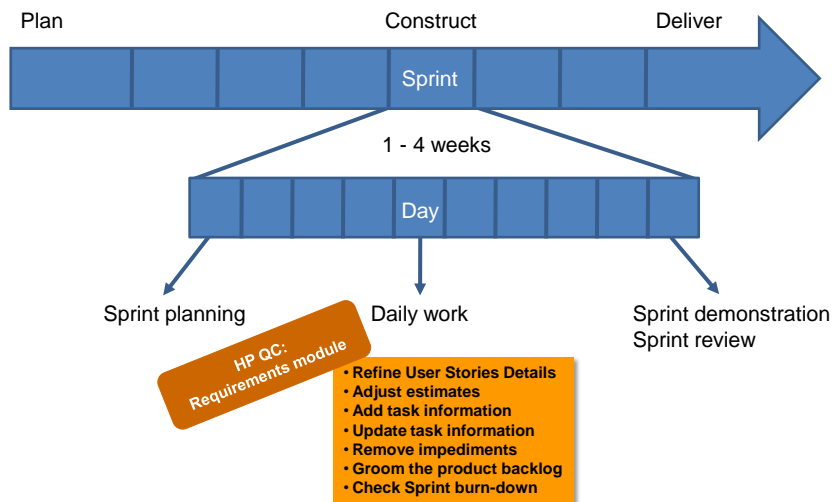


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# Daily Activities & Support by HP QC

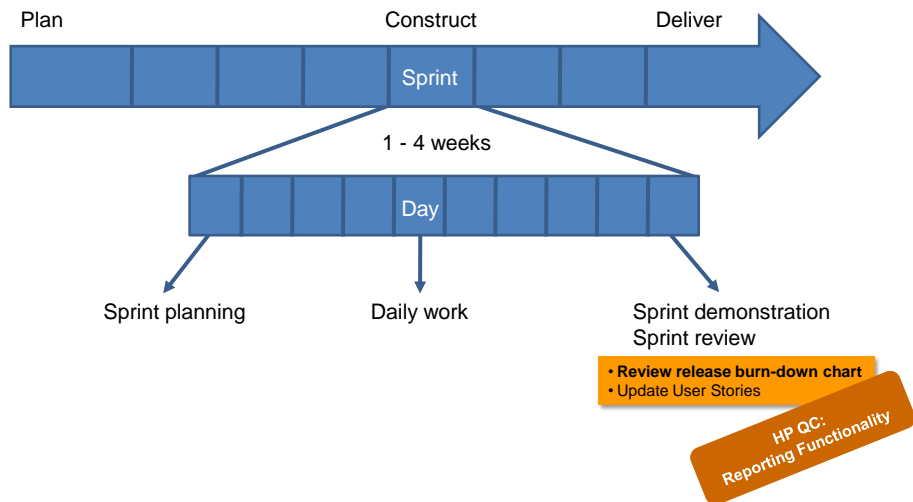


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# Daily Activities & Support by HP QC

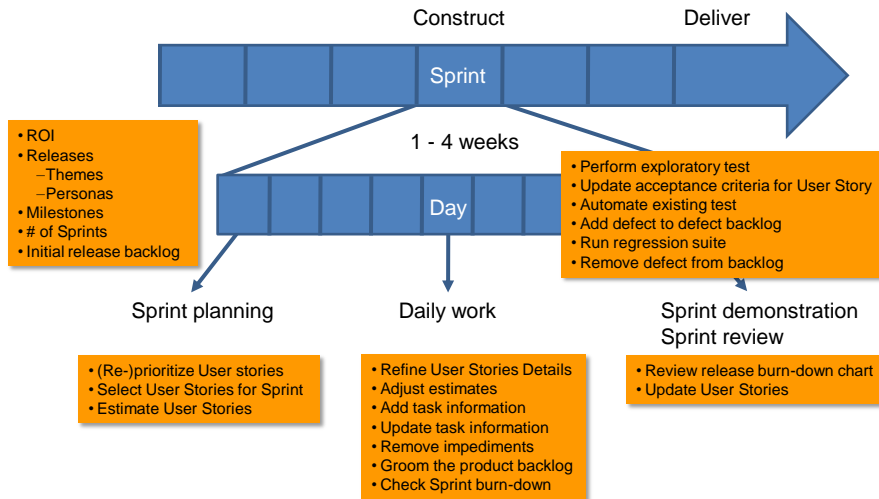


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# HP QC as ALM solution

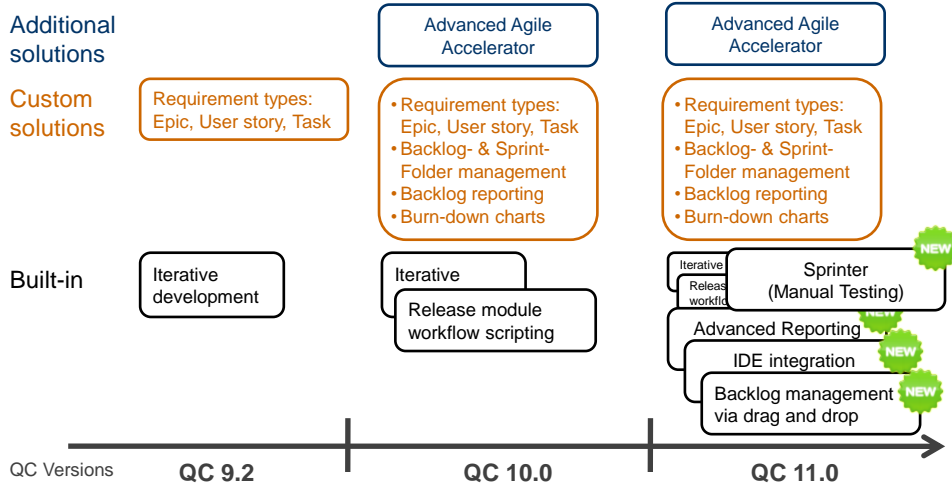


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# HP QC Support for Agile ALM



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# Agil mit HP QC: Herausforderungen & Lösungen

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## Herausforderungen

Rolle des Testers

Integration des Testens in den Entwicklungsprozess

Effiziente Testautomatisierung

Reporting

Umgang mit unfertigen, sich ändernden Anforderungen

Defect-Management in agiler Entwicklung

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# Integration des Testens in den Entwicklungsprozess

Evolvierender Testplan: Tests in Etappen iterativ entwickeln

In frühen Iterationen auf Testvorbereitung fokussieren

Tests schnell anpassen und zügig stufenweise automatisieren (u.a. Exploratives Testen)

Zusammenwirken zwischen Entwicklung & Testen

*Informell:* Tester nimmt an Daily SCRUM teil

*Formal:* Information mit Tool explizit machen

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## **Reporting**

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# Herausforderungen: Metriken

Welche Metriken sind im agilen Umfeld neu?

Welche Metriken müssen angepasst werden?

Welche Metriken sollten wir nicht mehr nutzen?

„Casual“ oder quantitativ?

Für das Team oder Management?

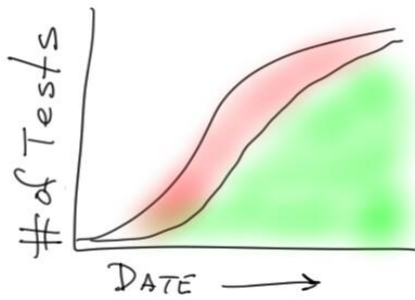
Wie sind die Metriken zu interpretieren?

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## Testentwicklung & -status (Casual Style)



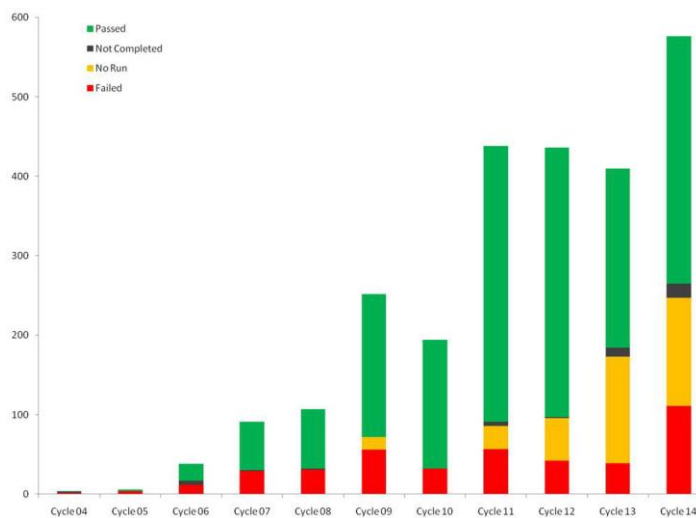
Ron Jeffries: Big visible charts

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## Testentwicklung und -status in HP QC



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## Project Progress: Burndown (Casual Style)



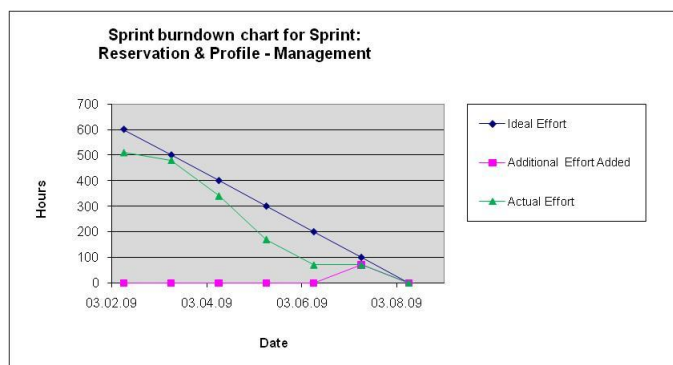
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## Project Progress: Burndown in HP QC



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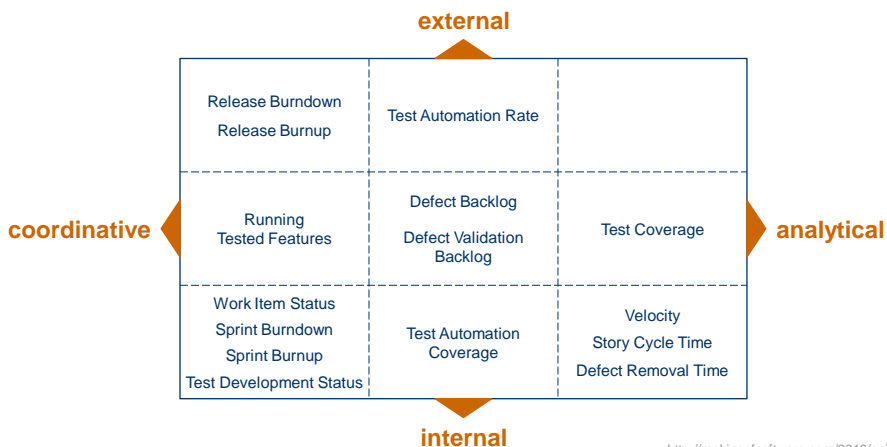
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## Weitere mögliche Metriken

- Automatisierungsrate
- Automatisierungsaufwand
- Darstellung über Iterationen hinweg
- Zeit, die benötigt wird Fehler zu beseitigen
- QA Aufwand für Rework
- Vermiedene Fehler durch Tester

## Das Agile Metrics Grid als Orientierung



# Vielen Dank!

## Kontakt



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## Blogs

<http://agileQC.net>  
<http://MakingOfSoftware.com>