



QCON 2009 - Beijing



Improving your Process Performances with Agile

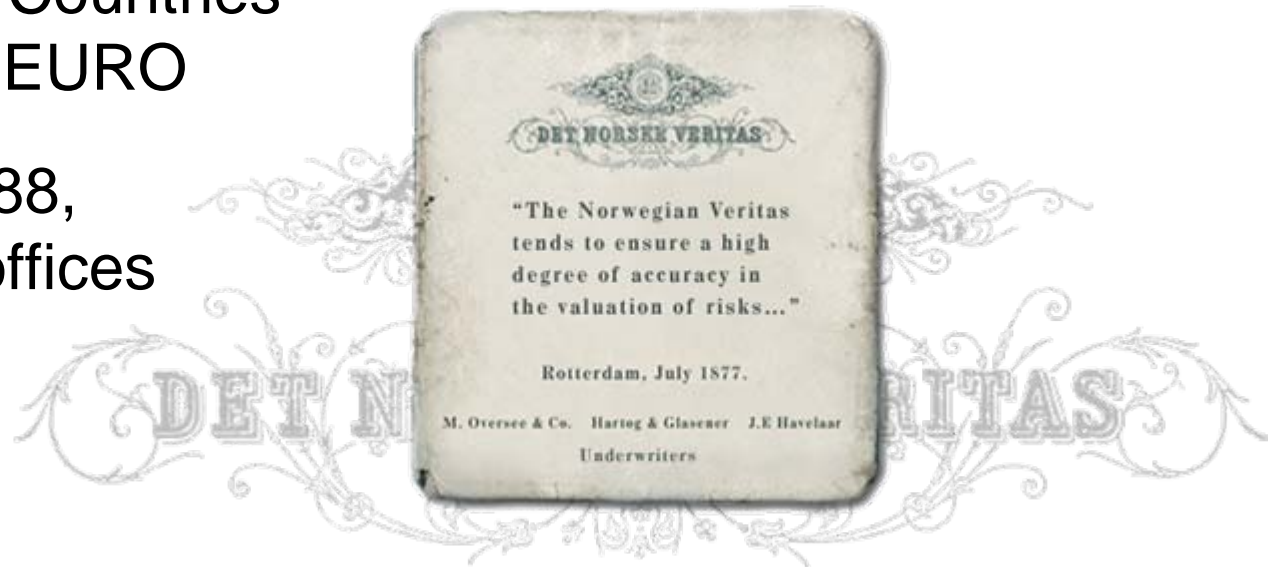
Yann HAMON
DNV IT Global Services, Managing Director

More than 140 years of managing risk

MANAGING RISK



- Det Norske Veritas (DNV) was established in 1864 in Norway
- Safeguarding Life Property and the Environment
 - 4 Business Areas: Maritime, Energy, Business Assurance, IT Global Services
- 8000 people, 100 Countries
300 Offices, 1 Bn EURO
- In China since 1888,
1000 people, 40 offices





■ Enhancing Trust and Confidence in IT

- IT Risks: Safety critical systems, Business critical systems, Engineering and Development risk factors (e.g. delay, cost, quality)
- Consulting Services Areas
 - System Safety and Information Security
 - System and Application Architecture
 - IT Projects Management
 - Knowledge Management
 - System and Software Process Improvement

■ Process Improvement

- Since 1990, 150+ Experts Worldwide, 20+ SEI LA/Instructors
- CMMI, SPICE, 6-Sigma, Lean and Agile
- Outsourcing Strategy and Operational Support
- People-CMM



Agile Software Development





- Agile (Oxford Dictionary):

(adj.) Able to move quickly and easily

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.**

Kent Beck, Mike Beedle, Arie van Bennekum, Alistair Cockburn, Ward Cunningham, Martin Fowler, James Grenning, Jim Highsmith, Andrew Hunt, Ron Jeffries, Jon Kern, Brian Marick, Robert C. Martin, Steve Mellor, Ken Schwaber, Jeff Sutherland, Dave Thomas

■ From Successive Transformations...

- Requirements, Specifications, Design, Code, ...
- Quality: Intermediate work products
 - Consistency, completion wrt Input/Output
- Difficulty
 - Handoff chain, volume/complexity, introduction of defects, intermediate checks, changes, tunnel effect, long feedback loop

■ ... To Incremental Development

- Quick addition of few new features on an existing product, no much need for comprehensive intermediate work products
- Quality: Executable software
 - Robustness, Customer satisfaction/acceptance
- Difficulty
 - Customer involvement, iterative project management, architecture and design, discipline, regression testing

■ Methods

- XP – Beck, 1999
- Scrum – Sutherland, Schwaber and Beedle, 2002
- DSDM – Stapleton, 1995
- FDD – De Luca, Palmer and Felsing, 2002
- RUP – Kruchten, 2000
- Lean – Poppendieck

■ Practices

- Iterative Development, Small Releases, Sprint, Risk-driven, Architecture centric, Shippable product, Sustainable Pace, Time-boxing, Product Owner, On-site Customer, Whole Team, Self-managed Team, Reflection
- Planning Game, Product Owner, Product and Spring backlog, Daily Scrum, Sprint review Feature, Use Case, Story, MOSCOW, priority
- Metaphor, Simple Design, TDD, Non-regression Testing, Pair Programming, Collective Code Ownership, Refactoring, Coding Standards
- Burn down chart, Continuous Integration, Automated Development environment

- Product Quality Focus
 - Technical excellence of individuals
 - Fast Release Cycle
 - Focus on Efficiency
 - Driven by Customer Value
 - Responsive to change

 - Mixing Agile and CMMI works
 - High ML organizations use Agile for improving the process performances
 - CMMI approach is used for improving Agile practices repeatability and efficiency
- Process Quality Focus
 - Defined, Controlled, optimized processes
 - Effective and repeatable process
 - Focus on Development Management
 - Method for Process Improvement
 - Framework for benchmarking

Repeatable and controlled Agile processes

■ Agile Benefits

- KISS: Keep it Simple Stupid
- Face-to-face communication
- Focused and cohesive team
- Short release cycle with executable deliveries
- Early and continuous feedback at all levels (customer, colleagues, tools)
- “Just-in-time” development of requirements reduces rework
- Self-organized, empowered team
- Advanced automation of the environment

■ Practices

- Sprint, Risk-driven, Shippable product, Time-boxing, On-site Customer, Self-managed Team, Reflection, Daily Scrum (impediments), Story, MOSCOW, Metaphor, Simple Design, Pair Programming, Collective Code Ownership, Continuous Integration, Automated Development environment

■ Agile Benefits

- Maximize customer value: Most important features first
- Small releases ensure always as much as possible in the product
- “Just-in-time” development of requirements reduces waiting time
- Less intermediate work products reduces lead time
- No integration tunnel
- Continuous customer feedback ensures acceptance
- Planning designed for supporting changes

■ Practices

- Iterative Development, Small Releases, Shippable product, Sustainable Pace, Time-boxing, On-site Customer, Planning Game, Story, MOSCOW, Collective Code Ownership, Continuous Integration, Automated Development environment

■ Agile Principles

- KISS
- Technical excellence and discipline
- Techniques for reducing defects Injection
- Highly focused on testing and testing automation
- Early defect detection allowing quicker/cheaper fixing process

■ Practices

- Small Releases, Sprint review, Shippable product, On-site Customer, Whole Team, Reflection, Simple Design, TDD, Non-regression Testing, Pair Programming, Collective Code Ownership, Refactoring, Continuous Integration, Automated Development environment

Agile for Improving Maintainability

■ Agile Principles

- KISS
- Technical excellence and discipline
- Highly focused on (regression) testing and testing automation
- Strong consistency of design/coding culture within the team

■ Practices

- Architecture centric, Reflection, Planning Game, Metaphor, Simple Design, Collective Code Ownership, Refactoring, Non-regression testing, Automated Software Development Environment, Coding Standards

Agile and CMMI Alternative Practices



Organizational

OPF Org. Proc. Foc.	OPD Org. Proc. Def.	OT Org. Training	OPP Org. Proc. Perf.	OID Org. Innov. & Dep.
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Project

PP Proj. Plan.	PMC Org. Proc. Foc.	SAM Sup. Agr. Mgmt	RSKM Risk. Mgmt	IMP Int. Proj. Mgmt	QPM Quant. Proj. Mgmt
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Engineering

REQM Req. Mgmt.	RD Req. Dev.	TS Tech. Sol.	PI Prod. Integ.	VER Verification	VAL Validation
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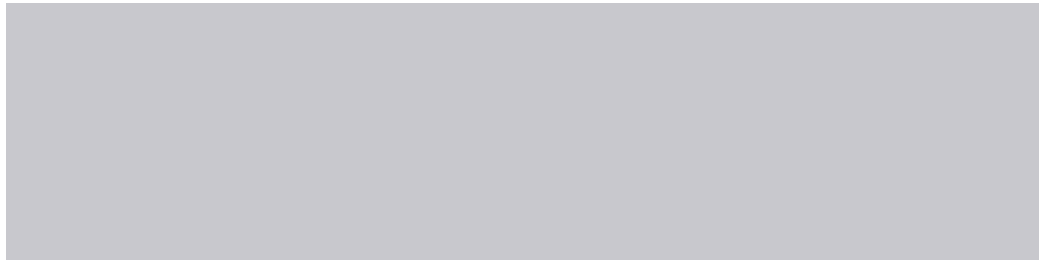
Support

CM Conf. Mgmt.	PPQA Proc. & Prod. Qual. Ass.	MA Measur. & Ana.	DAR Dec. Ana. & Res.	CAR Caus. Ana. & Res.
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- Created in 2007/2008
- Sponsored by DNV, Animated by 8 volunteers
- Objectives
 1. To learn about CMMI, Agile and AgileCMMI
 2. To measure the effectiveness and efficiency of AgileCMMI software development
 3. To share lessons learned regarding the introduction and deployment of AgileCMMI in an organization
 4. To promote and transition AgileCMMI techniques and processes into the Chinese software community
 5. To develop a set of AgileCMMI process assets

www.AgileCMMI.cn

- Agile Software Development: Mature and efficient practices
- CMMI: Proven framework for process improvement
- Agile & CMMI is a hot topic
 - Agile momentum
 - SEI website
 - SEPG US 2009
- More and more customers ask for mixing CMMI rigorous approach with responsiveness and adaptability
 - Increasing volatility of requirements
 - Strict marketing window
 - Fast changing business environment
 - Innovation race



Thank You
