Help !

We have a QA Problem !

Niels Malotaux

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www.malotaux.eu/conferences
www.malotaux.eu/booklets - booklet#8

Niels Malotaux

- Independent Engineering and Team Coach
- Expert in helping projects and organizations to quickly become
  - More effective - doing the right things better
  - More efficient - doing the right things better in less time
  - More predictable - delivering as needed
- Getting projects back on track
- Embedded Systems architect (electronics/firmware)
- Project types
  electronic products, firmware, software, space, road, rail, telecom, industrial control, parking system

Quality On Time

Delivering
the Right Result
at the Right Time

Punctuation can be important

- Help! We have a QA problem with Niels Malotaux

- Help! We have a QA problem : with Niels Malotaux

We have a QA problem !

- Large stockpile of modules to test
  (hardware, firmware, software)
- You shall do Full Regression Tests
- Full Regression Tests take about 15 days each
- Too few testers (“Should we hire more testers ?”)
- Senior Tester paralyzed
- Can you help us out ?

The essential ingredient: the PDCA Cycle

(Shewhart Cycle - Deming Cycle - Plan-Do-Study-Act Cycle - Kaizen)

www.malotaux.eu/?id=PDCA

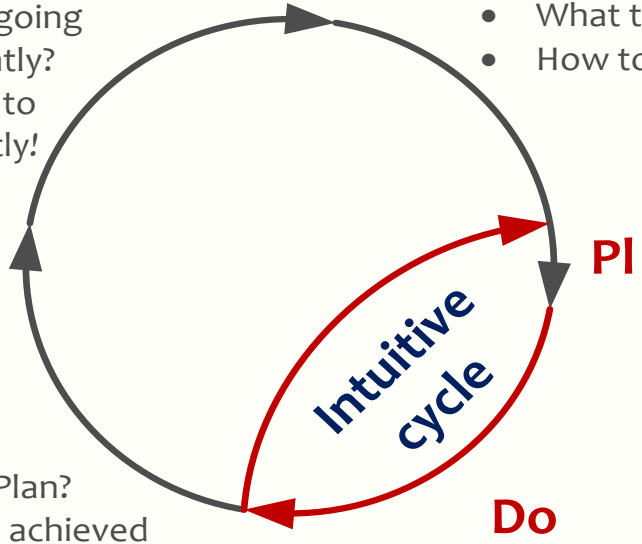
Deming

Act

- What are we going to do differently?
- We are going to do it differently!

Plan

- What to achieve
- How to achieve it



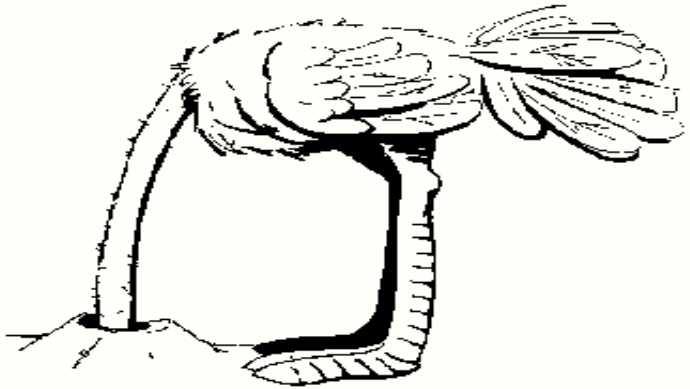
Pl

Check

- Is the Result according to Plan?
- Is the way we achieved the Result according to Plan?

Do

Do something



Instead of complaining about a problem …

(Stuck in the Check-phase)

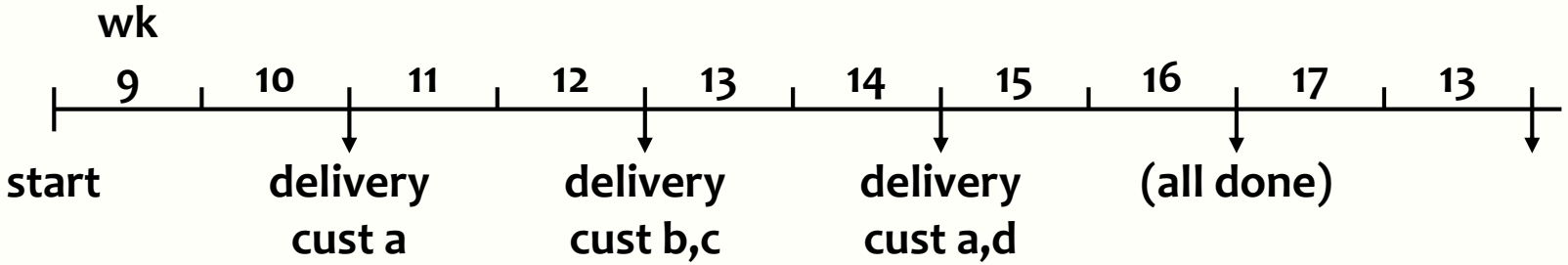
Let’s do something about it !

(Moving to the Act-phase)

Objectifying and quantifying the problem is a first step to the solution

Line	Activity	Estim	Alternative	Junior tester	Developers	Customer	Will be done ? (now=22Feb)
1	Package 1	17	2	17	4	HT	
2	Package 2	8	5		10	Chrt	
3	Package 3	14	7	5	4	BMC	
4	Package 4 (wait for feedback)	11				McC?	
5	Package 5	9	3		5	Ast	
6	Package 6	17	3	10	10	?	
7	Package 7	4	1		3	Cli	
8	Package 8.1	1	1			Sev	
9	Package 8.2	1	1			?	
10	Package 8.3	1	1			Chrt	
11	Package 8.4	1	1			Chrt	
12	Package 8.5	1.1	1.1			Yet	
13	Package 8.6	3	3			Yet	
14	Package 8.7	0.1	0.1			Cli	
15	Package 8.8	18	18			Ast	
	totals	106	47	32	36		

TimeLine



Selecting the priority order of customers to be served

- "We'll have a solution at that date … Will you be ready for it ?"
  Another customer could be more eagerly waiting
- Most promising customers

Can we make an important customer happy the next day ?

Line	Activity	Estim	Alternative	Junior tester	Developers	Customer	Will be done (now=22Feb)
1	Package 1	17	2	17	4	HT	
2	Package 2	8	5		10	Chrt	
3	Package 3	14	7	5	4	BMC	
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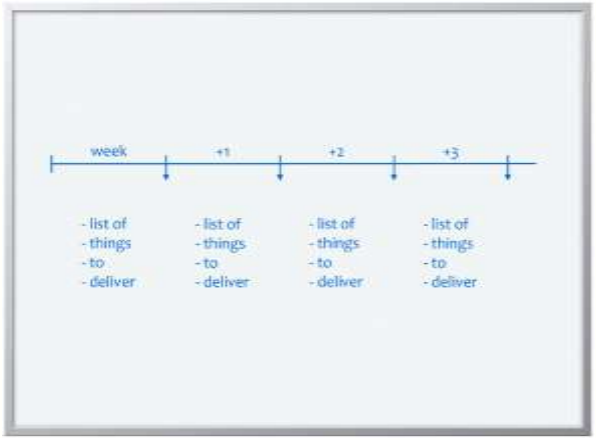
5	Package 5	9	3		5	Ast	
6	Package 6	17	3	10	10	?	
7	Package 7	4	1		3	Cli	
8	Package 8.1	1	1			Sev	
9	Package 8.2	1	1			?	
10	Package 8.3	1	1			Chrt	
11	Package 8.4	1	1			Chrt	24 Feb
12	Package 8.5	1.1	1.1			Yet	
13	Package 8.6	3	3			Yet	24 Mar
14	Package 8.7	0.1	0.1			Cli	after 8.5 OK
15	Package 8.8	18	18			Ast	
	totals	106	47	32	36		

Result



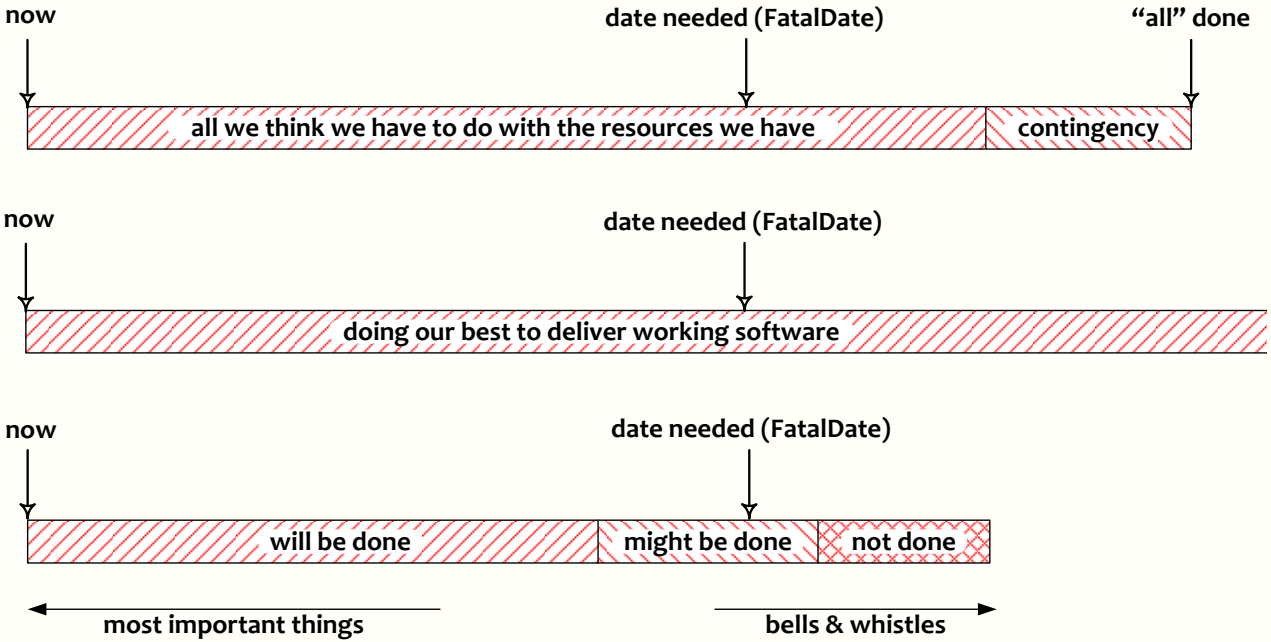
- Tester empowered
- Done in 9 weeks
- So-called “Full Regression Testing” was redesigned
- Customers systematically happy and amazed
- Kept up with development ever since
- Increased revenue

Later:

- Tester promoted to product manager
- Still coaching successors how to plan

TimeLine

How do we know that we get, and do *what* is needed, *when* it's needed ?



- Better 80% 100% done, than 100% 80% done
- Let it be the most important 80%

www.malotaux.eu/?id=timeline

TimeLine principles

Line	Activity	Estim	Alter native	Junior tester	Devel opers	Customer	Will be done (now=22Feb)
1	Package 1	17	2	17	4	HT	
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3	Package 3	14	7	5	4	BMC	
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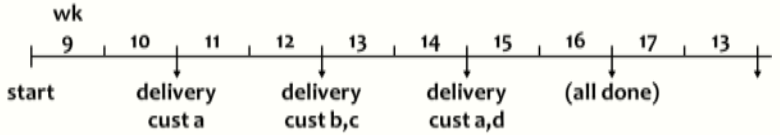
6	Package 6	17	3	10	10	?	
7	Package 7	4	1		3	Cli	
8	Package 8.1	1	1			Sev	
9	Package 8.2	1	1			?	
10	Package 8.3	1	1			Chrt	24 Feb
11	Package 8.4	1	1			Chrt	
12	Package 8.5	1.1	1.1			Yet	28 Feb
13	Package 8.6	3	3			Yet	24 Mar
14	Package 8.7	0.1	0.1			Cli	After 8.5 OK
15	Package 8.8	18	18			Ast	
	totals	106	47	32	36		

- Cutting the work into chunks
- Estimating (usually takes very little time)
- Adding up (this averages the uncertainties !)
- Usually doesn't fit in the available time
- Find strategies to solve the dilemma
- Select 'best' strategy
- Predict what will happen when
- Learn and repeat every week, keeping predictions up-to-date



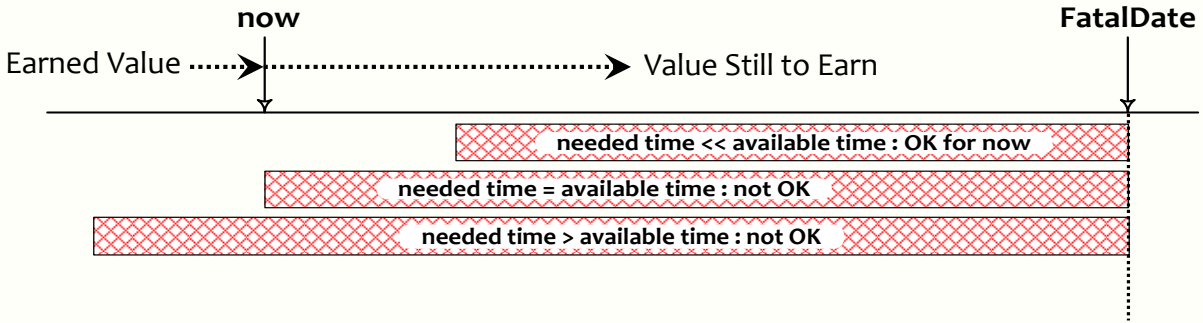
TimeLine: Predicting *what* may be done *when*

21/15 = 1.4

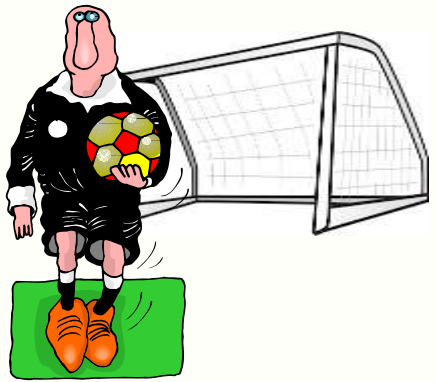
Line	Activity	Estim	Spent	Still to spend	Ratio real/est	Calibr factor	Calibr still to	Date done
1	Activity 1	2	2	0	1.0			
2	Activity 2	5	5	1	1.2	1.0	1	30 Mar 2009
3	Activity 3	1	3	0	3.0			
4	Activity 4	2	3	2	2.5	1.0	2	1 Apr 2009
5	Activity 5	5	4	1	1.0	1.0	1	2 Apr 2009
6	Activity 6	3				1.4	4.2	9 Apr 2009
7	Activity 7	1				1.4	1.4	10 Apr 2009
8	Activity 8	3				1.4	4.2	16 Apr 2009
↓	↓							
16	Activity 16	4				1.4	5.6	2 Jun 2009
17	Activity 17	5				1.4	7.0	11 Jun 2009
18	Activity 18	7				1.4	9.8	25 Jun 2009

What do we do, if we see we won't make it on time ?

What are we going to do about it ?
because
Failure is not an option



- Value Still to Earn ←versus→ Time Still Available
- If it doesn't fit ... count backwards
- If the match is over, we cannot score a goal



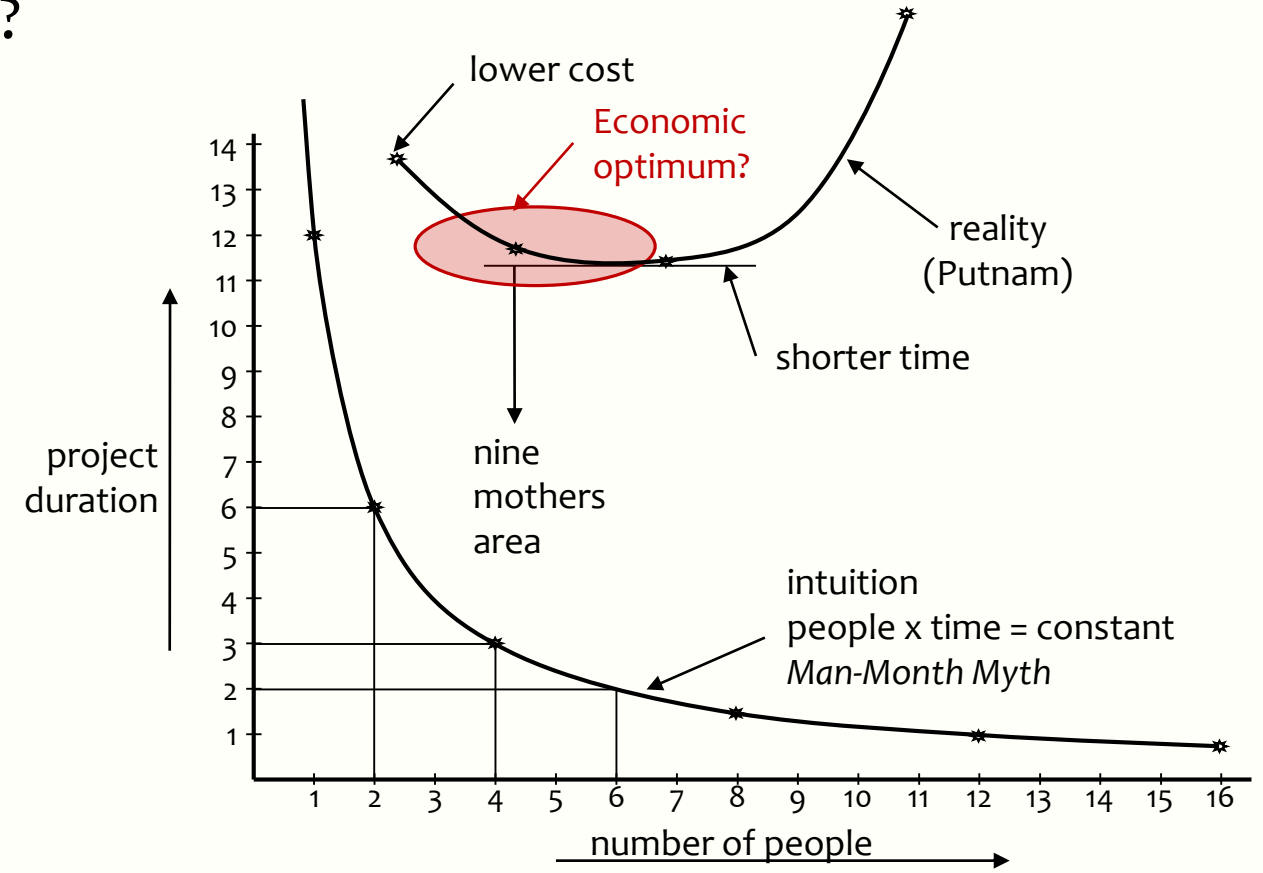
Deceptive options

www.malotaux.eu/?id=options

- Hoping for the best (fatalistic)
- Going for it (macho)
- Working Overtime (fooling ourselves)
- Moving the deadline
  - Parkinson's Law
    - Work expands to fill the time for its completion
  - Student Syndrome
    - Starting as late as possible,
      only when the pressure of the FatalDate is really felt

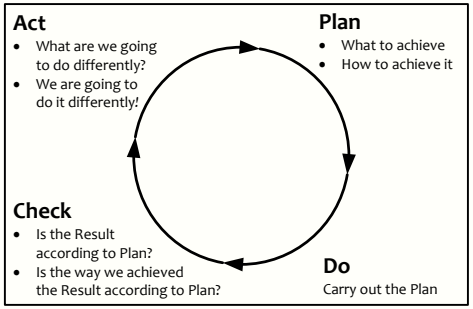
Adding people ?

Brooks' Law (1975)
Adding people
to a late project
makes it later



Saving time

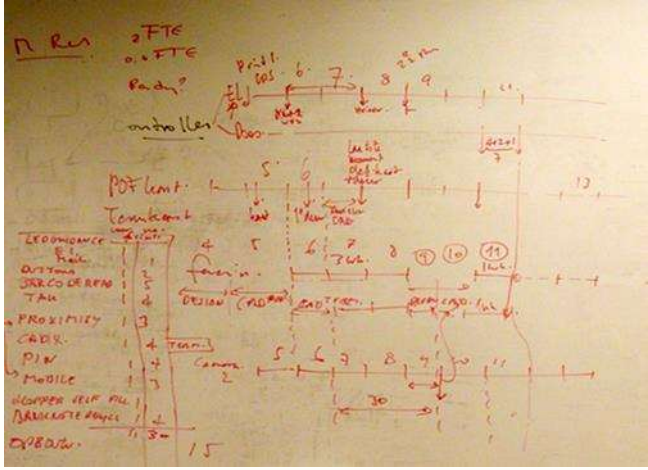
Continuous elimination of waste (www.malotaux.eu/?id=essenceoflean)



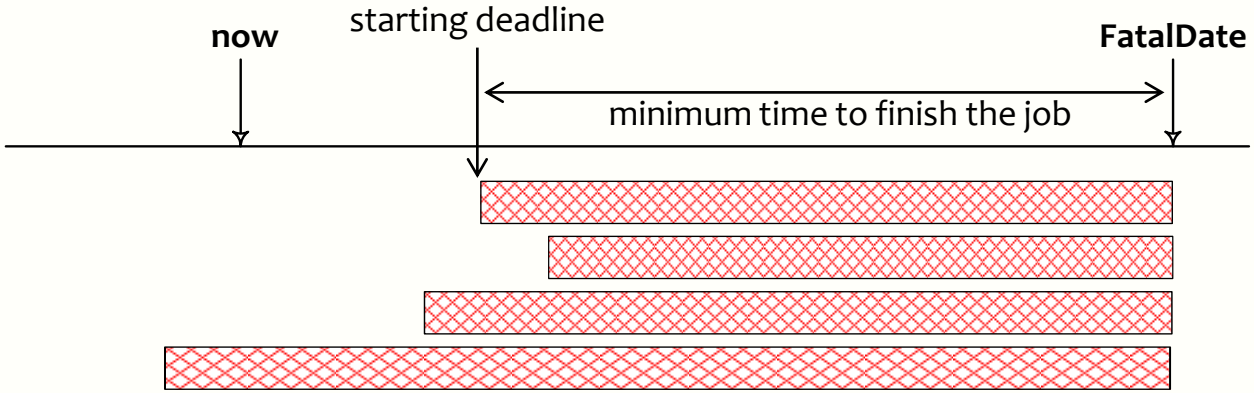
We don't have enough time, but we can save time
without negatively affecting the Result !

- Efficiency in *what* (*why*, for *whom*) we do - doing the right things (www.malotaux.eu/?id=evo)
  - *Not* doing what later proves to be superfluous
- Efficiency in *how* we do it - doing things differently
  - The product (www.malotaux.eu/?id=designlog)
    - Using proper and most efficient solution, instead of the solution we always used
  - The project (www.malotaux.eu/?id=projectmanagement)
    - Doing the same in less time, instead of immediately doing it the way we always did
  - Continuous improvement and prevention processes (www.malotaux.eu/?id=PDCA)
    - Constantly learning doing things better and overcoming bad tendencies
- Efficiency in *when* we do it - right time, in the right order
- TimeBoxing - much more efficient than FeatureBoxing (www.malotaux.eu/?id=timeboxing)

Even more important: *Starting* Deadlines

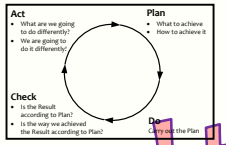


- Starting deadline
  - Last day to start to make the finish deadline
  - Every day we start later, we will end later



Evolutionary Project Management elements (Evo)

www.malotaux.eu/?id=processes – Tom Gilb



- Plan-Do-Check-Act
  - The powerful ingredient for success
- Business Case
  - *Why* we are going to improve *what*
- Requirements Engineering
  - *What* we are going to improve and *what not*
  - How much we will improve: *quantification*
- Architecture and Design
  - Selecting the *optimum compromise for the conflicting requirements*
- Early Review & Inspection
  - Measuring quality while doing, learning to prevent doing the wrong things
- Weekly TaskCycle
  - Short term planning
  - Optimizing estimation
  - Promising what we can achieve
  - Living up to our promises
- Bi-weekly DeliveryCycle
  - Optimizing the requirements and checking the assumptions
  - Soliciting feedback by delivering Real Results to *eagerly waiting Stakeholders*
- TimeLine
  - Getting and keeping control of Time: Predicting the future
  - Feeding program/portfolio/resource management

Why

What
How much
Are we done

How

Check as early as possible

Zero Defects Attitude

Evo Project Planning - Niels

Efficiency of what we do

Effectiveness of what we do

What will happen, and what will we do about it ?

Right Result

Quality On Time

Right Time

Help !

Problem Solved

We have a QA Problem !

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www.malotaux.eu/conferences
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More

www.malotaux.eu/booklets

1 Evolutionary Project Management Methods (2001)
Issues to solve, and first experience with the Evo Planning approach

2 How Quality is Assured by Evolutionary Methods (2004)
After a lot more experience: rather mature Evo Planning process

3 Optimizing the Contribution of Testing to Project Success (2005)
How Testing fits in

3a Optimizing Quality Assurance for Better Results (2005)
Same as Booklet 3, but for non-software projects

4 Controlling Project Risk by Design (2006)
How the Evo approach solves Risk by Design (by process)

5 TimeLine: How to Get and Keep Control over Longer Periods of Time (2007)
Replaced by Booklet 7, except for the step-by-step TimeLine procedure

6 Human Behaviour in Projects (APCOSE 2008)
Human Behavioural aspects of Projects

7 Evolutionary Planning, or How to Achieve the Most Important Requirement (2008)
Planning of longer periods of time, what to do if you don't have enough time

8 Help ! We have a QA Problem ! (2009)
Use of TimeLine technique: How we solved a 6 month backlog in 9 weeks

9 Predictable Projects - How to deliver the right results at the right time

RS Measurable Value with Agile (Ryan Shriver - 2009)
Use of Evo Requirements and Prioritizing principles

www.malotaux.eu/insp
Inspection pages