

# SE-Training Course highlights:

Course Name	Date	Location
<b>Optimising Project Execution: Clear results, timely delivery</b>	<b>09 – 10 March</b>	<b>Zürich</b>
<b>IV &amp; V Practitioner</b>	<b>11 – 13 March</b>	<b>Zürich</b>
<b>Systems Engineering Fundamentals</b>	<b>25 – 27 March</b>	<b>Zürich</b>
INCOSE SEP Exam Prep	14 – 17 April	Zürich
Design Thinking and Lean Innovation	05 – 06 May	Zürich
Introduction to Objectives & Key Results	07 May	Zürich

# SE-Training Welcomes

## Niels Malotaux



- Independent international Project Coach
- Expert in optimizing organizational, management, project, team performance

- 
- Over 45-year experience in designing electronic and software systems
  - Since 1998 having coached some 400 teams in 14 countries, helping to deliver the Right Results at the Right Time
  - Types of projects coached:  
electronics, firmware, software, space, road, rail, telecom, industrial control, parking system
  - From time to time still developing electronic products for clients

# Introduction to Optimizing Project Execution

Optimizing Project Execution: clear results - timely delivery

9 - 10 March 2026

Zürich

[www.malotaux.eu/conferences](http://www.malotaux.eu/conferences)

[www.malotaux.eu/booklets](http://www.malotaux.eu/booklets) booklet#9

Niels Malotaux

+31-655 753 604

[niels@malotaux.eu](mailto:niels@malotaux.eu)

[www.malotaux.eu](http://www.malotaux.eu)

# Successful projects ?

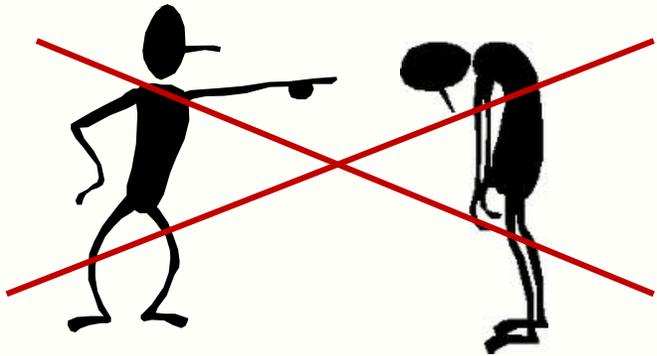
- You planned the project perfectly
- Created perfect requirements
- Delivered successfully on time

Right ?

- How about:
- *Optimizing* project execution
  - delivering as needed
  - delivering when needed
  - as efficiently as we can

*Efficiency:  
Effectiveness  
in least Time*

# Isn't that the Responsibility of the Project Manager ?



- The Project Manager may be *responsible* to deliver the right result at the right time
- The people doing the work *determine the result*, and the *time* it is delivered
- This makes everybody in the project implicitly *as responsible* as Project Management

# Ultimate Goal of a What We Do

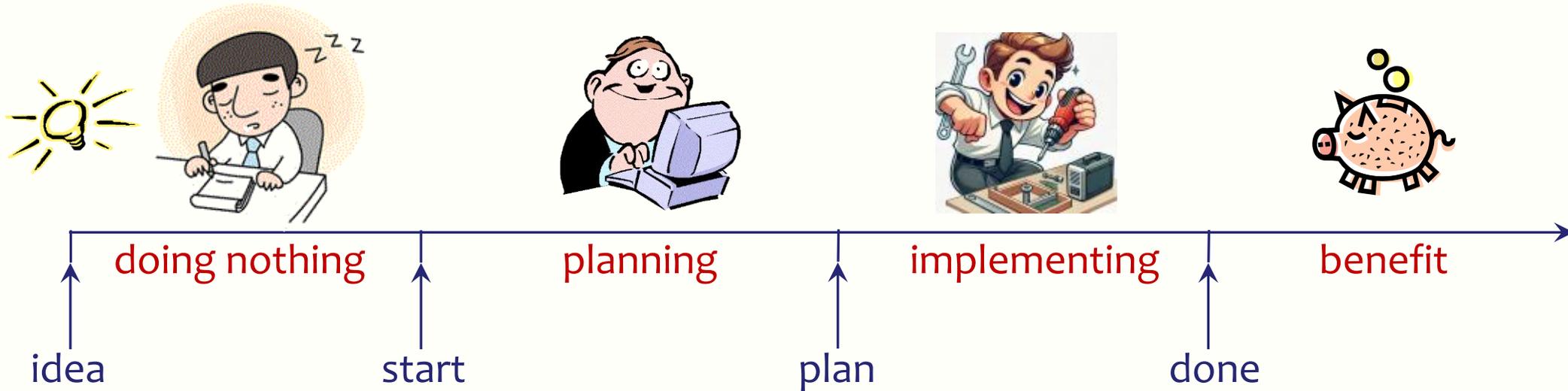
(for our salary)

Quality on Time

- Delivering the Right Result at the Right Time, wasting as little time as possible (= efficiently)

- Providing the customer with
  - what they need
  - at the time they need it
  - to be satisfied
  - to be more successful than they were without it
- Constrained by (win - win)
  - what the customer can afford
  - what we mutually beneficially and satisfactorily can deliver
  - in a reasonable period of time

# The Importance of Time



## Return on Investment (ROI)

- + Benefit of doing - huge (otherwise we should do something else)
- Cost of doing - usually minor compared with other costs
- Cost of being late - lost benefit
- Cost of doing nothing yet - every day we start later, we finish later

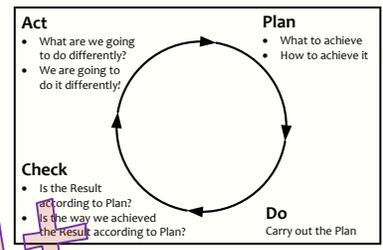
# Do you know the cost of one day of (unnecessary) delay ?

- What is the cost of your project per day ?
  - What is your cost per day ?  
Note: that's not what you get !
  - If we don't know the benefit, assume 10 times the cost
  - How can we make decisions, if we don't know ?
- 
- Say 400 per day
  - 5 people x 400 = 2000
  - Cost of delay 10 x 2000 = 20 000
- if 5x:
- Cost of delay 5 x 2000 = 10 000



# Evolutionary Project Management elements (Evo)

Tom Gilb



- **Plan-Do-Check-Act**
  - The powerful ingredient for success

- **Business Case**
  - Why we are going to improve what *Why*

- **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

What  
How much  
Are we done

How

Check and learn  
as early as possible

Efficiency  
of what we do

Effectiveness  
of what we do

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

Zero  
Defects  
Attitude

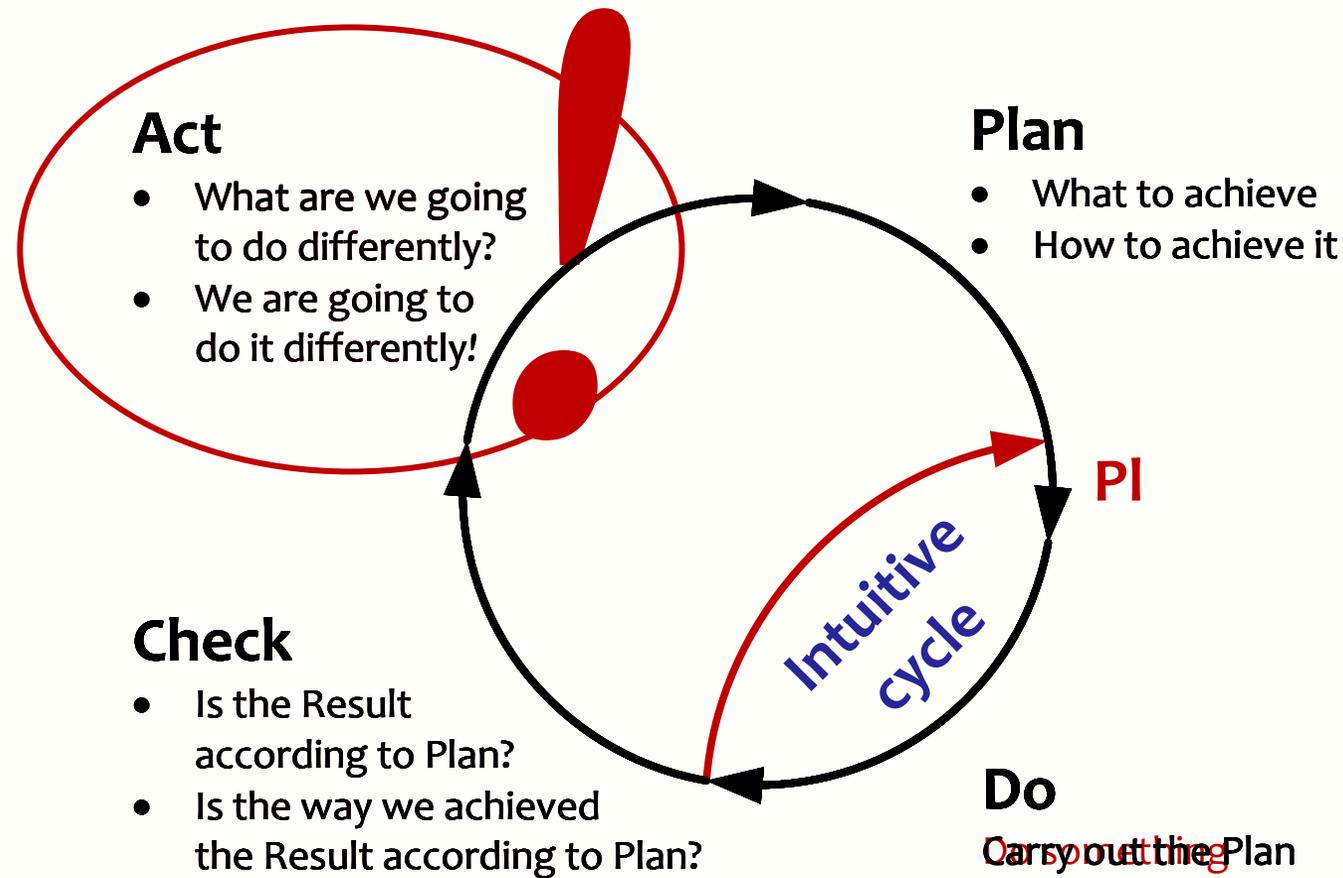
Quality On Time

Right Time

Evolutionary Planning - Niels

# The essential ingredient: the PDCA Cycle

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



# Weekly TaskCycle

- What are we supposed to achieve
- How much time do we have available
- 2/3 of gross available time is net plannable time
- What is most important to do in order to achieve what we're supposed to achieve
- Estimate net effort needed to do these things
- Which most important things fit the net plannable time (default 2/3 of gross available time, 26 hr per week at 40hr work-week)
- What can, and what are we going to do
- What are we *not* going to do
- Write it down ! Our fuzzy mind isn't good enough !

2/3 is default start value  
this value works well with development work

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Tom Gilb  
[www.malotaux.eu/processes](http://www.malotaux.eu/processes)

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What How much Are we done  
How  
Check and learn as early as possible  
Evo Project Execution  
Niels  
Efficiency of what we do  
Effectiveness of what we do  
What will happen, and what will we do about it?  
Zero Defects Attitude

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Task <sub>a</sub>	2	↑	do
Task <sub>b</sub>	5		
Task <sub>c</sub>	3		
Task <sub>d</sub>	6		
Task <sub>e</sub>	1		
Task <sub>f</sub>	4		
Task <sub>g</sub>	5		
26		↓	do not
Task <sub>h</sub>	4		
Task <sub>j</sub>	3		
Task <sub>k</sub>	1		

# 'Innocent' questions for reflection

- Why would we do that ? (never use 'you')
- Who's waiting for that ?
- What do they need ?
- How much do they need ?
- When do they need it ?
- Is it really necessary ?
- Is it really necessary now ?
- How do we know ?
- Is this the best way to do it ?
- Does it fit the available time ?
- What are we going to do about it ?

Task <sub>a</sub>	2	↑ do
Task <sub>b</sub>	5	
Task <sub>c</sub>	3	
Task <sub>d</sub>	6	
Task <sub>e</sub>	1	
Task <sub>f</sub>	4	
Task <sub>g</sub>	5	
<hr/>		
Task <sub>h</sub>	4	↓ do not
Task <sub>j</sub>	3	
Task <sub>k</sub>	1	

People come in with their week plan,  
come out with a modified plan,  
more going to work on the right things,  
less spending time on unnecessary things.  
Immediate savings.  
From day one.

Never challenge an estimate !

If we don't understand the estimate, only say:

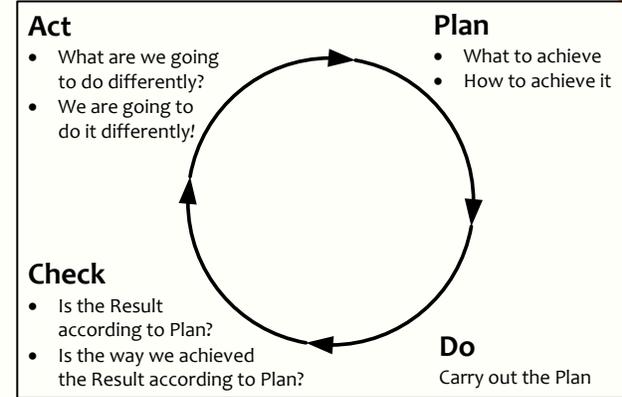
- What are you planning to do ?
- Now estimate again ...

If they insist:

- Let them find out themselves

# Every week: reflecting and prelecting

- Was all planned work really done ?
- If a Task was not completed, we learn:
  - Time spent but needed more time ? → effort estimation problem
    - What did I think then, what do I know now → learn (Check and Act)
  - Time not spent? → time management problem
    - Too much distraction
    - Too much time spent on other (poorly-estimated) Tasks
    - Too much time spent on other things
- Close unfinished Tasks after having dealt with the consequences
  - Feed the disappointment of the “failure” into your intuition mechanism
  - Define remaining Tasks, and put on the Candidate Task List
  - Declare the Task finished after having taken the consequences
- Continue with planning the Tasks for the next week



Immediate consumption of metrics

Task <sub>a</sub>	2	↑
Task <sub>b</sub>	5	↑
Task <sub>c</sub>	3	↑
Task <sub>d</sub>	6	do
Task <sub>e</sub>	1	↑
Task <sub>f</sub>	4	↑
Task <sub>g</sub>	5	26
Task <sub>h</sub>	4	↓
Task <sub>j</sub>	3	do
Task <sub>k</sub>	1	not

# TimeLine

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

Evolutionary Project Management elements (Evo)

www.malotaux.eu/processes Tom Gilb

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What How much Are we done

How

Check and learn as early as possible

Zero Defects Attitude

Evo Project Execution Niels

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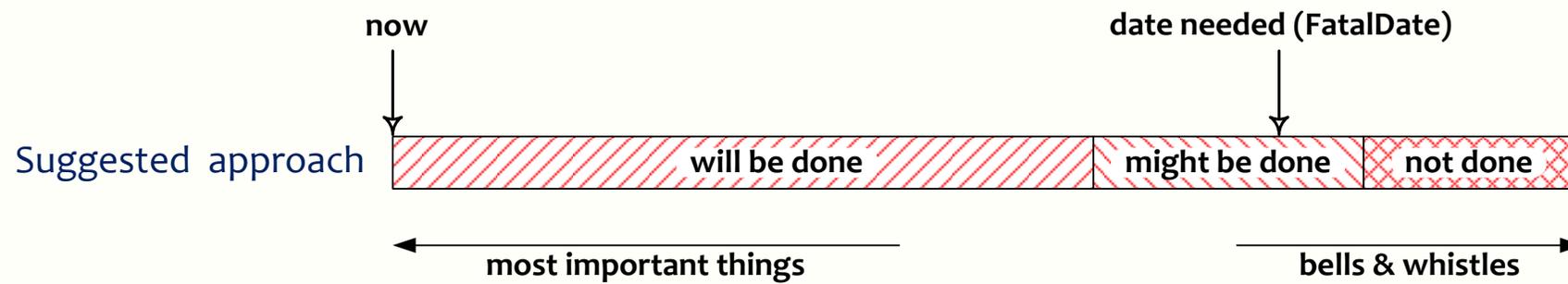
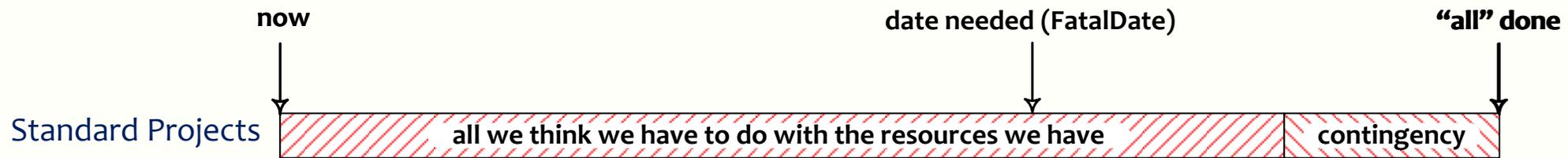
Efficiency of what we do

Effectiveness of what we do

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

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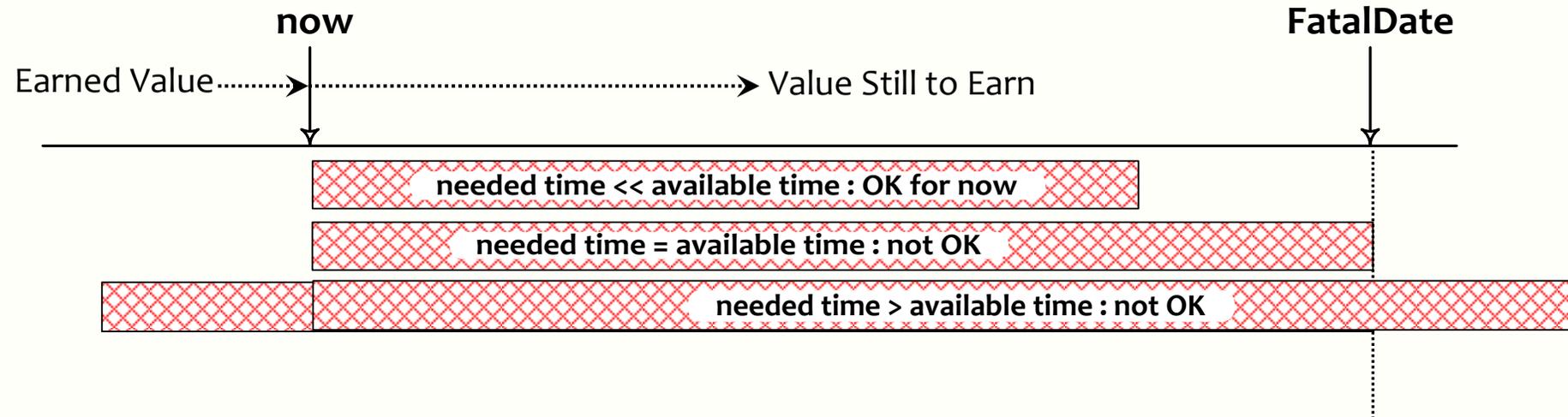
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Better 80% 100% done, than 100% 80% done

Let it be the most important 80%

# At the time they need it



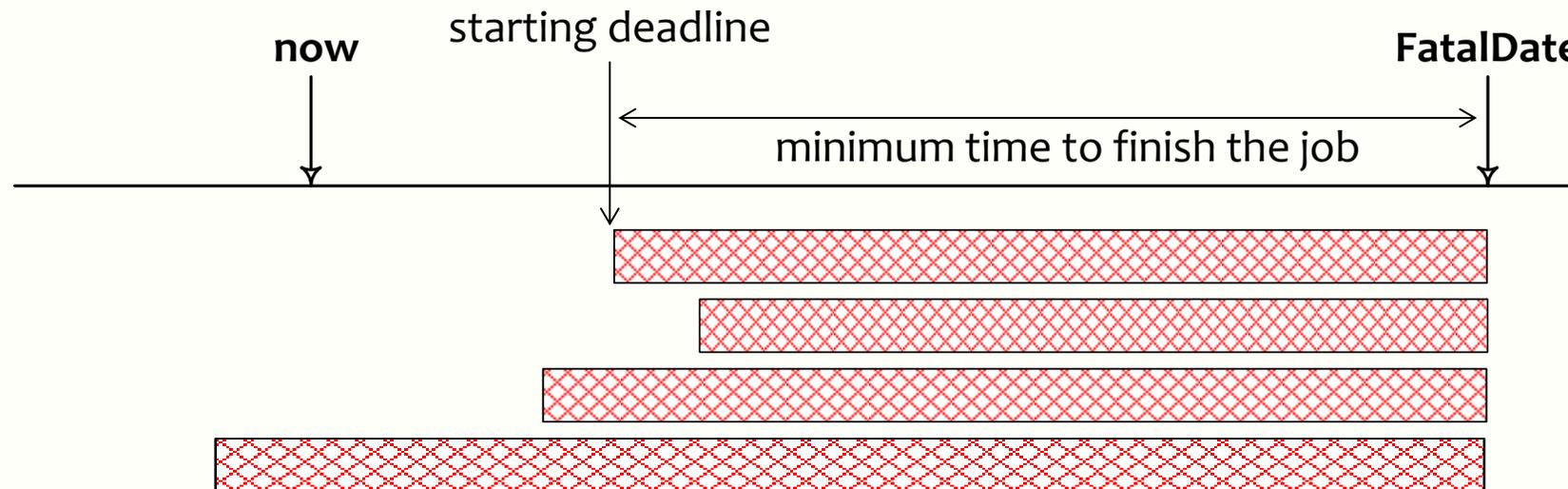
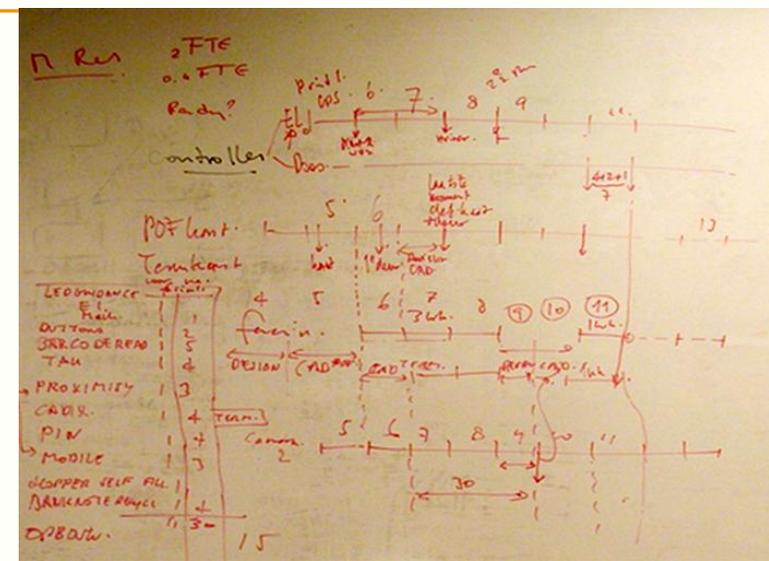
- Value Still to Earn
- versus
- Time Still Available

When the match is over, we cannot score a goal



# Even more important: Starting Deadlines

- To meet Delivery Deadlines, focus on *Starting Deadlines*
- Starting Deadline
  - Last day we can start to deliver by the delivery deadline
  - Every day we start later, we will end later



# How to be on time

Quality costs less !

- Our deliveries are usually on time,
- ... ~~”but we have to compromise the quality for being on time”~~
  - That’s not ‘on time’ !
  - What we deliver should simply work
- How can we save time, *without compromising quality* ?
- 7 options



# Deceptive options

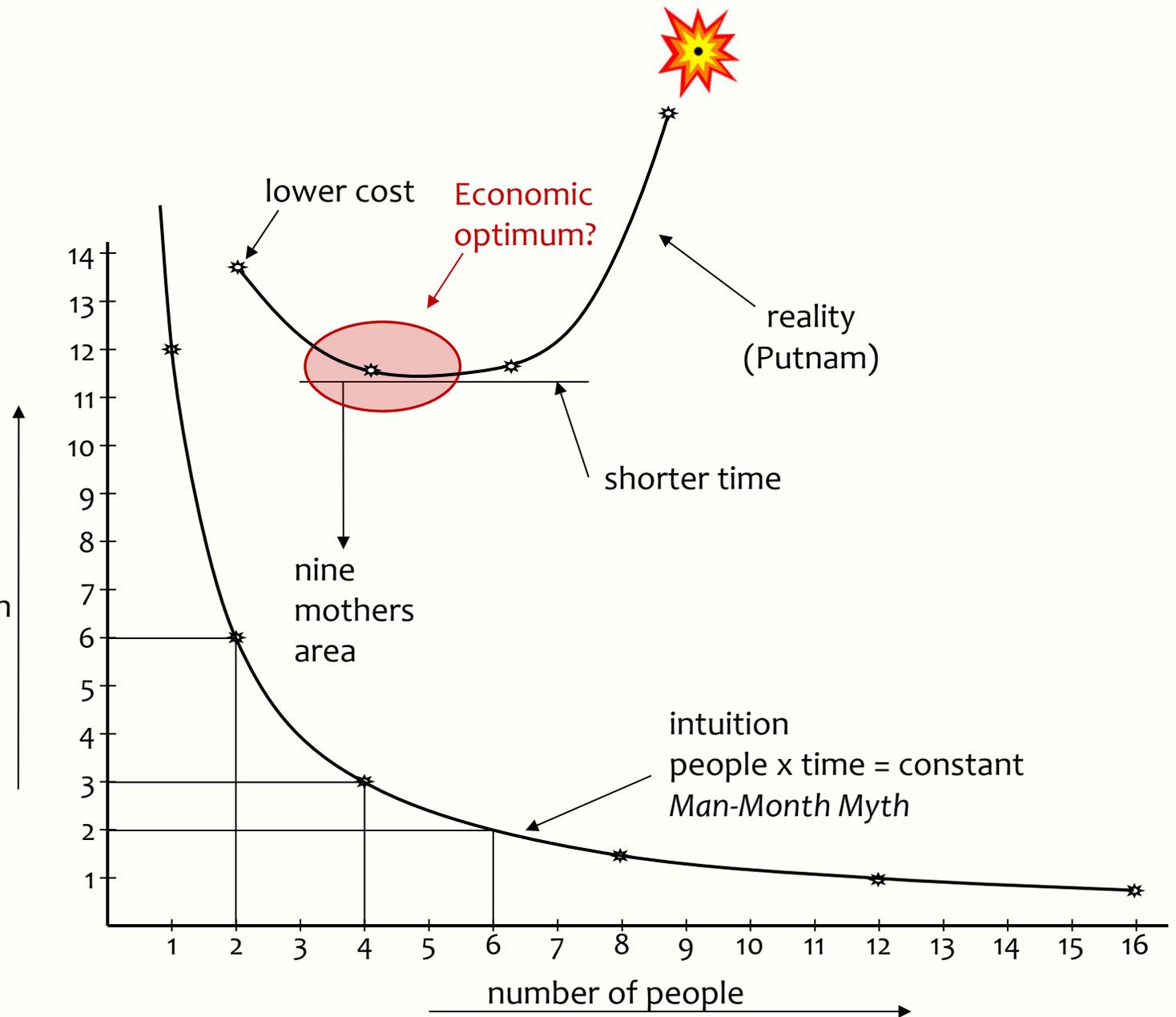
1. **Hoping for the best** (fatalistic)
2. **Going for it** (macho)
3. **Working Overtime** (fooling ourselves and our boss)
4. **Moving the deadline**
  - Parkinson's Law
    - Work expands to fill the time for its completion
  - Student Syndrome
    - Starting as late as possible, only when the pressure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

# 5. Adding people



duration

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





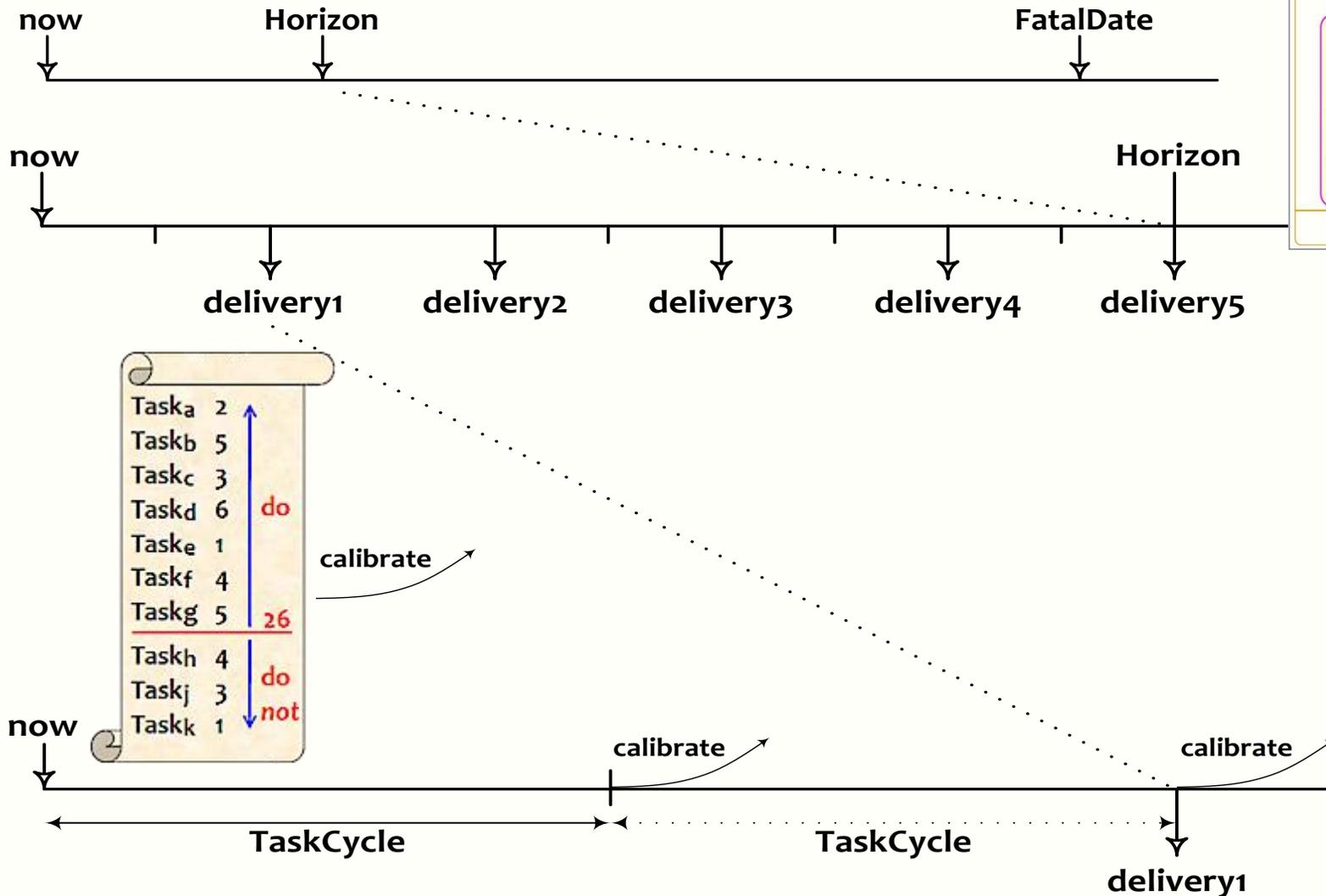
## 6. Saving time

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

# TimeLine: Result to Tasks, and back



**Evolutionary Project Management elements (Evo)**  
[www.malotaux.eu/processes](http://www.malotaux.eu/processes)  
 Tom Gilb

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**Evo Project Execution**  
 Niels

**Zero Defects Attitude**  
 Check and learn as early as possible

What How much Are we done

How

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

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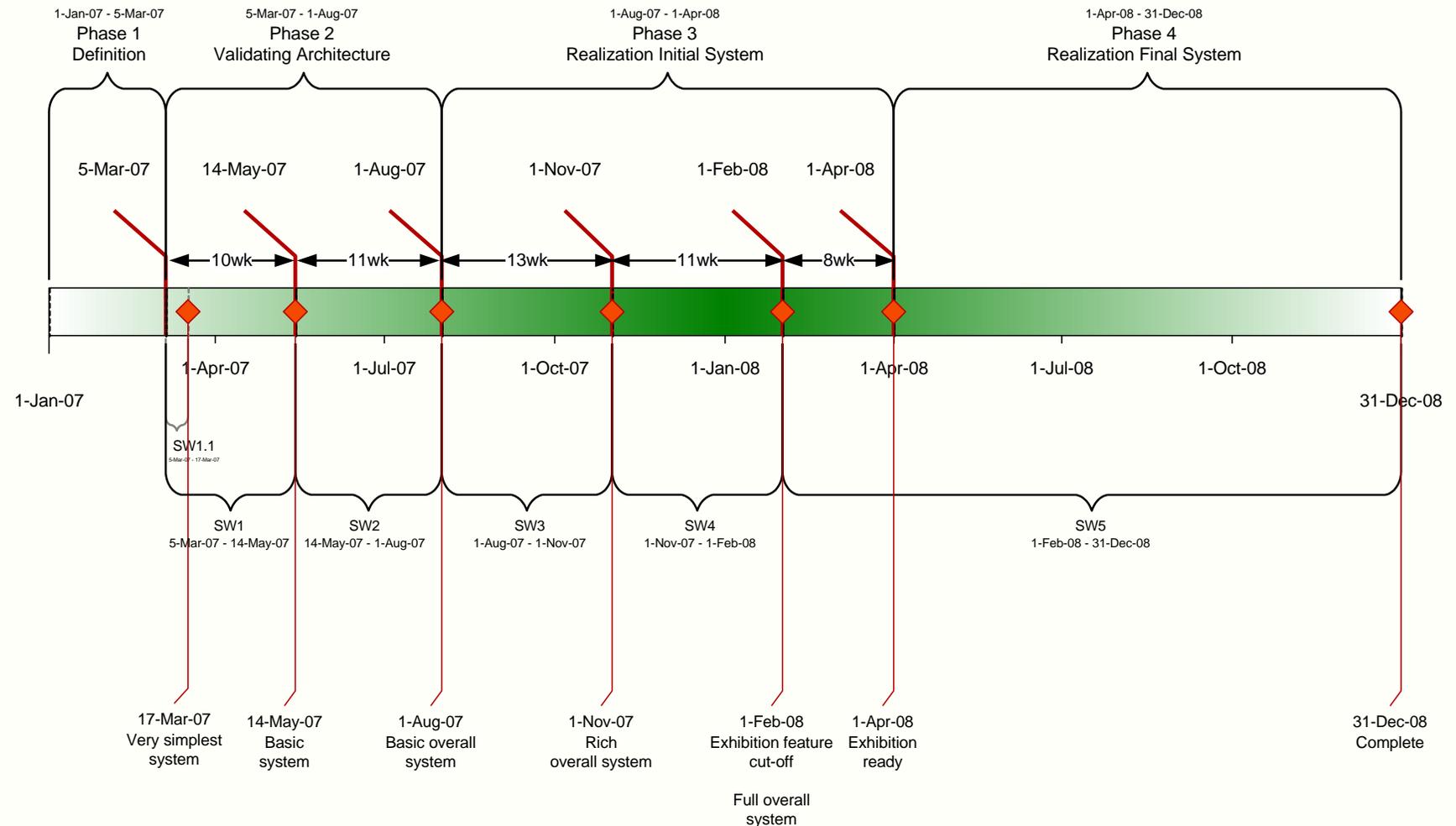
cycle	who	task description	estim	real	done	issues
3	John	<i>Net time available: 26</i>				
		aaaaaaaaa	3	3	yes	
		bbbbbbbbb [Paul]	1			
		ccccccccc	5	13	yes	
		dddddddd	2			
		eeeeeeee	3	2		
		fffffffffff	2	1		
		ggggggggg	6	7	yes	
		hhhhhhhhh	4			
			26	26		
4	John	<i>Net time available: 26</i>				
		jjjjjjjjjjj	3			for proj x
		kkkkkkkkkk				for proj x
		mmmmm	5			for proj x
		nnnnnnnnn				for proj x
		ppppppppp				for proj y
		qqqqqqqq	12			for proj y
		rrrrrrrrrrr	6			for proj y
		ssssssssss				for proj y
		tttttttttt				for proj y
			26			

TaskCycle Analysis  
(retrospective)

learning

TaskCycle Planning  
(presepective)

# TimeLine example



# From 60hr to 26hr, delivering better results

- One of three in a team insisting to work 60 hr the next week
- That probably won't all be done by the end of the week, right ?
- “Yes, but it >has< to be done !”
- Isn't that bad for your health? The others nodded
- After a long discussion, he gave in: planned 26 effort hours for that week
- Few weeks later he took me apart:

Niels, thank you !

I was nuts, getting tired spending so many hours

Now, every week I plan 26 net hours,  
getting done *more than ever before*

# Earth Observation Instrument

- Very experienced Systems Engineers
- Using quantified requirements routinely
- ~6 year pure waterfall project (imposed by ESA)
- Don't know exactly where they'll end up
- One problem: They missed all deadlines (can you help us)
- 9 weeks later: They haven't missed any deadline since
- Eventually delivered right on budget (instead of expected 1 year over budget)
- Savings: at least 40 person-year (~ €6M ?)

# No excuse anymore !

- Delivering the Right Results at the Right Time isn't really difficult
- I showed you some examples of how to do it
- No complaining or excuses: *What are we going to do about it ?!*
- Want to learn more detail ?
  - 2-day course, 9 - 10 March, Zürich



# Optimizing Project Execution

- Importance of time
- Human behavior affecting our performance
- Good enough estimation isn't difficult
- Project life-cycles
- Evolutionary planning
- Stakeholders & requirements
- Selecting priorities
- Architecture and design
- Examples
- Exercises on your own situation

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Annotations: Why, What How much Are we done, How, Check and learn as early as possible, Efficiency of what we do, Effectiveness of what we do, What will happen, and what will we do about it?

Zero Defects Attitude

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9 - 10 March 2026

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Niels Malotaux

+31-655 753 604

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