How to get the message across

www.malotaux.nl/?id=conferences

Niels Malotaux

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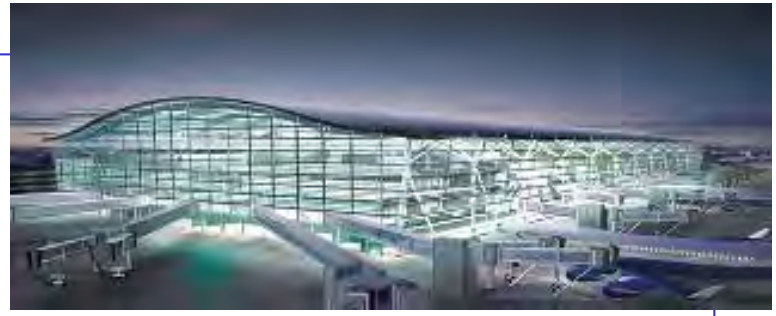
Niels Malotaux

- Project Coach
- Helping projects and organizations very quickly to become
  - More effective – doing the right things better
  - More efficient – doing the right things better in less time
  - Predictable – delivering as predicted
- Getting projects back on track

Result Management

Do engineers really know ?



- **Heathrow Terminal 5: Great success !**
  - Normal people aren't interested in the technical details of a terminal
  - They only want to check-in their luggage as *easily* as possible
    and
  - Get their luggage back as *quickly* as possible in *acceptable condition* *at their destination*
  - They didn't
- **One of the problems is to determine what the project** (or your work in general) **really is about**
- **What are the 'real' requirements ?**
- **Clear focus towards the real requirements saves time**

Somebody said the requirements should be *SMART*

- **Do we have documented requirements ?**
- **Are they SMART ?**

- **S Specific**
- **M Measurable**
- **A Attainable**
- **R Realisable**
- **T At the right Time (some say: Traceable)**

Requirements with Planguage

ref Tom Gilb

Definition:

Specific

Measurable

RQ27: Speed of Luggage Handling at Airport

Scale: Time between <arrival of airplane> and first luggage on belt

Meter: <measure arrival of airplane>, <measure arrival of first luggage on belt>, calculate difference

Benchmarks (Playing Field):

Attainable

Past: 2 min [minimum, 2014], 8 min [average, 2014], 83 min [max, 2014]

Current: < 4 min [competitor y, Jan 2015] ← <who said this?>, <Survey Dec 2014>

Record: 57 sec [competitor x, Jan 2012]

Wish: < 2 min [2016Q3, new system available] ← CEO, 19 Jan 2015, <document ...>

Requirements:

Time

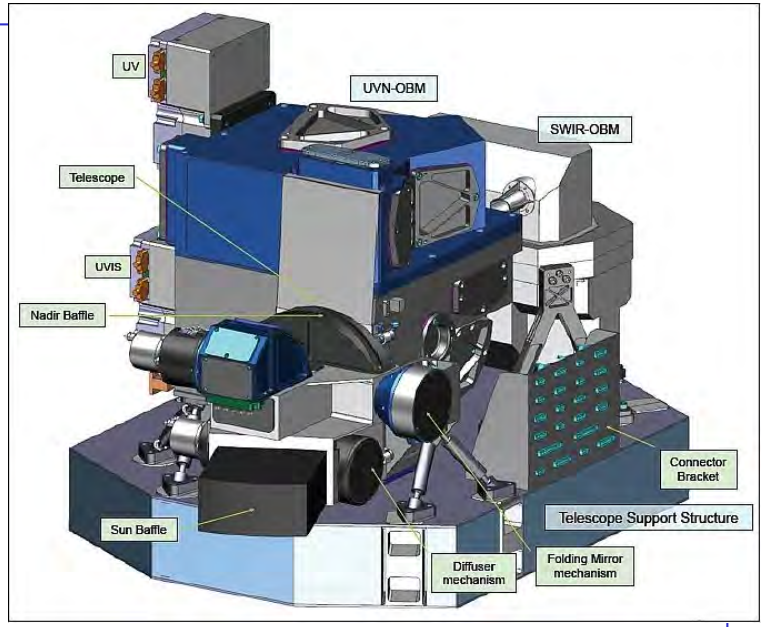
Realizable

Must/Fail: < 10 min [99%, Q4] ← SLA

Must/Fail: < 15 min [100%, Q4, Heathrow T4] ← SLA

Goal: < 15 min [99%, Q2], < 10 min [99%, Q3], < 5 min [99%, Q4] ← marketing

Earth Observation Satellite



- Very experienced Systems Engineers
- They use quantified requirements routinely
- They don't know exactly where they'll end up
- 10 year pure waterfall project (imposed by ESA)
- Only problem: They missed all deadlines
- Now: The haven't missed any deadline for a year

Summary of requirements for ozone measurements

- **Requirements for tropospheric O3**
  - Ground-pixel size : 20 × 20 km2 (threshold); 5 × 5 km2 (target)
  - Uncertainty in column : altitude-dependent
  - Coverage : global
  - Frequency of observation :
    daily (threshold); multiple observations per day (target)
- **Requirements for stratospheric O3**
  - Ground-pixel size : 40 × 40 km2 (threshold); 20 × 20 km2 (target)
  - Uncertainty in column : altitude-dependent
  - Coverage : global
  - Frequency of observation :
    daily (threshold); multiple observations per day (target)
- **Requirements for total O3**
  - Ground-pixel size : 10 × 10 km2 (threshold); 5 × 5 km2 (target)
  - Uncertainty in column : 2%
  - Coverage : global
  - Frequency of observation :
    daily (threshold); multiple observations per day (target)

What are the Requirements for a Project ?

- **Requirements are what the Stakeholders require**

but for a project ...

- **Requirements are the set of stakeholder needs that the project is *planning to satisfy***
  - **This is what you'll get, if you let us continue**

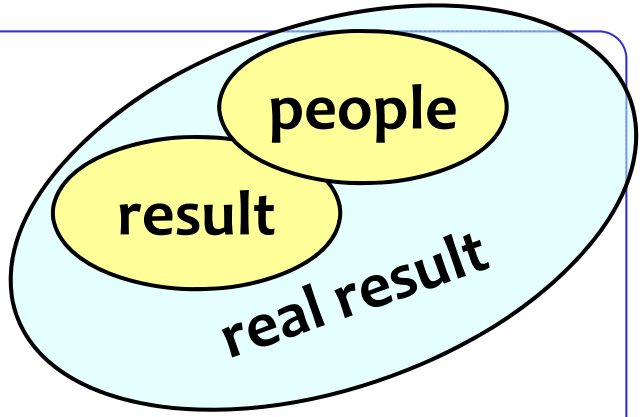
Ultimate Goal of a What We Do

Quality on Time

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

- **Providing the customer with**
  - what he needs
  - at the time he needs it
  - to be satisfied
  - to be more successful than he was 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

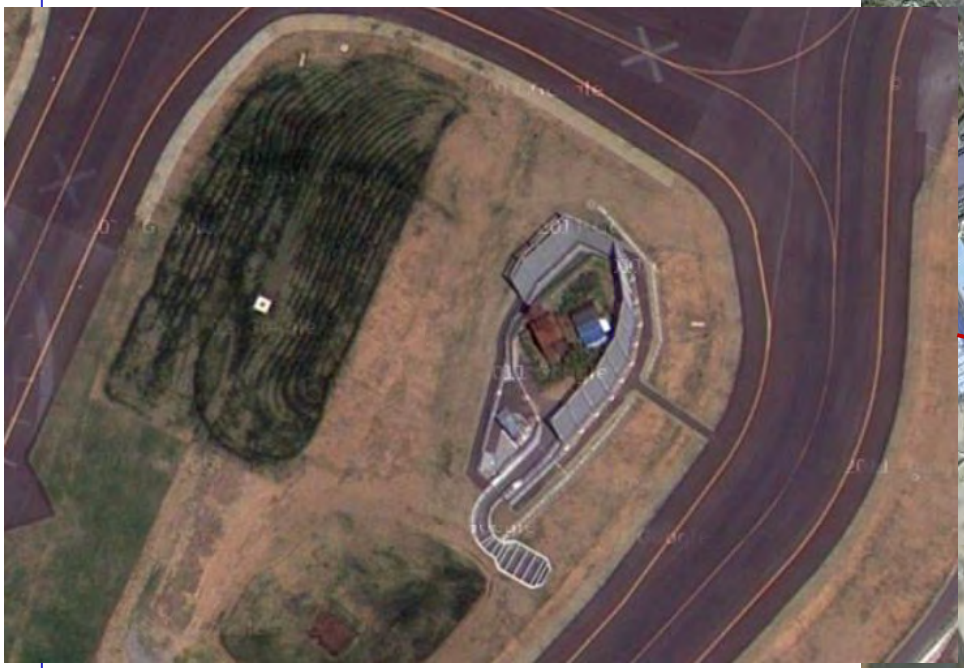
Stakeholders are people



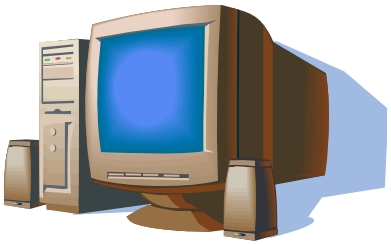
- Every project has some 30±20 Stakeholders
- Stakeholders have a stake (interest) in the project
- The concerns of Stakeholders are often contradictory
  - Apart from the Customer *they don't pay*
  - So they *have no reason to compromise !*
  - In most cases, finally, *we all pay*
- Developers don't understand what users find normal
- Some Stakeholders are victims of the project
  - They have no reason for the project to succeed, on the contrary

Victims can be a big Risk

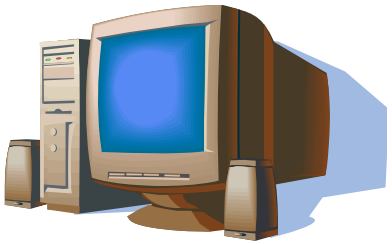
Victims:
Narita Airport




KAWAKAMI
東峰
TOHO
Google



Their old system (cash cow)



Our new system

Victims may cause us to fail

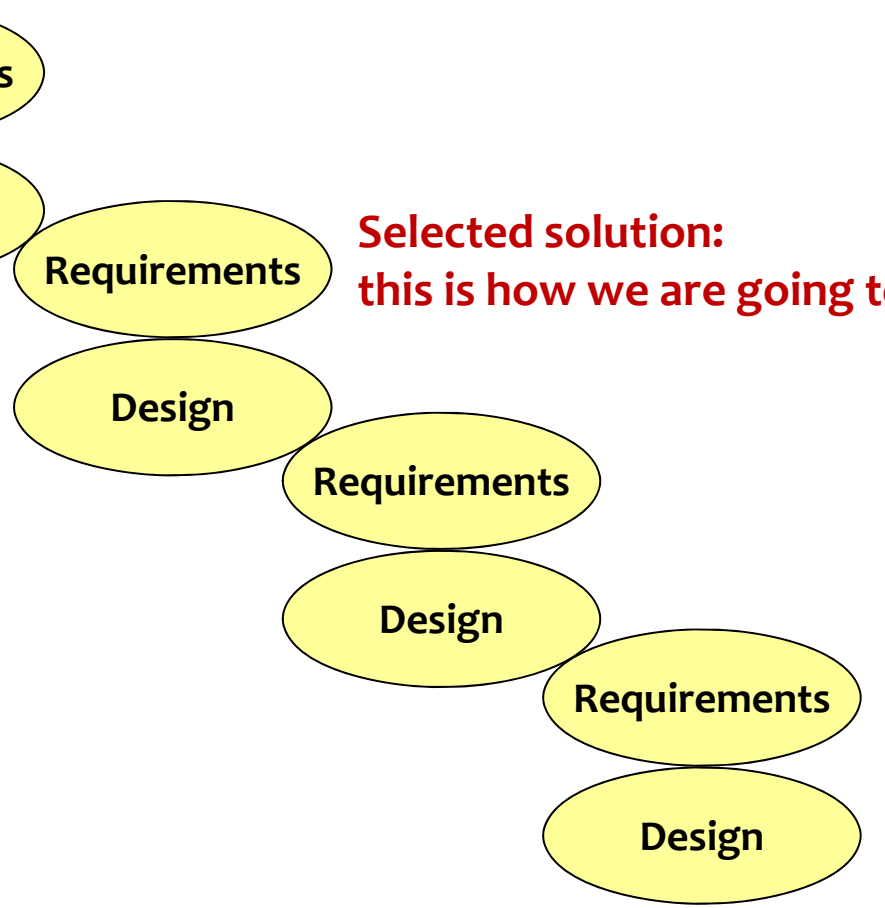
No Stakeholder?

- No Stakeholder: no requirements
- No requirements: nothing to do
- No requirements: nothing to test
- If you find a requirement without a Stakeholder:
  - Either the requirement isn't a requirement
  - Or, you haven't determined the Stakeholder yet
- If you don't know the Stakeholder:
  - Who's going to pay you for your work?
  - How do you know that you are doing the right thing?
  - When are you ready?

No Design in the Requirements, but ...

Needs:
what do we need

Options:
how can we do it



Selected solution:
this is how we are going to do it

Design creates the
Requirements for the next level

Page removed for confidentiality

Initial requirement from the boss

All features equal to or better than OldSystem speeds for every feature or an equivalent competition system if not

Question to the boss

- Can you describe the requirement with
  - Description
  - Scale
  - (Meter)
  - Past
  - Must (Fail)
  - Goal
- (other possible keywords if useful, like: - stakeholders, - rationale, …)
- As appropriate and numerically. Not just ‘as before’. Where can we find the numbers? Who should know or be able to find out?

Initial attempt by the boss

Description: Full Firmware Download

Scale: Time for Full Firmware Download in seconds

(Meter) Stopwatch or implement in software log file

Past: M1 ? secs, M2 ? secs [99 on fully loaded network]
← Tester, Systems test

Must: M1 90 seconds & M2 90 seconds ← Boss, cust expectation

Goal: M1 45 seconds & M2 45 seconds ← Boss, cust expectation

Intermediate

Must: < 3 mins ← Acceptance Criteria for SysTest

Goal: <?>

Past OldSystem : Not possible in OldSystem

20140311:

M1: 660 secs ← Tester, network with 16 M1s & 16 M2s

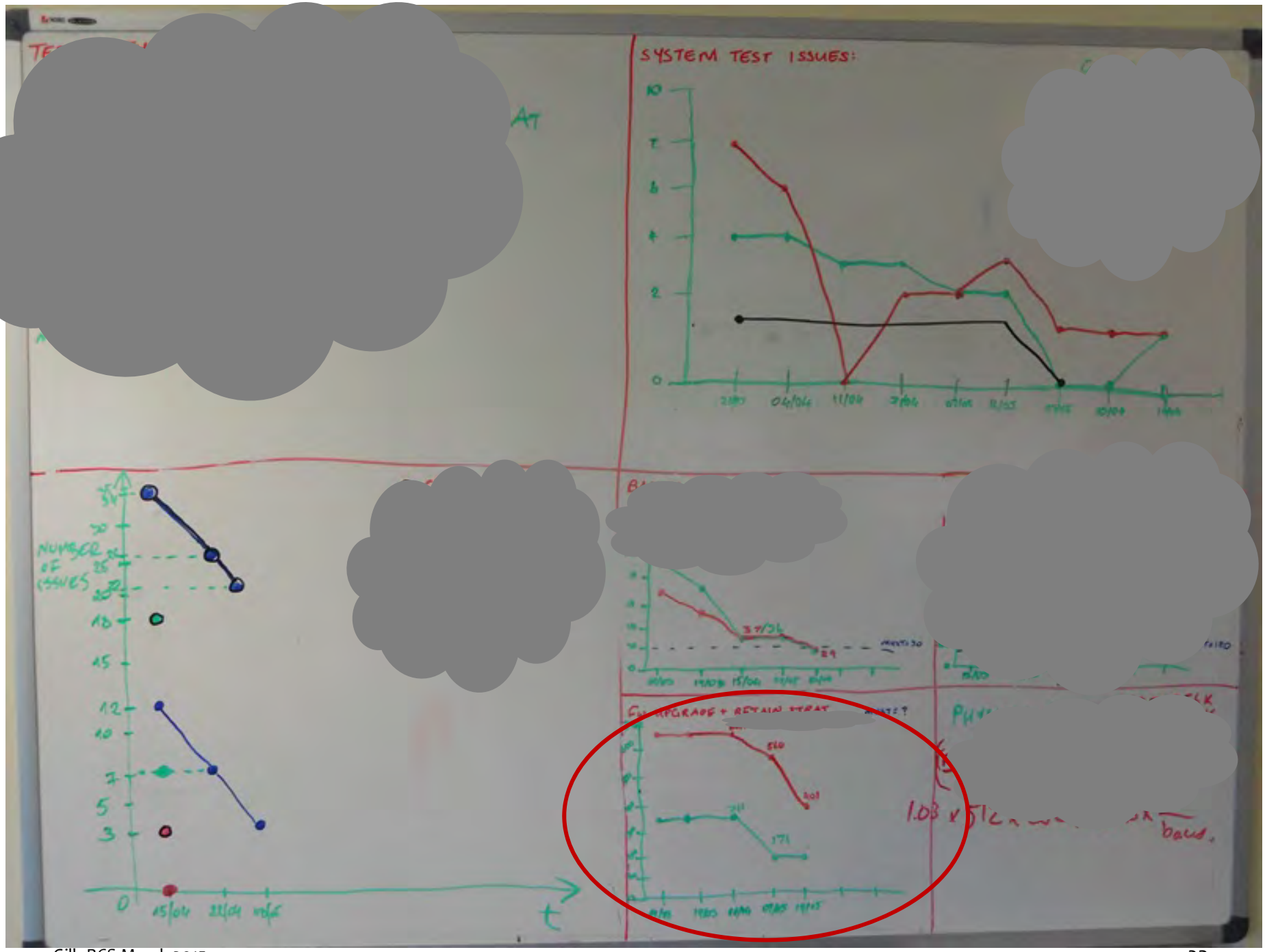
M2: 330 secs ← Tester, network with 16 M1s & 16 M2s, SysTst5

M2-64: 903 secs ← Tester, network with 64 M2s

What to improve and what not (yet)

20140319: Breakdown of FW upgrade

		M1		M2	
	Function	sec	% of total	sec	% of total
1	Get Version	1	0.2	1	0.2
2	Upload Data	10	1.9	7	1.4
3	Wipe	1	0.2	21	4.2
4	Download FW	334	65.1	301	59.8
5	Wait for reboot	156	30.4	156	31.0
6	Get Version	1	0.2	1	0.2
7	Download Data	10	1.9	16	3.2
	total	513	100	503	100


SYSTEM TEST ISSUES:
NUMBER OF ISSUES
t

Will and *can* you use this tomorrow in practice ?

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Measurable

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Gilb quote

- **The fact that we can set numeric objectives, and track them, is powerful; but in fact is not the main point**
- **The main purpose of quantification is to force us to *think deeply*, and *debate exactly*, what we mean**
- **so that others, later, *cannot fail* to understand us**

More

www.malotaux.nl/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 **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

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

www.malotaux.nl/inspections

Inspection pages

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