CONFERENCE OMAINTEC 2018 EXHIBITION

INTERNATIONAL OPERATIONS & MAINTENANCE CONFERENCE
IN THE ARAB COUNTRIES

UNDER THE THEME
"MANAGING MAINTENANCE WITHIN INDUSTRY 4.0"
CONICIDE WITH THE 16TH ARAB MAINTENANCE EXHIBITION

Transposing from **Reactive** to **Proactive** Domain in Maintenance

The Colhis case

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Msc Mech – Elec Engineer

Reactive domain

Unplanned

Fix it when it breaks

Work under pressure

Catastrofe

Failure based

Emergency

Crisis management

Planned Systematic domain

Prevention
Methods
Roles
Files
Procedures

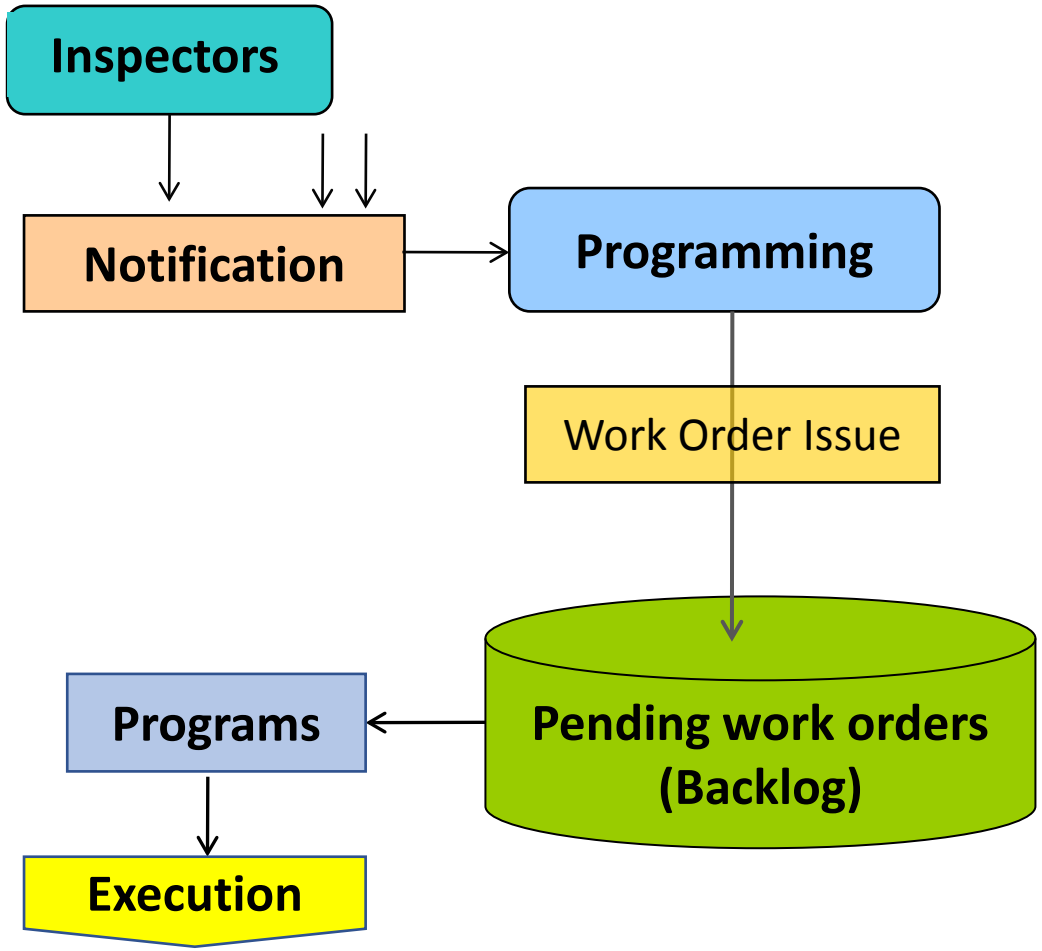
<u>Procedures</u>
Inspection
Scheduling
Planning

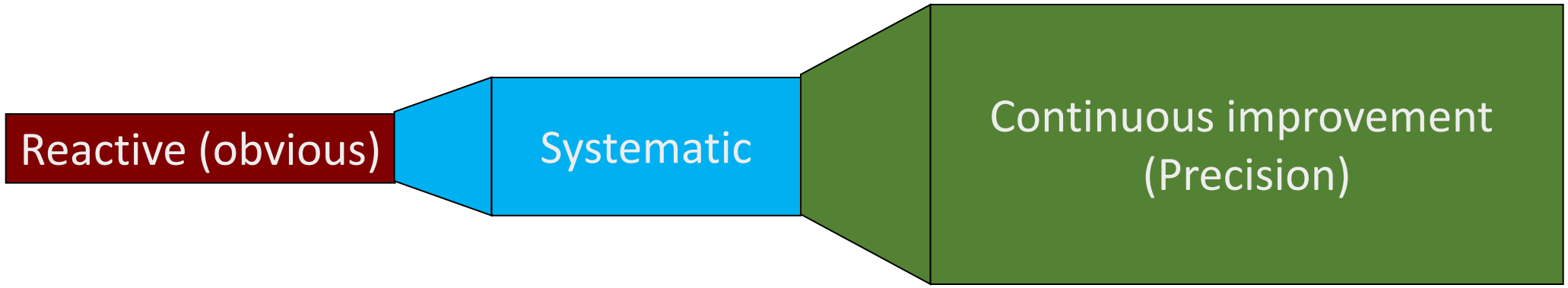
<u>Policies</u>
Deliberately to failure
Preventive or Time Based
Condition Based, Predictive
Proactive, continuous improvement

The principal policies

- Time Based
- Condition Based
- Run to Failure

The maintenance process Work Flow





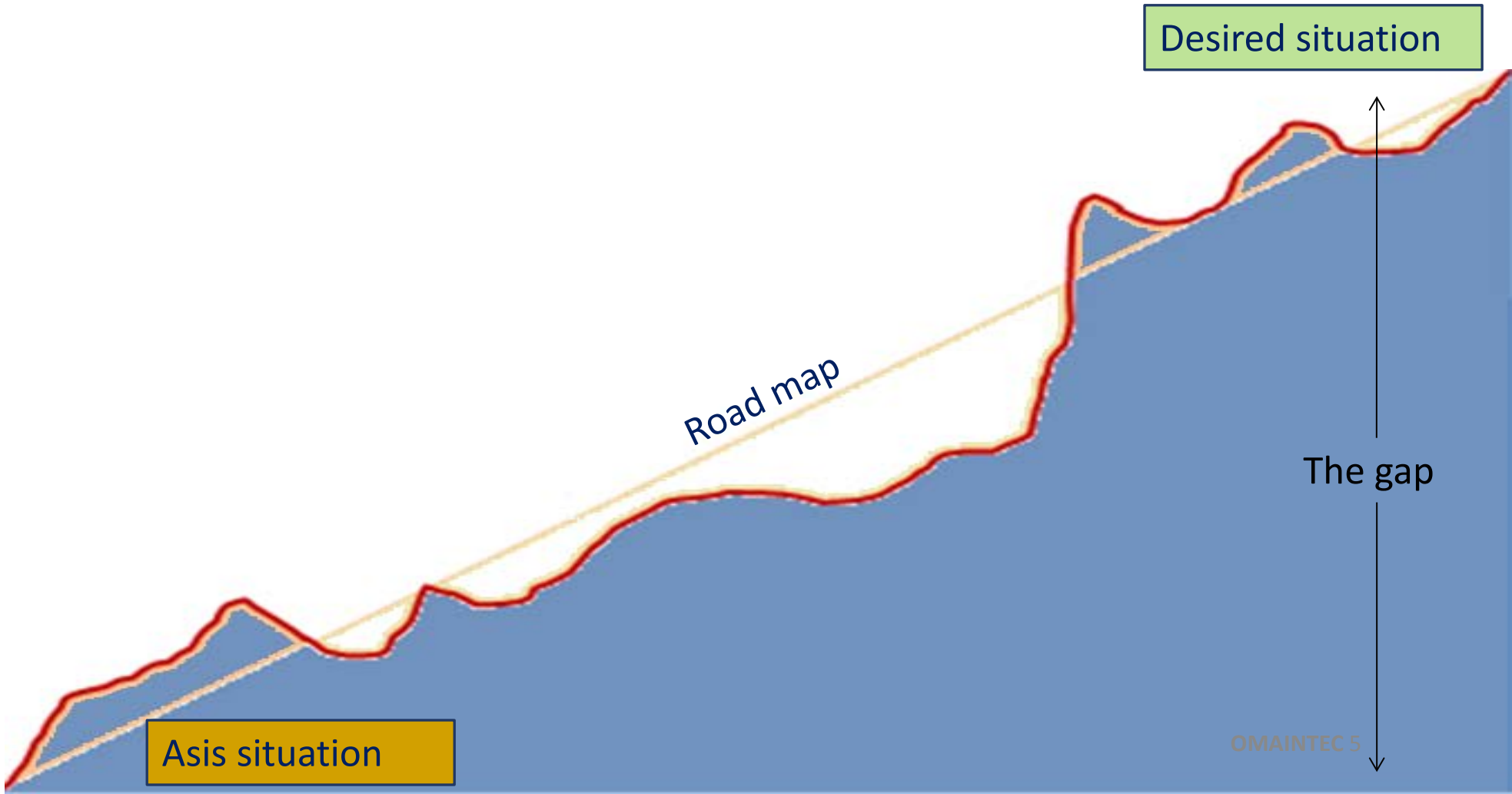
Do not accept failures as your fortune

Each failure is an opportunity to improvement: Say thanks

Proceed to continuous improvement

Work until preventive maintenance is minimized and damages scarce

The typical Maintenance Reorganization Project



The typical Maintenance Reorganization Project

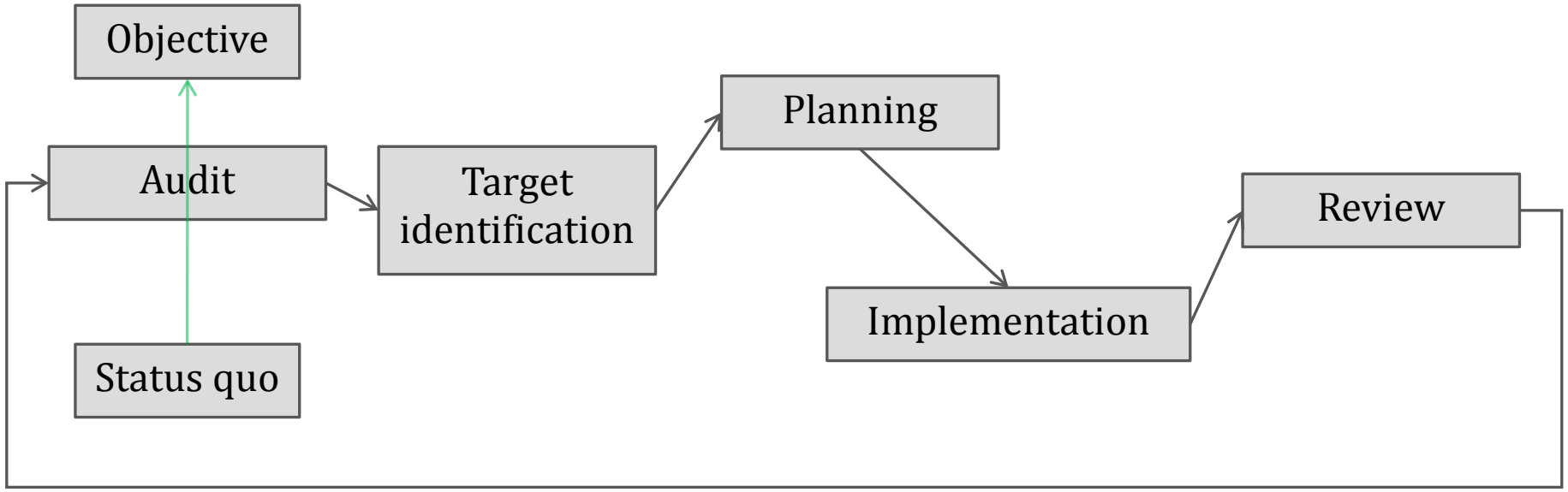
Phases of a reorganization project

1st : Audit, Diagnostic, Gap Analysis

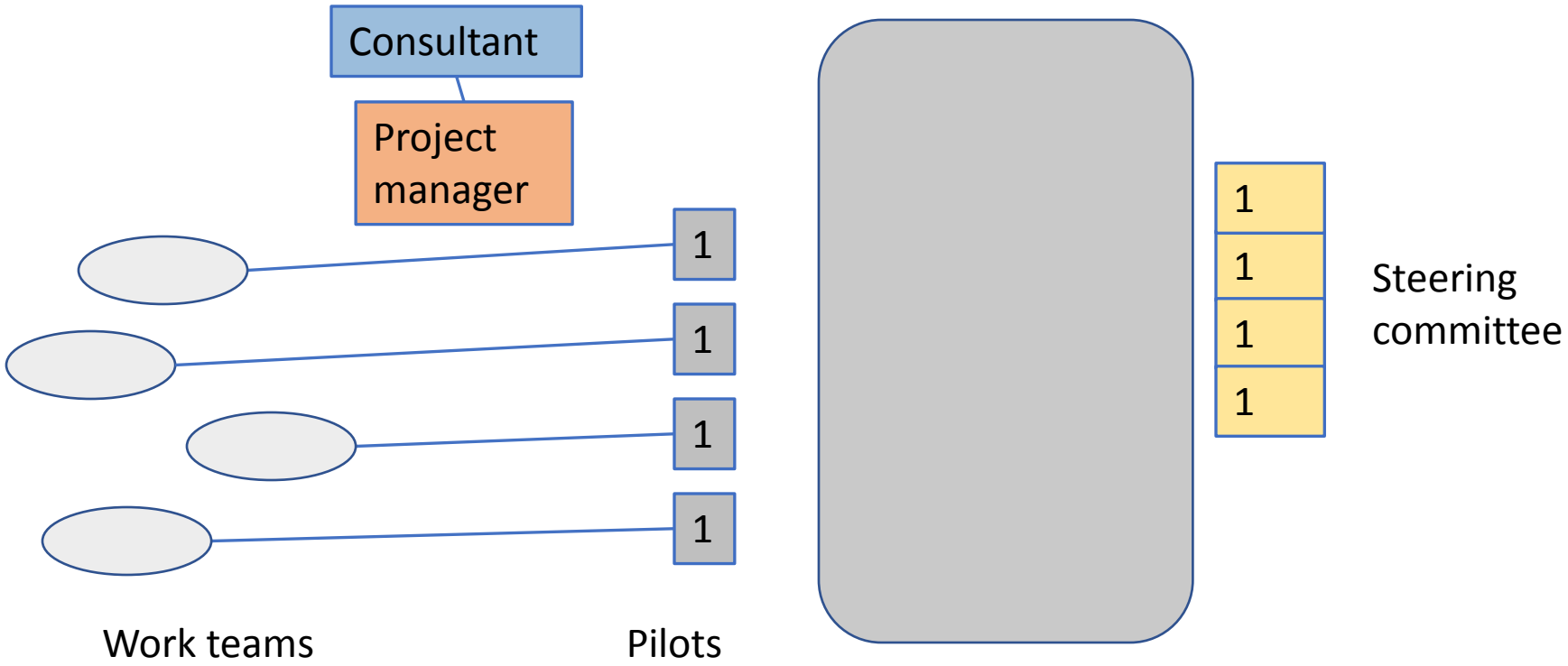
2nd : Fixing targets - an Action Plan

3nd : Implementation

4th : Reviewing progress



The typical Maintenance Reorganization Project



The Colhis case

An organization at zero point

- An Audit. An analysis of the existing situation, “the status quo”
- The week point analysis. The Gap Analysis
- Force Field Analysis
- Starting from scratch.
- Quick wins

Systems and procedures: Planning – scheduling - Execution

Week Point - Gap Analysis

- The plant never had a consistent system to manage the data neither any procedure of maintenance.
- No kind of work order is used as an assignment. Jobs are assigned verbally or with short notes and lists.
- No planning and scheduling of works. No procedure to plan the daily execution program.
- Tasks are mainly assigned at the beginning of the day of execution.
- The concept of backlog is fully unknown.
- The problems are addressed when they become critical. Nature of work is urgent. Lots of rework.
- Efficiency of execution is greatly depended in personal attitude.

Inspection function

Week Point - Gap Analysis

- Inspection limited to vibration measurement.
- Sophisticated vibration analysis devices out of use.
- Results not properly communicated.
- Low appreciation to inspection results, by the other members of the maintenance team.
- Low knowledge level of inspection team, although sufficient training has been offered.

Week Point - Gap Analysis

General situation – culture (mind set – mentality)

- People do not distinguish the functions of inspection, planning and execution
- Such a distinction is not depicted in the organization.
- The responsibility is not balanced between the engineers in charge.
- This situation has cultivated an open culture of synergy, where any one potentially helps any other,
- in an open structure without borders.
- The inheritance from the past is the principal constraint against any attempt for change.
- People of the lowest level are spoiled in terms of work culture.
- The “Fix it when it breaks” attitude has been broadly the culture.
- Multiple repetition of the same repair does not trigger an improvement concern.

Force Field Analysis

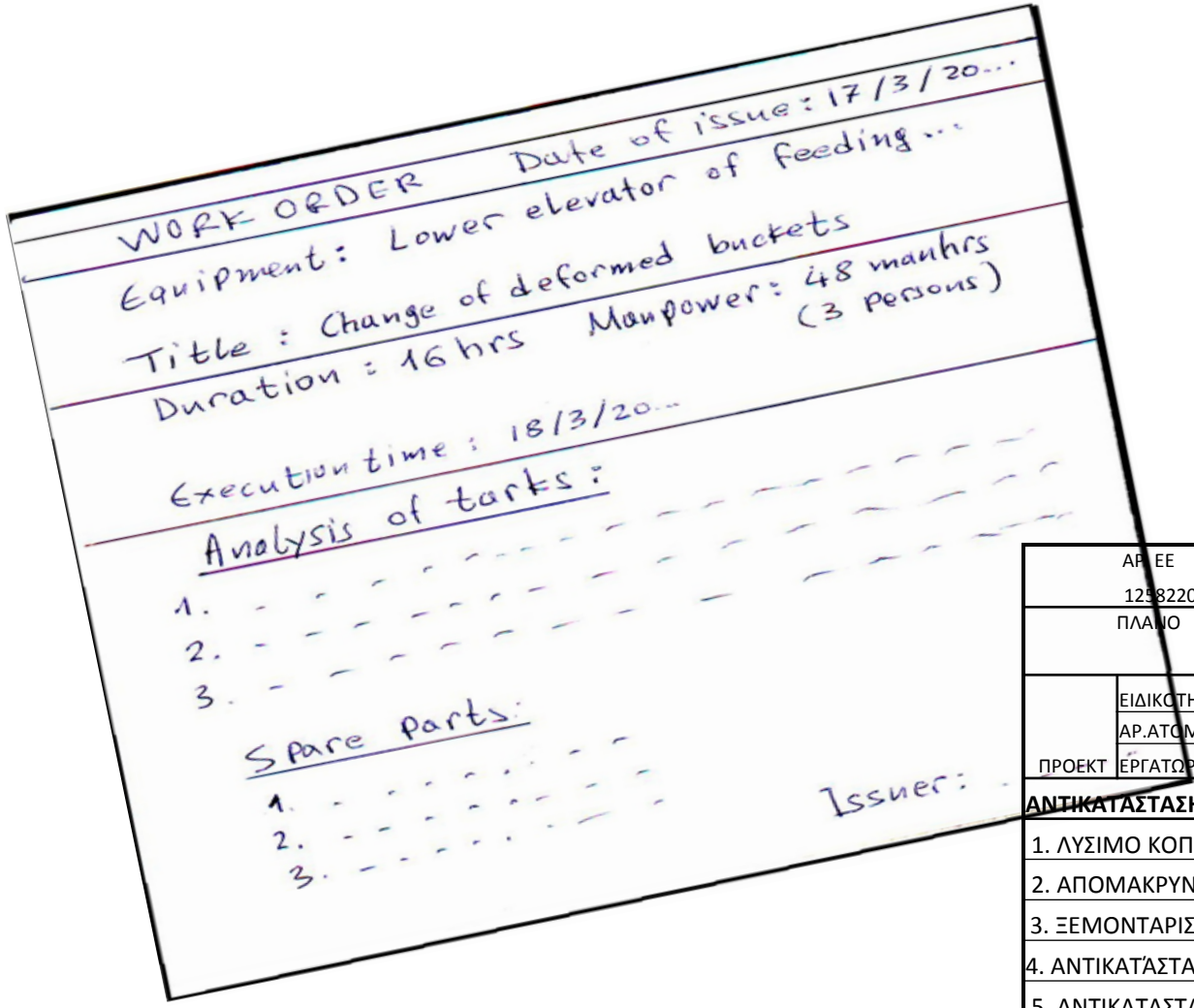
Forces in favor	Importance	Impact
• Supporting from Management	H	H
• Existing experience	M	M
• Reward expectancy	M	M
• Proven success stories	M	H

Opposing - resisting forces	Importance	Impact
• Work culture (mentality)	H	H
• Existing experience (I am good enough)	M	M
• Lack of vision in the team	H	M
•Lack of accountability	H	H
• Proven failing stories	M	H
• Low personnel mobility	M	H
• Labor legislation	H	H

H: High M: Medium

Starting from scratch

- A concrete, consistent reengineering project is not applicable
- Instead, try-and-error (walk and see) initiatives tactic endeavour followed
- Many rolling plans should be applied
- Improvising was the “strategy”
- Quantative results not measured



Let us start!

Communicate in written way!

Write on a piece of paper the work you wish to be done tomorrow!

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Maintenance no - project

Direct interventions. Quick wins

- Work Order initiation Write on a piece of paper the work you wish to be done tomorrow!
- Daily scheduling. Gather at noon in a bazaar and negotiate what jobs will be forwarded
- Introduction of inspection process. Follow a cyclic inspection walk and record what you do not like!
- Communicate the findings to the men in charge.
- Apologize for what has failed, although notified. Respect inspection work.
- Apologize for what had not been detected, although inspected.
- Preventive interventions. Do not just fix it. Make it not to recur.

Long term achievements

- The written Work Order was established as a means to allocate and program jobs.
- The daily programming was founded. The “tomorrow” program is fixed at noon.
- A new inspection team was formed and coached.
- A cyclic program for inspection was put in action.
- Rotary equipment condition monitoring through vibration monitoring and analysis was set up.
- A simple notification system was set up to communicate inspection findings and maintain a backlog.

Conclusions and lessons learned

Enemies of change

- The comfort level of routine
- The various “kingstoms”
- The sort-sight attitude
- Reluctant management
- The results are considered good.
- The “hero” of repair.

Roads to change

Culture
Laborious, slow but permanent, profound, solid

Systems
Quick, easy go, formal

Take care: Change involves emotional charge

Change policies in different organizational statuses

Step by Step

A reorganization project

Small interventions

Keep it!

The End