Defence Infrastructure Service of the French Ministry of Defence (SID)

“Asset maintenance management process implementation and continuous improvement, since 5 years”

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Session IV – 13/10/2015
AGENDA

I. DEFENCE INFRASTRUCTURE SERVICE

II. ASSET MAINTENANCE MANAGEMENT APPROACH

III. FUTURE DIRECTIONS
I – Defence Infrastructure Service (SID)
Builder: Adapt and build defence infrastructures everywhere (mainland, overseas, abroad, external operations).

Manager: maintain and manage assets occupied by the Defence forces (30 million square meters of built area; 2.7 billion square meters of undeveloped surface, being 40% of French property holdings).

Energy referent: purchase, know and advise to control consumption and expenditure.

Advisor: provide assistance and expertise to armed forces in the infrastructure field (project management, master plan, planning).
SID : New organisation 2011 - 2012

- **Service created in 2005 by joining** three services of the ministry aiming to build the infrastructure:
  - Military engineer service (earth), air infrastructure service (air), marine work service (navy)

- A **new organisation** of the service was achieved early 2012, in compliance with the general reorganisation of the French Ministry of Defence
Some key figures

- HR and Financial resources allocated to infrastructure:
  - 7,130 collaborators (65% civil and 35% servicemen)
  - 1.450 billion euros involved in 2014;
    - 23,000 notified contracts;
    - 100 delivered operations > 1 million euro.
  - Maintenance budget
    - Between 400 and 450 million euros/year.
  - 300 million euros of energy purchases in 2014 (gas and electricity)
II – The asset maintenance management approach
Maintain in Condition (MC) : Stake of the SID

Maintain in operational condition our assets within the context of optimizing resources

The « MC » work answers to 3 questions :

Which budget would be required for the ministry to maintain in operational condition the Ministry of Defence property holding?

Which resources the ministry has (in terms of budgets and staff) to maintain its property holding?

How to re-distribute, if needed, the budget amongst Defence bases, while reducing staff dedicated to maintenance (new reduction plan 2014-2019) and preserving the best of the assets?
The approach – Process

“MC” Work: the process

An approach assessing the real needs in maintenance: based on mapping the asset portfolio performance, using a risk-based approach.

Asset portfolio Performance Mapping

- By components type (148) and macro-components type (building, airport, port, roadway, network and enclosures, developed areas, natural areas)
- According to the asset portfolio quality (age and condition) → data updated by the defence bases
- According to strategic priority → data collected from armed forces

Maintenance strategies

- For each grid cell of the asset portfolio performance mapping is associated a maintenance strategy for which is defined a maintenance costs ration depending on the asset portfolio quality (age and condition)

Resources assessment

- For each component type, the resources needed to drive a maintenance strategy is defined by multiplying maintenance costs ratios with the corresponding quantity to maintain
Example of results

Asset portfolio performance by macro-components type

Mappings are available by components type, macro-components type, by site, by defence base or on a national basis and provide:

- A quantitative and qualitative vision of the asset portfolio,
- Accurate identification of the risk asset portfolio in order to confirm the planning of the maintenance plan,
- Detailed information about the unmapped assets (missing data) to focus on ways to improve the knowledge of the asset portfolio,
- Qualitative and quantitative comparisons amongst sites of the same type, as for example two air defence bases,
- Qualitative and quantitative analysis by components types of a given function (example – power plant, ammunition depot, sports facilities).

Source: SIMEO™
The approach – application to the French Ministry of Defence

An annual campaign

P1
Running the process
Central level (DCSID)
(2 months)

P2
Update data in SIMEO™
Local level (USID)
(2 months)
Control and verify data
Central level

P3
Settings and simulation
Central level (DCSID)
(3 months)

P4
Exploitation and restitution of results
Central (DCSID) & local (USID) levels
(5 months)

P5
Feedback, communication and continuous improvement
Central level (relying on the local level)
(2 months)
The approach – application to the French Ministry of Defence

Process

Budget’s assessment approach: basis for the 2015 maintenance budget distribution

Two distinct scenarios used in the approach:

REFERENCE SCENARIO (reference budget to maintain in condition):

⇒ The aim is to evaluate the required resources to maintain and upgrade the asset portfolio according to its performance: its quality (age and condition) and its strategic relevance.

SCENARIO with a constrained budget (Military Programming Law):

⇒ The aim is to determine the maintenance policy that the SID can implement considering available resources dedicated to maintain in condition, foresee and evaluate the impact of under-resourcing (or constrained budget).
The approach – Summary of the first 4 years

Value the asset portfolio knowledge

2012

2014

2016’s objective

Estimate the required budgets

2011

2012

2013

2014

2015 and after

Reference scenario simulation
Quantification of maintenance deficit

Reference & constrained budgets scenarios simulation
Quantification of the increasing of maintenance deficit

Source: SIMEO™
### Added-value of the results

**Regarding to the asset portfolio knowledge**

- Gives an overview of the asset portfolio distribution (per defence base, per component, ... ) and provides a vision of the remaining effort and steps to improve the knowledge of the asset portfolio
- Improves data reliability available in the Ministry’s Information System, in particular within the Land Information System (G2D)
- A shared vision of risks at all levels

**Regarding to financial needs**

- An overview of the available resources and the required ones to maintain the assets for 10 years,
- A fairer distribution of resources based on risks (HR and costs),
- A vision of financial risks.
III – FUTURE DIRECTIONS
Project – SIMEO™

Implementation within the SID’s IS

Implementation of SIMEO™ application within the SID Information System (data security improvements)

- G2D
  - Asset Portfolio Inventory
  - Administrative Management
  - Land Reference

- GTP
  - Technical Reference Administration
  - Technical and Maintenance Management
  - Management of Infrastructure Team Interventions (in-house or company)

- SIMEO
  - Property holding performance assessment
  - Assessment of needs
  - RISKS/BUDGETS Reference

- SYGAP
  - Drawings Management
  - Drawings Archiving
  - Document Management
  - Plans Reference

- Géo SID
  - Biodiversity
  - Environmental Easement
  - Geographic Reference

Knowledge of the Property Holding

Infocentre
Increase data reliability

- Identify the data consolidation axes for each site (« radar » modelling)
- Self-analysis of USID’s heads (local level),

- Reconciliation with G2D and GTP data (conflict management),
- Reconciliation with technical reports data held by the service (inspection report, audits …)
Development

**Improvement of the asset condition rating practices**

- Formalising a rating methodology to limit subjectivity effects induced by the multiplicity of actors assessing the condition’s state of an asset.

**Implementation of a new asset management key performance indicator (KPI)**

- Assessment of the current value and replacement value of the installations
QUESTIONS ?

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