Implementation of an Asset Management Digitalisation Strategy

Application to French Motorway

François CASTAN, APRR – Digital Strategy Director
APRR Asset Portfolio

Key Figures:
- 2nd French and 4th European motorway company
- 2,323 km network
- 23 millions customers – 20% trucks
- 3,500 employees
- 2,424,6 M€ of revenue in 2017

Asset Management Key Figures:
- Team: 140 employees including 70 senior executives
- Infrastructure:
  - 8,000 km of traffic lane and 3,000 bridges
  - 230 service or rest areas
  - 2,500 basins
- Annual budget: 150 to 200 M€
APRR Commitments

- Financing, building, maintaining and modernising infrastructures

Commited to:
- Maintain high performance of our asset portfolio
- Implement best standards and practices to efficiently manage our assets
Asset Management Software Solution

GOALS PURSUED:
- Improve Asset Knowledge
- Predict and mitigate risks, to preserve safety, traffic and environment
- Align decision over lifecycle regarding performance, risk, cost
- Communicate and report to stakeholders

⇒ Implementing a dedicated Asset Management software solution
Asset Management Software Solution
Risk-Based Asset Management Methodology

1. Data collection

2. Asset breakdown and characterisation

3. Performance matrix (Risk)
   Asset condition and severity estimation

4. Lifecycle database, and associated maintenance and renewal actions and costs

5. Simulation of maintenance strategies to define best balance between performance, risks and costs

6. Construction and update of the pluriannual maintenance master plan and associated costs until end of concession
Risk-Based Asset Management Methodology

- Bridges
- Road pavement

Diagram of Major Bridge Components [Nielson, 2005]
Asset Management Digitalisation Benefits

- Asset Database
- Knowledge & Efficiency
- Scenarios comparison
- Risk mapping
Asset Management Digitalisation Benefits

Communication & Alignment

Condition state

Heavy maintenance cost

Risk

Cost breakdown by component
To be continued

- Extending our Asset Management solution
  - Monitoring alignment with AM policy
    - Strengthen the AM model
    - Continuous improvement
Thank you for your attention