



# Optimizing the maintenance costs of the national roads in Poland

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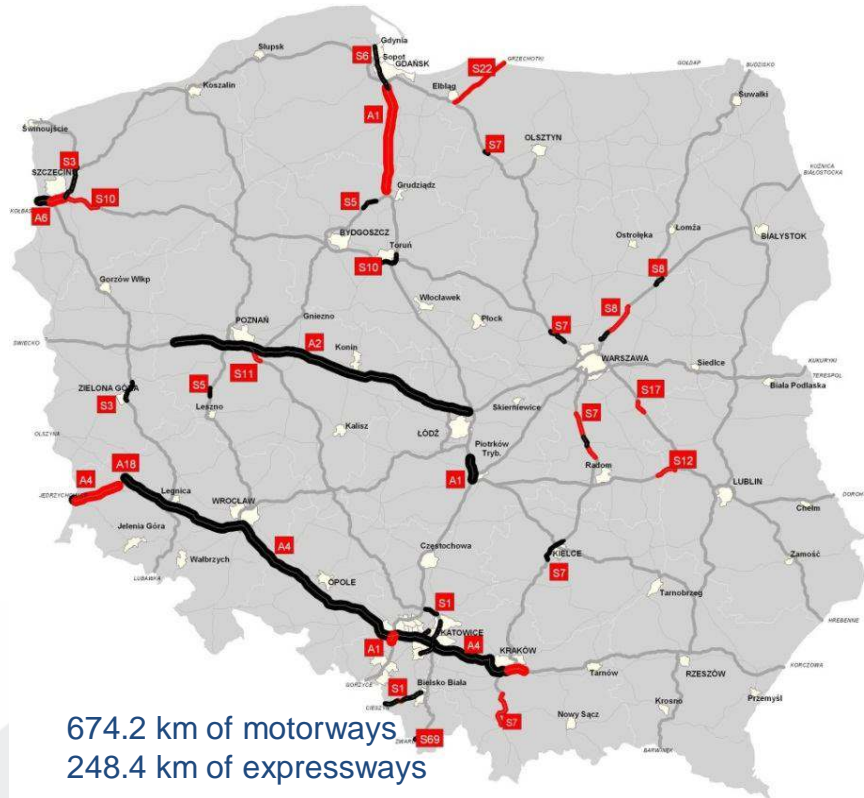
## 0. CONTENT

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1. **Introduction**
2. **Strategic goal**
3. **Situation**
4. **Tasks**
5. **Actions**
6. **Mechanisms**
7. **Results**
8. **Recommendations**
9. **Summary**

# 1. INTRODUCTION




January 1, 2007



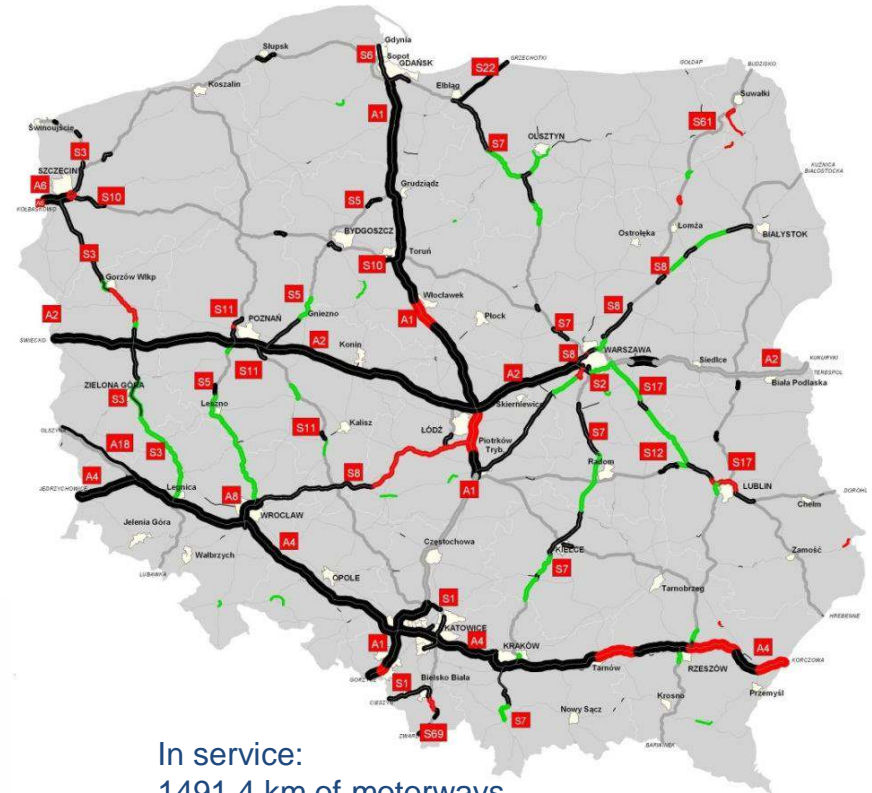
674.2 km of motorways  
248.4 km of expressways

**Legend:**

HIGHWAYS, MOTORWAYS, OTHER NATIONAL ROADS

-  existing
-  under construction
-  tenders in progress

December 31, 2013



In service:  
1491.4 km of motorways  
1247.9 km of expressways

Under construction:  
142.7 km of motorways  
229.9 km of expressways

## 2. Strategic goal

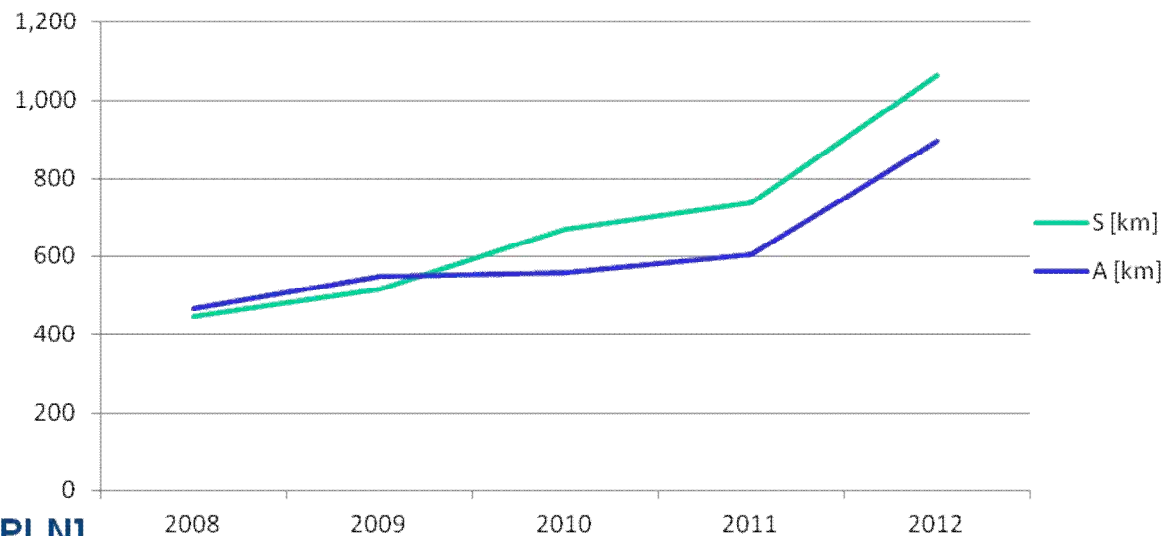
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# FUNCTIONAL AND SAFE ROAD NETWORK

### 3. Situation

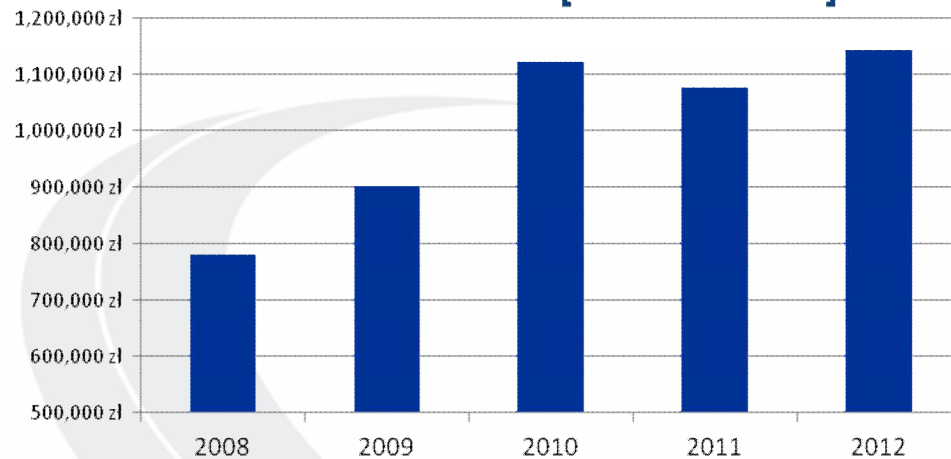
Number of kilometers:

INCREASE IN THE NUMBER OF ROAD A AND S [km]



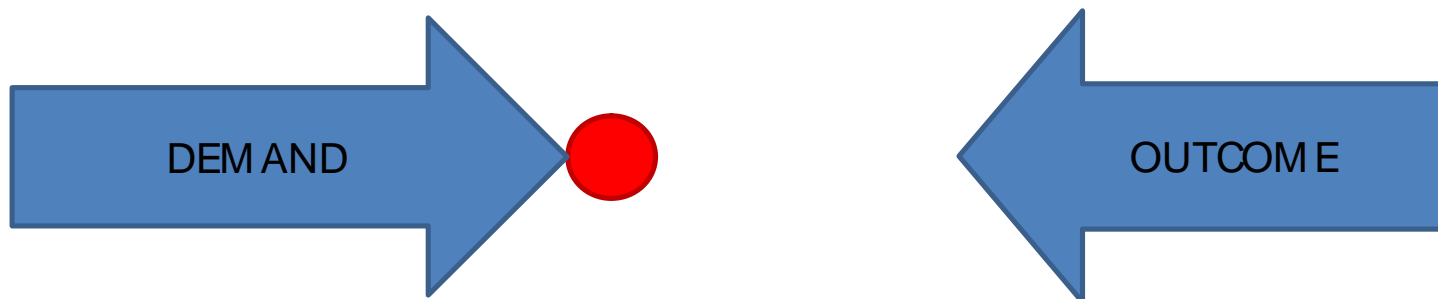
Funds:

MAINTENANCE BUDGET [thousand PLN]



### 3. Situation

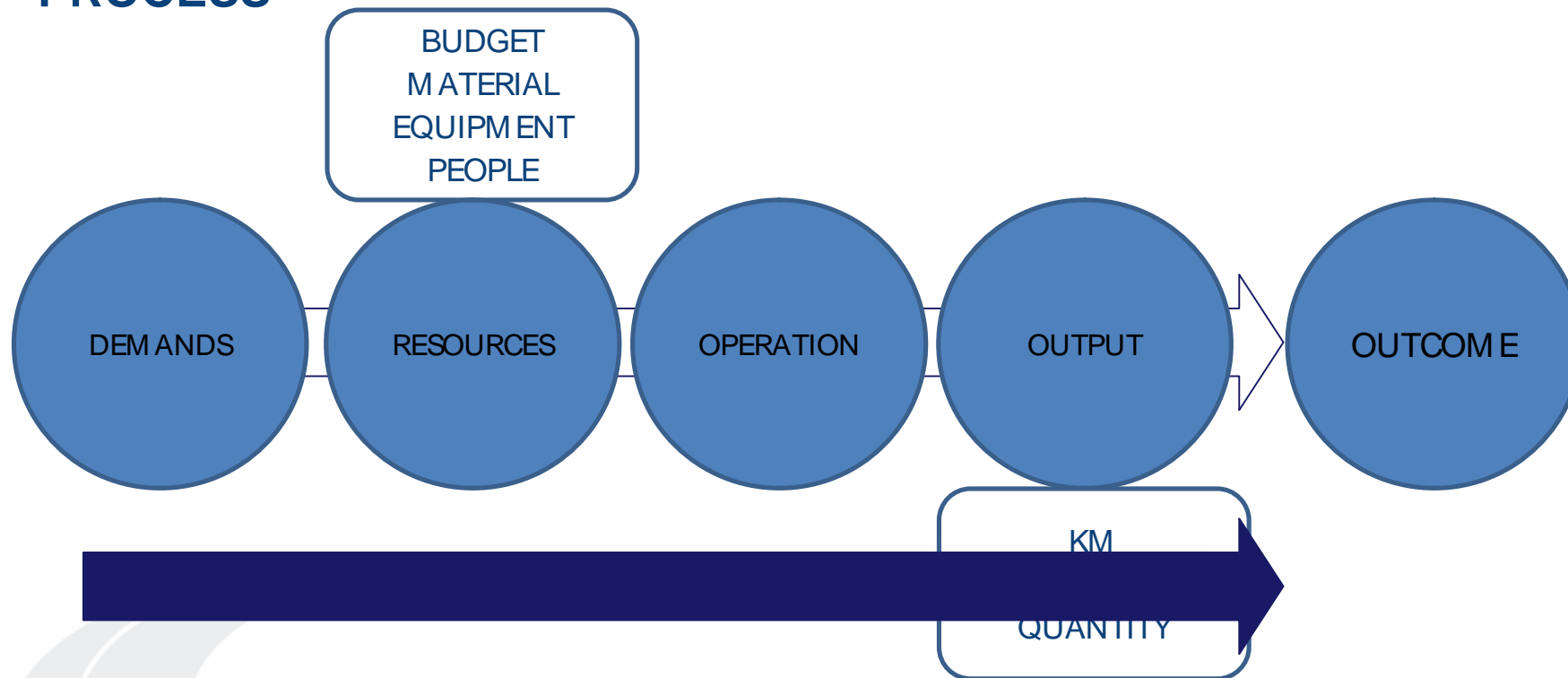
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### 3. Situation

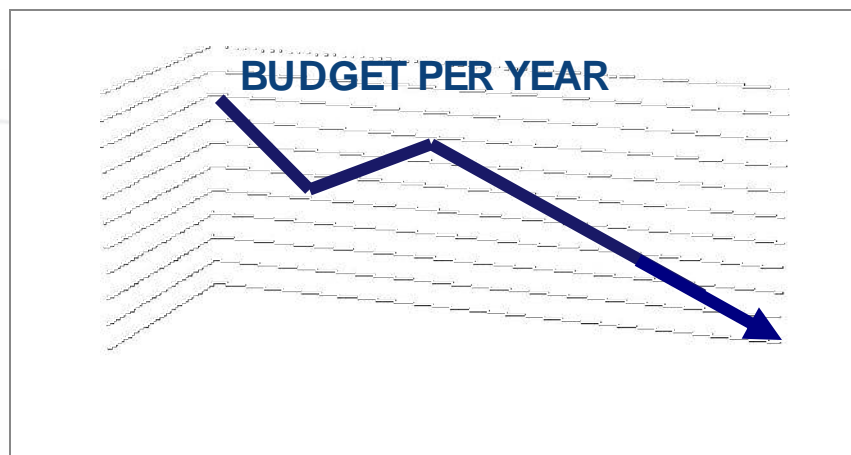
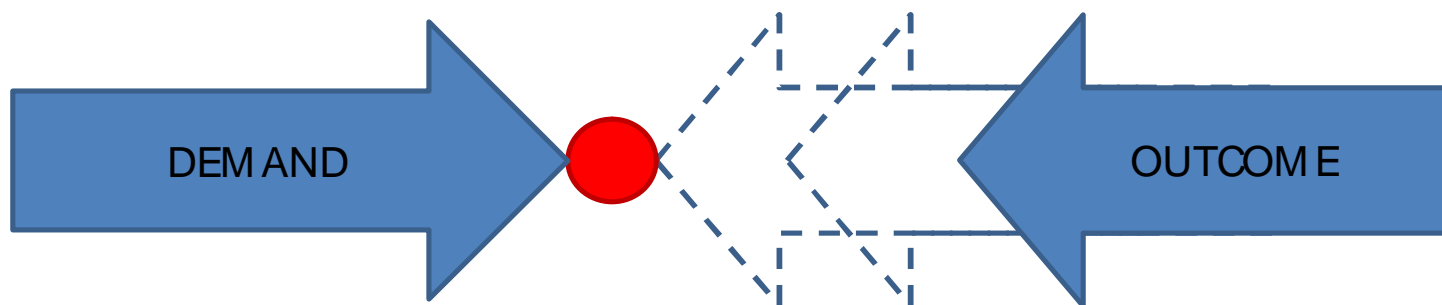
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#### PROCESS



## 4. Tasks

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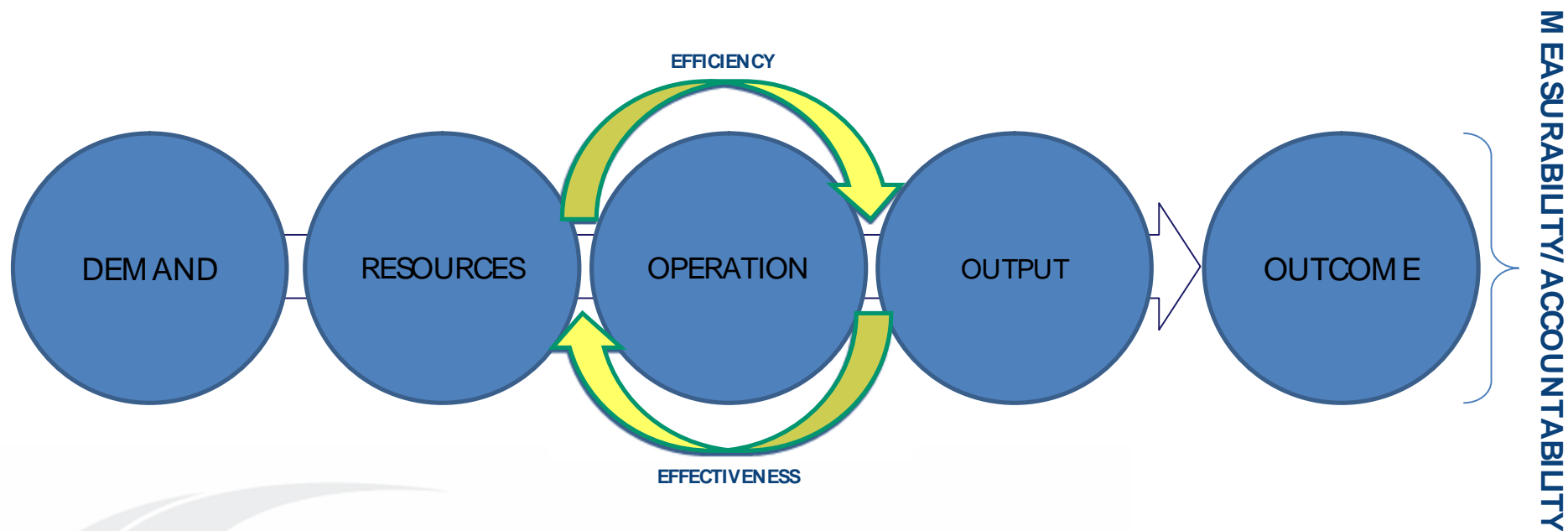




## 4. Tasks

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### PROCESS



## 5. Actions

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### POSSIBLE SOLUTIONS

- Execution of works using NRA own resources (REJECTED - action eliminating the principle of free market)
- Outsourcing certain works, and execution of certain works using NRA own resources (the „traditional” model)
- Comprehensive commissioning of management of the road maintenance works („deliver the outcome” model)

## 5. Actions

### COMPARISON OF SOLUTIONS

Traditional model	„Deliver the outcome” model
Commissioning of the execution of part of works and still execution of works using NRA own resources. Management of maintenance works by the NRA	Commissioning of the management and execution of works to the Contractors
Orders divided by the specialization (e.g. works assortments)	Complex contracts - summer and winter maintenance for 6 years
Specialization of Contractors in the work assortments	The possibility of combining services by the Contractor (better use of potential)
Settlement of the effects based on output (quantity survey)	Settlement of the effects based on outcome (indicatively)
Variable expenditure on road maintenance	Constant expenditure on road maintenance

## 5. Actions

### COMPARISON OF MANAGEMENT SYSTEMS

Traditional model	„Deliver the outcome” model
NRA hire technical personnel	Outsourcing of service along with expert personnel
Possesing and maintaining own technological base	Outsourcing of technological base along with its maintenance
An extensive process of contract handling - management, execution, settlement, control	Easier contract handling - settlement and control only
Enhanced administrative mechanism	Less of administration work
Lack of development of Contractors market	Stimulation of Contractors market

## 6. Mechanisms

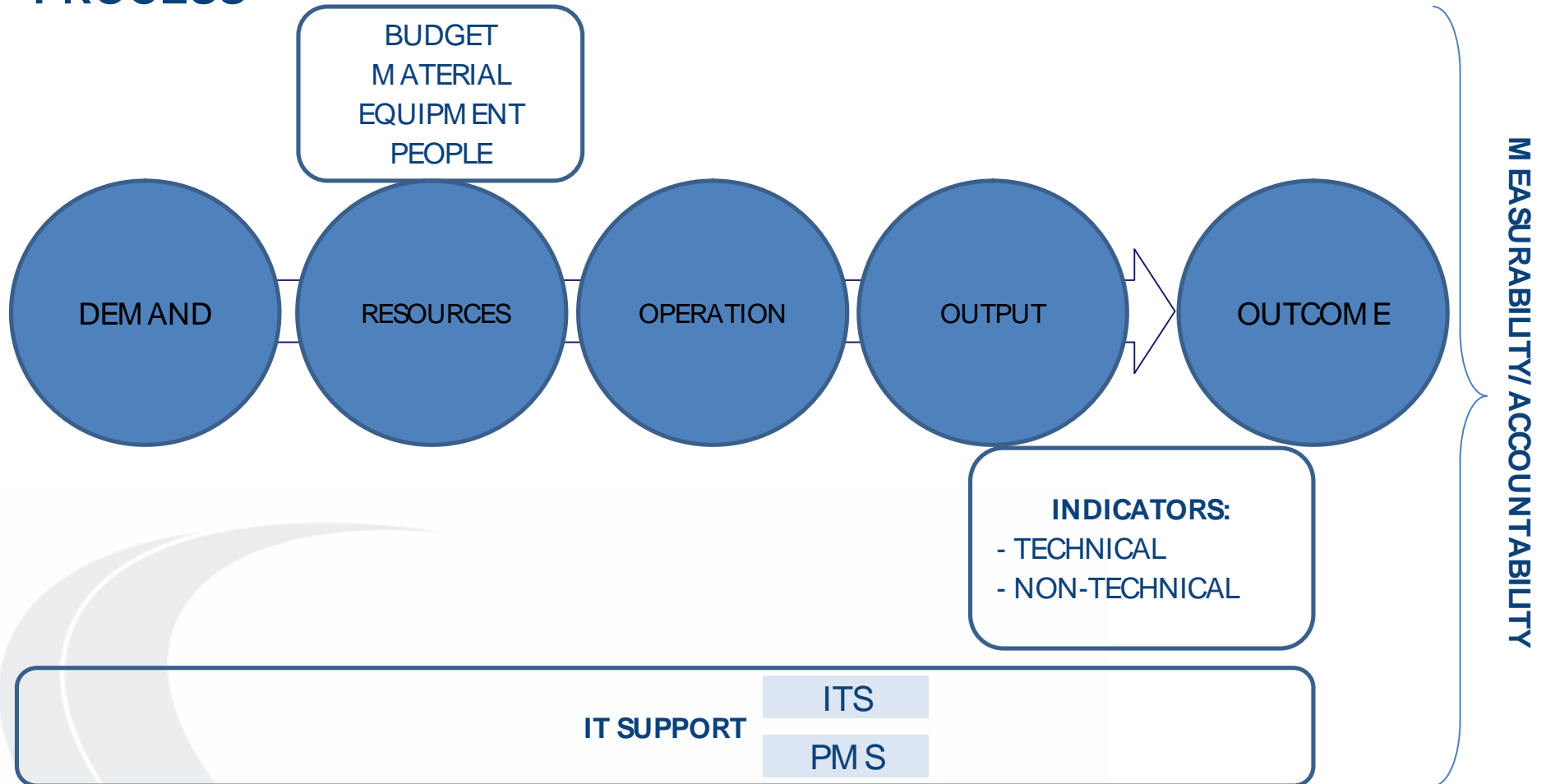
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### EFFECTIVENESS OF THE „DELIVER THE OUTCOME" MODEL

1. Determination of the minimum result, i.e. indicators of the road maintenance, that respond to the demands
2. Settlement after the outcome (reached / unreached)
3. Transparent rules for determining and settlement of output and outcome (accountability and measurability)

## 6. Mechanisms

### PROCESS



## 6. Mechanisms

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### INDICATORS THAT SHOULD BE USED TO SETTLE THE EFFICIENCY (MEASURABILITY/ ACCOUNTABILITY):

#### TECHNICAL INDICATORS

- ROUGHNESS
- EVENNESS
- REFLECTIVITY
- (....)

#### NON-TECHNICAL INDICATORS

- OUTPUT
- OUTCOME
- REACHING THE GOAL

## 6. Mechanisms

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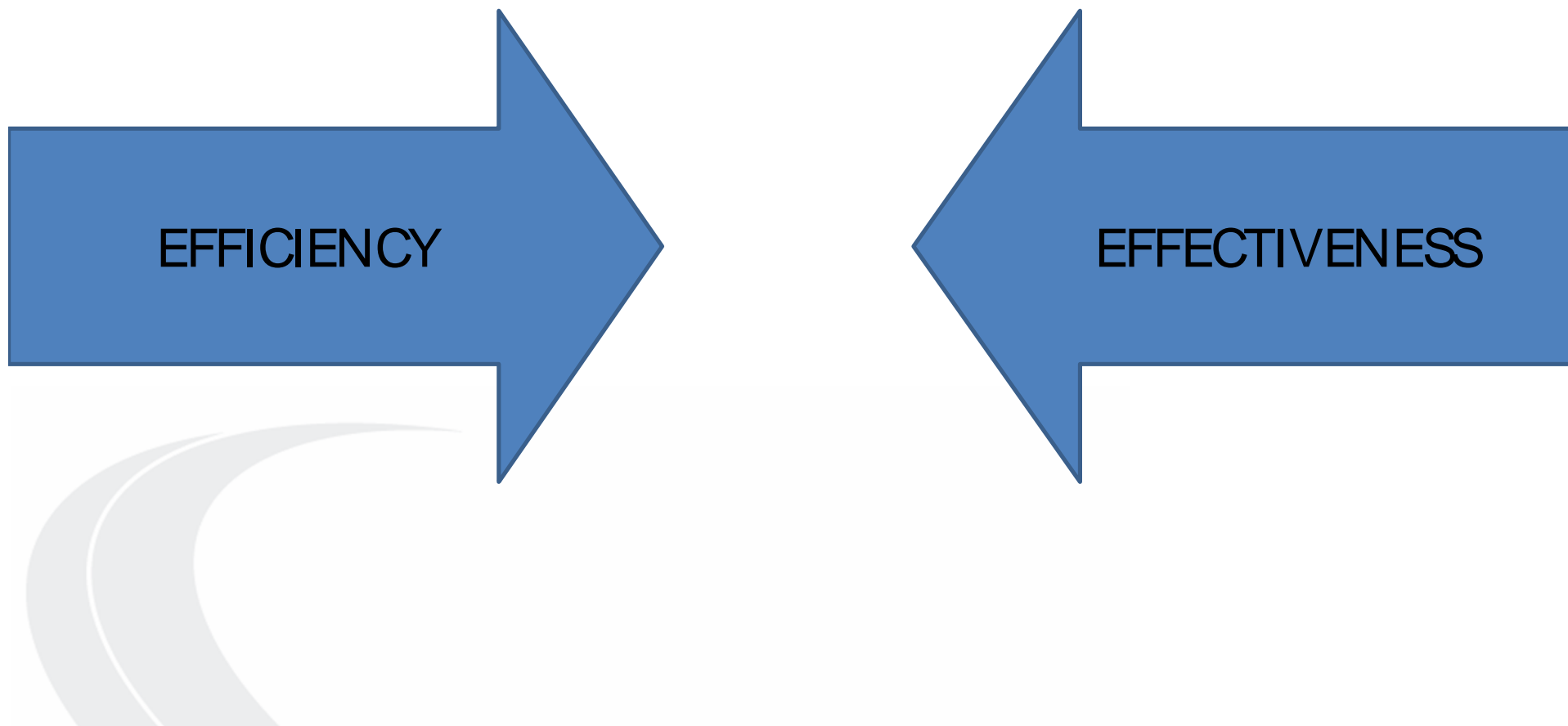
### EFFICIENCY OF THE „DELIVERY THE OUTCOME” MODEL

1. Comprehensive commissioning allowing the use of the Contractor's potential
2. More efficient management of resources (personnel, equipment, material, method of use)
3. Reduction of the administrative costs of Road Administrations
4. Technological development enabling cost reduction through time
5. The stability of the financial needs for road maintenance



## 6. Mechanisms

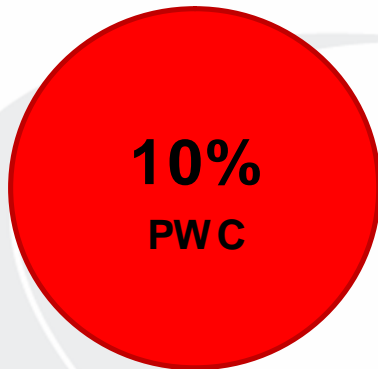
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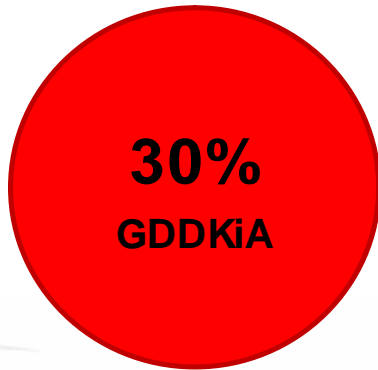
## 7. Results

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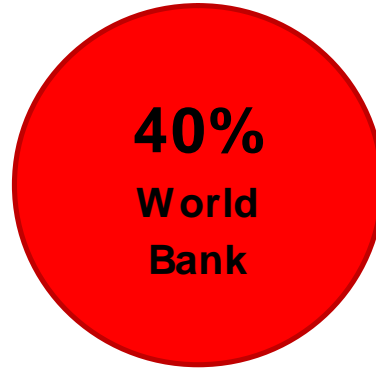
### COST-EFFICIENT MODEL



COST COMPARISON OF BOTH  
MODELS ON REPRESENTATIVE  
SECTION



COMPARISON OF INVESTOR'S COST  
ESTIMATIONS AND OFFERS  
SUBMITTED IN TENDERS



EXPERIENCE FROM THE  
COUNTRIES IN WHICH  
PRESENTED MODEL WAS  
IMPLEMENTED

## 7. Results

### POSSIBILITY OF DEVELOPMENT OF CONTRACTORS



## 8. Recommendations

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### **MODEL DEVELOPMENT IN RELATION TO THE CONTRACTORS:**

The use of the subsequent indicators of settlement of Contractors (technical)  
Allowing to compete for contractors on the level of services

### **MODEL DEVELOPMENT IN RELATION TO THE USERS:**

Defining the levels of services (user chart)

The use of the subsequent indicators of settlement of Contractors (non-technical)

## 9. Summary

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