

# Choosing a Manufacturing Control Mechanism to Ensure Product Compliance

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## CONTEXTUAL SETTING:

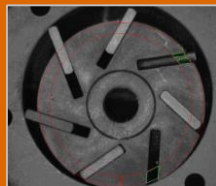
For years, a car company suffered product returns concerning their motor pumps. These pumps had missing or upside down blades.

The purpose of this analysis is to obtain 100% reliability that will insure the product's conformity, and client's satisfaction.

This study is about the choice the company has to make between a video camera and an accelerometer to meet the requirements.



Product Modeling



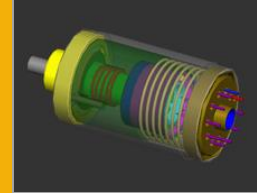
Types of recurring defects

2

## OPTIONS:



Camera COGNEX



Modeling Accelerometer

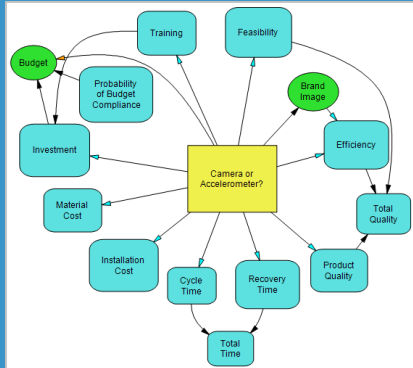
3

## DEFINITION OF VALUES:

Attribute	Decision Criteria	Visual detection	Accelerometer
Cost	Material Cost	7 500 €	6 500 €
	Installation Cost	1 000 €	10 000 €
	Training	$(3*60)+(3*35)$ 285 €	Hidden
Time	Cycle Time	5 cmn	Hidden
	Recovery Time	10 cmn	500 cmn
Quality Scale [0;5]	Feasibility	4	2
	Efficiency of the solution (DNR)	5	4
	Product's Quality	5	5

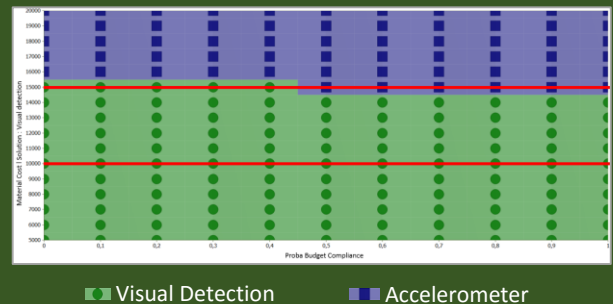
4

## INFLUENCE DIAGRAM:



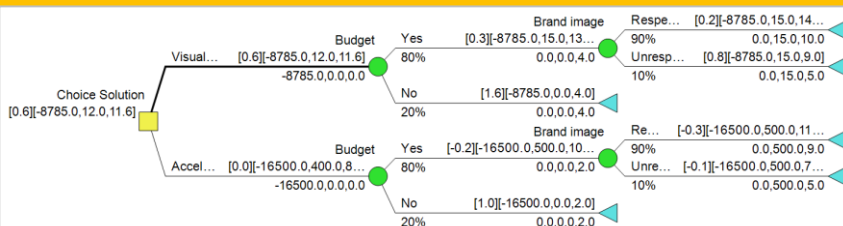
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## SENSITIVITY ANALYSIS:



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## POLICY TREE:



7

## CONCLUSION:

The optimal decision scenario obtained after the analysis is the camera. It is also the solution that had been retained by the company.

Indeed the camera appears as an effective and quick way to detect a defect, without disrupting the production cycle.