



# Solutions & Supplier Landscape – Object Detection

Case Study

# Solutions & Supplier Landscape

<b>Client</b>	A leading supplier of mining equipment
<b>Industry</b>	Mining
<b>Products</b>	Drilling Rigs, Rock Drilling Tools, Trucks & Loaders, Rock Excavation Equipment

## Engagement Scope

1

### Solution Landscape

- Identification of key approaches and solutions for object detection and classification
  - Vehicles
  - Drills
- Identifying solutions, approaches, sensors, and other components in in mining and similar applications
- Use cases and adoption scenario

2

### Solution Benchmarking

- Comparative assessment of available solutions against given KPIs/System requirements
  - Working, description, advantages & limitations
  - Maturity of technology, use cases and adoption scenario, etc.
  - Performance against defined parameters/ requirement like functional, environmental, certifications, etc.

3

### Supplier Identification

- Identification of the key suppliers and assessment of their capability
  - Supplier Profiling: Basic details like size, location, relevant individuals, etc.
  - Capability Analysis: Relevant offering portfolio, similar experience, etc.

## Context

- The client was interested to understand various solutions and key suppliers for object detection and classification for mining environment
- Further, client was interested in comparative assessment of identified solutions with respect to the objective parameters, and other KPIs

## Key Business Questions

- Which suppliers can provide a turnkey object detection system for different equipment having specific requirements – Drills and Vehicles (Trucks)
- What type of hardware (sensors, compute) and software is used? How do these system perform with respect to defined KPIs?
- What additional advantages and features can be provided by these system? Are there any potential challenges?

# Solutions & Supplier Landscape

## Research Methodology

### Secondary Research

- Conducted desk research to understand the overall solutions used for object detection and classification in mining and similar applications
- Supplier correspondence to get validated information against desired parameters

### Primary Research

- 20+ Telephonic interview with suppliers, solution developers, industry experts, etc. focusing on available solutions and viability of new alternative solutions

## Benefits to Client

- Client was able to understand long list of suppliers and solutions for object detection, perception and classification in mining environment
- Detailed analysis and recommendation of suppliers and solutions helped the Client to implement novel object detection solutions to better augment their CAS systems

## Sample Analysis

### 1 Supplier & Solution Landscape

### 2 Solution Benchmarking

Requirements	Xenomatix	Other Solutions
Functional Requirements	Yes	No
Hardware Technical Requirements	Yes	No

### 3 Key Findings & Recommendation

Supplier	Key Strengths	Contact Info
XENOMATIX	Proven capabilities for mining applications, In-house engineering services for integration & trial projects.	www.xenomatix.com
VTT	High experience in heavy construction applications, Can provide consulting services for hardware recommendations.	www.vtt.com
SANDVIK	Proven solid state (SSD) and have partnerships for leading suppliers, Works on use case regarding object detection, perception and localization.	www.sandvik.com
SafeAI	Algorithm can operate in GPS denied environment, providing a great solution for underground mining, Customized ML deep neural network algorithm for perception along with camera-based solution.	www.safeai.com

# Thank you

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