



Siemens Advanta

Predictive maintenance for sand accumulations

Reducing risk of activity disruptions for oil fields using GIS-based
machine learning algorithms

[Siemens-Advanta.com](https://www.siemens-advanta.com)

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Reducing risk of activity disruptions using machine learning to predict sand accumulations



CLIENT

Leading NOC in the Middle East



CLIENT CHALLENGES

Disruption of operations due to accumulation of sand and ground on critical infrastructures



OUR SOLUTION

Leveraging data (satellite images, workorders, finance reports, ...) to predict sand accumulates based on machine-learning algorithms



CLIENT BENEFITS

Decrease of maintenance-related costs by 27% through manhour reduction and increase of process efficiency via forecasting automation

~ 27 %
Cost reduction expected

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THE CHALLENGE

Potential disruption of oil field operations due to accumulation of sand and ground on critical industrial infrastructures

1

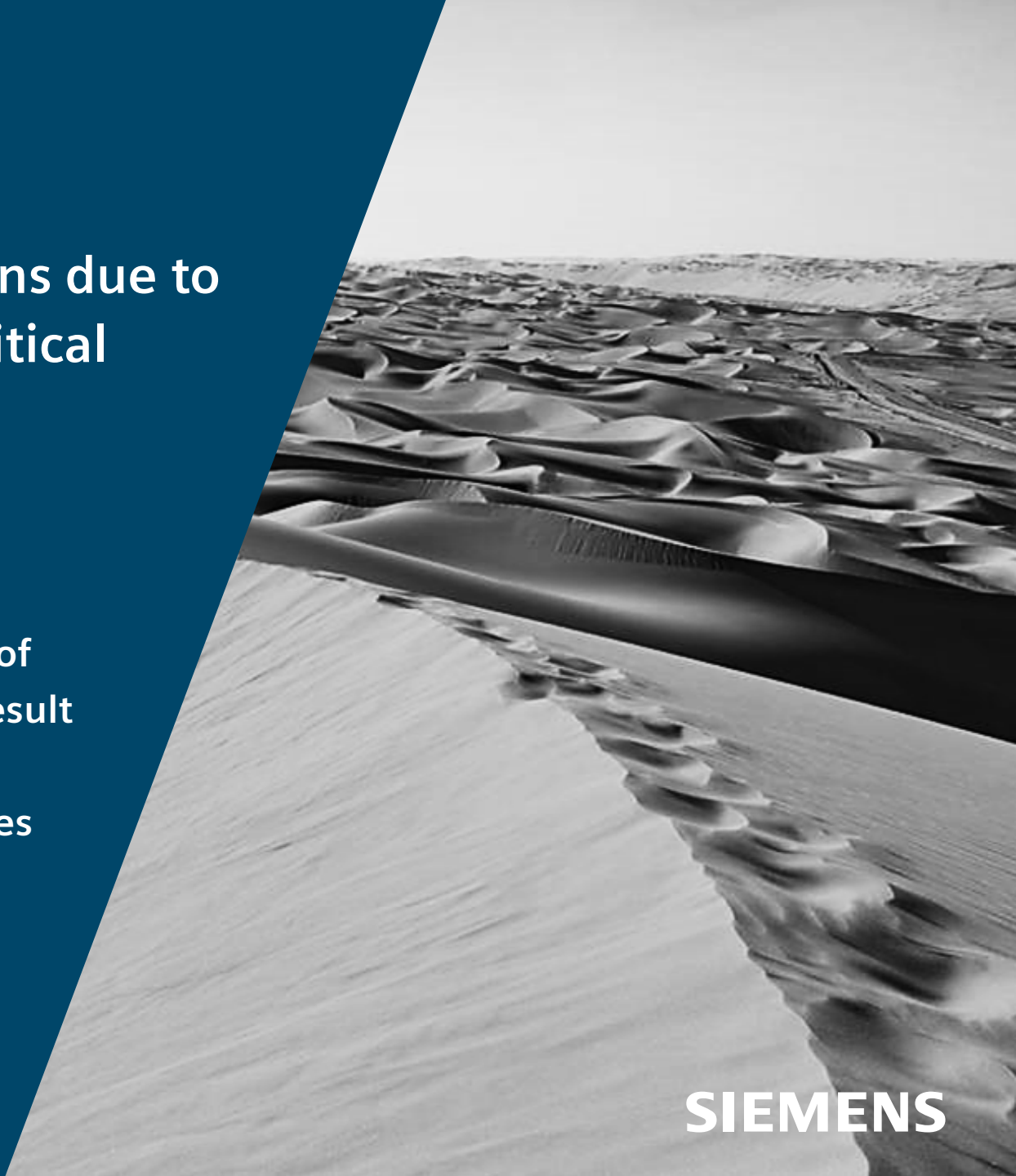
High time efforts to identify blocked areas through manual patrols

2

Much manual manpower needed to load & unload sand in non critical areas

3

Interruption of operations result in significant revenue losses



OUR APPROACH

Leveraging operational and GIS data to predict sand accumulates based on machine-learning algorithms

1

We identified areas of highest improvement potential based on existing operational data

2

We correlated data on clearing activities for every geo-point and trained algorithms to predict accumulation

3

We enriched our model with pixel segmentation based on satellite images



THE IMPACT

Decrease of maintenance-related costs by 27%

1

Decrease of maintenance-related costs by 27% through manhour reduction and increase of process efficiency via forecasting automation

2

Improvement of health and safety for employees as well as the carbon footprint of the company

3

Reduced risk of disruptions of operations and therefore higher plant uptimes possible

~ 27 %
Cost reduction expected

Why Siemens Advanta?

Benefit from our deep (local) domain Knowledge

Our team has deep experience in the oil & gas sector, and therefore knows the specific requirements of the industry and its stakeholders. Our experience in the Middle East region enriches our knowledge.

Leverage a strong Technology Stack

Siemens Advanta has access to state-of-the-art technologies in areas like drones, machine learning and industrial applications and can leverage Siemens' global technological leadership.

Profit from our powerful Ecosystem

Siemens Advanta builds on its strong relationships with partners in- and outside of Siemens. It can deliver end-to-end solutions **out of one hand**.



Client's quote

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We expect a 27% reduction of maintenance-related costs through the predictive AI-solution for accumulation identification and automation of the monitoring process developed by Siemens Advanta

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