

# The use of simulations to identify operational improvements on compressed air systems

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January 28, 2017

## Abstract

# Contents

<b>Abstract</b>	<b>ii</b>
<b>List of symbols</b>	<b>iv</b>
<b>Acronyms</b>	<b>v</b>
<b>Glossary</b>	<b>vi</b>
<b>1 Introduction and background</b>	<b>1</b>
1.1 Preamble . . . . .	1
1.2 Simulation . . . . .	1
1.3 Inefficiency identification methods in industry . . . . .	1
1.4 Compressed air systems in the mining industry . . . . .	1
1.4.1 Compressed air background . . . . .	1
1.4.2 Characteristic inefficiencies . . . . .	1
1.5 Problem statement . . . . .	1
1.6 Dissertation overview . . . . .	1
<b>2 Literature study</b>	<b>2</b>
2.1 Preamble . . . . .	2
2.2 The use of simulation in industry . . . . .	2
2.3 Identification of inefficiencies in compressed air systems . . . . .	2
2.4 Compressed air operational improvements in industry . . . . .	2
2.5 Conclusion . . . . .	2
<b>3 Developing a periodic simulation process</b>	<b>3</b>
3.1 Preamble . . . . .	3
3.2 Investigation . . . . .	3
3.3 Model development and verification . . . . .	3
3.4 Periodic implementation . . . . .	3
3.5 Analysis of data . . . . .	3
3.6 Identifying and quantifying operational improvements . . . . .	3
3.7 Conclusion . . . . .	3
<b>4 Validation of Results</b>	<b>4</b>
4.1 Preamble . . . . .	4
4.2 Case study: Mine A . . . . .	4
4.3 Case study: Mine B . . . . .	4
4.4 Discussion of results . . . . .	4

4.5	Conclusion . . . . .	4
<b>5</b>	<b>Conclusion</b>	<b>5</b>
5.1	Conclusion . . . . .	5
5.2	Recommendations for future studies . . . . .	5
<b>A</b>	<b>Something</b>	<b>6</b>
<b>B</b>	<b>Something else</b>	<b>7</b>

# List of symbols

# Acronyms

# Glossary

# Chapter 1

## Introduction and background

1.1 Preamble

1.2 Simulation

1.3 Inefficiency identification methods in industry

1.4 Compressed air systems in the mining industry

1.4.1 Compressed air background

1.4.2 Characteristic inefficiencies

1.5 Problem statement

1.6 Dissertation overview



# Chapter 2

## Literature study

2.1 Preamble

2.2 The use of simulation in industry

2.3 Identification of inefficiencies in compressed air systems

2.4 Compressed air operational improvements in industry

2.5 Conclusion

# Chapter 3

## Developing a periodic simulation process

3.1 Preamble

3.2 Investigation

3.3 Model development and verification

3.4 Periodic implementation

3.5 Analysis of data

3.6 Identifying and quantifying operational improvements

3.7 Conclusion

# Chapter 4

## Validation of Results

4.1 Preamble

4.2 Case study: Mine A

4.3 Case study: Mine B

4.4 Discussion of results

4.5 Conclusion

# Chapter 5

## Conclusion

### 5.1 Conclusion

### 5.2 Recommendations for future studies

# Appendix A

## Something

# Appendix B

Something else