RAMS INTRODUCTION SEMINAR

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About Me

- Name : Mohsin Abbas

- Home Country : Pakistan

- Moved to Norway in 2017

- Joined NTNU as a PhD candidate in Oct 2020

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Education

- B.Sc. In Mechanical Engineer (U.E.T Taxila, Pakistan)

- MSc In Risk Management University of Stavanger, Norway

- Lund University, Sweden (Exchange Semester)

Work Experience

- Graduate Engineer
  (Maintenance & Operability)

1. **Mongstad Heat Refinery Modification**

Detail Engineering Phase

➢ Consequence classification (Kamfer)
➢ Maintenance program (SAP)

2. **Kårsto Partial Electrification**

Concept Phase

➢ RAM Study
➢ Miriam RAM studio for analysis

PhD Project

Condition-based maintenance decision-making based on digital twins for subsea systems

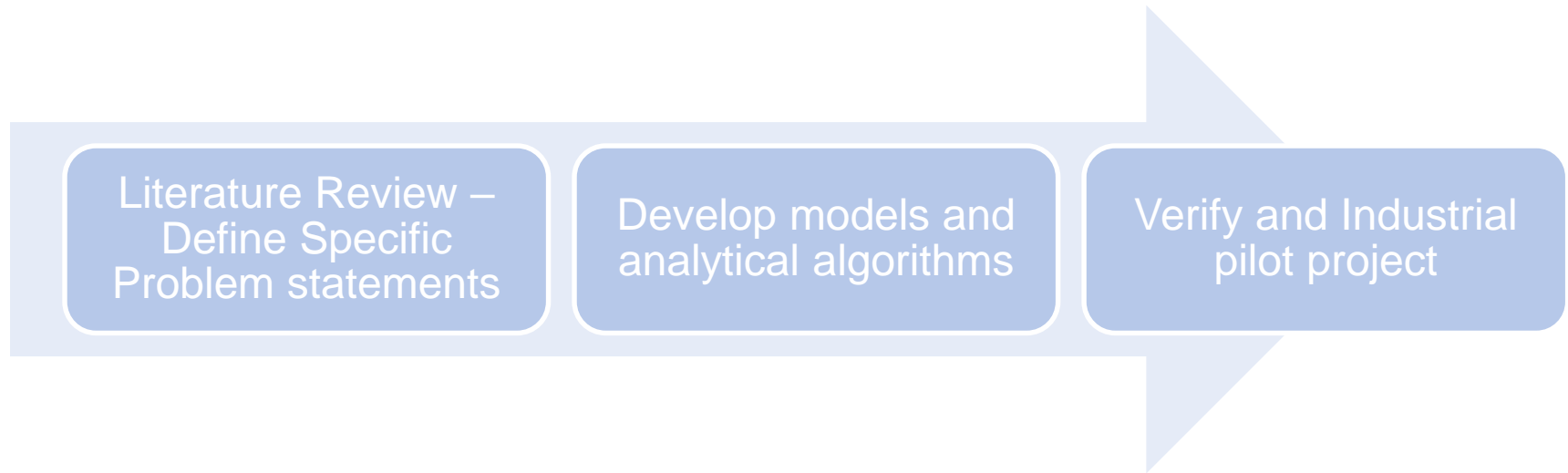- Supervisor : Prof. Yiliu Liu

- Co supervisor: Prof. Jørn Vatn

Objective :

➢ To develop modelling framework and algorithms for building a digital twin prescriptive layer

➢ considering system degradation and condition-based maintenance interventions.

➢ The use of hybrid data, knowledge-based inference methods, **mathematical** and **stochastic methods** will be considered as part of the development scope

• Key Words: **Probabilistic Digital Twin, Degradation Modelling, CBM , Uncertainty**

PhD Project

➢ Collaboration with the Chemical Engineering group at NTNU,

➢ AkerBP will facilitate in industrial case identification and relevant data collection for developing a DT. In addition, a pilot study will be carried out in collaboration with the company.

➢ Three Chinese Universities (China Univ. of Petroleum East China, Beihang University, Ocean University of China), as well as two Chinese industrial partners Jereh and CNOOC will also be collaborators of this PhD project.

➢ Regular online meetings will be run, and three onsite meetings are also expected.

Work Process

Literature Review – Define Specific Problem statements

Develop models and analytical algorithms

Verify and Industrial pilot project

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Thank You for Your Time !

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