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AI applications in engineering

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**This is the Presentation of the final output.**

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# Research Interest

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# 1. Intelligent Supervision Centralised System

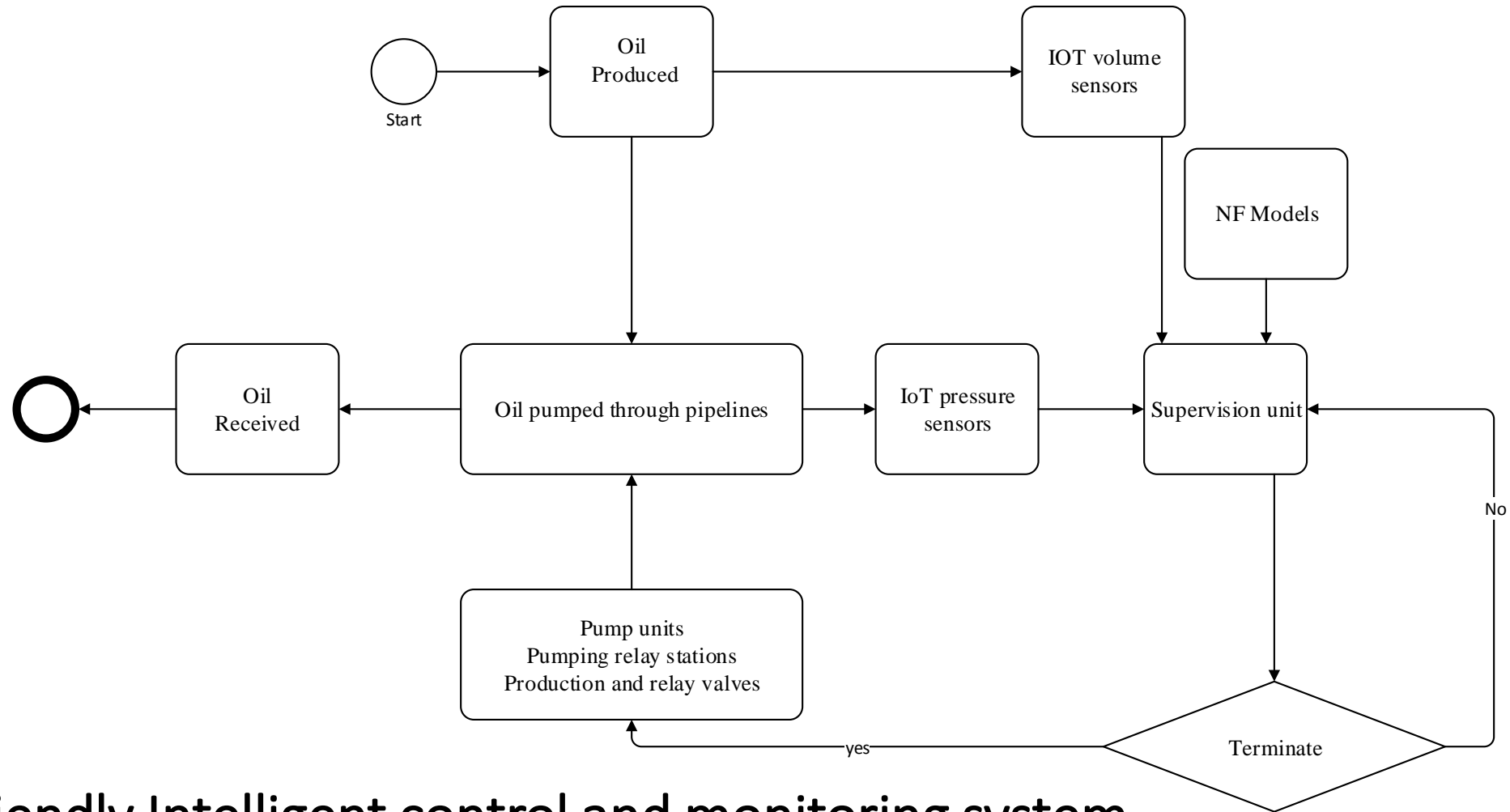
## **Main Research objectives :**

- Simulate and build user-friendly Intelligent control and monitoring system for oil pipelines grid to decrease environmental and financial losses whilst achieving better communication.

## **Motivations :**

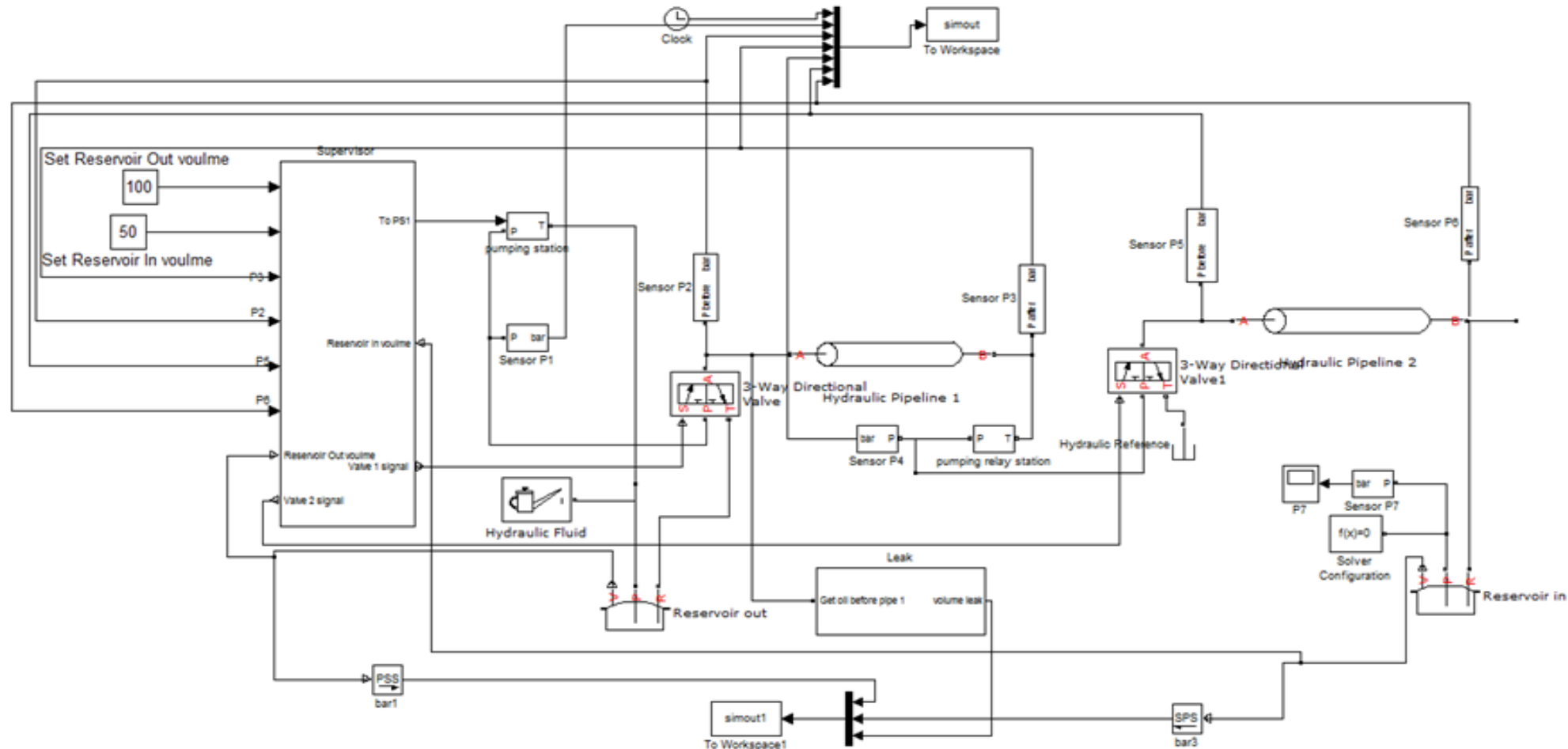
- Appreciate the oil pipelines transmission process through visual simulation from source to destination.
- Reduce the waste in resources.
- Provide visual monitoring system for the transportation process.
- Evaluate and analyse the parameters affecting oil pipelines transmission grid.

# Neuro-fuzzy Supervision System in Oil Pipelines Grid



User-friendly Intelligent control and monitoring system

# Simulation in Simscape software package



Naghham H. Saeed and Maysam F. Abbod, "Modelling Oil Pipelines Grid: Neuro-fuzzy Supervision System", *International Journal of Intelligent Systems and Applications (IJISA)*, Vol.9, No.10, pp.1-11, 2017. DOI: 10.5815/ijisa.2017.10.01.

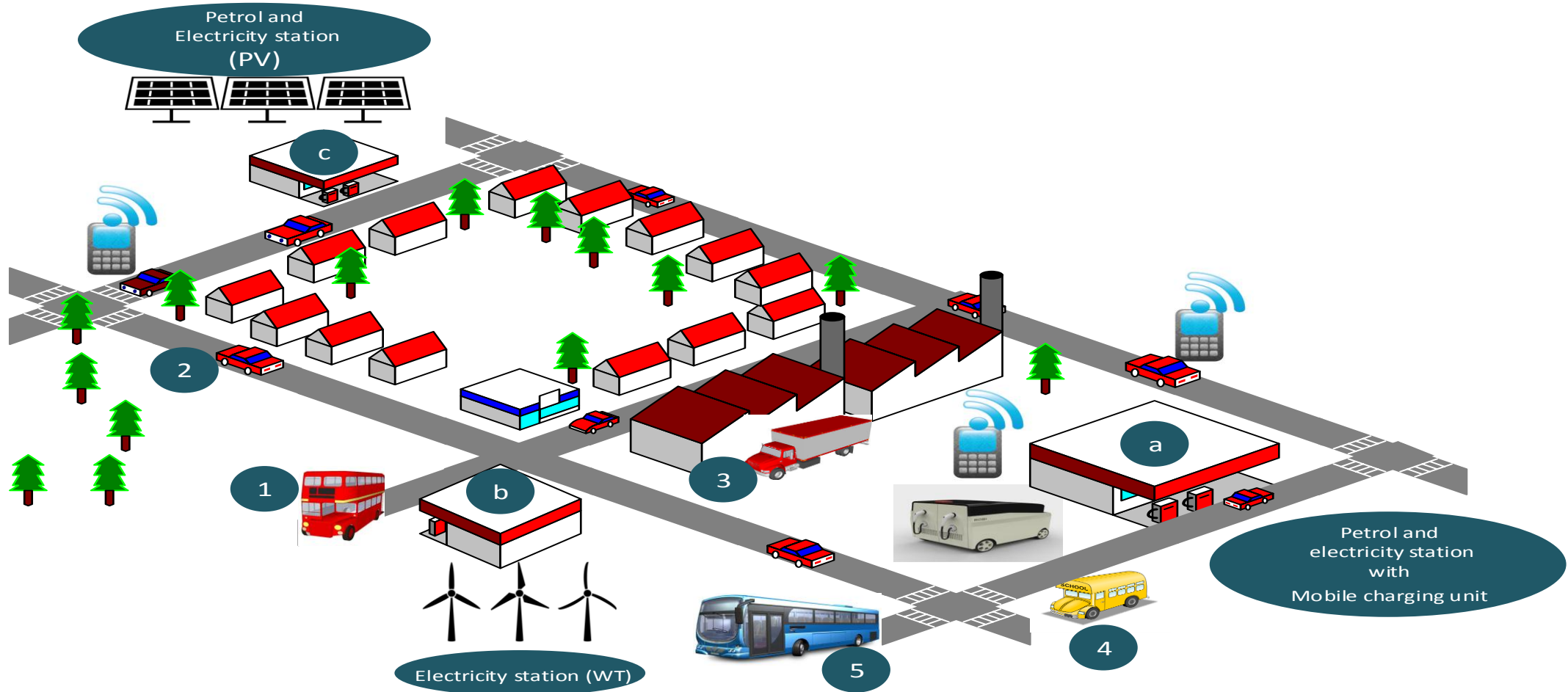
## 2. Intelligent Supervision local System

### **Main Research objectives :**

Create Supervision System in Micro Grid electricity stations with the Support of Artificial Intelligence and Internet of Things (IoT).

- **Motivations :** Better service quality in Micro Grid electricity stations.

# Renewable Energy Micro Grid Electricity Stations



# 3. Diagnosing System

## **Main Research objectives :**

Simulate and test the diagnosing system according to Electrocardiograms (ECGs) Readings. The Cardiology Diagnosing System is an effective learning technique based on big data analysis (patient records)

## **Motivations :**

- Help in healthcare to reduce diagnostic and therapeutic errors that are inevitable in human clinical practice.
- Provide value to healthcare by improving healthcare quality and outcomes. It also provides affordable care.
- Enables delivery of cost-saving by eliminating inefficiencies.



# Diagnosing System according to Electrocardiograms (ECGs) Readings

