



# Systematic Ship Energy Efficiency Audit And Data Unification

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Industrial partner: Royston Ltd. – Shervin Younessi and Neil Graham

**Royston**<sup>€</sup>  
diesel power



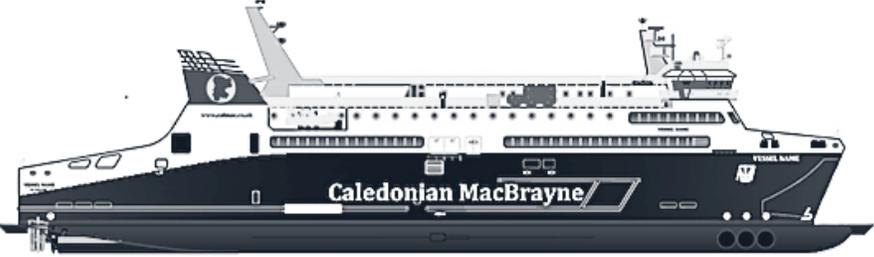
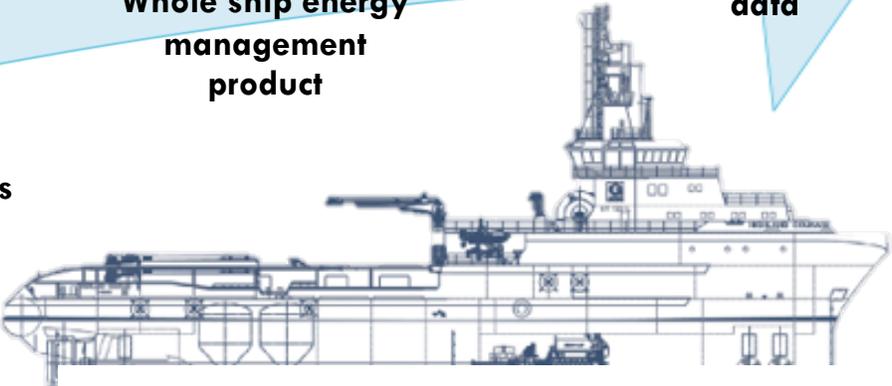
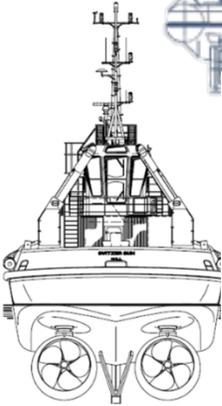
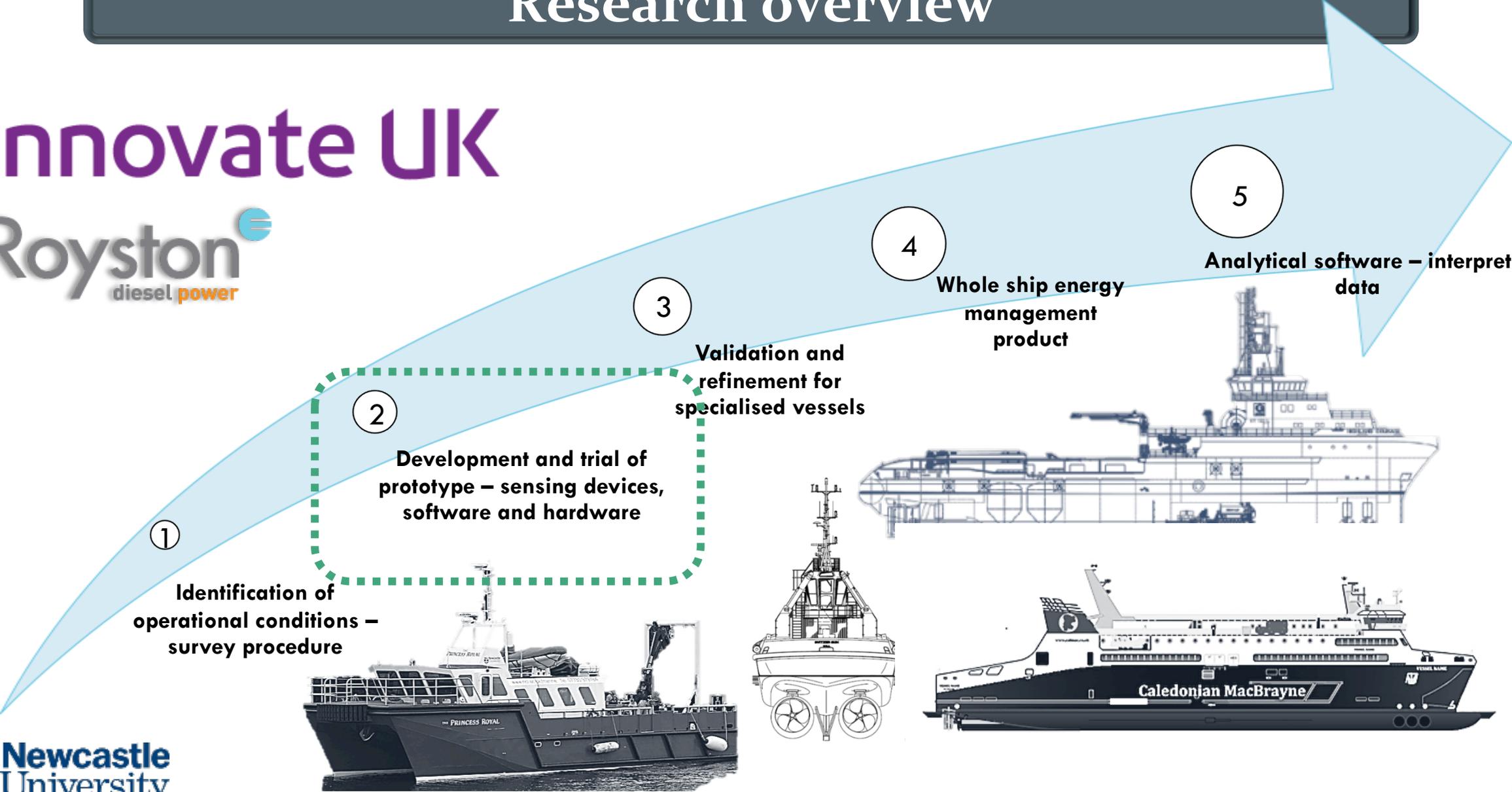
# Content

1. **Research overview**
2. **Research concept**
3. **Methodology**
4. **Timeline of data monitoring**
5. **Examples of system monitoring**
6. **Results**
7. **Conclusions and future plan**

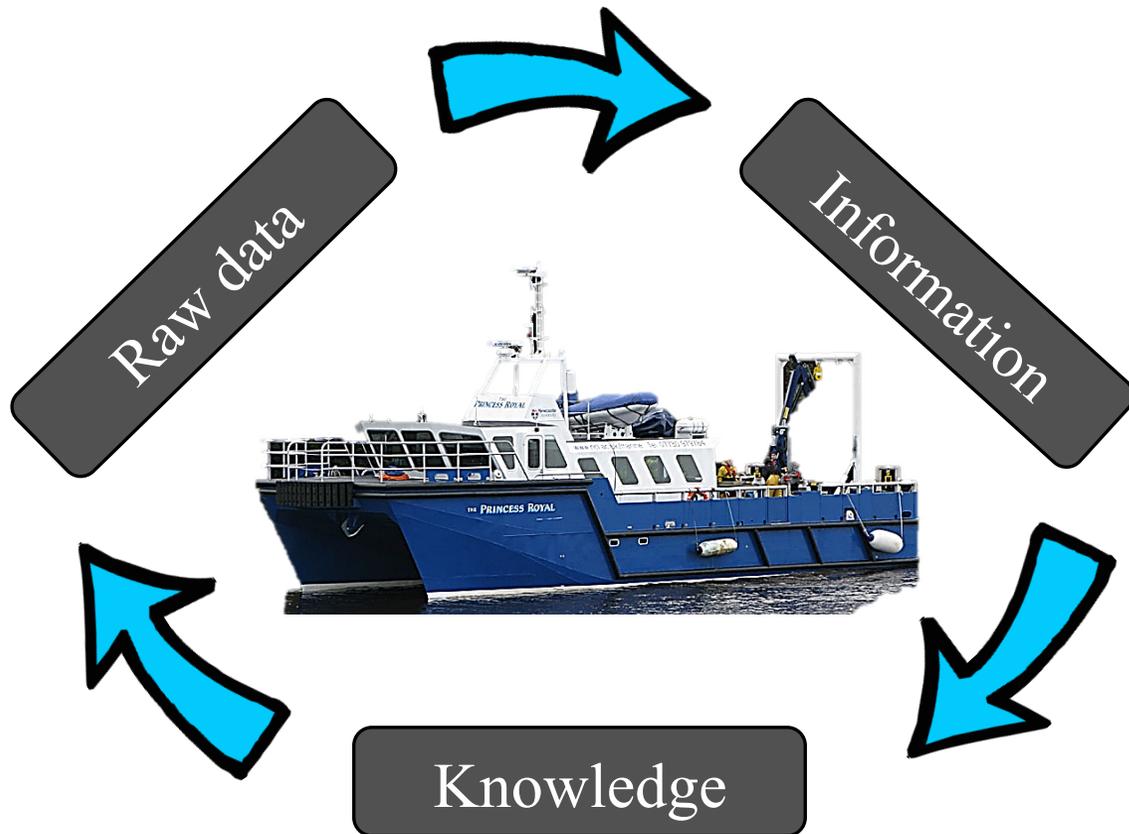
# Research overview

# Innovate UK

**Royston**  
diesel power



# Research concept



Target: reduce emission, reduce fuel consumption, maximise profit

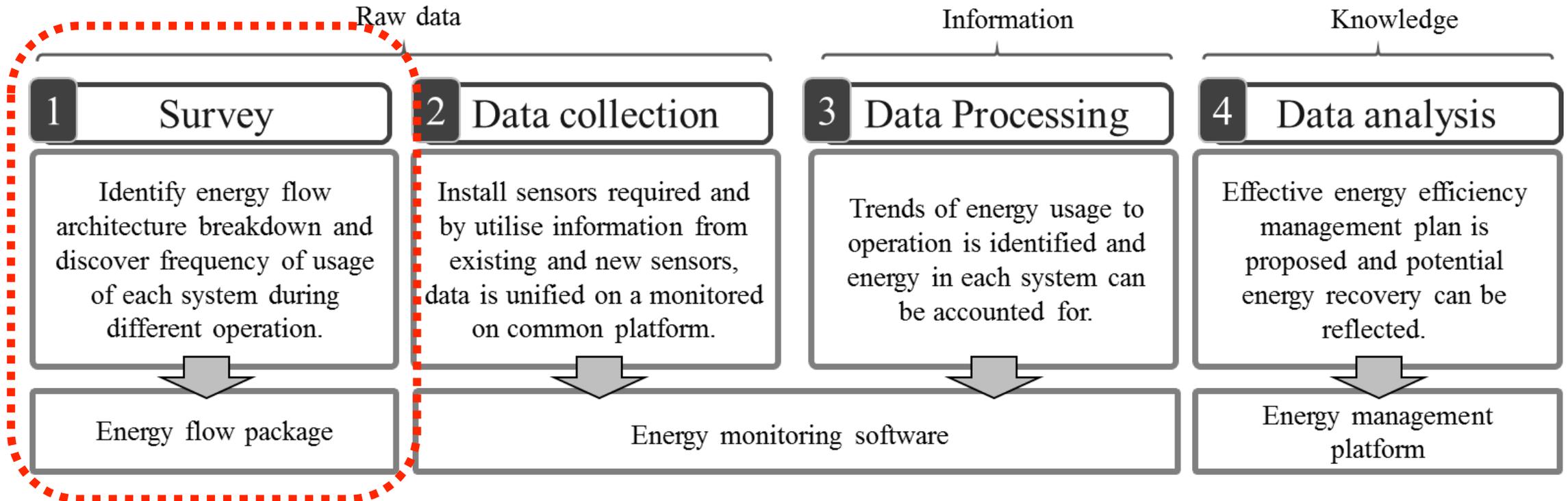
One Common Outcome: a greener earth

Who is responsible?: Everyone plays a role

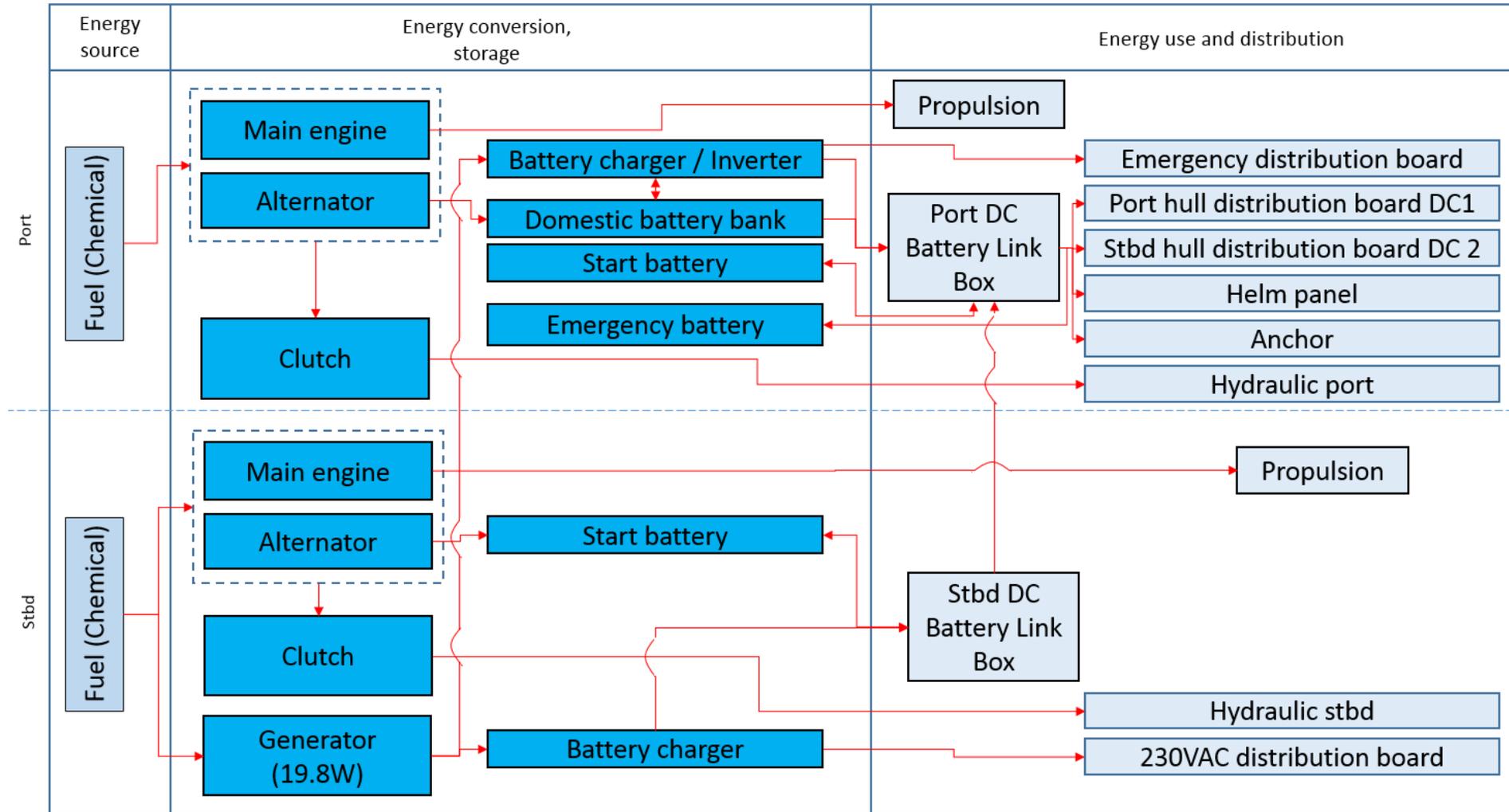
It becomes a culture and habit: Collect and process data

# Methodology

## Systematic energy efficiency audit and data unification

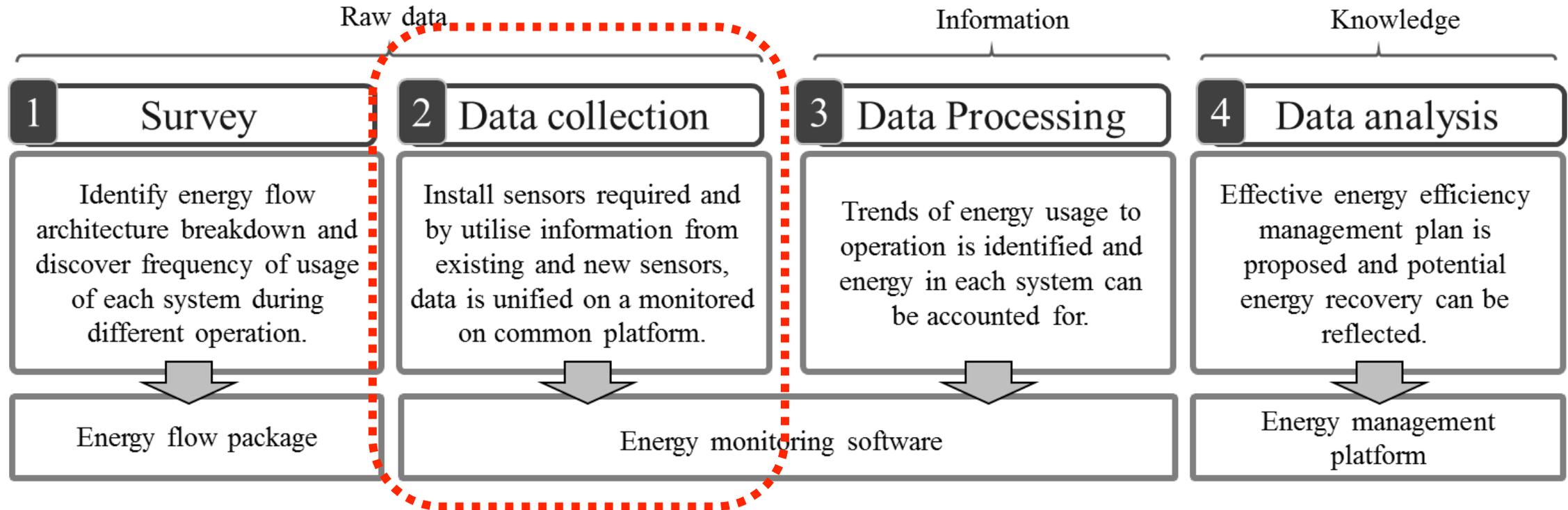


# Results – Energy breakdown architecture



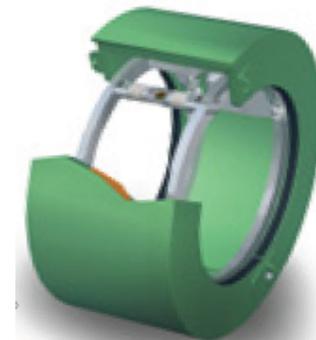
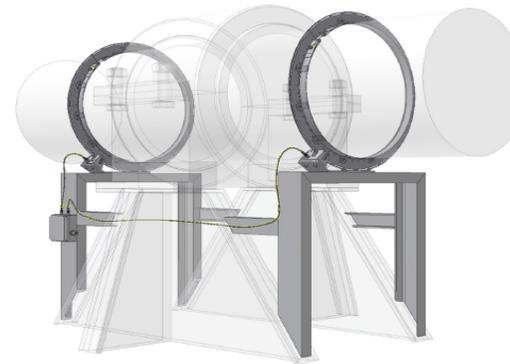
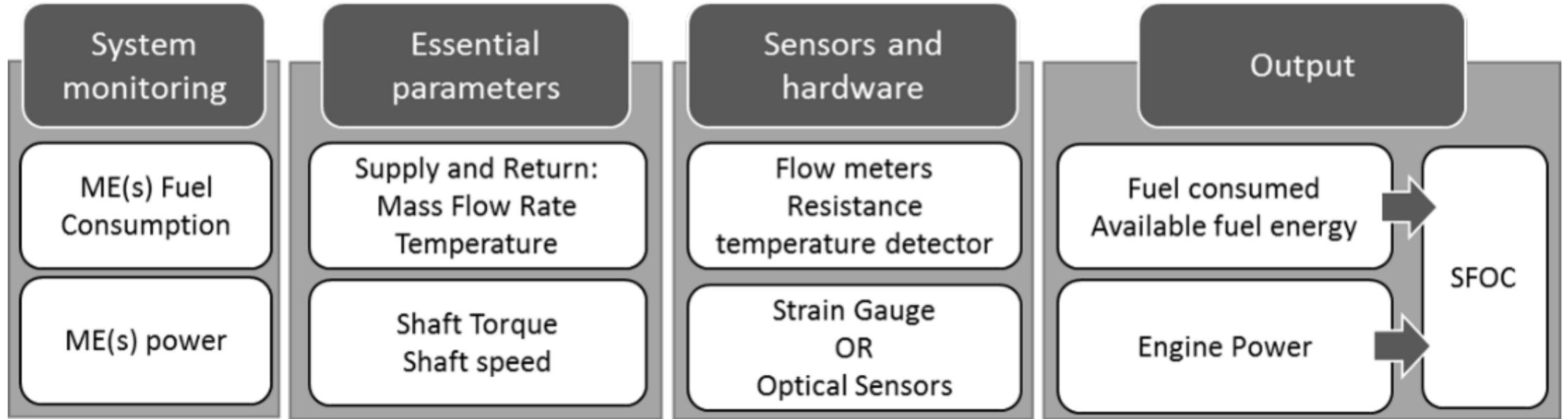
# Methodology

## Systematic energy efficiency audit and data unification

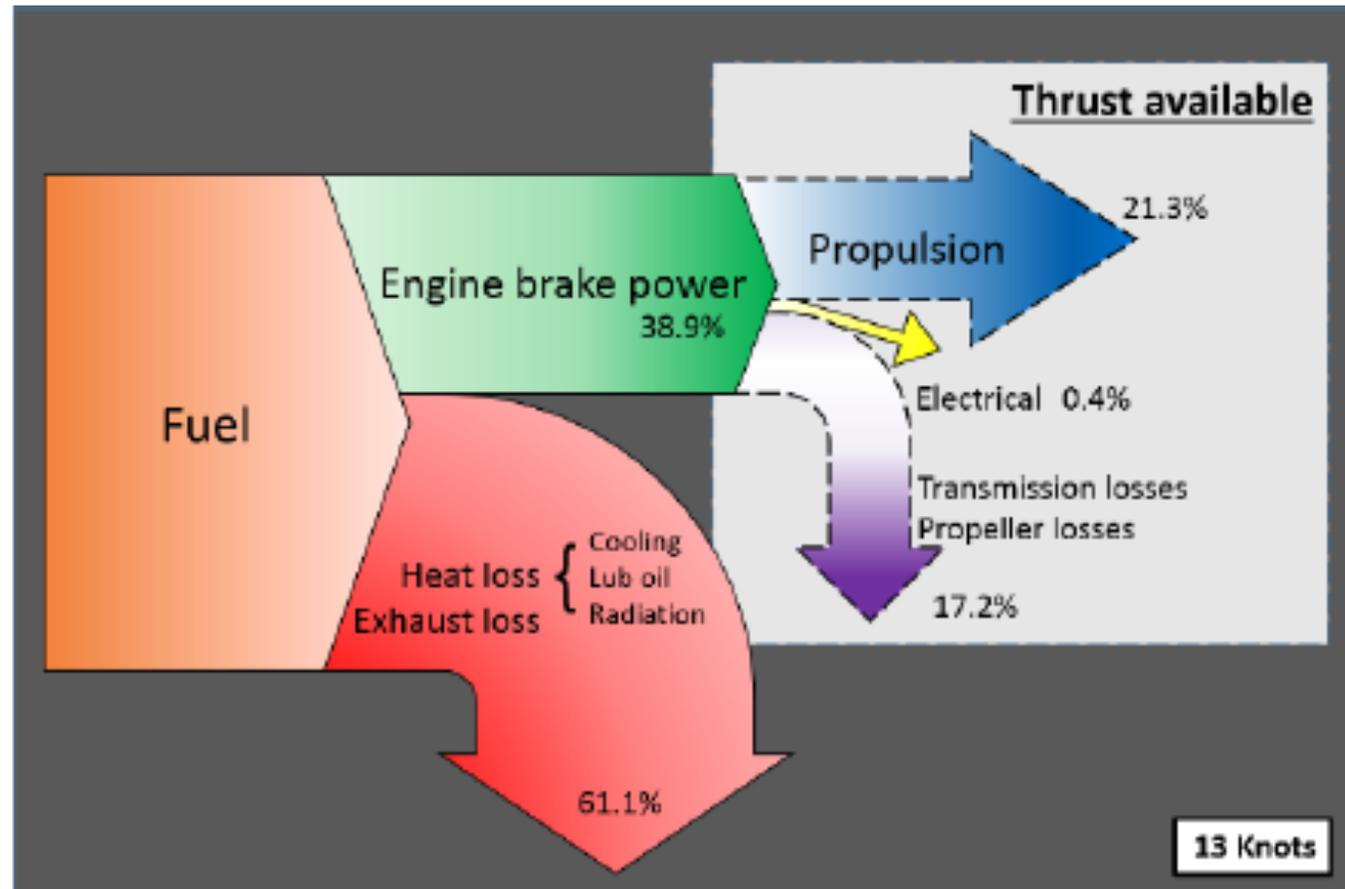




# Examples of systems monitoring



# Results – Energy flow diagram



## Conclusions

1. **A systematic energy efficiency audit and data unification is important for short and long term knowledge generation**
2. **Methodology can cater to wide range of ships – size, budget, focus**



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