Mayflower Autonomous Ship & The AI Captain

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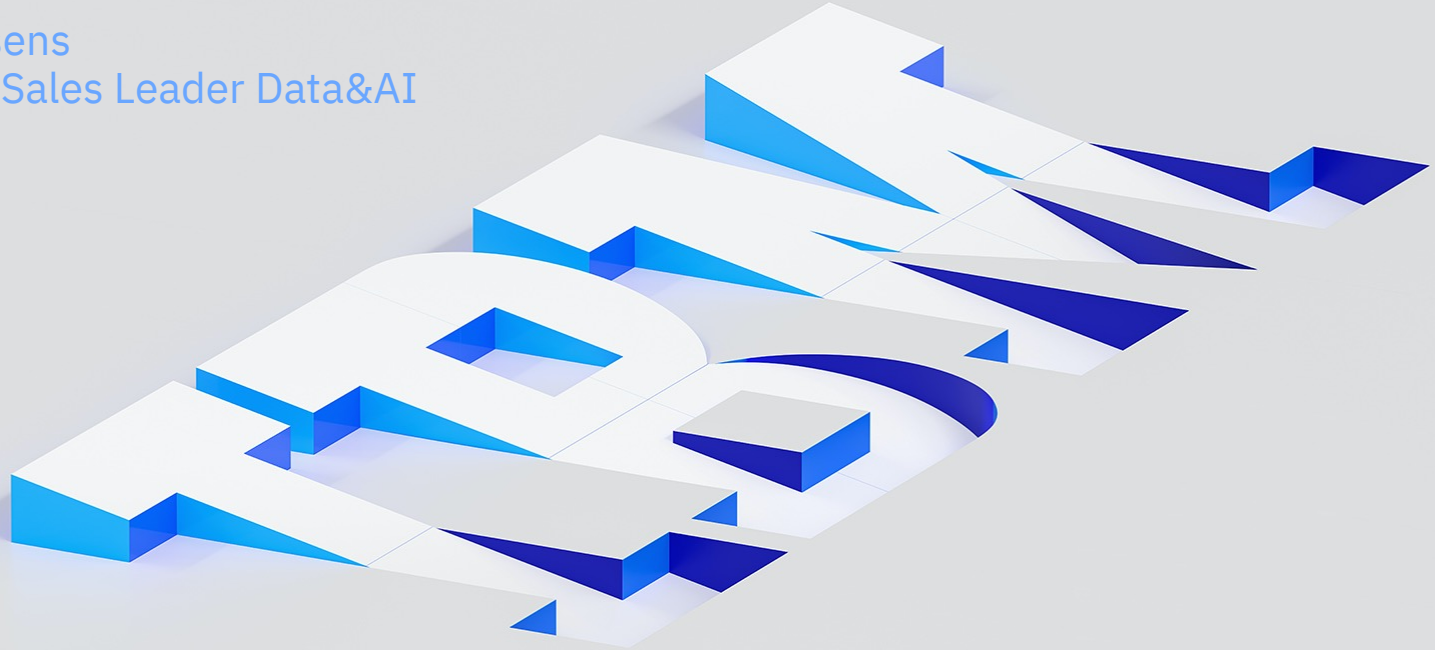
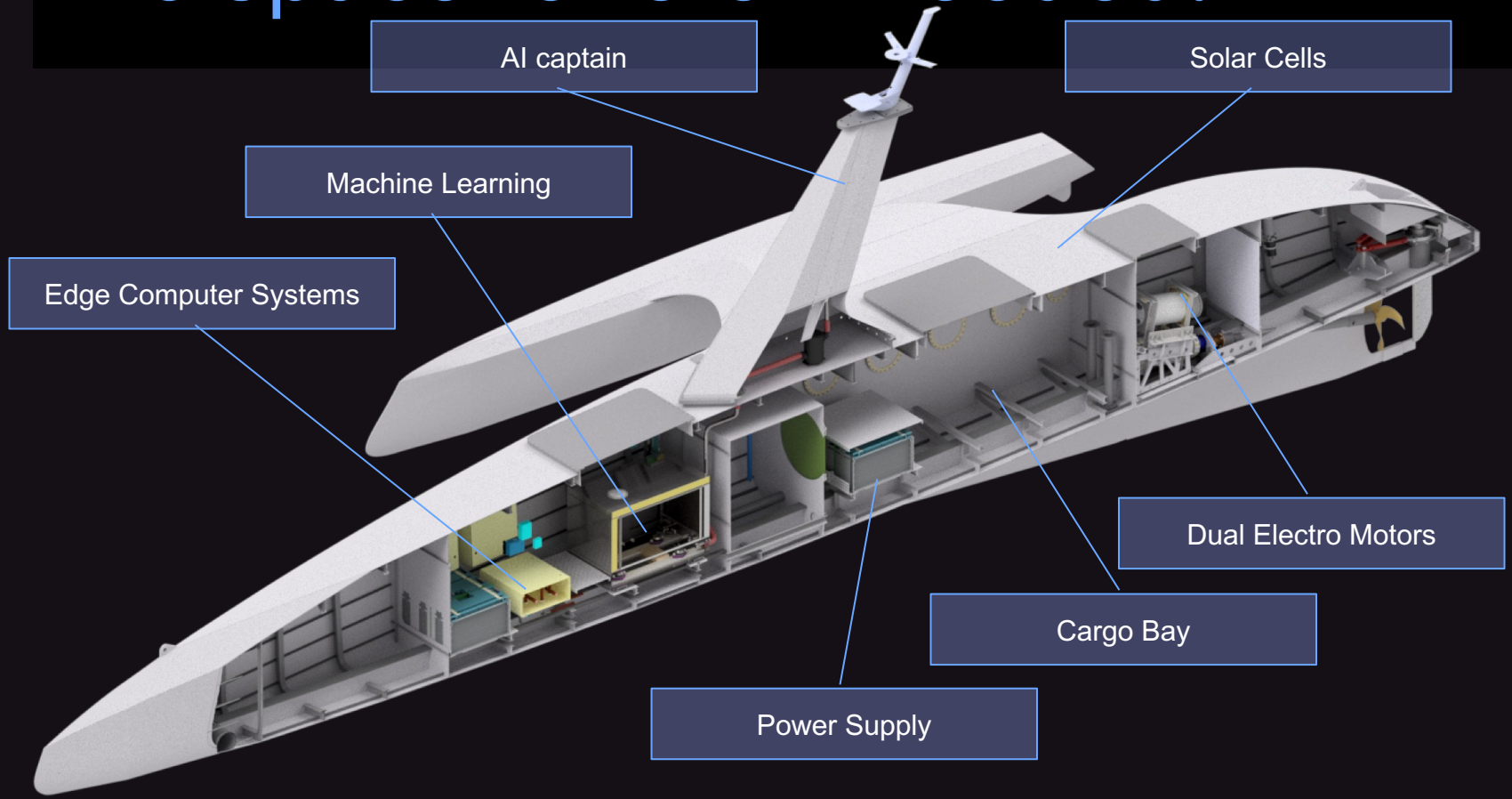


Mayflower
1620

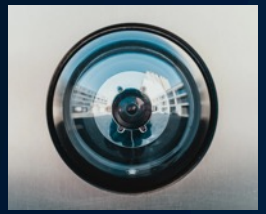
Mayflower Autonomous Ship

No space for crew needed!



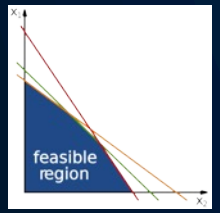
Mayflower Autonomous Ship

Making decisions/AI technologies utilized :



- Deep-Learning. → 3D surroundings

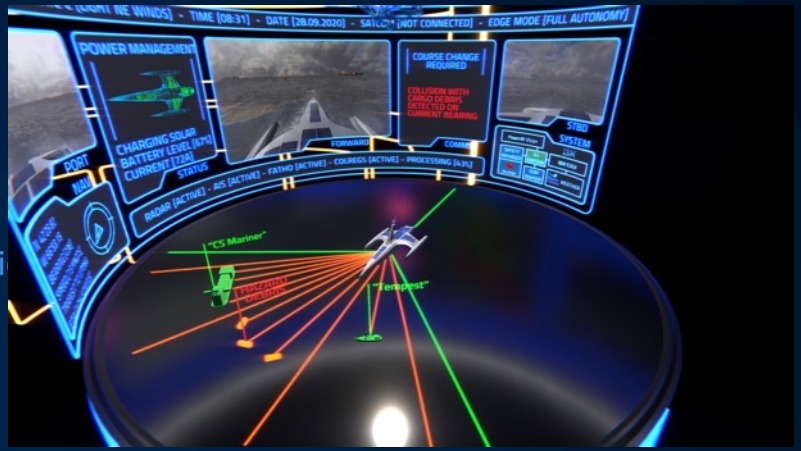
- Prescriptive logic / Inference rules → Rules at sea

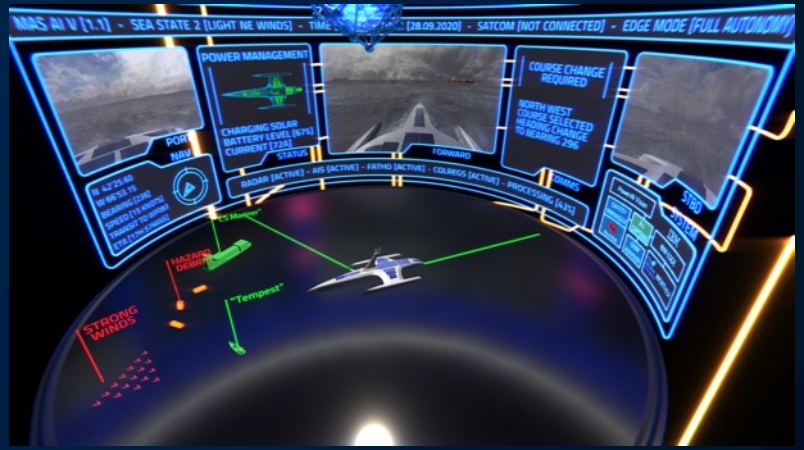


- Optimization / Linear Programming →
  - Resources, goals, restrictions (!!ENERGY)

The AI Captain

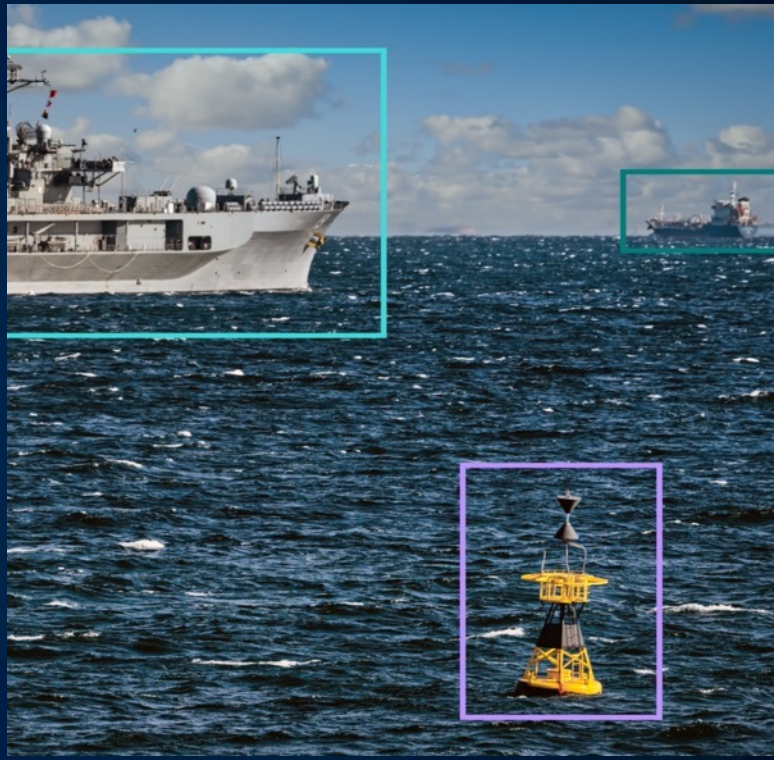
- Real Time Decisions
- Collects information on nearby vessels with an Automatic Identifi System (AIS) (the “transponder”)
- Interprets radio broadcasts and weather forecasts
- Optimizes the ship’s route using visual and radar data
- Monitors atmospheric and oceanographic conditions
- Collects all possible info from the three other AI systems
- Decisions based on available/needed energy!!





Off-The-Shelf AI systems working together
Decisions made in an instant

- Is this image an Iceberg or a Fishing ship?
- Should I give way or stand on?
- What is the fastest route to this waypoint?
- What speed to use with the current batteries level?
- What is the safest route to destination considering weather?
- Go/No go for experiments (energy!)



What makes Mayflower Autonomous Ship Unique

- Largest EDGE device on earth
- Interaction of different AI systems
- Transparancy and explainability
- Off-the-shelf software, no R&D project
- 700 kg pay load (experiments)
- No Time Limits
- The Future?