Model: Submarine with submersible part

System overview:

1. Physical Systems:
    - A submarine (size?)
    - A detachable pod with wheels()
    - A robotic arm
2. Sensors and Actuators
    - Pod location detector
    - Obstacle sensor
    - Temperature, Pressure sensors
3. Signals and Systems
    - Communication type(Tx & Rx)
4. Computers and Logic Systems
5. Software and Data Acquisition
6. SIL

Environment:

- Sandy surface
- Salty Water

Requirements:

- Vehicle should have two parts, the boat part and a submersible part.
- Vehicle should have robotic arms for picking up rescued individuals and equipments
- Vehicle should be able to decouple and be coupled back together in the water.
- The boat part should be able to hold and ferry rescued individuals to the safety of the shores
- The submersible should be able to wrap individuals in floatables and release them to float to the surface

Functions: The Submarine should provide the rescue of people from the water in the crash site:

- Provide movement capability on the land
- Provide movement capability in the water
- Provide

Functional Hierarchy:

INIT()
MonitorIncomingRequests()
    EnableAllCommunication ()
    LookForRequests ()
    HandleMultipleRequests()
    ClasssifytheRequests()
    NotifyAllrequests()
PlantheExecution()
    GetTheGeographicData()

SelfLocalization()
PathPlanning()
MotionPlanning()
Navigation()

Execute()
ExecutethePlan()
LookForMishaps()
Reroute()
PlantheExecution()
AttheLocation()
EvaluatetheScenario()
IdentifyVictims()
OperatetheARM()

Retrieve()
PlantheExecution()
ReportonMission()
End()

Active Structure:

- RADAR(Tx and Rx of VLF and ELF)
- robotic arm
- Pod

Application scenarios:

Rescue Mission underwater And Over THe Water surface
Exploration of resources underwater.
Aqua healthcare

System Behaviour: