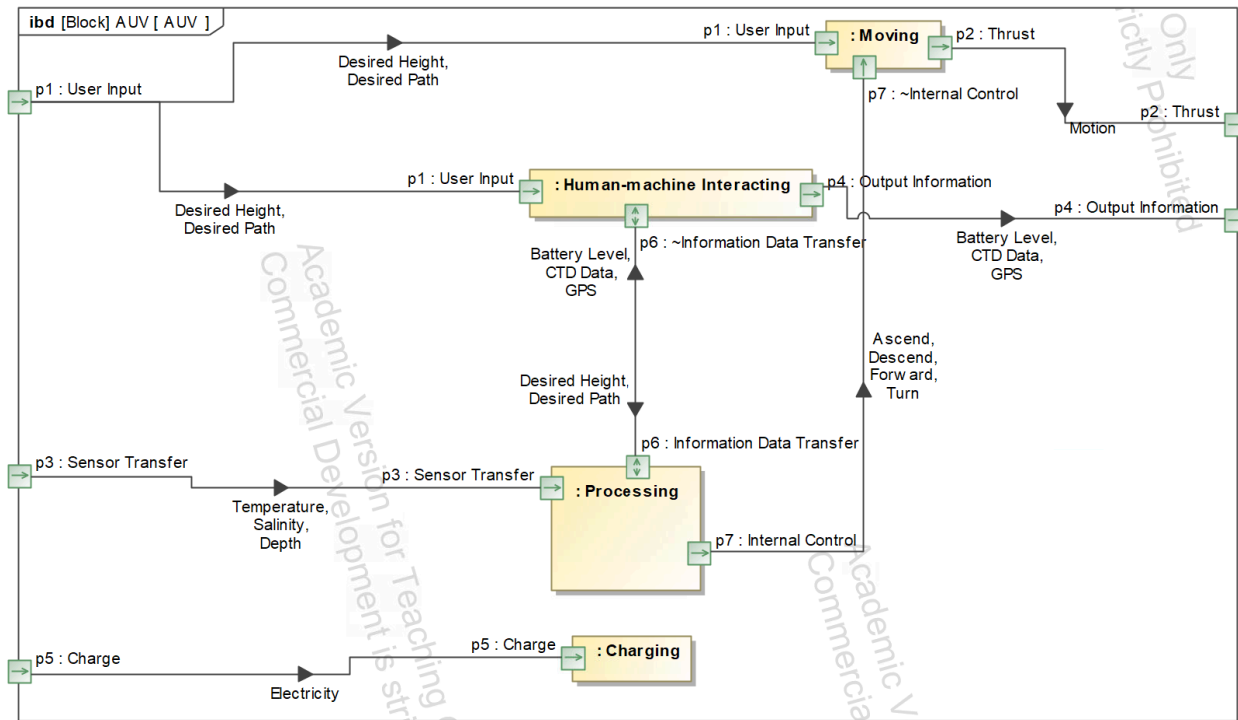
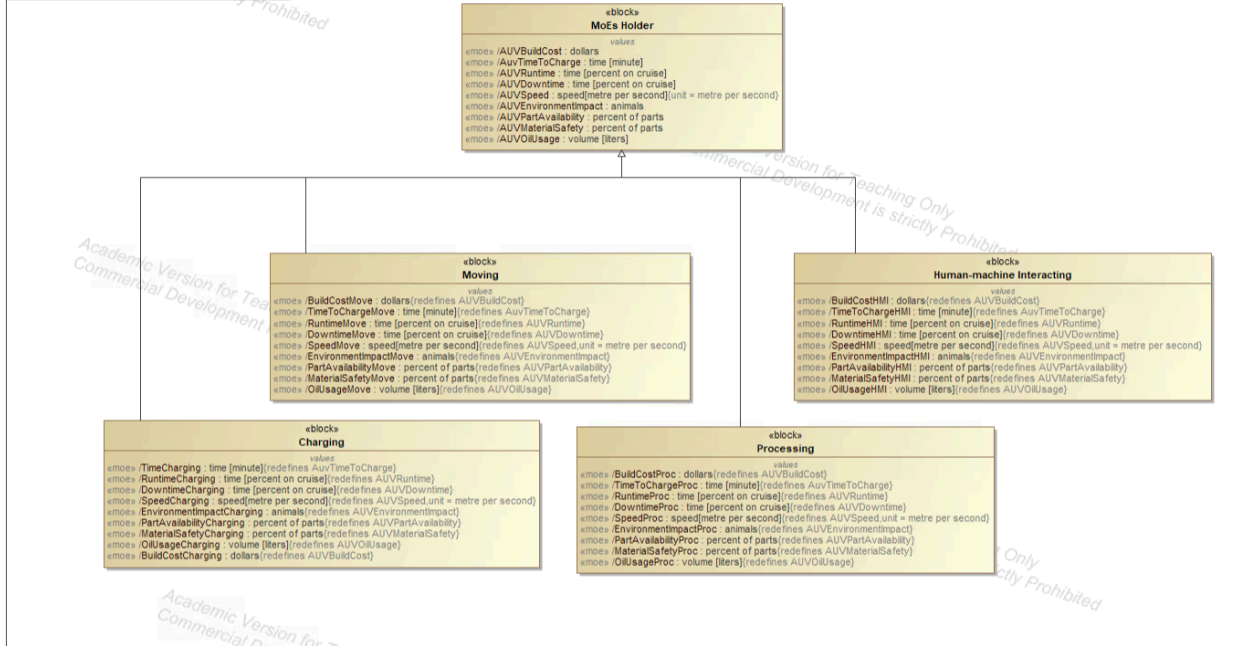
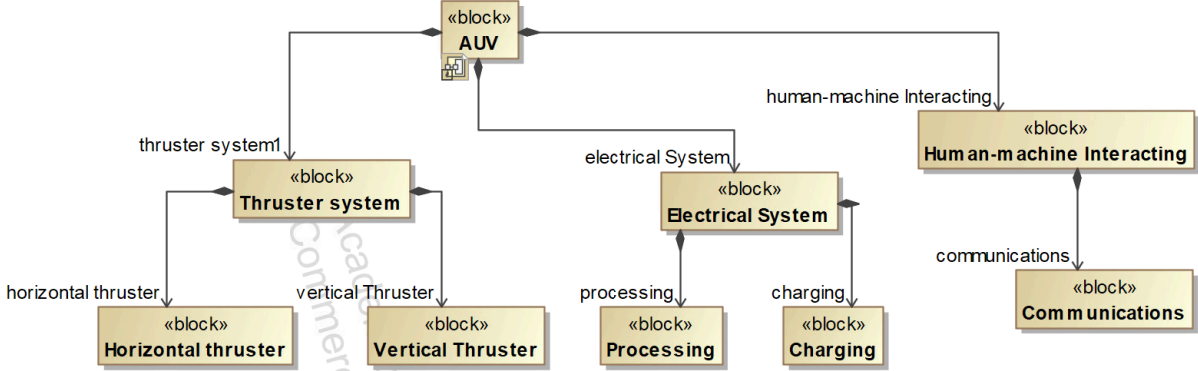


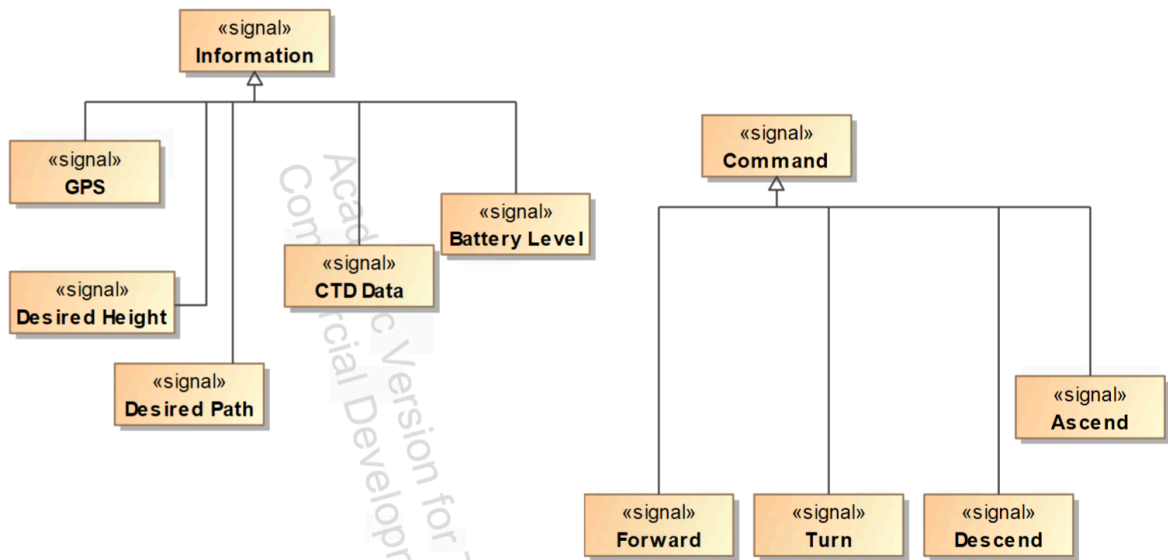
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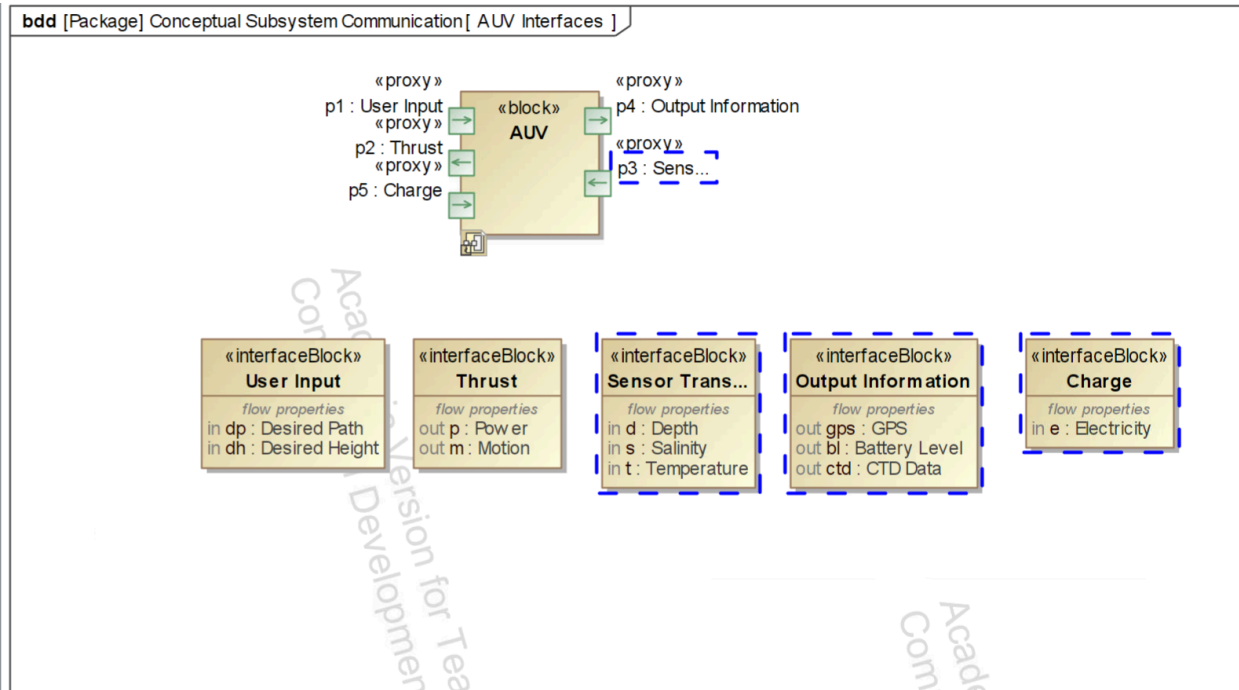
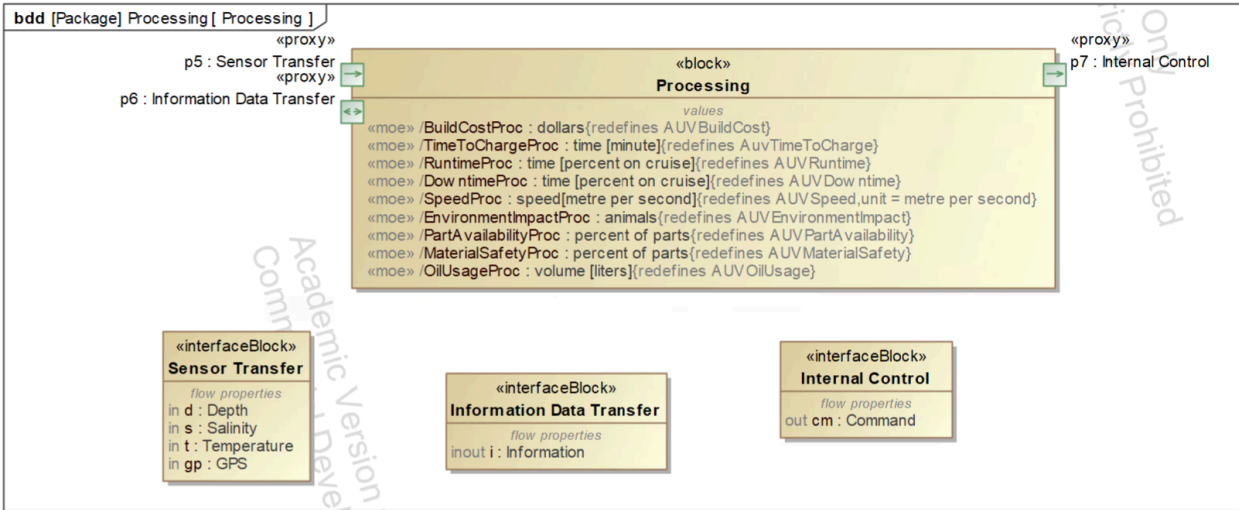


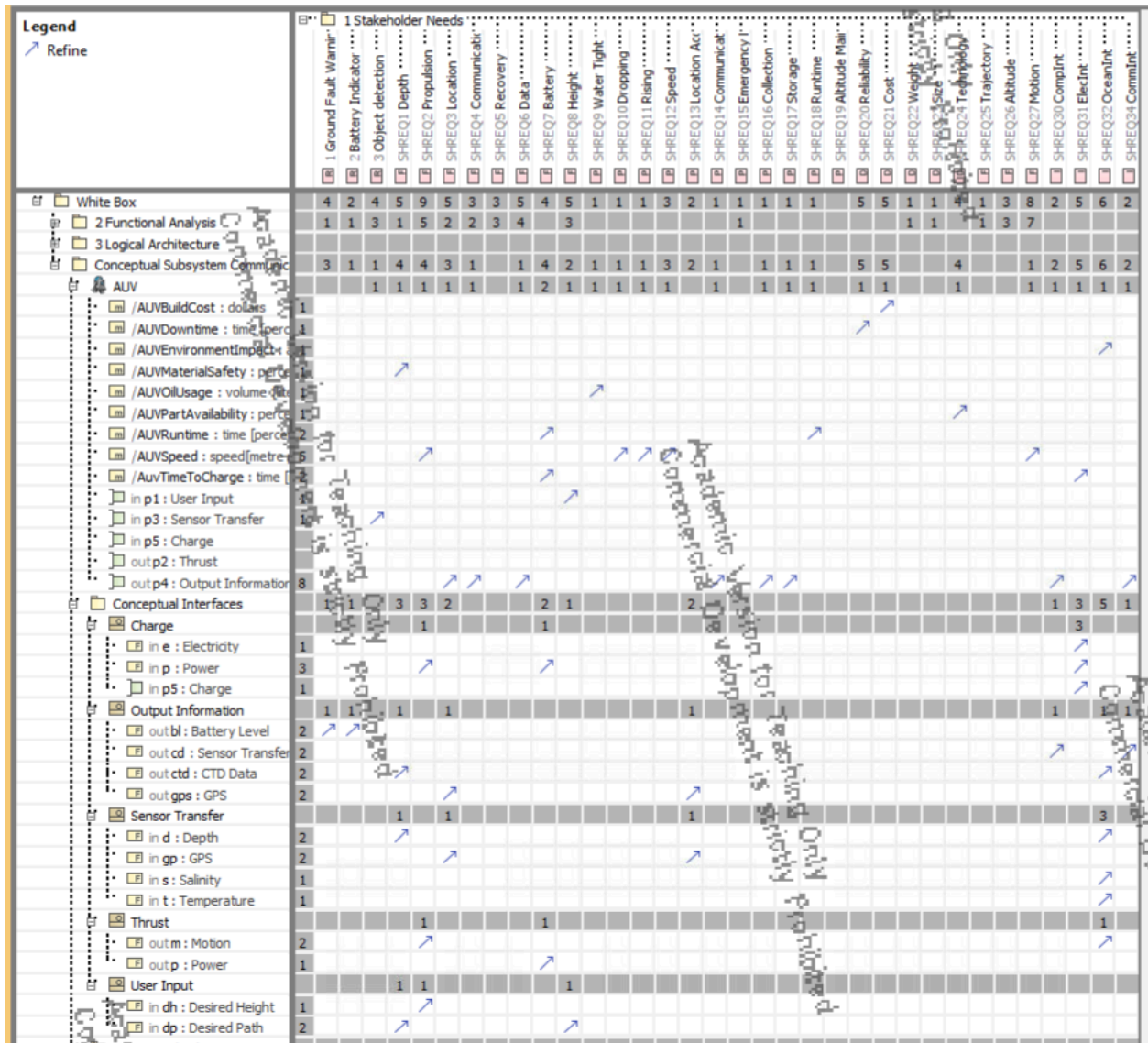
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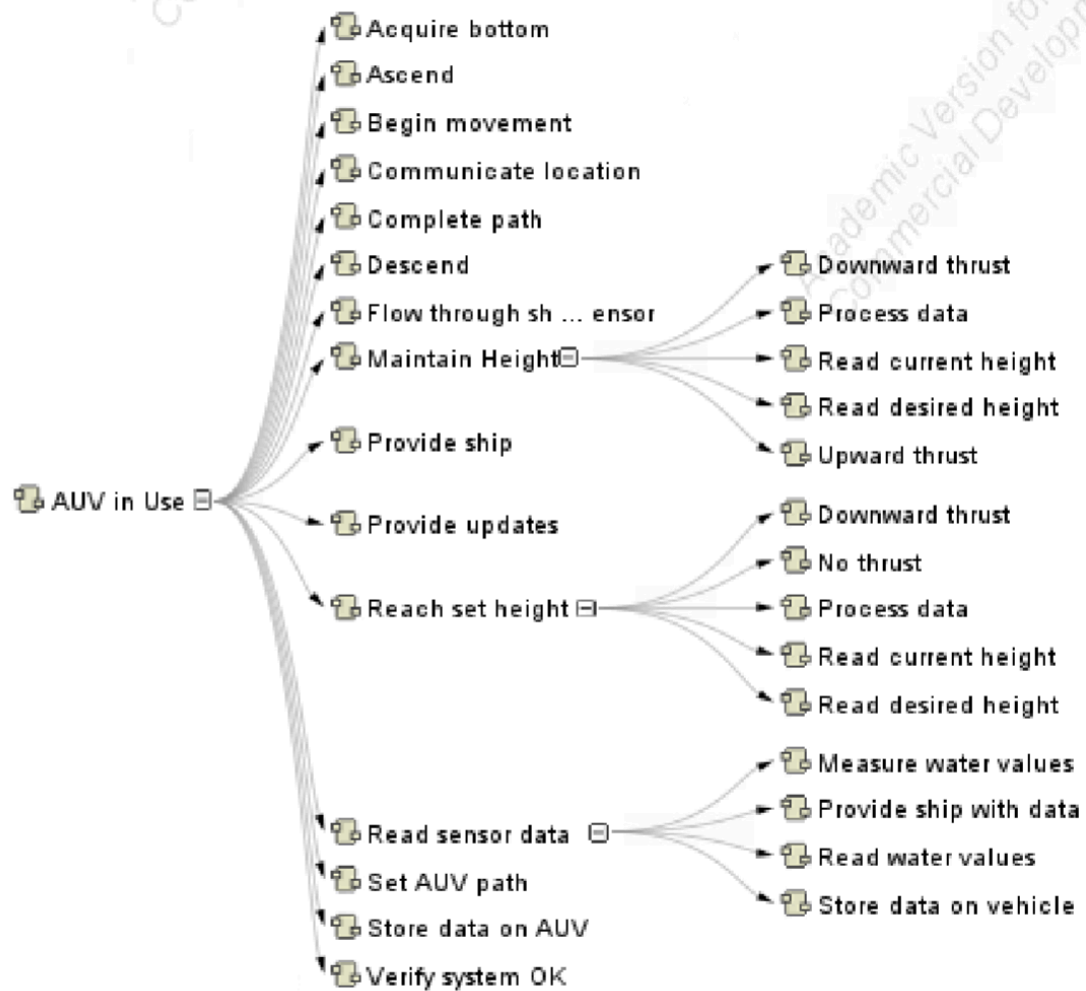
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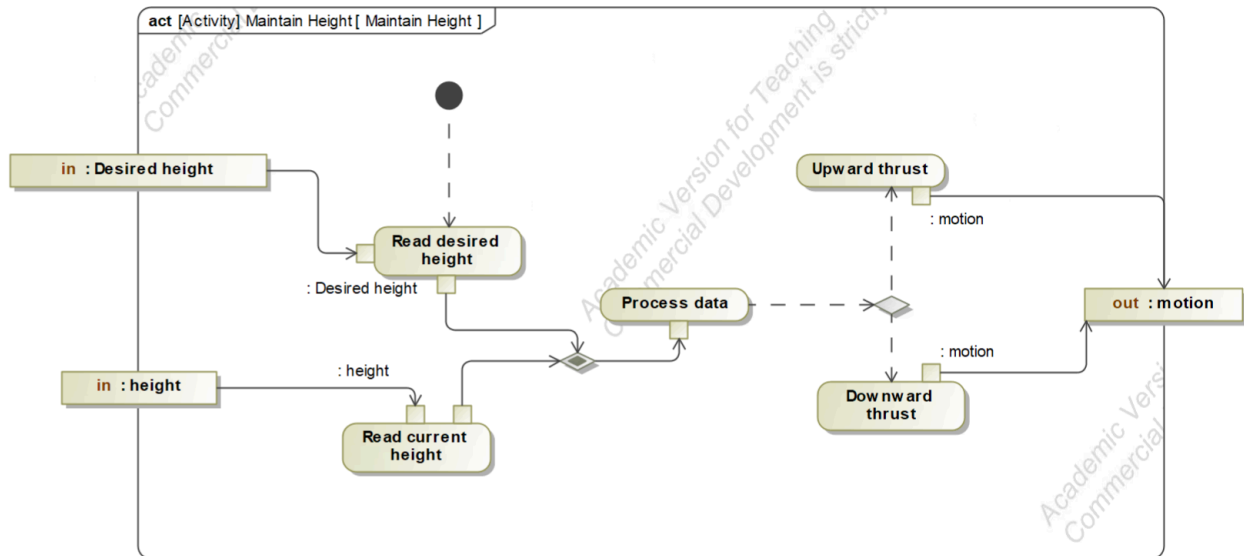
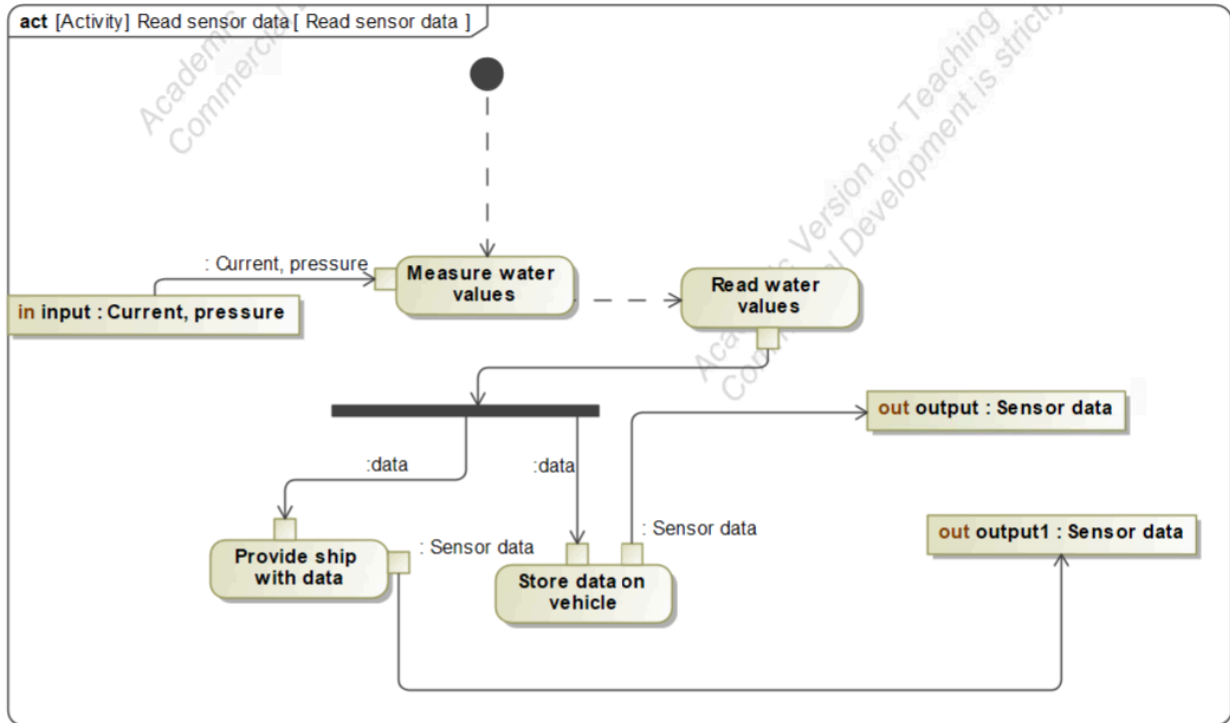


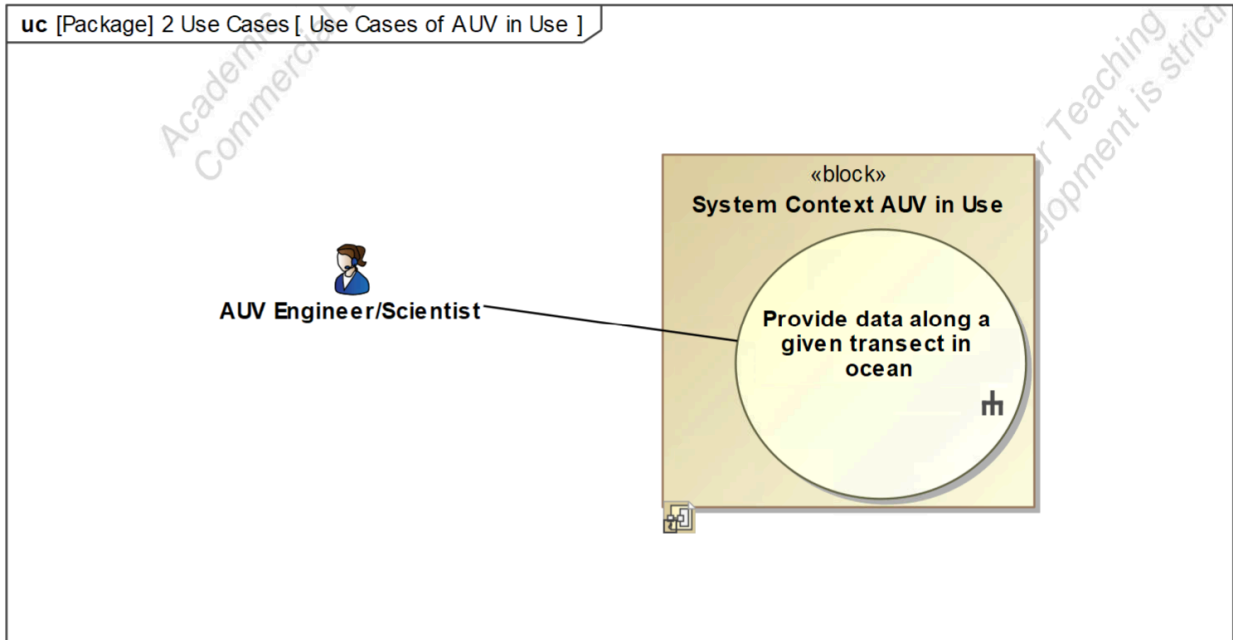












#	△ Name	Text
1	1 Ground Fault Warning	The AUV shall warn engineers of ground faults through communication system when powered on
2	2 Battery Indicator	The AUV shall have a battery charge indicator light that alerts engineers of current charge
3	3 Object detection	The AUV shall implement object detection to avoid overhangs

Id	FMEA Reference	Initiating Cause	Hazard	Sequence Of Event	Hazardous Situation	Harm	S	P1	P2	P	D	C	PU	Risk	Use Related
R-3	F-2 F2	AUV stuck under overhang	C Physical damage	Pre-mapping missed seafloor feature	AUV cannot ascend	AUV unrecoverable	4	2	5	10.0	2	5	3	1200.0	Object detection
R-1	F-1 F1	AUV short circuits	A Electricity	AUV improperly grounded	Current flowing improperly	Electrocutation, damaged components	3	2	2	4.0	3	3	5	540.0	Ground Fault Warnings
R-2	F-1 F1	AUV out of battery	B Status Unknown	AUV improperly charged	Difficult recovery	Possible damage to...	2	4	1	4.0	1	1	5	40.0	Battery Indicator

Ox D	RPN	Hazard Analysis Reference	Requires Hazard Analysis	Recommended Action	Mitigation
8.0	24.0	R-1 AUV short circuits 	<input type="checkbox"/> false	Follow proper procedures to ensure electrical system is properly functioning	1 Ground Fault Warning:
5.0	20.0	R-3 AUV stuck under overha... 	<input type="checkbox"/> false	Thorough mapping prior to dives; object avoidance protocols on AUV	3 Object detection



#	Id	Name	Classification	Item	Failure Mode	Local Effect Of Failure	Final Effect Of Failure	SEV	Cause Of Failure	Occurrence	Prevention Control	Detection Control	DET
1	F-1	F1	electrical	AUV	Loss of Communications	Unknown AUV status	Difficult recovery process	3	Loss of power	2	Following defined SOPs	Battery life indicators	4
2	F-2	F2	mechanical	AUV	AUV Stuck	AUV damage	Loss of AUV	4	Hit external object	1	Obstacle avoidance	Motor voltage draw values	5

