Appendices

This will be our appendices

A Table of drone specifications

Technical specifications		Flight specifications	
Weight	2500 g	**Endurance**	19 min
W x L x H	578 x 578 x 330 mm	**Payload capacity**	700 g
Wingspan	832 mm	**MTOW**	3200 g
Material	Plastic/carbon fiber	**Operating temperature**	5 - 45 °C
Airframe	Hexacopter		

Table 2: *Technical and flight specifications for the UAV platform*

Taken from the paper on BlackBoard ”Experts in Team Innovation / Project in Robotics” by: Jes Grydholdt Jepsen, Kristian Husum Terkildsen and Ulrik Pagh Schultz

B OSOs

Table for SORA operational safety objectives compliance:

Table 1: Operational Safety Objectives Compliance

OSO number	Technical issues with the UAS	SAIL VI required level	Method of compliance
OSO#1	Ensure the UAS operator is competent and/or proven	H	The airport authority as an operator will ensure compliance
OSO#2	UAS manufactured by competent and/or proven entity	H	The drone will be manufactured, tested and certified by the competent authority
OSO#3	UAS maintained by competent and/or proven entity	H	The airport authority and Lorenz technology will ensure the optimum maintenance of the drone
OSO#4	UAS developed to authority recognised design standards	H	This will be ensured that the drone comply with required design standards
OSO#5	UAS is designed considering system safety and reliability	H	The features and drone operation will be designed and developed keeping in mind the safety aspects
OSO#6	C3 link performance is appropriate for the operation	H	C3 Link performance is appropriate for this operation
OSO#7	Inspection of the UAS (product inspection) to ensure consistency with the ConOps	H	The drone operator will ensure inspection of UAS
OSO#8	Operational procedures are defined, validated and adhered to	H	The workflow and operational procedures will be developed and provided to the operator
OSO#9	Remote crew trained and current and able to control the abnormal situation	H	Training to the remote crew will be provided to enable safe operation of the drone
OSO#10	Safe recovery from a technical issue	H	The drone has features to recover in case of technical failures
Deterioration of external systems supporting UAS operations			

OSO#11	Procedures are in-place to handle the deterioration of external systems supporting UAS operations	H	External System include the Ground control station and RC controller. The drone will automatically land in case of malfunction of external systems
OSO#12	The UAS is designed to manage the deterioration of external systems supporting UAS operations	H	This is builtin in the flight controller
OSO#13	External services supporting UAS operations are adequate for the operation	H	External services are adequate for the operation
Human Error			
OSO#14	Operational procedures are defined, validated and adhered to	H	Adherence to operational procedures will be ensured by the operator
OSO#15	Remote crew trained and current and able to control the abnormal situation	H	Crew will be trained to operate the drone and handle abnormal situations
OSO#16	Multi-crew coordination	H	Not required in this operational scenario
OSO#17	Remote crew is fit to operate	H	This will be ensured by the drone operator
OSO#18	Automatic protection of the flight envelope from human error	H	This will be ensured by the pilot in-charge of operating the drone
OSO#19	Safe recovery from human error	H	This will be achieved through coordination with the airport control tower and automatic landing features
OSO#20	A human factors evaluation has been performed and the human machine interface (HMI) found appropriate for the mission	H	The HMI being used is standard QGroundControl which makes the evaluation unnecessary for this operational scenario.
Adverse operating conditions			
OSO#21	Operational procedures are defined, validated and adhered to	H	The drone will only be operated in favorable weather conditions.
OSO#22	The remote crew is trained to identify critical environmental conditions and to avoid them	H	The drone operator will be trained to avoid flying the drone in adverse environmental conditions

OSO#23	Environmental conditions for safe operations are defined, measurable and adhered to	H	The limits on operation of drone in different environmental conditions will be provided to the drone operator and implemented by the airport authority
OSO#24	UAS is designed and qualified for adverse environmental conditions	H	Since the UAS will only operate in favorable weather conditions, this design and qualification is not necessary.