
DRONE OPERATION COURSE FOR CARGO AND PEOPLE TRANSPORT





CARGO TRANSPORT



DRONESVIP | CIVIL AERONAUTICAL
TRAINING CENTER



PEOPLE TRANSPORT

DRONESVIP | CIVIL AERONAUTICAL
TRAINING CENTER



CHAPTER VI: INTEGRATION OF LOADING AND UNLOADING SYSTEMS



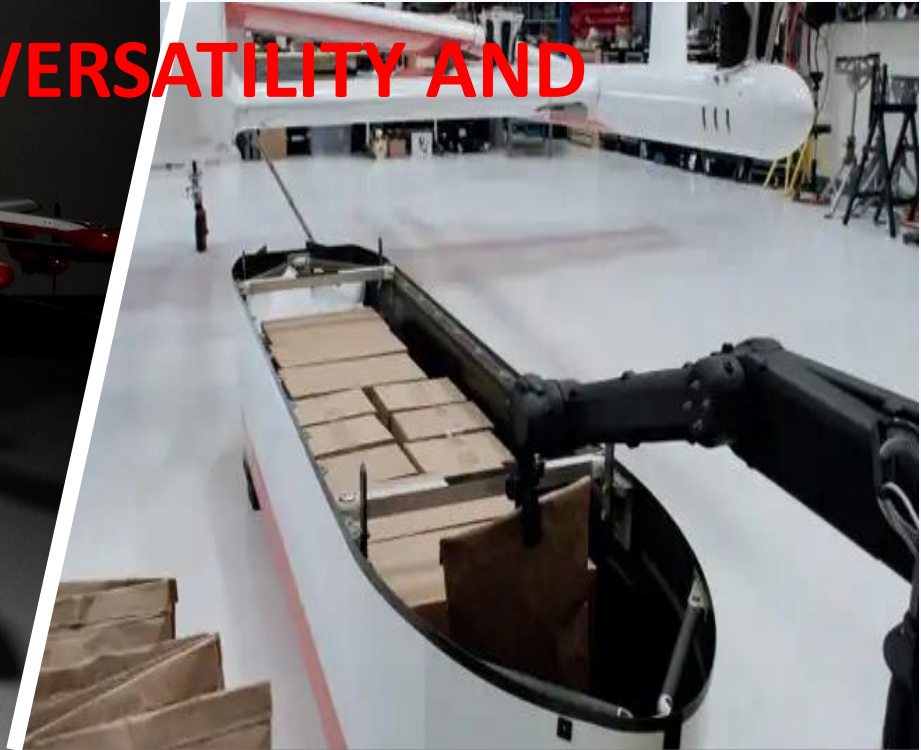
DRONE CARGO SYSTEMS: **VERSATILITY AND ADAPTABILITY**



VENTRAL CHARGING: VOLOCOPTER VOLODRONE
WITH ELECTROMAGNETIC SYSTEM



DRONE CARGO SYSTEMS: **VERSATILITY AND ADAPTABILITY**



MODULAR CHARGING: ELROY AIR CHAPARRAL WITH SMART CONTAINERS



DRONE CARGO SYSTEMS: **VERSATILITY AND ADAPTABILITY**



INTERNAL STORAGE: BELL APT 70 WITH FOLD-OUT COMPARTMENT

DRONE CARGO SYSTEMS: **VERSATILITY AND ADAPTABILITY**



EXTERNAL CHARGING: KAMAN K-MAX WITH HIGH-
PRECISION STEEL CABLE



ADVANCED FEATURES OF CHARGING SYSTEMS



SENSORS TO MEASURE WEIGHT AND DISTRIBUTION IN REAL TIME

ACTIVE SHOCK ABSORBERS FOR STABILITY DURING FLIGHT

INTELLIGENT COMMUNICATION BETWEEN CONTAINER AND DRONE

TEMPERATURE CONTROL FOR SENSITIVE LOADS

SPACE OPTIMIZATION AND LOAD BALANCING



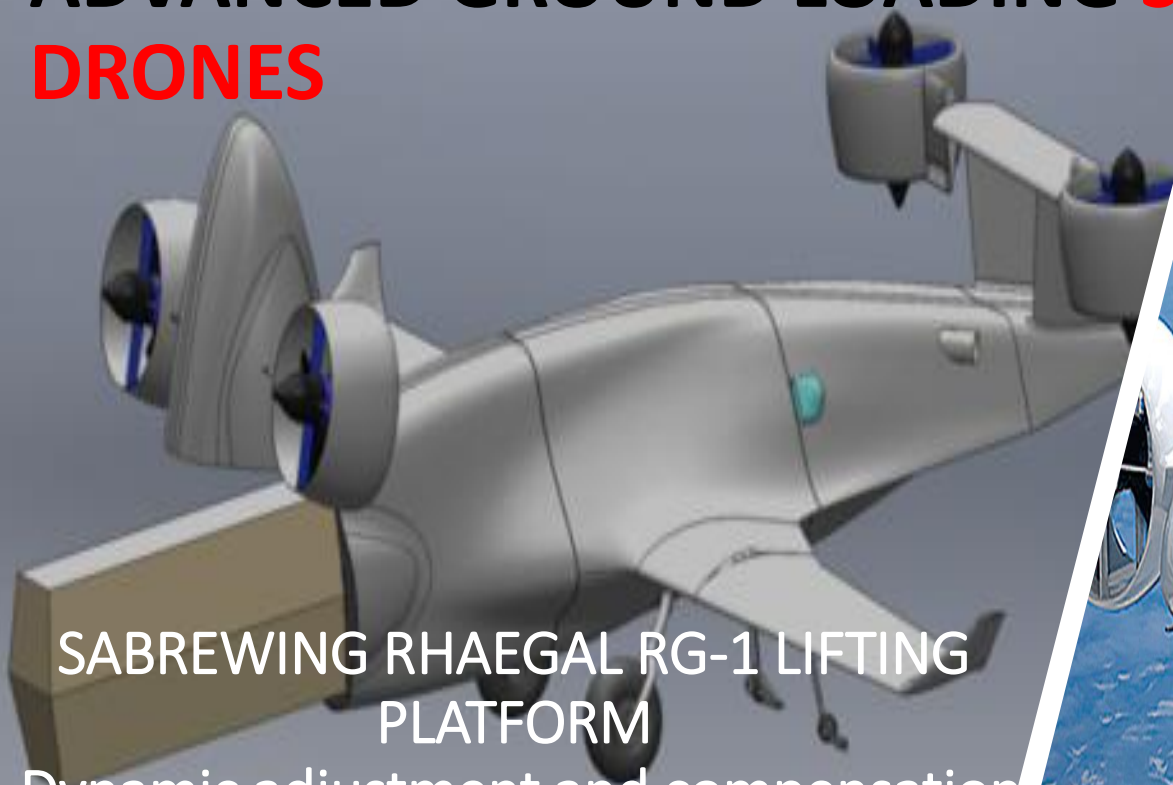
ADVANCED GROUND LOADING SYSTEMS FOR DRONES



ROBOTIC SYSTEM FOR BELL APT 70
articulated arms and magnetic
levitation



ADVANCED GROUND LOADING SYSTEMS FOR DRONES



SABREWING RHAEGAL RG-1 LIFTING
PLATFORM

Dynamic adjustment and compensation
of the center of gravity



ADVANCED GROUND LOADING SYSTEMS FOR DRONES



CONVEYOR BELTS FOR MIGHTYFLY
PYCA

Real-time cargo analysis and
organization



ADVANCED GROUND LOADING SYSTEMS FOR DRONES



MECHANICAL ARMS FOR PRODRONE
PD6B-AW-ARM
High-precision handling in flight



INNOVATIVE FEATURES OF CHARGING SYSTEMS

LIDAR SENSORS FOR REAL-TIME 3D MAPPING

ELECTROMAGNETIC FIELDS FOR CONTACTLESS OPERATION

PLATFORMS WITH DYNAMIC ROTATION AND TILT

BELTS WITH MICRO-ROTATORS FOR SPACE OPTIMIZATION

ROBOTIC ARMS WITH 5 DEGREES OF FREEDOM AND ADVANCED SENSORS

INTERCONNECTED ECOSYSTEM FOR GLOBAL OPTIMIZATION



ADVANCED DRONE UNLOADING SYSTEMS

WINGCOPTER 198

Intelligent parachute discharge with
GPS guidance



ADVANCED DRONE UNLOADING SYSTEMS

KAMAN K-MAX

Cable system with winch and
gyroscopic stabilization



ADVANCED DRONE UNLOADING SYSTEMS

SINGULAR AIRCRAFT FLYOX I

Cable system with winch and
gyroscopic stabilization



ADVANCED DRONE UNLOADING SYSTEMS

MATTERNET M2

Direct ground discharge with tray system

SWISS POST



APPLICATIONS AND ADVANTAGES OF UNLOADING SYSTEMS

DELIVERY IN HARD-TO-REACH OR DANGEROUS AREAS

OPERATIONS ON OFFSHORE PLATFORMS AND MOVING SHIPS

OCEANOGRAPHIC RESEARCH AND ENVIRONMENTAL MONITORING MISSIONS

EFFICIENT URBAN DELIVERIES IN TIGHT SPACES

VERSATILITY FOR HUMANITARIAN AID OPERATIONS



COMBINATION OF SYSTEMS FOR COMPLEX MISSIONS



LOADING AND UNLOADING SYSTEMS IN PASSENGER DRONES

EHANG 216

Direct access with side doors, compact design for two passengers

LOADING AND UNLOADING SYSTEMS IN PASSENGER DRONES

VOLOCOPTER
VOLOCITY

Direct access with side doors, compact design for two passengers



LOADING AND UNLOADING SYSTEMS IN PASSENGER DRONES

LILIUM JET

Extensible gateway, integration with existing infrastructure



LOADING AND UNLOADING SYSTEMS IN PASSENGER DRONES IN

BELL NEXUS 4EX

Tilting rotors and wide doors for multiple passengers



LOADING AND UNLOADING SYSTEMS IN PASSENGER DRONES

JOBY S4

Wide doors and raised rotors for easy access



FEATURES AND BENEFITS OF **BOARDING SYSTEMS**

OPTIMIZED DESIGNS FOR SMALL URBAN SPACES

INTEGRATION WITH VERTIPORTS AND ELEVATED PLATFORMS

ADVANCED SAFETY SYSTEMS FOR GUIDANCE AND LANDING

VERSATILE CONFIGURATIONS FOR DIFFERENT PASSENGER CAPACITIES

EASE OF ACCESS AND EFFICIENCY IN EMBARKATION/DISEMBARKATION

ADAPTABILITY TO VARIOUS URBAN AND SUBURBAN INFRASTRUCTURES



FEATURES AND BENEFITS OF BOARDING SYSTEMS

....

WORKHORSE HORSEFLY

Weight and balance sensors for optimal distribution



FEATURES AND BENEFITS OF BOARDING SYSTEMS

VOLANSIVOLY C10

....

Electromagnetic anchoring system
with automatic checks



FEATURES AND BENEFITS OF BOARDING SYSTEMS

ARCHER ... MIDNIGHT

Real-time monitoring of critical systems and passenger well-being



FEATURES AND BENEFITS OF BOARDING SYSTEMS

Machine Learning Route Planning Software

.....

SABREWING
RHAEGAL



FEATURES AND BENEFITS OF BOARDING SYSTEMS

SILENT
FALCON

Military-grade encrypted
communication system



KEY FEATURES OF SECURITY SYSTEMS

HIGH-PRECISION SENSORS FOR REAL-TIME ANOMALY DETECTION

INTELLIGENT ANCHORING SYSTEMS TO SECURE CARGO DURING FLIGHT

ADVANCED MONITORING OF PASSENGER STATUS AND CRITICAL SYSTEMS

MACHINE LEARNING ALGORITHMS FOR ROUTE OPTIMIZATION AND RISK MANAGEMENT

CYBERSECURITY PROTOCOLS FOR PROTECTION AGAINST UNAUTHORIZED INTERFERENCE



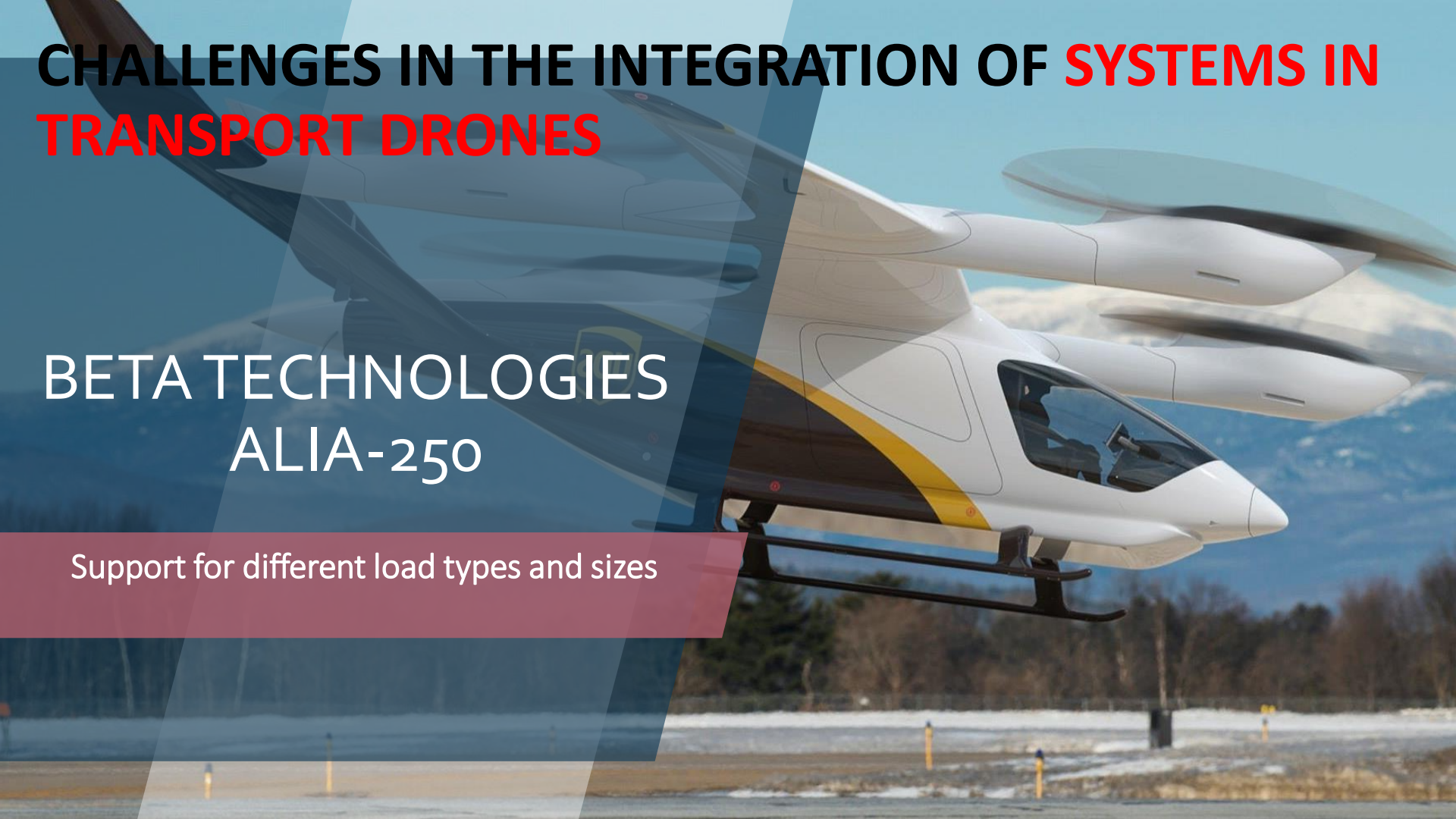
INTEGRATION OF MULTIPLE LAYERS OF SECURITY FOR RELIABLE AIR TRANSPORT



CHALLENGES IN THE INTEGRATION OF **SYSTEMS** IN **TRANSPORT DRONES**

BETA TECHNOLOGIES
ALIA-250

Support for different load types and sizes



CHALLENGES IN THE INTEGRATION OF **SYSTEMS** IN **TRANSPORT DRONES**

NATILUS N_{3.8}T

Adaptation to various climatic and terrain conditions



CHALLENGES IN THE INTEGRATION OF SYSTEMS IN TRANSPORT DRONES

DRAGANFLY COMMANDER 3 XL

Optimisation of energy consumption



CHALLENGES IN THE INTEGRATION OF SYSTEMS IN TRANSPORT DRONES

A transport drone is shown in a dark environment, illuminated by bright spotlights. The drone is carrying a large, white, rectangular payload. The background is dark with some faint, glowing elements, suggesting a night or low-light setting. The drone's rotors are visible, and the overall scene is dramatic and high-tech.

SKYDIO X₂D

Integration of artificial intelligence and
autonomous decision-making

SPECIFIC CHALLENGES AND **DEVELOPMENT** **CONSIDERATIONS**

**BALANCE BETWEEN VERSATILITY AND
AERODYNAMIC EFFICIENCY**

**ADAPTATION TO EXTREME CONDITIONS (HEAT,
COLD, CHANGES IN AIR DENSITY)**

**EXTENSION OF FLIGHT TIME WITHOUT
COMPROMISING CARGO CAPACITY**

**DEVELOPMENT OF AI ALGORITHMS FOR
NAVIGATION IN COMPLEX ENVIRONMENTS**

**ETHICAL CONSIDERATIONS IN THE
PROGRAMMING OF AUTONOMOUS DECISIONS**



INTEGRATION OF NEW TECHNOLOGIES



DRONESVIP

QUESTION TIME!

