EHANG SCANDINAVIA

Unmanned Operations, from an Operator’s perspective

Sola 21.09.2021

The Future has Arrived

Yesterday today was the future

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We are disruptive

And will change aviation

Ehang Scandinavia

Who we are

Ehang Scandinavia AS (ES) is a Norwegian company based in Stavanger, specializing on operating cargo and passenger UAV`s including integrated UTM systems. Over the last three years ES has, in co-operation with NORCE, ES have prepared relevant documentation and applications to achieve operational permits for the Ehang ecosystem platform and vehicles.

ES received a formal approval for executing the E216 flight and test-plans from the Norwegian CAA according to Norwegian and EASA regulations. (this is currently the first regulatory approved flight permit for the E216/UTM system outside China)

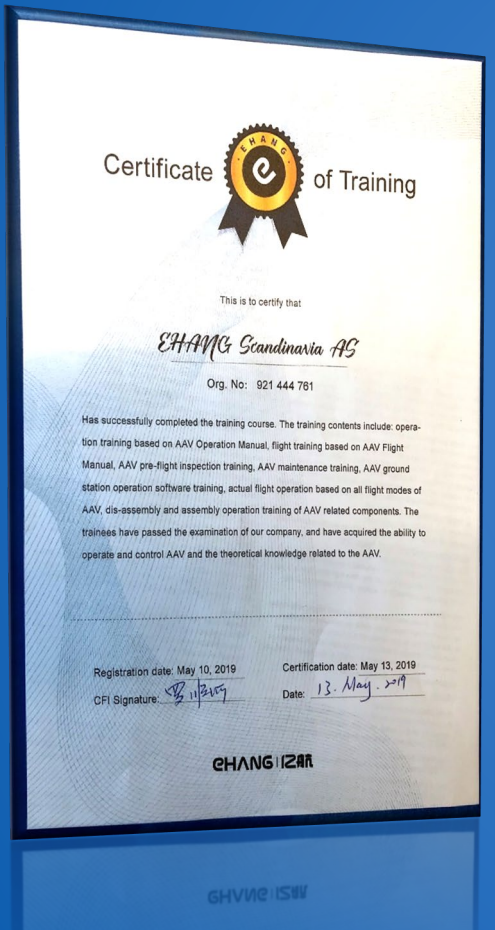
Steinar N Bjugn - CEO

Stig Idsal - Operations Manager

www.ehangscandinavia.as

Ehang Scandinavia first Certified Operator from Ehang

2019



Yifang Xiong Ehang Co-Founder CMO
Steinar Bjugn Ehang Scandinavia CEO

Ehang Scandinavia Technical team during Ehang 216 Flight Operations

Ehang Scandinavia AS

Worlds First Ehang Certified AAV Operator

Successfully Completed and passed Flight Training Course at Ehang Ltd. Guangzhou 13.may 2019

Operations training based on AAV Operation Manual, Flight Training based on AAV Flight Manual, Pre-Flight Inspection, AAV Maintenance training, AAV Ground Station operation software and actual flight operations all AAV flight modes.

We have done this before

Aviation Safety culture was one of the leading guidelines
for Readniness and safe operations
in the Norwegian Oil and Gas industry

Ongoing and comming unmanned operations

We are involved in how to implement the regulations at EU level

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AIRMOUR

www.airmour.eu

European Commission

Horizon 2020
European Union funding
for Research & Innovation

Opening up the skies for medical emergency drones

As populations grow, traditional traffic infrastructure is pushed to its limits. Mobility is therefore expanding into the third dimension: the airspace. AiRMOUR is a research and innovation project supporting sustainable air mobility via emergency medical services.

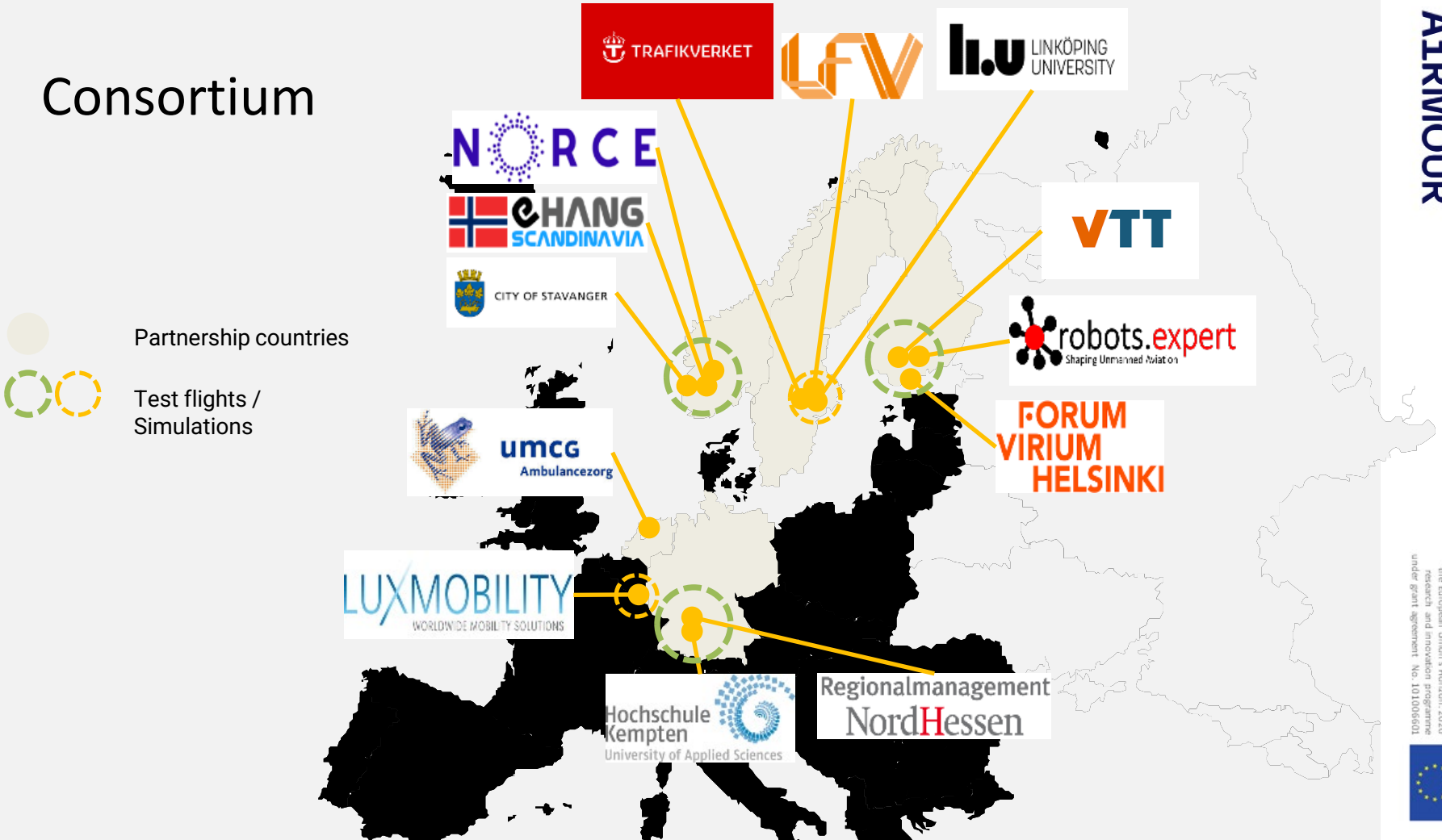
As the airspace opens up for new transportation systems, new forms of Urban Air Mobility (UAM), such as passenger carrying unmanned aircrafts, are gaining more attention. The EU-funded AiRMOUR project focuses on the research and validation of novel concepts and solutions to make urban air mobility safe, secure, quiet and green, yet also more accessible, affordable and publicly accepted. The project will test both Logistic and Passenger Unmanned Aircrafts in real-life conditions in 2023.

The AiRMOUR project offers valuable UAM tools and drastically advances the understanding of necessary near-future actions – not only by urban communities, but also by operators, regulators, academia and businesses.

AiRMOUR

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No. 101006601

Consortium



AIRMOUR

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Global outreach

AIRMOUR

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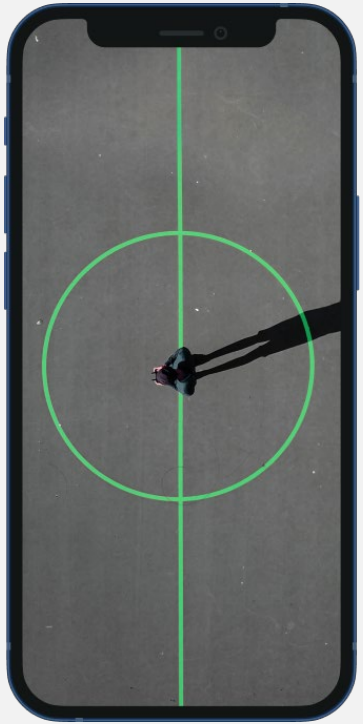

Approach

Research

- Safety
- Security
- Regulations
- User acceptance
- Sustainability – ecologic, economic, societal

Validate

- Modelling
- Simulations
- Live validation test flights for Logistic and passenger carrying UA for EMS

Spread

- Leverage findings into UAM Toolbox
- Stakeholder engagement
- Global Public outreach

AIRMOUR

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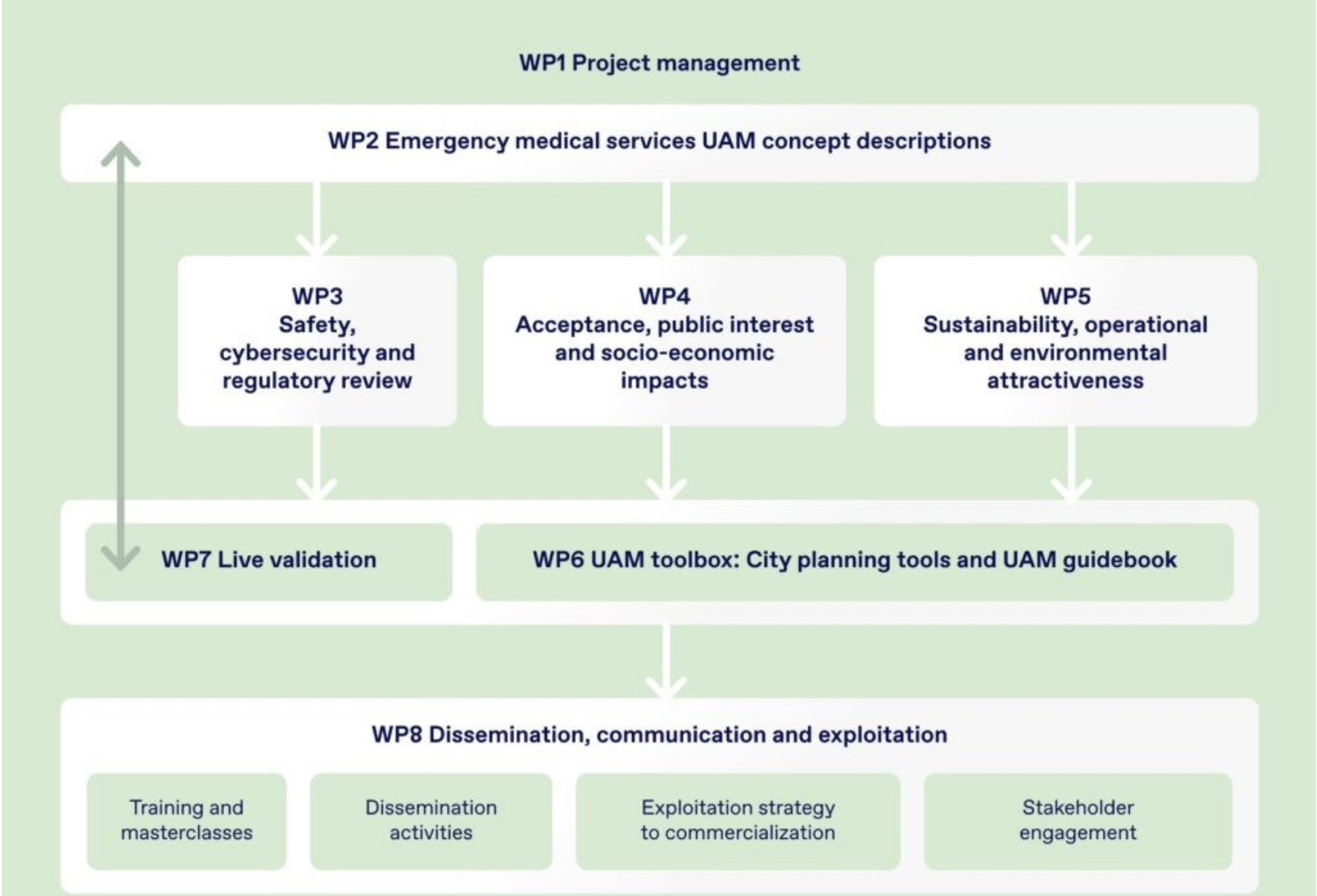
Workpackages



AIRMOUR

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Ehang Scandinavia Roadshow

WP 7.3 / 7.4 in the AiRMOUR Project

The live operation will demonstrate how UAS could efficiently be organized and used for rapid transport of doctors or patients to improve EMS in urban environments within acceptable risk and impact/disturbance on its citizens.

Results from the validation will contribute to completing the UAM guidebook developed in WP6.

A survey will be conducted at each demonstration to capture public and stakeholder perceptions and opinions on the demonstrated service.

Outcome:
Validations flights
Demo flights of concept
Report on live validation process and outcome.
Evaluation of scenario, demonstration and lessons learned.
Live Demos and shows in Norway, Finland, Germany and Luxemburg

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Main output of AiRMOUR

The UAM Toolbox for aviation and urban authorities, validated in real-life settings

- UAM Guidebook for cities, operators and other stakeholders
- UAM GIS tool for urban planners
- UAM Training programme and masterclasses for EUROCONTROL

AIRMOUR

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Unmanned Aviation will make the skies crowded

We are just as concerned about this as traditional manned aviation are

UTM - ATM

Dynamic reconfiguration of airspace

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UTM - ATM

HEMS - EMS

How to get priority in airspace for EMS ?
Both manned and unmanned (HEMS/EMS)
needs a common system for priority
(one of the findings in AiRMOUR Project)

New and comming regulations for unmanned

EASA regulations a risk based approach for Unmanned Operations

OPEN:

Low risk

Competent Authority notified by Member States; no-pre approval envisaged

Limitations (25 kg; Visual line of sight (VLOS), Maximum Altitude, no drone zones, limited drone zones)

Rules: no flight over crowds, pilot competence

Use of technology

Sub-categories including harmless

SPECIFIC

Increased risk

Approval based on Specific Operation Risk assessment (SORA)

Standard scenarios

Approved by NAA possibly supported by accredited QE unless approved operator with privilege

Manual of Operations mandatory to obtain approval

A risk assessment approach allow to take into account new technologies and operations

CERTIFIED

Regulatory regime similar to manned aviation

Certified operations to be defined by implementing rules

Pending criteria definition, EASA accepts application in its present remit

Some systems (Datalink, Detect and Avoid, ...) may receive an independent approval

The Future has Arrived

Yesterday today was the future

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EHANG 216

2 seated Passenger EVTOL (Multirotor)

RO3 transitional rules > EASA - Certified Class

The Future has Arrived

Yesterday today was the future

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EHANG 216

Passenger EVTOL (Multirotor)
RO3 transitional rules >
EASA - Certified Class

The Future has Arrived

Yesterday today was the future

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EHANG 216L

Logistic EVTOL (Multirotor)

RO3 transitional rules >

EASA – Spesific LUC/Certified Class

The Future has Arrived

Yesterday today was the future

EHANG SCANDINAVIA

EHANG 216L

Logistic EVTOL (Multirotor)

RO3 transitional rules >

EASA – Spesific LUC/Certified Class

The Future has Arrived

Yesterday today was the future

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EHANG FALCON B

Logistic EVTOL (Multiroto

RO3 transitional rules >

EASA – Spesific LUC

The Future has Arrived

Yesterday today was the future

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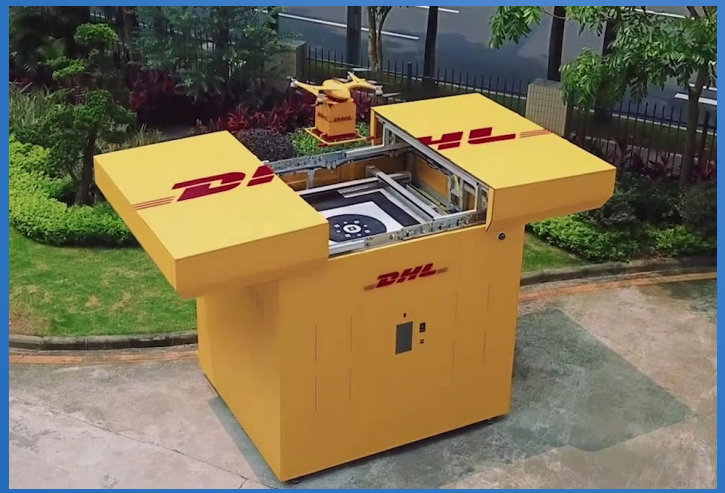
EHANG FALCON B
Logistic EVTOL (Multirotor)
R03 transitional rules >
EASA – Spesific LUC



Falcon B (Logistics)

Multi-rotor Type of rotor	80 km/h Maximum speed
17 min Designed flight time with maximum payload	19 km Designed flight distance with maximum payload
5 kg Maximum payload	≤90 min Time to full charge

The Future has Arrived

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EHANG VT 30

Passenger EVTOL (Lift & Cruise)

RO3 transitional rules >

EASA - Certified Class

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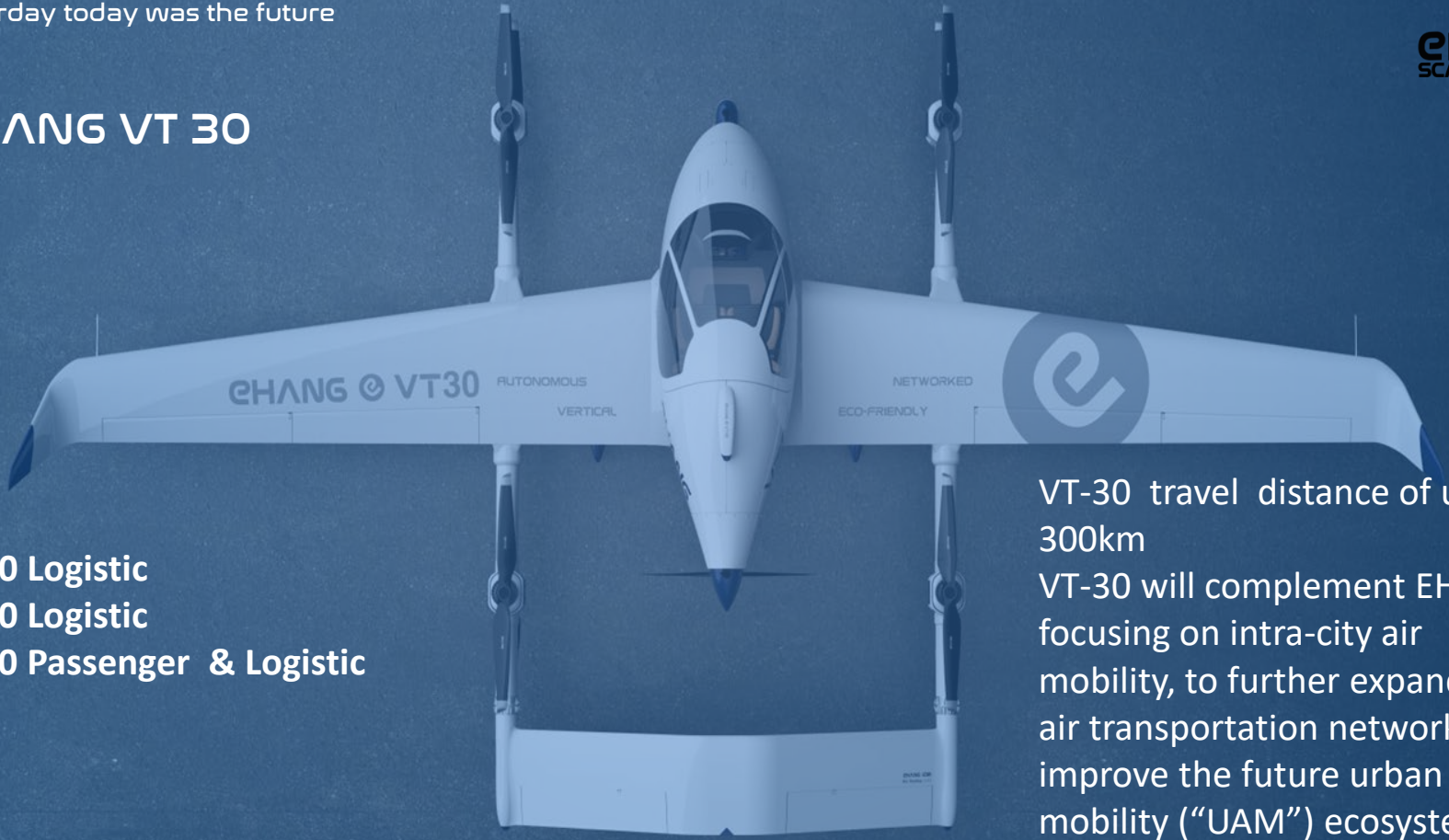
EHANG VT 30



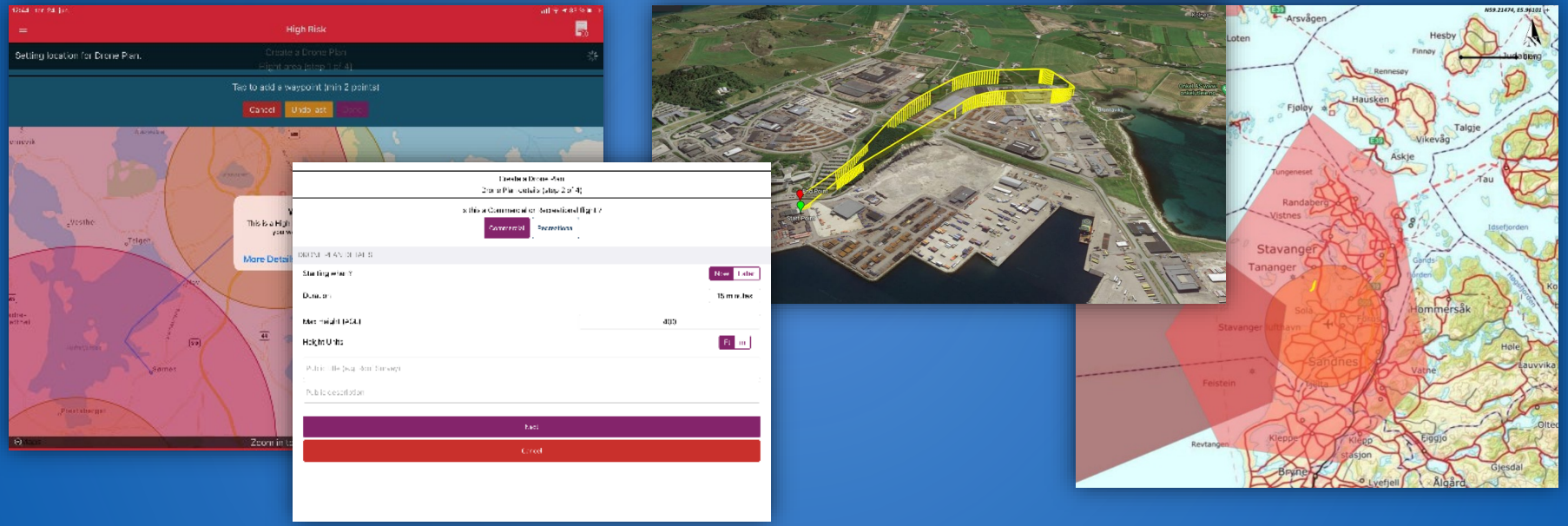
VT-10 Logistic
VT-20 Logistic
VT-30 Passenger & Logistic

VT-30 travel distance of up to 300km

VT-30 will complement EH216, focusing on intra-city air mobility, to further expand the air transportation network and improve the future urban air mobility (“UAM”) ecosystem

NINOX

We are currently testing NINOX in the 5 KM NFZ at Stavanger Lufthavn (ENZV)



Thank You !

EHANG SCANDINAVIA

Visitt Our stand at Nordic Edge Expo in Stavanger

20 – 23 Sept.

www.ehangscandinavia.as