

WORKSHOP PROGRAMME

Autonomous Power Grid Technology Workshop

Live demonstrations of drones that inspect and maintain overhead power lines. A hands-on day for engineers and specialists of power utilities and grid operators.

DATE	TIME	VENUE
Wednesday, 25 November 2026	**09:30 – 16:00**	**Future Lab, KEZAD (KLP-4), Abu Dhabi**

Why you should join

01 See it live

Drones landing on a conductor, moving along the wire, cleaning, lubricating and installing clamps, close up and in the field.

02 Fly it yourself

A supervised hands-on session in our indoor flight hall: feel how precise drone control works in practice.

03 Talk to the engineers

Ask the people who design and build the platforms, payloads, manipulators and charging stations.

04 Shape the next pilot

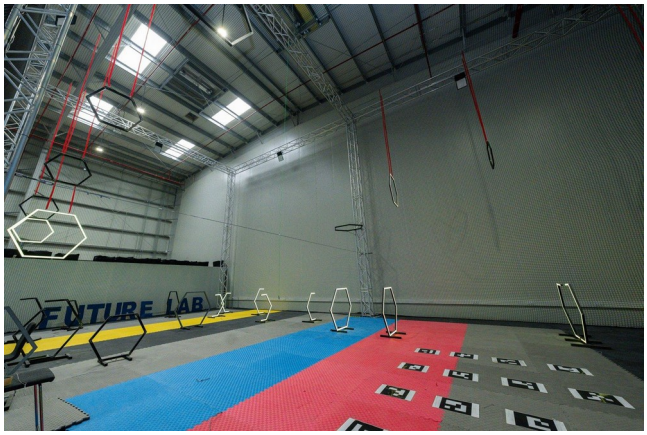
Tell us which maintenance tasks matter most on your power lines, and we will develop them with you.

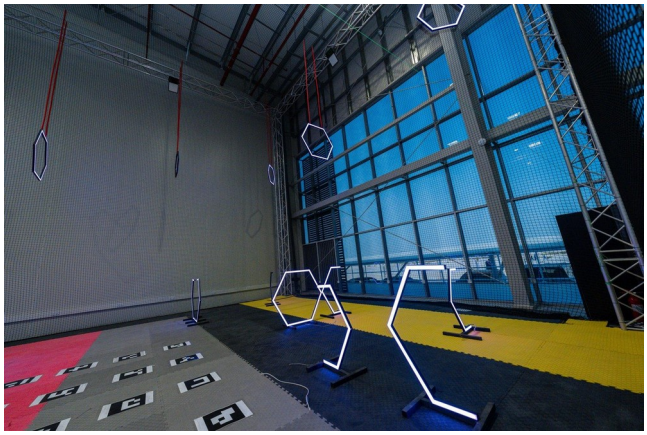
PROGRAMME

The day at a glance

One day, two flight zones and plenty of time to talk. The day combines a short technical introduction, live indoor and outdoor demonstrations, a hands-on session and an open discussion.

09:30 – 10:00	**Registration and welcome coffee** Meet the Future Lab team and take a short tour of the facility and the platforms used during the day.
10:00 – 10:30	**Manufacturing and training capabilities** How Future Lab designs, builds and tests drones in Abu Dhabi, and how we train drone operators and technicians.
10:30 – 11:15	**Indoor technology demonstration** Close-up demonstrations on a section of overhead conductor in our indoor flight hall: diagnostics, conductor maintenance, clamp installation and autonomous landing on the wire.
11:15 – 12:15	**Outdoor flight demonstration** Flights at a power-line construction site near KEZAD with towers installed and conductors strung. Live video from the drones on the operator's remote controller.
12:15 – 13:00	**Autonomous drone system for grid maintenance** Presentation and discussion: AI-assisted inspection, recognition of line components, manipulators, autonomous charging and the full mission cycle.
13:00 – 13:05	**Group photo**
13:05 – 14:00	**Networking lunch** Lunch next to the platforms, payloads and charging equipment, with the engineers on hand for your questions.
14:00 – 16:00	**Hands-on drone practice** A safety briefing followed by supervised flying in the indoor flight hall, from first take-off to precision control.





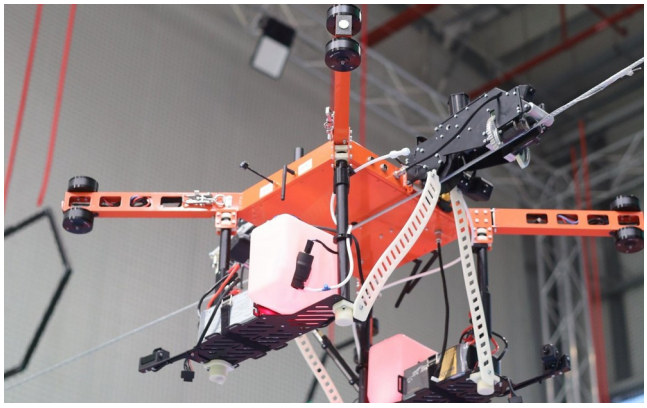
Future Lab indoor flight hall in KEZAD: the venue for the indoor demonstration and the hands-on session.

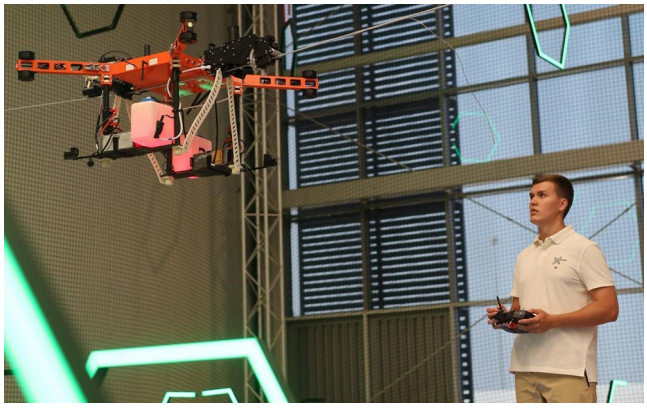
10:30 – 11:15

Indoor demonstration

Inside the Future Lab facility a section of overhead-line conductor is mounted on a training and demonstration stand. You will see each technology at arm's length and can speak directly with the engineer responsible for it.

- **Recognition** of conductors, insulators, clamps and other line components by camera and software.
- **Diagnostics on the wire:** Dragonfly moves along the conductor and acquires data, with live video on the operator's remote control.
- **Conductor maintenance:** Spider shows strand trimming and lubricant application, and a signal marker ball is installed on the conductor.
- **Autonomous landing on the wire:** Bumblebee takes off, lands on the conductor and installs a clamp.
- **Charging station** and the full mission cycle: flight, task, return, docking and charging.





Spider on the demonstration conductor in the Future Lab indoor flight hall.



Dragonfly

POWER-LINE DIAGNOSTICS

Works on live overhead lines: visual, laser, magnetic and thermal-imaging inspection while moving along the conductor.



Spider

POWER-LINE MAINTENANCE

Cleans and lubricates conductors and shield wires, trims protruding strands and installs clamps.



Bumblebee

TRAINING AND CLAMP INSTALLATION

Programmable drone for training power-sector personnel; lands on the conductor automatically and installs clamps.



Barq

TRAINING

The smallest drone in the fleet: an agile sport drone used for pilot training.

11:15 – 12:15

Outdoor flight demonstration



The flights take place at a new power-line construction site in the KEZAD area, near the Future Lab facility, where towers are installed and conductors are strung. All flights are registered with the GCAA and performed by Future Lab's qualified pilots.

- **Dragonfly and Spider** take off, approach the conductor and hover above it, with the live video feed on the operator's remote control.
- **Ant** takes off with a 12 kg payload, flies within visual line of sight, releases the cargo and returns to the take-off point.
- **Barq** shows high-speed flight with sport turns and manoeuvres.



Dragonfly

DIAGNOSTICS

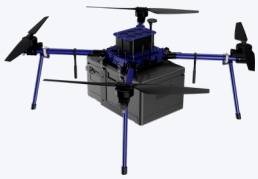
Visual, laser, magnetic and thermal-imaging inspection of live overhead lines.



Spider

MAINTENANCE

Cleaning and lubrication of conductors and shield wires on live lines.



Ant

CARGO DELIVERY

Serial cargo drone: payload up to 12 kg over a distance of up to 10 km.



Barq

RAPID RESPONSE

Video surveillance and rapid movement over a distance of up to 10 km.

14:00 – 16:00

Your turn to fly

After lunch the hall is yours. Following a short safety briefing, every participant flies under the supervision of Future Lab instructors, from the first take-off to precision control. No previous experience is needed: the session gives a practical feel for drone operation and for the training approach used by Future Lab Drone Academy, licensed by ACTVET.



DISCUSSION

Let’s talk about your power lines

The discussion focuses on practical next steps rather than another presentation. We will ask you which two or three operations matter most on your lines, for example:

- insulator cleaning;
- clamp installation and manipulation on the conductor;
- conductor lubrication;
- inspection and verification after maintenance;
- other operations proposed by your specialists.

Your answers become the basis for a joint pilot concept. Future Lab can also prepare a dedicated training programme for drone operators, technicians and specialists working with UAV systems in the power sector.

JOIN US

Practical information

Date and time	Wednesday, 25 November 2026, 09:30 – 16:00
Venue	Future Lab Industries LLC SPC, KEZAD Warehouses (KLP-4), Unit B14-04, Al Taweelah, Abu Dhabi
Outdoor zone	Power-line construction site in the KEZAD area, a short drive from the facility
What to wear	Comfortable clothing and closed-toe shoes for the outdoor and hands-on sessions
Contact	Samir Valiyev, Managing Director & COO, +971 50 904 9893