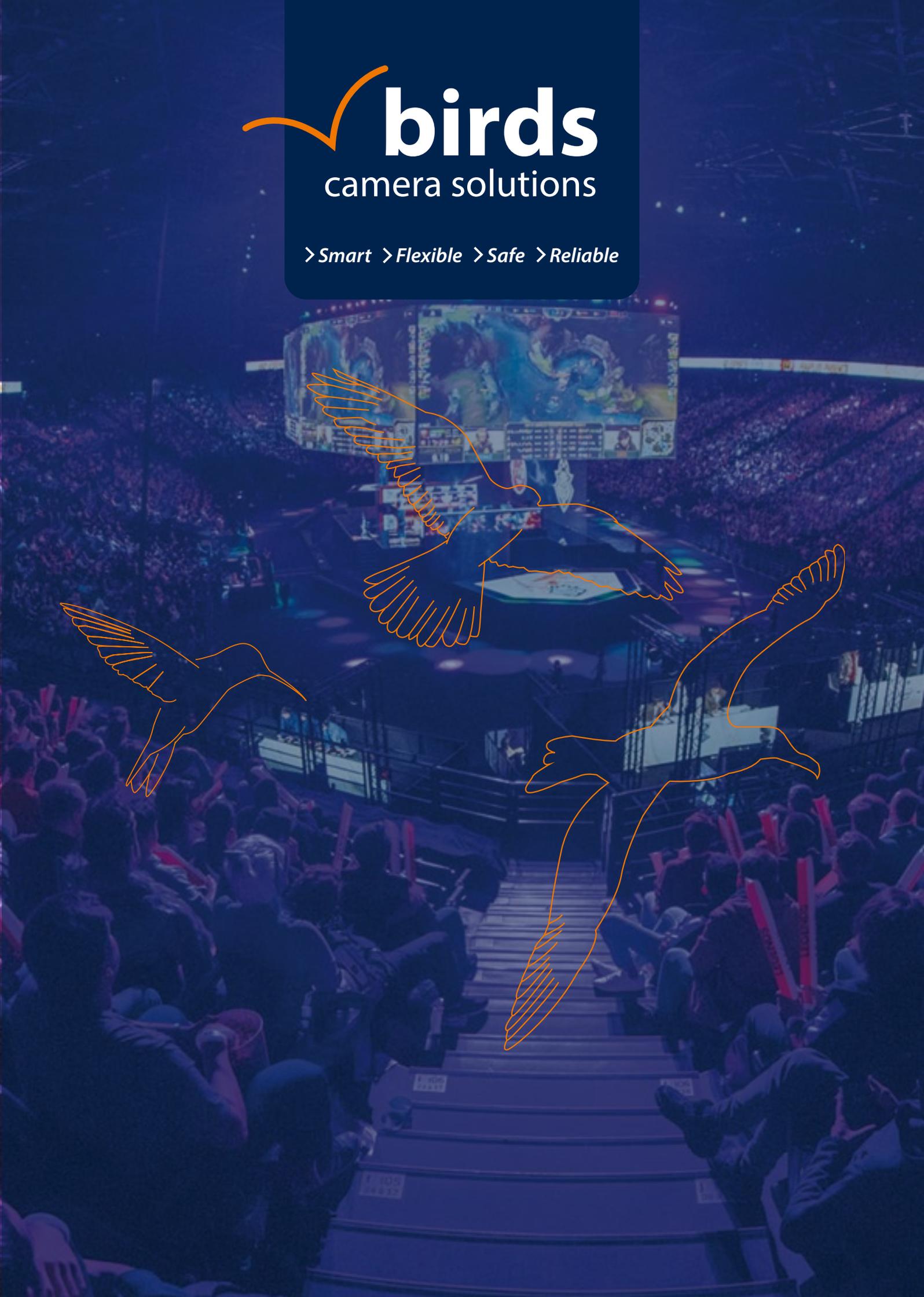


The logo features a stylized orange bird silhouette above the word "birds" in a bold, white, lowercase sans-serif font. Below "birds" is the phrase "camera solutions" in a smaller, white, lowercase sans-serif font. The entire logo is set against a dark blue background.

birds

camera solutions

> *Smart* > *Flexible* > *Safe* > *Reliable*



Birds Camera Solutions GmbH

Birds Camera Solutions systems are designed to cover all kinds of venues, including corporate facilities, conference halls, houses of worship, studios, arenas, stadia, sports venues and multi-purpose venues.

We offer camera systems for purchase (only fixed installations) or on a rental basis to production companies, venue owners, production studios and sports leagues. Along with the cameras themselves we can offer comprehensive team support before, during and after the event, including rigging, assistance from our experienced engineers and pilots, and de-rigging. If needed we can also easily integrate external engineers, operators and riggers into our teams. With several different systems in stock, it is possible to fulfil the requirements of multiple productions simultaneously.



Products from Birds Camera Solutions are used by broadcasters and sports associations around the world to deliver consistently superb images from national and international events.

All systems have been proven to comply with the DGUV 17/18 (former BGV-C1) German safety standard as well as all other major national safety requirements. Establishing working zone borders and keeping the dolly within these is an integral feature of the system software.

All systems from Birds Camera Solutions can be integrated with all major Augmented Reality systems to provide accurate tracking data of camera position, orientation and lens parameters.

	Colibri-80	Falcon-100	Albatross-250XL
Dolly weight	4.5–8 kg	< 20 kg	< 20 kg
Battery needed	power supply integrated in ropes	+ (6–8 hours runtime)	+ (6–8 hours runtime)
Action area	80 x 80 m	100 x 100 m	250 x 250 m
Augmented Reality integration	✓	✓	✓
Winch power consumption	1.5 kW	6 kW	up to 10 kW
Winch power supply	230 V / 16 A	230 V / 16 A	CEE 32 A
Maximum speed	3 m/s	6 m/s	10 m/s
Control system power supply	optional	UPS buffered Operator Console	UPS buffered Operator Console
System safety	Safety key	Safety switch	Safety switch

Our Systems



Colibri-80

Colibri-80 is the smallest system in our portfolio. The dolly has been designed to be ultra-low in weight, with power supply via two cables meaning that it requires no on-board batteries. Weighing only 4.5 kg and with no issue regarding cable-sag, the system's innovative design means it can be deployed in small studios and venues with low ceilings. Colibri-80 covers 80 x 80 m, while zoom and all other camera functions can be controlled using the provided software.



Falcon-100

Falcon-100 is designed for use in TV studios as well as small and medium-sized sports venues such as basketball halls and ice hockey rinks. The winches of the system may be easily positioned in venues with limited space and still provide sufficient pulling force for the working height of the camera to be maximised. Falcon-100 covers an action area of 100 x 100 m and may be equipped with all common 2/3" box cameras.



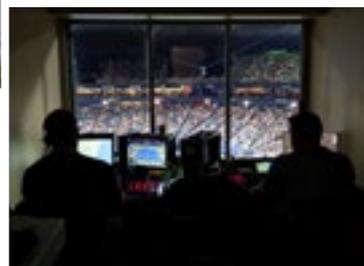
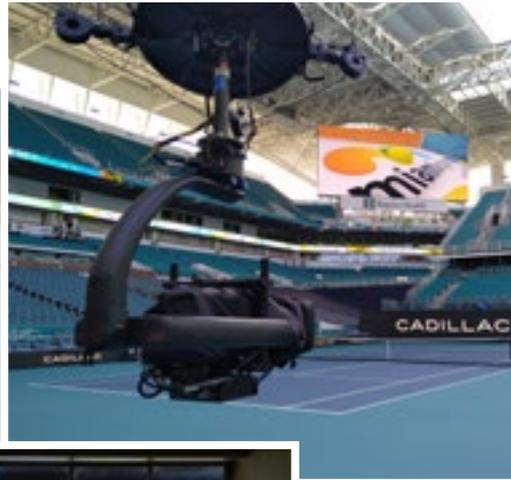
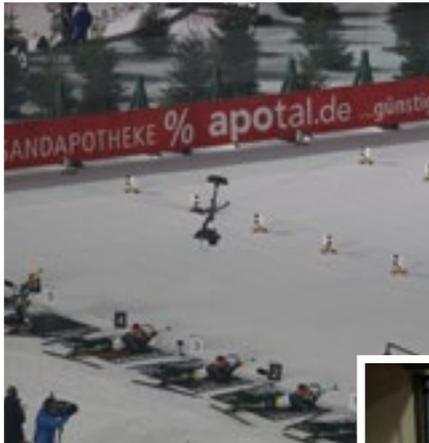
Albatross-250XL

Albatross-250XL is the largest system in our portfolio. It is designed for use in large venues and sports productions, and it can cover areas up to 250 x 250 m. Like the other systems it employs four real-time controlled automatic winches and a sophisticated motion control system that allows for 3D operation and very rapid movement (up to 10 m/s in all axes). The system can be equipped with all common 2/3" box cameras.



A selection of our productions

Since 2018, Birds Camera Solutions has covered world-class events around the globe.



2018 – 2020

- ✘ Biathlon World Cup, Ruhpolding, ZDF, Germany
- ✘ New Year's Eve Show at Brandenburg Gate Berlin, ZDF, Germany
- ✘ Biathlon World Cup, Schalke Stadium, Germany
- ✘ Football UEFA Champions League Matches
- ✘ Football International Matches, Germany
- ✘ League of Legends World Championship Final, Paris, France
- ✘ CHIO Aachen, Aachen, World Equestrian Festival, Germany
- ✘ Rugby Super League Final, Manchester Old Trafford, Sky, UK
- ✘ Catch, with Luke Mockridge, SAT.1, Germany
- ✘ Teller-Tausch, SWR, Germany
- ✘ DFB Pokal and Bundesliga Football, Sportcast, Germany
- ✘ Roger Federer, Match in Africa, South Africa
- ✘ Deutscher Filmpreis, ARD, Germany

2021

- ✘ Rugby, British & Irish Lions Tour, South Afrika, SuperSport, South Africa
- ✘ Football, diverse DFB-Pokal and Bundesliga Productions, Sportcast, Germany
- ✘ Biathlon World Cup, Oberhof, ZDF, Germany
- ✘ „Die leckerste Idee Deutschlands“, RTL, Germany
- ✘ Horse races, Aintree & Cheltenham, Sky, UK
- ✘ CHIO Aachen, Aachen, World Equestrian Festival, WDR, Germany
- ✘ Handball, EHF Final4, Cologne, Germany
- ✘ UEFA Champions League, prime video & ServusTV, Europe
- ✘ Conferences, „Alter Plenarsaal“, Bonn, Germany
- ✘ „Sommerspiel“, RTL, Leipzig, Germany
- ✘ ATP Tennis, Vienna, ServusTV, Austria



2022

- ✘ German Football Bundesliga and DFB-Pokal, Sportcast, Germany
Bundesliga Productions, Sportcast
- ✘ Biathlon, World Cup, Oberhof, mdr/ARD, Germany
- ✘ Biathlon, Welt Cup, Ruhpolding, ZDF, Germany
- ✘ UEFA Champions League, prime video & ServusTV, Europe
- ✘ Conferences, „Alter Plenarsaal“, Germany
- ✘ CHIO Aachen, Aachen, World Equestrian Festival, Germany
- ✘ Speedway Grand Prix Warsaw, Poland
- ✘ FEI World Championships Herning, Denmark
- ✘ WM Formation Dance, Braunschweig, WDR, Germany
- ✘ Womens EHF European Handball Championships, Ljubljana, HBS, Slovenia

2023

- ✘ Speedway Grand Prix, Warsaw, Poland
- ✘ Telekom Meetings, Bonn, Telekom, Germany
- ✘ Biathlon WM, Oberhof, mdr, Germany
- ✘ DM Formationstanzen, Braunschweig, NDR, Germany
- ✘ National Football Match Germany-France, Dortmund, ARD, Germany
- ✘ 1LiveKrone, WDR, Germany
- ✘ German Football Bundesliga and DFB-Pokal, Sportcast, Germany
- ✘ Cricket SA20, South Africa, SuperSport, South Africa
- ✘ Handball HBL Supercup, DYN, Germany
- ✘ CHIO Aachen, Aachen, World Equestrian Festival, Germany
- ✘ ATP World Tour Masters 1000, ATP Media, Worldwide
 - ✘ Indian Wells
 - ✘ Miami
 - ✘ Monte Carlo
 - ✘ Rome
 - ✘ Toronto
 - ✘ Cincinnati
 - ✘ Shanghai
 - ✘ Paris
 - ✘ Turin



Colibri-80

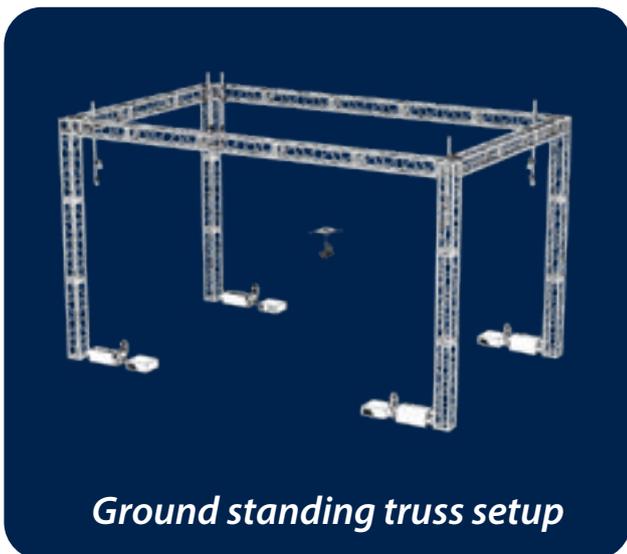


Colibri-80

Colibri-80 offers the best of both worlds. The dolly's low weight and lightweight winches make it suitable for use in the most compact studio environments. With only 4.5 kg dolly weight and power supply via two cables there is virtually no issue with cable sag.

We offer the Colibri-80 systems with an 80 x 80 m action area. The lightweight winches can be rigged directly to a truss, enabling total suspension of the system with no interference on the ground. Colibri-80 is suitable for permanent installation or for temporary deployment on an individual production basis.

The system incorporates a bullet-proof hardware control and software GUI, enabling unlimited motion presets. All camera/dolly data, signals and power supply run through the ropes (2 ropes with implemented fibre cables, 2 ropes with implemented power cables). The dolly can be equipped with broadcast and COTS cameras, allowing access to all camera functions (zoom, etc).



Ground standing truss setup



Free hanging truss setup



Colibri-80 System Components

3-Axis Stabilized Gimbal

- ✦ Gimbal-Top: 40 cm x 40 cm
- ✦ Height: 52 cm
- ✦ Weight: 3.7 kg (+ camera, lens, zoom mount 1 kg)
- ✦ Motion in all 3 axes
- ✦ Built-in Dual SDI to Dual/ Single Fiber Optic converter
- ✦ 48 V DC power supply, communication and 4K signal transferred via winches
- ✦ No battery required
- ✦ Integration for Blackmagic Design Micro Studio 4K camera, Atom Dreamchip MiniZoom
- ✦ Olympus M. Zuiko Digital ED 7-14mm f/2.8 PRO Lens



Winches

- ✦ 80 x 80 m action area (motor included)
- ✦ Length: 99 cm
- ✦ Width: 53 cm
- ✦ Height: 40 cm
- ✦ Weight: 80 kg
- ✦ Maximum speed: 3 m/s
- ✦ Winch power: 1.5 kW
- ✦ Can be rigged to truss directly
- ✦ Winches are sealed
- ✦ Hollow winch drum with built-in motor and gear for reduced weight
- ✦ Built-in driver box for shorter setup time and reduced weight



Dynamic Pulleys

- ✦ Dynamic pulleys enable flexible winch positioning

Remote RCP, Camera Console, Pilot Console, GUI

- ✦ Smart GUI enables manual control and programmable motion presets; touchscreen supported
- ✦ Remote RCP offers access to all Gimbal, winch and camera functions
- ✦ Pan, tilt, roll, focus and zoom. Adjustable speed, ramp (expo) and direction
- ✦ Backup custom user profiles
- ✦ Working area limitations for safe operation
- ✦ Emergency stop button + safety key
- ✦ Safety limits, including minimum operating height limit
- ✦ Safety – DGUV17/18 (prev. BGV-C1)







Falcon-100

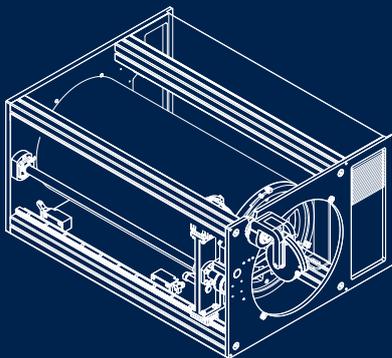


Falcon-100

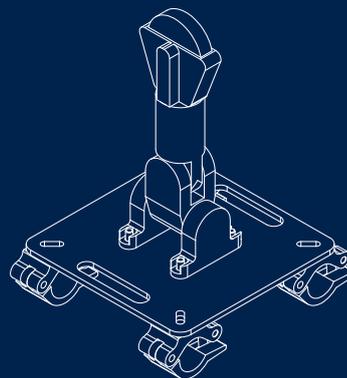
The Falcon-100 is Birds Camera Solutions' mid-sized system for small and medium-sized sports venues such as basketball, handball, volleyball, tennis, or ice hockey rinks.

The winches of the system may be easily positioned in venues with limited space and still provide sufficient pulling force for the working height of the camera to be maximised. Falcon-100 covers an action area of app. 100 x 100 m and may be equipped with all standard 2/3" box cameras.

The 3-axis stabilised head, compact size (45 x 70 x 105 cm) and light weight (under 20 kg), offers unparalleled pan movement flexibility. Our robust winches deliver a 6 kW output and accommodate up to 140 m of cable. They offer speeds up to 6 m/s and prioritise safety with features like a catenary rope, double brakes, and an internal monitoring system. The winches have a quick emergency response, stopping in no more than 50 ms, and feature a single cable exit for easy setup.



EE100 Winch



3D Pulley



Falcon-100 System Components

3-Axis Stabilized Head

- ✘ Measurements: 45 x 70 x 105 cm
- ✘ Weight: < 20 kg
- ✘ Unlimited pan
- ✘ Integrated fiber converter
- ✘ Integrated camera power supply
- ✘ Compatible cameras:
 - ✘ HD: Sony HDC-P1, Grass Valley LDX Compact and similar
 - ✘ UHD: Sony HDC P43, Grass Valley LDX and similar
 - ✘ Cinema: Alexa Mini, RED, Sony PMW-F55 etc
- ✘ Compatible lenses: Canon and Fujinon ENG lenses
- ✘ Battery runtime: 6-8 hours



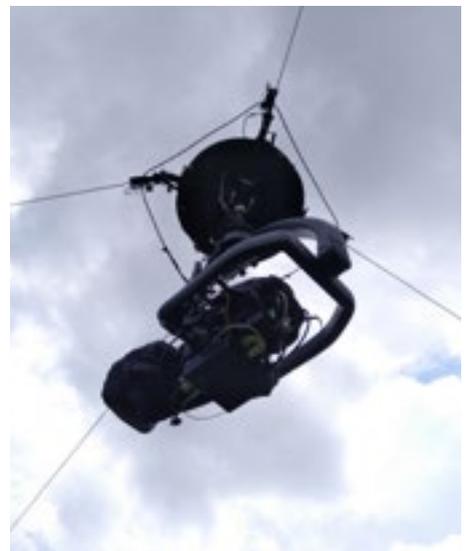
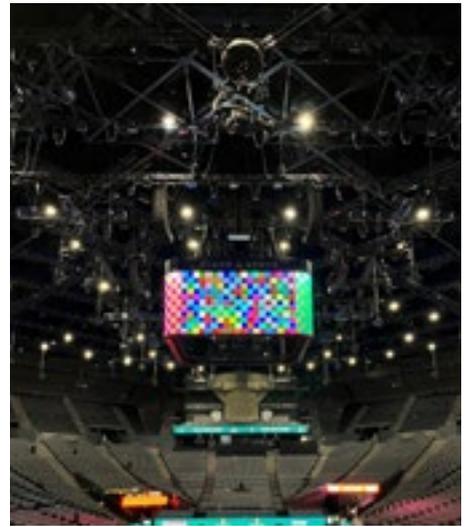
Winches

- ✘ Compact size: 80 x 60 x 55 cm
- ✘ Weight: 180 kg
- ✘ Winch power: 6 kW
- ✘ Cable capacity: 140 m
- ✘ Action area: 100 x 100 m
- ✘ Maximum speed: 6 m/s
- ✘ Catenary rope with more than 12 times safety margin relative to the working loads
- ✘ Double brakes with automatic engagement in case of power loss
- ✘ Internal safety monitoring system in each system
- ✘ Emergency stop time no more than 50 ms
- ✘ Single cable exit point simplifies winch placement



Remote RCP, Camera Console, Pilot Console, GUI

- ✘ Constantly enabled safety borders (including non-square)
- ✘ Constant system state monitoring
- ✘ Safety switch
- ✘ Two people are required for operation: a pilot moving the dolly in space and an operator controlling the camera head and the lens
- ✘ Motion-tracking capabilities
- ✘ Safety – DGUV17/18 (prev. BGV-C1)



A large stadium with a red and white seating arrangement is shown at dusk. A camera rig is suspended in the air by several thin cables, positioned above the field. The stadium lights are on, and the sky is a deep blue. The camera rig is a small, dark object with a lens pointing downwards.

Albatross-250XL

ALLES LIVE. ALLES VEREINT.

WOW

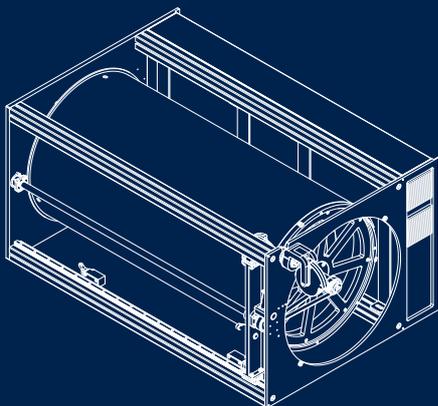


Albatross-250XL

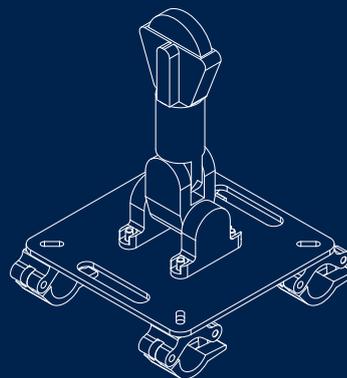
Albatross-250XL is Birds Camera Solutions' largest system. The system is a perfect fit for large events indoors or outdoors, football stadia or any big venue. It uses four real-time controlled automatic winches and a sophisticated motion control system that allows for smooth camera movements in 3D and swift movements – up to 10 m/s in all axes. It covers action areas of app. 250 m x 250 m.

The 3-axis Stabilized Head is compatible with all standard broadcast 2/3" cameras and boasts 6-8 hours of battery runtime. The accompanying winches are powered by a 10 kW motor offering speeds of up to 10 m/s and have a cable capacity of 400 m. The catenary rope ensures safety, exceeding working load requirements by over 12 times.

For control and monitoring, the system includes a Remote RCP, Camera Console, Pilot Console, and GUI. It maintains constantly enabled safety borders (including non-square) and constant system state monitoring. It features motion-tracking capabilities and adheres to DGUV17/18 (previously BGV-C1) safety standards.



EE250 Winch



3D Pulley



Albatross-250XL System Components

3-Axis Stabilized Head

- Measurements: 45 x 70 x 105 cm
- Weight: < 20 kg
- Compatible cameras:
 - HD: Sony HDC-P1, Grass Valley LDX Compact and similar
 - UHD: Sony HDC P50, Grass Valley LDX C86N, Sony HDC P43 and similar
 - Cinema: Alexa Mini, RED, Sony PMW-F55 etc
- Compatible lenses: Canon and Fujinon ENG lenses
- Battery runtime: 6-8 hours



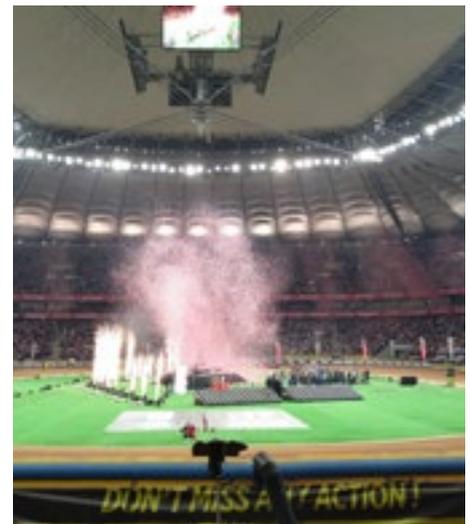
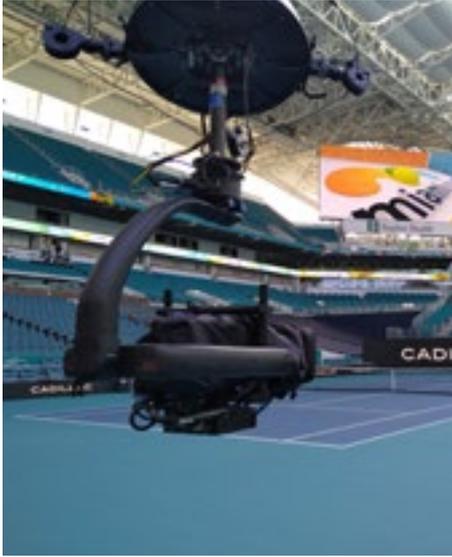
Winches

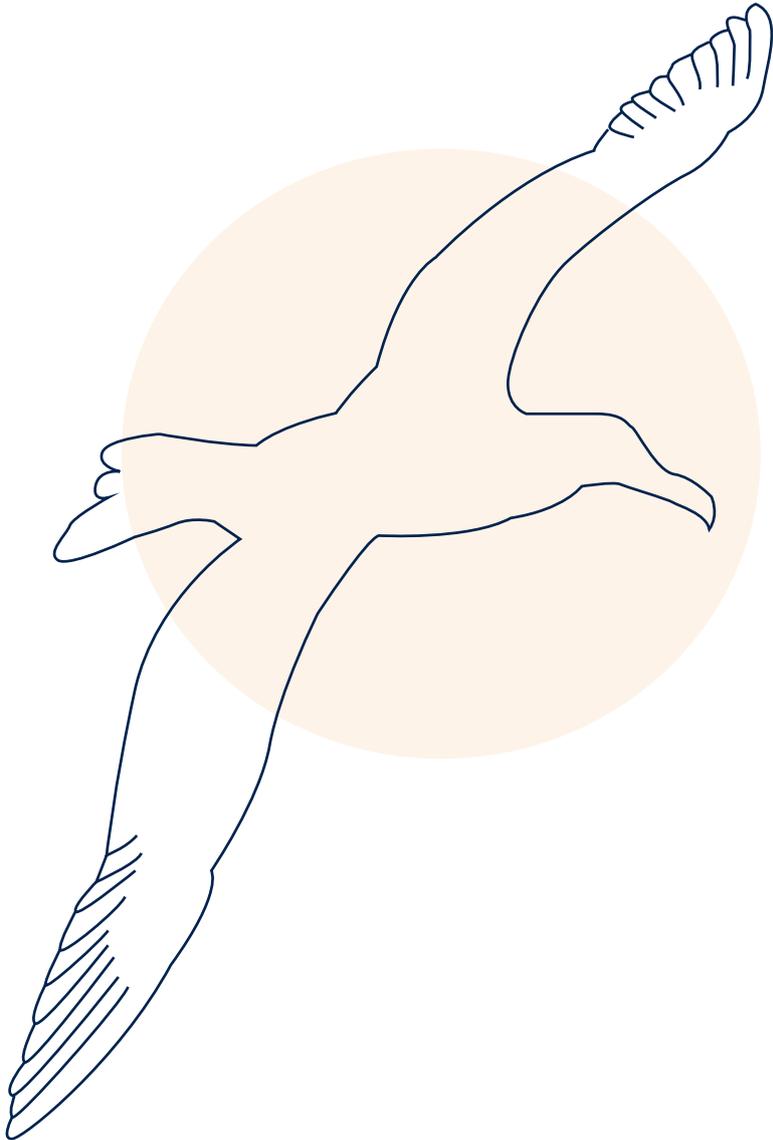
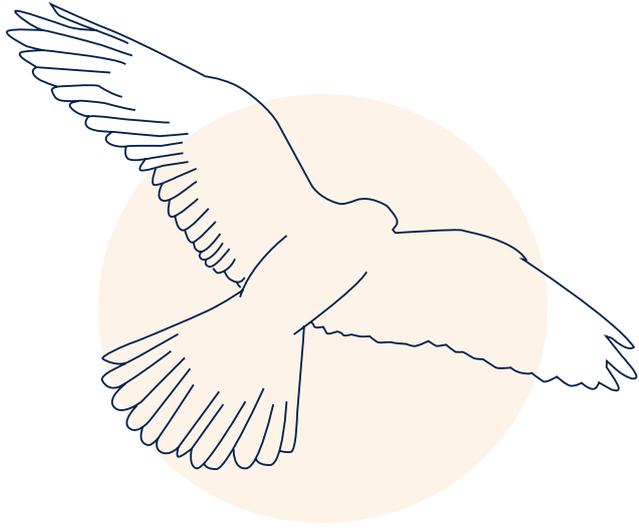
- Measurements: 120 x 80 x 80 cm
- Weight: 300 kg
- Winch power: 10 kW
- Action area 250 x 250 m
- Maximum speed: up to 10 m/s
- Cable capacity: 400 m
- Catenary rope with more than 12 times safety margin relative to the working loads
- Double brakes with automatic engagement in case of power loss
- Internal safety monitoring system in each system
- Emergency stop time no more than 50 ms

Remote RCP, Camera Console, Pilot Console, GUI

- Constantly enabled safety borders (including non-square)
- Constant system state monitoring
- Two people are required for operation: a pilot moving the dolly in space and an operator controlling the camera head and the lens
- Motion-tracking capabilities
- Safety – DGUV17/18 (prev. BGV-C1)











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