HELIX

Escape Rope Systems

About Us

HELIX

Helix Operations provide a complete capability for vertical access and rescue in mountain, maritime and urban environments.

We are based in the mountains of North Wales and have a heritage of over 40 years supplying tactical climbing solutions to end users. Over that time, we have worked with and become a main supplier of technical height access and rescue equipment to the UK MOD and have provided equipment and systems to many other nations.

The capability offered by our close relationship with DMM has been extended by partnering with manufacturers such as CTOMS, Henriksen, HQH, Protecttion, Rock Exotica, Highnovate and Cadex Defence to offer complete solutions for working at height in a tactical environment.

Company Number: 10316654
DUNS: 221986629
NCAGE: U1AG3

Mission Statement

HELIX

To be the leading worldwide provider of comprehensive vertical access, rescue and mobility capabilities to the tactical operator in the mountain, urban and maritime environments.

To support vertical access operations for the tactical operator with a range of services including:

- Advice
- Equipment
- Training
- Servicing

Gold

CERTIFIED QUALITY ISO 9001 MANAGEMENT SYSTEM

ARMED FORCES COVENANT
LLUOEDD ARFOG CYFAMOD

EMPLOYER RECOGNITION SCHEME
CYNLLUN CYDNABOD CYFLOGWYR

SILVER AWARD
GWOBR ARIAN

Key Brands

REBS supply many critical components of any maritime or urban access system. Rapid Entry Boarding Systems - the best maritime boarding equipment that also works well for urban operations. They supply the best grapnel launchers and the lightest carbon ladder systems on the market.

Robust carbon ladder systems - these are the go to ladders if TLC is in short supply. The FIX-LITE being the new ladder of choice for dismounted troops in urban environments with the ATV carbon bridge ladder demonstrating how tough carbon can be.

The best motorised ascenders on the market with a real-life combination of versatility, ruggedness and battery life that is hard to beat.

CTOMS was founded on the concept of evolving tactical medicine and expanded to encompass aspects of remote and improvised rescue. A key part of this evolution was the development of the TRACE™ system as micro rope system with a comprehensive capability that includes access, egress, hauling and high-lining. CTOMS are our longest standing partner and Helix are one of the very few authorised providers of training for the TRACE™ system.

LIBERVIT are an French company with over 25 years in design and manufacture of hydraulic tools and manual equipment for the industry, the special forces and the rescuers.

The DMM International group specialise in the manufacture of equipment and systems for operating safely at height. They have proudly manufactured all their hardware in the United Kingdom since 1981 and over that time they have established a reputation for innovation and quality.

As part of the same group of companies Helix Operations rely heavily on DMM to design, prototype and manufacture much of the core product in our range.

An impressive micro rope system that is very intuitive to use, fast to deploy and incredibly robust. The system that came top in a recent egress system tender and impressed with its ability to meet the criteria of EN341 with a 160kg load.

Innovative rescue equipment designed and made in their factory in the USA. The range includes products that complement the DMM range of hardware - the Aztec pulley system, the Omni pulleys and the Arizona Vortex are all unique products that we are proud to offer.

Forward thinking equipment and systems designed by former operators to address gaps in current vertical assault capability. The QRAB is a class leading descender for medium diameter ropes that allows fast disengagement whilst the RAFA portable anchor gives security where normal anchors are not viable.

Precision engineering from the USA that specialises in high end rifle systems, but also produce the best small ledge hooks on the market.

Designed and manufactured in the United Kingdom with a reputation for outstanding quality and a long history of providing specialist rope solutions to military and rescue units. Marlow Ropes have a proven record as a key manufacturer of quality ropes for access, rescue and specialist products for use in helicopter operations.

Comparing Escape Rope Systems

Product Description	WEIGHT	STRENGTH	KIT DIMENSIONS (CM)			ROPE SPECIFICATIONS		COMPONENTS FOR DESCENT, ASCENT, ANCHORS AND ROPE PROTECTION									
	KG	Working Load Limit	Width	Height	Depth	Rope Length	Rope Diameter	Rope Material	Descender	Ascender	Hook	Sling	Carabiners	Rope Protection	EN 341:2011/2D European standard for Personal Fall Protection Equipment: Descender Devices	ANSI Z359.4-2013 Safety requirements for assisted-rescue and self-rescue Systems, subsystems and components. CERTIFICATION	NFPA 1983 Escape Use
Helix Personal Escape System (PES)	995g - With two carabiners, rope protector and molle pouch	CE tested at 120kg, ANSI tested at 141kg. Also successfully passed testing with 160kg using EN 341D criteria for the MOD.	16	21	8	23m, 50m and 100m as standard. Bespoke lengths are available up to 160m.	5.5mm	Braided 8 strand Technora aramid.	Wind Escapattor • Self locking • Panic function • Force limiting • descent with one or two hands	CTOMS Quickie Ascender	Sterling Lightning GT Rescue Hook 227g	Edelrid Aramid Cord Sling 6mm x 90cm	2x DMM Phantom Screwgate	SuperFabric Rope Protector	Yes - at 120kg in standard, cold and wet conditions.	loads of up to 141kg up to 160m.	Yes
CTOMS Firefly Military Parachute Kit	600g	159kg	11	16	6.5	20m	3.6mm	Braided Technora aramid.	CTOMS Firefly Device • Auto-locking Descent Control Device.			1 x Dyneema 180cm Anchor Sling	2 x DMM Phantom Screwgate				
CTOMS Vector Operator Urban Egress Kit	600g	159kg	11	16	6.5	20m	3.6mm	Braided Technora aramid.	CTOMS Firefly Device • Auto-locking Descent Control Device.		CTOMS Meat Hook		2 x DMM Phantom Screwgate	1" Tubular Nylon Edge Protection Sleeve			
CTOMS Grey Kit	1kg	The rope has a MBS of 16+kN and all the CTOMS devices are designed to slip to limit the forces that can be created in the system	26	30	7	16m	6mm	Braided Technora aramid.	CTOMS Quickie Descender • Self locking • Force limiting			1 x Dyneema 180cm Anchor Sling	DMM Phantom Screwgate				
CTOMS Purple Kit	1.25kg		26	30	7	16m	6mm	Braided Technora aramid.	CTOMS Quickie Descender • Self locking • Force limiting	CTOMS Quickie Ascender							
Exo Tactical with EasHook Open	1.2kg	140kg	19	26	7	15m as standard, but custom lengths available up to 150m	7.5mm	Aramid rope	EXO • Anti-Panic Function		The Petzl Hook is available as a custom option		1 x Am'D connector and 1 x EasHook Open		Yes - EN 341:2011 D certified with both the Petzl EasHook Open and also with any EN 362 certified Locking Carabiner.		The Petzl Hook is available as a custom option and in this configuration is NFPA certified at 13.5kN.

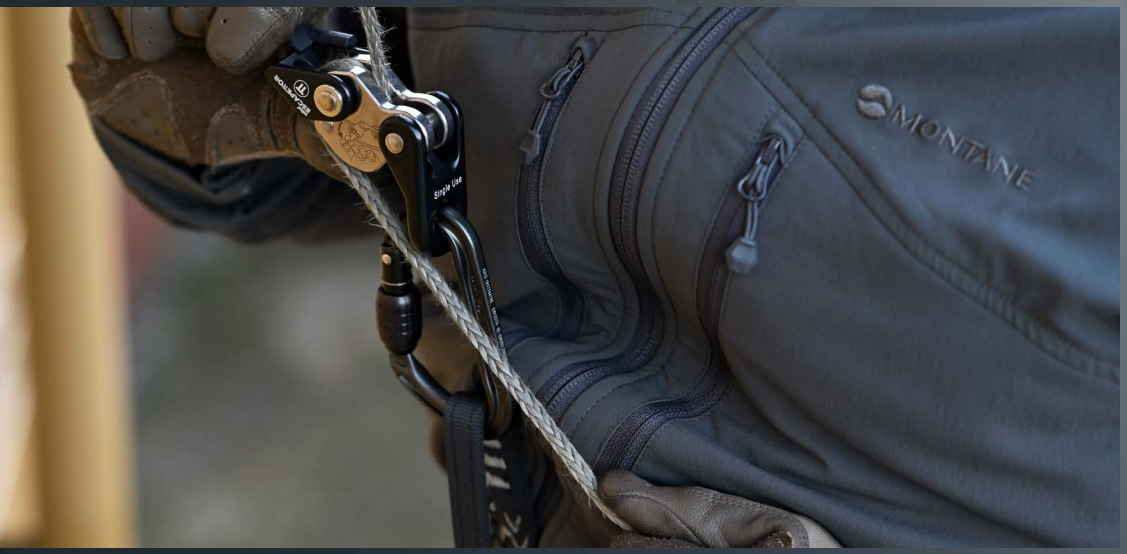
Helix Personal Escape System (PES)

The Helix Personal Escape System is a modular, lightweight and low volume micro rope system that gives users the capability to quickly descend or egress from a position. The system can be used for both personal descent, and to lower a single operator or load. This system has been specifically designed for military, law enforcement and emergency personnel to perform an emergency escape across all environments and operational theatres. The system has been designed for fast deployment, be intuitive to use and have minimal training burden.

The system contains the necessary equipment to do the following:

- Construct anchor points in a wide number of environments using a minimal amount of equipment.
- Protect the rope from damage.
- Descend or lower personnel up to 160m.
- Optional equipment is also available to allow the rope to be ascended.

The system is certified to EN341:2011/2D European standard for descent systems and ANSI Z359.4-2013 American standard for fall protection and fall restraint and has also passed additional, harsher testing that simulated worse case scenarios with heavily laden operators.



System contains a pre-rigged descent/lowering system. This uses 23m of 5.5mm heat resistant aramid rope with a rigging carabiner, a rope protector and an auto-locking, load limiting rope controller all attached and ready to deploy.

Optional extra equipment is available including an ascending system; an ANSI rated rescue hook and aramid sling that increase the options for creating safe anchor points.

Helix Personal Escape System (PES) Training Kit

Helix Operations is authorised to offer training on the HPES system. First students can train on Helix Egress System as an operator on a one day course. Following this, you may progress to the instructor course to train experienced individuals as identified by the parent organisation to deliver instruction in the use of the Helix Personal Egress system; to include Working at Height regulations in training, system components, tolerances and parameters, anchor selection/rigging, the systems use in descent and ascent. and its use in a buddy rescue.

10m Helix PES Training System:

- DMM Phantom Screwgate Red Back/ Matt Grey Thimble/ Gate
- XSRE Mini Carabiner Red
- PerfectO Locksafe Red Back/ Matt Grey Barrel/Gate
- Quickie Ascender
- Superfabric Rope Pro 50cm With Red Sewn Loop Tab
- 3mm Accessory Cord 50cm Black
- Petzl FOOTAPE-Adjustable webbing foot loop
- 10m PES With Red Handle + 1m Plastic Rope Protector

Helix Personal Escape System (PES) Descent Components

In each of the HPES Kits these items are included.

1 The HPES is a micro egress system that is very intuitive, simple to use even in adverse conditions, fast to deploy, auto-locking and load limiting. It also has minimal training burden.

2 A 50cm long rope protector that uses multiple layers of SuperFabric and Cordura to create a tube that wraps around the rope via a velcro closure. The rope protector is tied to the rope by a thin length of cord that is tied in a French Prusik allowing the rope protector to be moved easily up and down the rope and then locked into place at the desired position. The French Prusik is tied back using the XSRE mini carabiner.

3 The Phantom is our lightest locking carabiner at just 42 grams. Despite its minimal weight, we have ensured that it is still usable in all situations - with gloves, in the wet and the cold. It is also strong across every axis (24kN major axis and 9kN minor axis) and has a clean nose that prevents snagging. The locker to carry when every gram counts. Very light, very strong and very useable.

4 Narrow Cutter Steel Safety Blade to remove protective vacuum pack.

5 XSRE carabiner for the prusik: This carabiner is manufactured in exactly the same way as the full strength DMM carabiners, each XSRE carabiner back is hot forged using aircraft grade aluminium, heat treated and built up with a machined gate.

Helix Personal Escape System (PES) Ascent Components

Additional components which allow for ascent using the HPES.

6 The QA is a micro ascender that works well with the HPES rope and is unique in that it incorporates force reduction into the system through slippage at a specific force window.

7 Weighing less than 227g, the Sterling Lightning Hooks are the lightest certified rescue anchor hooks available on the market. The hook is certified to NFPA 1983, 2012 edition Escape Anchor and rated to 13.5kN.

The Lightning GT features an innovative wiregate for ease of connection to a remote anchor. This unique design eliminates the challenge of threading the rope through the hitching slot in a low-visibilty situation and therefore providing the fastest, most secure remote anchor solution.

8 The adjustable Petzl Foot Tape for rope ascents. Can be used with the CTOMS Quickie Ascender or Petzl Ascension handled rope clamp. A height adjustable elastic keeps the foot in the loop, regardless of the shoe type. The Underfoot strap is abrasion-resistant and is slightly rigid to make it easier to step into. A double back buckle effectively adjusts the length of the foot loop. Supplied with a DMM Phantom Screwgate carabiner to attach it to the QA ascender.

9 Sewn sling made of high-strength aramid delivering a significantly higher breaking strength than conventional slings. Sewn sling using an aramid core delivering significantly higher breaking strengths than conventional nylon or polyester slings together with better heat, abrasion and cut resistance.

10 MultiCam Molle Pouch - 1 Bead Marker. The system can be supplied packed in several formats; these include vacuum packing and pre-packing into a custom Molle pouch. The pouch being available in Multicam or Black as required.

Helix Personal Escape System Components

	10m Helix PES Training System:	23m Helix PES System – Ascent & Rigging:	23m Helix PES Descent System	23m HPES 2 Molle Pouch System Descent/Ascent & Rig:	50m Helix PES Descent System
DMM Phantom Screwgate Red Back/ Matt Grey Thimble/ Gate	•				
XSRE Mini Carabiner Red	•				
PerfectO Locksafe Red Back/ Matt Grey Barrel/ Gate	•				
Superfabric Rope Pro 50cm With Red Sewn Loop Tab	•				
10m PES With Red Handle + 1m Plastic Rope Protector	•				
Superfabric Rope Protector 50cm	•	•	•	•	•
Phantom Screwgate Matt Grey		•	•	•	•
XSRE Mini Carabiner Matt Grey		•	•	•	•
Quickie Ascender	•	•		•	
Petzl FOOTAPE-Adjustable webbing foot loop	•	•		•	
90cm Aramid Sling		•		•	
MultiCam Molle Pouch - 1 Bead Marker		•		•	
PerfectO Locksafe Matt Grey			•	•	•
MultiCam Molle Pouch - 3 Bead Marker			•	•	•
Narrow Cutter Steel Safety Blade (Helix)			•	•	•
23m Technora rope with descender.			•	•	
50m HPES WITH BLK Handle with Short Protection.					•

CTOMS Firefly Military Parachute Kit

A light and compact self-rescue kit for tree landings during pararescue and special operation jumps.

The CTOMS Firefly Military Parachute Kit has been created after years of research, development and testing with the intent of creating safe means of tree egress that is so small it can be carried without even noticing.

The system includes everything required to anchor to the tree or the risers, escape the parachute harness or use the parachute harness as the rappel harness, or simply connect to the internal harness in bush suit trousers, and descend under control to the ground.

The 3.6mm 20m rope is made from high strength braided Technora and longer lengths are available if required. Also included is an emergency harness and anchoring sling. The autolocking descent control device will provide controlled descent with up to 350 lbs. working load.

1. 1 x Firefly™ Device
2. 1 x Firefly™ 3.6mm Rope (20m or 46m)
3. 1 x Dyneema 180cm Anchor Sling
4. 1 x CTOMS Pocket Hoist Harness (MultiCam)
5. 2 x DMM Phantom Screwgate
6. 1 x Rope Bag (Orange)
7. 1 x GP Pouch w/ 2 x Malice Clips

CTOMS Vector Operator Urban Egress Kit

The Firefly™ Vector Kit is a compact, all weather, lightweight, micro rope system specifically designed for operator emergency egress in urban environments.

Providing a critical egress capability when exits from buildings would otherwise be impossible or dangerous due to being either blocked or barricaded, as is possible during urban operations. Rapid anchorage of the rope is possible into wood frame, cinder, plaster, etc is possible. The 20m rope should allow egress from up to the fifth floor depending on floor heights and interior depth of the anchor. The descent control device will provide a controlled descent with up to a 350 lbs. working load.

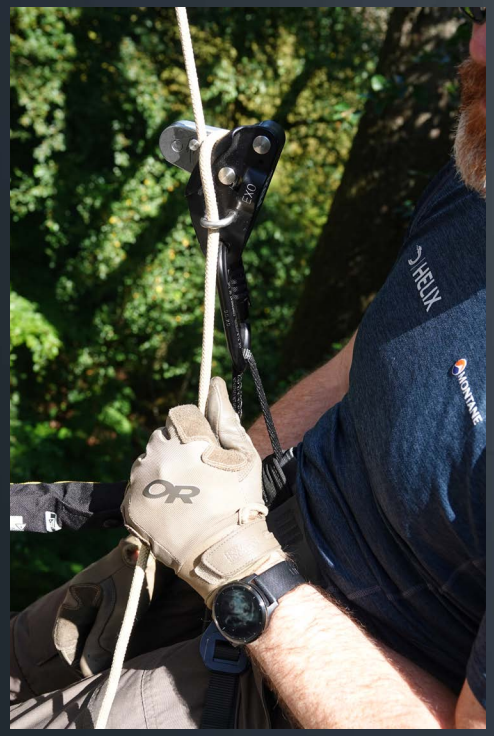
Weighing just 600g (with 20m rope) the kit is so small and lightweight it can be carried with minimal impact on the operative.

1. 1 x Firefly™ Device
2. 1 x Firefly™ 3.6mm Rope (20m or 46m)
3. 1 x CTOMS Meat Hook
4. 1 x Quick Link
5. 2 x DMM Phantom Screwgate
6. 1 x Rope Bag (Coyote Brown)
7. 1 x 1" Tubular Nylon Edge Protection Sleeve
8. 1 x Carrier Pouch w/ 2 x Malice CLIPS (options):
   1 X GP Pouch

Petzl Exo

An individual evacuation system featuring a self-braking system for quickly giving slack, controlling and stopping a descent. The open directional point acts as a guide during descent whilst allowing the rope to be removed which facilitates short rope ascents.

1. The Aramid fiber static rope is 15m in length and 7.5mm in diameter and it is abrasion and high temperature resistant.
2. Also included in the system is an Am'D connector with CAPTIV positioning bar, as well as a bag for transporting and attaching the system directly to the harness.
3. The entire system can be attached directly to the harness is a fire-resistant carry bag.



The 20m rope should allow egress from up to the fifth floor depending on floor heights and interior depth of the anchor.

Allows rapid anchorage of the rope into wood frame, cinder, plaster, etc. construction.

The entire kit is small, lightweight, and unobtrusive.

CTOMS TRACE™ Systems Overview

The weight and bulk of a traditional rope system often determines whether it is carried on a mission or not. Basic equipment needed for egress and escape packages is often left behind because of the volume they take up in a pack - space which is often seen as taking valuable room for other mission critical components.

The CTOMS TRACE Micro rope systems remove most of the bulk and weight of traditional rope systems without compromising the capability requirements of the end user.

CTOMS TRACE™ micro rope system allows operators to descend, ascend, haul and lead climb. It is very compact and light, but more than that it is exceedingly versatile. It allows an operator to change a lower into a 3:1 haul then increase the mechanical advantage all the way up to 9:1 before changing the system back to a lower. This can be done whilst the system is fully loaded, with minimal equipment in minimal time. The same versatility allows hauls to be turned into lowers or a descent into an ascent. The system can be rigged for two person loads and is re-usable. This is achieved by using 4 core components that have been designed to work together and which are unique to the TRACE™ system. These core components are, Prodigy Pulleys, TRACE™ Rope and QD (Quickie Descender).

The CTOMS Quickie Descender can be used for descending, lowering and locking off.

The Prodigy swing cheek micro pulley has a prusik minding edge that allows various MA systems to be created.

A custom 6.5mm aramid/nylon rope forms the basis of the CTOMS system - the rope was the result of much developement to find the balance of performance, cut resistance and durability with the QA and QD devices.

The QA can be used for rope ascension, haul and tension systems, self-belay, rope grabbing and force absorption.

CTOMS TRACE™ Systems Components

The CTOMS TRACE™ system allows users to lead climb, abseil, and haul rescue loads on a 6mm rope that is fire resistant up to 500c and has superb cut and abrasion resistance. The rope is 6.5mm in diameter, with a Technora aramid sheath and a nylon core. The sheath has a black tracer running through one half, and a tan tracer through the other. This allows quicker identification of the mid-rope, a feature which is functional through night vision devices. The rope comes with high strength sewn terminations at each end to avoid the need to knot the rope.

The CTOMS Prodigy PMP (Prusik Minding Pulley) is one of those subtle and often overlooked diamonds in the rough. There is impressive strength and efficiency in this tiny package and it truly does live up to its name. The weight of the Prodigy Pulley is usually only found in bushings, however the Prodigy contains a bearing and comes with the efficiency to match. That means less work for the user, both with carrying it and hauling loads.

The DMM XS Bat Plate raises the bar in design, performance and strength, Precision machining and heat treatment makes it strong, light and incredibly versatile.

The Bat shape minimises height loss in complex rigging scenarios and generous radii allow direct attachment of textiles as well as connectors. The oversized central hole allows for effortless centralising of connections and gives a perfect technician clipping point.

The QD is an auto-locking rope controller that can be used for descending, lowering or locking off the TRACE™ 6.5mm aramid rope. The QD is also designed to be a force limiter and will slip under a dynamic load that exceeds 4kN. It is a core component in all TRACE™ systems and is used as part of the ascent, lower, haul and lead climbing capabilities that TRACE™ offers. It should be stressed that this was specifically designed for use with the TRACE™ Systems rope and can only be bought as part of a system.

The Phantom is our lightest locking carabiner at just 42 grams. Despite its minimal weight, we have ensured that it is still usable in all situations - with gloves, in the wet and the cold. It is also strong across every axis (24kN major axis and 9kN minor axis) and has a clean nose that prevents snagging. The locker to carry when every gram counts. Very light, very strong and very useable.

Dyneema has a high strength-to-weight ratio and is abrasion resistant, making it an ideal material for creating lightweight slings, that can withstand repeated use. It also absorbs less water than nylon.

CTOMS TRACE™ Systems Kits

CTOMS Red

Special Operations Capable Kit- Provides skilled end users with a full vertical access, egress and rescue capability.

CTOMS Grey

Emergency Egress Kit- Allows a hands free edge transition with 10:1 factor of safety with a 1 person load.

CTOMS Grey Pro

Rope Assaulter Kit - Allows the user to rappel, lower, rope ascend and conduct a 3:1 haul.

CTOMS Green

Assault Climbers Kit - Purpose built kit for military and tactical rock climbing operations. It contains a full mountain rack including Dragon Cams, Wallnuts, Offsets, 8mm Dyneema Slings and lightweight Quickdraws.

CTOMS Grey K9

Canine Access Kit - Aids the movement of working dogs during tactical and military operations.

CTOMS Purple - Starter TRACE Kit

The most cost effective way to get into tactical TRACE™ systems.

CTOMS Black

Squad Self Rescue Kit - Provides the capability to conduct self-rescue such as evacuation from an elevated position.

CTOMS Emerald

Parachute Tree Escape.

CTOMS TRACE™ Systems Kits

	TRACE Systems Online Basic Course	Brenin Harness	DMM Bat Rigging Plate XS	Belay Master 2	Chimera Wire gate	TRACE Rope 2m	TRACE Rope 30m	TRACE Rope 46m *Emerald kit 46m for 150 kit/76m for 250 kit	TRACE Rope 16m	TRACE Rope 10m (Training Rope)	Low Profile GP Pouch	Climbers Dump Pouch 10"	Dual Zip Bag	EdgePro	EdgePro Replacements Skins	Tubular Nylon Rope Protection	Tactical Assault Climbers Gear Loop	PocketHoist Harness	Prodigy PMP Pulley	Double Prodigy PMP Pulley	Quickie Ascender	Quickie Descender	TRACE Rope Bag	TRACE Rope Log Book	RopePro	Dynatec Sling 8mm x 60cm	Dynatec Sling 8mm x 120cm	Dynatec Sling 8mm x 180cm	Dynatec Sling 8mm x 240cm	ITW Nexus GrimLOC	Maillon Quick Link	Phantom Screwgate	Phantom HMS	BOA Screwgate	Gear Tool Holster Gear Tool Holster	Tactical Climbing Gear Sling Set	WTFix Attachment Straps	Dragon Cam V2 Sizes 00-6	HB Alloy Offset Set sizes 7-11	Nutbuster	Peenut Set sizes 1-5	Torque Nut Set sizes 1-4	Wallnut Set sizes 1-11	XSRE
CTOMS Red Kit			✓	✓	✓ x2			✓		✓		✓ x2		✓	✓	✓	✓ x2	✓	✓	✓	✓ x3	✓ x2	✓	✓ x2	✓	✓	✓	✓	✓	✓	✓ x2	✓ x4	✓											
CTOMS Grey Kit	✓								✓	✓			✓									✓	✓	✓ x2				✓				✓ x2												
CTOMS Grey Kit Pro	✓				✓				✓	✓		✓					✓				✓	✓	✓	✓ x2	✓			✓ x2				✓ x2												
CTOMS Green Kit				✓ x2	✓ x36	✓																		✓ x2		✓ x6	✓ x2		✓ x2			✓ x2			✓ x2	✓	✓ x2	✓	✓	✓ x2	✓	✓	✓	✓ x2
CTOMS Grey K9 Kit	✓				✓				✓	✓		✓					✓		✓		✓ x2	✓	✓	✓ x2	✓			✓ x2				✓ x2												
CTOMS Purple Kit	✓								✓										✓		✓ x2	✓		-✓ x2																				
CTOMS Black Kit	✓ x7	✓					✓ x2				✓			✓	✓			✓	✓		✓ x2	✓	✓	✓ x2				✓ x2				✓ x4	✓											
CTOMS Emeald Kit	✓							✓*		✓												✓		✓ x2								✓		✓										

Connect With Us

HELIX

Keep updated with Helix operations across platforms such as helixoperations.com, Tactical and Rescue Instagram accounts as well as LinkedIn. We share exciting information regarding products we manufacture ourselves as well as key products from brands we work with.

Stay informed with key innovations across all product ranges in the tactial and rescue field as well as new courses.

Our website lists our entire range, including any certifications, technical specifications, and variations of products. You can also find information regarding courses and training, including our accreditation.

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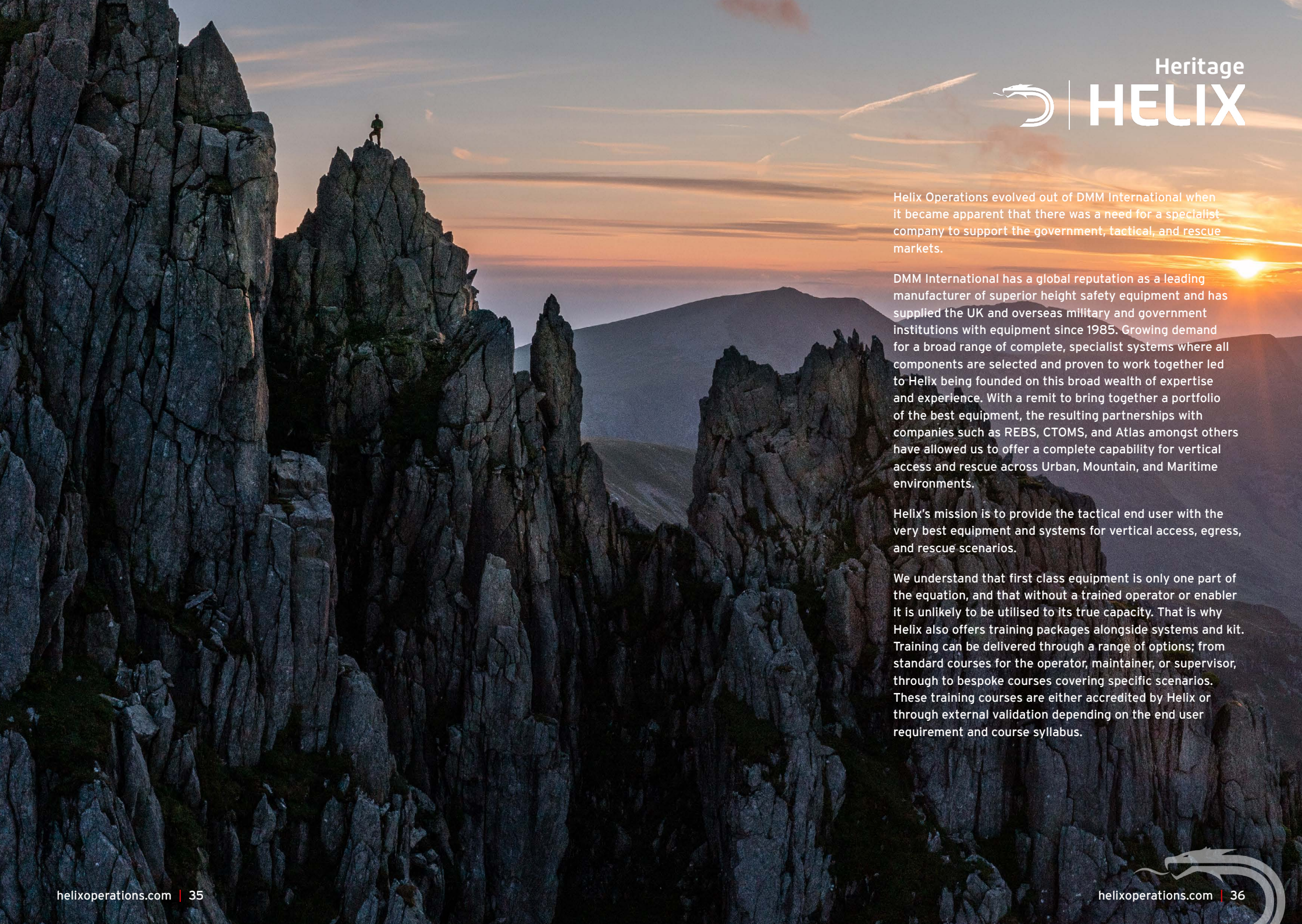

Heritage

Helix Operations evolved out of DMM International when it became apparent that there was a need for a specialist company to support the government, tactical, and rescue markets.

DMM International has a global reputation as a leading manufacturer of superior height safety equipment and has supplied the UK and overseas military and government institutions with equipment since 1985. Growing demand for a broad range of complete, specialist systems where all components are selected and proven to work together led to Helix being founded on this broad wealth of expertise and experience. With a remit to bring together a portfolio of the best equipment, the resulting partnerships with companies such as REBS, CTOMS, and Atlas amongst others have allowed us to offer a complete capability for vertical access and rescue across Urban, Mountain, and Maritime environments.

Helix's mission is to provide the tactical end user with the very best equipment and systems for vertical access, egress, and rescue scenarios.

We understand that first class equipment is only one part of the equation, and that without a trained operator or enabler it is unlikely to be utilised to its true capacity. That is why Helix also offers training packages alongside systems and kit. Training can be delivered through a range of options; from standard courses for the operator, maintainer, or supervisor, through to bespoke courses covering specific scenarios. These training courses are either accredited by Helix or through external validation depending on the end user requirement and course syllabus.

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