

The image features a dramatic, stormy background with dark, heavy clouds and several bright, jagged lightning bolts striking across the scene. The overall color palette is a mix of dark greys, blues, and whites from the lightning. In the center, the brand name 'LITRIC' is prominently displayed in a large, bold, black, italicized sans-serif font. To the left of the text is a stylized logo consisting of a thick black square frame. Inside the frame, on the right side, is a circle containing a stylized black lightning bolt symbol. The lightning bolt symbol is composed of two thick, parallel lines that meet at a point, forming a jagged shape.

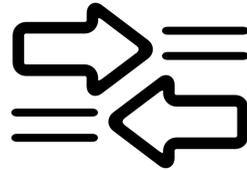
LITRIC

MADE IN
GERMANY

collaboration



ARC'TERYX



ORTOVOXX



1. SAFETY

- avalanche airbags are recommended by experts worldwide
- purpose to actively minimize the risk of a full burial in the event of an avalanche
- inverse segregation - “brazil nut effect” - when the largest particles end up on the surface of a granular material containing a mixture of variously sized objects...

➤ survey by Pascal Haegeli – 2014

...of 100 people caught in avalanche / minimum size 2 / not wearing an airbag backpack

➤ 22 did not survive

...of 100 people caught in avalanche / minimum size 2 / wearing an airbag backpack

➤ 11 did not survive

➤ airbag systems likely double your survival chances!

➤ EN 16716

- european airbag norm
- requirements are challenging...
- basic airbag function of all sold products is highly reliable

➤ inflation technology does make a difference!

- mechanical systems
- electronic systems

- mechanical systems
 - compressed gas cartridge
 - venturi effect
 - limited to one inflation /cartridge



➤ electronic systems

- electric fan
- 100% ambient air
- multiple inflations possible



- remote terrain
- you pull the trigger
- after 20 min...
- another inflation is possible



➤ accidental inflation

➤ real training

non inflated airbags are the biggest limiting factor of airbag systems
20% of all airbags surveyed were not inflated, because of...

- destruction by the avalanche
- user or product failures (cartridge installation...)
- and > 60% were just not triggered

➤ conclusion: all airbag systems are reliable in the basic airbag function - still only electronic systems provide the extra safety margin of the multiple inflations option



- interference with beacons?
- specifications in hardware and software considered to not interfere with beacons from the start of the development
- no influences – no need to turn off the system in search

2. USABILITY



the best system & pack does

➤ ...not cause any trouble ...not cause extra work

LITRIC

features...

➤ the system box

- powerful blower with an axial diffuser moves air into a 150L balloon within < 4 seconds
- compact size
- low complexity - one ON/OFF button and USB-c port



➤ the energy supply

- state of the art with...
- 9 supercapacitors and
- small integrated lithium-ion battery
- easiest charging with USB-c port (down to -20°)



- a supercapacitor system...
- lightweight
- same performance profile at cold temperatures
- providing energy superfast
- we want backup energy for secondary inflations...



➤ lithium-ion battery advantages

- no extra purchase required
- no batteries, no cartridge... nothing!
- fast recharge time (~ 20 – 25 min) for second inflation
- developed for extreme cold conditions
- developed for full lifetime



- inflation energy in supercapacitors
- reloading energy in li-ion battery

- USB-c reloads supercapacitors and li-ion battery



➤ the LED status signals



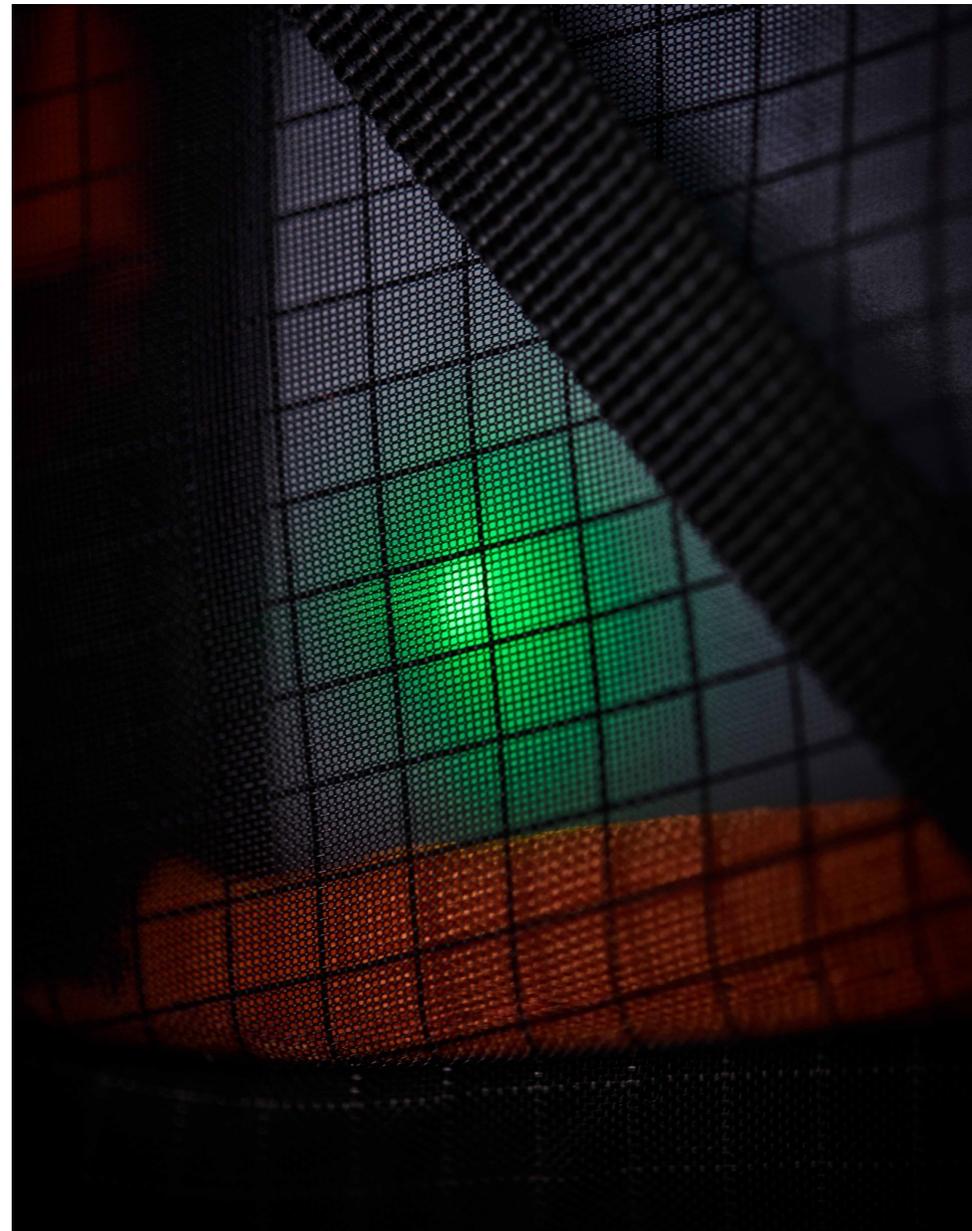
➤ ready for min 2 inflations (for
~ 60h / ~30d in OFF)



➤ ready to inflate (for min 8h)
reload!



➤ reload!



- the travel solution
- no restrictions on a plane
- supercapacitors are passive elements
- li-ion battery: 7,4Wh energy content



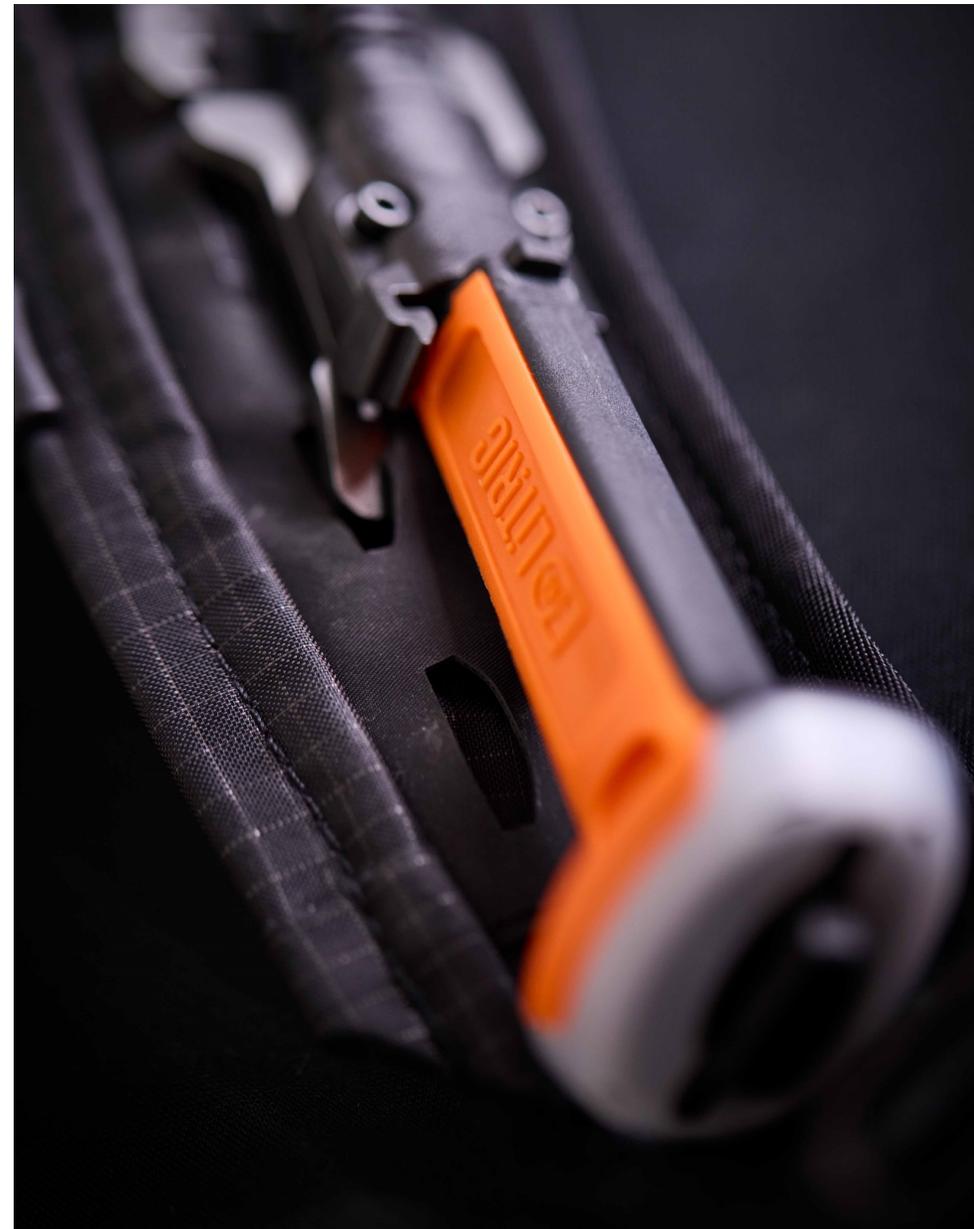
- passengers are allowed to hand-carry up to 15 items with $< 100\text{Wh}$ each for their personal use

➤ the trigger

- rotate 180° to locked position
- 3D rotating to lower profile
- easy one-handed use

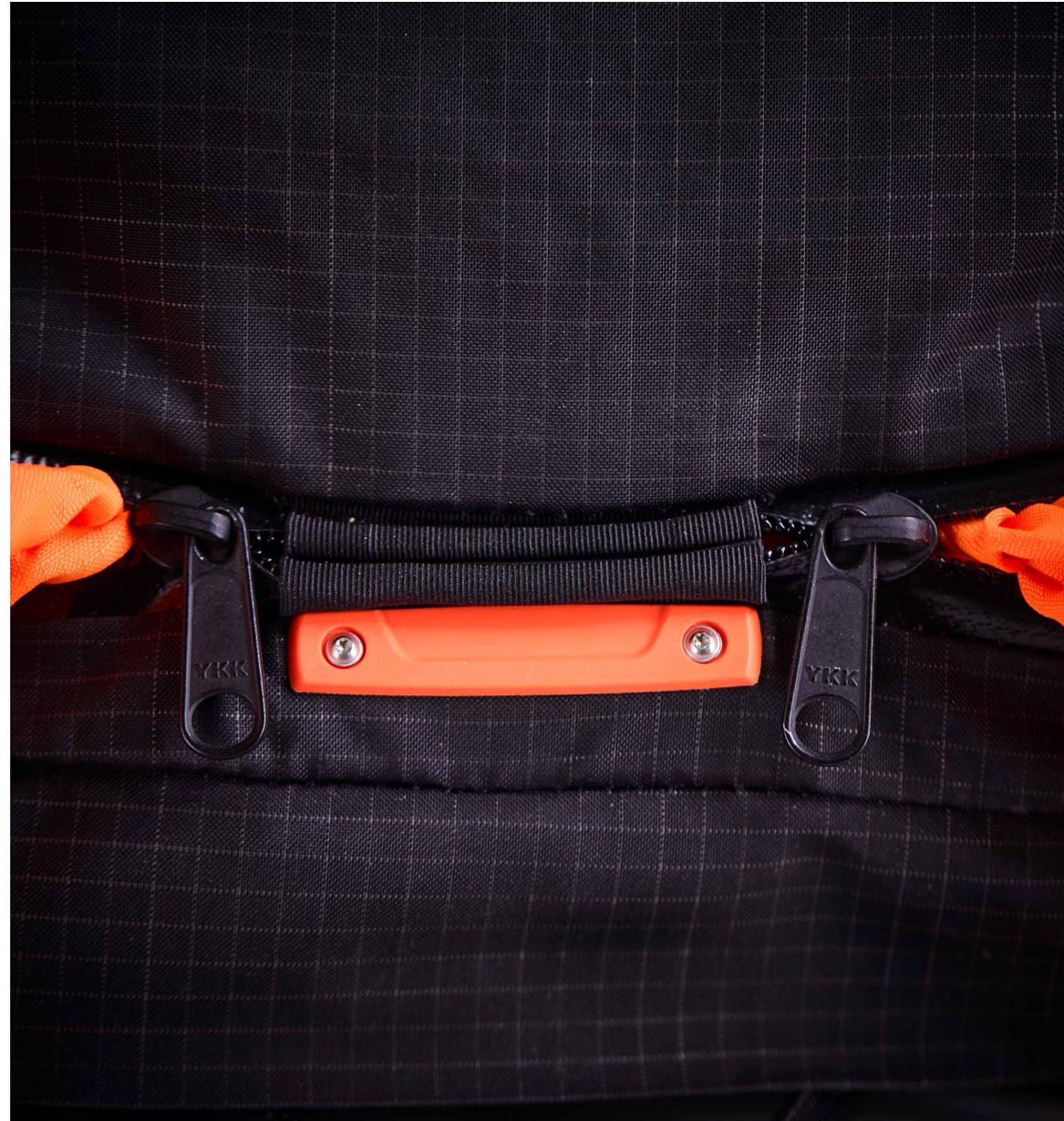
super fast!

increased safety!



➤ the compartment

- mechanical latch secures the airbag compartment against false openings
- secondary safeguard that prevents the system from accidental inflations



➤ the airbag

- double-wall balloon technology
- reduced weight
- increased tear strength
- super-easy repacking



➤ the airbag packing

- hands-free deflation with little tool
- no need for complex folding
- just stuff and go



➤ the leg-loop

- one-handed leg-loop carabiner
- fast, easy, and secure
- custom carabiner developed for use with gloves



➤ the carrying system

- complies with demanding requirements and pulling tests of the airbag norm
- superior usability



➤ conclusion on usability

- state of the art energy management
- superfast trigger locking
- easiest re-packing
- a convenient carrying system

- ...make this product easier to use and safer



3. WEIGHT

- lightest electronic system on the market
- one of the lightest systems including mechanical systems

		total weight - g	system - g	cartridge - g	battery - g	technology
1	XXX mechanical	1000	680	320		mechanical / cartridge
2	XXX mechanical	1010	700	310		mechanical / cartridge
3	ORTOVOX / ARC'TERYX LiTRIC	1100	1100			electronic
4	XXX mechanical	1130	690	440		mechanical / cartridge
5	XXX mechanical	1170	680	490		mechanical / cartridge
6	XXX electronical	1190	1140		50	electronic
7	XXX mechanical	1230	920	310		mechanical / cartridge
8	XXX mechanical	1256	662	594		mechanical / cartridge
9	XXX electronical	1330	1280		50	electronic
10	XXX electronical	~1500	1500			electronic
11	XXX mechanical	1580	1300	280		mechanical / cartridge
12	XXX electronical	~2000	1210		790	electronic
13	XXX mechanical	2110	1830	280		mechanical / cartridge

LITRIC

and finally...

MADE IN BAVARIA!

production of airbag

production of electronics, tests & assembly

production of mechanical parts & housing



LITRIC

the backpacks...

SKITOURING SETUP

AVABAG LITRIC TOUR 40

AVABAG LITRIC TOUR 36S

AVABAG LITRIC TOUR 30

AVABAG LITRIC TOUR 28S

light – functional - variable



➤ ZIP technology

➤ base with LiTRIC system

➤ exchangeable ZIP-packs

➤ customize your LiTRIC



The image features a dramatic, stormy background with dark, heavy clouds and several bright, jagged lightning bolts striking across the scene. The overall color palette is a mix of dark greys, blues, and whites from the lightning. Centered in the frame is the brand name 'Litric' in a bold, black, sans-serif font. The 'L' is particularly large and stylized, with a thick stroke. To the right of the 'L', the word 'ITRIC' is written in a smaller, all-caps font. The 'i' is lowercase and has a dot, while the 'T' has a horizontal bar. The 'R' and 'I' are also in all caps, and the 'C' is a simple, rounded shape. The entire logo and text are set against the dynamic, high-contrast background of the storm.

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