



# ICAR Congress 2017

## Rescue techniques in big walls

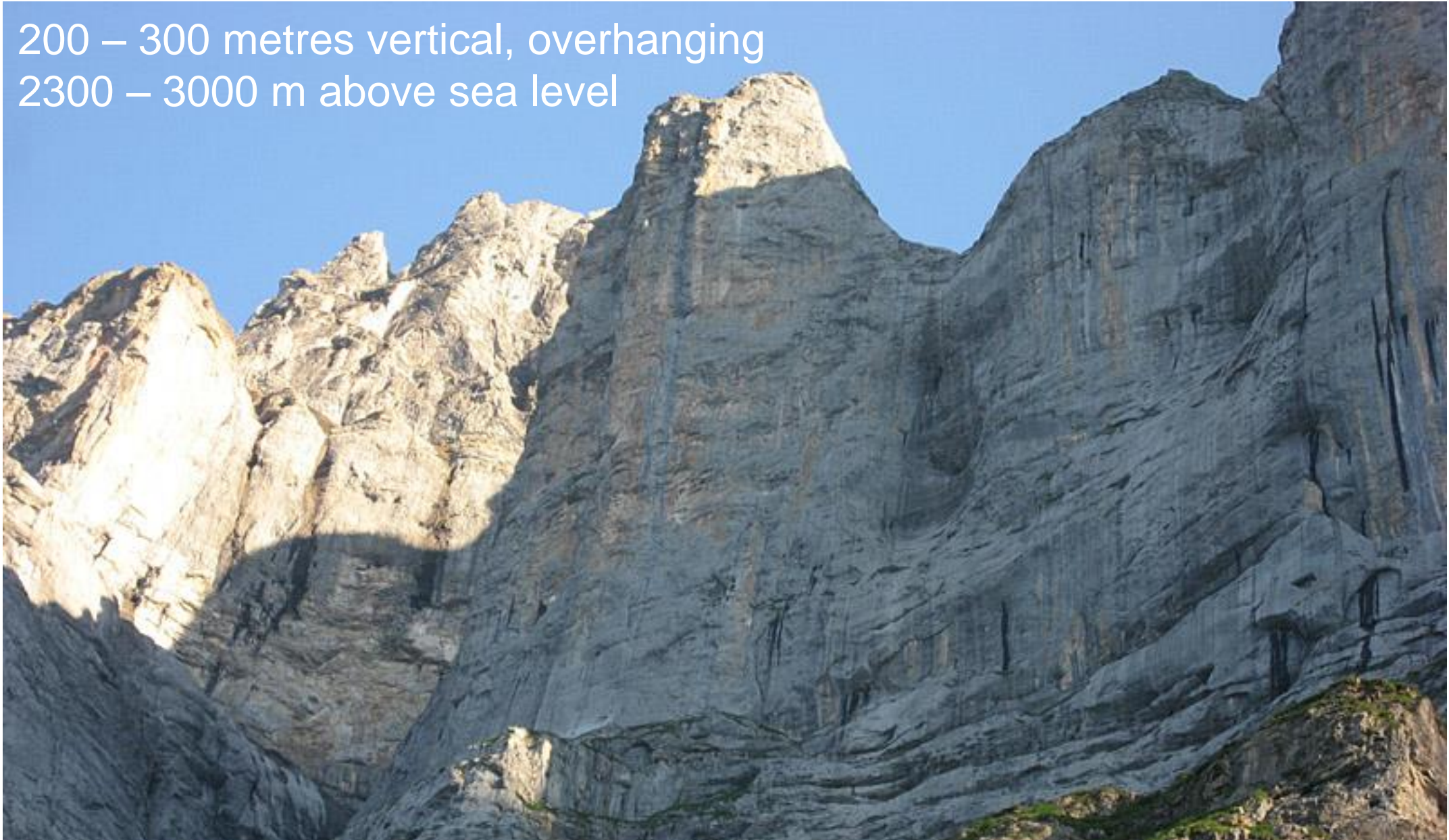


## Theo Maurer

- Head of Training  
Swiss Alpine Rescue
- Mountain guide

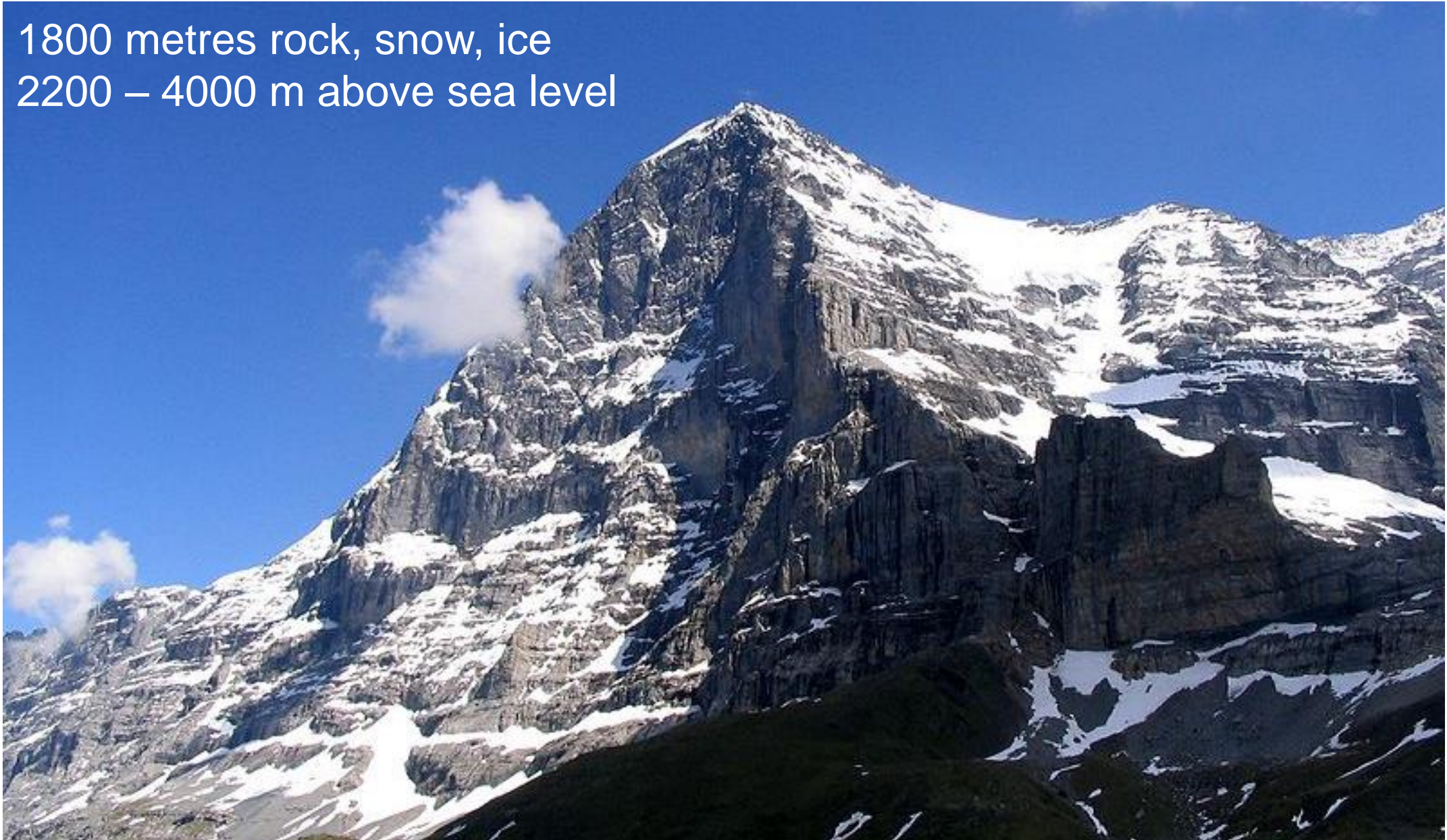
# Wendenstöcke

200 – 300 metres vertical, overhanging  
2300 – 3000 m above sea level



# Eiger - North Face

1800 metres rock, snow, ice  
2200 – 4000 m above sea level



# Which resources are used

Primarily helicopters are used



## Resources / Techniques

**Helicopter with a rescue winch**  
(winch rope up to 85 metres long)

**Helicopter with a longline on a central hook**  
(rope length up to 230 metres)

**Purely terrestrial** (not used in big walls)

**Combined rescue** (helicopter and terrestrial)



# 1. Helicopter with a rescue winch

Winch rope up to 85 metres long

Pilot

Paramedic (operates winch)

Technical Specialist Helicopter  
(mountain guide)

Doctor (intermediate landing site)



## Eiger - North Face

18 December 2016, 18:00

1 climber injured

Exit chimneys 3650 m above  
sea level

Night

Decision:

Helicopter with a rescue winch





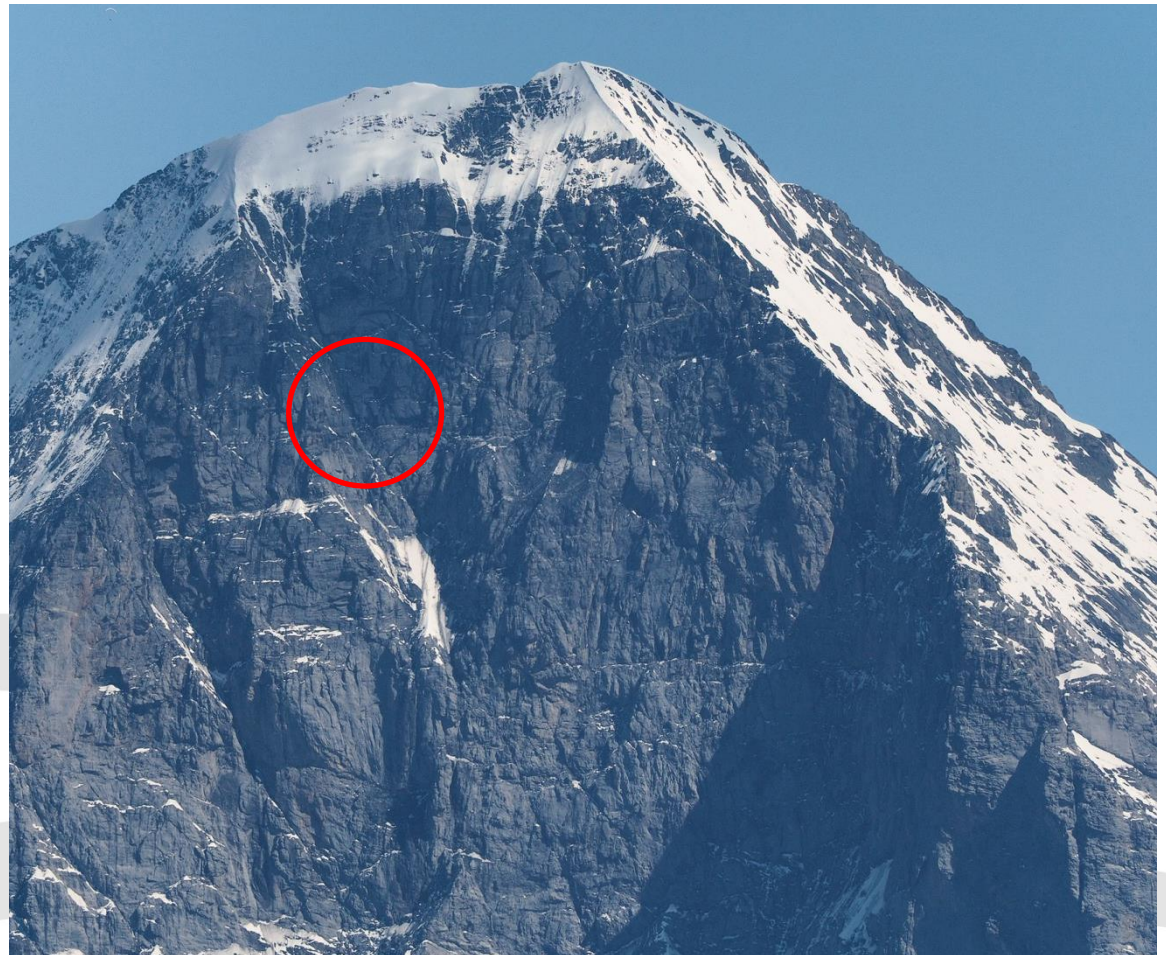
## Eiger - North Face

18 December 2016

19:15 Start of mission

19:45 Mountain guide put down  
by patient

20:15 Patient rescued



## Eiger - North Face

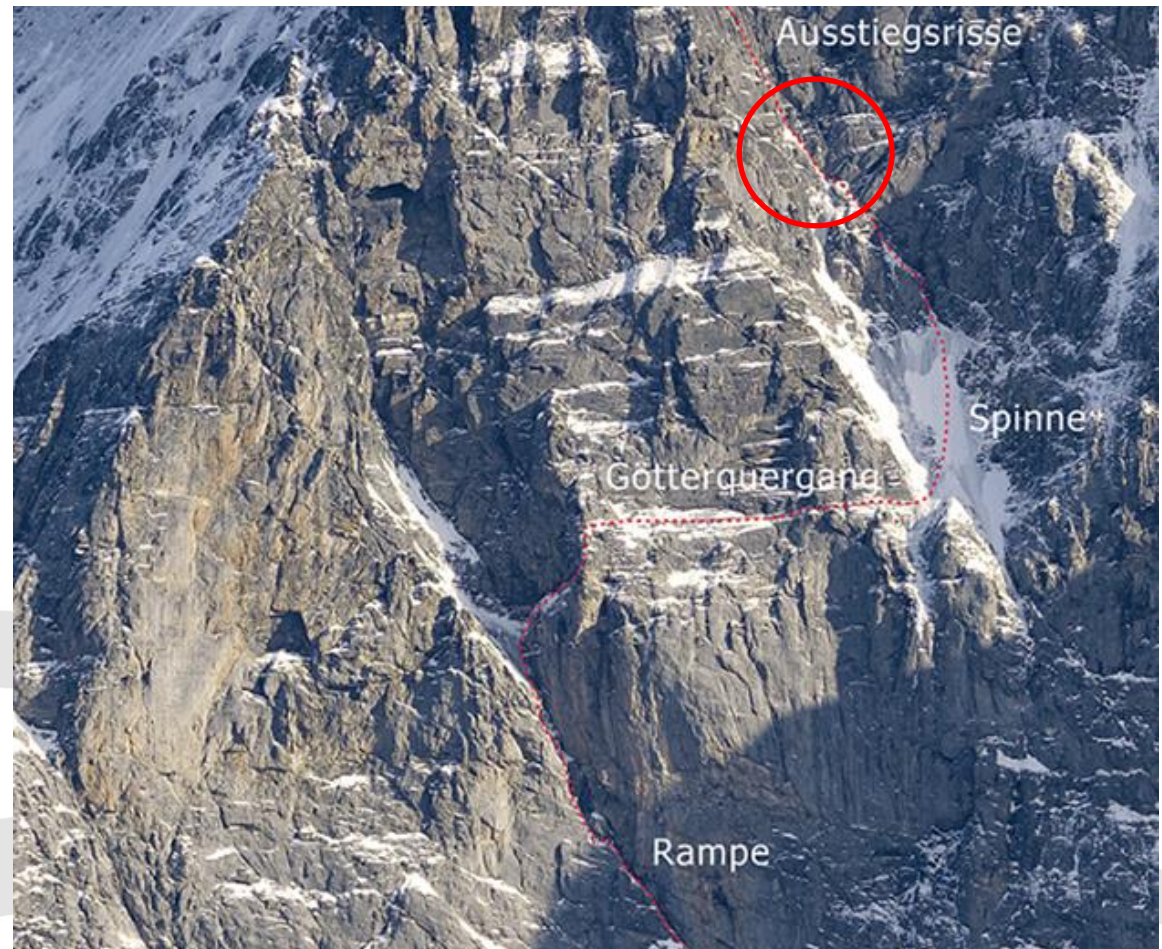
18 December 2016

20:30 Slight mist

Wait 15 minutes

20:45 Start second trip

21:15 Second climber and  
mountain guide rescued



## Conditions for a rescue of this type

**Training** for the helicopter crew, realistic and in the simulator

### Latest technology

High-performance helicopter  
with a winch

1. Night vision goggles (NVG)
2. Fixed landing light
3. Integral searchlight
4. Big searchlight
5. Landing light 30° to the left
6. Winch spotlight



## 2. Helicopter with a longline on a central hook

(rope up to 230 metres long)

Pilot

Paramedic (supports the pilot)

2-3 Technical Specialists Helicopter  
(mountain guides)

Doctor (intermediate landing site)





Rega 1414

1414

HB-ZR





# Lauterbrunnen base jumper

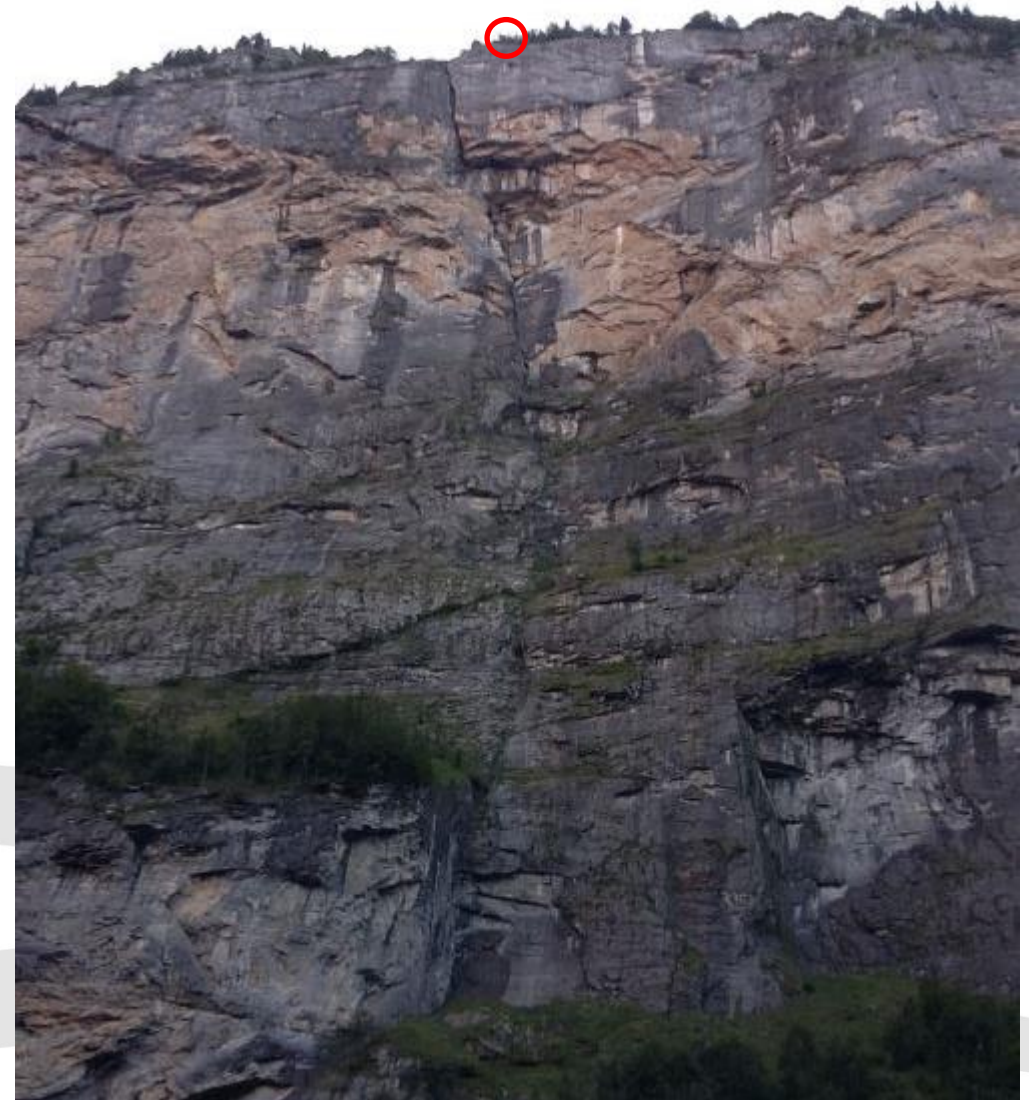




# Lauterbrunnen base jumper

7 August 2016 Mürrenfluh

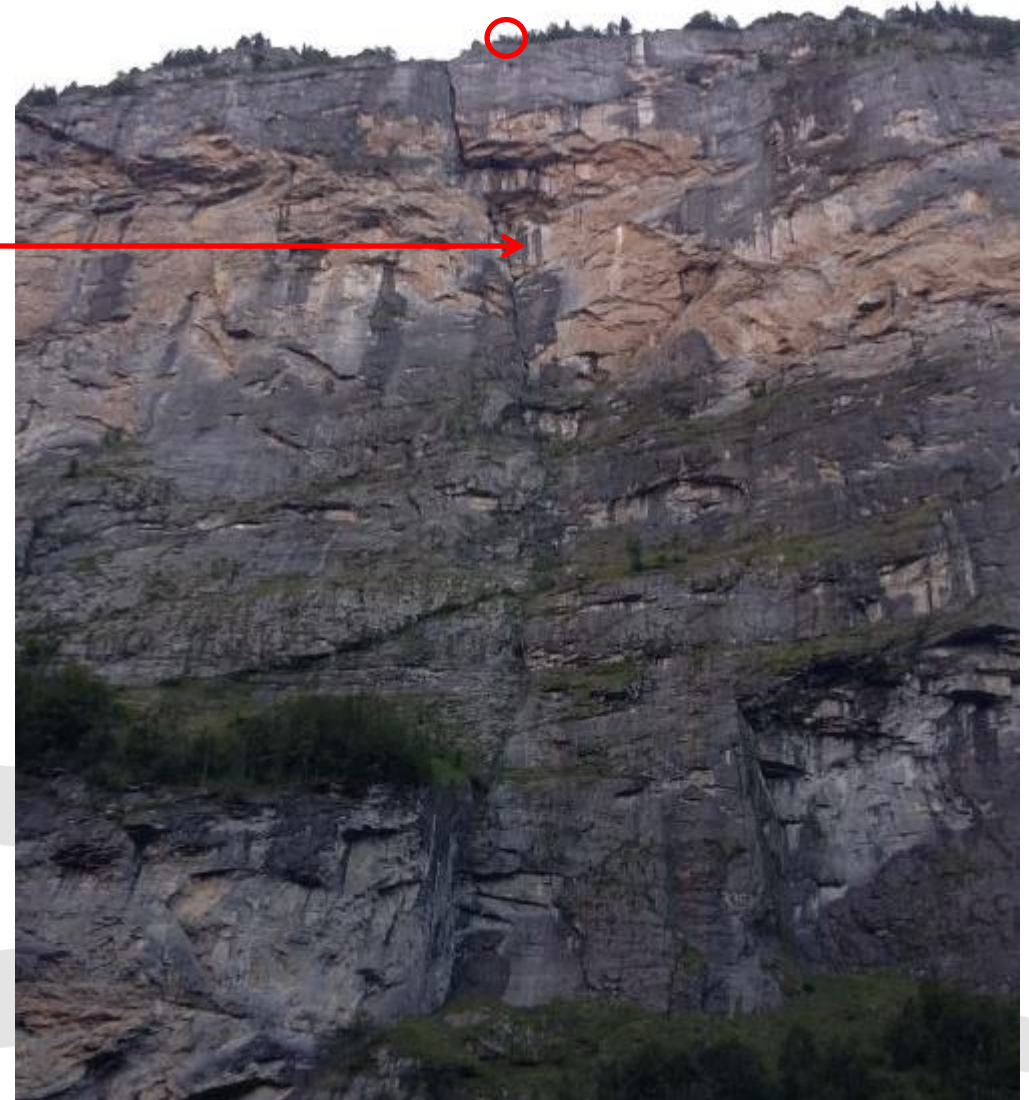
19:25 Base jumper crashes



## Lauterbrunnen base jumper

7 August 2016 Mürrenfluh

19:25 Base jumper crashes



## Lauterbrunnen base jumper

7 August 2016 Mürrenfluh

19:25 Base jumper crashes

19:40 Reconnaissance flight with  
helicopter

Base jumper alive

Overhang 25 metres

20:10 First attempt at a direct  
rescue with a longline



# Lauterbrunnen base jumper

7 August 2016 Mürrenfluh

20:30 Evaluation of the situation

Decision:

To put down 2 mountain guides in the wall with a longline

Abseil terrestrially beneath the overhang

Rescue with a longline



# Lauterbrunnen base jumper

7/8 August 2016 Mürrenfluh

20:45 Start of mission

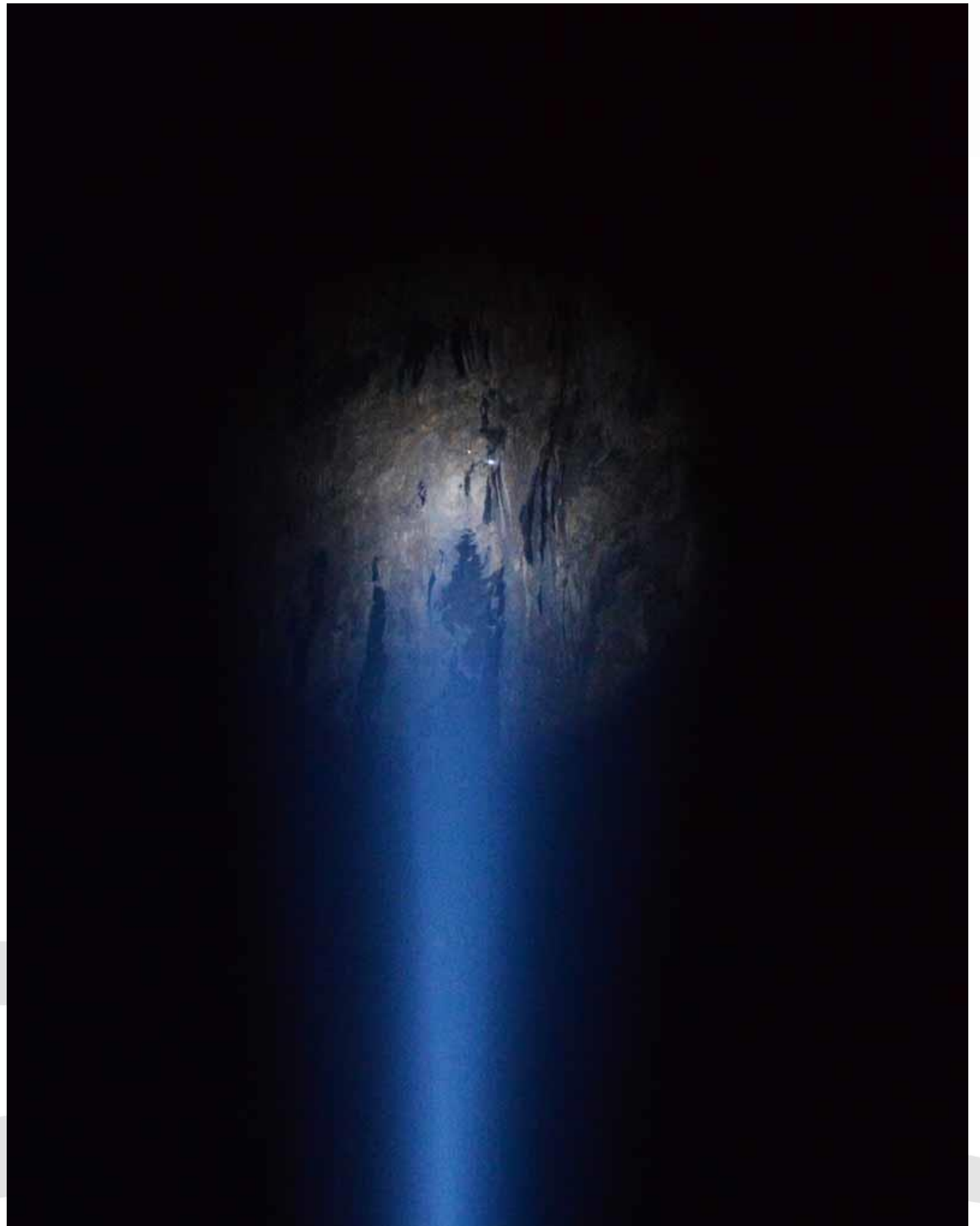
2 mountain guides put on wall via a longline

Terrestrial to beneath the overhang

Advance with bolts in the dark

03:30 Mountain guides reach patient

Await daylight



# Lauterbrunnen base jumper

8 August 2016 Mürrenfluh

06:15 Daylight

Abseil patient

07:15 Rescue with a longline

07:45 End of mission



# Lauterbrunnen base jumper



**Thank you**

