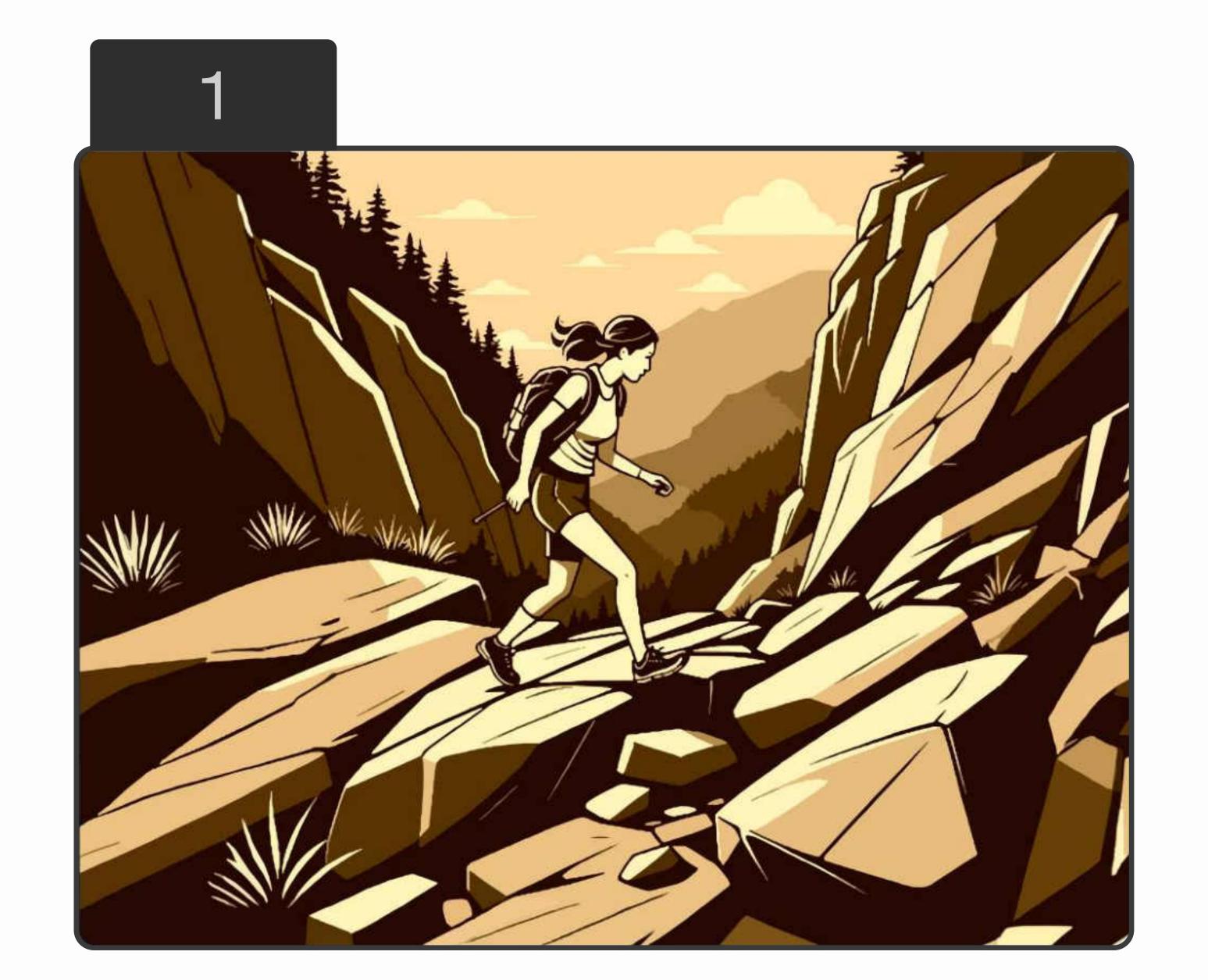
# Start-the-Breathe: Using Drones to Deliver Immediate Care At-the-Scene for Respiratory Distress in Remote Settings



The idea of drones for point-of-care testing and treatment holds promise for transforming how emergencies, such as treatment of pneumonia or wilderness first aid, are managed.



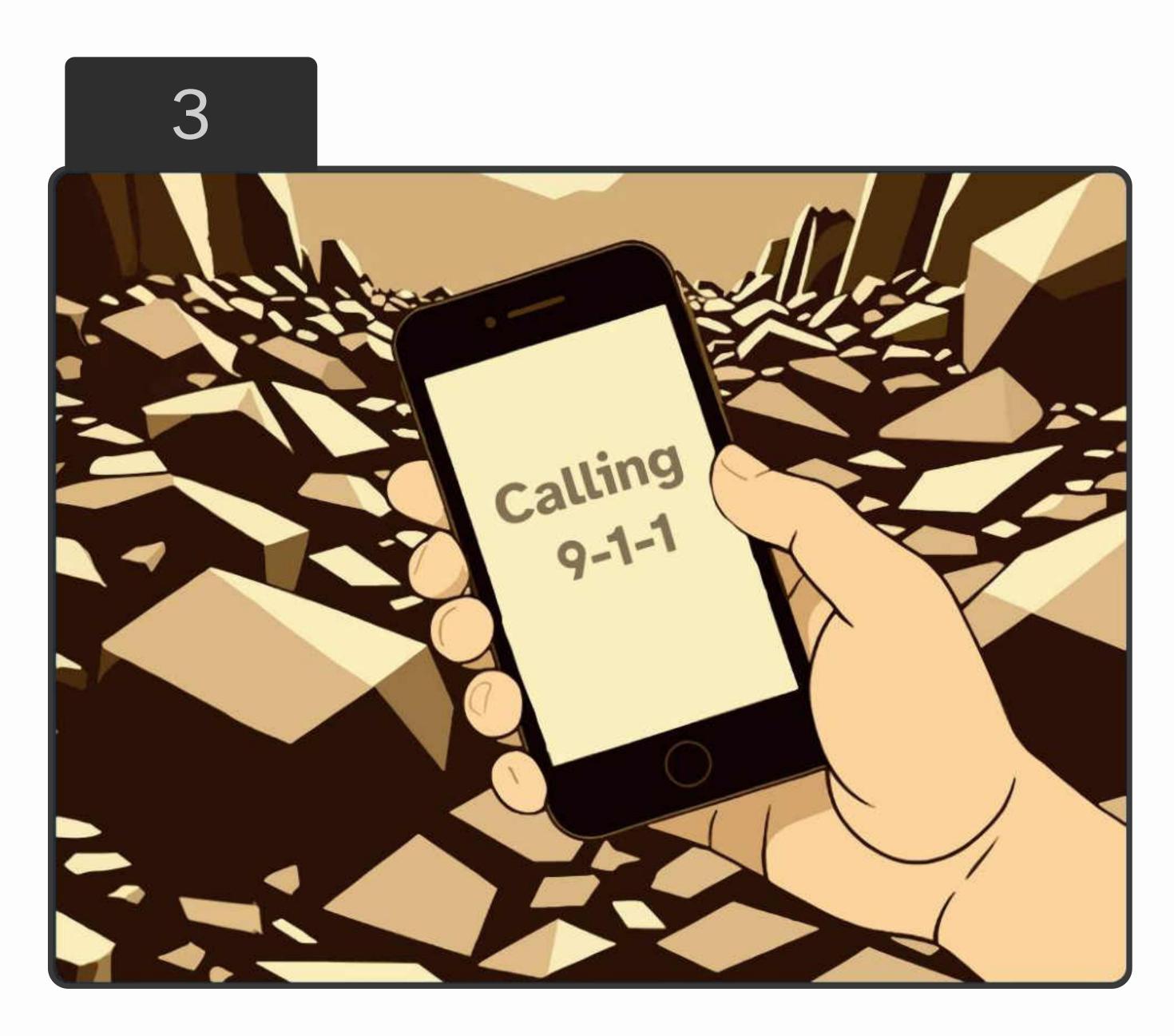
#### Meet Lily

Lily, a 35-year-old hiker, loves exploring rugged and remote trails solo. She is well-prepared for any situation with a survival kit.



## Serious Accident

Halfway into her hike, she slips and falls, seriously injuring her chest. Lily felt a sharp pain during the fall and has trouble breathing.



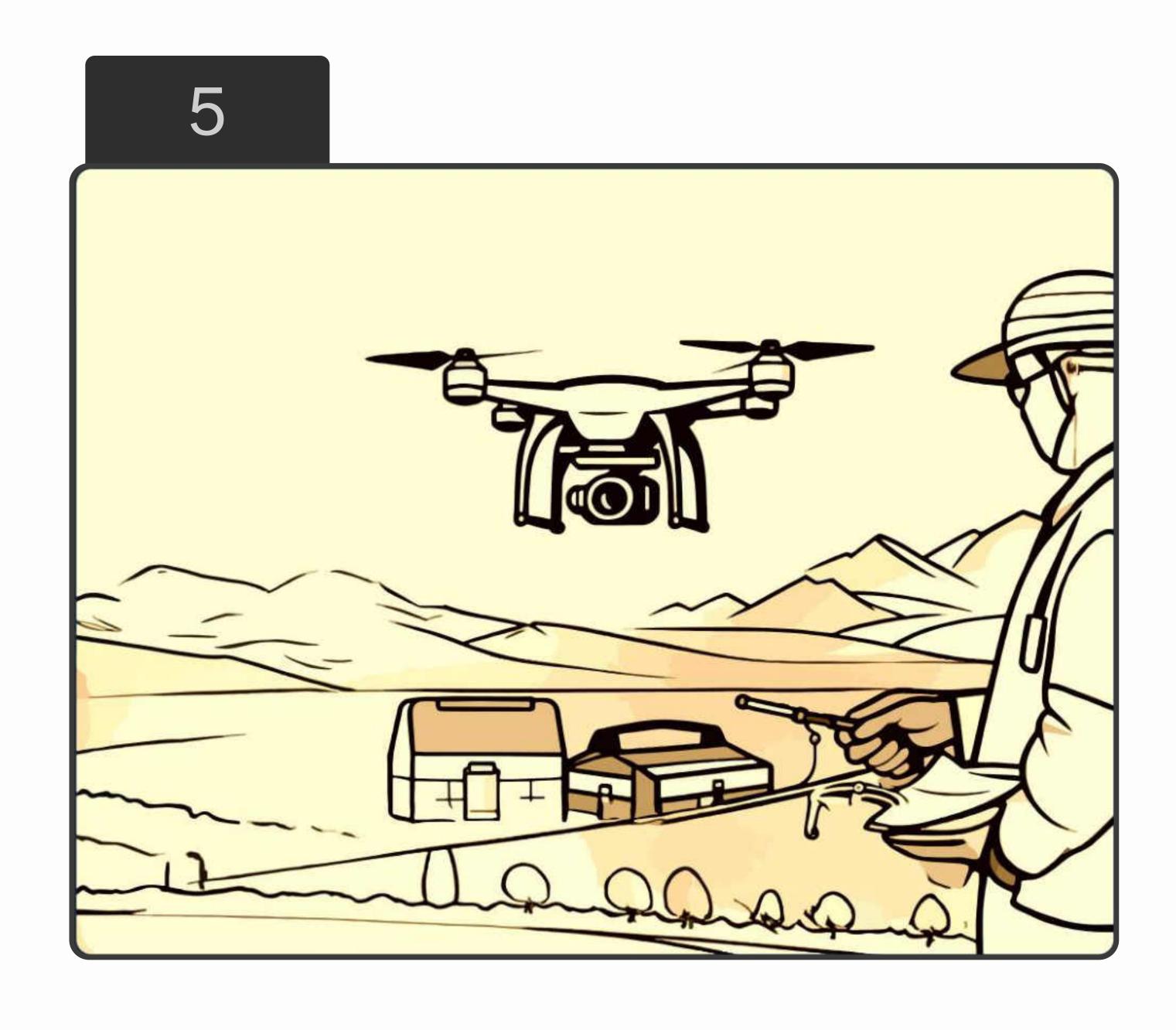
## Calling for Help

Lily reaches for her cell phone and dials 9-1-1. She describes her symptoms to the dispatcher who suspects Lily has a collapsed lung.



## A Race Against Time

A collapsed lung can become life-threatening within a matter of minutes to hours. Considering that Lily is in a remote area, the dispatcher knows it may take hours for the rescue team to reach her.



#### Drone Dispatched

The dispatcher sends a request for a drone. An emergency team prepares the Start the Breathe emergency kit products for deployment. The drone is sent out within minutes.



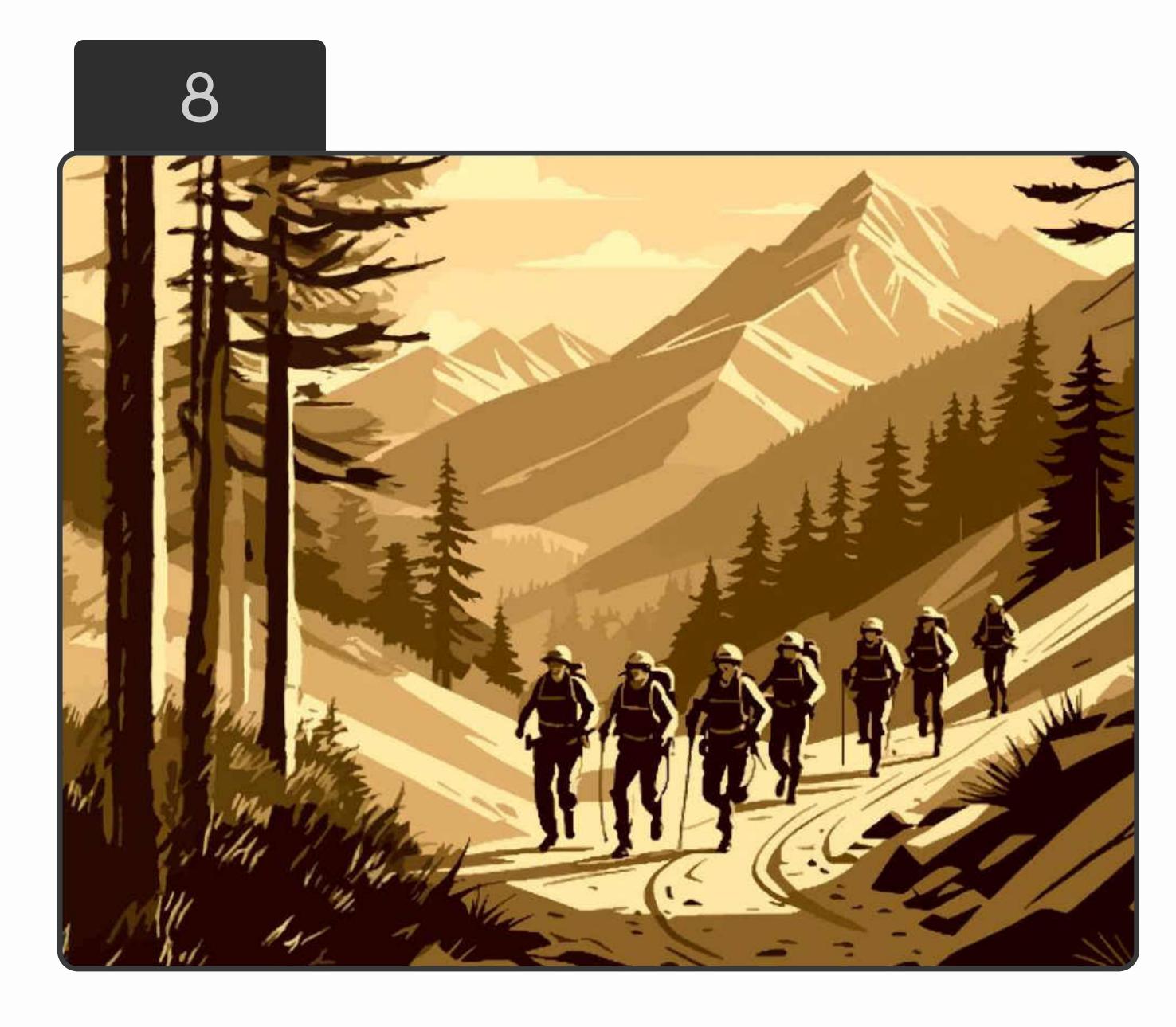
#### Drone Arrives

The drone locates Lily's location and arrives quickly with the Start the Breathe kit. Within the Kit is a mobile phone with video conferencing abilities. Lily is connected with a remote doctor immediately.



#### Using the Kit

Through video conferencing, the doctor guides Lily on how to use Start the Breathe to selfassess, diagnose, and if absolutely necessary self-manage her injury to save her own life.



## Condition Stabilized

Lily stabilizes her breathing just as the rescue team arrives. She is grateful to have had this resource that got to her quickly.

#### PROJECT BACKGROUND







IMPLEMENTATION & INTEGRATION

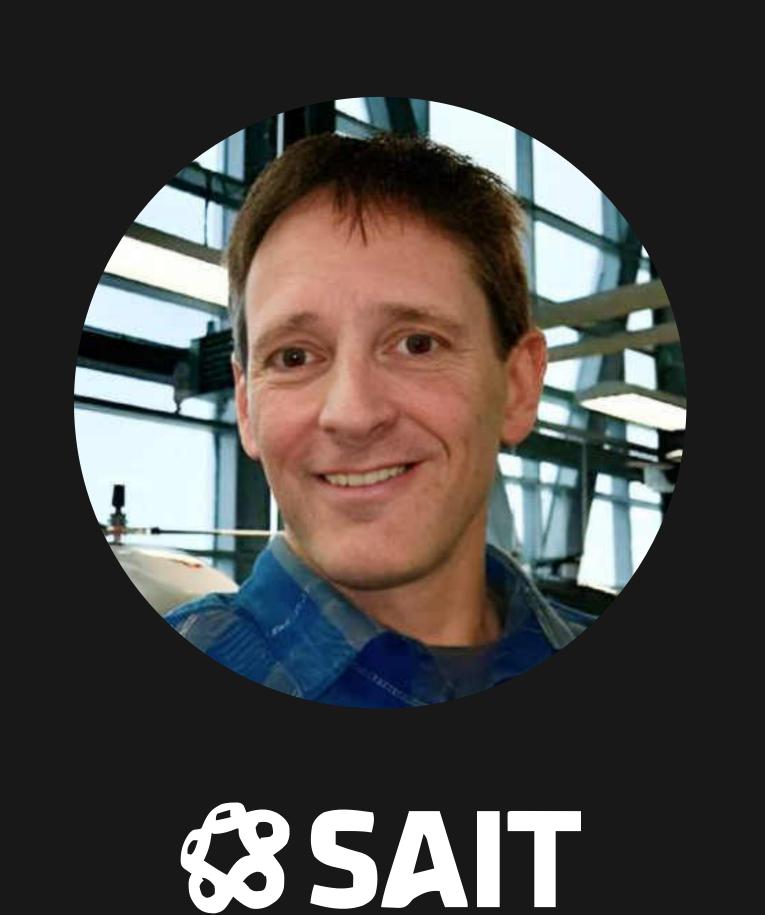
Access to immediate medical care is challenging for those injured in remote or high-risk areas, such as Indigenous communities, hiking paths, or during wildfires.

Delays faced by firefighters and EMS responders can lead to critical time loss and increased fatality risks. Limited telemedicine networks and the inability to monitor vital

symptoms like blood pressure and oxygen levels further strain emergency response efforts.

The Start-the-Breathe project utilizes drone technology to deliver kits with medical supplies in inaccessible areas, where emergency responders can't reach easily or quickly.

#### PROJECT CONTRIBUTORS



#### Co-Lead

WADE HAWKINS

"Drones and Dynamite! In 2010, my first question to Transport Canada was whether we could use drones and dynamite. Since then, I have been combining my passion for backcountry skiing and emergency response by exploring the integration of drones into avalanche control activities and search-and-rescue operations."



#### ANDY KIRKPATRICK

Co-Lead

"I have a multi-engine pilots license with over 700 hours flying, and am getting kicked out of the Army (regular first then reserve) after 39 years for knee problems as a 3B medical release - but I'm Canadian, so I can still skate even if I can't walk."

andrew.kirkpatrick@alberta healthservices.ca

wade.hawkins@sait.ca