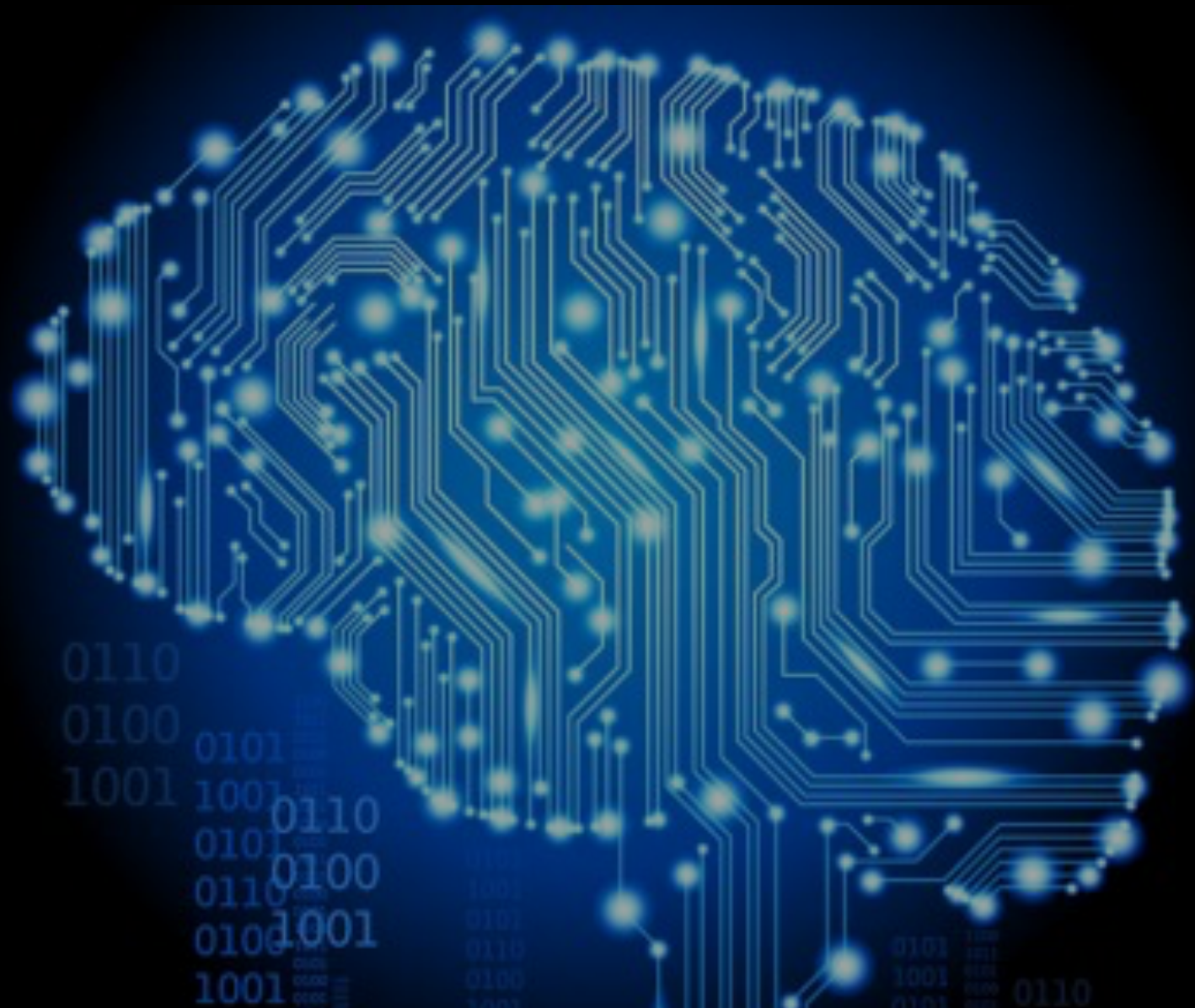
Hacking the Human Element II Challenge Brief



We’re glad you’re here.

- We spoke with a Command Master Chief, current and former MARSOC, NSW, Ranger, and Pilot operators, Telemedicine and ParaRescue Experts, High-Tech Wearable Entrepreneurs and many more
- We synthesized what we we heard, to convey the themes that came up repeatedly and stood out the most - 4 insight areas of focus
- Utilize this information to inform what you solve

1 | telemedicine

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"My hands need to be free to cut that guy or gal open and stick my hands inside them and clamp off that bleed"

"your pulse may be 60, someone else's may be 80, but at 40 you may be going down hill or not but we don't have the baseline data…"

"I don't have time to jot anything on a piece of paper in life and death scenarios. I need to know how fast this guy is fading and how soon I need to get him out of there to save his life."

"Most doctors don't really grasp that they can see more patients by utilizing telemedicine, they view it more as consulting than medicine. This is because of the trust factor and licensing concerns."

I need a way to:

Record and and refer to patient information without taking my eyes and hands away from my patients

Prioritize which patients to treat first, right after a traumatic incident

Provide the best customized care for patients I've never treated while in an austere environment

Exchange information with others across the globe to raise my game as a medical provider, and improve overall care


1 | telemedicine
What might you create for a medic so she’s never caught off guard, again?

2 | mind, body, spirit

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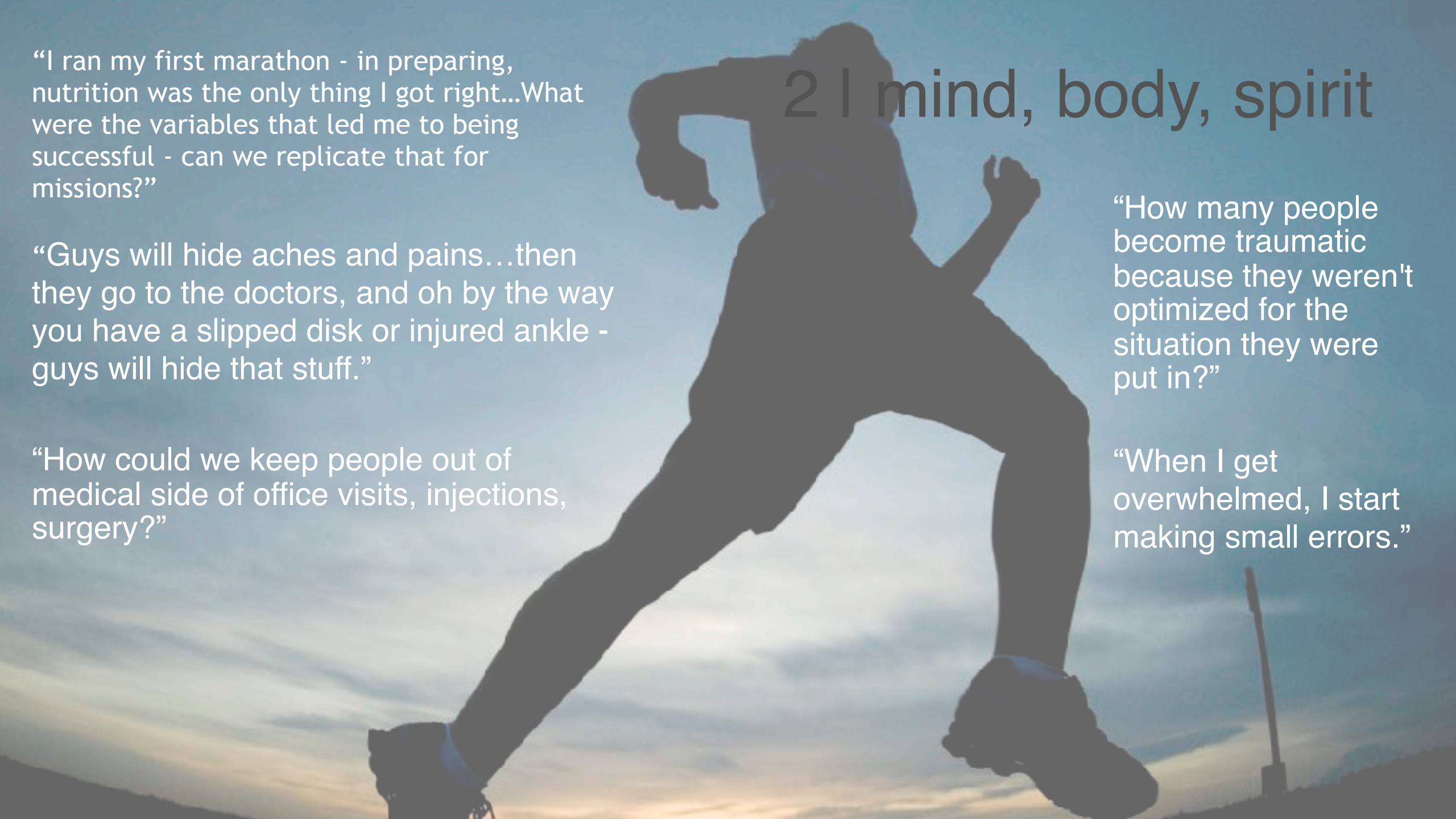

"I ran my first marathon - in preparing, nutrition was the only thing I got right...What were the variables that led me to being successful - can we replicate that for missions?"

"Guys will hide aches and pains…then they go to the doctors, and oh by the way you have a slipped disk or injured ankle - guys will hide that stuff."

"How could we keep people out of medical side of office visits, injections, surgery?"

"How many people become traumatic because they weren't optimized for the situation they were put in?"

"When I get overwhelmed, I start making small errors."

I need a way to:

Improve my decision making ability under stress

Know when I'm likely to injure myself, become dehydrated, or become stressed before it happens - because I tend to ignore the warning sign

Understand when my team is vulnerable to injury, trauma or stress - so I can make better decisions around who's assigned to what

Quantify the link between performance optimization and mission success/ sustainability of the job

2 | mind, body, spirit

What might you create that helps people perform well even under extreme duress?

3 | next-level feedback

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“I wish there was some way to hack in to neural capability…I need to make the best decision possible in the shortest amount of time”

"One of the greatest challenges on missions is where you might mis-estimate the weather. It always boils down to weather- its extremity and how that gathers over a mission.”

“There could be mold, chemical agents, even a deadly virus in the air…..we didn’t wear masks because we just didn’t think about it”

"We thought we could get across a river in our Humvee - ended up getting stuck - had to create a rope bridge/safety line from our clothing to safely escape the river. Should have walked it first to find out if there was a better route.”

I need a way to:

Know new terrain or unfamiliar environmental factors, so that I can prepare myself and my teams for critical missions

Detect environmental risks which are often invisible but can be deadly

Amplify my cognitive abilities in order to make the best decision possible under stress

3 | next-level feedback

What can you create for humans in extreme in environments that helps them detect, prevent, or minimize risk?

4 I connected communication

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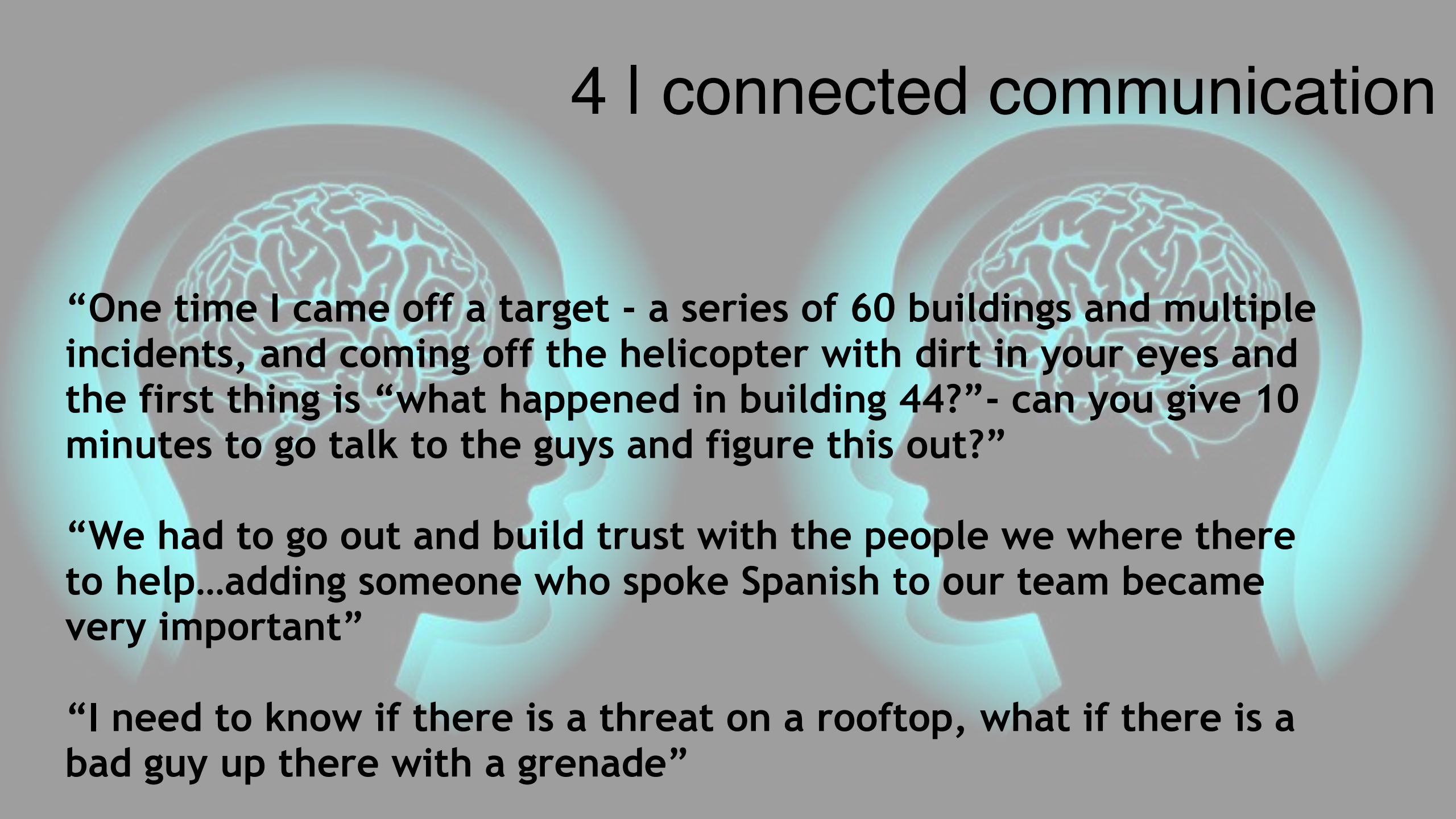


“One time I came off a target - a series of 60 buildings and multiple incidents, and coming off the helicopter with dirt in your eyes and the first thing is “what happened in building 44?”- can you give 10 minutes to go talk to the guys and figure this out?”

“We had to go out and build trust with the people we where there to help…adding someone who spoke Spanish to our team became very important”

“I need to know if there is a threat on a rooftop, what if there is a bad guy up there with a grenade”

I need a way to:

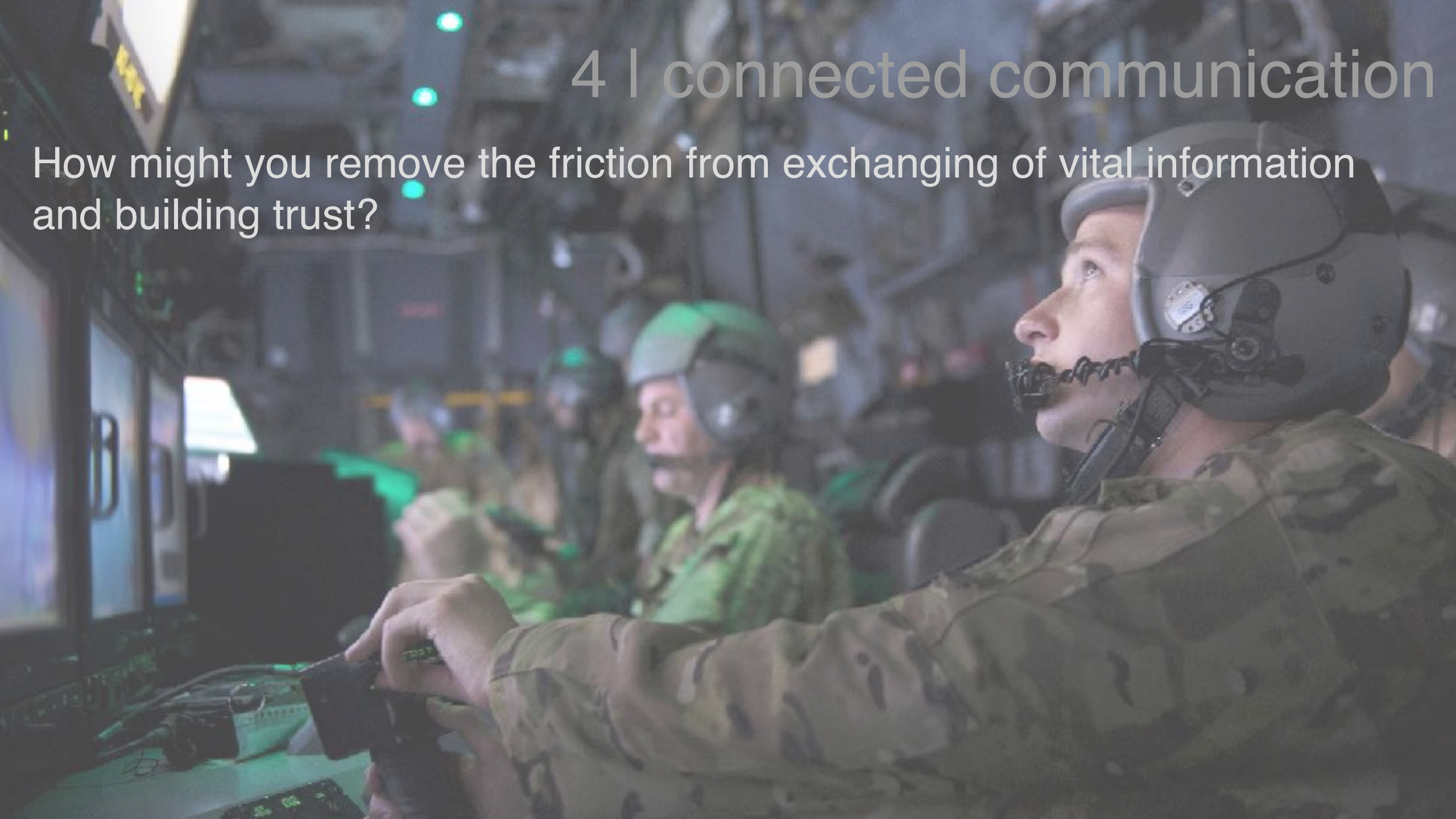
Build trust with those I don't know and who may not speak my language

Share critical visual data with those who can't see what I'm seeing

Receive critical visual data about what I can’t see

4 I connected communication

How might you remove the friction from exchanging of vital information and building trust?



Technical Considerations

- Sharing large amounts of data quickly across distances
  - Can we embed more intelligence in the device?
- Privacy and security will vary between countries and among patient and end user groups
- Seemingly un-related data sets from disparate sources can be extraordinarily predictive when used in combination

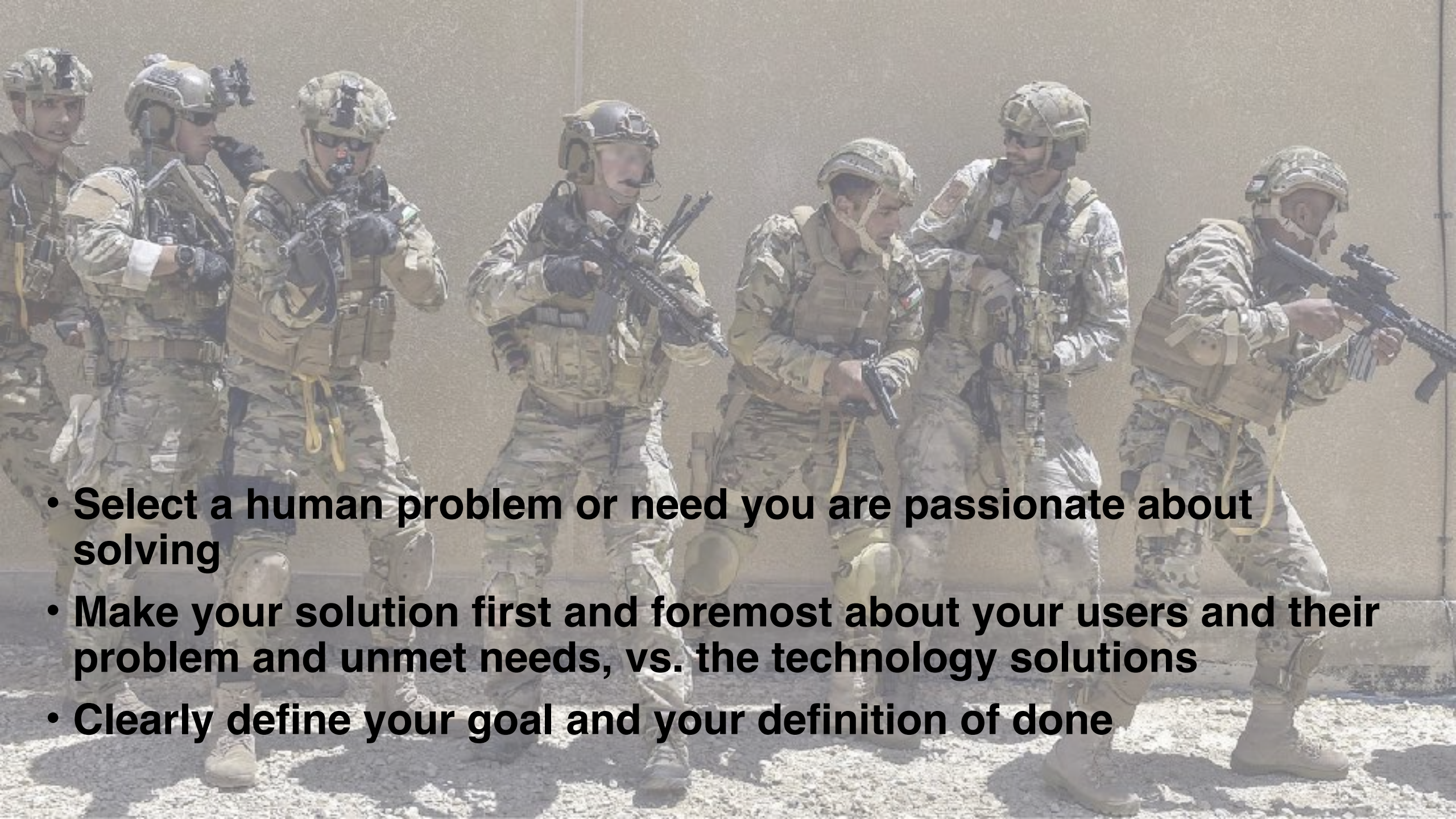
Feedback on today's wearables

"If you make things bulky [for an operator] or he puts on a vest or straps something else on to him and it creates pressure, that's where you run into problems"

"Thinks break in combat…if you can't throw it out a 2nd story window and have it still work, it's not rugged enough"

"I'm using my hands for climbing walls, getting through doors and using weapons - having something on my finger is not feasible or practical."

"If you hand me a piece of gear and it takes me more than a week to learn it, it's going back in the box."



- Select a human problem or need you are passionate about solving
- Make your solution first and foremost about your users and their problem and unmet needs, vs. the technology solutions
- Clearly define your goal and your definition of done