



EVERSAFE

RESCUE HELMET

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” WHAT IF OIL AND GAS WORKERS WERE PROTECTED FASTER AND AT ALL TIMES ”



Background

No matter how high the safety standards and how well trained the workers are, there will always be a risk when working in the oil, gas or chemical industry.

Few hazards are as treacherous and dangerous as a gas leak because gases and chemical fumes are usually invisible and often without a scent. Even one single breath of air might cause irreparable or possibly lethal damage to the respiratory or nervous system.

Some gases are denser than air and thus will sink to the floor. This is especially dangerous as they

can unnoticeably fill a room before causing an alarm from the personal gas detector that's located at chest height. During a fire, smoke might force workers on their way out to crawl on the floor where lethal gases might have accumulated. In case of a gas alarm, they not only need to hold their breath and know which way to run but are also forced to take off their glasses and safety helmets.

In this highly stressful situation the workers are left with impaired vision in a possibly smoky environment and vulnerable to hitting their head while making an escape.

” MAKE IT SO I CAN PUT
DOWN THE MASK WITHOUT
HAVING TO LOOK THERE ”

” WELL, I JUST ALWAYS
MAKE SURE I KNOW WHERE
THE NEXT ESCAPE MASK IS AND
THEN I KEEP ONE EYE ON IT ”

Research

We started the project with a research trip to Gothenburg, where we visited an oil and gas refinery and spoke to several employees at their work places and were able to identify problem areas like the constant danger of gas and chemical leaks and that all workers constantly try to keep in mind the location of the nearest escape hood.

Afterwards we got to immerge ourselves even deeper into the user experience by taking part in a simulation at a training facility for rescue workers

where we were able to try out a wide selection of safety equipment such as hazmat suits and escape devices. One of the tested products was the yellow escape hood which is the current market leader. Yet, the user has to remove his or her glasses and helmet before donning the mask which impairs the vision and eliminates head protection. The user must also either carry one of these hoods on a belt or constantly know where the closest hood is located.



GOALS



**REDUCED DONNING TIME
OF ESCAPE MASK**



HEAD PROTECTION



IMPROVED VISIBILITY



IMPROVED VISIBILITY



**COMPATABILITY WITH
GLASSES AND BEARDS**

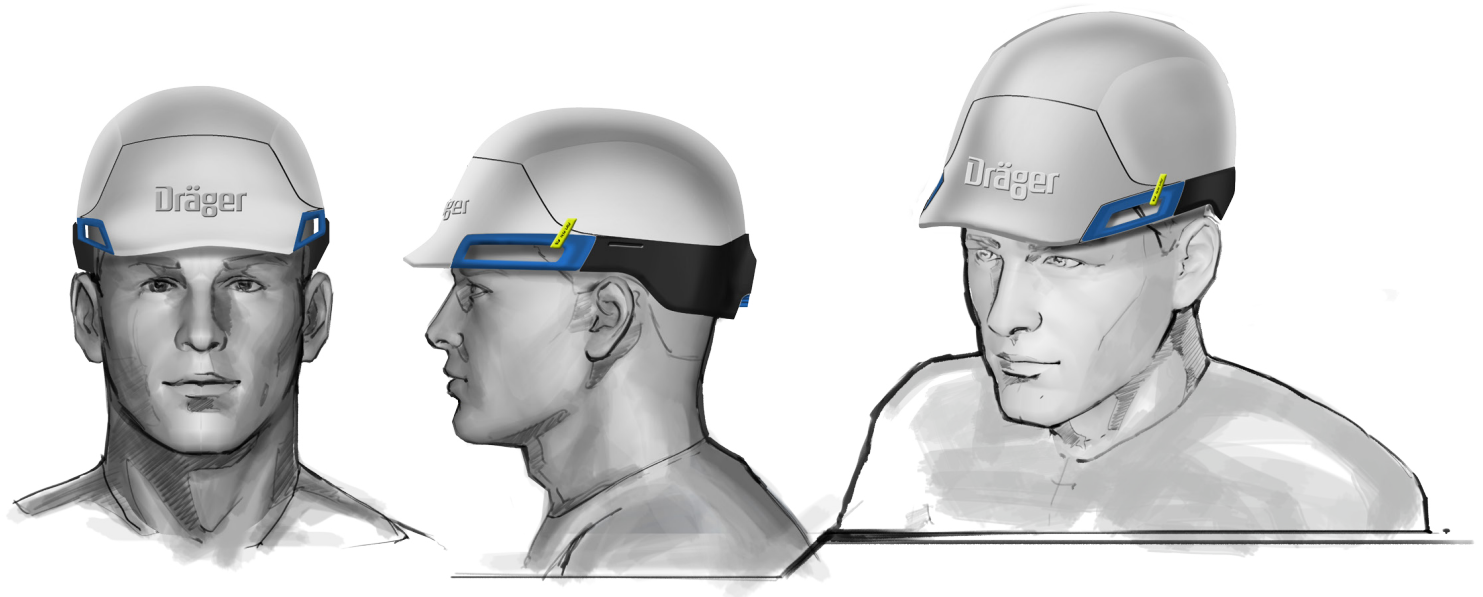


**EASE OF USE
&
PIECE OF MIND**



Ideation

Our goal was to create an unobtrusive and clean design that creates pride of ownership in the user.



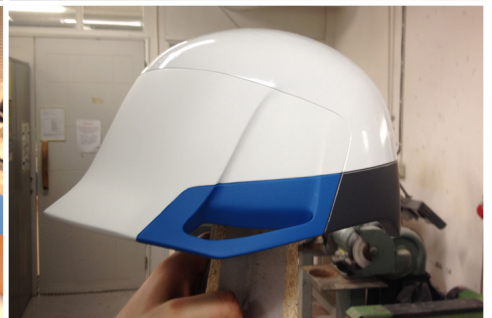
Prototyping

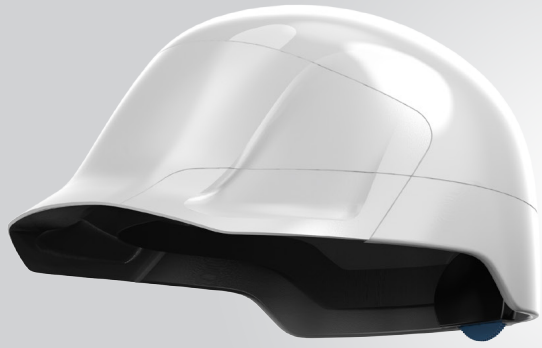


“
**PUTTING BOTH
HANDS OVER
YOUR HEAD IS A
NATURAL AND
PROTECTIVE
POSE**”

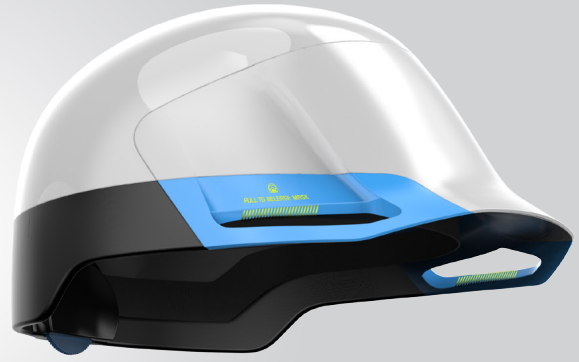


Shaping and Model Making






HELMET BASIC




HELMET EVERSAFE

Modularity

Considering different markets we designed Ever-safe as part of a modular helmet system. It can also simply be worn as a comfortable safety helmet with the option of retrofitting the escape hood module. This makes it more affordable and reduces production costs and waste because the escape hood module can be replaced once the mask has been deployed.

Compatibility with Glasses

A considerable amount of the population requires glasses to correct their vision. The current offerings in terms of escape hoods are not compatible with glasses. Removing the glasses not only leads to an increase in donning time but more importantly impairs the users vision when it is most crucial for a safe escape. Eversafe is fully compatible with all types of corrective or safety glasses.





Increased Visibility

When in panic while escaping a dangerous and possibly smoky environment, visibility is crucial. Eversafe features a very wide visor for superior visibility. Additional cheek windows further

improve the peripheral vision, especially around the feet while running.

The intense neon yellow makes the wearer of eversafe easy to spot for rescue workers



Easy Adjustment



Interaction Areas

The color blue indicates and highlights the main interaction areas such as the dial in the back to adjust the helmet size and the handles to release

the mask. The dark gray rubberized panels protect the escape hood from damage and fall off when the mask is deployed.



Intuitive Trigger Handles



Ease of Use

A smart and synchronized mechanism allows the escape hood to be fastened in one single move. As we realized from our research one of the most natural reactions to danger is lifting your hands over your head, which is very similar to the two handed trigger mechanism used for Eversafe. This mechanism also prevents that the escape hood is accidentally released.





Minimized Donning Time

Eversafe has a five times shorter donning time than the current market leader.





EVERSAFE
RESCUE HELMET

Thank you