During a suborbital flight, there is the risk of a clinical event involving aircrew or passengers that requires management until landing where definitive healthcare can be provided.There are also risks of clinical events during an orbital flight. Understanding and mitigating these risks requires definition of medical monitoring systems and life support approaches, appropriate and proportionate to the risks, and compatible with the operational constraints of the flight architecture.

The first step of the study consists in choosing the vehicle you will work on: either 1- suborbital vehicle for high-speed long-range transportation
or
2- vehicle servicing Low Earth Orbit
.

You will then address one of the following topics:

1. For type 1 vehicle, define a single ‘medical hub’ system for the integrated capture,

monitoring and transmission of medical and physiological data to facilitate in-flight evaluation of the medical implications of a ‘test’ transportation hypersonic flight,

Or

2. For type 2 vehicle, define a unique system for capturing, tracking and transmitting medical and physiological data to facilitate medical monitoring during the flight and/or an automatic system for treating certain medical problems.

For this Work Package, we encourage teams from medical, bioscience, and engineering schools or even inter-disciplinary teams to participate. Please pay attention to the specific proposed flight architectures and consider the implications they have on the potential medical risks, and thus technical requirements, in addition to the likely operational constraints.

General characteristics for the reference vehicles:

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