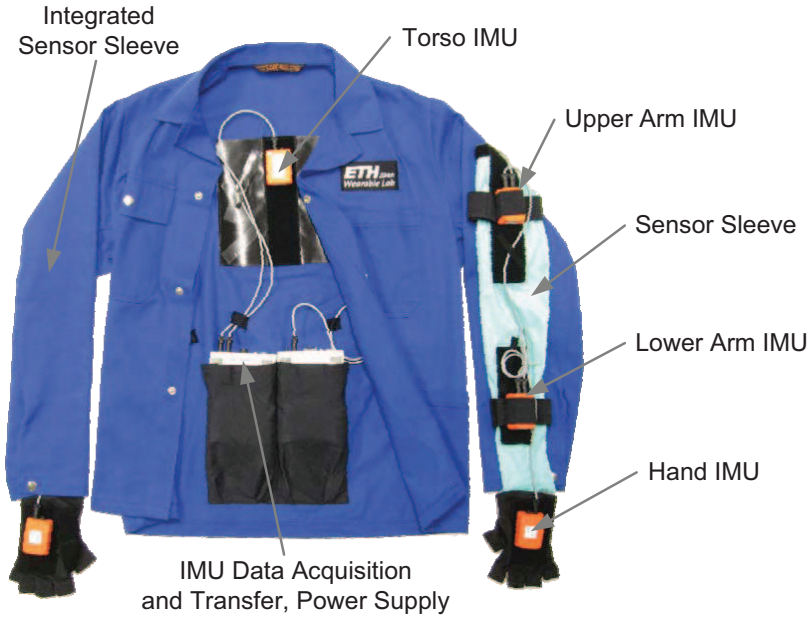


The inner structure of the Motion Jacket is depicted in figure 3.1. We used Velcro components to keep the mounting reconfigurable. This allows to adapt the jacket to different body sizes. Two more IMUs are attached to finger-less gloves. That allows to capture the hands' motion while preserving the freedom to carry out subtle activities with the fingers.



**Figure 3.1:** *Motion Jacket: integration of inertial measurement units (IMUs) into a worker's jacket and gloves. The right side of the figure shows the inner sleeve structure that ensures proper alignment of the sensor modules with the limbs.*

Two central data acquisition units (Xbus masters) are accommodated in two dedicated inner back pockets. They house the power supply for the sensor network and allow wireless (Bluetooth) and wired (serial) data transfer. The entire wiring of the sensors and the Xbus masters is integrated into the jacket to avoid interference with the user during both, dressing and operation. Table 3.1 gives details about the weight distribution of the Motion Jacket.