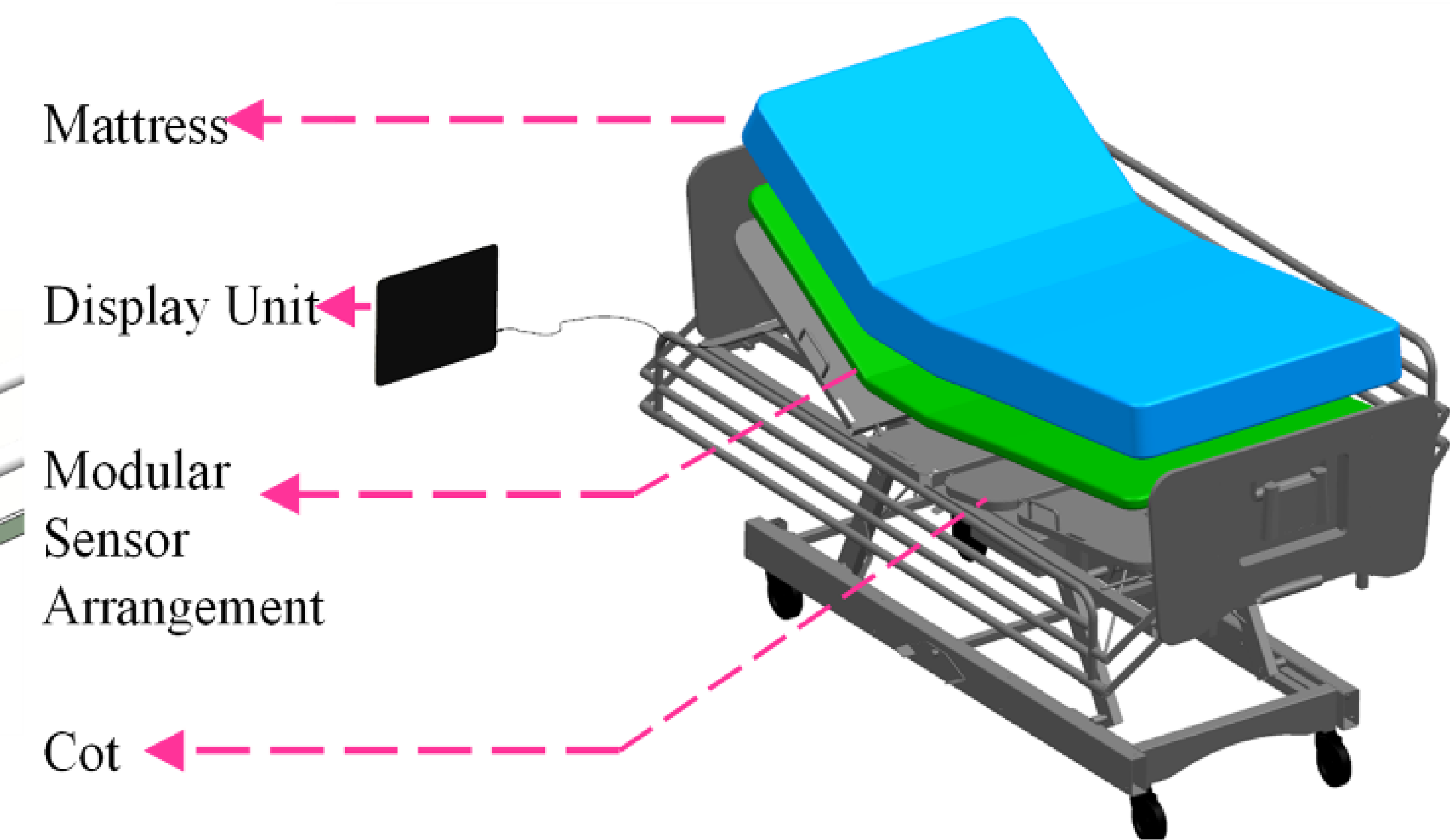
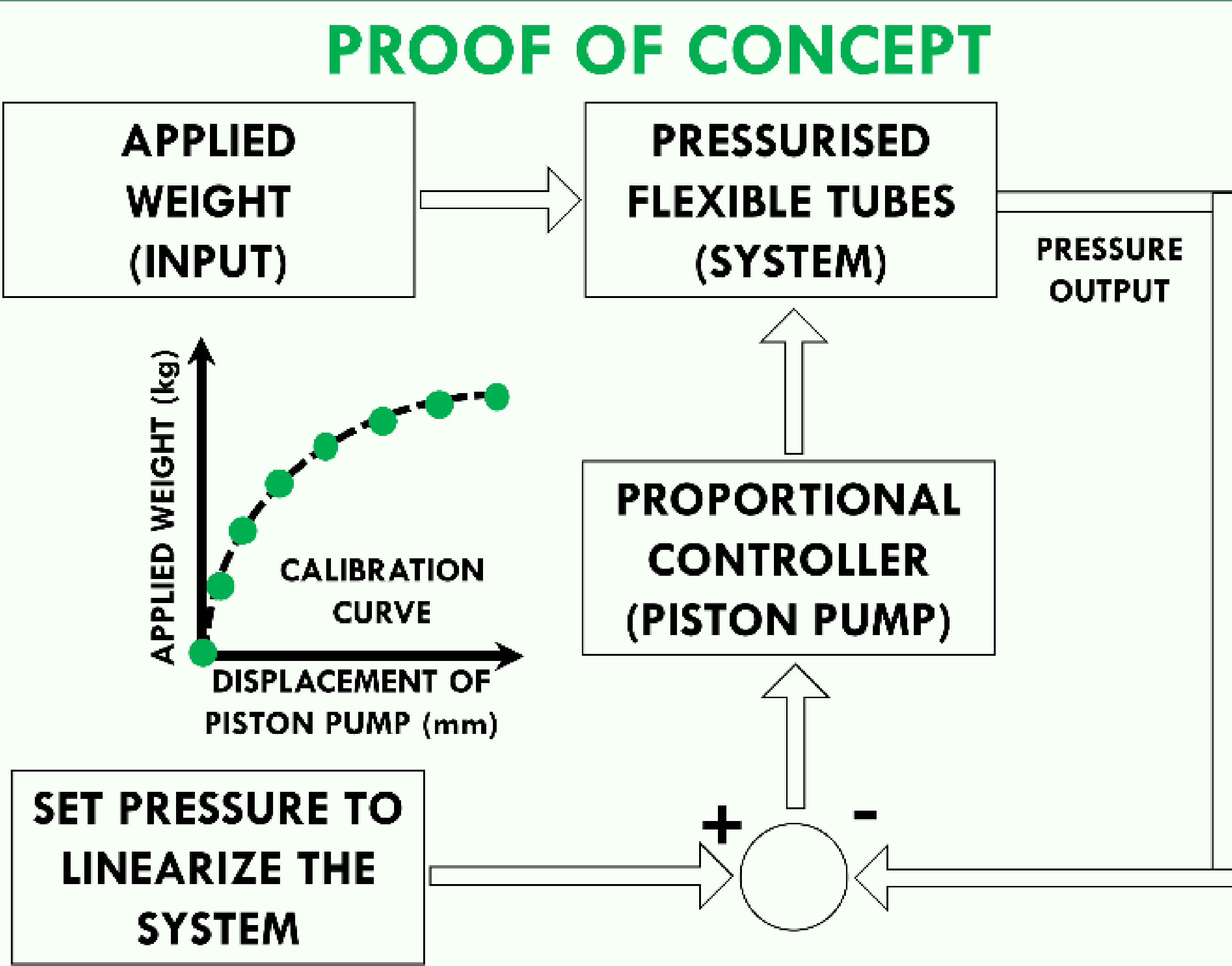
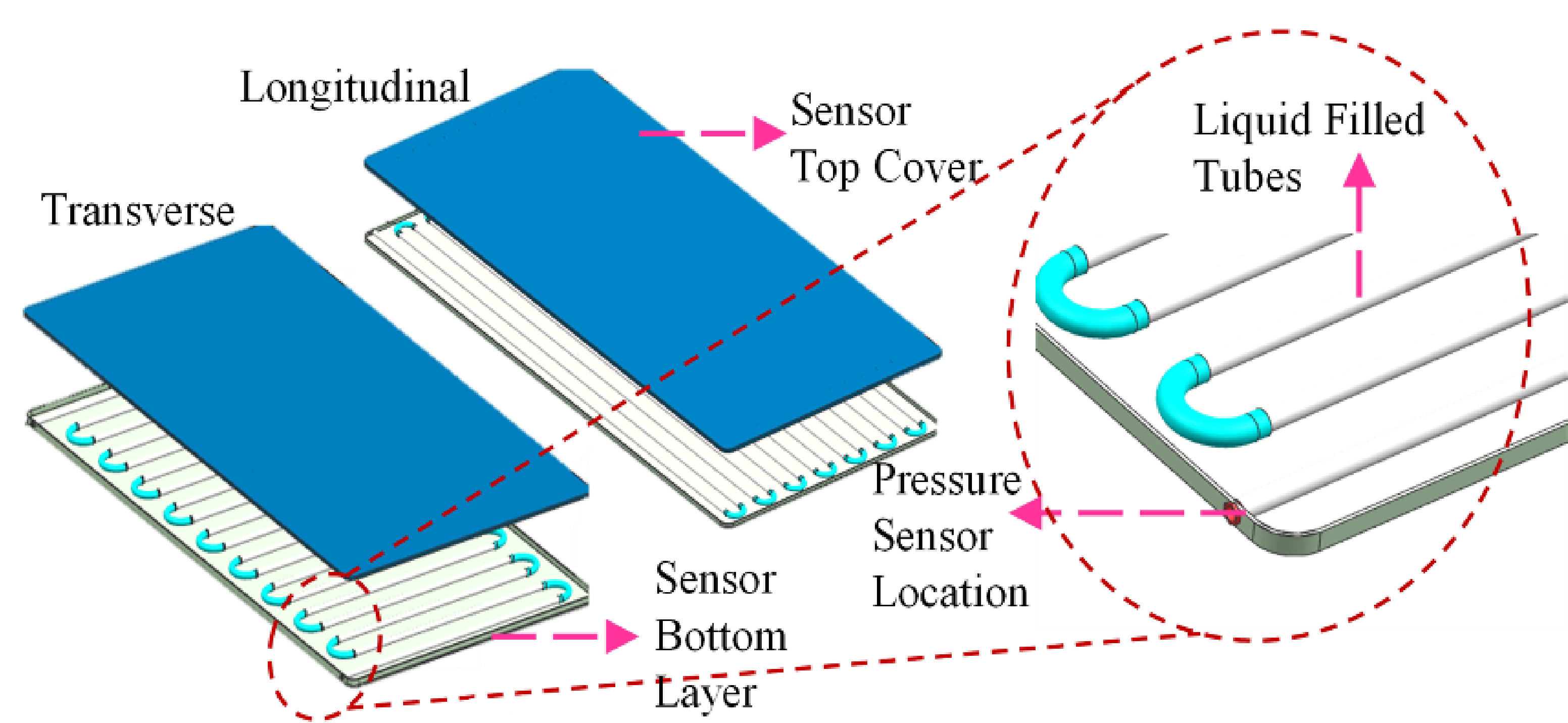


How to measure the body weight & track its changes for a bed-ridden patient ?

MONITORING BODY WEIGHT & ITS VARIATIONS IS A DIRECT INDICATOR OF FLUID BALANCE EFFECTIVENESS AND OVERALL HEALTH STATUS.

- ### State-of-the-art & Challenges ?
- Strain gauge / load cells – lifting scales or roll-on scales – **not intended for continuous use.**
 - Need multiple units of sensing element – **need for matched sensors.**
 - Measures the heavy bed + patient weight – **requires high range sensors.**
 - Required personals for attaching/detaching the measurement units – **practical challenges.**



- ### Key Results & Observations
- Highest sensitivity was achieved at 50 mmHg set pressure of the system.
 - Current prototype tested for up to 100 kg, easily expandable to higher ranges using a larger piston pump.
 - Absolute error < 3% in the weight range of 45 kg to 90 kg, with CoV < 4%.
 - Resolution of the system limited to 0.5 kg.

Emulated experiment for a practical scenario

- Initial dry weight of 60 kg.
- Small incremental weights of 500 g to 1 kg added to the bed.

