

COntinuous Multi-variate monitoring for Patients Affected by chronic obstructive pulmonary diSeaSe

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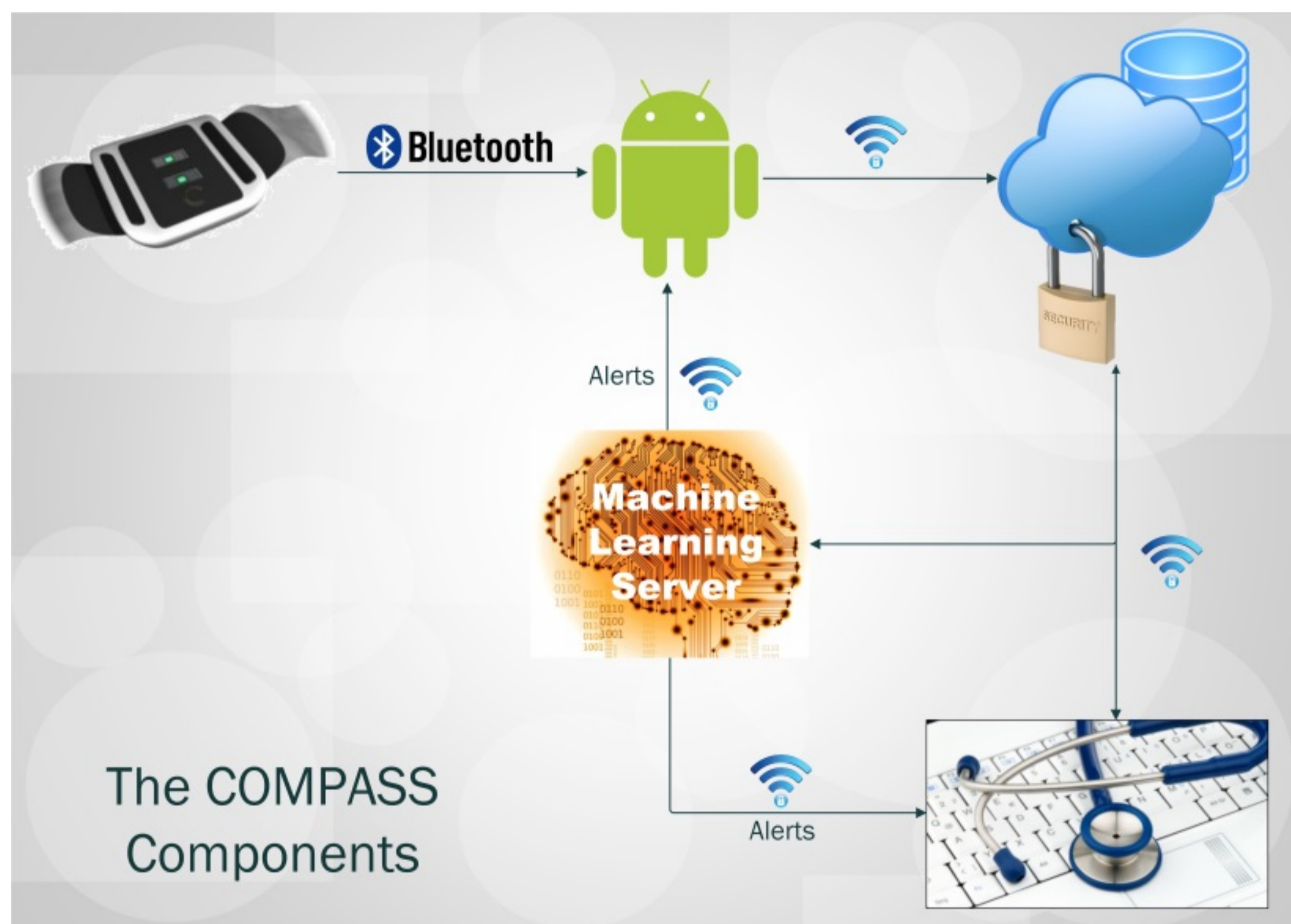
Problem Statement

- COPD (Chronic obstructive pulmonary disease)
 - Breathing difficulties
 - Narrowing airways
 - Exacerbation episodes
- Fourth leading cause of death worldwide
- Signal compression and analysis

Project Aims

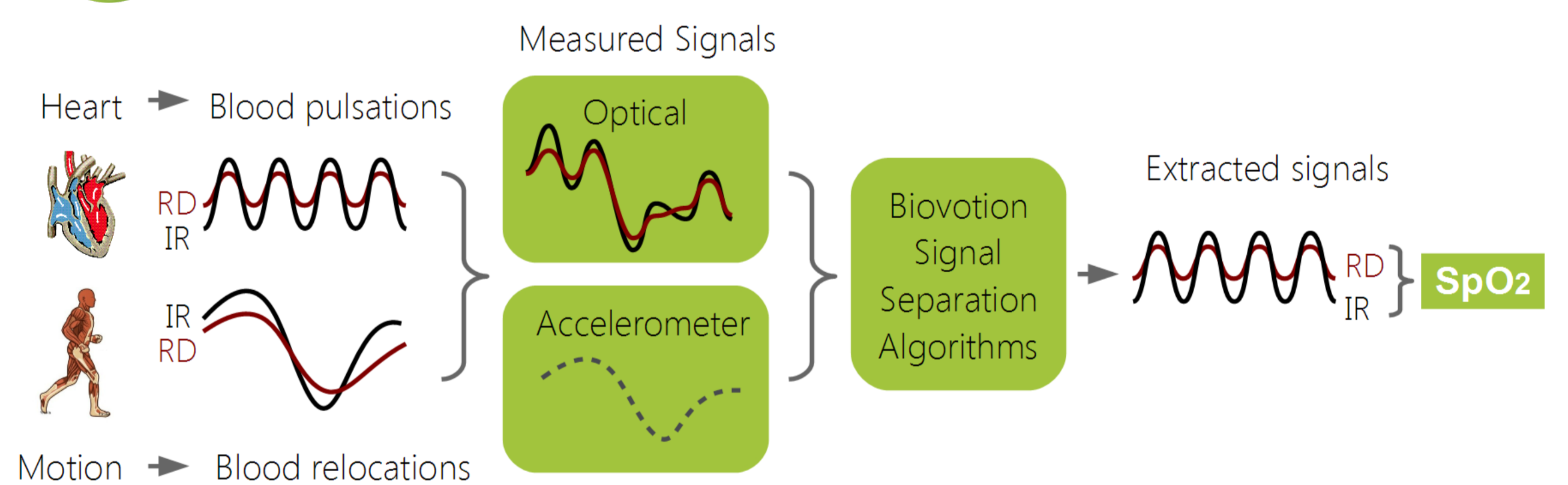
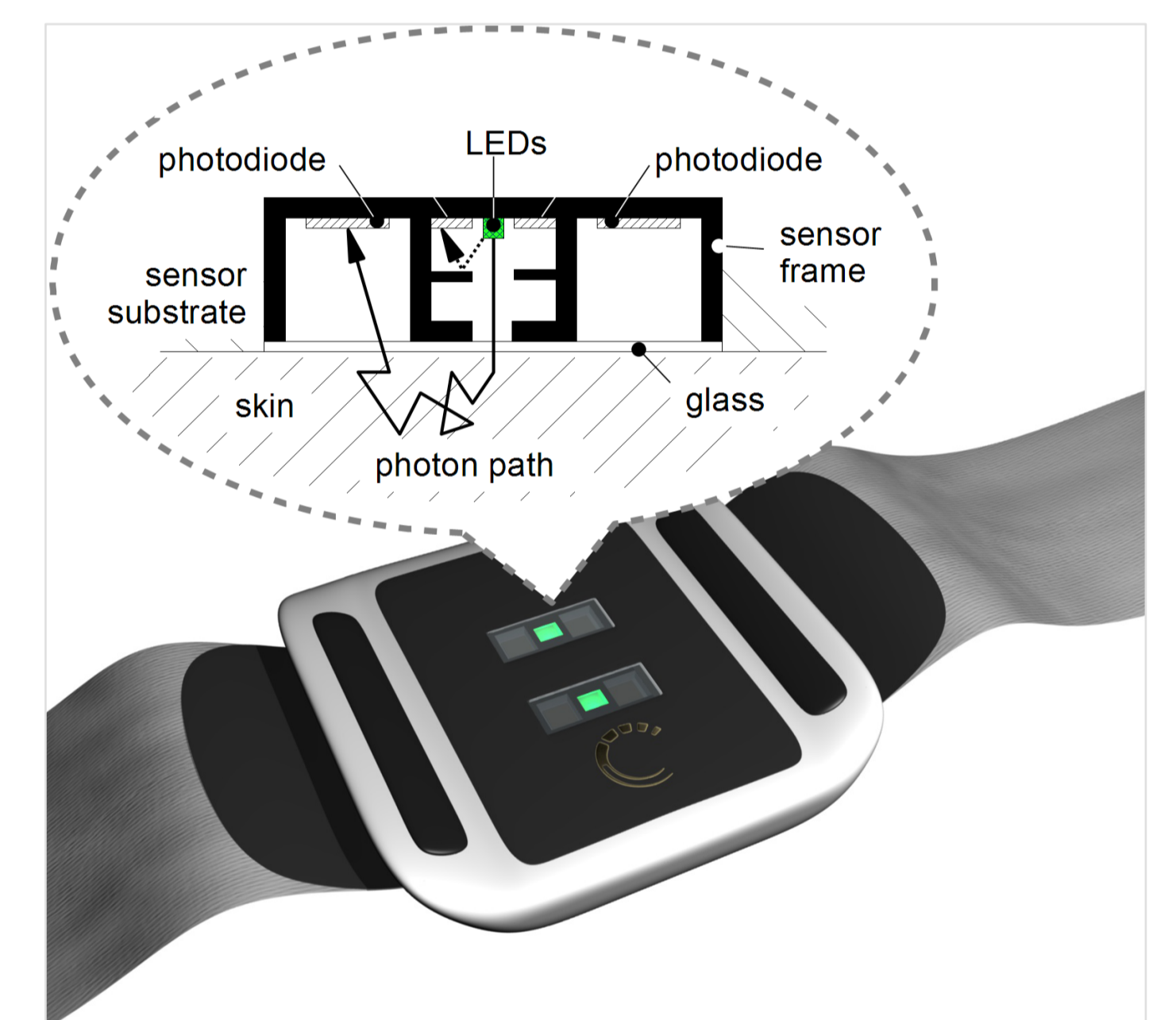
- Pervasive Healthcare
- Interoperability Technology
- Machine Learning for COPD
- Prediction of exacerbation episodes
- Patient Data Security

COMPASS Elements for Ecosystems



Biovotion Vital Sign Monitor

- Non-invasive
- Wearable
- Motion tolerant
- Accurate
- Easy to use
- Robust
- Lightweight



System Layers

- **Pervasive Health Layer (PHL)** - deals with the physiological signals of the patients affected by COPD and provides the annotated and compressed signals to the following layers.
- **Machine Learning Layer (MLL)** - provides algorithms for prediction of exacerbation due to COPD and rehabilitation advices for doctors, given the current health status of the patient.
- **Interoperability Layer (IL)** - provides an interoperability solution for COMPASS, where the data is stored in a database which respects interoperability standards such as HL7.

