Pain Management- NeuroSignal Tracking

PEC University of Technology

**Centre of Excellence in Industrial & Product Design**

ABSTRACT

The depth of sedation in patients undergoing surgery is affected by the effect of interaction between anaesthetic and analgesic agents and the pain stimuli. Depth of anaesthesia (DOA) monitors has been introduced to provide the information about the state of patient. It has not been possible to develop a system capable of quantifying the analgesia. So, to minimize the effect of pain due to skin incision on a patient, it is required to find some correlation between pain stimuli due to skin incision and EEG signal.

TARGET CUSTOMER

- Anesthesiologists
- Surgeons
- Nursing Staff
- Healthcare Industry


METHODOLOGY
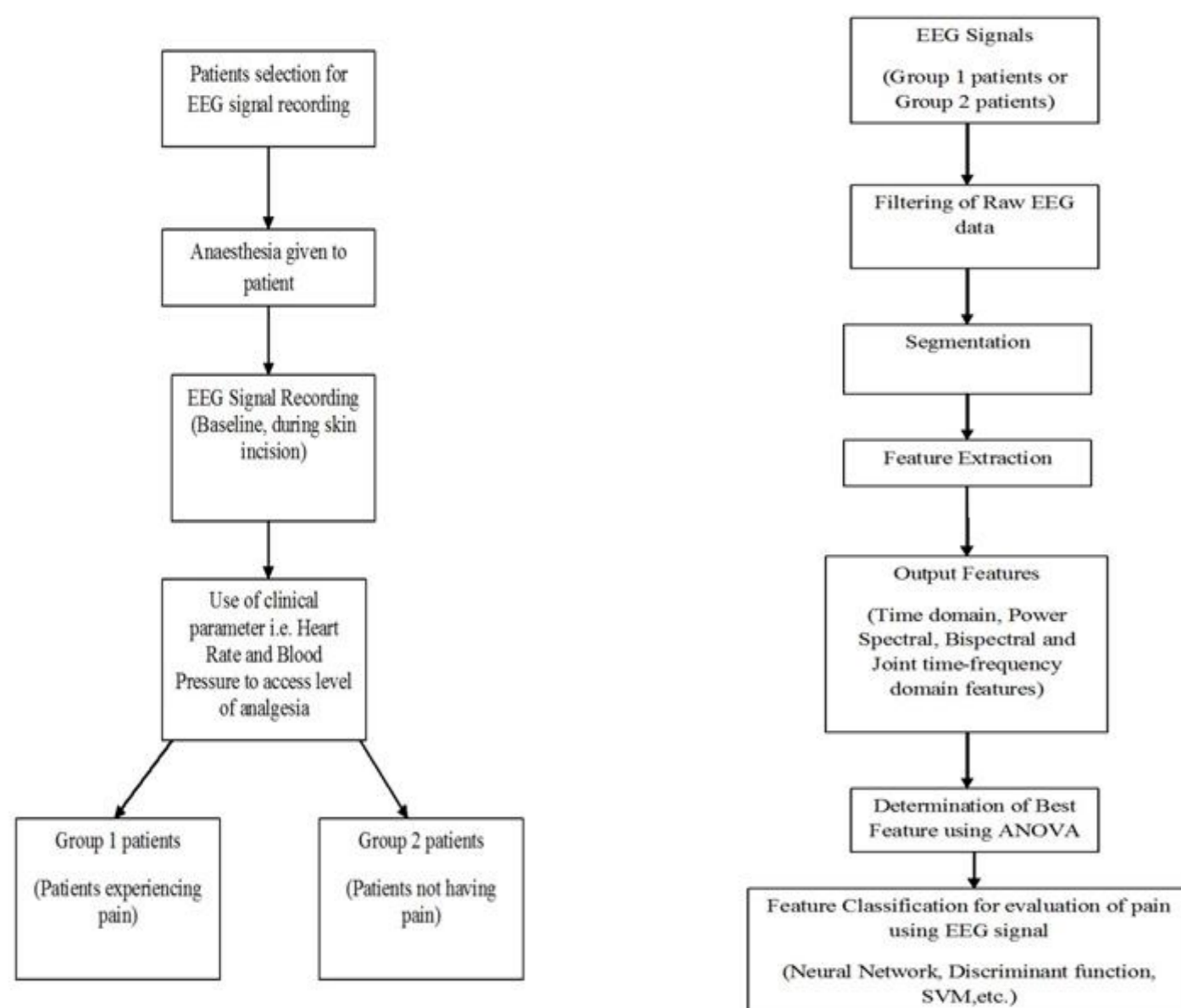
EEG database Collection

Analysis of EEG signals

TEAM DETAILS

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PROBLEM DEFINITION

Patients suffering from pain during surgical incision. Currently, the Bispectral Index (BIS) monitors are being used by anesthesiologists to measure the level of sedation. But, these monitors does not give indication of the extent of pain experienced by patient during surgery.
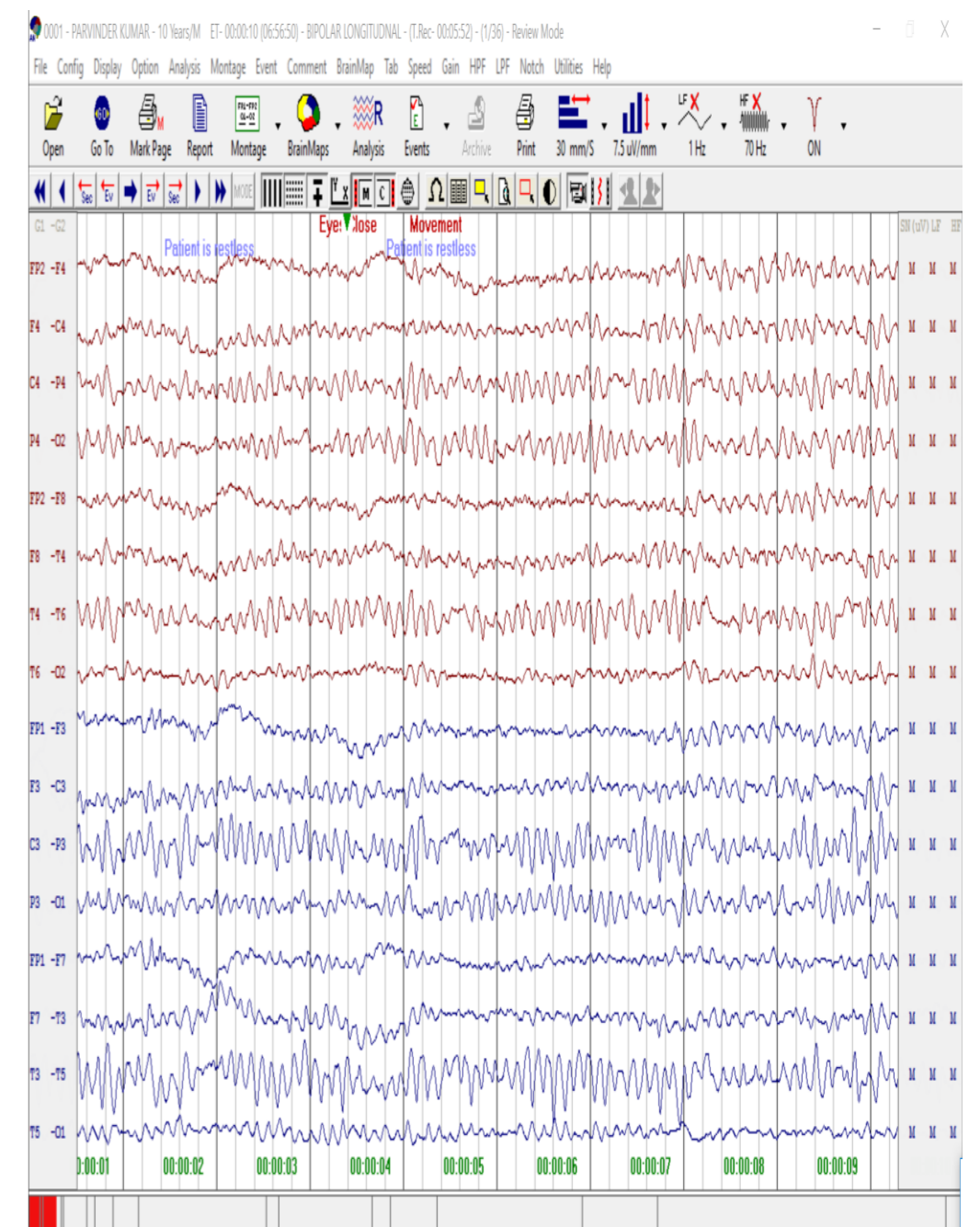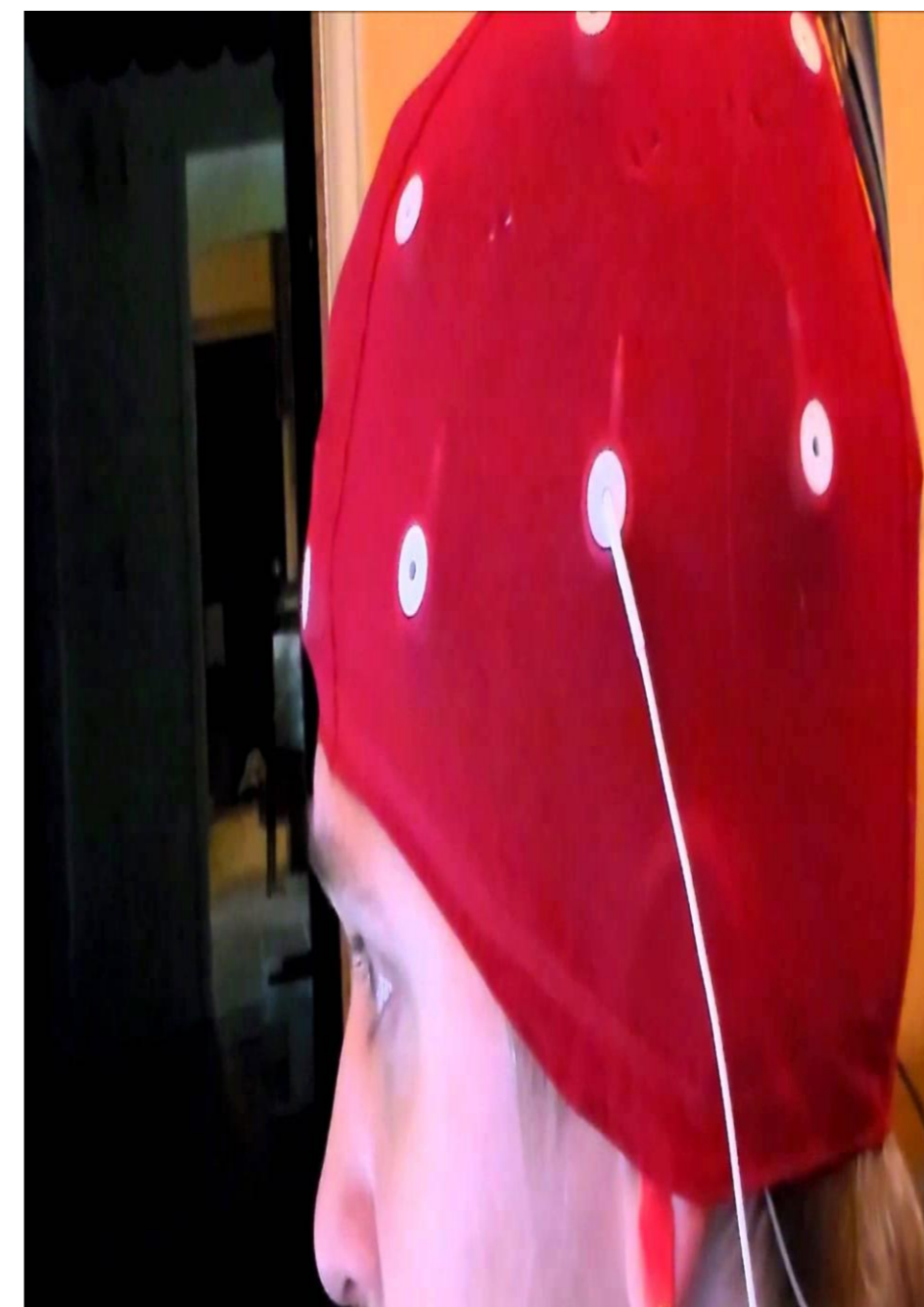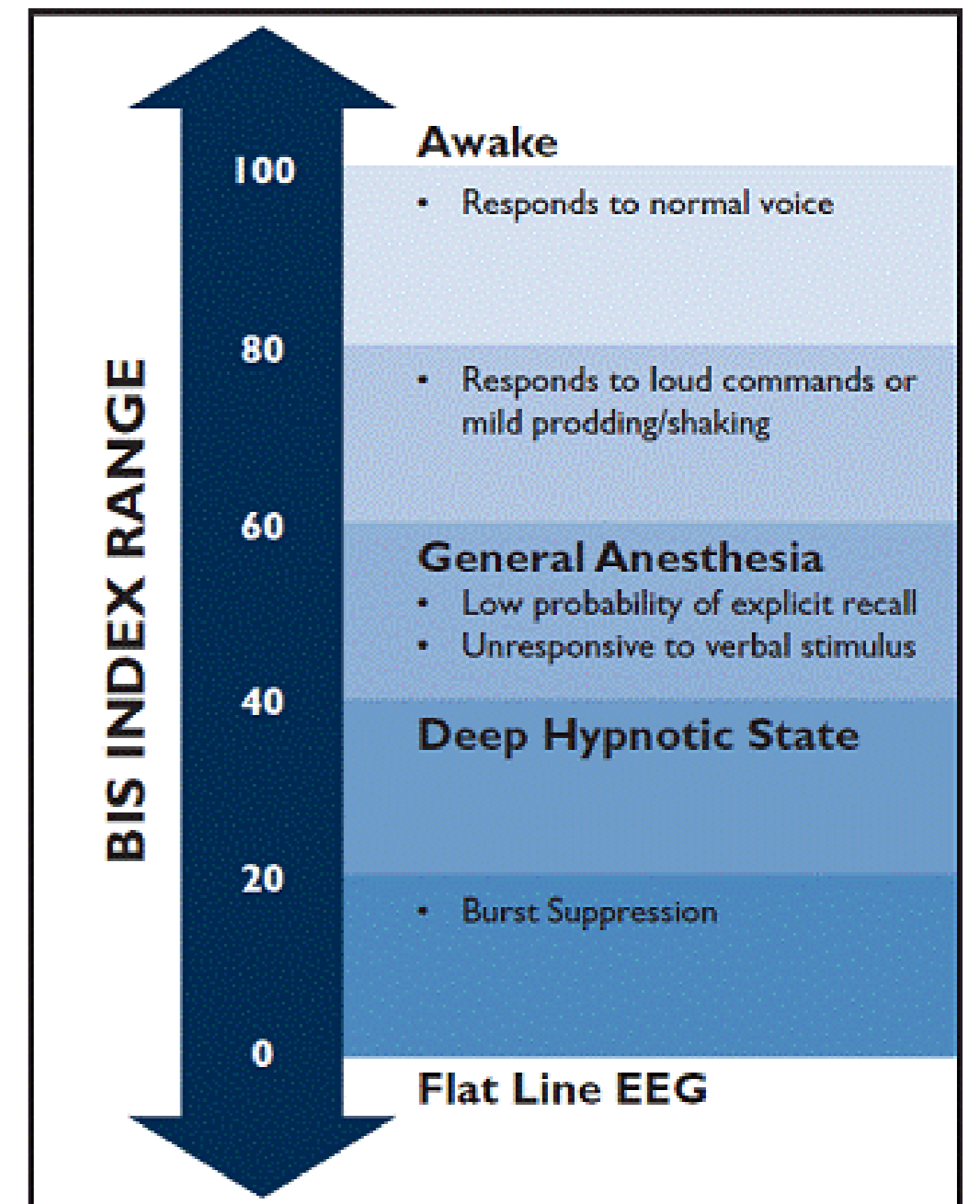
UNIQUE INSIGHTS/BENIFITS

This innovative solution efficiently detects the pain experienced by patients during surgical incision. This solution will be helpful to surgeons and anesthesiologists working in the hospitals all over the world, who intent to improve patient care. The pain in any part of the body is captured directly from human brain. People who are afraid of surgery can now be relaxed as this solution gives instant indication of pain experienced by patients to surgeon.

The surgeon / staff are enabled to detect the pain experienced by patients during surgery. This innovative solution efficiently detects the pain experienced by patients during surgical incision and allows for better monitoring of the patient during surgery.

KEY IMPLEMENTATION CHALLENGES

- Measurement of pain during surgery
- Getting consent from patients for EEG signal recording

PROJECT POTENTIALS

• Partners: Hospitals, Health Care Industry