



# DATAPACT

## Compliance Challenges in Media impact assessment using braincentric emotion recognition

New Approaches towards Compliance for AI/Data Operations Seminar

Alexandre Ulisses

Head of Grants & Incentives @ EVS Broadcast Equipment

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Oslo, Norway



# Agenda

- 1. Business Case Overview**
- 2. Data Compliance**
  - a) Core Principles in Emotion Recognition
  - b) Sensitive Data in the MUSES Pipeline
  - c) Addressing Compliance and Privacy Risks
- 3. Business Value**



Event illustrations by Storyset



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# Business Case Overview

- **MUSES** is a tool designed to improve the **impact assessment of media content** (such as movies, TV series, and advertisements) by using Brain-Computer Interface (BCI) technology.
- The goal is to gather **emotion data** from viewers, which helps content creators understand how different segments of their media affect the audience emotionally.
- **Key Stakeholders:**
  - Media companies
  - Production houses
  - Advertisers

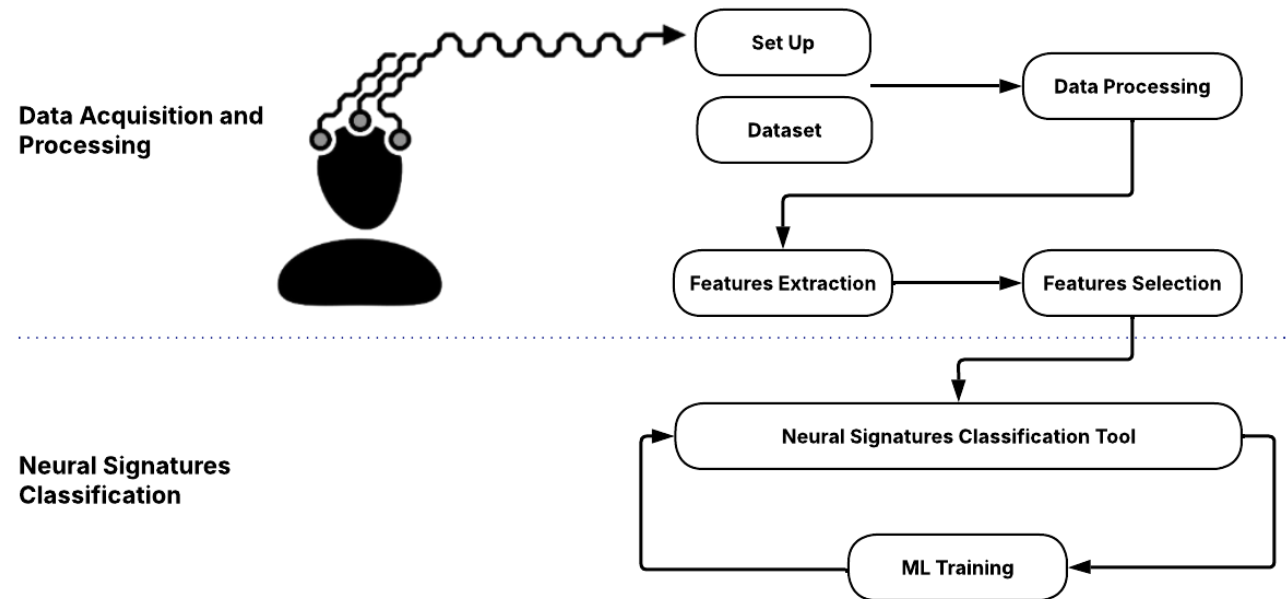


People illustrations by Storyset



## Business Case Overview

- **Data Acquisition and Processing**
  - Collect and process data from EEG devices to capture emotional responses.
- **Neural Signatures Classification**
  - Apply machine learning algorithms to classify emotional responses based on neural signals.



**MUSES High-Level Architecture**



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# Data Compliance

Core Principles in Emotion Recognition

## Transparency

- Clearly document and communicate how emotion data is **collected and processed**.
- Provide explanations about the AI system's decision-making process to **ensure accountability**.

## Accuracy

- Validate and test the **reliability of inferred emotions**.
- Use **robust datasets** to reduce biases and improve the precision of emotion recognition.

## Fairness

- Ensure **equitable treatment of all participants**, regardless of demographic factors.
- Design **inclusive datasets** to prevent discriminatory outcomes.

# Data Compliance

Sensitive Data in the MUSES Pipeline



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## Biometric Data and Neural Wave Data

- **What is sensitive?**
  - EEG data is categorized as biometric data under the AI Act.
  - The AI system maps this data to emotions and intentions, which could be considered high-risk.
- **Compliance Needs:**
  - High-risk AI systems require attention under the **AI Act**, regarding usage in sensitive environments (e.g., workplaces).

## Personal Data (GDPR Compliance)

- **What is sensitive?**
  - Personal details of test participants.
  - Neural data from EEG sensors, which can be considered sensitive physiological data.
- **Compliance Needs:**
  - Adherence to GDPR to protect personally identifiable information (PII).
  - Special consideration required for biometric data as per GDPR and AI Act.



# Data Compliance

Addressing Compliance and Privacy Risks

- **Ensure ethical data handling in the platform development**
  - Data anonymization: Use **anonymization techniques** to reduce risks of personally identifiable information being exposed.
  - Data access control: Implement **access protocols**, ensuring only authorized personnel can access sensitive data (e.g., login system).
  - Consent management: Implement consent management with **full transparency on biometric data usage**.
- **Collaborate with legal experts**
  - Goal: Collaborate closely with legal experts to ensure **adherence to GDPR and AI Act**, especially around emotion recognition and high-risk AI.

# Business Impact

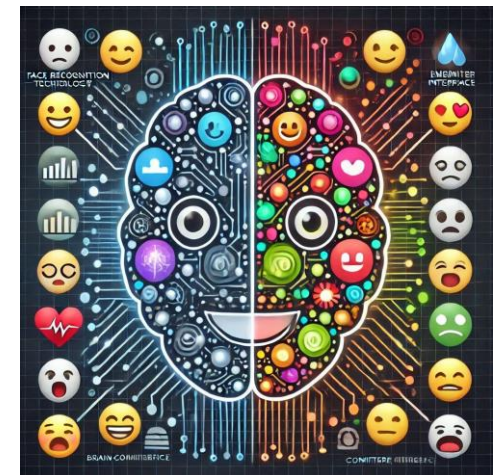
## Where to go

- Enhancing **content impact assessments** by providing deeper insights into audience emotions through BCI technology **ensuring data compliance**.
- Media companies, production houses, and advertisers invest to reduce the **risk of content failure**, ensuring higher audience engagement and maximizing ROI.



## Innovation

- We search to innovate by **shifting from traditional methods** (questionnaires, facial recognition) to **emotion recognition** using neural signals via non-invasive EEG devices, while maintaining **transparency, accuracy and fairness**





# Thank you!

**MUSES: Advancing Emotion Recognition with Compliance-Centric AI Solutions**

Alexandre Ulisses

Head of Grants & Incentives @ EVS Broadcast Equipment

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