Project designation | MAIA: Multilingual Virtual Agents for Customer Service
Project code | LISBOA-01-0247-FEDER-045909
Main aim| Strengthening research, technological development, and innovation
Intervention region | NUTS II Lisboa
Beneficiary entity | Unbabel, Unipessoal, Lda.

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Total eligible cost | 1.716.995,08€
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Objectives, activities and expected outcomes

Online conversational support - chat - is the fastest growing customer service channel, being the preferred way for millennials to obtain customer service. Today, supporting international customers in this channel is mostly done by using human agents that speak different languages - a scarce and costly resource. The tremendous progress of language technologies (machine translation and dialogue systems) in the last years makes them an appealing tool for multilingual customer service. However, current systems are still too brittle and impractical: first, they require too much data and computing power, failing for domains or languages where labeled data is scarce; second, they do not capture contextual information (e.g. current MT systems work on a sentence-by-sentence basis, ignoring the conversation context); third, fully automatic systems lack human empathy and fail on unexpected scenarios, leading to low customer satisfaction.

On MAIA, we'll develop a multilingual conversational platform where human agents are assisted by AI agents. This approach will overcome the above limitations by targeting the following scientific and technological goals:

- New memory-efficient neural models for context-aware machine translation, suitable for online and real-time translation. These models will retain key aspects of a conversation (e.g., the gender of the customer), bringing them up whenever needed to translate a message.
- New answer generation techniques where the human agent (e.g., a tourism officer) will receive suggestions that reduce effort and increase the customer's (e.g. a tourist) satisfaction.
- New techniques for conversational quality estimation and sentiment analysis to assess how well the conversation is addressing the customer?s needs, while simultaneously increasing "human empathy".
- Integration of the scientific advances above into a full end-to-end product.

Two demonstrators will be built to cover concrete use cases in the Travel and Tourism Industries.

Activities:
- A1 - Project Management
- A2 - Dataset Creation and Benchmarking
- A3 - Deep Latent Models for Language Generation
- A4 - Context-Aware Translation of Multilingual Conversations
- A5 - Virtual Agent Assistant
- A6 - Product Discovery and Development
- A7 - Dissemination and Exploitation